



WAPHA
WA Primary Health Alliance

phn
COUNTRY WA

An Australian Government Initiative

Population Health Needs Assessment Country WA PHN

WA Primary Health Alliance
November 2016



Contents

Acknowledgement

Country WA PHN, in partnership with Curtin University, wishes to acknowledge the cooperation and support of everyone we have spoken to or contacted for this Need Assessment.

Acknowledgement to People and Country

WA Primary Health Alliance and Curtin University acknowledges the Traditional Owners and elders of the country on which we work and live and recognises their continuing connection to land, waters and community. We pay our respects to them and their cultures and to Elders both past and present.

In Western Australia, the term Aboriginal is used in preference to Aboriginal and Torres Strait Islanders peoples, in recognition of the Aboriginal peoples as the Traditional Owners of Western Australia. No disrespect is intended towards Torres Strait Islanders members of the Western Australian community.

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Foreword	3
Executive Summary	4
Overview: population in Country WA PHN	6
Social Determinants & Vulnerable Populations.....	8
Risk Factors and Health Status.....	11
Mental Health, Suicide Risk, Alcohol and Other Drugs	15
Country WA PHN Priority Locations of the Highest Health Needs	18
What we intend to achieve.....	62
Further Information	64
References.....	65
Methodology and Data Limitations	67
Glossary	68
Abbreviations.....	71

Foreword

This report builds on and extends the analysis done in the Baseline Needs Assessment in early 2016. The information presented in this Report makes a clear case for a focused place-based approach over the medium- and long-term.

The WA Primary Health Alliance (WAPHA) incorporates the three Western Australian Primary Health Networks (PHNs): Perth North, Perth South and Country WA. Since being established in July 2015, Country WA PHN regional teams have built collaborative and sustainable relationships across the health and social care systems. Their priority is to address the barriers impacting on the health care outcomes of people in regional, rural and remote Western Australia.

“ There is widespread consensus that our health and social care services are not sustainable in their current form... The focus must be on keeping people well for longer and, when they do become ill, supporting them to manage their conditions in the community, avoiding expensive institutional settings. ”

NLGN, 2016

The vision of the PHN is that people in the country should have access to those services that allow them to stay well in their communities and manage their health conditions without having to go to hospital wherever possible.

Generally, health status in WA country regions is poorer than in metropolitan areas. There is high prevalence of chronic disease and mental health conditions, higher hospital admissions and emergency department attendances. People report increased risky lifestyle behaviours in country WA with higher smoking rates and illicit drug use, problematic alcohol consumption, and as a group, show evidence of poor nutrition choices (Curtin University, 2016).

Priorities at a regional level have been identified from feedback and advice from clinicians, the community, peak bodies, local government, and other stakeholders. The PHN is committed to contributing to a co-ordinated and responsive primary health care system, flexible enough to deliver interventions at the right stage in a person's health condition and in a timely way.

“ There are many factors which contribute to higher potentially avoidable hospitalisations in the bush that aren't closely related to access – such as inherent lower socio-economic status in many communities, higher rates of Aboriginality and the historic role of local bush hospitals in helping local residents to access a range of support services. ”

Rural Health West, 2016

A place-based orientation allows the PHN to investigate the attributes of certain geographical areas that need to change if there is to be an impact on local health status. However, it is important to note that not all services can be available in individual country communities and therefore place-based solutions can often only be implemented where there is strong connection with regional, metropolitan and state-wide services.

The combination of robust data, enhanced local knowledge and engagement with stakeholders has provided the PHN with rich, local intelligence. Commissioned activities will address the needs of marginalised groups in locations where people are likely to have the poorest health status.

In recognition of the central role that primary care practitioners play in improving health status, regional teams work intensively with General Practice and Aboriginal Medical Services to support and assist them. The PHN is committed to understanding current GP best practice in relation to chronic and complex conditions by using the insights that are generated by the interaction between regional teams and local clinicians.

Understanding needs

A health needs assessment is a systematic method of identifying unmet health and health care needs of a population and making choices to meet those unmet needs. It looks at what should be done and what can be done to address needs.

There are limitations in this process. Page 26 in this Report describes our methodology and data limitations. It should be acknowledged that WAPHA is guided by the Commonwealth Department of Health's focus to support primary care and the prevention of potentially avoidable hospitalisations.

This Report complements a range of other Reports including our Activity Plans for commissioning services across the region and a mental health atlas of WA services.

“ The PHN is committed to addressing the many access barriers that exist for people trying to navigate the current system – particularly vulnerable and disadvantaged groups. These barriers contribute to a rate of potentially preventable hospitalisations of 1,323 per 100,000 people across Country WA PHN ”

(compared to 992 in Perth North and 1,002 in Perth South) in 2013-2014 (NHPA, 2015b)

Executive Summary

Country WA: achieving better health care for at-risk populations in our community

The Health of Our Region

Country WA PHN area covers 2.48 million km² and geographically is the largest PHN in Australia. It includes seven regions: Goldfields, Great Southern, Kimberley, Midwest, Pilbara, South West and Wheatbelt. There is significant diversity, both within and across the regions. Each region is unique in a range of aspects including population size, cultural characteristics, landscape and climate, resources, industry and services. All these factors impact on the local populations' health status and influence planning of appropriate health services.

“Communities have multiple health needs and with limited availability of funds, 'it is necessary to prioritise and to commission services that will improve health and wellbeing outcomes. Not all health needs are equal. Where you live also matters to your chances of long and healthy life'”

(Duckett and Griffiths, 2016).

Evidence of Poor Health Across the Region

Health outcomes in WA country regions are consistently poorer than in metropolitan areas. This includes the prevalence of long-term conditions, one or more illness (comorbidities) and poor lifestyle behaviours contributing to the burden of disease. In addition, suicide rates in some Country WA PHN regions, most notably the Kimberley and Goldfields, are the highest in Australia, and amongst one of the highest rates in the world.

“Differences in access to health care matter, as do differences in lifestyle, but the key determinants of social inequalities in health lie in the circumstances in which people are born, grow, live, work, and age.”

Marmot, 2011



Figure 1. Country WA PHN investment activity areas.

Other factors that lead to poor health status across all regions include high prevalence rates of drug and alcohol at harmful levels, higher injury rates, in particular road traffic accidents, higher sexual health issues in some areas, higher obesity and smoking rates, social isolation and a lack of connectedness. In WA, the rates of perinatal mortality and low birth weight babies are higher in rural regions and among Aboriginal Australians than non-Aboriginal Australians (AIHW, 2015c).

Our investments will focus on:

Commissioning patient-centred health care that aims to keep people out of hospital, healthy and well in the community.

Priorities for Action

Country WA PHN — in consultation with health professionals and community representatives — identified the following priority needs within the community:

- Keeping people well in the community, through a continued relationship with community health services.
- People with multiple morbidities especially chronic co-occurring physical conditions, mental health conditions and drug and alcohol treatment needs.
- Services designed to meet the health needs of vulnerable and disadvantaged people, including those of Aboriginal heritage.
- System navigation and integration to help people get the right services, at the right time and in the right place.
- Capable workforce tailored to these priorities.

Overall, Country WA PHN includes many areas with significant socio-economic disadvantage. Most country regions include pockets of disadvantage that relate to geographical remoteness. Issues associated with socio-economic disadvantage include higher rates of unemployment, lower income and lower levels of educational attainment. These factors can impact on a person's health status, access to health services and health outcomes.

For people who are socio-economically disadvantaged and/or are residing in remote locations, accessing the right health care is challenging, with less availability of appropriate, affordable and targeted services for vulnerable groups.

Understanding our community: key facts about the population

Who lives in Country WA PHN?

In 2014, 548,185 people were residing in Country WA PHN, which accounted for one fifth of the total WA population.

Overall, 10% of the Country WA PHN population identified as Aboriginal (55,922 people), which is approximately three times higher than the Perth metropolitan area and the State.

In 2011, the proportion of culturally diverse people within Country WA PHN (6%) was less than half the State (14.4%) and national (15.7%) averages. The largest proportions of people from non-English speaking countries were residing in the Kimberley (8.4%) and Pilbara (7.5%) regions.

In 2014, 1 in 8 people (12.8%) from Country WA PHN were aged 65 years and over, which was similar to the State (12.7%). Additionally, 1 in 20 people were aged 75 years and over. The Great Southern (18%) and Wheatbelt (17.3%) regions had the largest percentages of older people (PHIDU, 2016; WA DoH, 2016).

Country WA PHN comprises just over 2.48 million km² and includes 106 local government areas (LGAs).

There is considerable geographical, cultural and social diversity across the area.

Population Flows

Country WA PHN health services are accessed by residents and non-residents of the regions within the PHN boundaries. Periodic visitors and tourists place significant seasonal demand on local health services in some regions. This can increase the complexity of service planning and delivery. The population also fluctuates with movement to metropolitan areas, particularly in the young adult age groups.

Population Growth

Between 2015 and 2025, the Country WA PHN population is expected to increase by 23.6%. The proportion of people aged 65 years and older is projected to increase from 13% to 17.4% while the proportion of adults 25 to 64 years is expected to decrease from 56% to 51%. This could impact on future workforce in the regions, in particularly workforce to support the older population.



Socioeconomic Status

The Socio-economic Index for Areas (SEIFA) scale facilitates identification of socially and economically disadvantaged areas across the State. Overall, households within Country WA PHN experience greater disadvantage than the metropolitan PHN areas.

In 2011, the 10 most disadvantaged LGAs within the Country WA PHN were located in the Kimberley, Goldfields and Midwest regions. The most disadvantaged LGAs included Halls Creek, Ngaanyatjarraka, Menzies, Upper Gascoyne and Derby-West Kimberley (ABS, 2013b). Socio-economic disadvantage is associated with higher rates of risky behaviours, higher rates of chronic illness and poor health outcomes.

Aboriginal People

Aboriginal people in general experience lower life expectancy and poorer health outcomes across a wide range of health indicators than non-Aboriginal Australians. Country WA PHN Aboriginal people, particularly those from remote locations, also experience poorer health outcomes compared with the State Aboriginal population.

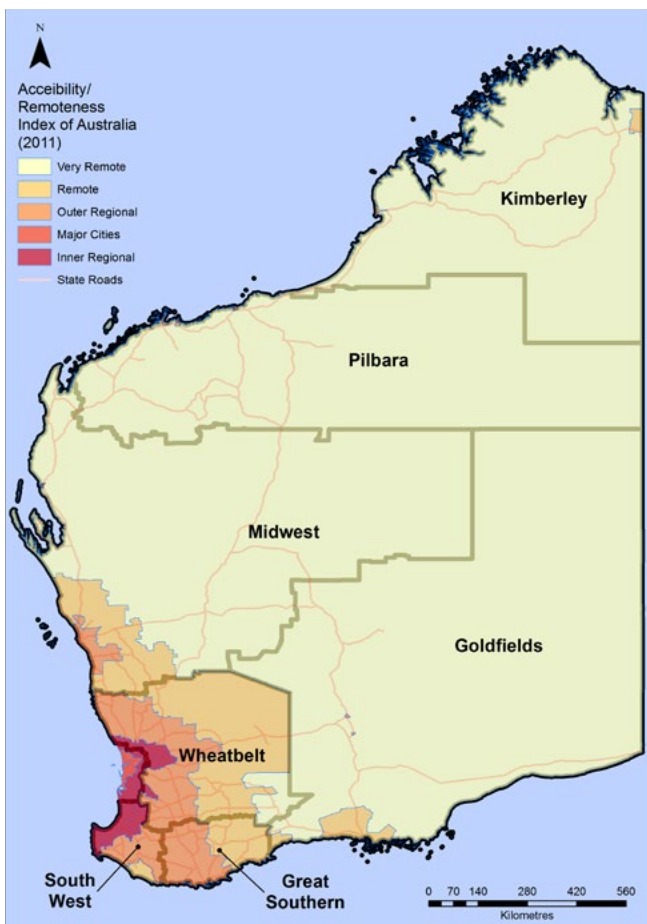
In 2014, 1 in 6 (16%) Aboriginal people from Country WA PHN were aged less than 15 years, compared with only 1 in 10 (10%) aged 55 years and over (AIHW, 2015c).

Culturally and Linguistically Diverse People

In 2011, 1.6% of people from the Country WA PHN had migrated from a non-English speaking country and been in Australia for less than 5 years compared with 3.9% for Perth North PHN and 4.9% for Perth South PHN. Only 0.5% of these new migrants reported poor English proficiency, compared with 2.2% and 1.9% from Perth North and Perth South PHNs (PHIDU, 2016).

Our understanding of the people living in different Country WA PHN communities helps us to plan and commission services that are targeted at current and future needs. We work alongside a range of other funders and health providers to do this.

Country WA PHN at a glance



Map 1. Country WA PHN, by region and remoteness, with State roads (ABS, 2013a).

Country PHN Region	2014, ERP
South West	174,052
Wheatbelt	78,121
Midwest	68,142
Pilbara	67,503
Goldfields	61,337
Great Southern	59,931
Kimberley	39,099
Country WA PHN	548,185

Figure 2. Estimated residential population, Country WA PHN region, 2014 (WA DoH, 2016).

Key Facts about Country WA PHN

- The population size of the regions ranges from 39,099 people in the Kimberley to 174,052 people in the South West (Figure 2).
- Country WA PHN includes 106 local government areas (LGAs).
- Aboriginal people represent 10% of the total population compared with 3.6% for the State as a whole.
- The largest proportions of Aboriginal people are located in the Kimberley (46%) and Pilbara (16%) regions (WA DoH, 2016).
- Country WA PHN had the lowest average SEIFA score in WA (950) in 2011, which was lower than the Australian average (1,000). The PHN has pockets of high disadvantage in Kimberley, Midwest and Goldfield regions (PHIDU, 2016).
- People from Country WA experience poorer health outcomes than their metropolitan WA counterparts, which is compounded by service access challenges.

Poorer Health Outcomes

- The median age at death is lower for Country WA PHN (75.1 years) than for WA (79.2 years) and Australia (81 years).
- In a number of regions there is a high prevalence of major health risk factors — such as risky alcohol consumption, smoking, inadequate physical activity and obesity (WACHS, 2015).
- Higher rates of domestic violence are experienced by Aboriginal and non-Aboriginal women living in rural and remote locations of WA (Australian Institute of Criminology, 2009).
- Participation in secondary school and higher education is lower for the Country WA PHN population than WA and Australian averages (NHSD, 2016).
- More than 8 in 10 Country WA PHN people do not consume the recommended servings of vegetables each day.

The Country WA PHN includes:

- 6 Regional hospitals
- 15 District hospitals
- 50 Small hospitals
- 8 Gazetted nursing posts
- 38 Remote area nursing posts (WACHS, 2016).

Social Determinants and Vulnerable Populations

Aboriginal population.....	9
Vulnerable populations.....	10

Compared to metropolitan WA, a larger proportion of country residents are Aboriginal

The Aboriginal Population in the Region

Country WA PHN has the highest percentage of Aboriginal people in WA, at 10% of the total population. The Ngaanyatjaraku (87%), Halls Creek (79.9%), and Menzies (71.6%) LGAs have the largest proportions of Aboriginal people in Country WA PHN (PHIDU, 2016).

Figure 3 shows that the percentage of Aboriginal and non-Aboriginal males and females for consecutive five year age groups. For Aboriginal people the percentage declines noticeably after 10 to 14 years of age, whilst for non-Aboriginal people a definite decline does not occur until around 60 to 64 years.

“ *Life expectancy for Aboriginal people is much lower than non-Aboriginal people. In WA, Aboriginal males have a life expectancy 14 years lower than non-Aboriginal males, and Aboriginal females have a life expectancy 12.5 years lower than non-Aboriginal females.* **”**
(AHMAC, 2015)

This observed pattern for Aboriginal people is associated with high death rates across the lifespan. The ‘bulge’ evident for non-Aboriginal people aged 25 to 64 years coincides with movement into country regions for employment purposes.

Health Status

Health outcomes are poorer for Aboriginal people across the lifespan (AIHW, 2015c). This issue is compounded by difficulties accessing mainstream and culturally appropriate services within the region (NHSD, 2016).

Potentially preventable hospitalisation (PPH) rates for acute and chronic illnesses are higher for Aboriginal populations than in non-Aboriginal populations, across the lifespan.

Mortality rates for leading causes of death which include both chronic illness and ‘external causes’ were 1.6 times higher for Australian Aboriginal people for 2008-2012.

Diabetes alone accounted for 19% of the difference in death rates for Aboriginal and non-Aboriginal people, whilst cardiovascular disease accounted for 24% of the difference (AIHW, 2015c).

Socio-economic factors such as over-crowded housing, low household income, and high imprisonment rates put Aboriginal people at higher risk of poor health.

Region	ERP Aboriginal People (2014)	% total population in each region
Kimberley	17,748	45.4
Pilbara	10,326	15.3
Midwest	8,928	13.1
Goldfields	7,147	11.7
Wheatbelt	4,565	5.8
South West	4,472	2.6
Great Southern	2,736	4.6

Region	ERP Aboriginal People (2014)	% total State population
WA	92,790	3.61
Country WA PHN	55,922	10.2

Figure 4. Aboriginal population, number and percentage, Country WA PHN regions and State, 2014 (WA DoH, 2016).

