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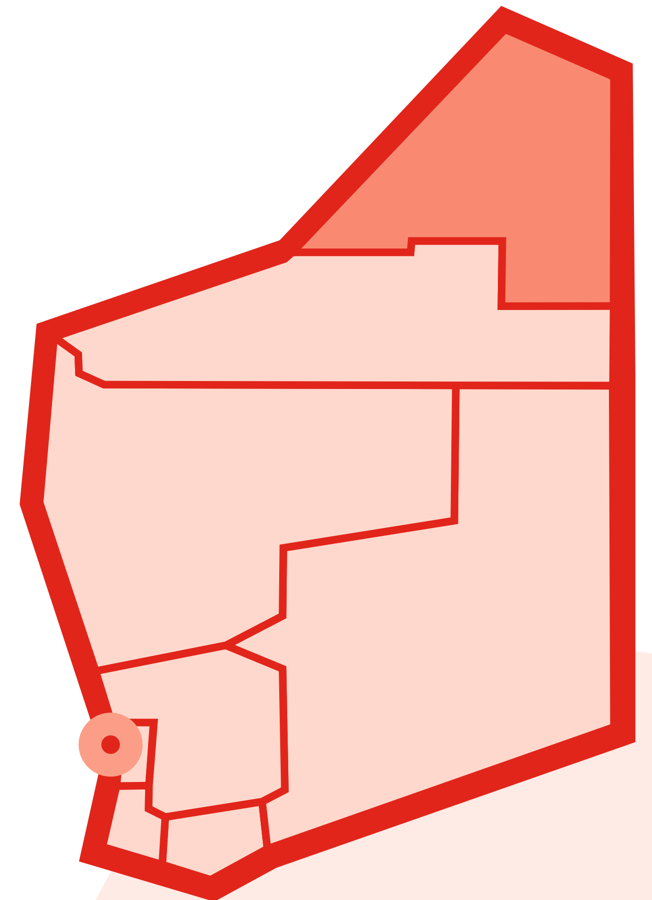
An Australian Government Initiative

Kimberley

Needs Assessment 2022-2024



Kimberley

Population Demographics

The Kimberley region is Western Australia's northern most region and spans over 400,000 square kilometres. Kimberley is made up of six major townships and over 200 small remote Aboriginal communities. The three largest towns of the Kimberley are Broome, Derby and Kununurra.

Major industries include mining and resources, tourism, agriculture, and aquaculture. The Kimberley is a major contributor to food production in WA with over 93 pastoral stations farming cattle and extensive crop production in the Ord River Irrigation Area. The aquaculture industry is dominated by pearling and barramundi farms while the mining and resources industry includes Iron Ore, Mineral Sand and LNG. The Kimberley has a sizeable tourism industry which attracts over 400,000 domestic and international visitors per year.

The population of the Kimberley is 35,901 compared to the Country WA PHN population of 530,725 and the state's population of 2,621,509 people (ERP 2019). Stakeholders have indicated that the Kimberley population is transient with locals moving frequently between various towns and communities.

