Australian Government
Department of Health

phn
An Australian Government Initiative

Primary Health Network Program

Needs Assessment Reporting Template

This template may be used to submit the Primary Health Network's (PHN's) Needs Assessment to the Department of Health (the Department) by **15 November 2018**.

Name of Primary Health Network

Perth South

When submitting this Needs Assessment to the Department of Health, the PHN must ensure that all internal clearances have been obtained and the Report has been endorsed by the CEO.

Instructions for using this template

Overview

This template is provided to assist Primary Health Networks (PHNs) to fulfil their reporting requirements for Needs Assessment.

The template includes sections to record needs for:

- General population health of the PHN region
- Primary Mental Health Care
- Indigenous Health (including Indigenous chronic disease)
- Alcohol and Other Drug Treatment Needs

Further information for PHNs on the development of needs assessments is provided on the Department's website (www.health.gov.au/PHN), including the *PHN Needs Assessment Guide*, the Mental Health and Drug and Alcohol PHN Circulars, and the Drug and Alcohol Needs Assessment Tool and Checklist (via PHN secure site).

The information provided by PHNs in this report may be used by the Department to inform program and policy development.

Format

The Needs Assessment report template consists of the following:

Section 1 – Narrative

Section 2 – Outcomes of the health needs analysis

Section 3 – Outcomes of the service needs analysis

Section 4 – Opportunities, priorities and options

Section 5 – Checklist

PHN reports must be in a Word document and provide the information as specified in Sections 1-5.

Limited supplementary information may be provided in separate attachments if necessary. Attachments should not be used as a substitute for completing the necessary information as required in Sections 1-5.

While the PHN may include a range of material on their website, for the purposes of public reporting the PHN is required to make the tables in Section 2 and Section 3 publicly available on their website.

Submission Process

The Needs Assessment report must be submitted to the Department, via a mechanism specified by the Department, on or before **15 November 2018**.

Reporting Period

This Needs Assessment report will be for a three year period and cover 1 July 2019 to 30 June 2022. It can be reviewed and updated as needed during this period.

CONTENTS

Section 1 – Narrative

Needs Assessment Process and Issues

The Perth South Primary Health Need Assessment consolidated the key themes and issues of Western Australian's population health and service provision needs. A consultation plan was developed and included internal and external consultation processes to source qualitative data. This included the development of a digital portal for the collection of qualitative information from consumers and service providers. A wide range of data sources, available publicly or on request from data custodians informed the Needs Assessment. Access to improved data sets in the 2018 Need Assessment included improved sources for health workforce data, admitted and emergency department hospital admissions and alcohol and other drug prevalence and service utilisation. Please note that for confidentiality reasons, some data sources have been removed from the public-facing version of the Need Assessment.

Selection of Topics

Identified Health Needs (HN) and Service Needs (SN) align with the Primary Health Network Pillars.

Health Needs for each Pillar include:

- General Population Health: HN1.1 to HN1.9.
- Aged Care: HN1.3 including mental health HN2.9.
- Mental Health: HN2.1 to HN2.9.
- Alcohol and other drugs: HN3.1 to HN3.12.
- Aboriginal health needs HN4.1 and HN4.7

The Health Workforce Pillar included service needs for:

- General Population Health: SN1.1 to SN1.11.
- Aged Care: SN1.3 including mental health SN2.9.
- Mental Health: SN2.1 to SN2.10.
- Alcohol and other drugs: SN3.1 to SN3.8.
- Aboriginal Health: SN4.1 to SN4.8.

The Digital Health Pillar is an enabler of improved service access, service needs for this Pillar include SN1.11.

Data Sources

All topics covered were informed by a broad review of publicly available data sets, data obtained from selected Western Australian government agencies, a review of the research literature, as well as internal and external consultation. The following are additional considerations of the data for each topic.

General population health

A digital survey "A snapshot view of primary care" collected qualitative data regarding the barriers to accessing health services by community members. The information collected from the survey was used in Section 3 - Outcomes of the service needs analysis. Localised qualitative information was sourced through three Working Groups, the Metropolitan Clinical Council, the Metropolitan Consumer Advisory Council and other reports and consultations undertaken by the Primary Health Network as part of

normal business.

The development of the Need Assessment was guided by an internal Steering Committee and included an extensive internal review process. As part of this process, a decision was made to remove specific reference to humanitarian migrants. Instead, the health and service needs of humanitarian migrants have been included within the boarder discussions of Culturally and Linguistically Diverse populations and other vulnerable groups in HN1.2.

Mental health

The Mental Health Need Assessment supports priorities from the Fifth National Mental Health and Suicide Prevention Plan such as integrated planning and service delivery, suicide prevention, treatment coordination for severe and complex mental illnesses, and reduction of stigma and discrimination. Data were obtained from a range of sources including Medicare Benefits Scheme, mental health-related hospitalisations (AIHW), suicide data (ABS), and the Public Health Information Development Unit (PHIDU) as well as qualitative data provided in stakeholder consultations. In addition, the Integrated Atlas of Mental Health and Alcohol and Other Drugs was used to help identify gaps in service provision across Perth South PHN.

Alcohol and other drugs

The alcohol and other drug section of the Need Assessment has made use of national reports and studies on alcohol and other drug use in Australia and the impact of alcohol and other drugs on health. This general information has been complemented where possible with more detailed placed-based hospital, emergency and alcohol and other drug treatment data. Stakeholder feedback was also used to guide the investigation into alcohol and other drug related health and service needs.

Aboriginal Health

The gap in health outcomes between Aboriginal and non-Aboriginal Australians is well documented, particularly around life expectancy, chronic disease prevalence and potentially preventable hospitalisations. Where data was available this Need Assessment has described the specific health and service needs of Aboriginal West Australians. Specific priorities have been developed to address the need for a culturally appropriate, holistic and integrated approach to Aboriginal health and wellbeing. Where Aboriginal specific data has not been available, Aboriginal populations have been included in the analysis of total populations. All identified priorities in this Need Assessment will also apply to the Aboriginal populations within the identified priority locations.

Additional Data Needs and Gaps

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

It should be noted that despite consolidating data from a range of sources, gaps remain in data collection and availability regarding health and service needs within Perth South PHN. Importantly, the WA Primary Health Alliance highlights that an absence of data does not reflect an absence of a health or service need and, thorough consultation with local stakeholders, it is hoped that needs have been presented in this needs assessment as accurately as possible. Further evidence should continue to be collected to identify areas and populations of need within Perth South PHN.

General population health

The prison population is known to have poorer physical and mental health when compared to the general population. Within population data sets that are used throughout this need assessment, people who are incarcerated are included in the population where the prison is located. It is not possible to exclude prisoners from population datasets, so it is likely that areas with prisons will show high rates of health indicators commonly experienced by prisoners. In Perth South PHN, there are prisons located in Kwinana-Casuarina and Canning.

Comorbid chronic conditions have been highlighted as an area of health and service need throughout discussions with stakeholders. Populations living with multiple, long-term conditions have poorer overall health outcomes, and higher rates of engagement with health services and health care costs, including potentially preventable hospitalisations. Data collections linking comorbid chronic conditions are limited and the only available sources identified were health surveys and literature reviews. Additionally, stakeholders highlighted an observed relationship between mental health conditions and chronic conditions, again limited data sources were available to explore this observation.

Adequate levels of health literacy within the community was highlighted as a mechanism to improve self-management of a health condition and improve health outcomes. Data for health literacy levels in Western Australia and across Perth North PHN is not available. This has meant that specific sub-regions where low levels of health literacy may be contributing to poor chronic disease self-management are not identified.

Mental health

We note that there are limitations in using Medicare Benefits Scheme (MBS) data to capture mental health-specific service utilisation, particularly for non-government organisations that do not use MBS billing and for general practitioners, who may bill against general MBS items.

Alcohol and other drugs

There is limited access to place-based information about alcohol and other drug use, health needs and service utilisation. WA Primary Health Alliance staff consistently note the need for finer grained place-based information for each PHN (e.g. to a SA3 or even SA2 level), but this is rarely available. For example, the alcohol and other drug treatment service data is only released by the Australian Institute of Health and Welfare (AIHW) at a PHN level.

Aboriginal Health

The interpretation of Aboriginal health data was limited by the small population sizes within Statistical Areas. Aboriginal data is commonly presented in different Statistical Areas, known as Indigenous Areas (IARE), or as the general Greater Perth (Perth North and South PHNs) and Rest of WA (Country WA PHN). Small population sizes can produce unstable rates that can greatly fluctuate on an annual basis. Additionally, there are limitations in the accuracy of total number of Aboriginal people due to non-compliant participation in the census, lack of self-identification, plus the highly mobile nature of Aboriginal populations.

To ensure accurate statistical analysis of Aboriginal health and service need, the following data sets were excluded: avoidable mortality by cause and palliative care public hospitalisations, . The under-identification of Aboriginal people within health data collections remains a limitation for data analysis. Several available data sets within this needs assessment did not include specific Aboriginal statistics for analysis, this included: cancer screening, childhood obesity, homelessness, potentially preventable hospitalisations and chronic disease risk factors.

Section 2 – Outcomes of the health needs analysis

This section summarises the findings of the health needs analysis in the table below. For more information refer to Table 1 in '5. Summarising the Findings' in the Needs Assessment Guide on www.health.gov.au/PHN.

Additional rows may be added as required.

General Population Health

Outcomes of the health needs analysis		
Identified Need	Key Issue	Description of Evidence
HN1.1 Poor health outcomes in disadvantaged areas.	***Socio-economic factors including poor rates of educational attainment, financial and housing instability, and low rates of employment are associated with long-term physical and mental health problems.***	Socio-economic Index for Areas (SEIFA) defines the relative social and economic disadvantage within a region. Indicators reflecting disadvantage include low income, low educational attainment, high unemployment, and reliance on welfare for income and housing support. **Whole of PHN** *Socio-economic disadvantage for whole of population* The overall socio-economic disadvantage score for Perth South PHN (SEIFA 1,013) is similar to the state (SEIFA 1,016), but there are pockets of high disadvantage within the region. **Place based** *Socio-economic disadvantage for whole of population* Kwinana has the highest rate of unemployment (12%) and welfare-dependent families (17%). Mandurah has the highest proportion of single parent families (26%) and rent support (24%).[1]
HN1.2 Vulnerable population groups need	***Vulnerable groups are more likely to have poor physical and mental***	People in vulnerable groups are more likely than the general population to experience poor health outcomes due to physical, social, and economic factors. Vulnerable groups include those with:

Outcomes of the health needs analysis		
targeted support.	***health outcomes.***	• Culturally and linguistically diverse people • People who are homeless • People who live with a severe disability • People who care for someone with a disability • People who are developmentally vulnerable • People who are victims of domestic violence. **Whole of PHN** *People born overseas* One in five people in Perth South PHN was born in a non-English speaking country (188,416; 20%), higher than the state average (17%). The most common countries of origin include India (2.7%), China (1.6%) and the Philippines (1.6%). Of the Perth South PHN residents born overseas, 19,100 (2.2%) have poor English proficiency, accounting for a higher proportion of the population born overseas compared to the state average (1.9%).[1] *Disability and carers* There is a higher percentage of people in Perth South PHN living with either a profound or severe disability (4.4% of the population). A higher percentage of people aged 15 and over or provide unpaid care for someone with a disability (10%) compared to Perth North PHN, Country PHN and state averages.[1] Carers may experience a decline in their physical, mental and emotional health, and adverse financial and social impacts as a result of their care-giving responsibilities. Carers frequently experience physical pain, chronic conditions and use more prescription medications than the general population. Physical pain may be more prevalent in carers due to the physically demanding nature of some caring roles and a lack of time to seek treatment for themselves.[2,3] *Homelessness* There is a larger homeless population in Perth South PHN (3,302) than Perth North PHN (2,094), which are both lower than Country WA PHN (3,714).[5] In this instance, 'homeless' includes[4]: • Persons living in improvised dwellings, tents, or sleeping out • Persons in supported accommodation for the homeless

Outcomes of the health needs analysis		
		• Persons staying temporarily with other households • Persons living in boarding houses • Persons in other temporary lodgings • Persons living in 'severely' crowded dwellings. Included within this category are 1,168 people who live in "severely" crowded dwellings; this is defined as requiring at least four extra bedrooms to accommodate the people usually living there.[5] The number of people living in 'severely' crowded dwellings was similar in Perth South PHN and in Perth North PHN. The Registry Week data collections asks the homeless cohort about their health on an annual basis. In WA, collections between 2010 to 2017 indicated that asthma, heat exhaustion and hepatitis C were the health conditions impacting most on people who were experiencing homelessness.[6] *Developmentally vulnerable children* Physical health and wellbeing descriptors are collected as part of the Australian Early Development Census (AEDC) when children commence their first year of full-time schooling. Children's development is measured in five domains: • Physical health • Social competency • Emotional maturity • Language and cognitive skills • Communication skills and general knowledge.[7] Perth South PHN (21%) had similar percentage of children who were developmentally vulnerable in one or more domains compared Perth North PHN (19%) but lower than Country WA PHN (25%).[1] *Domestic violence* In 2011, intimate partner violence was one of the greatest risk factors contributing to it the burden of disease for women in the 25 to 44 year old age bracket.[8,9] Domestic violence is a leading cause of homelessness for women with children.[9] In 2016-17, approximately 72,000 women, 34,000 children and 9,000 men seeking homelessness

Outcomes of the health needs analysis		
		services reported that domestic violence caused or contributed to their homelessness.[9] **Place-based** *People born overseas* The highest proportion of residents born overseas live in Canning (38.9%), Gosnells (30.3%) and Belmont-Victoria Park (28.5%), the highest proportion of those with poor English proficiency are living in Canning (5.0%) and Gosnells (4.7%).[1] High volumes of people born overseas live in Canning (36,418), Gosnells (35,753), Melville (21,096) and Cockburn (20,381).[1] *Disability and carers* The highest proportion of people living with a disability reside in Mandurah (6.1%) and Fremantle (4.6%). Fremantle and Melville had the highest proportions of people aged 15 and over providing unpaid care for someone with a disability, 11.4% and 11.3% of the population aged 15 years and over in each of these SA3s. *Homelessness* The highest numbers of people who are experiencing homelessness live in Cockburn (976), Gosnells (399), and Canning (334). This includes those living in severely crowded dwellings: Gosnells (264), Cockburn (222) and Canning (167).[5] *Developmentally vulnerable children* Canning (25%) and Gosnells (25%) had significantly higher percentages of children with developmental vulnerability compared to both the National rate and the state rate.[1]
HN1.3 Older people need targeted support.	***Older populations generally have higher prevalence rates of chronic conditions and exacerbations of their conditions, leading to increased ED presentations,***	Older adults are typically higher users of health services as many health conditions and associated disabilities become more prevalent with age.[10] A study including 6,200 adults in Western Australia identified some chronic conditions as two to four times more prevalent in people aged over 65 years compared to the entire Western Australia sample.[10] People over the age of 65 years also have the highest PPH rates in each of the five key conditions reviewed by the National Health Performance Authority in 2015.[11] PPHs are hospital admissions that may have been prevented through the provision of appropriate preventative health interventions and early disease management (see HN1.9). Palliative and end of life care are likely to be an increasing burden on services