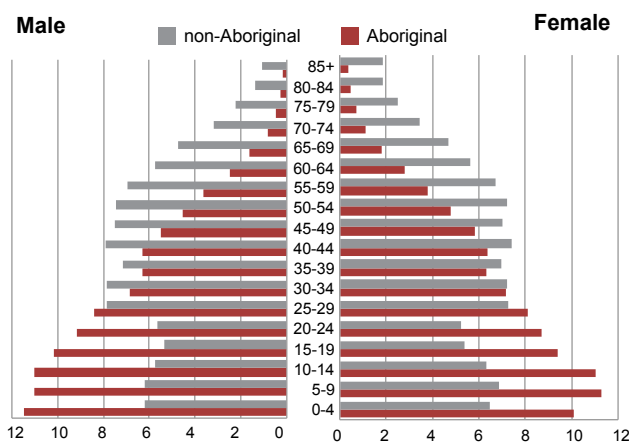


Figure 3. Population pyramid, Aboriginal and non-Aboriginal persons, Country WA PHN, 2014 (WA DoH, 2016).

The Indigenous concept of health is not the same as in western society. Instead of the biomedical understanding alone, it is holistic and all-encompassing-concepts that include the land, environment, community, relationships and the law along with physical (National Aboriginal Health Strategy Working Party, 1989).

It is important that all healthcare providers are appropriately trained and understand this concept.

Vulnerable populations are at risk of poorer physical and mental health outcomes

Culturally and Linguistically Diverse People

Culturally and linguistically diverse (CALD) people generally have poorer health outcomes than other Australians, highlighting the need for targeted health services. The background and characteristics of CALD populations provide insight into potential health service requirements. In Country WA PHN in 2011, 6.1% of the population were born in non-English speaking (NES) countries, of which 0.5% self-reported poor proficiency in English (PHIDU, 2016). The number of people from the five most common NES are shown in Figure 6.

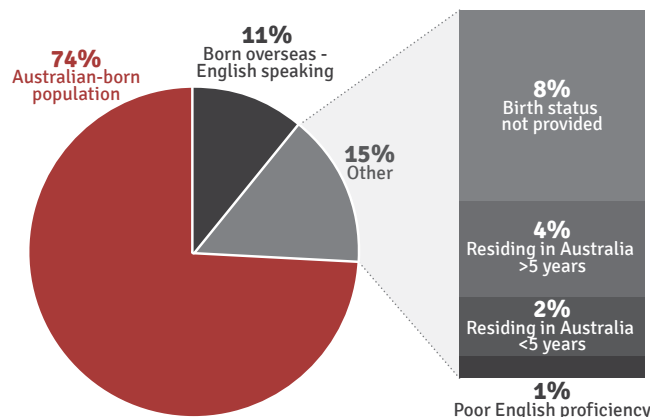


Figure 5. Birthplace and English proficiency, Country WA PHN, 2011 (PHIDU, 2016).

Refugees

Refugees, humanitarian entrants and asylum seekers are at risk of mental health problems as a direct result of the refugee experience and their displacement (Mindframe, 2014). Between 2010 and 2015, 57,672 migrants settled in Country WA PHN. The majority (72%) of migrants were skilled and 844 (1%) were humanitarian. In Country WA PHN, the highest numbers of humanitarian migrants (64-118 per 10,000 people) settled in Plantagenet and Katanning (DSS, 2015).

The Prisoner Population

Prisoners have a higher prevalence of health risk factors such as high risk alcohol consumption, smoking and illicit drug use, and long-term health conditions including mental health problems. Prisoners may have complex health care needs which can require specialist and long-term support. Aboriginal people and males are overrepresented in the WA prison population, with 20.4 Aboriginal persons for each non-Aboriginal person, and over 4 males for each female in 2015 (ABS, 2015b; AIHW, 2015d).

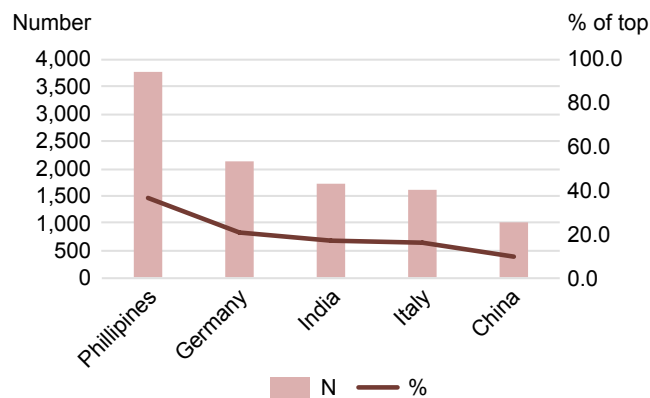


Figure 6. Birth place top 5 non-English speaking (NES) countries, Country WA PHN, 2011 (PHIDU, 2016).

Homeless People

The ABS defines homelessness as a lack of one or more of the elements that represent 'home' which includes living in a dwelling that is inadequate or has no tenure; or if their initial tenure is short and not extendable; or does not allow them to have control of, and access to space for social relations (ABS, 2012).

In 2011, 35% of homeless people identified as Aboriginal. The living circumstances of homeless people is of concern with 2 in 5 living in severely crowded dwellings (43%) and 1 in 10 in improvised dwellings, tents or sleeping out (10%). In Country WA PHN, the highest number of recorded homeless people was in the Kimberley (1, 878 people), Pilbara (828 people) and Goldfields (635 people) regions (ABS, 2011).

The social determinants of health

The social determinants are the 'conditions in the places where people live, learn, work, and play that affect a wide range of health risks and outcomes' (CDC, 2016). Between one third and one half of the differences in life expectancy are considered to be explained by differences in the social determinants of health (DoH, 2016).

In rural and remote communities, social disadvantage is accentuated by factors including environmental and communication challenges and limited access to services (National Rural Health Alliance, 2016). Due to the impact of social determinants on health inequalities, measuring the size of the health gap between groups is important for the development of policies and initiatives to address these differences (AIHW, 2016b).

A vulnerable person is someone who is disadvantaged by their age, gender, disabilities and/or life circumstances and, because of this, has less access to universal supports and networks than other less vulnerable people. Service systems must be responsive to this vulnerability.

Risk Factors and Health Status

Rising-risk populations	12
Population health status.....	13
Living with more than one chronic condition	14

Changing health behaviours can slow, stop or even reverse the progression of disease and occurrence of multiple diseases in the rising-risk population

Childhood Immunisations

As at June 2016, more than 90% of WA Country PHN children were fully immunised within each of the three age groups (12<15 months, 24<27 months and 60<63 months).

For the Aboriginal population, just under 90% of children aged 12<15 months (89%), 24<27 months (88%) from the WA Country PHN were fully immunised, while 95% of Aboriginal children aged 60<63 months were fully immunised. It should be noted that immunisation rates are higher compared with State Aboriginal peers from each of the three age groups.



8% of Country WA PHN residents consume harmful amounts of alcohol.
(PHIDU, 2016)



25% of adults in Country WA PHN are current smokers.
(PHIDU, 2016)



67% of adults in Country WA PHN are overweight or obese.
(PHIDU, 2016)



67% of adults in Country WA PHN are not sufficiently active.
(ABS, 2013b)

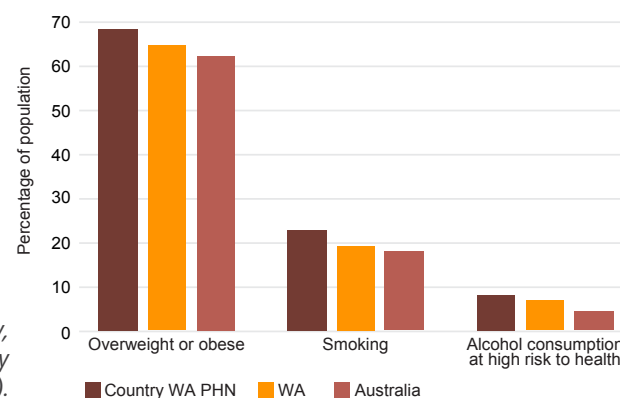
Figure 7 (Right). Prevalence of overweight/obesity, smoking and high-risk alcohol consumption, Country WA PHN, WA and Australia, 2011-2013 (PHIDU, 2016).

Risk Factors and Lifestyle Behaviours

Behavioural and lifestyle factors impact on the development and progression of chronic illness. Poorer health outcomes are associated with poor nutrition, obesity, physical inactivity, smoking and risky alcohol consumption. This report shows that the rates of several health risk factors is higher for people from the Country WA PHN than the State, highlighting the importance of addressing risk factors as part of chronic disease prevention and management (AIHW, 2016b).

In 2011-13, 7 in 10 males, and 6 in 10 females from Country WA PHN were estimated to be overweight or obese (figure 5). The rates were similar to those for both WA (males: 72% females: 59%) and Australia (males: 70% females: 56%), indicating that this is a national health issue.

The estimated rates of smoking for males (25%) and females (21%) for the Country WA PHN were greater than for both WA (males: 21% females: 17%) and Australia (males: 20% females: 16%). The percentage of people from Country WA PHN (8%) who were estimated to be consuming alcohol at levels considered to be a high risk to health was also greater compared with both for WA (7%) and Australia (5%).



Rising-Risk Population

The rising-risk chronic disease population group typically represent 20-30% of the population, and due to their numbers, can actually account for a higher total healthcare spend than the high risk group. The rising-risk group is not yet sick enough for expensive clinical care, and they are past the point where preventative solutions are effective (Lobelo et al, 2016).

By defining the rising-risk group, health providers can target at-risk populations, associated socio-economic determinants and health behaviours to slow, stop or even reverse chronic disease.

To stop the progression of disease and the occurrence of multiple diseases, it is important to target the risk factors and behaviours that are the ultimate cause of chronic disease.

	All children (%)		Aboriginal children (%)	
	Country WA PHN	State	Country WA PHN	State
12-<15 Months	94	93	89	84
24-<27 Months	91	90	88	84
60-<63 Months	94	91	95	93

Figure 8. Immunisation coverage, total population and Aboriginal by age group, Country WA PHN, as at June 2016 (Australian Childhood Immunisation Register, 2016).

Respiratory, musculoskeletal, circulatory and mental health problems are the most common chronic conditions experienced in Country WA PHN

Life Expectancy

For 2009-2013, Country WA PHN had the lowest overall median age of death (75.1 years) compared to the WA (79.2 years) and Australian averages (81.0 years) (PHIDU, 2016).

Chronic disease was the leading cause of premature death, and was responsible for 90% of all deaths in Australia in 2011 (AIHW, 2015a).

“ 58% of people in Country WA PHN experience at least one risk factor for developing chronic conditions. ”
(PHIDU, 2016)

Chronic disease also contributes significantly to the differences in life expectancy between Aboriginal and non-Aboriginal Australians. For example, chronic disease accounts for approximately 80% of the difference in mortality rates for Aboriginal compared with non-Aboriginal people aged 35 to 74 years (AIHW, 2015c).

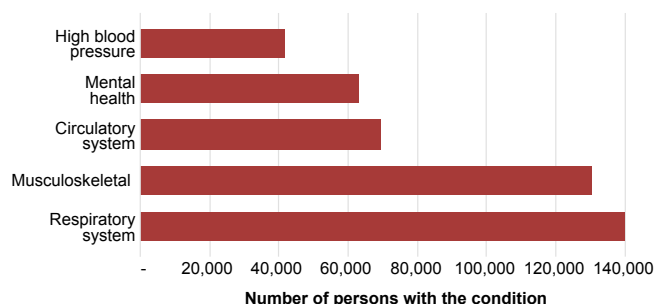


Figure 9. Estimated number of persons with 5 leading chronic conditions, Country PHN WA, 2011-2013 (PHIDU, 2016).

Long-term Conditions

Long-term or chronic conditions are responsible for most of the burden of disease in Australia. In 2011, cancer, cardiovascular disease, mental health conditions and musculoskeletal disorders were the leading causes of disease burden related to chronic condition (refer to Figures 8 and 9) (PHIDU, 2016).

Over half of all Australians from regional and remote areas of Australia have a chronic condition. The prevalence of chronic illness is higher in regional and remote areas (54%) than major cities (48%) (AIHW, 2016b). For 2011-13, the prevalence of asthma and arthritis were estimated to be higher for people from Country WA PHN than those from WA (PHIDU, 2016).

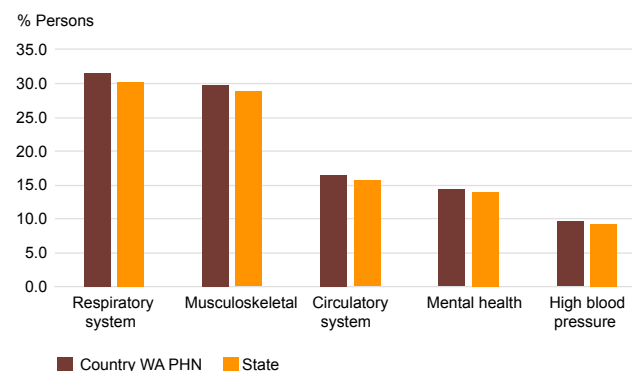


Figure 10. Prevalence estimates for five leading chronic conditions by Country PHN and State, 2011-2013 (PHIDU, 2016).

Chronic conditions are amenable to change through addressing health risk behaviours and improvements in self and primary health care management.

Potential Preventable Hospitalisations

Potentially preventable hospitalisations (PPHs) are those that may have been prevented through timely or effective non-hospital or primary health care management.

Chronic obstructive pulmonary disease, diabetes complications and heart failure are the three greatest contributors to PPHs in respect to both the total number of admissions and length of stay in hospital.

In 2013-14, PPH for chronic conditions were higher for Country WA PHN (1,323 per 100,000 persons) than North Metro PHN (992 per 100,000 persons) and South Metro PHN (1,002 per 100,000 persons) (NPHA, 2016).

It is important that people with long-term conditions have access to the right care, at the right time and in the right place. This supports them to manage their condition in the community and outside the hospital setting.

Nearly 40% of people aged 45 years and over suffer from two or more chronic conditions

Living with Several Chronic Conditions

In rural and remote areas 1 in 4 people are affected by two or more chronic diseases (AIHW, 2016b).

While chronic disease refers to a wide range of long-lasting conditions, the effects range from mild and readily treatable (such as short and long sightedness) to intense and debilitating (cancer).

The prevalence of people living with a chronic condition increases from 1 in 3 at 0 to 44 years of age, to 9 in 10 at 65 years and over.

Comorbidity refers to having two or more conditions at the same time. In 2014-2015, 28% of people from rural and remote areas had two or more selected chronic conditions¹ compared with 21% from major cities. The rate of comorbidity increased from 9.7% for those less than 45 years to 60% for people over 64 years.

Living with several long-term conditions (comorbidities) is associated with overall poorer health outcomes, more frequent use of health services, and higher health care costs including potentially preventable hospitalisations.

In the Country WA PHN, the most common chronic potentially preventable hospitalisations are heart failure and diabetes complications (AIHW, 2016b; NHPA, 2015b).

Diabetes, Heart and Chronic Kidney Diseases

Diabetes and high blood pressure are frequently co-occurring conditions; the coexistence of both conditions can exacerbate a number of complications including cardiovascular diseases, kidney disease, eye diseases and lower limb amputations.

Cardiovascular disease, especially high blood pressure, is one of the major causes of chronic kidney disease.



Over 30% of people with back pain experience a mental health condition.
(AIHW, 2016)



1 in 6 people in Country WA PHN have circulatory system disease.
(PHIDU, 2016)



Aboriginal people are 4 times more likely to have diabetes and die from it than non-Aboriginal Australians.
(AIHW, 2014b)



2 in 3 people with diabetes also have cardiovascular disease.
(AIHW, 2014b)



50% of informed carers of people with dementia have some form of disability themselves.
(AIHW, 2016)

“ People are living longer, but with more disease and disability: an unprecedented transition from a world with communicable diseases to one with chronic disease and disability, with implications for welfare of people worldwide. **”**

(Atun, 2015)

Physical and Mental Health Comorbidities

Coping with long-term illness frequently leads to mental health problems such as depression and anxiety not only in the individual but also the person who is caring for them (Long & Dagogo-Jack, 2011).

Australia's ageing population will result in a significant rise in the prevalence of people with a number of conditions over the coming decade unless more effective preventative, management and treatment services are put in place.

Oral Health Problems

Oral diseases are among the most common and costly health problems experienced by Australians. More than 9,550 Western Australians are hospitalised each year for preventable dental conditions; it is the most frequent cause for acute preventable hospital admissions and the second most frequent reason for potentially preventable hospitalisations in WA (AIHW, 2014a).

¹ Conditions comprised: arthritis, asthma, back pain and problems, cancer, cardiovascular disease, chronic obstructive airways disease, diabetes and mental health conditions.

Mental Health, Suicide Risk, Alcohol and Other Drugs

Mental health.....	16
Alcohol & other drugs.....	17

Mental health and suicide risk

Psychological Distress

For 2011-2013, 10.7% of the Country WA PHN people aged 18 years and over, were estimated to be living with high or very high levels of psychological distress. This rate was similar to both the metropolitan PHNs and WA overall (PHIDU, 2016). There was some variability according to sex and across the regions, with rates highest for females from the Goldfields region (10.7%) and males from the Wheatbelt region (6.8%) (Figure 10).

“1 in 2 people in Western Australia will experience a mental illness at some point in their lives.

In WA, 59% of the adult and 65% of the juvenile prison population experiences a mental illness.

WA’s suicide rate is 22% higher than the national average. ”
(WA Mental Health Commission, 2014)

Suicide Risk

Mental health and suicide risk can be linked to the social determinants of health and socio-economic disadvantage. These factors may influence behavioural factors like alcohol consumption and smoking status, and can contribute to individuals’ decision to seek appropriate and timely health care (ABS, 2012).