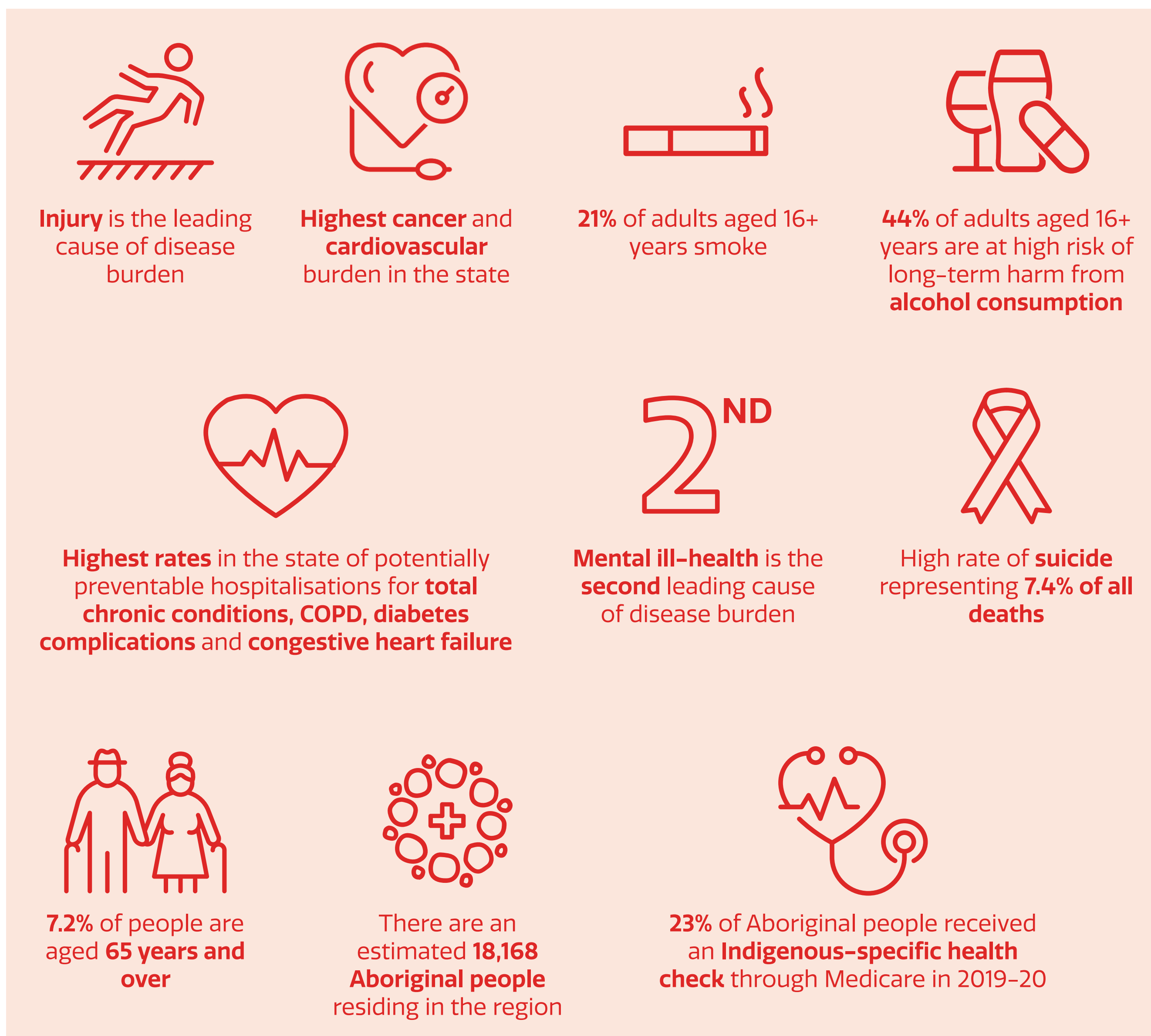
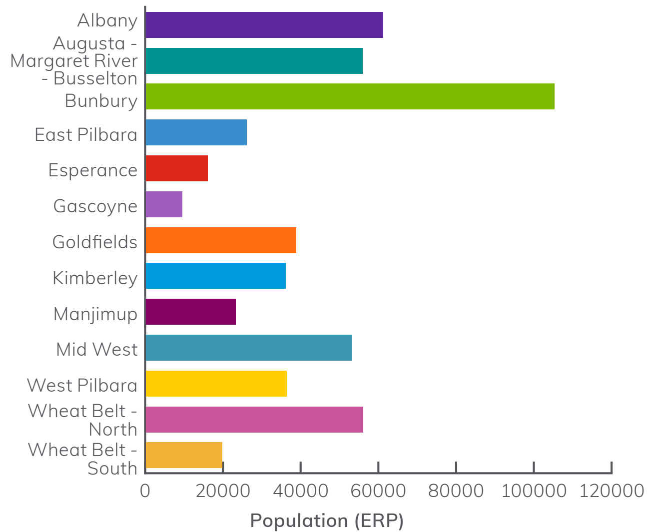
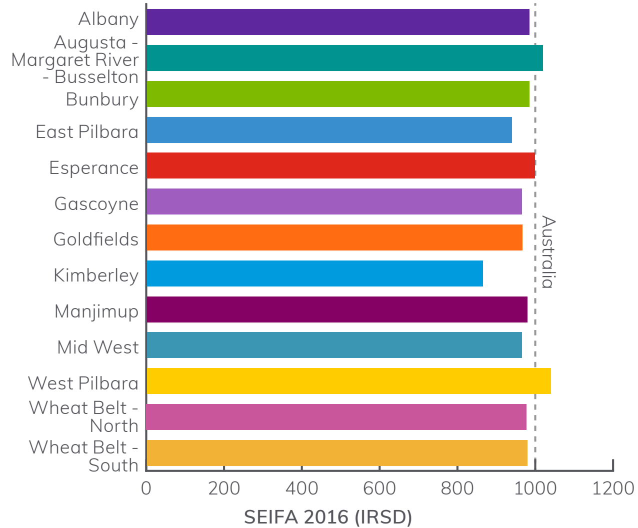


Figure 1 - Population (ERP 2019) in Country WA PHN by SA3 (Public Health Information Development Unit, 2021)



Across the state, the Kimberley has the highest levels of socioeconomic disadvantage (IRSD=863, compared to 1016 in WA) as well as the largest Aboriginal population (18,168 people) representing 50% of the population (ERP 2016).

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



Vulnerable Population Groups

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

- About 6.0% of people in Kimberley SA3 were born in a non-English speaking country compared to 17% of people across the state (Public Health Information Development Unit, 2021b).
- About 2.7% of people in Kimberley SA3 have a profound or severe disability compared to 4.1% of people across the state (Public Health Information Development Unit, 2021b).
- About 9.1% of people in Kimberley SA3 provide unpaid assistance to people with a disability compared to 9.8% of people across the state (Public Health Information Development Unit, 2021b).
- About 42% of children in Kimberley SA3 were developmentally vulnerable on one or more domains compared to 19% of children across the state (Public Health Information Development Unit, 2021b).
- The Kimberley has the largest homeless population in WA. In 2016, it was estimated that 1205 people in Kimberley SA3 experienced homelessness (Australian Bureau of Statistics, 2018a). About 61% of homeless people were living in 'severely' crowded' dwellings, requiring at least four extra bedrooms to accommodate the people usually living there.

LGBTIQ+ populations

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

Family violence is a significant concern and is compounded by isolation and reduced access to services (Rainbow Health Victoria, 2020). Studies indicate that the LGBTIQ+ people experience intimate partner violence at similar or higher rates compared to heterosexual people (Rollè et al., 2018). There is evidence that LGBTIQ+ people are more

likely to experience homelessness (McNair et al., 2017) and that discrimination can lead to adverse outcomes in terms of employment and income, particularly for trans and gender diverse people (Mizock & Mueser, 2014).

Chronic Disease

Chronic diseases are long-term, non-communicable conditions and play a significant part in mental and physical ill health, disability, and premature death. Moreover, people with chronic disease often have two or more conditions (multi-morbidity) such as a mental health condition as well as a physical condition, creating complex health needs and presenting challenges for treatment. In Australia, national surveillance focuses on 10 types of chronic conditions: arthritis, asthma, back problems, cancer, cardiovascular diseases, chronic obstructive pulmonary disease (COPD), diabetes, chronic kidney disease, mental and behavioural conditions, and osteoporosis (Australian Institute of Health and Welfare, 2020b). In 2017-18, almost half of all Australians (47%) were estimated to have at least one of the above conditions and 20% were estimated to have at least two conditions (Australian Bureau of Statistics, 2018b). Age is an important determinant of health and people aged 65 years and over are more likely to be diagnosed with a chronic condition.

This section focuses on chronic conditions other than mental and behavioral conditions, which are discussed in the Mental Health section.