Outcomes of the health needs analysis		
	potentially preventable hospitalisations and acute care demand.	as the older generation continues to grow. People over the age of 65 years have the highest PPH rates in each of the five key conditions reviewed by the National Health Performance Authority in 2015.[11] Palliative and end of life care will be an increasing burden on services as the older generation continues to grow. **Whole of PHN** *Ageing population* The proportion of residents aged 65 years and over in Perth South PHN (14.1%; 132,689) is similar to state rates (14.0%; 346,182), but higher than Perth North PHN (13.6%; 137,593). The ageing population is expected to grow at a faster rate in Perth South PHN than Perth North PHN (0.5% vs -0.4%), with close to 200,000 older adults living in Perth South PHN by 2025 (15%).[1] *Palliative care* More people are living longer with chronic life-limiting conditions; an estimated 30% of Australians aged 65 years and over live with three or more chronic conditions.[12] More serious life-limiting chronic conditions such as dementia, cardiovascular respiratory diseases and cancers are also increasing. When asked where they would prefer to die, most healthy Australians nominate their home. However, the statistics on place of death indicate that this is relatively uncommon; only 16% of people die at home, 20% of people die in hospices and 10% in nursing homes, while the remainder die in hospitals. This results in a high cost burden for the health system and potentially a poorer quality of death.[13] In Australia, WA reported the lowest proportion of palliative care hospitalisations in public hospitals between 2015 and 2016.[14] This low rate may be attributed to the higher proportion of palliative care services provided by the private sector and the availability of affordable non-government services. In Australia, WA is reported to have among the lowest rate of permanent residential aged care residents (11 per 100,000 vs national rate of 18) and palliative care-related prescriptions (1,547 per 100,000 vs national rate of 3,069). Despite this, the cost per patient in WA is among the highest in the nation, with high government cost per patient for palliative care-related medications ($71 per patient on average vs national average cost of $54 per patient) and average Medicare benefit paid on palliative medicine services per patient ($632 vs national average

Outcomes of the health needs analysis		
		of $410). Alongside these high patient costs, WA has the highest rate of palliative medicine attendances including in hospitals or home visits (604.6 per 100,000 vs national rate of 292) and palliative medicine case conferences (73 per 100,000 vs national rate of 37). Consistent with patterns observed in other medical fields, the rate of FTE specialist palliative medicine physicians is lowest in WA (0.8 per 100,000).[15] Hospitalisations for palliative care were similar in Perth South PHN (58 ASR per 100,000) compared to Perth North PHN (59 ASR per 100,000), but lower than the Country WA PHN (105 ASR per 100,000) and state rate (68).[16] **Place-based** *Ageing population* A high proportion of older adults live in Mandurah (22%), Melville (18%) and Fremantle (18%) with high numbers living in Mandurah (21,790), Melville (18,584) and Rockingham (15,420). Mandurah is expected to have the highest proportion (25%) and number of residents aged over 65 years (32,990) in 2025, with the greatest ageing population growth rates to occur in Serpentine-Jarrahdale (9.1% to 24%) and Kwinana (9.2% to 16%).[1] *Palliative care* Palliative care hospitalisations are above the PHN average in areas of higher socio-economic disadvantage. High age standardised rates were identified in Rockingham (147 ASR per 100,000), Kwinana (124 ASR per 100,000) and Armadale (93 ASR per 100,000).[16]
HN1.4 There is a need to modify lifestyle risk behaviours.	***Targeting improvements in lifestyle behaviours has the ability to reduce modifiable risk factors to prevent and manage chronic disease, in addition to improving overall mental and physical wellbeing among children and***	Risk factors and lifestyle behaviours such as smoking, harmful alcohol consumption, physical inactivity and obesity can lead to the development and progression of chronic conditions. **Whole of PHN** *Adults* Three in four adults (males: 75; females: 75 ASR per 100) in Perth South PHN have at least one of four risk factors for chronic disease (obese, current smoker, low rates of physical activity, high risk alcohol consumption), similar to state rates (males and females: 74). Compared to state rates for individual risk factors, Perth South PHN has (ASR per 100):[1]

Outcomes of the health needs analysis		
	adults.	• Similar rates of obesity, one in four males (24) and females (24) • Similar rates of smoking, one in five males (19) and one in eight females (13) • Similar rates of participation in physical activity, with more than two thirds of adults undertaking no or low exercise (63) • Slightly lower rates of high alcohol intake, one in five adults consuming at high risk levels (18). *Children* Perth South PHN has a significantly higher rate of overweight (but not obese) children compared to the Australia wide rate (19 ASR per 100 compared to 18).[1] **Place-based** *Adults* Significantly higher rates of people that have at least one of four risk factors (smoking, high alcohol consumption, obesity, overweight) compared to the Perth South PHN rate (males: 75 per 100; females 75 per 100):[1] • Kwinana (males: 83 ASR per 100; females: 81 ASR per 100) • Armadale (males: 82 ASR per 100; females: 80 ASR per 100) • Cockburn (males: 78 ASR per 100; females: 77 ASR per 100) • Gosnells (males: 80 ASR per 100; females: 79 ASR per 100) • Serpentine-Jarrahdale (males: 81 ASR per 100; females 79 ASR per 100) • Mandurah (males: 80 ASR per 100; females: 78 ASR per 100) • Rockingham (males: 80 ASR per 100; females: 78 ASR per 100). Significantly higher rates of obesity compared to the Perth South PHN rate (males: ASR 24 per 100; females: ASR 24 per 100) in: • Armadale (males: 28 ASR per 100; females: 28 ASR per 100) • Gosnells (males: 25 ASR per 100; females: 25 ASR per 100) • Kwinana (males: 30 ASR per 100; females: 31 ASR per 100) • Mandurah (males: 28 ASR per 100; females: 28 ASR per 100)

Outcomes of the health needs analysis		
		• Rockingham (males: 28 ASR per 100; females: 28 ASR per 100) • Serpentine-Jarrahdale (males: 26 ASR per 100; females: 26 ASR per 100). Significantly higher rates of overweight but not obese females in Armadale (31 ASR per 100) compared to the Perth South PHN rate (30 ASR per 100). *Children* Significantly higher rates of overweight and/or obese children were observed for (ASR per 100):[1] • Overweight males and females in Belmont-Victoria Park (males: 27 ASR per 100; females: 18 ASR per 100) and Canning (males: 26 ASR per 100; females: 19 ASR per 100) • Significantly higher prevalence of overweight males in Armadale (23 ASR per 100), Cockburn (23 ASR per 100), Gosnells (24 ASR per 100), Kwinana (23 ASR per 100), Melville (22 ASR per 100) and Rockingham (23 ASR per 100) compared to WA and Australian rates and compared to females • Obese children in Kwinana (8.5 ASR per 100), Armadale (7.7 ASR per 100), Rockingham (7.1 ASR per 100) and Gosnells (7.0). Targeted education programs are required to highlight the importance of healthy nutrition and physical activity for children to reduce high overweight and obesity rates in Perth South PHN. The Armadale Schools Consultation Report identified that lifestyle risk taking behaviours are occurring at a younger age in Armadale and in need of a whole-of-family approach to early intervention.[17]
HN1.5 The health needs of people living with chronic conditions.	***Chronic conditions, and multiple comorbid chronic conditions are common.***	Chronic conditions vary in severity but can impact on a person's functional capacity and quality of life. Half of all Australians are living with a chronic condition (arthritis, asthma, back pain and problems, cancer, cardiovascular disease, chronic obstructive pulmonary disease, diabetes, and mental health conditions). Nearly a quarter of Australians suffer from two or more of these chronic conditions.[18] Those living with at least one chronic condition are more likely to die prematurely, and those living with multiple, long-term conditions (comorbidities) have poorer overall health outcomes, and higher rates of engagement with health services and health care costs, including potentially preventable hospitalisations.[11,18] **Whole of PHN**

Outcomes of the health needs analysis		
		Chronic conditions Perth South PHN has similar rates of diabetes, mental health conditions, circulatory system diseases and arthritis compared to state rates[1]. The prevalence of other chronic conditions in Perth South PHN are similar to state rates, including high blood cholesterol (34.8 ASR per 100), musculoskeletal conditions (29.0) and respiratory system diseases (29.4).[1] [This section has been redacted for data confidentiality reasons] *Median age of death and avoidable deaths* The median age of death in Perth South PHN is 81 years, similar to Perth North PHN and national rates, and slightly higher than the state rate of 80 years. Avoidable mortality includes deaths from conditions that are considered avoidable, given timely and effective health care. The most prevalent causes of avoidable death were circulatory system disease (34 ASR per 100,000), cancer (28 ASR per 100,000), and ischemic heart disease (22 ASR per 100,000).[1] **Place-based** *Chronic conditions* Mandurah has the highest proportion of chronic disease burden in Perth South PHN, with consistently higher rates across eight of the nine chronic conditions, with the exception of diabetes where rates were similar to the state average. Kwinana has high rates of diabetes, circulatory system diseases, mental health and behavioural problems and arthritis, and Rockingham has high rates of asthma, high blood cholesterol, respiratory conditions, arthritis and musculoskeletal disorders compared to state averages.[1] *Median age of death and avoidable deaths* Lowest median age of death in the SA3s of Kwinana (75 years), Serpentine-Jarrahdale (75 years) and Armadale (76 years), all below Perth South PHN, state and national averages. There were higher rates of avoidable death from suicide in Mandurah and Rockingham, from cancer and transport accidents in Serpentine-Jarrahdale, and from diabetes, stroke and heart disease in Kwinana, all above Perth South PHN, state and national averages.[1] *Heart Failure*

Outcomes of the health needs analysis		
		The most common cause of chronic heart failure is coronary heart disease and prior myocardial infarction, hypertension and diabetes.[19] Kwinana SA3 has significantly higher rates of avoidable deaths from circulatory diseases and ischemic heart disease, significantly higher rates of hospital admissions for circulatory system diseases, a high rate of residents living with diagnosed circulatory system diseases and has been identified as a PPH hotspot for congestive heart failure and angina. Additionally, Kwinana had a significantly higher prevalence of diabetes and a significant proportion of males and females with at least one of four risk factors i.e. current smoker, high alcohol intake, obesity and low exercise levels.[1] Other areas with populations with increased risk factors, hospitalisations and avoidable deaths are Mandurah and Armadale. Armadale had significantly high rates of avoidable deaths from circulatory disease and ischemic heart disease, a significant proportion of males and females with one of four risk factors for chronic disease and was identified as a PPH hotspot for congestive heart failure. Mandurah had significantly high rates of hospital admissions for circulatory diseases, a significant proportion of males and females with one of four risk factors for chronic disease and high rate of residents with high blood cholesterol.[1]
HN1.6 People with chronic conditions need to be able to effectively self-manage.	***The majority of chronic conditions require effective management, including medication management, to prevent progression and to avoid potentially preventable hospitalisations***	**Whole of PHN** There is evidence of poor self-management, personal responsibility and self-efficacy of some cohorts across Perth South PHN, with poor medication compliance, lack of understanding of medication effectiveness, and improved access needed for self-management programs.[20] Lower levels of individual health literacy are also associated with higher rates of hospitalisation and use of emergency care, poorer ability to take medications appropriately and interpret health labels and messages, and poor knowledge of their condition for self-management.[21] It has been estimated that people with low levels of individual health literacy are between one and a half to three times more likely to experience an adverse outcome.[21] An adequate level of health-literacy is required for those with chronic conditions to understand care plans, medication, lifestyle changes, and possible long-term health outcomes of the condition to reduce acute phases and disability.[21] Data for health literacy levels in Western Australia and across Perth South PHN are not available and further research is needed to identify specific sub-regions where low levels of health literacy in Perth South PHN may be contributing to poor chronic disease self-management and medication compliance.[21] *Potentially Preventable Hospitalisations (PPH) for Chronic Conditions*

Outcomes of the health needs analysis		
		In 2017, the Department of Health and the WA Primary Health Alliance co-authored the *Potentially Preventable Hospitalisation Hotspots in Western Australia*. A hotspot is an area that shows a rate of hospitalisation of at least 1.5 times over the state average for a three-year period to 2015-16. Perth South PHN had a higher number of PPH hotspots for chronic conditions (18) compared to Perth North PHN (11). These were for diabetes complications, COPD, angina, congestive heart failure and iron deficiency. Hotspots for diabetes complications were located in Armadale (SA3), Kwinana (SA3) and Rockingham (SA3). Hotspots for COPD were in Armadale (SA3), Belmont-Victoria Park (SA3), Kwinana (SA3), Mandurah (SA3) and Rockingham (SA3). A hotspot for angina was in Kwinana (SA3) while PPH hotspots for congestive heart failure were in Kwinana (SA3) and in Armadale (SA3). PPH hotspots for Iron deficiency anaemia were located in Belmont-Victoria Park (SA3), Cockburn (SA3), Kwinana (SA3) and Mandurah (SA3).[22]
HN1.7 Prevent the development of comorbid chronic conditions.	***People with chronic conditions are at higher risk of developing Comorbid chronic conditions (physical and mental) that will exacerbate their pre-existing conditions.***	*Comorbid chronic conditions* Chronic conditions have a substantial impact on the population, the health system and individuals. A self-report survey in 2014-15 revealed that 50% of Australians has at least one of eight selected common chronic conditions:[23,24] • Arthritis • Asthma • Back pain and problems • Cancer, cardiovascular disease • Chronic obstructive pulmonary disease (COPD) • Diabetes • Mental health conditions. Comorbidity refers to the occurrence of two or more diseases in a person at one time. While the existence of these multiple health conditions may be unrelated, in many instances—and particularly in relation to chronic diseases—there is some association between them with a range of chronic diseases sharing common risk factors. Understanding more about comorbidities can provide vital information for prevention, management and treatment of chronic diseases.[18]

Outcomes of the health needs analysis		
		The rate of comorbidity and the number of chronic diseases increases with age. Almost one in three peopled aged 65 and over reported having three or more chronic diseases, compared with just 2.4% of those under 45.[25] Some chronic conditions are a risk factor for developing further chronic conditions. For example, having diabetes is known to be a risk factor for developing cardiovascular disease. The Australian Bureau of Statistics (ABS) 2014–15 National Health Survey (NHS) collected information on the most frequent comorbid conditions of respondents. People with cardiovascular disease reported high rates of comorbid diabetes (63%), cancer (51%) and COPD (49%), and those with arthritis reported high rates of COPD (52%), diabetes (41%) and heart cardiovascular disease (41%).[26] *Comorbidities: mental health and chronic conditions* Research indicates a correlation between comorbidities and an increased risk of depression. The prevalence of depression is shown to increase as the number of chronic conditions increases. For example close to one third of people with two (27%), three (30%) of four (31%) chronic conditions were also depressed[27]. In the National Health Survey 2014 to 2015those with COPD, back pain and asthma also reported high rates of a comorbid mental health condition (38%, 30% and 29% respectively).[26] People with a severe mental health condition and physical comorbidity have a shorter life expectancy relative to the general population. Medication use, psychosocial and lifestyle factors contribute to the reduced physical health of mental health consumers.[28] The most prevalent health issues found in those with serious mental illness are cardiovascular disease and type 2 diabetes.
HN1.8 Increased patient awareness to prevent high ED attendances for non-urgent conditions.	***People presenting to ED with non-urgent conditions may lack access, availability or awareness of appropriate and affordable primary care services.***	High rates of non-urgent ED attendances indicate there may be a gap in primary care services. The information below focusses on ED presentations for the non-Aboriginal population. The ED presentations for the Aboriginal population is discussed in the Aboriginal health needs assessment. [This section has been redacted for data confidentiality reasons] *Note: Non-urgent ED attendances for Aboriginal populations is included in the Aboriginal Health section of the Needs Assessment.*

Outcomes of the health needs analysis		
HN1.9 Earlier intervention in a range of conditions to prevent higher than state rates for specific potentially preventable conditions (acute, chronic and vaccine preventable).	***Potentially preventable hospitalisations indicate where conditions could have been treated, or better managed at an earlier stage, in primary care.***	**Whole of PHN** PPHs are admissions to hospital for a condition where the hospitalisation could have been prevented through the provision of appropriate primary and community-based care (AIHW, 2015). In 2017, the Department of Health and the WA Primary Health Alliance co-authored the *Potentially Preventable Hospitalisation Hotspots in Western Australia.* A hotspot is an area that shows a rate of hospitalisation of at least 1.5 times over the state average for a three-year period to 2015-16. The report identified 27 hotspots in the Perth South PHN.[22] **Place-based** PPH Hotspots were identified in the following SA3 locations:[22] • Armadale (SA3): Convulsions and epilepsy, diabetes complications, COPD and congestive heart failure • Belmont-Victoria Park (SA3): Convulsions and epilepsy, COPD and iron deficiency anaemia • Cockburn (SA3): Iron deficiency anaemia and vaccine preventable • Fremantle (SA3): Cellulitis and convulsions and epilepsy • Kwinana (SA3): UTIs, convulsions and epilepsy, diabetes complications, COPD, angina, congestive heart failure, iron deficiency and vaccine preventable • Mandurah (SA3): Cellulitis, COPD and iron deficiency anaemia • Rockingham (SA3): Diabetes complications and COPD. The PPH hotspots report identified hotspots by Statistical Area 2 (SA2) which provides a more precise location for improvement of chronic disease management. PPH hotspots were identified the following SA2 locations:[22] • Armadale-Wungong-Brookdale (SA2): Diabetes complications and COPD • Camillo-Champion Lakes (SA2): Convulsions and epilepsy • Seville Grove (SA2): Diabetes complications and congestive heart failure • Belmont-Ascot-Redcliffe (SA2): Convulsions and epilepsy, COPD and iron deficiency anaemia • Hamilton Hill (SA2): Iron deficiency anaemia and vaccine preventable • East Fremantle (SA2): Cellulitis • Fremantle – South (SA2): Convulsions and epilepsy • Anketell-Wandi (SA2): UTIs • Calista (SA2): Diabetes complications and iron deficiency anaemia

Outcomes of the health needs analysis		
		• Casuarina-Wellard (East) (SA2): Convulsions and epilepsy, COPD, congestive heart failure and vaccine preventable • Parmelia-Orelia (SA2): COPD and angina • Greenfields (SA2): Cellulitis and COPD • Mandurah (SA2): Cellulitis, COPD and iron deficiency • Cooloongup (SA2): Diabetes complications and COPD. COPD was the most frequent PPH in Perth South PHN followed by convulsions and epilepsy, diabetes complications and iron deficiency. Congestive heart failure only accounted for two Hotspots in Perth South PHN at 1.7 and 1.8 times the state average in Seville Grove and Casuarina-Wellard.