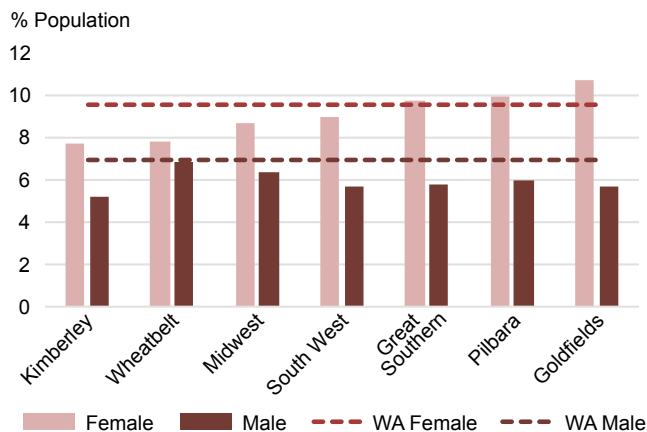


Figure 11. High or very high psychological distress, adults aged 16 years and over by sex, Country WA PHN, 2009-2012 (WACHS, 2015).



Figure 12. Youth suicide, males and females aged 15 to 24 years, Country WA PHN by Region, 2002-2011 (WACHS, 2015).

Suicide in Aboriginal People

Suicide is the fifth most common cause of death for Aboriginal people, explaining in part the considerably higher rate of suicide in more remote parts of Australia. Identifying a deceased person as of Aboriginal descent can be difficult, and as a result, the quality of data may result in underrepresentation of true rates. Suicide was the leading cause of death for Aboriginal persons aged 15 to 24 years and 25 to 34 years in 2015, at 3.9 and 3.2 times the rate of non-Aboriginal people respectively (ABS, 2016).

Nationally, there were 25.5 suicides per 100,000 Aboriginal people in 2015, double the rate of non-Aboriginal Australians (12.5 per 100,000 persons) (ABS, 2016).

Mental disorders have a range of risk and protective factors that are related to socio-economic and environmental determinants, such as poverty, war and inequity, but also individual and family-related determinants.

Suicide and Young People

Youth suicide rates for Aboriginal and non-Aboriginal people in Australia are higher than in many other countries and are increasing. Suicide is the leading cause of death for 15 to 44 year age group in Australia (ABS, 2016).

In Country WA PHN, youth suicide rates were equal to or greater than State rates in all regions for 2002-2011 (Figure 11). The suicide rates ranged from 20.2 to 135.1 per 100,000 persons for males, and 3.2 to 35.0 per 100,000 persons for females. Rates were greatest in the Kimberley for both sexes, with rates 6.8 and 5.8 times higher than State counterparts for males and females respectively.

Alcohol and other drugs (AoD): issues and problems

Profile of Methamphetamine Use

People using methamphetamines in the past 12 months are more likely than any other drug users to report being diagnosed or treated for a mental illness (29% compared with 13.5% non-users) and have greater high, or very high psychological distress (27% compared with 9.6%). Ice is an emerging issue for some Indigenous communities. Between 2007 and 2013, reported methamphetamine use among Indigenous Australians increased from 2.3 % to 3.1 % (AIHW, 2014a).

The 2013 National Drug Strategy Household Survey found that methamphetamine was the illicit drug of most concern to the community. The proportion of Western Australians using methamphetamines was higher than that for Australia (3.8% and 2.1%, respectively) (AIHW, 2016b).

Nationally, people living in remote and very remote areas were twice as likely to use methamphetamines than those from major cities (AIHW, 2014a).

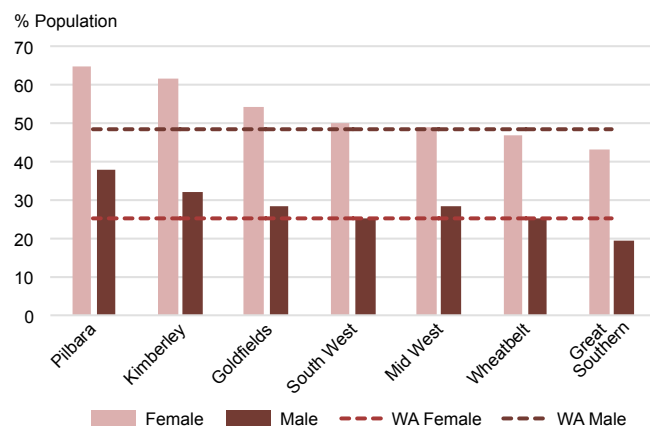


Figure 13. Alcohol consumption at risk of long-term harm, adults aged 16 years and older, Country WA PHN by Region, 2009-2012 (WACHS 2015).

Alcohol

Alcohol is commonly consumed in Australia and is responsible for chronic illness and social harm in the community. In Country WA PHN, alcohol consumption which placed people at risk of acquiring long-term harm was higher for males and females aged 16 years and over from the Goldfields, Kimberley and Pilbara compared with their peers from across the State (Figure 12).

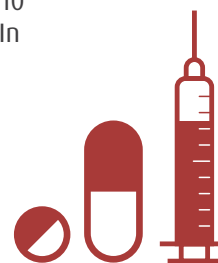


In WA, more than half of all domestic and over **1 in 3** non-domestic assaults are alcohol-related (WA MHC, 2015).

Risk of suicide is estimated to be **10 times higher** amongst cannabis users than non-users (WA MHC, 2015).

Illicit Drugs

In 2013, 17% of Western Australians aged 14 years and over reported using an illicit drug in the last 12 months. This finding was unchanged from 2010 and similar to the national average. In WA, cannabis is the most commonly used illicit drug, with 11.3% of WA respondents from the National Drug Household Survey reporting using cannabis in the last 12 months (Dyer et al, 2015).



Alcohol and other drug (AOD) use problems can result in increased emergency department and hospitalisation rates both as a direct result of AOD use and an indirect result of the onset of chronic physical and mental conditions and associated comorbidities.

Prescription Medication

There has been an increase in the use of medical and non-medical use of opioids (DoH, 2016e), with 4.5% of Australians (14+ years old) self-reporting use of tranquilisers or sleeping pills for non-medical purposes (The Cabin, 2016). The rate of prescription drug addiction in Australia is the second highest in the world. The most commonly misused opioids are codeine and oxycodone, due to their euphoric 'high' (The Cabin, 2016). During 2007 to 2011 there were 279 opioid-related deaths in WA (DoH, 2016e).

It has been suggested that there is a link between the use of non-medical prescription opioids and major depression. A correlation has also been established between the use of opioids and lower socio-economic status (Nicholas, Lee & Roche, 2011).

“ People experiencing severe and multiple disadvantage have often grown up in worlds where alcohol or drug use, violence, or offending are normal. How much does it take for someone to recognise and challenge these norms? Services need to not just focus on the individual, but also support whole families and sometimes communities to change. ”

Hard Edges, The Lives Behind the Numbers, Innovation Unit, 2016

AOD and Mental Health

Nationally, nearly twice as many recent illicit drug users than non-illicit drug users (21% compared with 12.6%) have been diagnosed with, or treated for, a mental illness. Illicit drug users were also more likely to report high or very high levels of psychological distress in the 4 weeks before the survey (17.5% compared with 8.6%) (AIHW, 2014a).

Country WA PHN Regions and Priority Locations of Greatest Health Needs

Priority locations within Country WA PHN	19	MidWest.....	38
Goldfields	20	Pilbara	44
Great Southern	26	South West	50
Kimberley	32	Wheatbelt	56

Priority locations of greatest health needs within Country WA PHN health regions

What Defines Priority Locations of Greatest Health Needs?

As part of our commissioning activity, Country WA PHN has identified priority regional locations with the highest health care needs. Typically, these are local geographical areas where people live with poorer health, greater rates of hospital attendances and higher rates of inequalities. People living in these locations are often from more disadvantaged backgrounds, can sometimes delay treatment and do not always have access to appropriate health care in the region.

The methods used to identify areas in the Country WA PHN has been determined by comparing indicators to whole-of-region, State and National averages. Indicators include socio-economic and demographic information, chronic disease prevalence rates, risk behaviours, childhood immunisation rates, cancer screening rates, mortality and morbidity data, and the rates of potentially preventable hospitalisations across the PHN compared to the State average.

Regions also take into consideration stakeholder feedback and 'cold spots' i.e. where data is not available but there is an indication that the region has high health needs.

Understanding these priority locations (or hotspots) enables us — as health planners — to target services to meet those individuals and communities who are in greatest need.

The Country WA PHN regions include significant areas of socio-economic disadvantage, high rates of health risk behaviours, and hospitalisation, including those which are potentially preventable, and premature mortality. These issues are particularly serious for Aboriginal people who experience poorer health status and outcomes across the lifespan. The larger proportions of Aboriginal people across the Country WA PHN, particularly in remote areas, has resulted in an increased need for culturally appropriate health services. Service access barriers include the higher cost of service provision, remoteness, and distance from services, transport barriers and difficulties recruiting and retaining suitably trained health personnel.

Our analysis considers the three domains of:

- Social determinants
- Prevalence of risk factors and disease
- Poor access to and utilisation of services.

Where these domains intersect, it is likely that people living in these areas have poorer health outcomes. We have identified smaller geographical areas across the PHN as priority locations of greatest health needs. However, it should be emphasised that this is not a conclusive list. It is likely that there will be other areas across the PHN of unmet health needs affecting those individual who live there.

Health literacy is the knowledge and skills needed to understand and use information relating to health issues such as drugs and alcohol, disease prevention and treatment, safety and accident prevention, first aid, emergencies and staying healthy (ABS, 2009).

The social determinants of health are complex and intertwined but education is one of the key social determinants that influences health literacy. Good public policy created by informed governments can strengthen social determinants and provide a means of both promoting health in general and reducing health inequalities to a minimum (Raphael, 2012).

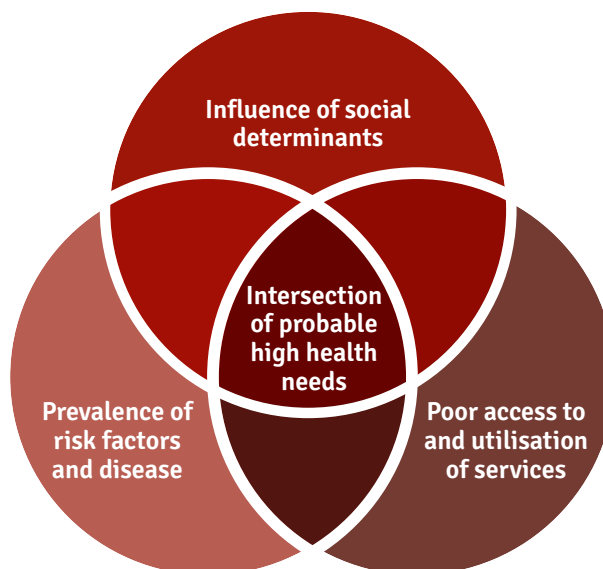


Figure 14. Domains of intersecting determinants of probable high health needs.

The Goldfields region

The Goldfields has four distinct areas: the Lands, Northern Goldfields, Central Goldfields and Coastal Goldfields, all with varying needs and health concerns. The Lands is located within the shire of Ngaanyatjaraku and straddles the Northern Territory and South Australian borders. It comprises a number of widely dispersed Aboriginal communities and the sub-regional centre of Warburton.

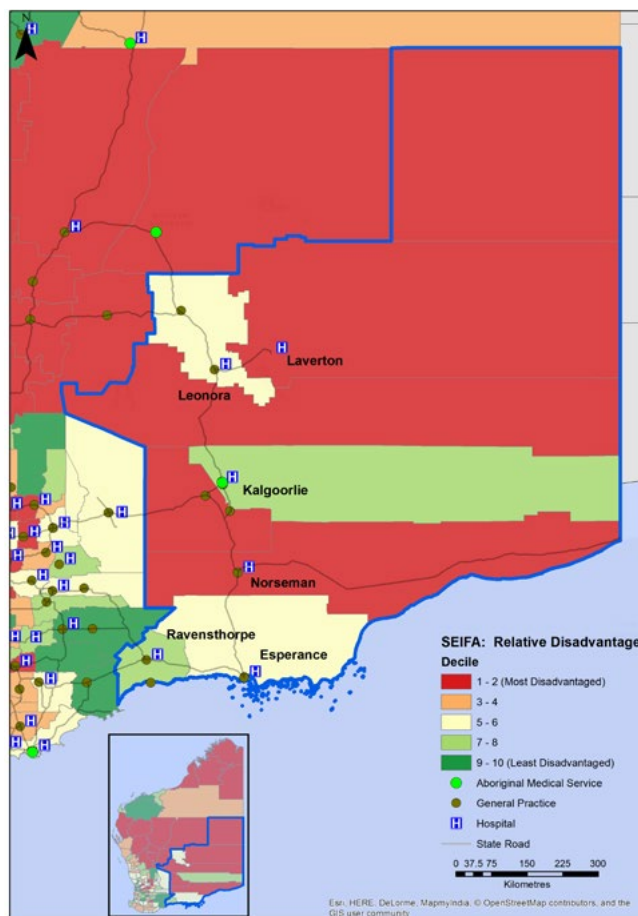
Kalgoorlie-Boulder is the largest centre and provides major infrastructure and services for the region including health, education, retail, industrial and government agencies. Esperance is the southern hub, providing infrastructure and support for the Southern Coastal area which is built on agriculture, fishing and tourism (WACHS, 2015a).

Relative Disadvantage

In 2011, 14% of people from the Goldfields region were living in 'most disadvantaged' (quintile 2) areas for WA. The Ngaanyatjaraku (607), Menzies (612), Laverton (770), Dundas (899) and Coolgardie (948) were 'most disadvantaged' areas compared with WA overall using the SEIFA rate of relative disadvantage (ABS, 2011).

Access to Services

Health services are concentrated in more populated areas, in particular around Kalgoorlie and Esperance. Those living more remotely have long distances to travel to access regional health services.



Map 1. SEIFA relative disadvantage and health services, Goldfields region (GPs, hospitals and AMS) (ABS, 2011; RHW, 2016).

Population 2014: 61,337, 2.4% of the WA population (WA DoH, 2016).

Highest populated LGAs: Kalgoorlie Boulder and Esperance (PHIDU, 2016).

Aboriginal population 2014: 11.7% of the Goldfields population (7,147) (WA DoH, 2016).

65+ population (2014): 8.6% of the Goldfields population 5,246 (WA DoH, 2016).

Size: 31% of the WA land mass, the biggest country region (WACHS, 2015a).

Level of remoteness: 99% of the region is classified as very remote, Esperance is classified as remote (WACHS, 2015a).

GPs: Increased from 68 to 82 (21%) between 2014 and 2015 (Rural Health West, 2016).

Hospitals: Kalgoorlie Health Campus and four district hospitals located in Esperance, Laverton, Leonora and Norseman.

Population characteristics, disadvantaged groups and the social determinants of health

Aboriginal People

In 2014, 1 in 10 people (7,147) or 11.7% people identified as Aboriginal, which was slightly higher than for Country WA (10.2%). In contrast only 3.6% of the total WA population identified as Aboriginal.

The largest numbers of Aboriginal people were living in the Ngaanyatjarraku and Kalgoorlie-Boulder LGAs.

Earlier onset and progression of chronic illness contribute to the observed differences in the age structures for Aboriginal and non-Aboriginal people (Figure 1.1).

Aboriginal people aged 55 years and over are often recognised as older adults due to the earlier onset of chronic illness and disability. In 2014, only 1 in 10 Goldfields Aboriginal people (9.9%) were aged 55 years and over compared with 1 in 5 (19.3%) for their non-Aboriginal counterparts (PHIDU, 2016; WA DoH, 2016; AIHW, 2014c).

Older Persons

In 2014, people aged 65 years and over represented 1 in 12 people (8,246) or 8.6 % of the Goldfields population. Between 2015 and 2025 the relative percentage of older persons is projected to increase from 9% to 12.7% (PHIDU, 2016).

Culturally and Linguistically Diverse People

In 2011, 2.3% of people were born in a non-English speaking country and had lived in Australia for less than 5 years compared with 1.6% for Country WA and 3.8% for WA. The largest CALD populations were situated in Dundas (2.6%), and Kalgoorlie Boulder (3.4%).

Overall, 0.4% of people reported poor English proficiency which was similar to 0.5% Country WA and lower than the State (1.7%). The largest proportion of people with poor English proficiency were located in Kalgoorlie Boulder (73%) (PHIDU, 2016).

Areas with higher social disadvantage

Long-term unemployed people: 1 in 4 from Ngaanyatjarraku (State: 1 in 33).

Households without a car: 1 in 4 from Laverton, 1 in 3 Menzies and 1 in 2 Ngaanyatjarraku. (State: 1 in 16).

People with a healthcare card: 1 in 3 from Ngaanyatjarraku (State: 1 in 16).

Houses rented from the government: 3 in 5 in Ngaanyatjarraku (State: 1 in 7).

Children in jobless families: 1 in 3 in Laverton and Menzies, 2 in 5 Ngaanyatjarraku (State: 1 in 10). (Figure 1.3) (PHIDU, 2016).

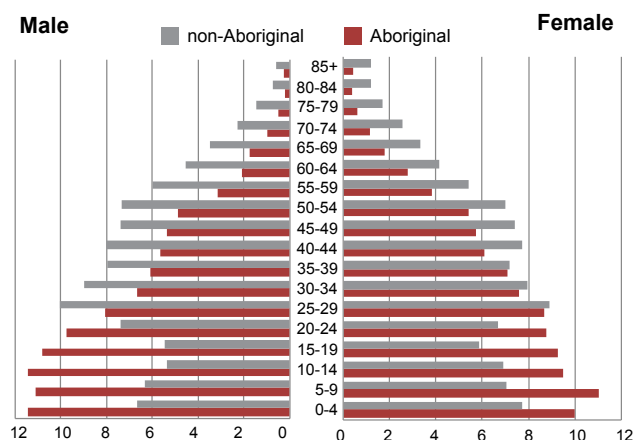


Figure 1.1 Population pyramid, Goldfields region, 2014 (WA DoH, 2016).