Risk factors

Established risk factors for chronic disease include having high blood pressure, being overweight or obese, smoking, doing little or no exercise and having high levels of stress. Psychosocial factors such as social isolation and loneliness also contribute to chronic ill health (Royal Australian College of General Practitioners, 2020). Risk factors tend to be more prevalent in the lowest socioeconomic areas and in regional and remote areas (Australian Institute of Health and Welfare, 2020b). Data from the Health and Wellbeing Surveillance System (HWSS) survey 2015-19 estimated that about 21% of adults aged 16 years and over in Kimberley SA3 were current smokers compared to only 11% of adults across the state (Epidemiology Branch, 2021a). However, Kimberley SA3 had significantly higher rates of people who did 150 minutes or more of moderate physical activity (68%) compared to the state (62%).

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

Stakeholders have indicated that food security impacts communities in the Kimberley. The 2013 Food Access and Cost Survey Report found food costs significantly increased with distance from Perth. The largest differences in food cost between Perth and remote areas were for fruit (37.9% more), non-core foods (31.0% more) and dairy (30.6% more) (Pollard et al., 2015).

Burden and prevalence of disease

Burden of disease measures the impact of different diseases or injuries on a population. It combines the years of healthy life lost due to living with ill-health (non-fatal burden) with the years of life lost due to dying prematurely (fatal burden) to give a total burden reported using the disability-adjusted life years (DALYs) measure. The Western Australian Burden of Disease Study 2015 (Department of Health Western Australia, 2021) indicated that the Kimberley region had a 1.9 times higher rate of fatal burden and a 1.4 times higher rate of non-fatal burden compared to the metropolitan regions. Overall, injury was the leading cause of burden, representing 18% of the total burden in the region. Chronic disease also accounted for a substantial proportion of the burden of disease. The region had the highest cancer and cardiovascular burdens in the state, respectively accounting for 14% and 13% of the total burden in the region. Moreover, burden due to endocrine and kidney diseases were especially high in comparison to other regions, representing 5% each of the total burden. Coronary heart disease and chronic kidney disease were among the leading five causes of burden for both males and females, type 2 diabetes was the third leading cause for females, and COPD was the fourth leading cause for males.

In 2017-18, the Broome population health area (PHA) was estimated to have a significantly lower rate of osteoporosis (ASR=1.9%) compared to the state (ASR=3.2%) (Public Health Information Development Unit, 2021b). Data were unavailable for the Derby – West Kimberley/Roebuck PHA and the Halls Creek/Kununurra PHA.

Potentially preventable hospitalisations (PPHs) for chronic conditions

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

In 2017-18, the Kimberley SA3 had the highest rate of chronic condition PPHs in WA (2910) more than two and a half times the WA rate and very high rates

for all conditions including COPD (705), diabetes complications (579), congestive cardiac failure (470) and iron deficiency anaemia (305) (Australian Institute of Health and Welfare, 2019). Moreover, the rate of PPHs for rheumatic heart disease was 118 per 100,000 compared to only 17 per 100,000 across the state.

In this report, we regard a PPH 'hotspot' as an area with a hospitalisation rate that is more than 50% above the Australian rate for at least four out of five consecutive years (Public Health Information Development Unit, 2020). In the five years from 2012-13 to 2016-17, there were three population health areas (PHAs) that were hotspots for chronic conditions. Of these, Halls Creek/Kununurra PHA had the highest number of hospitalisations for total chronic conditions in the region.

- Broome PHA: total chronic conditions, angina, congestive cardiac failure, iron deficiencies and rheumatic heart disease.
- Derby – West Kimberley/Roebuck PHA: total chronic conditions and all conditions except bronchiectasis and iron deficiencies.
- Halls Creek/Kununurra PHA: total chronic conditions and all conditions except iron deficiencies.

Management of chronic disease in primary care

From 2013-14 to 2018-19, percentage of population utilisation of GP chronic disease management plans (CDMPs) increased from 7% to 12% in Kimberley SA3 and was comparable to the national rate for SA3s in remote areas, which increased from 8.8% to 12% over the same period (Australian Institute of Health and Welfare, 2020c).

Childhood immunisation rates

The National Immunisation Program (NIP) aims to increase national immunisation coverage to reduce the number of vaccine-preventable diseases in Australia. A key priority of the program is to work towards achieving immunisation coverage rates of at least 95% for children aged 1, 2 and 5 years. Data from the Australia Immunisation Register from 1st April 2020 to 31st March 2021 indicated that in the Kimberley region, childhood immunisation rates in Kimberley SA3 were below target, except for children at 5 years. About 94.9% of children were fully immunised at 1 year, 91.5% at 2 years, and 97.5% at 5 years (Department of Health, 2021b). The lower rate at 2 years suggests that interventions should be targeted to increase immunisation coverage for this age group.

Cancer screening

There are three national cancer screening programs in Australia: BreastScreen Australia, National Cervical Cancer Screening Program (NCSP), and National Bowel Cancer Screening Program (NBCSP). In 2018-19, cancer screening participation rates across WA were 46% for bowel cancer (people aged 50-74 years), 55% for breast cancer (women aged 25-74 years) and 48% for cervical cancer (women aged 25-74 years) (Australian Institute of Health and Welfare, 2021a). The data indicate that cancer screening participation rates in Kimberley SA3 were below state rates, particularly for bowel cancer. Participation rates were 27% for bowel cancer screening, 46% for breast cancer screening, and 40% for cervical cancer screening. We note that participation in the new five-year program for cervical cancer screening cannot be accurately reported until there are 5 years of data available (2018-22).

Avoidable mortality

In 2013-17, the median age of death was only 61 years in Kimberley SA3 (50% of people who died were younger than 61 years) compared to 80 years across the state (Public Health Information Development Unit, 2021b).

Avoidable mortality refers to deaths of people under 75 years that are potentially avoidable under the current health care system (primary or hospital care). In 2013-17, the age-standardised death rate from avoidable causes in Kimberley SA3 (ASR=348 per 100,000) was the highest in the state (Public Health Information Development Unit, 2021b). Death rates for selected causes were the highest in the state for all conditions and the rate for diabetes (ASR=54 per 100,000) was almost eight times the state rate (ASR=6.7 per 100,000).