Primary Mental Health Care (including Suicide Prevention)

Outcomes of the health needs analysis		
Identified Need	Key Issue	Description of Evidence
HN2.1 Reduce the harmful effects of mental health conditions on a person's health outcomes.	***Mental health conditions, including depression, are widely recognised as being a significant risk factor for suicide and self-harm.***	Globally, for every suicide, there are approximately 20 suicide attempts. Since the mid-1980s, the number of Australians who died by suicide has averaged around 2,000 annually; while for over a decade, more than 20,000 Australians have been admitted to hospital annually as a result of intentionally self-inflicted injuries. Mental health conditions such as major depression, psychotic illnesses and eating disorders are associated with an increased risk of suicide[29] especially after discharge from hospital or when treatment has been reduced,[30] and people with alcohol or drug abuse problems have a higher risk of dying by suicide than the general population.[31] In 2017, the rate of suicide in Western Australia was 15.8 per 100,000 compared to 12.7 per 100,000 in Australia overall.[32] About 80% of suicide deaths in Australia had co-morbidities such as mood disorders (43%), drug and alcohol use disorders (29.5%), and anxiety (17.5%).[32] **Whole of PHN** *Suicide* Suicide was among the top 10 leading causes of death in Perth South PHN (ASR=14.0 per 100,000).[33] The rate ratio relative to all of Australia was 1.19. The suicide rate was much higher for males (ASR=21.0 per 100,000) compared to females (ASR=6.9 per 100,000). *Depression and intentional self-harm* Perth South PHN had lower hospitalisation rates for depression (ASR=10 per 10,000) and intentional self-harm (ASR=15 per 10,000) compared to the national average (ASR=12 per 10,000 and 17 per 10,000 respectively).[34] *Youth suicide* In 2017, suicide accounted for 36% of deaths among people between 15 and 24 years of age in

Outcomes of the health needs analysis		
		Australia.[32] Moreover, suicide remained the leading cause of death for children between 5 and 17 years of age, with 98 deaths occurring in this age group (a 10.1% increase in deaths from 2016). The 2014 state Ombudsman's investigation into 36 suicide deaths by youth aged 13-17 years discussed several factors associated with suicide, these include demographic characteristics (i.e. being male and homeless), mental health conditions, suicidal ideation and behaviour, harmful alcohol and drug use, experiencing child maltreatment and adverse family experiences. One or more of these factors was prevalent in the suicide deaths of the 36 young people.[35] **Place-based** *Suicide* Rockingham, Mandurah and Fremantle SA3s had the three top suicide rates in Perth South PHN.[33] These areas all had suicide rates that were above the WA rate and at least 1.3 times the national rate. Mandurah SA3 had the highest rate for males (ASR=32.1 per 100,000), with a rate ratio of almost 1.8. Canning and Rockingham SA3s had the highest suicide rate for females (ASR=8.9 per 100,000), with a rate ratio of 1.5. *Depression and intentional self-harm* Compared to Perth South PHN and national rates, Fremantle SA3 and Melville SA3 had relatively high hospitalisation rates for depression.[34] For intentional self-harm, Fremantle SA3 and Cockburn SA3 had the highest rates. We note that there is a markedly high hospitalisation rate across a range of mental health conditions in the Fremantle SA3. This may be related to underlying disease trends, but equally may also be an artefact of supplier induced demand, whereby patients re-locate to areas with high levels of service availability. We note that Fremantle Hospital provides mental health inpatient and outpatient services in this area, including the Alma Street Clinic. There is also availability of supported accommodation in this region and high rates of public housing. This effect may be more noticeable in the Fremantle SA3 due to the somewhat smaller population compared to other SA3s. Ultimately, it is difficult to tease apart the

Outcomes of the health needs analysis		
		influence of supply and demand on this observed trend.
HN2.2 Perinatal care for the mother and baby to act as a protective factor to prevent future mental health problems.	***Pregnant women and women who have just given birth are more likely to experience depression.***	Data from the 2010 Australian National Infant Feeding Survey[36] showed that one in five mothers of children aged 24 months or less had been diagnosed with depression. More than half of these mothers reported that their diagnosed depression was perinatal (that is, the depression was diagnosed from pregnancy until the child's first birthday). Perinatal depression was most commonly reported among mothers who: • Were younger (aged under 25) • Were smokers • Came from lower income households • Spoke English at home • Were overweight or obese • Had an emergency caesarean section. **Whole of PHN** Perth South PHN has a higher fertility rate (1.96) compared to state (1.89) and national rates (1.88).[37] **Place-based** There are no statistics available on the prevalence of perinatal depression by region. However, areas with a relatively high number of births are likely to have a higher demand for perinatal mental health services. Within Perth South PHN, the highest number of births between 2013 and 2015 was in Gosnells SA3 (n=5,734) and the highest fertility rate was in Armadale SA3 (2.32).[1]
HN2.3 Reduce impact of mental health conditions on medium and long-term physical health morbidity and multi-morbidities.	***People with chronic conditions are at higher risk of developing comorbid physical and mental health conditions or exacerbation of pre-existing conditions.***	Comorbidity can involve more than one mental health condition, or one mental health condition and one or more physical conditions. Mental health problems are known to have high rates of comorbidity with chronic physical conditions.[38] Around one in nine Australians aged between 16 and 85 years had a mental health condition and physical condition at the same time.[39] People living in the most disadvantaged areas of Australia were 65% more likely to have a comorbidity than those living in the least disadvantaged areas.[39]

Outcomes of the health needs analysis		
		[This section has been redacted for data confidentiality reasons]
HN2.4 People with persistent mental health conditions need to be able to access appropriate and timely primary care to avoid hospitalisations.	***People living with severe and complex mental health conditions are more likely to present to hospitals when primary health care is not accessible.***	**Whole of PHN** *Schizophrenia and delusional disorders* Overall, Perth South PHN had a lower rate of hospitalisations (ASR=16 per 10,000) for schizophrenia and delusional disorders compared to the national average (ASR=19 per 10,000).[34] [This section has been redacted for data confidentiality reasons] *Bipolar and mood disorders, excluding depressive episodes* Overall, Perth South PHN had a hospitalisation rate (ASR=11 per 10,000) for bipolar and mood disorders that was equal to the national average.[34] [This section has been redacted for data confidentiality reasons] **Place-based** *Schizophrenia and delusional disorders* Fremantle SA3 had the highest hospitalisation rate for schizophrenia and delusional disorders (ASR=50 per 10,000) in the Perth South PHN.[34] *Bipolar and mood disorders, excluding depressive episodes* Fremantle SA3 had the highest hospitalisation rates for bipolar and mood disorders in Perth South PHN (ASR=21 per 10,000).[34]
HN2.5 Children and youth are a priority, along with early intervention to improve access and outcomes.	***There are sub-regions in Perth South PHN with a relatively high prevalence of mental health conditions among youth.***	[This section has been redacted for data confidentiality reasons]

Outcomes of the health needs analysis		
HN2.6 Vulnerable groups have a high demand for mental health services.	***Minority groups, including people who are CALD or LGBTQI, are more vulnerable to poor mental health.***	Please refer to the General Population Health section above for a full discussion of the social determinants of health and the health needs of CALD populations. *Culturally and linguistically diverse (CALD)* The prevalence of mental health conditions is lower for people born in non-English speaking countries (8% for males and 16% for females) compared to people born in Australia (20% for males and 24% for females).[40] However, research shows that the mental health of migrants tends to deteriorate after the first year in Australia due to stress caused by acculturation, language and social difficulties and difficulties in finding employment.[41] Moreover, many culturally and linguistically diverse (CALD) residents will have difficulty accessing mental health services because of these barriers. Within Perth South PHN, Canning SA3 has the highest proportion (39%) and number (36,418) of CALD residents.[1] *Lesbian, Gay, Bisexual, Transgender, Queer and Intersex (LGBTQI) populations* The term 'LGBTQI' includes all people whose sexual orientation, gender identity or sex differ from heterosexual or male/female sex and gender norms.[42] As a minority group, LGBTQI people are particularly vulnerable to poor mental health due to discrimination and exclusion as key determinants of health.[43] Studies indicate a high prevalence of mental health disorders among LGBTQI people, with at least 36% of transgender and 24% of gay, lesbian and bisexual Australians meeting the criteria for experiencing a major depressive episode in 2005, compared with 6.8% of the general population.[44] Rates of depression, anxiety and poor mental health are highest among transgender and bisexual people, especially bisexual women.[45]
HN2.7 Consumer capacity to respond to mental health conditions by raising awareness of mental health and treatment options.	***Patients have limited understanding how to access the right care at the right time in the right place***.	Stakeholder feedback indicates that mental health patients often have difficulty navigating the health system due to its complexity.[46] It is important that patients and/or carers know how to access the right care early on, to prevent the need for hospitalisation. It is also important that coordinated care is provided for patients in the community, after they have been discharged from hospital. Poor discharge practices have been shown to result in readmission to hospital within 28 days and more serious adverse outcomes for patients and their families.[46]

Outcomes of the health needs analysis		
		There is a wide range of mental health awareness campaigns across Australia including RUOK Day, Suicide Prevention Day, and Mental Health Week. However, information in these campaigns is generally limited to telephone helplines and there is little or no information about accessing services in a primary care setting. Moreover, information about primary mental health care such as PORTS and Better Access is not readily available in preliminary Google searches for mental health care in WA. This means that many patients may be unaware of how to access services and navigate the mental health system. Stronger online messaging regarding primary care services (for example "talk to your GP") is needed to supplement existing mental health awareness campaigns.
HN2.8 Psychosocial support. Community based non-clinical mental health services, known as psychosocial supports, to assist people with severe mental health conditions that result in psychosocial disability through reduced functional capacity.	***Demand for mental health community support services by those with a psychosocial disability and non-NDIS populations.***	New psychosocial supports will reduce the service gap between mainstream mental health services and the National Disability Insurance Scheme (NDIS), as well as continuing the supports provided to existing clients of Commonwealth-funded psychosocial services, improving mental health outcomes and reducing inequity in service availability. [This section has been redacted for data confidentiality reasons]
HN2.9 Mental health in residential aged care facilities.	***Older adults in residential aged care facilities require access to targeted mental health support services.***	In the 2018-19 budget, it was announced that the federal government will provide funding to support the mental health of older adults. In the first initiative, PHNs will be funded to deliver mental health services for patients with a diagnosed mental disorder who are in residential aged care facilities (RACFs). Services will commence from January 2019 in each PHN region. In the second initiative, the Australian College of Mental Health Nurses will lead the development of a mental health nurse-led service focused on reducing the detrimental health and mental health impacts of social isolation. Within Perth South PHN, Mandurah SA3 has the largest population aged 65 years and older, while Canning and Melville SA3s have the highest number of residential aged care places (> 1000 places).[1,37]

Alcohol and Other Drug Treatment Needs

Outcomes of the health needs analysis		
Identified Need	Key Issue	Description of Evidence
HN3.1 For many people, alcohol consumption needs to be reduced to lower their risk of disease and injury.	***Drinking more than recommended is common and increases the risk of disease and injury.***	Alcohol was reported as the third highest risk factor (behind tobacco use and high body mass) contributing to disease burden in Australia, accounting for 5.1% of the overall burden of disease and injury.[47] Limiting daily alcohol consumption (no more than two standard drinks per day) and avoiding single occasion heavy drinking (no more than four standard drinks on a single occasion) is recommended to reduce harm.[48] The National Drug Strategy Household Survey (NDSHS) found that 17% of Australians consumed more than two standard drinks per day.[49] An estimated 26% of Australians (fourteen years or older) drink more than four standard drinks at least once per month (risky single occasion drinking).[49] This indicates that a high percentage of the population are vulnerable to disease and injury caused by alcohol use. **Place-based** *Alcohol consumption* Social health atlases published by the PHIDU give place-based estimates of at-risk drinking based on the NHSDS. Estimated rates of high alcohol intake are significantly higher than state-wide rates for residents of the Fremantle and Serpentine-Jarrahdale SA3s. It is possible that the higher rates for Fremantle residents are due to the easy access to pubs and restaurants in the area. *Alcohol consumption - National Alcohol Sales Data Project* Per capita estimates of consumption from the National Alcohol Sales Data Project were highest in the Fremantle SA3 and also higher than the rest of Perth South PHN in Belmont-Victoria Park.[50] It is likely that this is due to people visiting bars and restaurants in the Fremantle SA3 and is unlikely to reflect the consumption of residents alone. It is also possible that this is the case in Victoria Park, which has a popular

Outcomes of the health needs analysis		
		restaurant strip and several bars.
HN3.2 Harmful drug use needs to be reduced to promote better health.	***Drug use is common and can have harmful health consequences.***	For the purposes of this document, we have used the term 'drug use' to include illegal drugs and the misuse of pharmaceuticals. Drug use was estimated to have accounted for 2.3% of Australia's burden of disease and injury, making it an important health issue (this excludes tobacco, see HN3.11). The 2016 National Drug Strategy Household Survey (NDSHS) estimated that 43% of Australians aged fourteen and over had used drugs at some point in their life and 8.6% had used drugs in the past month. These estimates have not changed significantly from the 2013 survey. The most common recently (past month) used drug was cannabis (5.8% of people), followed by cocaine (0.8%), ecstasy (0.7%), and meth/amphetamines (0.6%). There are growing concerns about the use of performance and image enhancing drugs (PIEDs), including anabolic steroids, peptides and hormones, taken to improve body image and/or enhance sporting performance. The 2016 NDSHS found that 0.6% of people had misused steroids at some point in their life, up from 0.3% in 2001, but not significantly than the higher rate of use recorded in 2013. The average initiation (first use) age of steroids recorded in the NDSHS has been getting older and is now around 30 years of age, up from nineteen years of age in 2001. Due to the frequent intravenous use of steroids, the health risks associated with intravenous drug use are an important consideration (see HN3.8) There is evidence that usage is particularly high among gay and bisexual men (see HN3.12).
HN3.3 People living with, or at risk of, alcohol and/or other drug dependence have considerable health needs.	***Alcohol and/or other drug dependence is a major component of the total burden of disease due to alcohol and other drug use.***	Of the diseases linked to alcohol use, alcohol dependence is the greatest single cause of the disability-adjusted life year (DALY) burden[51], accounting for 31% of Australia's burden of disease due to alcohol. Overall, alcohol dependence accounts for 1.5% of Australia's burden of disease.[51] Alcohol dependence was the leading cause of alcohol-attributed hospitalisations (2015 data) for men (17% of alcohol-attributed hospitalisations) and women (26%).[52] Similarly, illicit drug dependence accounts for 31% of the total burden of disease and injury due to illicit drugs.[51] According to the report, most of the non-fatal burden of illicit drug dependence is due to opioids (38%) and amphetamines (20%), with cocaine and cannabis accounting for smaller components (8.6% and 7.5% respectively).