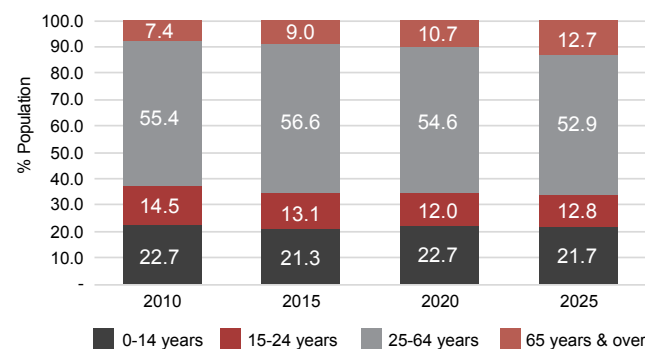


Figure 1.2 Population projections, Goldfields region, 2010 to 2025 (WA DoH, 2016).

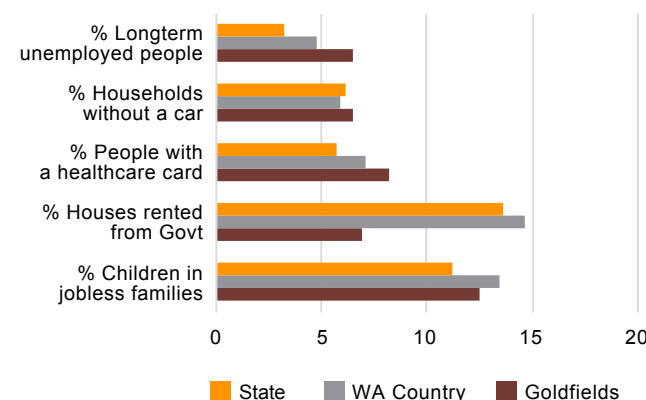


Figure 1.3 Social determinants, Goldfields region, 2011 (PHIDU, 2016).

Risk factors and living with long-term conditions

Risk Factors for Chronic Disease

Prevalence of the following risk factors were higher for people from the Goldfields than those from the State, 2009-2012 (Figure 1.4):

- Smoking in males (23.5%) and females (17.0%)
- Insufficient physical activity in males (52.1%)
- Obesity in males (36.0%) and females (37.5%).

Smoking During Pregnancy

For Aboriginal women, the reported rate of smoking during pregnancy (2013) was lower than the State (45% compared to 51%).

For non-Aboriginal women, the reported rate of smoking during pregnancy was similar to the State (16% compared to 14%) (WACHS, 2015a).

Chronic Health Conditions

The prevalence of chronic health conditions was similar for the Goldfields compared with the State (WACHS, 2015a) (Figure 1.5).

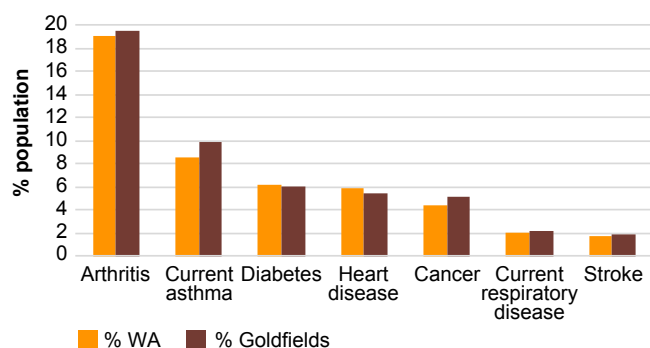


Figure 1.5 Prevalence of chronic conditions, Goldfields Region, 2009-2012 (WACHS, 2015a).

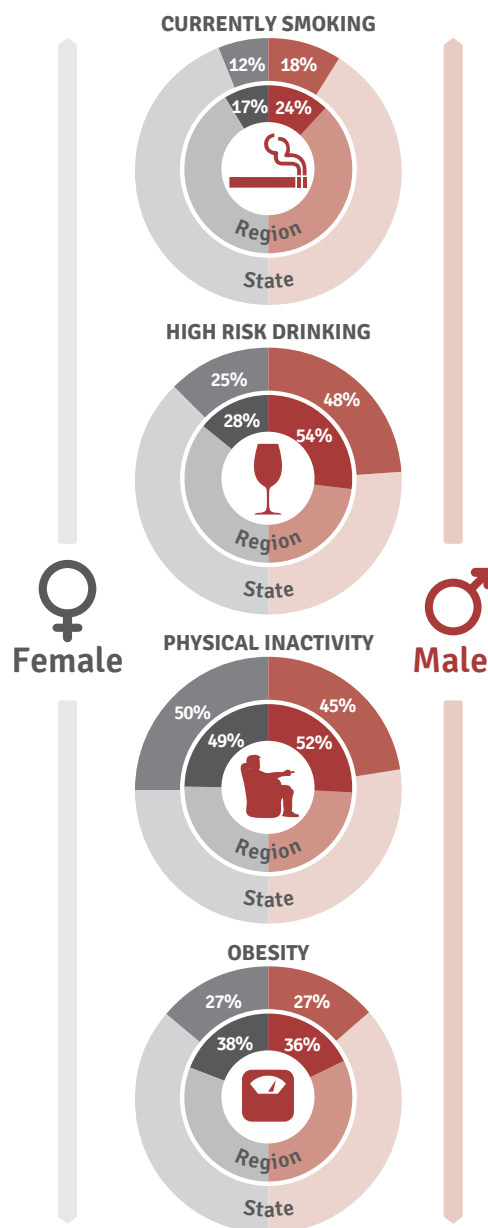


Figure 1.4 Prevalence of modifiable risk factors (WACHS, 2015a).

Mental Health

- One in twelve adults (8.1%) from the Goldfields and State reported high or very high psychological distress.
- One in eight adults (12.8%) in the Goldfields were diagnosed with a mental health condition in the last 12 months compared with 1 in 7 adults (14.2%) from the State (WACHS, 2015a).

Mental Health Services

In 2009-2010, no mental health care plans were developed by GPs under the Better Access program in Laverton or Menzies LGAs. Compared with the State (6,722 per 100,000 persons), rates were low in Leonora, Esperance and Coolgardie (<2,000 per 100,000 persons), Ngannytjarraka (<3,000 per 100,000 persons) (PHIDU, 2016).

For 2008-2012, Goldfields people aged 15-64 years accessed community mental health services at a lower rate than those from the State. People aged 25 to 44 years accounted for 46% of the 60,000 occasions of service, and the leading occasion of service was 'serious psychiatric disorders' (WACHS, 2015a).

Suicide Rates

For 2009-2013, average annual death rates from suicide and self-inflicted injury for people aged 0 to 74 years were available for Kalgoorlie-Boulder and Esperance LGAs only.

The Kalgoorlie-Boulder rate was higher than the State (22.6 versus 13.3 per 100,000 persons).

For 2002-2011, youth suicide rates (15-24 years) were higher than the State rate for both sexes.

- Males: 28.9 per 100,000 persons (State 19.9 per 100,000 persons)
- Females: 10.6 per 100,000 persons (State 6.0 per 100,000 persons) (WACHS, 2015a).

Hospitalisations and potentially preventable hospitalisations

While prevalence estimates for diabetes were similar to State rates, potentially preventable hospitalisations (PPHs) for diabetes complications were two times higher than the WA rate. This could indicate that diabetes is not identified, recorded or managed consistently across the Goldfields region.

Hospitalisations

For 2008 to 2012, the total hospitalisation rate for Goldfields adults was slightly higher than the State (1.1 times higher). Dialysis was the leading hospitalisation accounting for 20% of separations (dialysis for State 7%), followed by musculoskeletal diseases (6%) for adults 16- 64 years.

For Aboriginal adults, the hospitalisation rate was higher (1.2 times higher) than the Aboriginal State rate and 30% greater than non-Aboriginal adults from the region (2003- 2012). Dialysis accounted for over half of all separations for Aboriginal adults (53%) (WACHS, 2015A).

Alcohol-Related Hospitalisations

For 2008-2012, alcohol-related separations were 1.3 times higher for Goldfields adults compared with State adults (1,017 per 100,000 persons). Alcohol-related hospitalisation rates were 7.9 times higher for Aboriginal than non-Aboriginal people living within the Goldfields region (WACHS, 2015a).

Emergency Department Services

In 2013, there were 51,476 Emergency Department attendances at Goldfields hospitals. Of these, nearly three quarters (73%) were non-urgent or semi-urgent attendances compared with two thirds (66%) for Country WA and just over half (57%) for the State (Figure 1.7) (WA DoH, 2016).

Chronic PPHs

Diabetes complications were the leading cause of chronic PPHs for adults (15 to 64 years) and older adults (65 years and over) in the region. PPH rates for adults were 2.1 times higher than in other WA regions.

PPH rates for chronic obstructive pulmonary disease adults and older adults were 2.3 and 1.6 times higher respectively than their WA counterparts. PPH rates for chronic asthma for children and adults were 1.6 and 2.5 times higher respectively than peers from the State. PPH rates for congestive cardiac failure for adults and older adults were 2.8 and 1.6 times higher respectively than WA rates for these age groups. Figure 1.6 shows the number of separations for chronic PPHs by age-group (WACHS, 2015a).

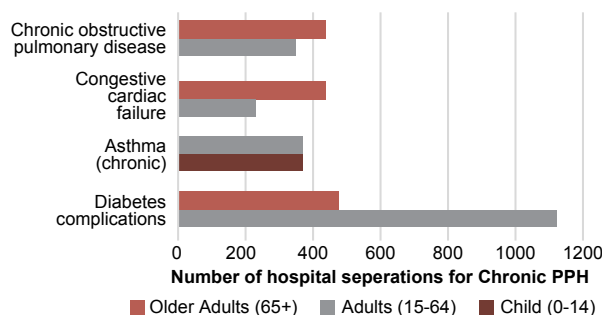


Figure 1.6 Number of chronic PPH separations, Goldfields region, 2008-2012 (WACHS, 2015a).

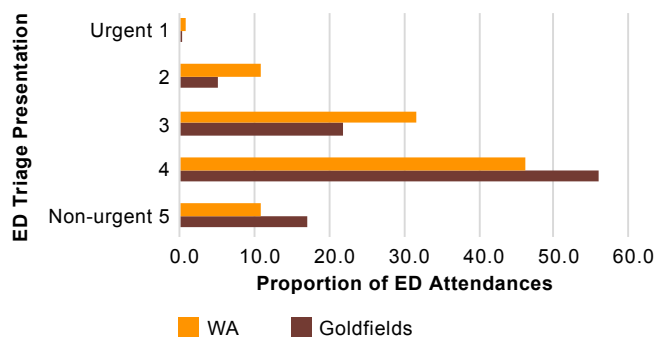


Figure 1.7 Emergency department attendances, Goldfields Region and WA, 2013 (WA DoH, 2016).

PPHs for Aboriginal People

For 2008 to 2012, the total PPH rates for the Goldfields Aboriginal people aged 15 to 64 years were significantly higher than State Aboriginal (approximately 1.2 times higher) and Goldfields non-Aboriginal counterparts (approximately 5 times higher).

National Bowel Screening Program, persons aged 50 to 74 years		
SA3/PHN/State	Females (%)	Males (%)
Esperance	49.5	43.5
Goldfields	30.0	27.9
Country WA PHN	43.5	38
WA	43.5	38.6
BreastScreen WA, Women aged 50 to 74 years		
Esperance	61.2	
Goldfields	41.3	
Country WA PHN	54.2	
WA	55.2	
Cervical Cytology Screening Register, Women aged 20 to 69 years		
Esperance	49.6	
Goldfields	43.4	
Country WA PHN	51.9	
WA	55.7	

Table 1.1 Screening participation, Goldfields region, January 2014 to December 2015 (AIHW, 2016a).

“ There was a reported low level of GP management plans for patients requiring chronic disease management. Complex chronic conditions are presenting to ED for management. ”
Bolden & Jackson, 2016a

Services and workforce

Health Professional	Goldfields	Country WA PHN	WA Total
	No. per 10,000 persons		
Psychologists	2.8	4.8	9.8
Occupational therapists	3.3	5.0	8.6
Physiotherapists	3.9	6.4	10.8
General dentists	5.2	5.3	8.6
Pharmacists	5.4	6.8	10.4
General practitioners	20.5	22.7	33.7
Registered nurses	85.9	98.9	119.8

Table 1.2 Registered service providers per 10,000 population, Goldfields region, 2014 (ABS, 2015a; DoH, 2015).

Registered Service Providers

Table 1.2 shows the number of registered providers per 10,000 persons for the Goldfields region compared with Country WA PHN and the State. In 2014, the majority of provider rates for the Goldfields were lower than both Country WA PHN and the State. The exceptions were dentists and GPs, where rates were similar to the Country WA PHN, and lower than the State. The majority of registered GPs (70%) and dentists (62%) were located in Kalgoorlie-Boulder, with a further 20% of GPs and 38% of dentists located in Esperance. (ABS, 2015a; DoH, 2015).

The Southern Inland Health Initiative (SIHI)

SIHI was implemented by the Western Australian Country Health Service (WACHS) to address high rates of acute medical admissions, those with high health needs and older persons. The SIHI model in the Goldfields was used to fund the Esperance Hospital to have a GP in the emergency department during the day, and on-call at night. There are no primary health positions funded by SIHI in the Goldfields.

“ There is]...not enough service availability for high-level need, particularly on discharge from hospital. More significant gaps in service are perceived to occur with the patients outside the high-level need group – that is, the patients with chronic persistent mild to moderate presentations, or those with situational crises. ”

Bolden & Jackson, 2016a

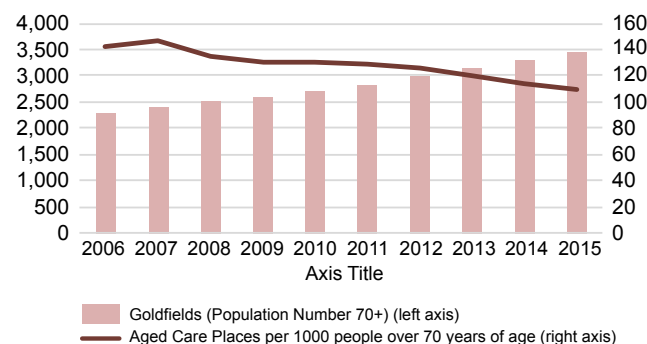


Figure 1.8 Goldfields population aged 70 year and over, compared to aged care places available per 1000 people, 2006 to 2015 (AIHW, 2016).

Aged Care Services

Operational aged care places include transitional, community and residential places which are delivered by Government, for-profit and not-for-profit providers.

While there has been some variability in the total number of aged care places between 2006 and 2015 (range: 336 to 579), 375 places have been available for the last four years. However, due to a gradual increase in the numbers of older persons, the number of places per 1,000 persons has steadily declined since 2007. Figure 8 shows trends for people aged 70 years and over (AIHW, 2016).

After Hours GP Services

Six practices within the region provided general practitioner services outside standard hours (8 to 7pm Monday-Friday, and 8 to 12 pm Saturday). (Table 1.3) (NHSD, 2016).

Location	No. practices	Availability by location
Boulder	1	Evenings, weekend, public holidays
Esperance	2	Evenings, Saturdays
Kalgoorlie	2	Evenings, Saturdays
Laverton	1	Saturdays

Table 1.3 After hours general practices by location and hours, Goldfields, 2016 (NHSD, 2016).

Priority locations of greatest need

Analysis of the social determinants, health indicators, service gaps and stakeholder feedback has indicated locations of priority health needs. Areas include the Lands, Laverton, Leonora and surrounds, and Esperance, Hopetoun and surrounds. Priority population groups, health issues and service gaps are outlined below.

Identified issues and service gaps, including stakeholder feedback

AOD/mental health

- Total alcohol-related hospitalisations were higher than State rates.
- Alcohol-related hospitalisations were 8 times higher for Aboriginal people.
- Service gaps in child and maternal mental health services (stakeholder feedback).

Aboriginal health

- Total PPHs for adults were higher in the Goldfields than for non-Aboriginal and State Aboriginal counterparts.
- Need for a family-based model of care including outreach. (stakeholder feedback).

Suicide

- Youth suicide rates were twice the State level for males and females.

Aged care

- A decline in the population rate of Aged-care places since 2007.
- Insufficient places in the Lands, Esperance and Hopetoun (stakeholder feedback).

Domestic violence

- Across the Lands (stakeholder feedback).
- Leonora lacks a crisis centre.

Theoretical case study

Jennie is a 27 year old Aboriginal woman from Laverton. Members of her family have experienced alcohol and other drug addictions since her childhood, and she has been exposed to domestic violence and sexual abuse. She has since developed her own coping strategies to avoid harm, including avoiding alcohol and drugs. Jennie has become an unofficial 'safe port' for many of the women in her community, although she does not have a home of her own, a job or any hope for a change to her circumstances. Jenny has recently heard about a new developmental approach in the area called "Grow Local" which aims to improve community capacity through support for local people to become better informed, resilient and responsive as well as increasing their opportunity to become part of the primary health workforce.

“ *There was a recognised need for building capacity of the Aboriginal workforce in and around Kalgoorlie. Insufficient workforce numbers for Aboriginal Health Workers (AHWs) and the need for GP surgeries to offer positions for local Aboriginal staff was raised. The intent of this comment was to encourage GP surgeries to be more culturally secure.* ”

Bolden & Jackson, 2016a

'Grow Local' advocates on behalf of Jennie and her community to persuade visiting training providers to either provide local training to local people or specially design learning opportunities to better meet the needs of the community and the workforce. Jenny expressed her interest in this approach and has now commenced training for a Certificate IV in Mental Health Peer Support. Progress towards this qualification means she can utilise her extensive life experience to become an informed member of the family and community. Ultimately she aims to gain employment as a support worker, secure her own housing and support her local community.