Emergency department presentations

Country regions had a higher rate of lower urgency emergency department (ED) presentations compared to the state as well as a higher percentage of total presentations that were classified as lower urgency. Between 2018 and 2020, about 52% of ED presentations across Country WA PHN were lower urgency compared to 40% across the state (Department of Health Western Australia, 2021a). Country WA PHN also had a lower percentage of presentations occurring after hours, at 36% compared to 42% across the state. This may indicate difficulties accessing primary care services in Country areas.

Between 2018 and 2020, about 62% of presentations in the Kimberley were classified as lower urgency (Department of Health Western Australia, 2021a). The region had the highest rate of lower urgency presentations per 1000 population per year in the state, at 1137 compared to 379 across Country WA PHN and 160 across the state. About one-third of lower urgency presentations (33%) occurred after hours.

Utilisation of primary care services

Between 2013-14 and 2018-19, rates of people visiting a GP increased from 71% to 79% of the population in Kimberley SA3 (compared to 76% nationally for SA3s in remote areas) (Australian Institute of Health and Welfare, 2020c). In 2018-19, the percentage utilising after-hours GP services was 12%, similar to the national rate of 11% for remote areas and the utilisation rate of GP health assessments (15%), including Aboriginal health

assessments, was somewhat higher than the national rate for remote areas (11%) (Australian Institute of Health and Welfare, 2020c). We note that these data include Medicare-subsidised services only and may represent an under-estimate because ACCHOs and WACHS provide primary care services in this region. It is not currently possible to obtain data by type of health assessment.

About 19% of the population in Kimberley SA3 utilised Medicare-subsidised allied health services and 16% of the population utilised optometry (Australian Institute of Health and Welfare, 2020c). These were well below utilisation rates of 25% and 21%, respectively in remote areas nationally. We note that optometry services are more likely to be subsidised by Medicare compared to other types of allied health services. These figures do not include allied health care provided by Aboriginal health services and other non-government organisations. Stakeholders have indicated that Boab Health provide primary care allied health services across the region aimed at chronic conditions such as diabetes.

Utilisation of practice nurses/Aboriginal health workers in Kimberley SA3 increased substantially from 2.9% in 2013-14 to 15% in 2018-19, above the national rate of 13% for remote areas (Australian Institute of Health and Welfare, 2020c).

Visiting specialist services

The Kimberley relies on visiting specialists to provide care, often through monthly or quarterly visits (with some visits only occurring in larger town sites) and in some cases require patient trips to Perth. Feedback from local stakeholders has identified issues such as multiple referrals for clients being received and placed on the waiting list, remote clients booked in the following day for a specialist service (without awareness of the distance required to travel), and lack of financial support for families to travel if the care giver requires specialist appointments. Many clients living in remote areas require assistance from the Patient Assisted Travel Scheme (PATS) and Aboriginal clients may require top-up funds from Integrated Team Care (ITC) in order to access specialist services. Stakeholders also highlighted issues with communication from specialists back to the referring agency due to various health management systems in place. These coordination and communication issues represent barriers to accessing timely health care and may adversely impact patient experience of care.

Access Relative to Need (ARN) Index

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

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

In early 2021, WAPHA updated the ARN Index for SA2s in Western Australia to identify areas with a low access to GPs relative to need. ARN Index scores for many SA2s in the region were high due to a high supply of primary care services, particularly in Broome SA2. The lowest ARN Index score in the region was in Roebuck SA2, which was in the third decile (access relative to need was lower than 70% of SA2s in the state) for access to any GP and in the sixth decile for access to bulk billing GPs. We note that a high supply of services does not mean that services are being effectively utilised. Service fragmentation and maldistribution are notable issues in the Kimberley and remain an ongoing challenge for service provision in the region.

Workforce

General practitioners (GPs)

In 2020, Kimberley SA3 had 28 GP full-time equivalent (FTE) or 0.8 FTE per 1000 residents compared to 1.1 FTE per 1000 across the state2. The ratio of vocationally registered (VR) to non-VR GPs in Kimberley SA3 (13) was similar to the state (12).

Primary care nurses

The Kimberley region had the highest relative supply of primary care nurses in WA. In 2019, Kimberley SA3 had 222 primary care nurse full-time equivalent (FTE) or 6.2 FTE per 1000 residents compared to 1.7 FTE per 1000 across the state[2]. Moreover, primary care nurses in Kimberley SA3 worked relatively long hours, with an average of 36 hours per week compared to 30 hours a week across the state.

Aged Care

The Kimberley has a relatively small proportion of people aged 65 years and over compared to other Country regions. In 2019, there were 2,583 people aged 65 years and over in Kimberley SA3, representing only 7.2% of the population compared to 16% in Country WA PHN. This is projected to increase to 10% of the population or almost 4000 people by 2030 compared to 18% across the state and 20% across Country WA PHN (Public Health Information Development Unit, 2021b). Age is an important determinant of health and people aged 65 years and over are more likely to have complex and/or chronic conditions as well as comorbidities. Moreover, geriatric syndromes later in life (usually after the age of 85 years) including pressure ulcers, incontinence, falls, and delirium have substantial implications for quality of life as well as health care utilisation (Brown-O'Hara, 2013). The Western Australian Burden of Disease Study 2015 (Department of Health Western Australia, 2021) indicated that in the Kimberley health region, COPD, chronic kidney disease and type 2 diabetes were among the leading causes of disease burden for people aged 65 and over.

Utilisation of health services

In Country WA PHN, 41% of people aged 80 years and over had a GP Health Assessment (including Aboriginal health assessments) in 2018-19, similar

to the rate for regional PHNs (40%) and the national rate (37%) (Australian Institute of Health and Welfare, 2020c). The number of GP attendances in residential aged care facilities (RACFs) was 15.7 per patient compared to 15.8 for regional PHNs and 17.8 nationally. Data were not available at the SA3 or regional level.