Outcomes of the health needs analysis		
		Most of the burden of illicit drug dependence is also experienced by men (72%) and 25-44 year-olds experienced 61% of the total burden.[51] While the overall burden of disease due to illicit drug use is generally higher in remote or very remote areas, major cities carry the highest age standardised rate of disease burden due to illicit drug *dependence*, which is more than 1.5 times the rate in remote and very remote regions.[51] The age standardised rate of burden due to alcohol dependence is highest in very remote regions, and higher among more socioeconomically disadvantaged groups.[51] **Place-based** While we do not have place-based estimates of the burden of disease due to drug dependence, data on disease burden by remoteness suggest greater health needs associated with illicit drug dependence in metropolitan regions in comparison to remote areas. *Hospitalisations for alcohol and other dependence (refer to* ***Error! Reference source not found.****)* Age standardised rates of public hospitalisations for alcohol dependence were significantly higher than state rates for people living in the Belmont-Victoria Park and Fremantle SA3s. Age standardised rates of public hospitalisations for drug dependence were not significantly higher than state rates in any of the Perth South PHN SA3s. *Alcohol and Other Drug Treatment Services National Minimum Data Set* In Perth South PHN, 29% of treatment episodes at publicly funded alcohol and other drug treatment providers were for alcohol problems. This was lower than the 39% in Country WA PHN and the same as the 28% seen in Perth North PHN. Amphetamines were the principal drug of concern for 36% of episodes, accounting for a higher share of episodes than alcohol. Cannabis accounted for 24% of clients and heroin 5%. In line with our expectations from burden of disease reports, most of those seeking treatment were men (64%), and 70% were in the 10-39 age group.

Outcomes of the health needs analysis		
		Drug consumption estimates from the National Wastewater Drug Monitoring Program (NWDMP) Given that Australia-wide reports highlighted the high contribution of opioids and amphetamines to the burden of illicit drug dependence, place-based consumption information may highlight areas with higher need. The NWDMP reported the estimated consumption of two pharmaceutical opioids with potential for harmful use (oxycodone and fentanyl) as well as heroin. Lower consumption of oxycodone was estimated at most WA test sites compared to the average across all sites (national).[53] [This section has been redacted for data confidentiality reasons] We do not currently have access to MBS data on prescription opioids, which could add another layer of place-based information. [This section has been redacted for data confidentiality reasons]
HN3.4 There is a need for increased awareness about drug overdose. People at risk of overdose need targeted support.	***Drug overdose and accidental poisoning is a growing problem. Increasingly, overdose victims do not fit the traditional profile of heroin addicts.***	Australia-wide, accidental poisoning was the leading cause of burden from illicit drug use, accounting for 33% of the total burden.[51] This is mainly attributed to opioid use, which accounts for 51% of accidental poisonings due to illicit drugs.[51] Amphetamines, cannabis, and cocaine account for smaller components of the burden of accidental poisonings, at 7.3%, 5.4%, and 1.1% respectively.[51] Alcohol related suicides are discussed separately in health need HN3.5. Australia's Annual Overdose Report, produced by the Penington Institute, reported 2,177 drug-related deaths in 2016.[54] Most deaths were due to opioids and often involved multiple alcohol and other drug use. Accidental deaths due to drug use increased from 904 deaths in 2002 to 1,704 in 2016.[54] According to a 2016 report by the Australian Bureau of Statistics, 70% of opioid overdoses are from pharmaceutical opioids. The Penington report found Western Australia experienced a 2.7-fold increase in accidental drug-related deaths involving pharmaceutical opioids between the 2002 to 2006 and 2012 to 2016 periods. Middle-aged people were found to be most at-risk of overdose, with around 70% of overdose victims in the 30 to 59-year-old age bracket. Increasing rates of overdose deaths in regional Australia were also noted.

Outcomes of the health needs analysis		
		Place-based [This section has been redacted for data confidentiality reasons] *Emergency department presentations for overdose* The diagnosis code 'poisoning by narcotics and psychodysleptics [hallucinogens]' (T40) covers overdoses due to multiple drug types, including opioids, cannabis, LSD, and cocaine. 'Poisoning by psychotropic drugs, not elsewhere classified' (T43) covers overdose due to methylamphetamines, MDMA, antidepressants, and other psychotropic substances. [This section has been redacted for data confidentiality reasons] It is likely that this is mainly due to opioid use, but we do not have more detailed diagnosis data to be certain. It is also important to note that these numbers may be affected by differing diagnosis coding biases at different ED departments. *Drug consumption estimates from the National Wastewater Drug Monitoring Program (NWDMP)* Given that opioids are largely responsible for overdoses, place-based information about opioid consumption may indicate populations at higher risk of overdose. The NWDMP reported the estimated consumption of two pharmaceutical opioids with potential for harmful use (oxycodone and fentanyl) as well as heroin. Lower consumption of oxycodone was estimated at most WA test sites compared to the average across all sites (national)[53] [This section has been redacted for data confidentiality reasons] Consumption of methylamphetamine was estimated to be higher than the National average at all Perth test sites. [This section has been redacted for data confidentiality reasons]
HN3.5 Reducing suicides and	***A significant portion of the***	Suicide and self-inflicted injuries were explored as linked diseases in the AIHW's report on the impact of

Outcomes of the health needs analysis		
self-inflicted injuries will involve addressing those that are due to alcohol and other drug use.	***burden of suicide and self-harm is due to alcohol and other drug use.***	alcohol and illicit drug use on the burden of disease and injury in Australia. This reported that 7.8% of the total burden of disease and injury attributed to alcohol use was due to suicides and self-inflicted injuries. Alcohol use accounted for 14% of the total burden of disease due to suicide and self-inflicted injuries. Eleven per cent of the burden of disease due to illicit drugs was found to be due to suicide and self-inflicted injury. Broken down by drug type, opioids accounted for 2.9% of the burden of suicide and self-harm, amphetamines accounted for 2.7%, and cocaine accounted for 3.9%. Illicit drug use was attributed to 11.5% of the burden of suicides and self-inflicted injuries for men compared to 4.0% for women. Australia-wide, there were 3,128 suicide deaths in Australia in 2017.[32] In its most recent release, the ABS reported on the proportion of suicides with co-morbidities mentioned as factors contributing to death.[32] Findings of alcohol and other drugs in the blood were noted in 14% of suicides and 30% noted mental and behavioural problems due to alcohol and drugs (F10-9, which includes dependence).[32] Mental and behavioural problems due to alcohol and drugs were noted in 42% of suicides for people aged 25 to 44,[32] making alcohol and other drug-related suicides particularly concerning for this cohort. **Place-based** Place-based information on suicides and self-inflicted injuries is discussed in the Mental Health section (see HN2.1). We do not have place-based information on suicides caused by alcohol and other drug use; however, remoteness can give some indication of areas that may be higher need. The burden of suicide and self-inflicted injuries due to alcohol and other drug use is highest in very remote regions, followed by remote regions.[51] This would suggest a lower burden in Perth South PHN compared to Country WA PHN. Lower socioeconomic populations are also at higher risk of suicides and self-inflicted injuries due to alcohol and other drug use. Given the high rate of mental and behavioural problems due to alcohol and drugs co-morbid with suicide, ED presentations and hospitalisations with these diagnoses may give an indication of areas with higher risk of alcohol and other drug related suicide.

Outcomes of the health needs analysis		
		Hospitalisations for mental and behavioural problem due to alcohol and other drugs Age standardised rates of public hospitalisations (based on 2015 to 2017 data) for mental and behavioural problems due to alcohol and other drugs were significantly higher than state-wide rates in the Belmont - Victoria Park and Fremantle SA3s. *ED presentations for mental and behavioural problem due to alcohol and other drugs* [This section has been redacted for data confidentiality reasons]
HN3.6 Alcohol consumption causes multiple chronic diseases resulting in complex health needs.	***Alcohol use is the cause of multiple chronic diseases.***	The Australian Institute of Health and Welfare has reported that 18% of the burden of disease for cancers can be attributed to alcohol. By cancer type, the percentage of disease burden due to alcohol use ranged from 40% for liver, 37% for mouth and pharyngeal, 22% for laryngeal, 21% for oesophageal, 10% for breast, and 5.4% for bowel.[51] In 2015, cancers were the overall leading cause of alcohol attributed deaths (36% of the 5,785 alcohol-attributed deaths in 2015).[52] Breast cancer was the leading cause of alcohol attributed deaths for women (18% of alcohol attributed deaths) and liver disease were the leading cause for men (18 per cent of alcohol attributed deaths).[52] Illicit drug use accounts for 21% of the total burden of disease due to liver cancer and is a long-term consequence of contracting hepatitis C (see HN3.8) for information on unsafe injecting practices). The other reported chronic conditions linked to alcohol use were chronic liver disease (6.4%), cardiovascular diseases (5.6% of total burden due to alcohol), epilepsy (3.5%), and pancreatitis (0.2%). This highlights the potential to improve health through reduced drinking, but also the complex comorbidities that some alcohol users face. While injury and alcohol dependence dominate the burden of disease due to alcohol in the 15-24 and 25-44 age groups, cancers account for a much higher share of the burden of disease in the 45-64, 65-84, and 85 years and over age groups.[51] Cancers account for the highest share of the burden of disease due to alcohol in the 65-84 age bracket, accounting for 41% of the total burden due to alcohol in men and 48% in women.[51] The burden of cardiovascular diseases due to alcohol increases with age.[51]

<table>
<tr><th colspan="3">Outcomes of the health needs analysis</th></tr>
<tr><td></td><td></td><td>Within the WA Primary Health Alliance's health snapshot survey, six respondents listed alcohol and other drug use as one of their health issues. While this is a small cohort, these six respondents all listed other health issues, highlighting the comorbidities associated with alcohol and other drug use. Additional health issues included:

<table><tr><th>Comorbidity</th><th>Number of respondents</th></tr><tr><td>Mental health conditions</td><td>5</td></tr><tr><td>Cardiovascular disease</td><td>2</td></tr><tr><td>Musculoskeletal conditions</td><td>2</td></tr><tr><td>Cancer</td><td>2</td></tr><tr><td>Diabetes</td><td>2</td></tr></table>
Place-based

Areas with higher rates of alcohol consumption are likely to have greater health needs due to chronic diseases caused by alcohol. Areas with evidence of higher alcohol consumption are discussed in HN3.1. Areas with an older population are also likely to have more health needs associated with chronic diseases caused by alcohol use and have a lower need for alcohol and other drug services targeting dependence.

Of the cancers linked to alcohol use, breast and bowel cancer have screening programs. Screening rates are discussed in the core section of the needs assessment (see SN1.5).</td></tr>
<tr><td>HN3.7 The co-occurrence of mental health conditions and alcohol and other drug use disorders creates</td><td>Drug and alcohol use and mental health disorders often co-occur.</td><td>Drug and alcohol use disorders may also co-occur with mental health conditions without necessarily playing a causal role. People with mental health conditions can 'self-medicate' leading to a co-occurring harmful alcohol and other drug use. There can also be an indirect causal relationships between alcohol and other drug use and mental health, and/or there can be shared risk factors (i.e. biological, psychological,</td></tr>
</table>

Outcomes of the health needs analysis		
complex health needs.		social, or environmental) that make co-occurrence more likely[55]. In fact, estimates based on the National Survey of Mental Health and Wellbeing indicate more than one-third of people (31% of men, 44% of women) with a substance use disorder have a co-occurring affective or anxiety disorder. The 2010 report on the Australian National Survey of Psychotic Illness found 58% of men and 39% of women with a psychotic illness had a lifetime history of harmful alcohol use or dependence, which is higher than the 35% and 14% in the general population.[56] Sixty-three per cent of males and 42% of females surveyed reported a lifetime history of illicit drug use or dependence, compared to 12% of males and 5% of females in the general population.[56] The survey also found higher rates (58% of men and 39% of women) of harmful alcohol use or dependence among people with a psychotic mental health condition compared to the general population.[56] There were six respondents to the WA Primary Health Alliance's health snapshot survey who listed alcohol and other drug use as one of their health issues, five of whom also listed mental health conditions. Mental health conditions can be caused by alcohol and other drug use, but this is reported to contribute only a small component to the burden of disease due to alcohol and other drug use.[51] Illicit drug use is linked to schizophrenia, anxiety disorders and depressive disorders; however, these contributed small percentages (0.5, 0.3 and 0.3% respectively) to the total burden of disease due to illicit drugs.[51] Furthermore, 0.3% of the burden of schizophrenia, 0.1% of depressive disorders, and 0.1% of anxiety disorders were attributed to illicit drug use.[51]
HN3.8 The risk of contracting blood-borne viruses can be mitigated by using safe injecting practices.	***Blood borne-viruses due to intravenous drug use are preventable yet continue to occur.***	Unsafe injecting practices accounted for 18% of the burden of disease due to illicit drugs, and 0.4% of Australia's total burden of disease.[57] Using shared needles / syringes increases the risk of contracting HIV and hepatitis B and C. Most of the burden of disease due to unsafe injecting practices was attributed to chronic liver disease (65%) followed by liver cancer (34%), both of which are long term consequences of hepatitis B and hepatitis C infection.[57] HIV/AIDS accounts for a comparably small 1.4% share of the burden of disease due to unsafe injecting practices.[57] A large proportion of the burden of disease due to Hepatitis B and Hepatitis C is due to unsafe injecting practices (43% and 83% respectively).[57]

Outcomes of the health needs analysis		
		A vaccine for hepatitis B has been available since 1982. It is currently recommended that all babies and adolescents are vaccinated, and since 2001 babies have received their first hepatitis B vaccine soon after birth.[58] No vaccination is available for hepatitis C, although antiviral treatment is available (the uptake of antiviral treatment is discussed in SN3.5). The prison population is at high risk of contracting hepatitis B and C. In a national health survey of prisoners conducted by the Kirby Institute in 2013, 31% tested positive for the hepatitis C antibody and 18% for the hepatitis B core-antibody.[59] Western Australia had the highest rate of prison entrants with a history of injecting drug use.[59] While providing health care to prisoners is not part of the WA Primary Health Alliance's remit, many are released to re-join society and resume use of the public health system. **Place-based** Overall, hospitalisation rates for hepatitis B and C are low across WA and more detailed place-based reporting is therefore not appropriate. Place-based estimates of the rates of intravenous drug use are not available.
HN3.9 Prevention of Foetal Alcohol Syndrome (FASD) and meeting the health needs of those affected by FASD.	***There is increasing recognition about the health consequences of drinking during pregnancy; however, there are indications of high rates of FASD in some communities.***	Current Australian guidelines to reduce health risks from drinking state: '*For women who are pregnant or planning a pregnancy, or are breastfeeding, not drinking is the safest option. Maternal alcohol consumption can harm the developing foetus or breastfeeding baby.*'[48] In a study of 99 young Western Australians in detention, 36 (36%) were diagnosed with FASD.[60] This speaks to the lifelong consequences of FASD for individuals and the effect on communities. **Place-based** We do not have estimates of the rates of FASD or drinking during pregnancy for Perth South PHN.
HN3.10 Respond to the alcohol and other drug related health needs of	***While there is evidence that drug and alcohol use among children and adolescents***	During our needs assessment consultation with regional WA Primary Health Alliance offices, there were concerns about a lack of alcohol and other drug services for children and adolescents and a growing need for these services in some areas.[61]