Anticipated outcomes

A 'Grow Local' approach aims to increase skill and understanding for local communities, a more stable locally based and relevant workforce; increased whole of community understanding and resilience; health literacy and ability to prevent or respond to crisis situations; support for community members to become employed, housed and leave the welfare system. It also offers more culturally appropriate support to those needing assistance; and increased sustainability, self-support and resilience for local remote communities as they become more self-supporting and mentally healthy. The program will be evaluated and is expected to be extended into other Country WA PHN regions, especially those in a remote context and with similar 'community under fire issues' as well as workforce attraction, development and retention issues.

“ *Inability to access some specialist services close to home; lack of social supports within the community; being a full-time carer (causes patients most stress that impacts on their health).* ”

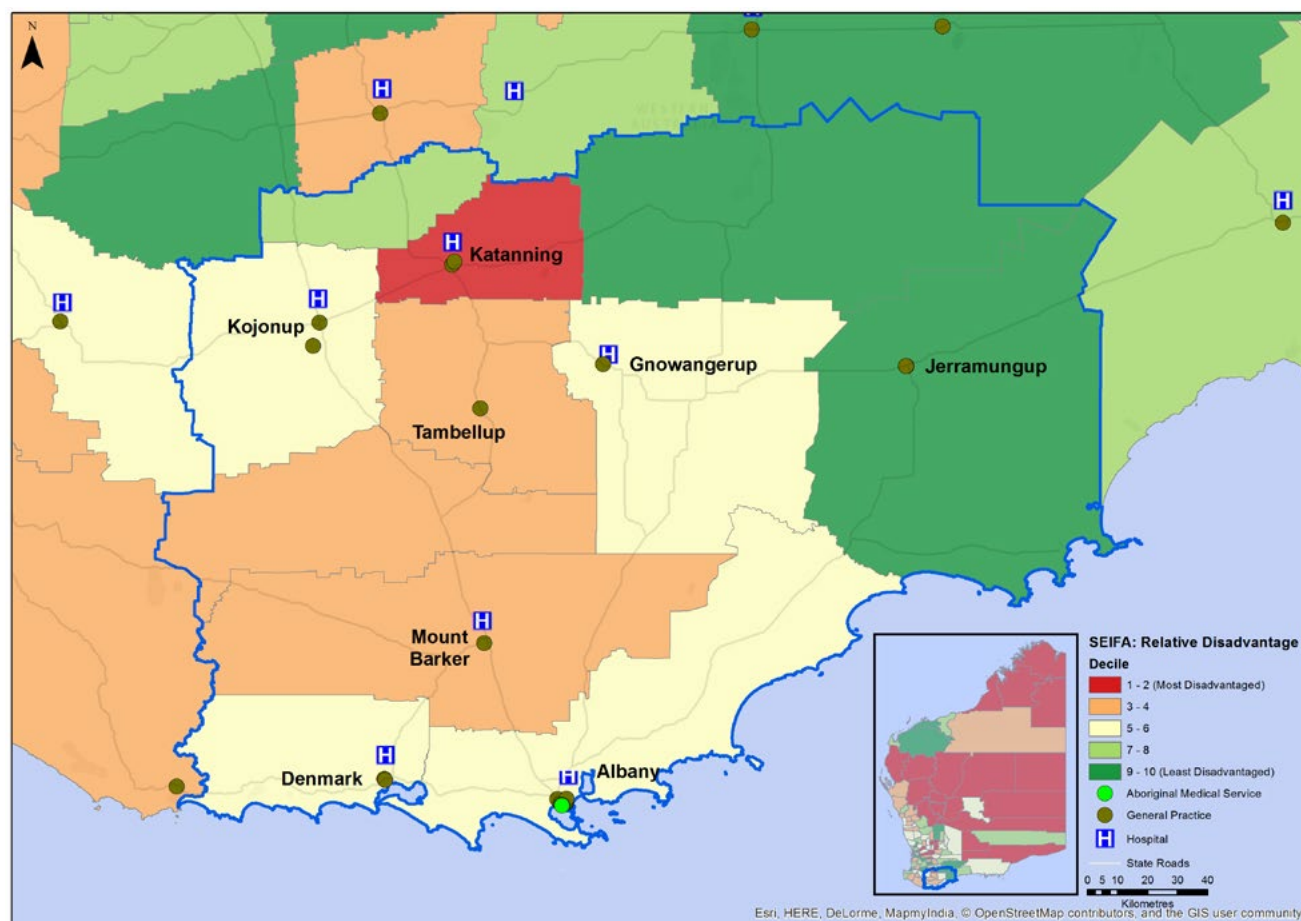
Stakeholder feedback, Esperance GPs

How could the system address the health needs?

- Continued work with the Western Desert Alliance - a cross border partnership with the Commonwealth, NT and SA governments and organisations to service the Lands.
- Funding an after hours crisis support worker, who can link with existing services for patients being discharged and transferred from Perth to Kalgoorlie.
- Integrated team care to support Aboriginal people with complex chronic disease.
- Increase AoD counselling services, linking in with existing NGOs who can provide free services to vulnerable populations.
- Use of innovative services such as Health Navigator (telehealth) to address access issues for vulnerable groups.

The Great Southern region

The Great Southern is a large agricultural region, comprising 40,000 square kilometres on the Southern coast of WA. The region includes two health districts, the Central and Lower Great Southern health districts. The Great Southern is comprised of outer regional (44%), remote (39%) and very remote areas (17%). The outer regional area is primarily around Albany, Gnowangerup, Jerramungup and Kent (WACHS, 2015b). Aboriginal people represent 4.6% of the total regional population, which is slightly higher than for the WA population (3.6%). The Katanning LGA was the most socially disadvantaged area within the region in 2011.



Map 2. the Great Southern region: rates of disadvantage compared to medical service supply (GPs, hospitals and AMS) (ABS, 2011; RHW, 2016).

Population 2014: 59,931: 2.3% of the WA population (WA DoH, 2016).

Highest populated LGAs: Albany, Denmark and Plantagenet (PHIDU, 2016).

Aboriginal population 2014: 2,736: 4.6% of the Great Southern population (WA DoH, 2016).

65+ population 2014: 10,804 (WA DoH, 2016).

Square kilometres: 40,000 (WACHS, 2015b)

Level of remoteness: 39% is classified as remote; Ravensthorpe Shire is classified as very remote (17%) (WACHS, 2015b).

GPs: 93 in 2015, a 1% increase from 2014 (RHW, 2016).

Hospitals: There are 8 hospitals within the Great Southern region. The Albany hospital is the largest hospital. In 2013-14, 70% of separations for the region were at the Albany hospital followed by Katanning at 5.9% (WACHS, 2015b).

Relative Disadvantage

In 2011, 7.6% of the Great Southern population were residing in the 'most disadvantaged' areas (ABS, 2011). The most disadvantaged LGAs were Katanning (909), Plantagenet (960), Cranbrook (962) and Broomehill-Tambellup (967) (ABS, 2011).

Access to Services

Health services are concentrated in more populated areas, in particular around Albany. Those living more remotely have long distances to travel to access regional health services.

Population characteristics, disadvantaged groups and the social determinants of health

Aboriginal People

In 2014, 1 in 21 people (2,736) or 4.6% were Aboriginal, which is higher than the State average (3.6%) (WA DoH, 2016). The largest percentages of Aboriginal people were living in the Broomehill- Tambellup (16.8%), Gnowangerup (11.6%) and Katanning (10.9%) LGAs .

Earlier onset and progression of chronic illness plays an important role in the observed differences in the age structures for Aboriginal and non-Aboriginal people (Figure 2.1). In 2015, 1 in 10 Aboriginal people (9.6%) were aged 55 years and over, which was slightly lower than for Country WA PHN (12.5%) and WA (12.7%) (PHIDU, 2016. WA DoH, 2016. AIHW, 2014c).

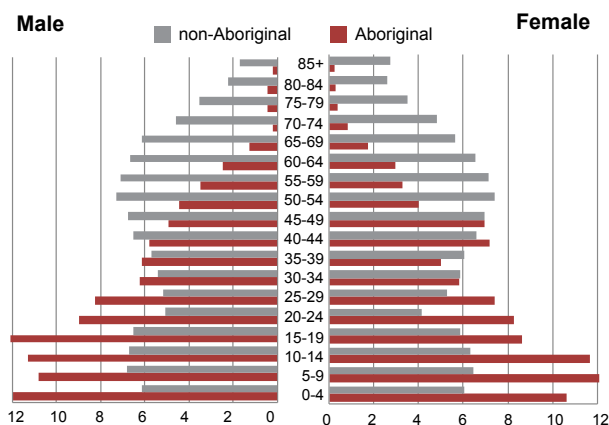


Figure 2.1 Population pyramid, Great Southern population, 2014 (WA DoH, 2016).

Older Persons

In 2014, nearly 1 in 6 (18%) people were aged 65 years and over compared with 1 in 8 people (12.7%) for the State. The percentage of older people (over 65 years) is projected to increase from 18.8% to 22.3% between 2015 and 2025 (Figure 2.2). This will be the largest population increase compared to all other population groups (WA DoH, 2016).

Culturally and Linguistically Diverse People

In 2011, 1.4% of people residing in the Great Southern were born in a predominantly non-English speaking country and had lived in Australia for less than five years, compared to 1.6% Country WA and 3.8% for WA. The greatest CALD population was residing in Katanning (5.0%).

Less than 1% of the population reported poor English proficiency which was similar to Country WA PHN (0.5%) and lower than the State (1.7%). The largest proportion of people with poor English proficiency lived in Katanning (51%) or Albany (36%). (PHIDU, 2016).

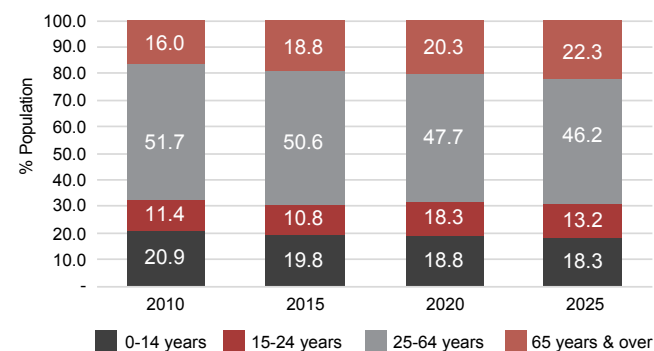


Figure 2.2 Population projections, Great Southern region, 2010 to 2025 (WA DoH, 2016).

Areas with higher social disadvantage

Long-term unemployed people: 1 in 14 in Katanning and 1 in 16 in Woodanilling (State: 1 in 33).

Households without a car: 1 in 11 in Katanning (State: 1 in 16).

People with a healthcare card: 1 in 10 people in Katanning. (State: 1 in 16).

Houses rented from the Government: 1 in 11 in Katanning (State: 1 in 7).

Children in jobless families: 1 in 4 children in Broomehill-Tambellup and Katanning (State: 1 in 10). (PHIDU, 2016) (Figure 2.3).

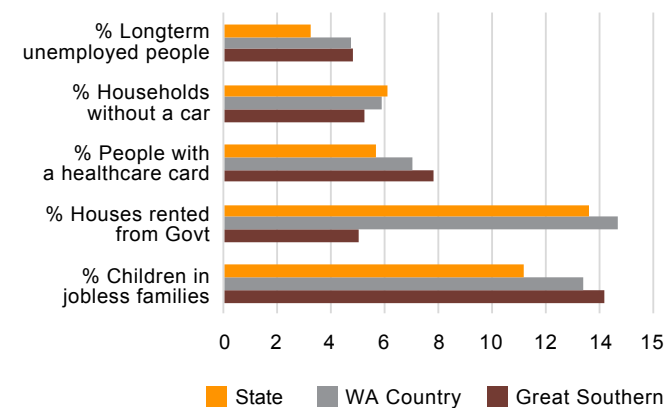


Figure 2.3 Social determinants, Great Southern region, 2011 (PHIDU, 2016).

Risk factors and living with long-term conditions: physical and mental

Risk Factors for Chronic Disease

Obesity (females only) was higher for people from Great Southern than those from the State (Figure 2.4).

Smoking During Pregnancy

For Aboriginal women, the reported rate of smoking during pregnancy was higher than the State (58% compared to 51%), 2013. For non-Aboriginal women, the reported rate of smoking during pregnancy was similar to the State (13% compared to 14% respectively) (WACHS, 2015b).

Chronic Conditions

The prevalence of chronic health conditions for the Great Southern was comparable with the State, the exception being arthritis, for which rates were higher for both sexes (WACHS, 2015b) (Figure 2.5).

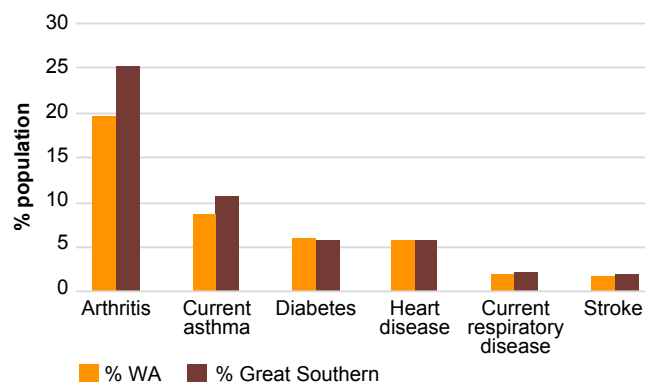


Figure 2.5 Prevalence of chronic conditions, Great Southern region, 2009-2012 (WACHS, 2015b).

Mental Health

- One in twelve people from the Great Southern (7.8%) and State (8.2%) reported high or very high psychological distress.
- One in eight adults (13.0%) in the Great Southern reported having been diagnosed with a mental health condition in the last 12 months which was similar to the State (14.2%) (WACHS, 2015b).

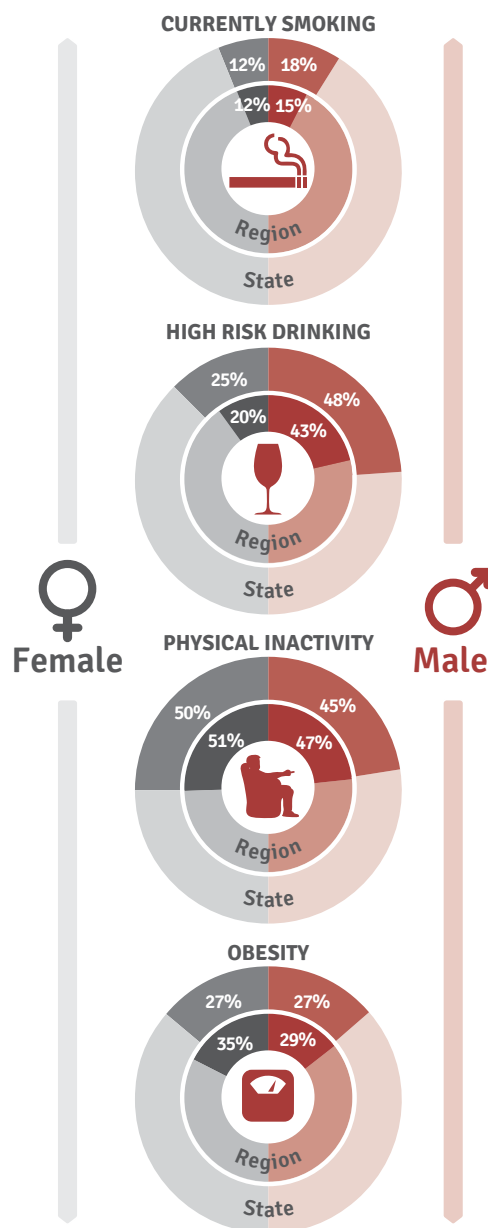


Figure 2.4 Prevalence of modifiable risk factors (WACHS, 2015b)

Access to Mental Health Services

In 2009-2010, the rates of mental health care plans developed by GP's under the Better Access program were less than one half of the State rate (6,722 per 100,000 persons) in: Gnowangerup, Woodanilling, Jerramungup, Cranbrook, Katanning and Kojonup. In contrast, Albany was greater than the State rate (9,131 per 100,000 persons) (PHIDU, 2016).

For 2008-2012, Great Southern residents aged 15-64 years accessed community mental health services at a lower rate than the State. People aged 15 to 44 years accounted for 68% of the 56,000 occasions of service.

The leading condition managed was serious psychiatric disorders. Attendance rates were higher for females (1.1 times higher) and males (1.3 times higher) than other State regions (WACHS, 2015b).

Suicide

For 2009-2013, average annual death rates from suicide and self-inflicted injury for people aged 0 to 74 years were available for Albany, Plantagenet and Katanning LGAs only. Due to the small number of cases across the four year period, reported rates were not different from the State rate (13.3 per 100,000 persons).

For 2002-2011, the youth suicide rate for males (15-24 years) was higher than the State rate, whilst the female rate was similar to the State.

- Males: 29.4 per 100,000 persons (State 19.9 per 100,000 persons).
- Females: 6.6 per 100,000 persons (State 6.0 per 100,000 persons) (WACHS, 2015b).

Hospitalisations and potentially preventable hospitalisations

Hospitalisations

For 2008 to 2012, the total hospitalisation rate for the Great Southern was lower than the State (10% lower). Dialysis (7%), musculoskeletal system and connective tissue disorders (both 6%) were the leading chronic condition hospitalisations (6%) for adults.

For Aboriginal adults, the overall hospitalisation rate was half the Aboriginal State rate, yet double the non-Aboriginal adult rate from the region (2003-2012). Dialysis accounted for the highest number of separations for Aboriginal adults (13%), with alcohol and drugs disorders, mental health issues, and head and neck injuries accounting for 14% of separations (WACHS, 2015b).