Aged care services

In Australia, the aged care system offers three main types of service: the Commonwealth Home Support Program, Home Care Packages, and residential care. More than two-thirds of people across Australia using aged care services access support from home (Royal Commission into Aged Care Quality and Safety, 2021). The relatively large population of Aboriginal people in the Kimberley means that access to aged care may be required at a younger age compared to other regions. Planning for aged care services takes into account the needs of Aboriginal people aged 50 years and over and non-Aboriginal people aged 65 years and over. In 2016, it was estimated that there were 2768 Aboriginal people aged 50 years and over in Kimberley SA3.

The Home Care Packages (HCP) program provides support to older people with complex needs to help them live independently in their own home. Support provided includes help with household tasks, equipment, minor home modifications, personal care, and clinical care such as nursing and allied health services. There are four levels of HCPs from level 1 (basic care needs) to level 4 (high care needs). Across Australia, wait times for approved HCPs range from 3-6 months for level 1 to at least 12 months for level 2 and above (Department of Health, 2021a).

Home care in the Kimberley is provided by community-based organizations, the WA Country Health Service and religious organizations. As at December 2020, there were 139 people in a HCP in the Kimberley Aged Care Planning Region (ACPR) (Department of Health, 2021a). An additional 60 people were waiting for a HCP with four people requiring the highest level of care (level 4).

There were seven residential aged care facilities in the Kimberley, these include multipurpose facilities managed by the WA Country Health Service and specific Aboriginal and Torres Strait Islander aged care services (Australian Institute of Health and Welfare, 2021b). In 2020, there were 199 residential aged care (RACF) beds in Kimberley SA3 or 151 beds per 1000 population aged 70 years and over compared to 72 beds per 1000 across the state. There are an estimated 1319 people aged 70 years and over living in the Kimberley. Although the Kimberley has a relatively high ratio of beds to population, it does not take into account the large Aboriginal population, who are likely to require residential aged care services at a younger age.

In 2019, Kimberley SA3 had 43 aged care nurse full-time equivalent (FTE) or 33 FTE per 1000 people aged 70 years and over compared to 12 FTE per 1000 across the state2. The relatively high ratio reflects the low number of people aged 70 years and over in the region. However, average weekly hours of aged care nurses were 42 hours per week in Kimberley SA3 compared to 33 hours per week across the state, which indicates a high workload among aged care nurses in the region.

Alcohol and Other Drugs

In Kimberley SA3, 43.7% of residents were at a statistically significantly greater long-term risk from alcohol consumption, with the highest rate recorded in WA. This exceeds the state rate by 17.2% (Epidemiology Branch, 2021b). Kimberley SA3 also had the greatest proportion of current smokers in WA (21.1%), exceeding the state rate by 9.9% (Epidemiology Branch, 2021b).

Stakeholders in the Kimberley region have concerns about fetal alcohol spectrum disorder (FASD) in their communities. Fitzroy Crossing in the West Kimberley region of Western Australia (WA) has the highest reported prevalence of fetal alcohol spectrum disorder (FASD) in Australia with rates of FASD or partial FASD in 12 per 100 children. This is on par with the highest rates internationally (Senate Committee, 2021).

In May 2021, the WA government commenced a two-year trial of a Takeaway Alcohol Management System (TAMS) and Banned Drinkers Register (BDR) in the Kimberley to assist with managing alcohol-related issues in the region. As part of the BDR trial, customers will not be able to purchase takeaway alcohol without approved photo ID. Under the TAMS sales of takeaway alcohol will be monitored, allowing customers to purchase alcohol according to a daily volume limit for their area (Department of Local Government Sport and Cultural Industries, 2021).

Accidental overdose

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

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

From 2014-2018, the rate of unintentional drug-induced deaths in Country WA was 8.3 per 100,000. In 2014-2018 Kimberly SA3 had the second highest rate range of 7.5 to 9.9 deaths per 100,000 for unintentional drug-induced deaths (Penington Institute, 2020).

Emergency department presentations

Country regions had higher rates of emergency department (ED) presentations related to alcohol and other drugs (AOD) compared to the state. Between

2018 and 2020, around 1.1% of ED presentations across the region were AOD-related (Department of Health Western Australia, 2021a). About 56% of AOD-related presentations were made after hours. Presentation rates per 100k population per year in Kimberley SA3 (1968) were the highest in the state and were more than five times the state rate (369). We note that some ED presentations may be related to alcohol and other drugs but primarily diagnosed as an injury (or other condition), so the data are likely to underestimate the rate of AOD-related ED presentations in the region.

Services

Drug and Alcohol services are provided by the WA Country Health Service, not-for-profit organisations and Aboriginal organisations.

The WA Country Health Service provides the Kimberley Community Alcohol and Drug Service in Kununurra, Halls Creek, Derby, Fitzroy Crossing and Broome. This service provides assessment, counselling and referral and support for people experiencing alcohol and other drug issues.

Cyrenian House – Milliya Rumurra Aboriginal Corporation provides individuals and their families with improved access to alcohol and other drug services on an outreach basis, servicing the communities north of Broome along the Dampier Peninsula and south to Bidyadanga. This service also provides residential treatment and rehabilitation services to Aboriginal people. Alcohol and other drug services are also provided by Aboriginal organisations in Wyndham, Fitzroy Crossing, Kununurra and Derby.

A key challenge that exists in the Kimberley is the lack of specific detox facilities, particularly as AOD referrals for treatment continues to rise (Collins, 2016). As part of the 2019-2020 Budget, the WA government announced a low medical withdrawal detox facility was planned for the Kimberley, given that these services do not formally exist in the Kimberley region (WA Mental Health Commission, 2021).

Mental Health

Mental health was the second leading cause of disease burden in the Kimberley region contributing 15% to the total disease burden for the region (Department of Health Western Australia, 2021). Suicide and self–inflicted injuries were the leading cause of burden of disease for males in the Kimberley contributing to 10% of the disease burden (Department of Health Western Australia, 2021).

Seven percent of people living in the Kimberley have been diagnosed with anxiety and 8% with depression while 10% scored high or very high psychological distress using the Kessler 10 scale, all of which are similar to state rates (Epidemiology Branch, 2021b).