Outcomes of the health needs analysis		
children and adolescents.	***has reduced, it is important to ensure the health needs of those that do choose to use alcohol and other drugs are met.***	Current Australian guidelines to reduce health risks from drinking state: *'For children and young people aged under 18, not drinking alcohol is the safest option. Alcohol may adversely affect brain function and lead to alcohol-related problems later in life.'*[48] The National Drug and Alcohol Strategy Survey included Australians in the fourteen to nineteen-year-old age range. Twenty-three per cent of this age group reported having tried drugs and 9.1% reported having recently (in the past year) used drugs. **Western Australia** *Australian School Students Alcohol and Drug Survey (ASSADS)* The ASSADS has surveyed Western Australian school students aged twelve to seventeen every 3 years since 1984 on their drug and alcohol use. There has been a trend of declining rates, particularly in the last few decades, of students that drink.[62] In 1999 around 36% of students surveyed reported having used alcohol in the past week, in comparison to 14% in the 2014 survey.[62] Over this time period the number of students reporting never having consumed alcohol increased from 10% to 32%.[62] Of the students who reported consuming alcohol in the last week, there has been a general trend of increasing single occasion risk drinking (more than four standard drinks on a single occasion) over the lifetime of the survey.[62] In 2014, 6% of students report using an illicit drug in the past week, down from 17% in 1984.[62] *Young Australians Alcohol Reporting System (YAARS)* The National Drug Research Institute (NDRI) conducts the YAARS, a survey of drinking habits of 14 to 19-year-olds focussing on the most recent risky drinking session of the heaviest 25% of drinkers by age and gender. Most of those surveyed in WA (87%) were in the Perth metropolitan area.[63] When asked about their most recent risky drinking, 16% reported having been injured (including cuts and bruises).[63] Most had not engaged in safety strategies to stop or limit their drinking (e.g. alternating between alcoholic and non-alcoholic beverages) or drink in a less risky manner (e.g. avoid drinking games).[63]

Outcomes of the health needs analysis		
HN3.11 Reduce smoking rates, particularly among vulnerable populations.	***Smoking is the leading risk factor contributing to Australia's burden of disease. Although smoking rates have declined overall, they remain high among people with alcohol and other drug problems, mental health conditions, and for Aboriginal people.***	A reported 9% of the total burden of disease in Australia can be attributed to tobacco use, the greatest single risk factor contributing to disease burden.[47] Twenty-two percent of the burden of cancer, 12% of the burden of cardiovascular disease, 36% of respiratory disease, 3.5% of endocrine disease and 0.5% of infections were attributed to tobacco use. Smoking rates in Australia have been steadily reducing and in 2016 12% of Australians smoked daily compared to 24% in 1991.[64] Smoking rates among people receiving alcohol and other drug treatment are very high, estimated between 74% and 98%.[55] Tobacco accounts for the highest rate of mortality among people with alcohol and other drug and mental health conditions.[55] The 2010 report on the Australian National Survey of Psychotic Illness found two-thirds of people with psychosis are smokers. This proportion had not reduced since the 1997 to 1998 survey, despite smoking rates reducing among the general population over this period. **Place-based** Social health atlases published by the Public Health Information Development Unit (PHIDU) give place-based estimates of smoking based on the NHSDS. This highlighted significantly high rates of smoking among men living in Serpentine-Jarrahdale and men and women living in Gosnells, Kwinana, Mandurah, and Rockingham relative to state-wide rates (for each gender). At publicly funded alcohol and other drug treatment services, nicotine is rarely the principle drug of concern, accounting for just 0.2% of clients in Perth South PHN from 2016 to 2017.[65] Some PHNs have a much higher proportion of clients at alcohol and other drug services primarily for nicotine addiction, such as Country SA (7.9%), Adelaide (5.5%), and Western Queensland (5.1%).[65] At state level, the AIHW has also released the additional drug of concern. Although nicotine was the principal drug of concern in 0.3% of episodes, it is listed as an additional drug of concern in 20% of episodes.[65]
HN3.12 Higher levels of harmful alcohol and drug	***Higher levels of drug use among the LGBTQI community.***	The National Drug and Alcohol Strategy Survey reported that 42% of homosexual/bisexual people had recently used drugs, compared to 14.5% of heterosexual people. This was the highest percentage of any

<table>
<tr><th colspan="3">Outcomes of the health needs analysis</th></tr>
<tr><td>use among the LGBTQI community may increase their health risks.</td><td></td><td>of the social characteristics explored, which included education, labour force status, spoken language, remoteness, marital status, indigenous status, household composition and sexual orientation.

A study of 2,733 gay and bisexual men in Australia found that 4.4% used anabolic androgenic steroids,[66] consistent with international studies finding higher use among gay and bisexual men in comparison to heterosexual men. 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. The health risks associated with intravenous drug used are discussed in HN3.8.</td></tr>
<tr><td>HN3.13 Injuries and assault resulting from alcohol and other drug use.</td><td>Injuries and assaults can be reduced by reducing harmful alcohol and other drug use.</td><td>Twenty-six per cent of the burden of disease due to alcohol was estimated to have been due to accidental injuries and assault (suicide and self-inflicted injuries are discussed in HN3.5).[67] Large percentages of the burden of disease due to injuries such as road traffic accidents and drowning were due to alcohol (see summary below).[67] Results of the National Drug Strategy Household Survey found that single occasion risky drinkers (>4 standard drinks at least once per month) were 8.1 times more likely to have injured themselves or someone else in the last 12 month than low-risk drinkers.[49] These reports both highlight the short-term health risks associated with drinking.

<table>
<tr><th>Injury type</th><th>% of burden due to alcohol use</th></tr>
<tr><td>Other land transport injuries</td><td>34.9</td></tr>
<tr><td>Road traffic injuries - motorcyclists</td><td>33</td></tr>
<tr><td>Other road traffic injuries</td><td>30.2</td></tr>
<tr><td>Road traffic injuries - motor vehicle occupants</td><td>29.7</td></tr>
<tr><td>Homicide and violence</td><td>22.5</td></tr>
<tr><td>Drowning</td><td>20.6</td></tr>
<tr><td>Other unintentional injuries</td><td>19.3</td></tr>
<tr><td>Fire, burns and scalds</td><td>17.8</td></tr>
<tr><td>Accidental poisoning</td><td>17.3</td></tr>
</table>
</td></tr>
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Outcomes of the health needs analysis		
		Falls 11.9 Accidental injuries (suicide and self-inflicted are discussed HN3.5) accounted for 39% of the burden of disease due to illicit drugs, but this was mainly due to accidental poisoning (discussed in detail in HN3.4). The remaining injuries linked to illicit drug use were road traffic injuries, accounting for 5.6% of the burden of disease due to illicit drug use. 5.2% of the burden of road traffic injuries were due to illicit drug use. Overall, alcohol use is responsible for a larger share of the burden of injury than illicit drug use.

Aboriginal Health (including Aboriginal chronic disease)

Outcomes of the health needs analysis		
Identified Need	Key Issue	Description of Evidence
HN4.1 Poor health outcomes in disadvantaged areas.	***Socio-economic factors including poor rates of educational attainment, financial and housing instability, and low rates of employment are associated with long-term intergenerational physical and mental health problems.***	The Indigenous Relative Socio-economic Outcome Index (IRSEO) represents the Indigenous Areas (IAREs) of social and economic disadvantage among Aboriginal people. Indicators reflecting disadvantage include low income, low educational attainment, high unemployment, and reliance on welfare for income and housing support. A score of 1 represents the most advantaged area and a score of 100 represents the most disadvantaged area. **Whole of PHN** *Socio-economic disadvantage for Aboriginal population* Aboriginal people living in the Greater Perth area are relatively less socio-economically disadvantaged (IRSEO[1] 37) than state (IRSEO 56) and national Aboriginal populations (IRSEO 43).[68] **Place-based** *Socio-economic disadvantage for Aboriginal population (IARE)* Fremantle has the worst rates of socio-economic disadvantage for Aboriginal populations with a high prevalence of unemployment (28%), single parent families (62%), low income families (22%), jobless families (55%) and government housing (40%). Aboriginal residents in South Perth – Victoria Park are also likely to belong to single parent (60%), jobless families (48%) and living in government housing (33%), while Armadale had the worst rates of Aboriginal secondary school participation (51%) for Aboriginal 16 year old's.[68]
HN4.2 There is a need for accessible culturally secure	***Aboriginal people have poorer health outcomes, including early onset and poor management of long-***	The gap in health outcomes between Aboriginal and non-Aboriginal Australians is well documented, particularly around life expectancy, infant mortality, child mortality, chronic disease prevalence, potentially preventable hospitalisations and the burden of disease.[69] Chronic disease contributes significantly to the differences in life expectancy between Aboriginal and non-Aboriginal people. Aboriginal people experience 2.3 times the rate of

Outcomes of the health needs analysis		
primary care.	***term health conditions, high mortality and morbidity, and poorer maternal and child health outcomes.***	disease burden, with an age standardised death rate for chronic disease 3.8 times the rate among non-Aboriginal people. In WA 60% of Aboriginal people have been diagnosed with at least one chronic condition.[70] **Greater Perth and Whole of PHN** *Aboriginal population* A lower proportion of Aboriginal people live in Perth South PHN (1.8%) compared to the state (3.1%), but slightly higher proportion than Perth North PHN (1.4%), accounting for a total of 17,240 Aboriginal people.[68] *Aboriginal morbidity and mortality* In the five-year period from 2008 to 2012, 65% of deaths among Aboriginal people occurred before the age of 65, compared with 19% of deaths among non-Aboriginal people. The mortality rate for Aboriginal people was 1.6 times that of non-Aboriginal people (age-standardised rates of 981 and 596 deaths per 100,000 population, respectively). The largest difference between Aboriginal and non-Aboriginal mortality rates was for people aged 35-44, with male and female Aboriginal death rates 3.9 and 4.5 times the non-Aboriginal rates, respectively.[71] From 2011 to 2015, cardiovascular disease was the leading cause for death of Aboriginal and Torres Strait Islander people, being responsible for 24% of the deaths of those living in WA. The next most common causes of death were neoplasms (mainly cancers) which were responsible for 21% of deaths, followed by external causes (injury) (15%).[70] Aboriginal and Torres Strait Islander people born between 2010 and 2012 have a life expectancy of 65 years (males) and 70 years (females) 10.6 years and 9.5 years less than non-Aboriginal males and females, respectively.[72] *Aboriginal maternal and child health* Compared to the population state rate, Aboriginal mothers living in Greater Perth are over five times more likely to smoke during pregnancy. Aboriginal babies are 2.5 times more likely to be of low birth weight and Aboriginal children are twice as likely to be developmentally vulnerable on one or more domains, and nearly three times as likely on two or more domains.[68] *Domestic violence*

Outcomes of the health needs analysis		
		One in six Australian women and one in 16 men have been subjected, since the age of 15, to physical and/or sexual violence by a current or previous cohabiting partner.[73] Domestic violence occurs at higher rates for Aboriginal Australians and is known to have negative mental, emotional and physical implications on victims, including increasing the risk of homelessness. In 2014-15, Aboriginal women were 32 times more likely to be hospitalised due to domestic violence than non-Aboriginal women, while Aboriginal men were 23 times more likely to be hospitalised than non-Aboriginal men.[9] **Place-based** *Aboriginal population* Kwinana (3.6%), Armadale (2.5%) and Gosnells (2.3%) have the highest proportions of Aboriginal residents. The highest numbers of Aboriginal people live in Gosnells (2,753), Rockingham (2,560), Mandurah (2,096), Armadale (2,029) and Cockburn (1,585).[68] *Aboriginal hospital admissions (IAREs)* There are high rates of total hospital admissions for Aboriginal people living in IAREs of Fremantle (49,912.3 ASR per 100,000 Aboriginal persons), South Perth-Victoria Park (45,562.8), and Belmont (44,998.0) all well above the Greater Perth average (28,984.5). Particularly high admission rates were observed in[68]: • South Perth-Victoria Park (digestive system diseases, mental health problems, circulatory system diseases, and injury, poisoning and other external causes) • Fremantle (digestive system diseases, mental health problems, respiratory system diseases, circulatory system diseases, and injury, poisoning and other external causes) • Belmont (mental health problems, and injury, poisoning and other external causes) • Melville (respiratory system diseases, and injury, poisoning and other external causes). *Aboriginal maternal and child health (IAREs)* Within the Perth South PHN, indicators of poor Aboriginal maternal health include smoking during pregnancy and low birth weight babies in Belmont, Armadale, Canning and South Perth-Victoria Park. Close to half of Aboriginal children in Belmont (48%) and Armadale (47%) are developmentally vulnerable across one or more physical, social, cognitive and emotional indicators, rates that are well above state and national averages for Aboriginal

Outcomes of the health needs analysis		
		children, and compared to non-Aboriginal children.[68]
HN4.3 Increased patient awareness to prevent high ED attendances for non-urgent conditions.	***People presenting to ED with non-urgent conditions may lack access, availability or awareness of appropriate and affordable primary care services.***	High rates of non-urgent ED attendances indicate there may be a gap in primary care services. **Whole of PHN** *Non-urgent ED attendances for Aboriginal and Torres Strait Islander people* [This section has been redacted for data confidentiality reasons] **Place based** *Non-urgent ED attendances for Aboriginal and Torres Strait Islander people* [This section has been redacted for data confidentiality reasons]
HN4.4 Reduce harmful effects of mental health conditions on a person's health outcomes.	***Mental illness and disorders are widely recognised as being a significant risk factor for suicide and self-harm.***	*Youth suicide* In WA, suicide is the main cause of preventable deaths for 15-24 year olds.[32] The 2014 state Ombudsman's investigation into 36 suicide deaths by youth aged 13-17 years discussed several factors associated with suicide. These include demographic characteristics (i.e. being male and homeless), mental health conditions, suicidal ideation and behaviour, harmful alcohol and other drug use, experiencing child maltreatment and adverse family experiences. One or more of these factors was prevalent in the suicide deaths of the 36 young people.[35] Aboriginal youth made up 36% of suicide deaths, despite accounting for only 6% of the youth population in the state.
HN4.5 Servicing unmet need and increasing accessibility for vulnerable populations who are not engaged with health care services.	***Minority groups, including people who are Aboriginal, CALD or LGBTQI, are more vulnerable to poor mental health.***	The 2014-15 National Aboriginal and Torres Strait Islander Social Survey[74] reported that nearly 33% of Aboriginal people aged over 15 years had high or very high levels of psychological distress - more than twice the rate of non-Aboriginal Australians. Moreover, mental ill health represents a significant barrier to accessing health services. About 23% of Aboriginal people with a diagnosed long-term mental health condition had difficulty accessing health services compared to 10% of Aboriginal people with no long-term health conditions and 13% with other long-term health conditions[74]. Within Perth South PHN, Gosnells SA3 has the highest number (2,753) and Kwinana SA3 has the highest proportion (3.6%) of Aboriginal residents.
HN4.6 Reduce harmful effects of alcohol and	***Drinking more than recommended is common***	Limiting daily alcohol consumption and avoiding single occasion heavy drinking is recommended to reduce harm. Current Australian guidelines published by the National Health and Medical Research Council to reduce health

Outcomes of the health needs analysis		
other drug consumption on health outcomes.	***and increases the risk of disease and injury.***	risks from drinking recommend: drinking no more than 2 standard drinks on any day reduces the lifetime risk of harm from alcohol-related disease or injury, and drinking no more than 4 standard drinks on a single occasion reduces the risk of alcohol-related injury arising from that occasion.[48] The disease burden due to alcohol experienced by Aboriginal people is 3.1 times that of non-Aboriginal people, accounting for 8.1 per cent of the health gap.[75] For Aboriginal men, alcohol use disorders account for 5.8% of the total burden of disease and injury, second only to coronary heart disease.[75] For men aged 25-44, alcohol use disorders were the leading contributor to disease burden. [75] Alcohol use disorders account for 2.3% of the disease burden experienced by Aboriginal women.[75]
HN4.7 Reduce the harmful effects of smoking on health.	***Smoking remains a major health concern, particularly for Aboriginal people.***	The health consequences of tobacco use are discussed as a general population health need in HN3.11. The disease burden due to tobacco use experienced by Aboriginal people is 4.6 times that of non-Aboriginal people, and accounts for 23 per cent of the health gap.[75]

Section 3 – Outcomes of the service needs analysis

This section summarises the findings of the service needs analysis in the table below. For more information refer to Table 2 in '5. Summarising the Findings' in the Needs Assessment Guide on www.health.gov.au/PHN.