Alcohol and Tobacco-related Hospitalisations

From 2008 to 2012, the hospitalisation rates for alcohol and tobacco consumption were similar to the State rates. For Aboriginal adults in the region, the rate of hospitalisations was 7.8 times greater the non-Aboriginal rate (2003-2012) (WACHS, 2015b).

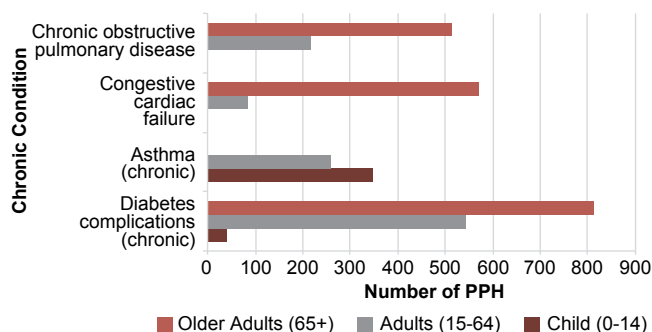


Figure 2.6 Number of chronic PPH separations, Great Southern region, 2008-2012 (WACHS, 2015b).

Emergency Department Services

Total attendances in 2013-2014 were 39,720 (WACHS, 2015). More than half (59%) of attendances were for semi-urgent or non-urgent cases (triage 4 and 5) that could potentially have been treated by GPs and primary care services. This is lower than the 2008-12 proportion in Country WA PHN (67%) and WA (63%).

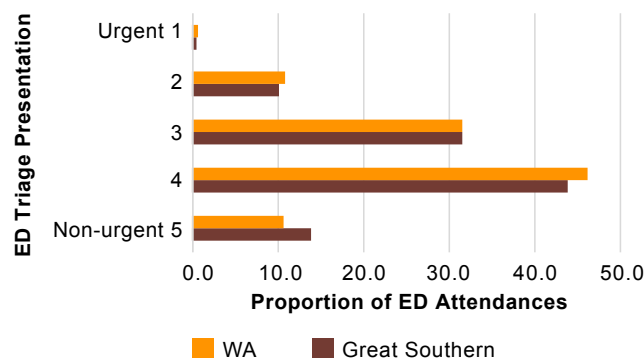


Figure 2.7 Emergency department attendances for The Great Southern region and WA, 2014 (WA DoH, 2016).

Chronic PPHs

Diabetes complications were the leading cause of potentially preventable hospitalisations (PPHs) for adults (17%) and older adults (24%) during 2008-2012. However, overall hospitalisation rates were similar to the State levels.

PPH rates for chronic obstructive pulmonary disease for adults was 1.2 times higher than their WA counterparts.

PPH rates for chronic asthma for children, adults and older adults were 1.8, 2.0 and 1.7 times higher respectively than their peers from the State.

PPH rates for congestive cardiac failure for adults were 0.9 times lower than the State, and for older adults they were the same as the WA rate (WACHS, 2015b).

PPHs for Aboriginal People

For 2003-2012, the PPH rate for Aboriginal adults from the Great Southern was 4.1 times higher than their non-Aboriginal counterparts (WACHS, 2015b).

National Bowel Screening Program, persons aged 50 to 74 years		
SA3/PHN/State	Females (%)	Males (%)
Albany	50.4	43.9
Country WA PHN	43.5	38
WA	43.5	38.6
BreastScreen WA, Women aged 50 to 74 years		
Albany	56.0	
Country WA PHN	54.2	
WA	55.2	
Cervical Cytology Screening Register, Women aged 20 to 69 years		
Albany	58.8	
Country WA PHN	51.9	
WA	55.7	

Table 2.1. Screening participation, Great Southern region, Jan 2014 to Dec 2015 (AIHW, 2016a)

Services and workforce

Registered Service Providers

In 2014, all registered service provider rates for the Great Southern were either similar to, or higher than Country WA PHN rates. In contrast, rates were lower than the State for all providers except pharmacists. The majority of registered GPs (77%) were located in Albany (ABS, 2015a; DoH, 2015) (Table 2.2).

Health Professional	Great Southern	Country WA PHN	WA Total
	No. per 10,000 persons		
Psychologists	6.0	4.8	9.8
General dentists	6.0	5.3	8.6
Pharmacists	6.8	6.8	10.4
Occupational therapists	8.2	5.0	8.6
Physiotherapists	8.7	6.4	10.8
General practitioners	25.2	22.7	33.7
Registered nurses	101.8	98.9	119.8

Table 2.2 Registered service providers per 10,000 population, Great Southern, 2014 (ABS, 2015a; DoH, 2015).

The Southern Inland Health Initiative (SIHI)

SIHI was implemented by WACHS to address high rates of acute medical admissions, a population demographic with high health needs and an ageing population. The SIHI model implemented a suite of programs that supported primary and community care since 2011. This included supporting GP workforce and building NGO capacity in the Great Southern. Use of telehealth and emergency telehealth services were also implemented as part of SIHI.

Aged Care Services

Operational aged care places include transitional, community and residential places which are delivered by Government, For Profit and Not for Profit providers.

There has been some variability in the total number of aged care places between 2006 and 2015 (range: 570 to 774 places), with 694 places in 2015.

Due to both a gradual increase in the numbers of older persons and a decrease in the number of places, the places per 1,000 persons has steadily declined since 2011. Figure 16 shows trends for people aged 70 years and over (AIHW, 2016c) (Figure 2.8).

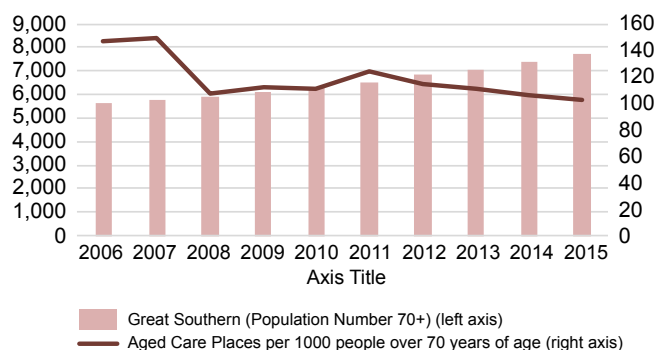


Figure 2.8 Great Southern population aged 70 year and over, compared to aged care places available per 1000 people, 2006 to 2015 (AIHW, 2016c).

After Hours GP Services

Eight practices within the region provided general practitioner services outside standard hours (8 to 7pm Monday-Friday, and 8 to 12 pm Saturday) (Table 2.3) (NHSD, 2016).

“ The Great Southern is a combination of pockets of moderate service accessibility (for example in Albany), or low service availability and low accessibility as experienced by most of the other towns. ”
Bolden & Jackson, 2016b

Location	No. practices	Availability by location
Albany	4	Evenings, public holidays
Denmark	1	Evenings
Jerramungup	1	Evenings
Katanning	1	Public holidays
Kojonup	1	Public holidays

Table 2.3 After hours general practices by location and hours, Great Southern, 2016 (NHSD, 2016).

Priority locations of greatest need

Analysis of the social determinants, health indicators, service gaps and stakeholder feedback has indicated of locations of priority health needs. Areas include: Katanning, Tambellup and Mount Barker. Priority population groups, health issues and service gaps are outlined below.

Identified issues and service gaps, including stakeholder feedback

Alcohol and other drugs

- Lack of AoD treatment services (stakeholder feedback).

Mental health and suicide

- Community-based mental health service attendances for serious psychiatric disorders higher than State for adult males (1.3 times) and females (1.1 times).
- Limited mental health services.
- Limited suicide prevention support, particularly in Katanning and Albany. The male youth suicide was 1.5 times higher than State males.

CALD community

- Lack of culturally secure health services. (stakeholder feedback).

Aboriginal health

- Hospitalisation rates twice as high for Aboriginal than non-Aboriginal people.
- PPH rates 4 times higher for Aboriginal than non-Aboriginal adults.

Theoretical case study

Rana is a 23-year-old woman who lives in Katanning, who is a mother to one young child. Rana's family comes from Sudan and although she has family living locally, she feels excluded from the wider community. Rana started smoking cannabis at the age of 14 and had been using methamphetamine for 3 years, after being introduced to it by her partner. Rana is on welfare support, so money doesn't last very long and she is constantly worried about having enough income to support her child and her addictions. Her partner yells at her a lot, especially when the child cries. She often leaves her daughter at her mother's house, where she knows that she will be fed.

“ Anecdotally we heard of instances where it has been noticed that dealing with a patient's chronic existing conditions and accessing health care are a small portion of what is of concern for the patient. For example, when a threatened home, family trouble or financial issues may be consuming a person's existence, health care for a chronic health issue pales into insignificance. ”

Bolden & Jackson, 2016b

Rana had tried to stop using drugs a few times, but felt helpless and was not sure where to get help. One night, Rana's partner became violent, so she left with her child and went to the emergency crisis accommodation. While there, a support worker spoke to her about a new service in town that may be able to help. She was told that the service would offer support for her daughter and a community group that she could talk to, as well as an opportunity to paint. Rana remembered painting with her grandmother when she was a child.

Anticipated outcomes

Rana has been a part of the program for the last year now. They referred her for help with her addiction and she has now been clean for 7 months. It is a constant struggle, especially when her partner and friends inject around her. The group classes are a nice place to go. Rana has learnt to cook using the traditional food she heard about as a child, and her daughter enjoys the craft activities they provide. The art classes are the ones she enjoys the most. The organiser has told her she has a real talent, and suggested she sold her works at the local weekend markets.

“ A lack of local substance detox and residential rehabilitation services, particularly for alcohol and methamphetamine related addiction was reported as a region-wide concern...Currently people seeking detox may need to travel to Broome to access services. This has an enormous impact on families. ”

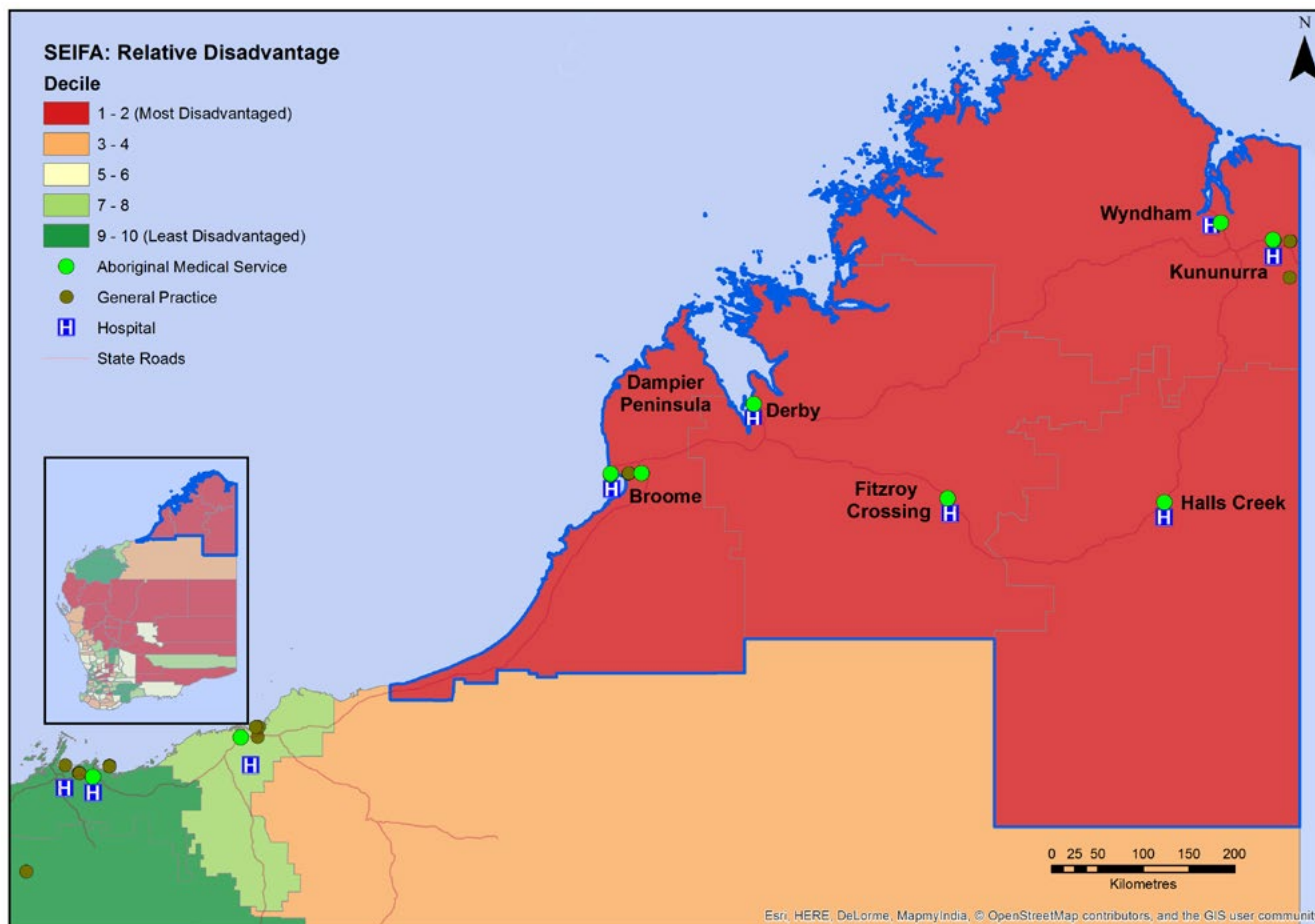
Bolden & Jackson, 2016b

How could the system address the needs?

- Train workforce in both mental health and drug and alcohol treatment which will increase skills and capacity in the area.
- Increase workforce and service collaboration, that is also culturally appropriate, to decrease duplication and fragmentation, and work with existing organisations.
- Addressing the social determinants of health in conjunction with health problems to influence health outcomes; for example, drug and alcohol misuse as a response to unemployment and financial stress.
- Integrated team care to address Aboriginal chronic disease.
- Use of innovative services in the region such as Health Navigator (telehealth) to address access issues for vulnerable groups.

The Kimberley region

The majority of the Kimberley region is classified as very remote, and is the most disadvantaged area of Western Australia. The Kimberley is an area of complex needs with a high level of remoteness, a large Aboriginal population (45%), and major service and access difficulties. The regional hubs of Broome and Kununurra provide primary care services but a large portion of services are outreach clinics.



Map 3. the Kimberley region: rates of disadvantage compared to medical service supply (GPs, hospitals and AMS) (ABS, 2011; RHW, 2016).

Population 2014: 39,099, 1.6% of the WA population (WA DoH, 2016).

Highest populated LGA: Broome (PHIDU, 2016)

Aboriginal population 2014: 17,748, representing 45.4% of the population (WA DoH, 2016).

65+ population 2014: 2,062 (WA DoH, 2016).

Square kilometres: 421,451 (WACHS, 2015c).

Level of remoteness: 97% of the region has been classified as very remote, while the area around Broome and Kununurra is remote (WACHS, 2015c).

GPs: 109 in 2015, 7.9% increase from 2014 (101 GPs) (RHW, 2016).

Hospitals: There are 6 hospitals across the region: Broome Health Campus, Derby Hospital, Fitzroy Crossing Hospital, Halls Creek Hospital, Kununurra Hospital and Wyndham Hospital (WA DoH, 2016).

Relative Disadvantage

In 2011, the entire Kimberley region was designated as one of the 'most disadvantaged' areas according to socio-economic index for areas, relative to disadvantage rankings for WA. Halls Creeks (598), Derby West (746) and Wyndham-East (890) LGAs were ranked in the top 10% of 'most disadvantaged' areas in WA (ABS, 2011).

Access to Services

Health services are concentrated in more populated areas, particularly around Broome and Derby. Those living more remotely have long distances to travel to access regional health services.

Population characteristics, disadvantaged groups and the social determinants of health

Aboriginal People

In 2014, 45.4% of the population (17,748 people) were Aboriginal, which was considerably higher than for Country WA (10.2%) and the State (3.6%). The largest proportions of Aboriginal people were living in the Wyndham-East Kimberley and Derby-West Kimberley LGAs. Differences in the age structures for Aboriginal and non-Aboriginal people reflect differences in life expectancy across the lifespan as well as migration into the region for employment purposes by non-Aboriginal people (WA DoH, 2016) (PHIDU, 2016) (Figure 3.1).

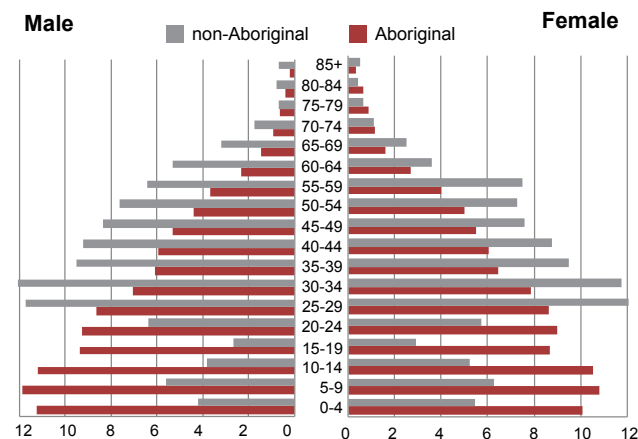


Figure 3.1. Population pyramid, Kimberley population, 2014 (WA DoH, 2016).

Culturally and Linguistically Diverse People

In 2011, 1.6% of people were born in a non- English speaking country and had lived in Australia for more than 5 years which was identical to 1.6% Country WA and half the WA rate (3.8%). The highest percentage of new migrants from non- English speaking countries were residing in Broome (2.2%). Overall, 0.5% of people reported poor English proficiency which was identical to Country WA (0.5%) and lower than the State (1.7%). The largest proportion of people with poor English proficiency were located in Broome (49%).