Suicide and self-harm

Suicide is a serious issue for the communities in the Kimberley. Seventy-four people died from suicide in the Kimberley between 2014 to 2018 representing 7.4% of all deaths in the region (Australian Institute of Health and Welfare, 2020d). The age standardized rate for suicide deaths in the Kimberley is 41 per 100,000 residents compared to the age standardized rate for WA (15 per 100,000) (Australian Institute of Health and Welfare, 2020d).

The Health and Wellbeing Surveillance Survey collects data on suicidal ideation among adults aged 16 years and over. In the Kimberley 5% of the population reported that they thought seriously about ending their own lives (Epidemiology Branch, 2021b).

Self-harm is a strong risk factor for suicide. The Kimberley had the highest rates of hospitalisation for self-harm in the State (611 per 100,000 residents compared to 224 per 100,000 residents in WA) (Australian Institute of Health and Welfare, 2020d). Self-harm hospitalisations were highest for females and for people aged 25 – 44 years (Australian Institute of Health and Welfare, 2020e).

The State Coroner's Inquest into the deaths of thirteen children and young persons in the Kimberley noted the impact of intergenerational trauma in Aboriginal communities and recommended increased coordination and accountability between service providers and agencies (State Coroner, 2019). The Kimberley was identified as one of twelve locations across Australia to participate in the National Suicide Prevention Trial. The trial aims to develop a model of suicide prevention that meets the unique and culturally sensitive needs of the region's Aboriginal communities.

Youth mental health

Suicide and self-inflicted injuries were the leading course of disease burden for 15 to 24-year-olds contributing to 33% of the disease burden for this age group (Department of Health Western Australia, 2021).

Hospital admissions for self-harm may also indicate a lack of access to mental health services. In the Kimberley people aged between 0-24 had the highest rates of hospitalisation for self-harm in the state (Australian Institute of Health and Welfare, 2020d).

Emergency department presentations

Country regions had higher rates of mental health-related emergency department (ED) presentations compared to the state. Between 2018 and 2020, around 1.9% of ED presentations across the region were primarily mental health-related, excluding those related to alcohol and other drugs (Department of Health Western Australia, 2021a). Almost half of mental health ED presentations (46%) were made after hours. The presentation rate per 100k population per year in Kimberley SA3 (3484) was the highest in the state and more than three times the state rate (1083). We note that some ED presentations may be related to mental health but primarily diagnosed as an injury (or other condition), so the data are likely to underestimate the rate of mental health ED presentations in the region.

Services

Mental health services in the Kimberley are provided by the WA Country Health Service, not-for-profit organisations and Aboriginal Community Controlled Organisations. The WA Country Health Service provides adult community mental health services, child and adolescent mental health services and the Statewide Aboriginal Mental Health Service. The headspace service provides psychological services to youth in Broome. Anglicare offers counselling services in Kununurra, Halls Creek, Broome and Derby. Boab Health Services provide psychological intervention for mild to moderate mental health issues across the Kimberley region and provide a mental health service for children and youth.

Stakeholders have indicated staff retention and the cost of travelling vast distances to provide clinical services as challenges to service provision in the Kimberley. Services are located in the major townships and outreach is hampered by travel barriers and costs particularly in the wet season (State Coroner, 2019).

Less than 1% of the population access a clinical psychologist through the Better Access MBS program indicating that mental health care in the Kimberley is predominately provided by the hospital and not-for-profit sectors (Australian Institute of Health and Welfare, 2020c).

Aboriginal Health

The Kimberley region has the largest Aboriginal population in WA, with an estimated 18,168 Aboriginal people representing 50% of the population (ERP 2016). There are over 30 different language groups in the Kimberley and over 200 remote Aboriginal communities. English is often a second or third language for Aboriginal people in the Kimberley with the most common languages being Kriol, Bardi, Walmajarra and Jaru. Thirty percent of the population in the Kimberley speak both English and another language at home (Australian Bureau of Statistics, 2016).

Aboriginal populations in the Kimberley are some of the most disadvantaged in the state; however, there is a great deal of variation geographically and economically within the region. The Indigenous Relative Socioeconomic Outcome Index (IRSEO) score indicates that Kalumburu and Argyle-Warmun had the highest levels of disadvantage for Aboriginal people living in the Kimberley, with high levels of unemployment, welfare dependence, lower levels of education and poorer housing suitability (Public Health Information Development Unit, 2021a). In Kalumburu, 38% of dwellings required extra bedrooms and 93% had no internet connection. In contrast, Aboriginal people in Broome experienced lower levels of socioeconomic disadvantage compared to those in Greater Perth and the rest of the state.

Aboriginal children in the Kimberley are also impacted by disadvantage (Public Health Information Development Unit, 2021a). About 74% of Aboriginal children in the Great Sandy Desert and over 55% of Aboriginal children living outside of Broome and the Fitzroy River region were developmentally vulnerable in one or more domains according to the Australian Early Development Census. In the Derby and Fitzroy Crossing regions 64% of Aboriginal mothers smoked during pregnancy. Eighteen percent of babies born in Halls Creek and the Great Sandy Desert had a low birthweight. The period of development between conception to early childhood impacts later development, including health and wellbeing, mental health, social functioning, and cognitive development (Public Health Information Development Unit, 2021a).

Aboriginal housing

Regions with the highest proportion of Aboriginal persons living in crowded dwellings were within the IAREs of Kalumburu (59%), Halls Creek (56%) and Outer Derby-West Kimberley (56%) (Public Health Information Development Unit, 2021a).

Childhood immunisation

A key priority of the National Immunisation Program Schedule is to work towards achieving immunisation coverage rates of at least 95% for children aged 1, 2 and 5 years. In the Kimberley region, childhood immunisation rates were below target for children aged 2 years in all Kimberley IAREs. These were especially low in Great Sandy Desert (74%), Halls Creek (74%) and Broome (78%). This suggests that interventions should be targeted to increase immunisation coverage for this age group (Public Health Information Development Unit, 2021a).