Additional rows may be added as required.

General Population Health

Outcomes of the service needs analysis		
Identified Need	Key Issue	Description of Evidence
SN1.1 More health professionals and primary care services are needed in some socioeconomically disadvantaged areas.	***Inadequate supply of primary care services to meet demand, particularly in areas of high socio-economic disadvantage where there are poorer health outcomes and higher demand for primary care services.***	Western Australians utilised primary care at lower than national rates, with the second lowest level of Australian Government expenditure on general practitioners per person in 2015/16. An ageing GP workforce and a move by younger Australian-trained GPs toward part-time employment will have significant impacts on access to primary care.[76] A recent GP workforce study estimated that 21% of the GP workforce will retire by the end of 2021. This comprises an estimated 500 metropolitan general practitioners at a loss of 437 FTE. With a move away from full time employment and greater work life balance for many younger GPs there is a need to train 2.1 Australian- trained GPs to gain one full-time clinician.[76] A 2018 survey of West Australian health care consumers asked about consumer access and barriers to general practice and primary care. 75% of respondents always visit the same practice and try to see the same GP each time while 17% of respondents would be happy to visit any GP within their regular practice and only 5% would visit any general practice to access a convenient appointment. When asked what would improve their access to primary health care the main themes were affordability, flexible appointment times and an increase in clinician availability and FTE.[77] **Whole of PHN** *Allied health workforce supply*

Outcomes of the service needs analysis		
		Health professional to population ratios for dentists, nurses and midwives in Perth South PHN is lower compared to Perth North PHN, state and national rates, with a considerably lower ratio of GPs (8.1 per 10,000 resident population) and Aboriginal health practitioners (7.7). There were similar ratios of occupational therapists, pharmacists and physiotherapists to residents in Perth South PHN compared to Perth North PHN, and slightly lower or similar to national ratios.[78] *Access to General practice* The total number of general practices available in WA is 653. Perth South PHN residents had access to 250 general practices, which was similar to the 248 in Perth North PHN. **Place-based** *Allied health workforce supply* There are low health professional to population ratios across nearly all disciplines in Gosnells, Serpentine-Jarrahdale, Kwinana, Rockingham and Armadale. *Access to General practice* Kwinana (8), South Perth (8) and Serpentine-Jarrahdale (7) had the lowest numbers of general practice while Melville (32), Gosnells, (32), Canning (30) and Rockingham (29) had the largest supply of general practices within the Perth South PHN.[79] Highest GP to population ratios are in Fremantle (14 per 10,000 resident population), Melville (12 per 10,000 resident population) and Canning (11 per 10,000 resident population), with all other regions lower than state (8.9 per 10,000 resident population) and national averages (9.2 per 10,000 resident population). Particularly low GP to population ratios were in Serpentine-Jarrahdale (3.1 per 10,000 resident population), Gosnells (6.0), Kwinana (5.6), South Perth (6.5), Belmont-Victoria Park (5.6), and Rockingham (7.7).[78]
SN1.2 Lack of appropriately targeted services vulnerable groups, particularly sub-	***Services should be targeted to specific high-risk groups, to increase accessibility and acceptability for vulnerable***	**Whole of PHN** There is a lack of multidisciplinary community based services in some areas of Perth South PHN, which may impact on the support available to assist people to manage their social, cultural and economic circumstances[21]. Overall, CALD groups report difficulties in understanding the Australian health care

Outcomes of the service needs analysis		
regions with high proportions of culturally and linguistically diverse populations.	***people.***	system and lack of trust in western treatment methods, leading to inappropriate use of the health care system and a lack of compliance with instructions from health care professionals.[20] This is a particular issue in the Perth South PHN given one in five people are born in a non-English speaking country (188,416; 20%).[1] Further mapping is required to ascertain the full range of services offered to vulnerable communities to identify program and service gaps for vulnerable groups across the region. **Place-based** Community consultation in the Langford, Armadale and Cockburn area identified the need to improve service provision to meet the needs of the culturally diverse community, including: increasing access to community service providers with language skills and cultural understanding; providing bi-lingual support services across community, alcohol and other drug and Mental Health services; improving referral and intake processes that are culturally secure; and providing cultural awareness training to educate staff and service providers on how to engage with the diverse local community.[80]
SN1.3 Appropriately targeted services for older adults who use high rates of primary care resources, particularly GP services.	***As the population of older adults continues to grow, there will be an increasing number of older adults accessing primary care for complex chronic condition management, particularly GP services.***	The use of primary health resources by older adults has increased considerably in the past 15 years, with rates higher than expected from population growth. This is largely due to people living longer, more people acquiring and being diagnosed with more conditions, and each condition being managed for a longer period of time. Older adults (aged 65 years and over) are significantly more likely to have used a primary, hospital-based or allied health service than younger adults (16 to 64 years), but significantly less likely to have used mental or alternative health services.[81] In particular, GPs play a significant role in the lives of many older adults as primary health care providers and as a point of referral to other health services. In 2012-13, older adults in Australia visited the GP 10.4 times on average, with people over 60 accounting for 57% of those who attended a GP more than 20 times, and 45% of those who attended between 12 and 19 times.[25] **Whole of PHN** Despite a growing ageing population in Perth South PHN, the proportion of aged care places (per 1,000 people aged over 70 years) is (77) , similar to the state (73) but lower than national rates (83).[1] Qualitative feedback indicates there is also difficulty recruiting GPs and registered nurses to work in residential aged care facilities across Perth South PHN.[20] A lack of visiting specialists and associated services to residential

Outcomes of the service needs analysis		
		care facilities creates the need for hospital admission for patient care that may otherwise have been treated in the facility.[20] Improved access to a GP after hours in residential aged care, particularly for phone orders for medications, would assist staff to manage residents in aged care facilities rather than transferring them to an emergency department.[82] In WA, the Home and Community Care (HACC) programme has commenced transition to the Commonwealth Home Care Support Programme (CHSP). CHSP is an entry level home help programme for people requiring temporary or short-term care including; community and home support, meals and food services, and respite care. Applications and eligibility assessments for CHSP are sought through the My Aged Care website. System navigation and access to internet connectivity have been identified as barriers to accessing these services. Additionally, a growing ageing population in Perth North PHN will continue to increase demand for all aged care services. **Place-based** The areas with the lowest rate of residential aged care places (per 1,000 population aged over 70 years) are Gosnells (47), Serpentine-Jarrahdale (48) and Mandurah (54).[1] These areas are also projected to have an increasing ageing population by 2025.[83]
SN1.4 Transition programs to support people moving from one service to another and back into the community, particularly people travelling from country regions.	***Services need to be integrated and collaborative in order to provide person-centred care that meets individual needs.***	**Whole of PHN** Qualitative feedback has identified that Western Australia has current inefficiencies in the co-ordination and integration of primary and secondary care services, leading to system-based problems including:[20] • Increased waiting times for treatment in secondary care • High number of inappropriate referrals to secondary care • Inefficient use of resources • Poor discharge from secondary to primary care/general practice • Lack of system integration There is also a high level of population flow in relation to Country WA PHN residents travelling to health services and specialist appointments in Perth South PHN. There is often a lack of integration and collaboration between services in the country and metropolitan regions, and communication back to the patient. This can create isolation, a lack of understanding and inconsistent care.[84]

Outcomes of the service needs analysis		
		System navigation and care coordination is an issue for all primary health clinicians. Awareness of other service providers and programs are limited and care coordination between multiple clinicians is challenging in time poor environments.[85] The development of Health Pathways enables GPs to manage and refer their patients to the most appropriate local care, working to improve the integration of care across services. As of August 2018, over 423 localised Health Pathways have been developed in a variety of diagnostic categories across Western Australia, and page views have markedly increased over the life of the program.[86] **Place-based** There is limited focus on transition-out of services across Perth South PHN. Stakeholder feedback has indicated issues for some in transitioning from child to adult diabetes services, and from hospital to home services for older people, people experiencing mental health issues, and homeless people in Perth South PHN.[20] Supporting these vulnerable populations through client centric, tailored health and community services is currently being implemented in Perth South PHN through the Choices Programme. There is evidence of displaced families travelling from country for treatment at Royal Perth Hospital and Fiona Stanley Hospital[21,35]. Stakeholder feedback from community consultations in Waroona, Pinjarra and Mandurah has indicated issues with primary care service coordination and integration impacting the continuity of care.[80] Further research is needed to identify the extent of these transition issues in specific areas across Perth South PHN. Stakeholder feedback has also highlighted the Cockburn area as a hub for the population moving between Kwinana, Armadale, Fremantle and Rockingham to access services, indicating an area with high demand for integrated and coordinated services that need to align with usual or multiple care providers.
SN1.5 Uptake of targeted early intervention primary care could be improved.	***Targeted early intervention and/or secondary prevention in primary care could prevent the development of chronic conditions and disease.***	Early treatment is the most effective way to reduce the impact of chronic and comorbid conditions. Early intervention can produce significant long-term health care savings and improve overall quality of life. Cancer screening has been shown to reduce morbidity and mortality of cancer through early detection and treatment. Childhood immunisation is recommended as a safe and effective way of protecting against harmful diseases and reducing overall spread of disease. Jurisdictions are mandated to ensure childhood

Outcomes of the service needs analysis		
		immunisation rates are at least 90%, with a national 'Strive for 95%' target. This target informed the 'Western Australian Immunisation Strategy 2016-2020' which outlined a framework for enhancing all aspects of immunisation program service delivery.[87] **Whole of PHN** *Cancer screening* Participation in breast cancer screening, cervical cancer screening, and bowel cancer screening is similar in Perth South PHN (56%; 54%; 43%) compared to Perth North PHN (58%; 58%; 43%) and state rates (57%; 56%; 43%).[88] *Avoidable mortality by cancer* High rates of avoidable deaths from cancer in Perth South PHN (28 ASR per 100,000) compared to Perth North PHN (25), Country WA PHN (28) and state rates (27).[1] *Immunisation* The percentage of fully immunised children in Perth South PHN aged five years old (92%) is similar to state rates.[89] *Potentially Preventable Hospitalisations for vaccine preventable conditions* The *Potentially Preventable Hospitalisation Hotspots in Western Australia* (2017) identified two hotspots for vaccine preventable conditions in Perth South PHN located in the SA3 of Cockburn and Kwinana.[22] Vaccine preventable conditions include instances of influenza and pneumonia that were vaccine preventable as well as diseases that could have been prevented through childhood vaccinations. **Place based** *Cancer screening* There are lower screening rates for all cancers in Kwinana, Armadale and Belmont-Victoria Park compared to Perth South PHN and state averages. Consistently lowest rates of bowel cancer screening (34%) breast cancer screening (50%) and cervical cancer screening (45%) in Kwinana, all far below Perth South PHN, state and national rates.[88]

Outcomes of the service needs analysis		
		Avoidable mortality by cancer There are high rates of avoidable deaths from cancer in Serpentine-Jarrahdale (40 ASR per 100,000), Kwinana (33) and Armadale (31).[1] *Immunisation* There are low overall immunisation rates for children aged 5 years in Fremantle (90%), Belmont-Victoria Park (87%) and South Perth (88%).[89] *Potentially Preventable Hospitalisations for vaccine preventable conditions* Vaccine preventable hotspots were in the SA2 of Hamilton Hill and Casuarina-Wellard. Hotspots in Casuarina-Wellard may be due to the presence of Casuarina prison located within the SA2.[22]
SN1.6 Lack of access to and awareness of appropriate primary care services across**.**	***A lack of access to and awareness of appropriate primary care services, both in- and out- of hours, further compounds issues of service demand and timely and appropriate care, often resulting in increased reliance on unnecessary ED services.***	Approximately 80% of non-urgent ED presentations in Western Australia occur during the weekday business hours of 8am and 4pm, indicating a large proportion of non-urgent ED presentations could be prevented by accessing primary care services.[90] After-hours medical care provided by GPs, community health centres, and co-located general practice (AHGP) clinics and telephone helplines can help meet demand for those seeking medical attention outside of these hours to reduce demand on ED services. However, residents need to have adequate access to and awareness of during and after-hours primary care services to maximise primary care utilisation and alleviate pressure on secondary and tertiary systems. A 2018 survey of 137 West Australian health care consumers were asked about consumer experiences accessing after-hour primary care. Half of the respondents had accessed an after-hour primary care service while 46% had not. Of those that accessed a service 48% described accessing after-hour primary care as easy because they were aware of specific services. However, 16% of consumers did use an emergency department to access after-hour primary care while 13% booked a home visiting GP. When asked what one thing would make the greatest difference in access to healthcare, some respondents indicated accessing after hours care. One respondent said that they “find it difficult to get appointments outside of working hours” *(Woman, aged 25-34).*[77] **Whole of PHN**

Outcomes of the service needs analysis		
		Utilisation of allied health and GP services In 2016-17 there were higher rates of MBS GP attendances (46 per 100 population) compared to Perth North PHN (37), Country WA PHN (12) and state (35).[91] *Utilisation of GP after-hours services* A total of 41% of general practices in Perth South PHN are delivering after hours services (NHSD, 2016 – South NA 16/17 p23), however utilisation of GP after-hours MBS services for urgent and non-urgent consultations in Perth South PHN (36 per 100 population) is considerably lower than Perth North PHN (45.8), state (35.7) and national rates (49).[91] **Place-based** *Utilisation of allied health and GP services* Different SA3s had very different levels of MBS item utilisation: • Belmont-Victoria Park: Low utilisation across all MBS primary care services reporting groups • Serpentine-Jarrahdale: Low utilisation of allied health services in (6.9 per 100 resident population) • Belmont-Victoria Park: Low utilisation of allied health services in (15 per 100 resident population). • Kwinana: Low utilisation of allied health services in (17 per 100 resident population) • Mandurah: Low utilisation of GP attendances (16 per 100 resident population) • Belmont-Victoria Park: Low utilisation of GP attendances (18 per 100 resident population) • Canning: Low utilisation of GP attendances (19 per 100 resident population) *Utilisation of GP after-hours services* There were lower rates of MBS utilisation of GP after-hours services in South Perth (4.2 per 100 resident population), Kwinana (11), Melville (23) and Fremantle (26), with high utilisation in Rockingham (54) and Canning (48).[91]
SN1.7 Services could be better tailored to meet	***Lack of person-centred care coordination for those with***	An estimated 20% of primary care users require service coordination for chronic and complex conditions.[92] Coordinated, team-based care is central to improving services for people with complex needs.[92] Primary

Outcomes of the service needs analysis		
individual needs of people with multiple risk factors/chronic conditions.	***composite risk factors and comorbid chronic conditions.***	care services are expected to coordinate with one another and with specialist services.[92] This is difficult for small organisations funded largely on a fee-for-service basis.[92] General practices do not have the organisational capacity to develop, coordinate and manage integrated service delivery across a network of providers for people with complex care needs.[92] A 2018 survey of West Australian health care consumers indicated that General Practitioners provided the majority of care coordination for patients. Of 137 respondents 71 consumers had a health professional help coordinate their care or the care of a person they supported. The care coordination for the majority of patients was provided by their General Practitioner (67.6%). Fifty consumers reported that the care coordination helped them manage their chronic condition or the chronic condition of the person they supported. One respondent, who received treatment for two chronic conditions from their GP, said that they were "very happy" with their "excellent health providers" (woman aged 75 or older).[77] **Place-based** Stakeholder consultation with the local Mandurah, Armadale, Gosnells, Waroona and Pinjarra community identified issues with providing culturally secure services for people living with comorbid alcohol, drug and mental health issues.[80] Service providers in these areas also reported difficulty in meeting the needs of clients who presented with complex and comorbid issues, and difficulty facilitating access to the right care without clients needing to wait for extended periods of time to receive care.[80]
SN1.8 Lack of best-practice management of chronic conditions in primary care. Low rates of GP chronic disease care plans and high rates of PPHs for chronic conditions in several sub-	***Poor management of patients with chronic conditions can lead to serious complications, loss of quality of life, and increased burden on tertiary care through potentially preventable hospitalisations.***	Appropriate and best-practice management of chronic conditions in primary care is important. GP chronic disease management plans provide the structure for required for effective multidisciplinary care. It is estimated that only one third of patients with chronic disease in Australia receive a GP management plan, with less than 20% of plans reviewed regularly.[93] Barriers to the delivery of best practice chronic disease management include:[84,93] • Complexity of communication within the care team • Time spent putting together management plans which are up-to-date, evidence-based and personalised for the patient • Keeping track of the responsibilities of everyone on the care team and ensuring that duty of care