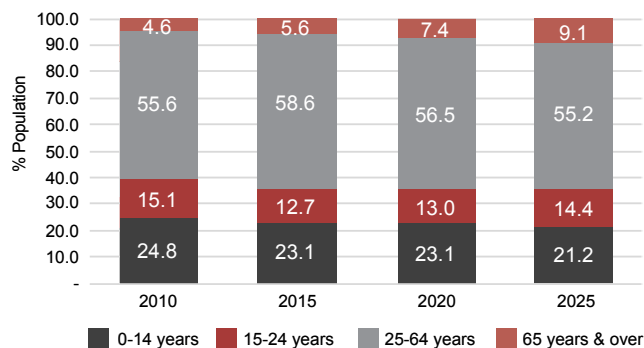


Figure 3.2. Population projections, Kimberley region, 2010 to 2025 (WA DoH, 2016).

Older Persons

In 2014, people aged 65 years and over represented 1 in 20 people (2,062) or 5.3% of the Kimberley population. Between 2015 and 2025 the percentage of older persons is projected to increase from 5.6% to 9.1% (WA DoH, 2016) (Figure 3.2).

Areas with higher social disadvantage

Long-term unemployed people: 1 in 6 from Halls Creek (State: 1 in 33).

Households without a car: 2 in 5 from Halls Creek (State: 1 in 16).

People with a healthcare card: 1 in 4 people from Halls Creek (State: 1 in 16).

Houses rented from the Government: 1 in 4 households across the region (State: 1 in 7).

Children in jobless families: 3 in 5 children from Halls Creek and 1 in 3 children within the region (State: 1 in 10).

(PHIDU, 2016) (Figure 3.3).

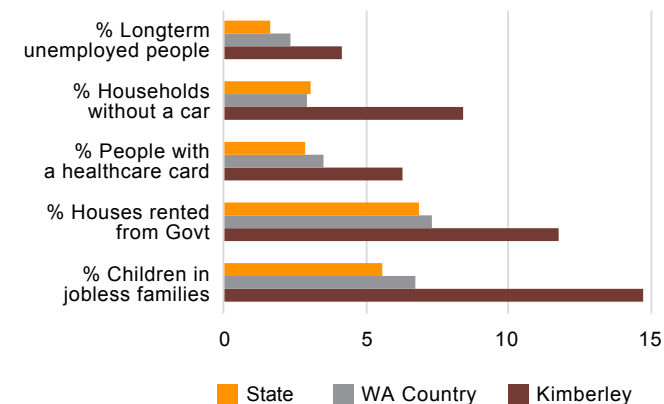


Figure 3.3. Social determinants, Kimberley region, 2011 (PHIDU, 2016).

Risk factors and living with long-term conditions: physical and mental

Risk Factors for Chronic Disease

Prevalence of the following risk factors were higher for people from the Kimberley than those from the State (2009-2012) (Figure 3.4):

- Smoking in males and females
- High risk drinking in males and females
- Insufficient physical activity in males only.

Smoking during pregnancy

For Aboriginal women the rate of smoking during pregnancy for the Kimberley was higher than the State in 2013 (56% compared to 51%). The reported rate has increased from 45% in 2011. For non-Aboriginal women, the rate was lower than the State (10% compared to 14%) (WACHS, 2015c).

Foetal Alcohol Syndrome

An estimated 1 in 8 children who were born in the Fitzroy Valley in 2002 or 2003 have foetal alcohol syndrome (FAS), which is one of the highest rates worldwide (Telethon Kids, 2016).

Prevalence of Chronic Disease

The prevalence of chronic health conditions for the Kimberley region were comparable with the State. The most common conditions for 2009 to 2012 were arthritis (15%), current mental health problems (13%) and asthma (8%).

Rheumatic Heart Disease

Aboriginal children residing in remote areas are a known 'at risk' group for acquiring rheumatic health disease (RHD). In 2008-2010, 8.9% of Aboriginal children 5 to 15 years, were found to have RHD, while a further 10.2% had borderline RHD. These rates were similar to those for Aboriginal children from Central Australia. RHD is associated with factors including poor environment conditions, household crowding and low socio-economic status (Roberts, K et al, 2015).

Mental Health

- One in sixteen adults (6%) from the Kimberley reported high or very high psychological distress, which was similar to the State (7%).

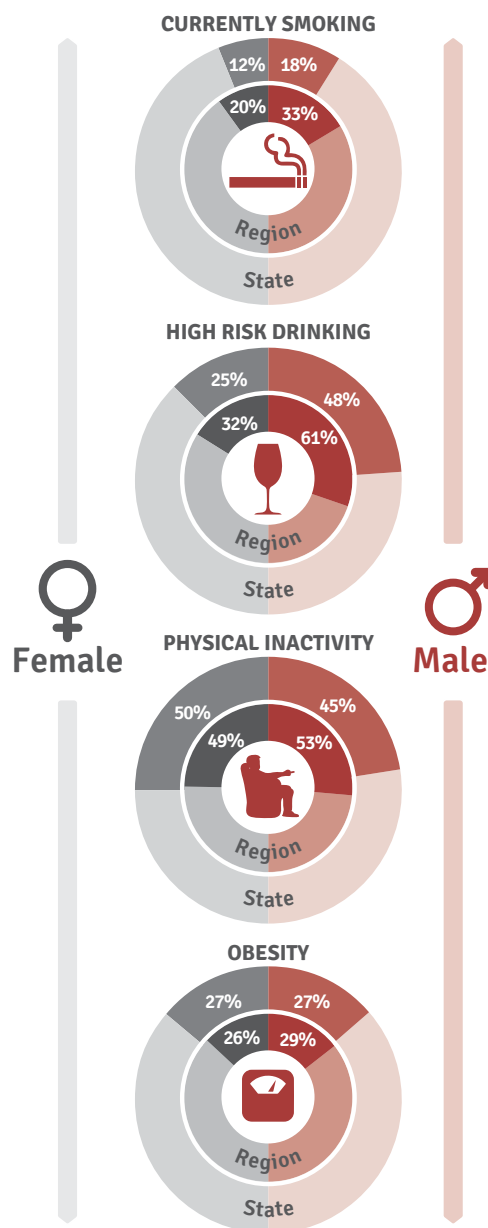


Figure 3.4 Prevalence of modifiable risk factors (WACHS, 2015c).

- 1 in 25 adults (4%) from the Kimberley reported feeling a lack of control over life in general, which was comparable with the State rate (4%) (WACHS, 2015c).

Access to Mental Health Services

In 2009-2010, no mental health care plans were developed by GPs under the Better Access program in the Halls Creek LGA. Rates were significantly lower than the State rate (6,722 per 100,000 persons) in Derby West-Kimberley (375.9 per 100,000) and Wyndham East Kimberley (1,013 per 100,000) (PHIDU, 2016).

For 2008-2012, Kimberley residents aged 15-64 years accessed community mental health services at a higher rate than the State (1.2 times). People aged 15 to 44 years accounted for 80% of the 50,000 occasions of service, and the leading occasion of service was serious psychiatric disorders (WACHS, 2015c).

Suicide Rates

For people aged 0 to 74 years, the average annual death rates from suicide and self-inflicted injury for were higher than the State (13.3 per 100,000 persons) rate in all four LGAs for 2009-2013:

- Broome (31.2 per 100,000 persons), Wyndham East Kimberley (40.2 per 100,000 persons), Derby-West Kimberley (56.8 per 100,000 persons), and Halls Creek (65.5 per 100,000 persons).

For young adults (15-24 years) suicide rates were higher than the State rate for both sexes during 2002-2011:

- Males: 135.1 per 100,000 persons (State 19.9 per 100,000 persons)
- Females: 35.0 per 100,000 persons (State 6.0 per 100,000 persons) (WACHS, 2016c).

“ Indigenous suicide rates in the Kimberley region have dramatically increased in the last decade. There is also an overall trend upwards in Indigenous youth suicide and Indigenous female suicides. ”

Campbell et al., 2016

Hospitalisations and potentially preventable hospitalisations

Hospitalisations

For 2008 to 2012, the total hospitalisation rate for Kimberley adults was two times higher than the State. Injury and poisoning was the leading hospitalisation accounting for 10% of separations, followed by pregnancy and childbirth (8%) for adults 16-64 years.

For Aboriginal adults, the hospitalisation rate was 1.3 times higher than the Aboriginal State rate. Dialysis accounted for over one third of all separations for Aboriginal adults (38%) (WACHS, 2015c).

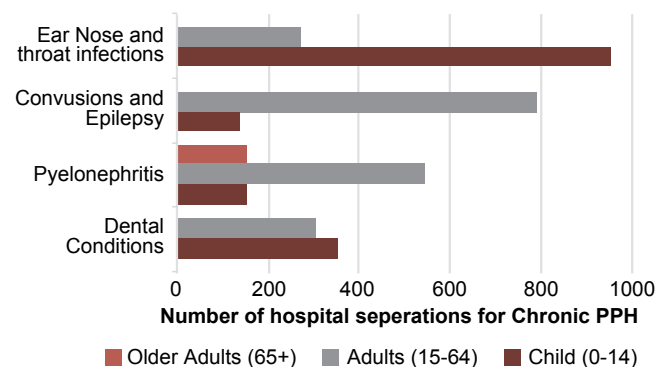


Figure 3.5. Number of Acute PPH separations, Kimberley region, 2008-2012 (WACHS, 2015c)

Alcohol / Smoking-related Hospitalisations

For 2008-2012, alcohol related separations were 3.6 times higher for Kimberley adults than the State average (1,017 per 100,000 persons). Separation rates were nine times higher for Aboriginal than non-Aboriginal people from the region.

During 2008-2012, tobacco-related hospitalisations were 2.5 times higher for Kimberley adults (1,184 per 100,000) than the State average. Separations were 5 times higher for Aboriginal than non-Aboriginal people from the region (2003-2012) (WACHS, 2015c).

“ Often patients do not understand how to manage their plans or what services they have access to or even what allied health means. GPs need to understand this helps when talking to their clients about their health. ”
 Allied Health Provider, Kimberley region

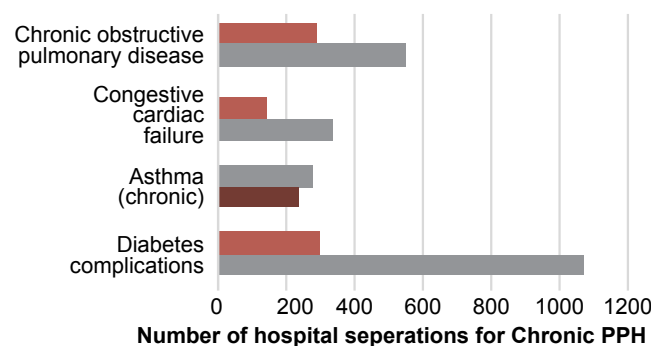


Figure 3.6. Number of chronic PPH separations, Kimberley region, 2008-2012 (WACHS, 2015c).

Leading Acute PPHs

Ear, nose and throat infections were a leading potentially preventable hospitalisations (PPHs) for children and adults. Separation rates were 3.7 and 2.4 times respectively higher than for other State regions.

PPHs for convulsions and epilepsy for children and adults were 1.6 and 5.1 times higher than the WA average. PPH rates for pyelonephritis (kidney infection) for children, adults and older adults were 2.3, 2.8 and 2.4 times higher respectively, than for State counterparts. While dental conditions were a leading PPH for children and adults, rates were similar to the State levels (WACHS, 2015c).

Chronic PPHs

Diabetes complications were the leading PPH for adults (15 to 64 years) and older adults (65 years and over). PPH rates were 3.4 and 1.7 times higher respectively than their WA counterparts.

Chronic obstructive pulmonary disease (COPD) was a leading PPH for adults and older adults. The separation rates were 6.3 and 2.8 times higher respectively than WA rates. Chronic asthma is a leading PPH for children and adults. PPH rates for children and adults were 1.5 and 3.1 times higher than for State.

Congestive cardiac failure was a leading PPH for adults and older adults (see Figure 5). PPH rates for adults and older adults were 7.2 and 1.7 times higher respectively than in other WA regions (WACHS, 2015c). Figure 3.6 shows the number of separations for chronic PPHs by age-group.

PPHs for Aboriginal people

For 2008-2012, total PPH rates for the Kimberley Aboriginal people aged 15-64 years were significantly higher than State Aboriginal (approximately 1.5 times higher) and Kimberley non-Aboriginal counterparts (approximately 12 times higher) (WACHS, 2015c).

Services and workforce

Patient engagement with primary care outreach services is fundamentally important as a way of addressing high prevalence of acute PPHs across the Kimberley.

Health Professional	Kimberley	Country WA PHN	WA Total
	No. per 10,000 persons		
General dentists	3.3	5.3	8.6
Pharmacists	5.1	6.8	10.4
Physiotherapists	5.9	6.4	10.8
Occupational therapists	5.9	5.0	8.6
Psychologists	6.4	4.8	9.8
General practitioners	45.5	22.7	33.7
Registered nurses	176.0	98.9	119.8

Table 3.1. Registered service providers per 10,000 population, Kimberley, 2014 (ABS, 2015a; DoH, 2015).

Registered Service Providers

In 2014, the majority of registered service providers for the Kimberley were either similar, or higher than Country WA PHN rates, with the exception of dentists (3.3 per 10,000 persons) that were lower than both Country WA (5.3 per 10,000 persons) and State (8.6 per 10,000 persons) rates. The majority of registered GPs were located in Broome (56%) and Derby West-Kimberley (21%) (ABS, 2015a; DoH, 2015) (Table 3.7).

Emergency Department Services

In 2013, there were 51,772 emergency department attendances at Kimberley hospitals. Of these, nearly three quarters (75%) were non-urgent or semi-urgent attendances compared with two thirds (66%) for Country WA and just over half (57%) for the State.

Aged Care Services

The operational aged care places include transitional, community and residential places which are delivered by Government, for-profit and not-for-profit providers.

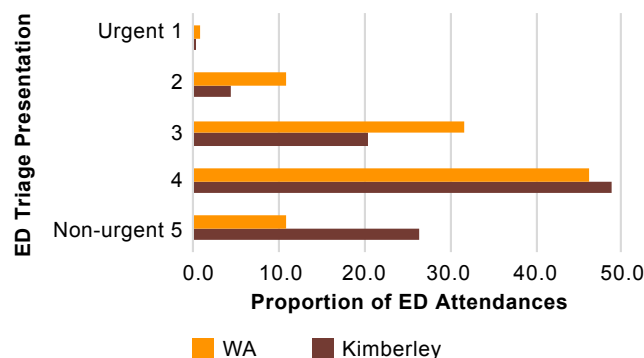


Figure 3.7 Emergency department attendances, Kimberley region and WA, 2013 (WA DoH, 2016).

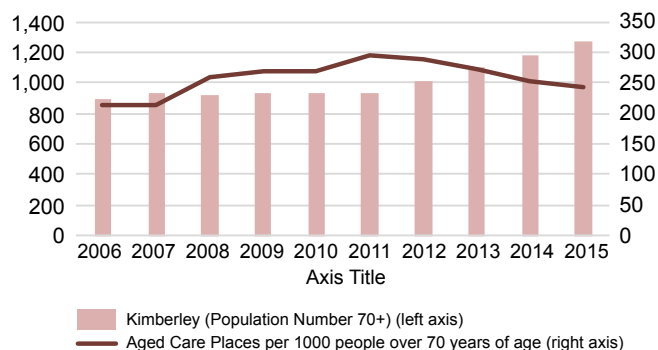


Figure 3.8 Kimberley population aged 70 year and over, compared to aged care places available per 1000 people, 2006 to 2015 (AIHW, 2016c).

Between 2006 and 2015, the number of operational aged care places increased from 190 to 299 places. However, due to a gradual increase in the numbers of older persons, the number of places per 1,000 persons has steadily declined since 2011. Figure 3.8 shows trends for people aged 70 years and over (AIHW, 2016c) (Figure 3.8).

After Hours GP Services

Two practices within the Region provide general practitioner services outside standard hours (8 to 7pm Monday-Friday, and 8 to 12 pm Saturday) (Table 3.2) (NHSD, 2016).

Location	No. practices	Availability by location
Broome	3	Evenings, Saturdays, public holidays
Derby	1	Public holidays

Table 3.2 After hours general practices by location and hours, Kimberley, 2016 (NHSD, 2016).

National Bowel Screening Program, persons aged 50 to 74 years		
SA3/PHN/State	Females (%)	Males (%)
Kimberley	23.2	21.8
Country WA PHN	43.5	38
WA	43.5	38.6
BreastScreen WA, Women aged 50 to 74 years		
Kimberley	49.3	
Country WA PHN	54.2	
WA	55.2	
Cervical Cytology Screening Register, Women aged 20 to 69 years		
Kimberley	55	
Country WA PHN	51.9	
WA	55.7	

Table 3.3. Screening participation, Kimberley region, Jan 2014 to Dec 2015 (AIHW, 2016a).

Priority locations of greatest need

While there are common major health issues and service gaps across the entire region, key locations of greatest health needs include: Fitzroy Crossing, Halls Creek, Derby and Kununurra. Priority population groups, health issues and service gaps are outlined below.

Identified issues and service gaps, including stakeholder feedback

Alcohol and other drugs

- Alcohol and smoking related hospitalisations higher than State, particularly for Aboriginal people.

Foetal alcohol syndrome (FAS)

- 1 in 8 children born in Fitzroy crossing have been shown to have FAS.

Chronic conditions

- Acute and chronic PPH rates are significantly higher than State rates.
- PPH rates for Aboriginal adults were higher than State Aboriginal people and 2.8 times higher than non-Aboriginal counterparts.
- Kidney disease is a major issue for Aboriginal people, with dialysis accounting for 38% of all hospital separations.