Lower urgency emergency department presentations

High rates of non-urgent ED attendances indicate there may be a gap in primary care services. Country WA PHN had a greater rate of total non-urgent ED presentations (ASR=10,742 per 100,000 people per year) in Aboriginal and Torres Strait Islander people compared to WA (7,742) (Public Health Information Development Unit, 2021a). In Country WA, top major diagnosis chapters included factors influencing health status (3,626 ASR per 100,000) and injury and poisoning (ASR=2,763 per 100,000).

Statistically significantly higher rates of non-urgent ED presentations were recorded between 2017/18:

- Diagnosis chapters factors influencing health status and contact with health services: Broome and Great Sandy Desert
- Injury, poisoning and certain other consequences of external causes: Broome (Public Health Information Development Unit, 2021a).

Avoidable deaths by selected causes

The Aboriginal population in the Kimberley are impacted by deaths that could have been prevented through the provision of treatment through primary or hospital care at rates higher than other country regions in WA (Public Health Information Development Unit, 2021a).

Avoidable deaths by selected conditions for Aboriginal persons aged 0 to 74 years were statistically significantly higher in the following regions (ASR per 100,000 Aboriginal persons):

- Diabetes: Outer Derby-West Kimberley (89 per 100,000), Derby-Mowanjum (83), Fitzroy River (79), Fitzroy Crossing (79), Halls Creek (77), Broome (57)
- Circulatory system diseases: Wyndham (192 per 100,000), Kununurra (191), Kalumburu (189), Great Sandy Desert (176), Argyle – Warmun (172), Halls Creek (162), Broome (113)
- Selected external causes (falls, fires, burns, suicide and self-inflicted injuries): Kununurra (189 per 100,000), Halls Creek (70), Broome (48)
- External causes (transport accidents, accidental drowning and submersion): Great Sandy Desert (96 per 100,000), Halls Creek (95), Broome – Surrounds (93), Kununurra (75) (Public Health Information Development Unit, 2021a).

Potentially preventable hospitalisations (PPHs)

Between 2015-16 and 2017-18 the following PPHs were statistically significantly higher in the IAREs of the Kimberley region (Public Health Information Development Unit, 2020).

PPHs for chronic disease:

- Chronic angina: Halls Creek -Surrounds (518 per 100,000), Kununurra (359) and Broome (261)
- Asthma: Outer Derby – West Kimberley (733 per 100,000), Halls Creek -Surrounds (697) and Great Sandy Desert (670)
- Congestive cardiac failure: Great Sandy Desert (836 per 100,000), Halls Creek -Surrounds (775) and Halls Creek (765)
- Diabetes: North Kimberley (1,139 per 100,000), Fitzroy River (1,125) and Wyndham (1,052)
- Iron deficiency: Broome (811 per 100,000)
- COPD: Wyndham (1,488 per 100,000), Kununurra (1,354) and Kalumburu (1,211).

PPHs for acute conditions:

- Acute cellulitis: North Kimberley (2,904 per 100,000), Kununurra (2,817) and Wyndham (2,746)
- Acute convulsions and epilepsy: Broome (974 per 100,000), Kununurra (873) and Derby – Mowanjum (688)
- Acute dental: Broome (983 per 100,000), North Kimberley (924) and Outer Derby – West Kimberley (874)
- Acute ear, nose and throat infections: Fitzroy River (1,676 per 100,000), Halls Creek – Surrounds (1,635) and Great Sandy Desert (1,579)
- Acute urinary tract infections (including pyelonephritis): Fitzroy Crossing (1,666 per 100,000), Outer Derby – West Kimberley (1,453) and Fitzroy River (1,248) (Public Health Information Development Unit, 2020).

PPHs for vaccine-preventable conditions:

- Pneumonia and influenza: Kununurra (903 per 100,000), North Kimberley (887), Broome (654)
- Other: Fitzroy Crossing (1,524 per 100,000), North Kimberley (1,464) and Great Sandy Desert (1,455).

NOTE: Vaccine-preventable (other) includes diseases such as hepatitis B, measles, mumps, and chicken pox (Public Health Information Development Unit, 2020).

General Practice

Chronic disease contributes significantly to the differences in life expectancy between Aboriginal and non-Aboriginal people. Aboriginal people experience 2.3 times the rate of disease burden, with an age standardised death rate for chronic disease 3.8 times the rate among non-Aboriginal people (Australian Institute of Health and Welfare, 2017). In WA, 60% of Aboriginal people have been diagnosed with at least one chronic condition (Australian Institute of Health and Welfare, 2017).

Access to private general practice is limited in the Kimberley with only a few private practices operating in the region. Aboriginal people in the Kimberley are more likely to receive a health service from an Aboriginal Community Controlled Health Organisation or the hospital sector.

Through Medicare, Aboriginal and Torres Strait Islander people can receive Indigenous-specific health checks from their doctor, as well as referrals for Indigenous-specific follow-up services. In March 2020, telehealth items for Indigenous health checks were introduced in response to COVID-19 and associated restrictions (Australian Institute of Health and Welfare, 2021c).

In 2019-20, the proportion of the Aboriginal population who received an Indigenous Health Check was 23.2% in Kimberley SA3, which was less than Country WA PHN (25.1%). Face-to-face was the preferred method compared to telehealth, which had a low uptake of only 0.3% in Kimberley and 0.6% across the state. In 2018-19, the Kimberley (52.7%) had a higher proportion of patients who received follow-up services compared to the State (46.8%) (Australian Institute of Health and Welfare, 2021c). We note that differences in follow-up rates may partly reflect differences in health status and need for follow-up care.

Digital Health

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

patient's health summary, medication prescribing and dispensing history, pathology reports, diagnostic imaging reports and discharge summaries.

Given the large geographical size of WA, COVID-19 saw a very rapid adoption of virtual methods of consultation of WA's hospital-based outpatient clinics. Rates that were previously in low 10 to 15% rapidly moved to the 60 to 80% across a range of clinics and hospitals (Koh, 2020). It appears that the focus on digital health including telehealth consultations during COVID-19 is helping fast track the adoption of technology and more providers are seeing the My Health Record as a valuable repository of health data as it is accessible to all healthcare providers without the need for fax machines or postal services. As of March 2021, there are now 22.93 million My Health Records Australia-wide and more than 20.4 million or 89 per cent of them contain health data (My Health Record, 2021).