Outcomes of the service needs analysis		
regions.		and responsibilities are properly discharged • Lack of time and resources required to provide patient self-management support • Administrative overheads and red tape associated with meeting documentation and paperwork requirements. **Whole of PHN** *Utilisation of MBS GP chronic disease services* There are similar rate of utilisation of MBS GP chronic disease services in Perth South PHN (28.8 per 100 resident population) compared to Perth North PHN (28.2), Country WA PHN (27.7) and state (28.3).[91] *Potentially Preventable Hospitalisations (PPHs) for chronic conditions* Eighteen PPH Hotspots for chronic conditions were identified in Perth South PHN. These include diabetes complications, COPD, angina, congestive heart failure and iron deficiency anaemia.[22] **Place-based** *Utilisation of MBS GP chronic disease services* There is a high rate of utilisation for MBS GP chronic disease services in Mandurah (49.1 per 100 resident population), Gosnells (40.8), Fremantle (39.7) and Armadale (35.6), with low utilisation in Serpentine-Jarrahdale (11.2), South Perth (11.1), Belmont-Victoria Park (18.7) and Canning (20.4).[91] *Potentially Preventable Hospitalisations (PPHs) for chronic conditions (refer to* ***Error! Reference source not found.****)* A hotspot is an area that shows a rate of hospitalisation of at least 1.5 times over the state average for a three-year period to 2015-16. The following hotspots were identified for chronic conditions in Perth South PHN:[22] • Armadale (diabetes complications, COPD and congestive heart failure) • Belmont-Victoria Park (COPD and iron deficiency anaemia) • Cockburn (iron deficiency anaemia) • Kwinana (diabetes complications, COPD, angina, congestive heart failure and iron deficiency

Outcomes of the service needs analysis		
		anaemia) • Mandurah (COPD and iron deficiency anaemia) • Rockingham (diabetes complications and COPD).
SN1.9 Several sub-regions where people experience barriers in accessing health care related to cost, transport and connectivity.	***Services need to be affordable and accessible, particularly to meet the healthcare needs of those in vulnerable and disadvantaged groups.***	A 2018 survey of Western Australian health care consumers asked what the major barriers are to accessing primary health services. The main barriers reported were cost, being too busy and not giving health enough priority and waiting weeks or months for available appointments. In response to cost being a barrier to accessing health care, one respondent, a woman aged 18-24, said that "cost is a large factor in accessing specific health care services". When asked if anything else had made it difficult in the past 12 months to access health care, some respondents expressed their concern with the quality of the treatment they were receiving, including being dismissed about their health concerns.[77] **Whole of PHN** *Barriers to accessing health care* Adults living in Perth South PHN are more likely to face barriers to accessing health care compared to Perth North PHN.[1] Common barriers include cost (1.5 ASR per 100), dwellings with no motor vehicles (4.8%) and lack of home internet access (11.9%).[1] *Waiting times* Twenty-two percent of people who saw a GP in Perth South PHN (2013-14) felt they waited longer than acceptable to get an appointment, similar the national average (23%).[94] **Place-based** *Barriers to accessing health care* In Kwinana, Belmont-Victoria Park, Fremantle and Mandurah between 12% to 15% of residences do not have an internet connection. Fremantle (8.2%), Belmont -Victoria Park (7.6%) and South Perth (5.9%) residents had no motor vehicles. Between 1.5 to 2.0 ASR per 100 adults reported cost as main barrier to accessing health care.[1]

Outcomes of the service needs analysis		
		Waiting times Long wait lists and waiting times have been reported as a key barrier by community accessing drug, alcohol and mental health services in the Pinjarra and Mandurah area.[80] Barriers to receiving adequate primary care services in the Pinjarra, Mandurah, Waroona and Armadale areas also include accessibility, transport issues and unsuitable service opening hours.[80]
SN1.10 Patients experience difficulty navigating the complex health care system, impacting engagement in appropriate and timely care.	***Patients need to understand how to access the right care at the right place at the right time through effective communications and relationships with primary care providers.***	A 2018 survey of 137 West Australian health care consumers asked what the major barriers are to accessing primary health services. When asked if anything else had made it difficult in the past twelve months to get the right care, some respondents said that the navigating the health system had made it difficult to access health care. A woman aged 35-44 said "I did not know that a care plan was available for my problem or that I could access a bulk billing doctor".[77]
SN1.11 Low uptake of digital health technologies, including telehealth and My Health Record.	***Digital technologies support the efficiency and effectiveness of the health system and can increase patient access to primary care services.***	Digital health includes a broad range of innovative technologies for the purposes of providing care and sharing information to enhance patient outcomes. Telehealth can deliver health services and facilitate communication between specialists and patients, whilst electronic medical records such as the national 'My Health Record' can facilitate communication and coordinated care across multiple practitioners. In 2018, every Australian will get a 'My Health Record' unless they or choose to opt out. Information available through My Health Record can include a patients a patient's health summary, medication prescribing and dispensing history, pathology reports, diagnostic imaging reports and discharge summaries. The uptake of digital health technologies has been inconsistent across Western Australia and has yet to be normalised as part of primary care practice. Qualitative feedback indicated that readily accessible and affordable clinical software for primary care clinicians would significantly improve interactions with My Health Record and other digital technologies.[95] A 2018 survey of WA healthcare consumers responded to questions on accessing health care and health care providers through technology. Only 37 respondents were comfortable utilising technology for an initial consultation; 73 respondents were comfortable utilising technology for follow-up appointments and

Outcomes of the service needs analysis		
		82 respondents were comfortable utilising technology to monitor ongoing conditions; but only 11 respondents currently utilised technology to engage with a health service remotely on a regular basis.[77] **Whole of PHN** [This section has been redacted for data confidentiality reasons] *Telehealth* There are similar low rates of MBS utilisation for telehealth services in Perth South PHN compared to Perth North PHN and state rates (0.3 per 100 resident population), and lower than national rates (0.7).[91]

Primary Mental Health Care (including Suicide Prevention)

Outcomes of the service needs analysis		
Identified Need	Key Issue	Description of Evidence
SN2.1 Models of care focus on early intervention to enable effective self-management and prevent exacerbation of existing mental health conditions, or development of suicidal ideation.	***There are sub-regions in Perth South PHN with relatively high levels of psychological distress and/or mental and behavioural disorders.***	*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 over a 30-day period. It is estimated that six sub-regions in Perth South PHN (Armadale, Cockburn, Gosnells, Kwinana, Mandurah and Rockingham SA3s) have statistically significantly higher rates of people living with high or very high levels of psychological distress compared to PHN, state and/or national rates.[1,37] Of these, the highest estimated rates were in Kwinana and Armadale SA3s. As part of National Mental Health Week 2018, headspace released the following data on the prevalence of psychological distress among young Australians.[96] • About 32% of youth (12-25-year-olds) in Australia reported high or very high levels of psychological distress – more than three times the rate in 2007 (9%) • Western Australia had the second highest rate (33%), after Victoria (35%) • Rates of psychological distress were significantly higher for young women (38%) compared to young men (26%) • The highest rates were reported for 18-21-year-olds (38%). Young people are particularly vulnerable to mental health issues during transitional periods including leaving school and entering the workforce, moving out of home and relationship breakups.[96] *Mental and behavioural disorders* Perth South PHN had a significantly higher rate of people with mental and behavioural disorders (ASR=14.4%) compared to the National average (ASR=13.6%).[1,37] There were eight sub-regions in Perth South PHN (Armadale, Belmont-Victoria Park, Canning, Fremantle, Gosnells, Kwinana, Mandurah and Rockingham SA3s) with estimated rates of mental and behavioural disorders that were statistically significantly higher than PHN, state and/or

		national rates. Of these, Mandurah SA3 had the highest estimated rate (ASR=16.1%). [This section has been redacted for data confidentiality reasons]
SN2.2 Shortage of early intervention services, particularly in suburban growth corridors.	***Limited early intervention services available across the PHN for people with mental and behavioural issues, and suicide risk.***	The Integrated Atlas of Mental Health[97] shows that in Perth South PHN, mental health services are generally concentrated in inner/central areas, with relatively limited service provision in suburban growth corridors. In particular, there is a shortage of services specifically targeted to children/youth in Gosnells SA3, a sub-region with a high rate of psychological distress and mental and behavioural disorders. *Suicide prevention* [This section has been redacted for data confidentiality reasons] In 2016, a cluster of suicides among youth in Mandurah SA3 prompted a number of suicide prevention and mental health initiatives including a new headspace clinic, which opened in July 2018. There are five sub-regions in Perth South PHN participating in the National Suicide Prevention Trial: Rockingham, Mandurah, Kwinana, Murray, and Waroona. The target group is youth aged between 16 and 25 years.
SN2.3 Capacity of the health workforce to recognise and respond to mental health presentations.	***Inadequate supply of primary care services mean people with health care needs are not able to access the right care at the right time in order to effectively manage their health.***	**Whole of PHN** *Workforce supply* Perth South PHN had a lower number of psychologists, psychiatrists and general practitioners per 10,000 residents compared to WA and Australia in 2016.[78] The shortage of psychiatrists in Perth South PHN is particularly pronounced (only 0.8 per 10,000 residents) compared to WA (1.2 per 10,000 residents) and Australia (1.3 per 10,000 residents). *MBS utilisation* Overall, mental health MBS service utilisation in Perth South PHN was similar to WA rates but lower than for Australia overall.[98] **Place-based** *Workforce supply* Serpentine – Jarrahdale, Kwinana and Gosnells SA3s had the lowest supply of psychologists in Perth South PHN (< 3 FTE per 10,000 residents).[78] There was a very low or no supply of psychiatrists in Serpentine – Jarrahdale,

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<td>Kwinana, Gosnells, Belmont-Victoria Park and South Perth SA3s as at 2016. The lowest numbers of general practitioners were in Serpentine – Jarrahdale, Kwinana and Belmont-Victoria Park SA3s (< 6 FTE per 10,000 residents). In contrast, Fremantle, Canning and Melville SA3s had the highest supply of psychiatrists and psychologists. This may in part be due to the placement of Fremantle, Bentley and Fiona Stanley Hospitals within these SA3s. A proportion of this workforce is likely employed within the hospital sector and may not be available to deliver primary care.

MBS utilisation
The table below identifies the SA3s in Perth South with the highest and lowest mental health service utilisation rates by practitioner type.[98] Again, the placement of hospitals within these SA3s would impact upon service utilisation.
<table>
<tr><th></th><th>Highest service utilisation</th><th>Lowest service utilisation</th></tr>
<tr><td>Overall</td><td>Fremantle</td><td>Canning</td></tr>
<tr><td>Psychiatrist</td><td>Fremantle</td><td>Armadale</td></tr>
<tr><td>Clinical psychologist</td><td>Fremantle</td><td>Mandurah</td></tr>
<tr><td>General practitioner</td><td>Fremantle & Mandurah</td><td>South Perth</td></tr>
<tr><td>Other allied health</td><td>Fremantle</td><td>South Perth</td></tr>
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<td>SN2.4 Prescription rates are an indicator of mental health service utilisation.</td>
<td>Current mental health interventions have high reliance on pharmaceutical interventions.</td>
<td>Whole of PHN
[This section has been redacted for data confidentiality reasons]

Place-based
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<td>SN2.5 Reduce over-reliance on the acute care sector.</td>
<td>Non-urgent mental health-related ED presentations may be a reflection of poor</td>
<td>Whole of PHN

A report by the UWA Collaborative for Healthcare Analysis and Statistical Modelling to the CHASM Governance Committee and the Aboriginal Health Research Translation Group[99] determined that increased proximity to</td>
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	management of mental health conditions in primary health care.	primary care was strongly associated with lower rates of mental health-related ED presentations among young non-Aboriginal adults (25-34 years) residing in metropolitan areas. Therefore, measures that improve access to community mental health services are likely to be effective in reducing rates of ED presentations. Refer to the Aboriginal Health section below for a discussion of this population's utilisation of the acute care sector. **Place-based** Belmont-Victoria Park, Fremantle and South Perth SA3s had statistically significantly higher age-standardised rates of non-urgent mental health-related ED presentations compared to WA overall[90] The report to CHASM[99] identified the following sub-regions in Perth South PHN as potential priority areas for community mental health-based interventions based on a relatively large population of non-Aboriginal adults aged 15-34 years and a relatively high population-weighted mean distance to primary care: • Armadale SA3: Armadale – Wungong – Brookdale, Kelmscott, and Seville Grove SA2s • Gosnells SA3: Maddington – Orange Grove – Martin SA2 • Kwinana SA3: Parmelia – Orelia SA2 • Rockingham SA3: Rockingham and Waikiki SA2s. Please note that these are preliminary results only. At the time of writing, the report to CHASM was being updated with additional data and will undergo further methodological review.
SN2.6 General practitioners should be the "first port of call" for patients experiencing mental ill health.	***People with mental health conditions are not linked in with GPs or primary mental health services, including after-hours care.***	**Whole of PHN** In 2012, the Stokes Review identified that in Western Australia, delays in access to treatment were causing mental health, alcohol and drug problems to worsen, leading to the need for higher cost treatment.[100] [This section has been redacted for data confidentiality reasons] *After-hours care* Mental health services generally operate during business hours only (some private psychology services have after-hours services, often with a surcharge). This means that people who have difficulty accessing services during business hours due to work, study or other responsibilities will have limited access to primary mental

		health care. For youth aged 12-25 years, headspace offers a free online counselling service called 'eheadspace', which operates after-hours. After-hours GP services are readily available across Perth South PHN but there is a shortage of mental health-specific services. *Mental health-related ED presentations* [This section has been redacted for data confidentiality reasons] **Place-based** In the Perth South PHN, there are areas where mental health services may be more difficult to access, for reasons including lack of access to the internet and/or transport or the cost of services. Results from the 2016 Census indicated that in the Mandurah SA3 region, about 17.5% of households did not have access to the internet.[1] Also, about 1.9% of adults in Mandurah SA3 experienced a barrier to accessing healthcare due to the cost of the service. In Fremantle SA3, about 5.0% of adults regularly had difficulty accessing the places they needed to visit or were housebound.
SN2.7 Culturally secure mental health services for the CALD population.	***Poor access of existing services by people from culturally and linguistically diverse backgrounds—cultural security of service delivery could be improved.***	[This section has been redacted for data confidentiality reasons] To improve engagement, headspace has employed a CALD youth worker (based in Armadale) to raise awareness of mental health among the CALD population in the Perth metro area.
SN2.8 Services meeting the needs of, and accessible for, socioeconomically disadvantaged groups.	***Lack of appropriately targeted, affordable services for socioeconomically disadvantaged groups.***	Private mental health services are readily available throughout Perth South PHN. However, many of these services have significant out-of-pocket costs, despite the availability of Medicare subsidies. *Mild to moderate mental health conditions* The Practitioner Online Referral Treatment Service (PORTS) provides free, GP-referred mental health services via telephone and/or online to financially disadvantaged people aged at least 16 years who have symptoms of anxiety, depression or harmful alcohol and other drug use. If appropriate, GPs may refer patients to face-to-face

		services supplied by ORS Psychology in Perth. Services are delivered over 2-8 weeks. PORTS services are suitable for patients with mild to moderate mental health conditions that respond to short term, low intensity interventions. We note that PORTS does not cater to those who require longer term or ongoing interventions (> 8 weeks). Child and Adolescent Brief Intervention Services (CABIS) are free short term, face-to-face psychological treatment services for youth with mild to moderate mental health concerns. However, like PORTS, these services do not cater to those who require longer term interventions. *Severe and complex mental health conditions* State-based care services are generally the main provider of care for patients with severe and/or complex mental health needs. For patients whose condition is mostly being managed in primary care, MHConnext provides free care coordination services across the Perth metropolitan area.
SN2.9 Services meeting the needs of, and accessible for, the aged population.	***Lack of appropriately targeted services for the aged.***	To date, there have been few studies examining the mental health of older adults. A report by SANE Australia[101] found that most studies focused on dementia and physical health problems and that there was a lack of attention given to mental health conditions in the elderly. There is also a shortage of mental health services for older adults, especially those living in supported accommodation.[101] The report indicated that there is a need for targeted mental health services for the elderly and for easily accessible information about these services for both patients and carers. In Western Australia, older adults (aged 65 years and over) were significantly more likely to have used a primary, hospital based or allied health service than younger adults (aged 16 to 64 years), but were significantly less likely to have used mental health services.[102] The following is a summary of outpatient services for older adults in Perth South PHN:[97] • There are no acute mental health services located in Mandurah SA3, a sub-region with the highest number and proportion of people aged over 65 years. • There is only one team providing acute, non-mobile services to older adults—a consultation and liaison service located at Fremantle Hospital.