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

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

The pre-COVID-19 MBS utilisation for telehealth services in Kimberly (0.23 per 100 resident population) was similar to the national rate (0.21), however it was lower than Country WA (0.42). Temporary COVID-19 MBS telehealth items have been made available to GPs and other health professionals since March 2020 to help reduce the risk of community transmission of COVID-19. Although the COVID-19 MBS utilisation data is currently unavailable, we expect to see a significant increase in telehealth utilisation nationwide as a result of the pandemic.

In 2020, telechemotherapy services commenced in Broome and Aboriginal Medical Services have introduced the Silhouette wound surveillance system (ARANZ Medical, New Zealand), which has helped improve the quality of services delivered.

Summary

The Kimberley is a remote and sparsely populated region in northern WA. Culturally rich, a large proportion of the population is Aboriginal with over 200 small remote Aboriginal communities in the region. Many people who live in the Kimberley are transient, which creates challenges for service providers regarding continued care for patients. The Kimberley has the highest levels of socioeconomic disadvantage compared to the rest of WA, and the social determinants of health have been recognised as a fundamental issue in the region.

The dominant health concerns in the Kimberley are chronic disease, mental health and alcohol and other drug use. The population in the Kimberley has significantly high prevalence rates of risk factors for chronic disease, with the region recording the highest cancer and cardiovascular burdens in WA. The Kimberley also has the highest rates of PPHs in WA for total chronic conditions as well as for COPD, diabetes complications, and congestive cardiac failure. This is connected to the Kimberley having the highest rate of deaths from avoidable causes in the state.

Mental health is a continuing priority for the Kimberley and is the second leading cause of disease burden in the region. Depression, self-harm, and suicide impact communities in the Kimberley particularly in men and young people, with the region recording the highest rates of self-harm in WA. Alcohol consumption and smoking is another key concern in the Kimberley, with the region recording the highest rate of residents at greater long-term risk from alcohol consumption in the state. The Kimberley also had the greatest proportion of current smokers in WA, which was more than double the state rate. Furthermore, this is associated with the concerning rates of smoking during pregnancy among Aboriginal mothers in this region.

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

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

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

An analysis of health and service needs in the Kimberley identified a couple of issues outside the scope of the PHN program. The analysis found there were high levels of socio-economic disadvantage with the social determinates of health representing a major challenge in the region. Housing, education, and employment is outside the remit of the PHN program and is the responsibility of the state government and other not for profits.

Priorities

Health Need	Service Need	Priority	Priority Area	Priority sub-category
The Kimberley has the highest cancer burden in WA.	Cancer screening rates are low in the Kimberley.	Improve the rates of cancer screening and reduce avoidable deaths from cancer.	Population Health	Safety and quality of care
Across the Kimberley the following chronic conditions PPH are consistently high: diabetes, chronic obstructive pulmonary disease, and congestive cardiac failure.	There are PPH hotspots for diabetes, chronic obstructive pulmonary disease and congestive cardiac failure in the Kimberley	Ensure primary care services are available for people with chronic conditions that provide a holistic approach to management including improving self-management.	Population Health	Chronic conditions
Mental Health is the second leading cause of disease burden in the region. Depression, self-harm, and suicide impact communities in the Kimberley particularly in men and young people, with the region recording the highest rates of self-harm in WA.	Mental health presentations to the ED were the highest in the state and less than 1% of the population access psychological services through MBS.	Ensure integrated and stepped care services are available for people who experience mental health across the spectrum.	Mental Health	System integration
Alcohol consumption and smoking is another key concern in the Kimberley.	AOD related ED presentations were the highest in the State.	Improve access to screening and AOD treatment services	Alcohol and other drugs	Access
Aboriginal people living in the Kimberley have some of the poorest health outcomes in the state.	Aboriginal people in the Kimberley have high rates of PPH presentations and non-urgent ED presentations.	Improve access to coordinated culturally appropriate primary care for Aboriginal people.	Aboriginal and Torres Strait Islander Health	Appropriate Care (including cultural safety)

Opportunities and options

Priority	Expected Outcome	Potential lead agency and/or opportunities for collaboration and partnership
Improve the rates of cancer screening and reduce avoidable deaths from cancer.	PH2 Increase in specified population participation rates of cancer screening. Where the rate has been stable for at least three years, the performance criteria is to maintain the existing participation rate.	Cancer Council WA BreastScreen Cancer screening organisations
Ensure primary care services are available for people with chronic conditions that provide a holistic approach to management including improving self-management.	P9 Increase in the rate of people diagnosed with chronic conditions who receive GP team care arrangement and case conferences. P12 Decrease in PPH rates. Where the rate has been stable for at least three years, the performance criteria is to maintain the existing rate of PPH.	WA Country Health Service Aboriginal Community Controlled Health Services Diabetes WA WA Asthma Foundation Silver Chain
Ensure integrated and stepped care services are available for people who experience mental health across the spectrum.	MH1 Rate of regional population receiving PHN commissioned low intensity psychological interventions. MH2 Rate of regional population receiving PHN commissioned psychological therapies delivered by mental health professionals. MH4 Formalised partnerships with other regional service providers to support integrated regional planning and service delivery.	Non-Government Organisations Community Mental Health Services General Practice
Improve access to screening and AOD treatment services	AOD1 Rate of drug and alcohol commissioned providers actively delivering services.	General Practice Mental Health Commission WANADA
Improve access to coordinated culturally appropriate primary care for Aboriginal people.	IH5 ITC improves the cultural competency of mainstream primary health care services.	Aboriginal Medical Services Local Hospital Network Aboriginal Non-Government Organisations

Acknowledgement

WA Primary Health Alliance acknowledges and pays respect to the Traditional Owners and Elders of this country and recognises the significant importance of their cultural heritage, values and beliefs and how these contribute to the positive health and wellbeing of the whole community.

Disclaimer

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