		• There are five non-acute, mobile services located in Armadale, Fremantle, Bentley, Mandurah and Rockingham. • Non-acute, non-mobile services for older adults are located at Fremantle Hospital and in Rockingham.
SN2.10 Reduce stigma and discrimination.	***Stigma and discrimination affect mental health service utilisation and increase the likelihood of adverse health and social outcomes.***	Reducing the stigma of a mental health condition is one of the key priorities in the Fifth National Mental Health and Suicide Prevention Plan.[103] Stigma and discrimination, including that from health service providers, discourages people from disclosing a mental health condition and accessing services in a timely way. This in turn may exacerbate psychological distress and increase the likelihood of adverse outcomes, particularly for groups that are already at risk such as Aboriginal people and people who identify as LGBTQI. Qualitative feedback from consumer surveys conducted by the WA Primary Health Alliance indicated that stigma was a significant barrier to seeking help. Respondents noted that fear of judgement and shame about their mental health condition made it difficult for them to access treatment in the past 12 months. One respondent suggested that "better training in communicating in a non-judgemental manner for all allied health professionals regarding sensitive issues" would improve access to health care. Fear of consequences such as medication side effects, involuntary admission and losing or not gaining employment prevented some respondents from fully disclosing their mental health condition to their GP. As part of the Fifth National Mental Health and Suicide Prevention Plan, people with lived experience, including peer support workers, will play an important role in reducing stigma and discrimination through grassroots-based advocacy in their community.[103]

Alcohol and Other Drug Treatment Needs

Outcomes of the service needs analysis		
Identified Need	Key Issue	Description of Evidence
SN3.1 Alcohol and other drug treatment focused on early intervention.	***Locations with high alcohol and other drug-related hospitalisations and ED presentations may indicate a need for early intervention.***	ED presentations and public hospitalisations directly related to alcohol and other drug use may indicate that services to manage alcohol and other drug misuse and dependence were not available or accessible at an earlier stage. **Place-based** Age standardised rates of public hospitalisations (based on 2015 to 2017 data) for mental and behavioural problems due to alcohol and other drugs were significantly higher than state-wide rates in the Belmont-Victoria Park and Fremantle SA3s. [This section has been redacted for data confidentiality reasons]
SN3.2 Services that meet the needs of children and adolescents with alcohol and other drug problems.	***Most current services do not cater for children/adolescents.***	**Place-based** The Integrated Atlas of Mental Health and Alcohol and Other Drugs[97] reported that, in 2016, of the 41 alcohol and other drug-specific services identified in Perth South PHN, 33 (80%) were for adults. There were only seven services for children/adolescents and one for older adults.[97] A WA Primary Health Alliance survey of health consumers revealed that some young adults felt intimidated by adult alcohol and other drug services, which tended to be dominated by older, longer-term users.[95] This could indicate a need for more services for at youth and young adults.
SN3.3 Services that help people earlier in the care continuum, before the health effects of alcohol and other drug	***Rebalance investment from high cost, low volume care to higher volume care earlier in the care continuum.***	**Place-based** In Perth South PHN, most of the alcohol and other drug treatment episodes delivered in 2016 to 2017 were high cost, low volume including counselling (67%), withdrawal management (7.7%), and rehabilitation (4.4%)[65]. Only 3.3% of treatment episodes involved information and education,[65] which are generally low cost, high volume.

Outcomes of the service needs analysis		
use escalate in severity.		
SN3.4 Recognise and respond to harmful alcohol and other drug use in general practice.	***GP screening and brief intervention for substance use disorders could be improved.***	Alcohol screening and brief interventions (ASBIs), which include opportunistic screening and assessment of patients about alcohol and other drug use, assist general practitioners to identify patients at risk of alcohol and other drug-related harm. Recommended approaches include quantity-frequency estimates (how much, how often) and structured questionnaires such as AUDIT-C.[104] Where indicated, these are followed up with a brief intervention or comprehensive assessment, depending on severity. Although ASBIs are a relatively low cost and effective intervention, they are rarely successfully implemented in general practice.[105] GPs also have a role to play in encouraging pregnant women to follow the NHMRCs guidelines and not drink alcohol during pregnancy. There are no current MBS items that relate specifically to assessing or treating alcohol and other drug misuse within general practice. This makes it difficult to assess how often GPs are currently treating patients for these issues or to encourage them to do so. **Place-based** In Perth South PHN, 26% of closed treatment episodes at publicly funded alcohol and other drug services in the 2016-17 period were referred by another health service.[65] Health service referrals may be as viewed as evidence that other health services are recognising alcohol and other drug issues in patients and are aware of alcohol and other drug services for referral.[65]
SN3.5 Minimise the health risks associated with intravenous drug use.	***Clean syringe programs mitigate the risk of contracting a blood borne virus.*** ***Hepatitis C can be cured but uptake of treatment could be improved.***	Intravenous drug users are at a higher risk of contracting hepatitis C, which has serious health consequences (see HN3.8). Direct-acting antivirals (DAAs) have been available on the PBS since March 2016 and, in contrast to earlier treatments, have few or no-side effects.[106] Between March 2016 and June 2017, an estimated 16% of people living with a chronic hepatitis C infection accessed DAA treatment in Western Australia.[107] This was lower than the national rate of 19%.[107] A paper looking at the uptake of hepatitis DAA treatment in Australia found that treatment uptake was variable, and lower in socioeconomically disadvantaged areas and areas with a higher proportion of people born overseas may.[108]

Outcomes of the service needs analysis		
SN3.6 Services that meet the needs of people with alcohol and other drug problems comorbid with mental illness.	***Lack of connectivity between alcohol and other drug and mental health services.***	As discussed in HN3.7, harmful alcohol and other drug use and mental health conditions often co-occur and around one-third of people with an alcohol and other drug use disorder also have a mental illness.[55] There is also evidence that a co-occurring mental health condition makes a person more likely to seek treatment, meaning that co-morbidities are even more common in an alcohol and other drug treatment setting.[55,109–111] The NHMRC has produced comprehensive guidelines for managing co-occurring alcohol and other drug and mental health conditions in an alcohol and other drug setting.[55] In the WA Primary Health Alliance's baseline needs assessment (2016) community consultation in all regions identified concerns about the lack of connectivity between alcohol and other drug and mental health services. Also noted were the difficulties experienced by people with comorbid conditions accessing coordinated care and support. This has also been a consistent theme in the latest needs assessment consultation with WA Primary Health Alliance regional and metropolitan staff. **Place-based** [This section has been redacted for data confidentiality reasons]
SN3.7 Access and uptake of services to help people with alcohol and other drug dependency.	***Shortage of addiction medicine workforce with a critical shortfall forecast for 2021.*** ***Low utilisation of addiction medicine services.***	The WA Medical Workforce 2013 to 2021 report indicated that addiction medicine consultants are currently in low supply (< 80% of demand) and that there are critical shortfalls forecast for 2021 (< 70% of demand) due to low trainee throughput and expected retirements.[112] There is an undersupply in metropolitan and rural locations, with substantial demand unmet in rural locations.[112] MBS data for 2017 to 2018 indicates that WA has a low utilisation of addiction medicine MBS items, with only 928 services compared to 7,597 services in NSW, 2,939 in Victoria and 1,964 in South Australia (a state with a smaller population than WA). In WA, the largest group of patients utilising addiction medicine specialists in 2017 to 2018 was 35 to 44-year-olds (30.2%), followed by 45 to 54-year-olds (25.1%). Males outnumbered females in every age group except 55-64 years. **Place-based**

Outcomes of the service needs analysis		
		As at 2016, there were less than four addiction medicine specialists practising in Perth South PHN (the exact count has been suppressed for confidentiality reasons). These were located in Fremantle SA2 and Rockingham SA2.
SN3.8 Services that recognise the need to treat alcohol and other dug problems and co-morbidities.	***Care coordination and patient pathways between alcohol and other drug, mental health and other health services could be improved to better support people living with multi-morbidities.***	Co- and multiple morbidities involving alcohol and other drug use are discussed in HN3.6. As discussed in HN3.7 drug and alcohol use disorders and mental health disorders often co-occur. In 2008 the Australian Government Department of Health and Ageing published a guide on the comorbidity of mental health conditions and substance use for primary care clinicians. This guide discusses each mental illness and lists the clinical issues associated with comorbidity with substance use disorders (broken down into the major drug types).[113] In the baseline WA Primary Health Alliance Assessment, the lack of cohesion among services was the common theme across metropolitan and regional areas.[114]

Aboriginal Health (including Aboriginal chronic disease)

Outcomes of the service needs analysis		
Identified Need	Key Issue	Description of Evidence
SN4.1 Lack of culturally secure services across Perth South PHN for Aboriginal people, particularly in sub-regions with higher density Aboriginal populations.	***All services should be accessible and culturally secure for Aboriginal people.***	The Aboriginal concept of health is not the same as in Western society, and a holistic and integrated approach to Aboriginal health is required to address social determinants and better health outcomes.[115] It is important for health care providers to understand the Aboriginal concept of health and provide targeted services that are culturally acceptable and secure for Aboriginal people. **Whole of PHN** Qualitative feedback has indicated the following areas of service need in Perth South PHN[20,84]: • Lack of culturally secure services across health, education and justice for Aboriginal people • Low trust of non-Aboriginal services that are not culturally sensitive • Low numbers of Aboriginal people employed in the health workforce • Lack of development and demonstrated commitment to Aboriginal employment. Barriers to accessing health care are typically higher among Aboriginal people and vulnerable populations, For example, nearly one in five homes occupied by the Aboriginal population in Greater Perth do not have access to the Internet (20%).[68] **Place-based** Recent consultation with the local Armadale, Mandurah and Pinjarra Aboriginal communities identified a particular lack of culturally secure alcohol, drug and community health services and a lack of Aboriginal Health Workers, in addition to issues with ease of access and receiving appropriate cultural understanding and support from local service provider needs.[116] Further research is needed across Perth South PHN to identify issues related to providing culturally secure services to meet the needs of the Aboriginal community.
SN4.2 Lack of targeted early intervention in primary care across	***Targeted early intervention and/or secondary prevention in primary care could prevent***	Early treatment is the most effective way to reduce the impact of chronic and comorbid conditions. Early intervention can produce significant long-term health care savings and improve overall quality of life. Cancer screening has been shown to reduce morbidity and mortality of cancer through early detection and

Outcomes of the service needs analysis		
Perth South PHN. Low rates of cancer screening and childhood immunisation in several sub-regions.	***the development of chronic conditions and disease.***	treatment. Childhood immunisation is recommended as a safe and effective way of protecting against harmful diseases and reducing overall spread of disease. Jurisdictions are mandated to ensure childhood immunisation rates are at least 90%, with a national 'Strive for 95%' target, and this informed the 'Western Australian Immunisation Strategy 2013-2015' which outlined a framework for enhancing all aspects of immunisation program service delivery.[87] **Whole of PHN** *Aboriginal Health Assessments* Perth North PHN had a higher rate (relative to the Aboriginal population) of general practice Aboriginal Health Assessments recorded than Perth South PHN and Country WA PHN. *Immunisation* The rate of immunisation for Aboriginal children in Perth South PHN (96%) is similar to the state (96%) and national rate (96%).[89] **Place based** *Immunisation* There are low overall immunisation rates for children aged five years in Fremantle (90%), Belmont-Victoria Park (87%) and South Perth (88%).[89]
SN4.3 Lack of access to and awareness of appropriate primary care services across Perth South PHN. Several sub-regions with poor supply of after-hours services, particularly after-hours	***A lack of access to and awareness of appropriate primary care services, both during and after-hours, further compounds issues of service demand and timely and appropriate care, often resulting in increased reliance on unnecessary ED services.***	Approximately 80% of non-urgent ED presentations in WA occur during the business hours of 8am to 4pm, indicating a large proportion of non-urgent ED presentations could be prevented by accessing primary care services.[117] After-hours primary medical care provided by GPs, community health centres, and co-located general practice (AHGP) clinics and telephone helplines can help meet demand for those seeking medical attention outside of these hours to reduce demand on ED services. However, residents need to have adequate access to and awareness of during and after-hours primary care services to maximise primary care utilisation and alleviate pressure on secondary and tertiary systems. **Whole of PHN** *Non-urgent ED attendances for Aboriginal and Torres Strait Islander people*

Outcomes of the service needs analysis		
GP services.		[This section has been redacted for data confidentiality reasons] **Place based** *Non-urgent ED attendances for Aboriginal and Torres Strait Islander people* [This section has been redacted for data confidentiality reasons]
SN4.4 Poor access to existing services for Aboriginal people. Cultural security of service delivery can be improved.	***Culturally secure mental health services for Aboriginal people (i.e. use of appropriate communication tools such as language, culture, print-size etc.).***	**Whole of PHN** Interviews with stakeholders indicated restricted access to culturally secure services for Aboriginal people living with chronic conditions, including mental health conditions.[84] Some of the issues identified include: • Lack of referral by GPs to culturally-appropriate allied health providers • Cultural and language barriers • The need to travel to Perth for some types of treatment • Lack of access to transport • Lack of awareness of services by the community and providers. **Place-based** A Richmond Wellbeing co-design workshop[80] in Pinjarra (Mandurah SA3) indicated a need for culturally secure mental health/alcohol and other drug services for Aboriginal people in the area. In particular, the workshop highlighted the importance of training local Aboriginal people to provide these services to the local community. Community members reported that Aboriginal people in Pinjarra often did not access mental health services because the nearest services (in Mandurah) were too far from where they lived. Improved support and transport options were needed to improve access to services.
SN4.5 Lack of Aboriginal mental health services in sub-regions with higher density of Aboriginal population.	***Culturally secure mental health services for Aboriginal people (i.e. use of appropriate communication tools such as language, culture, print-size etc.).***	At a state-wide level, the Specialist Aboriginal Mental Health Service (SAMHS) provides services from its office in Mount Claremont. Only one service was targeted specifically to Aboriginal people in Perth South PHN. Derbarl Yerrigan in Maddington provides counselling for Aboriginal people for issues including grief and trauma.[97]

Outcomes of the service needs analysis		
SN4.6 Lack of appropriately targeted services for the socioeconomically disadvantaged groups.	***Services meeting the needs of, and accessible for socioeconomically disadvantaged, and aged population groups.***	Please refer to SN2.8 for a discussion of mental health services for socioeconomically disadvantaged groups, including Aboriginal people.
SN4.7 Models of care focused on early intervention.	***Locations with high alcohol and other drug-related hospitalisations and ED presentations indicate a need for early intervention.***	**PHN-wide** Age-standardised rates of ED presentations for mental and behavioural problems due to alcohol and other drugs are generally higher for Aboriginal people in Perth South PHN in comparison to non-Aboriginal people and likely relate to the range of factors that contribute the health gap between the Aboriginal and non-Aboriginal people. Comparing Aboriginal populations in different regions of Perth South PHN to Aboriginal people state-wide can help to identify Aboriginal populations of particularly high need.

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