Mental health, suicide and self-harm

- Youth suicide 7 times higher for males and 6 times higher for females than their State counterparts.
- Need to support culturally appropriate and sustainable capacity across the region.

Workforce

- Inadequate workforce capacity to address specific health issues e.g. mental health
- Need for improve the coordination of care and service provision across the region (stakeholder feedback).

Domestic violence

- Concerns across for the entire region (stakeholder feedback).

“ *Workforce continuity is a problem—being employed for 6 months at a time does not allow you to bite your teeth into long term projects... [we can] support chronic clients only and this affects community relationships and integration.* ”

Allied Health Provider, Kununurra/Wyndham

Theoretical case study

Callan is a 15-year-old Aboriginal teenager living in Halls Creek. His mother and father separated when he was 6 years old. He lives with his mum, who is struggling with addiction, in an overcrowded house. Callan doesn't like going to his father's house, because he drinks too much and gets violent.

Callan feels neglected from his family, community and culture, and no longer goes to school. He was expelled for his anger issues and getting into fights. Recently, he has been demonstrating riskier behaviours, drinking alcohol, using drugs and breaking into houses. Callan heard about another young man in his community who hung himself.

Callan met a slightly older man one day, Joseph who's 19. Joseph told him about the 'on-country' trips he has been on, learning about the land, the culture, and spending time with the elders. He told James he had learnt to hunt, collect firewood and dig wells for water. Callan said he would get in touch with one of the elders, see if he could come on the next trip.

Anticipated outcomes

The Yiriman Project aims to create a positive environment through culture to build self-esteem and self-confidence, while creating a safe and healthy environment for young people to learn, strengthen identity and reconnect with culture.

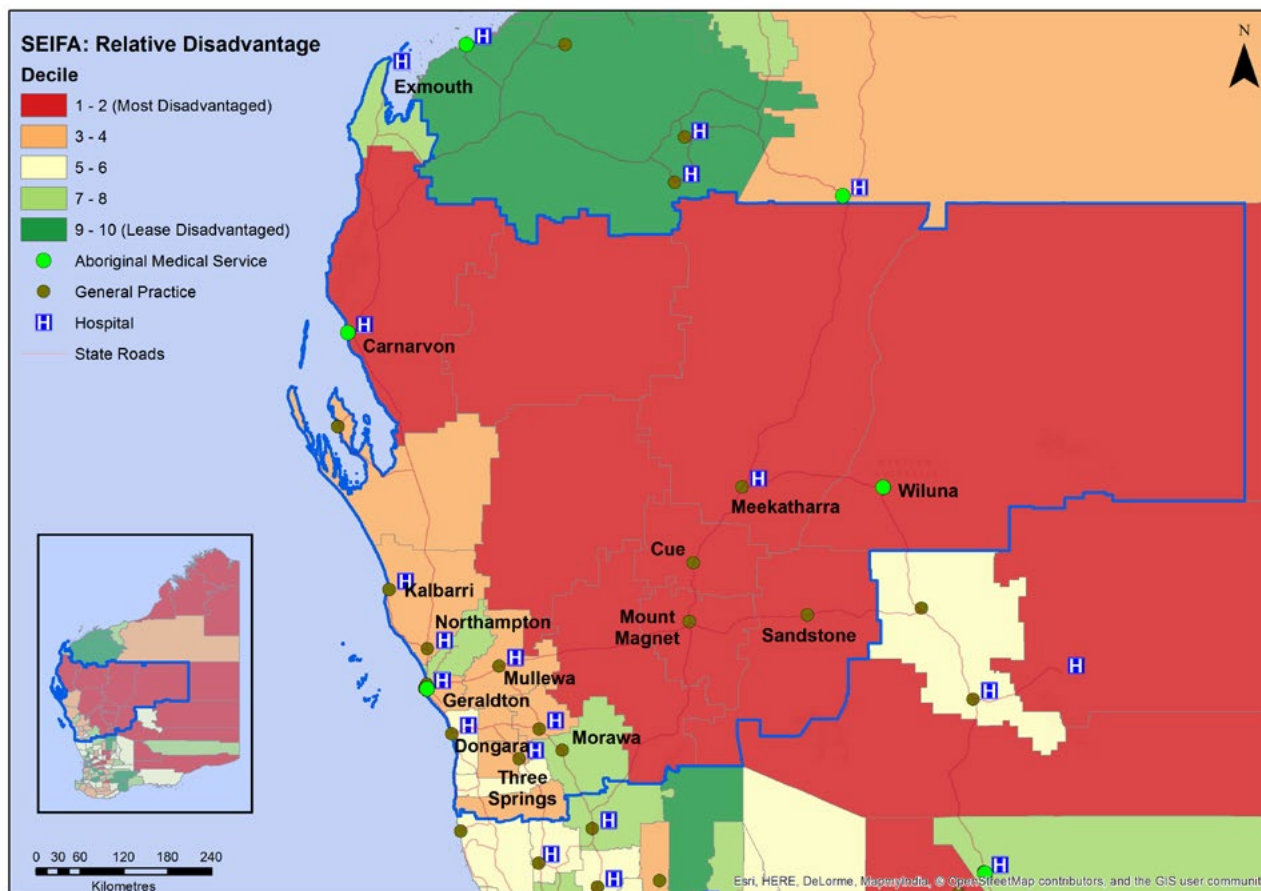
Callan has been participating in these trips for nearly 3 years now. He was recently asked to become a mentor for the project and to demonstrate his cultural knowledge to some of the younger men. He has also started to learn about fire and land management, and is looking to begin a traineeship in the area. Callan has stopped taking drugs and is managing his anger. He enjoys going back to country and feels it may help others in his community become healthy too.

How could the system address the needs?

- Integration of services across the region to reduce fragmentation and duplication, which will increase continuity of care and service provision knowledge in the community. Use of HealthPathways as a GP tool.
- Whole family approach, in particular for Aboriginal people.
- Increase length of funding contracts. This will help with workforce retention and the continuity of care and health programs across the region.
- Systems approach and co-commissioning of services with measurable outcomes that provide wrap-around, holistic care.
- Increase patient engagement with primary care outreach services to address high rates of PPHs across the Kimberley.

The Midwest region

The Midwest is located within the central aspect of WA and is bordered by the Indian Ocean on the west and the Pilbara, Goldfields and Wheatbelt regions to the north, east and south respectively. It covers a vast area of more than 470,000 km² and has most of its population mainly located on the coastline, including the major regional centre of Geraldton. The majority of the area is very remote (91%), with Geraldton-Greenough classified as outer regional. Aboriginal people comprise 13.1% of the total regional population, which is more than three times higher than the WA population (3.6%). The Upper Gascoyne LGA was the most socially disadvantaged area within the region in 2011.



Map 4. the Midwest region: rates of disadvantage compared to medical service supply (GPs, hospitals and AMS) (ABS, 2011; RHW, 2016).

Population 2014: 68,142, 2.6% of the WA population (WA DoH, 2016).

Highest populated LGA: Geraldton-Greenough and Carnarvon (PHIDU, 2016).

Aboriginal population 2014: 8,298 comprising 13.1% of the Midwest (WA DoH, 2016).

65+ population 2014: 9,213 (WA DoH, 2016).

Square kilometres: 470,000 (WACHS, 2015d)

Level of remoteness: 91% of the region is very remote (WACHS, 2015D).

GPs: The region has 81 registered medical doctors, a 17% decrease since 2014 (RHW, 2016) and 72 GPs including registrars (WAPHA, 2016).

Hospitals: There are two major hospitals in Geraldton: Geraldton Hospital and SJOG Private Hospital. Multi-purpose services/hospitals located in Carnarvon, Exmouth, Meekatharra, Mullewa and Northampton.

Relative Disadvantage

In 2011, 16% people from the Midwest region were living in the 'most disadvantaged' areas for WA. The Upper Gascoyne (717), Wiluna (799), Meekatharra (852), Mount Magnet (854) and Cue (867) were 'most disadvantaged' areas compared with WA overall (ABS, 2011).

Access to Services

Health services are concentrated around Geraldton. Remote areas, such as Wiluna and Sandstone have vast distances to access specialist or allied care.

Population characteristics, disadvantaged groups and the social determinants of health

Aboriginal People

In 2014, an estimated 13.1% of the population (8,928 people) in the Midwest were Aboriginal, (ranging from 2.6% to 62.7%) which was slightly higher than for Country WA (10.2%). In contrast only 3.6% of the WA population were Aboriginal. The largest numbers of Aboriginal people were living in the Geraldton-Greenough (4,718) and Carnarvon (1,440) LGAs (PHIDU, 2016).

Differences in the age structures for Aboriginal and non-Aboriginal people reflect differences in life expectancy across the lifespan as well as migration into the region for employment purposes by non-Aboriginal people (Figure 4.1).

Aboriginal people aged 55 years and over are recognised as 'older adults' due to the earlier onset of chronic illness and disability (WA DoH, 2016) (AIHW, 2014c).

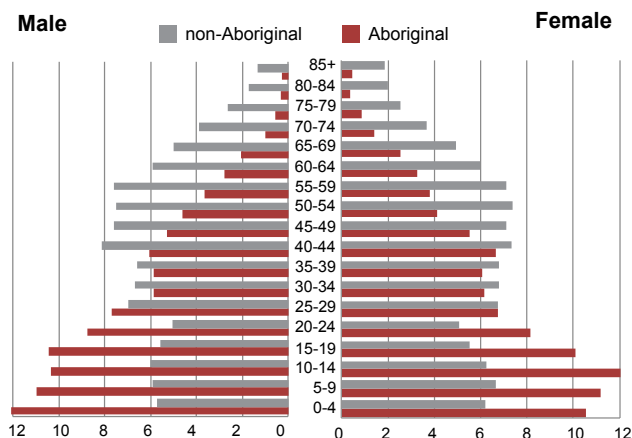


Figure 4.1 Population pyramid, Midwest population, 2014 (WA DoH, 2016).

Older Persons

In 2014, people aged 65 years and over represented 1 in 7 people (9,213) or 13.5% of the Midwest population. Between 2015 and 2025, the percentage of older persons is projected to increase from 14.1% to 18.9% (Figure 4.2) (WA DoH, 2016).

Culturally and Linguistically Diverse People

In 2011, 1.3% of people were born in a non-English speaking country and had lived in Australia for more than 5 years, compared with 1.6% Country WA and 3.8% for WA. Areas with higher rates of CALD population included Wiluna (2.2%), Mount Magnet (2.3%) and Exmouth (2.4%).

Overall, 0.6% of people reported poor English proficiency which was similar to 0.5% Country WA and lower than the State (1.7%). Carnarvon has the highest percentage of people with poor English proficiency (2.5%) (PHIDU, 2016).

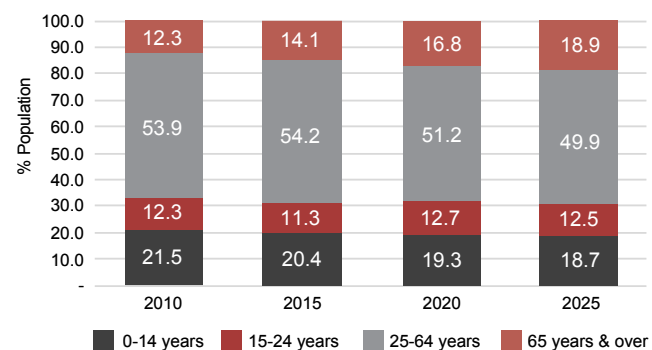


Figure 4.2 Population projections, Midwest region, 2010 to 2025 (WA DoH, 2016).

Areas with higher social disadvantage

Long-term unemployed people: 1 in 4 from the Upper Gascoyne (State: 1 in 33).

Households without a car: 1 in 4 from Wiluna and the Upper Gascoyne (State: 1 in 16).

People with a healthcare card: 1 in 5 from Upper Gascoyne (State: 1 in 16).

Houses rented from the Government: 1 in 3 households from Meekatharra, Wiluna and the Upper Gascoyne (State: 1 in 7).

Children in jobless families: All children from Sandstone, 3 in 5 in Wiluna and half in Mount Magnet (State: 1 in 10).

(PHIDU, 2016) (Figure 4.3).

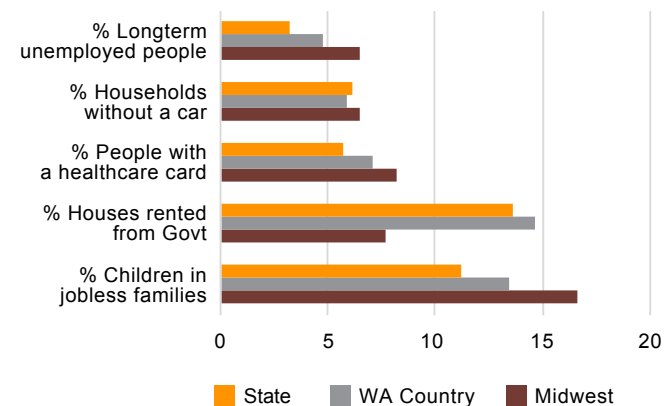


Figure 4.3 Social determinants, Midwest region, 2011 (PHIDU, 2016).

Risk factors and living with long-term conditions: physical and mental

Risk Factors for Chronic Disease

The prevalence of the following risk factors in 2009-12 were higher for people from Midwest than those from the State (Figure 4.4):

- Smoking in females only
- Obesity in males and females (WACHS, 2015d).

Smoking During Pregnancy

For Aboriginal women, the reported rate of smoking during pregnancy was lower than the State (45% compared to 51%). For non-Aboriginal women, the reported rate of smoking during pregnancy was similar to the State (14% compared to 14%) (WACHS, 2015d).

Prevalence of Chronic Disease

The self-reported prevalence rates for the National Health Priority Conditions shown in Figure 4.5 were similar to State levels. The highest rates were for arthritis, asthma and diabetes (Figure 4.5) (WACHS, 2015d).

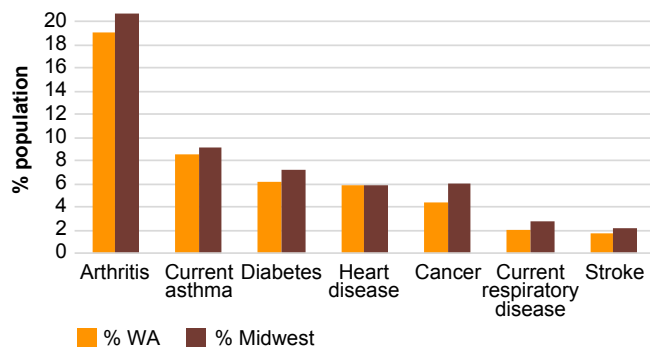


Figure 4.5 Prevalence of chronic conditions, Midwest region, 2009-2012 (WACHS, 2015d).

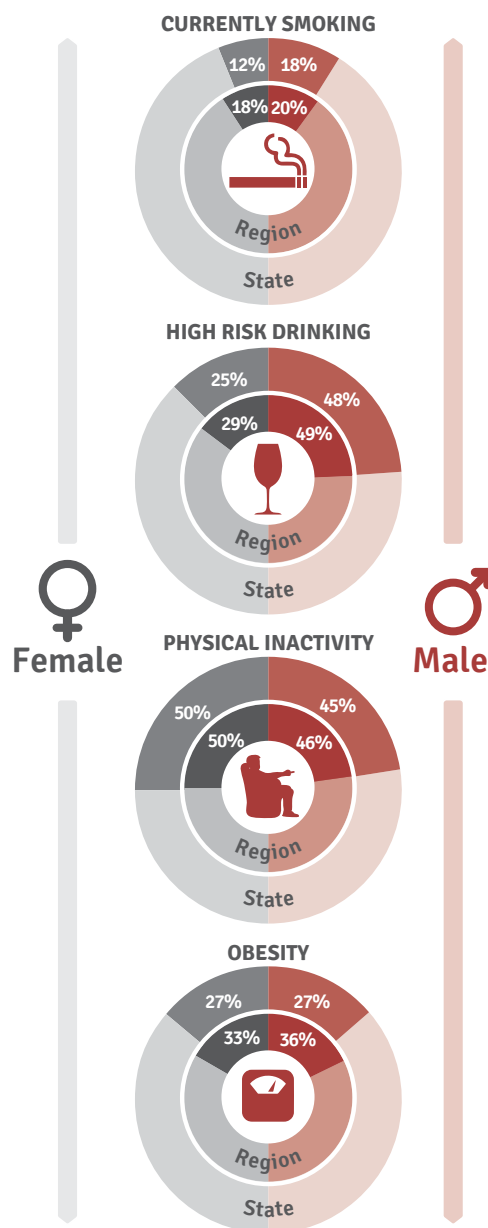


Figure 4.4 Prevalence of modifiable risk factors (WACHS, 2015d).

Mental Health

- One in thirteen adults (7.5%) were found to have high or very high levels of psychological distress compared to 1 in 12 adults (8%) from the State.
- One in eight adults (12%) reported having been diagnosed with a current mental health problem in the last 12 months, compared with 1 in 7 adults (14.2%) from the State (WACHS, 2015d).

Access to Mental Health Services

In 2009-2010, no mental health care plans were developed by GPs under the Better Access program in 10 of the 22 LGAs. Compared with the State (6,722 per 100,000 persons), rates were low in Coorow, Exmouth, Carnarvon, Morawa, Mount Magnet, Three Springs and Mullewa (approximately 2,000 per 100,000 persons) (PHIDU, 2016).

For 2008-2012, Midwest residents aged 15-64 years accessed community mental health services at a lower rate than the State. People aged 15 to 44 years accounted for 75% of the 67,000 occasions of service. The leading reason for attendance was serious psychiatric disorders' (WACHS, 2015d).

Suicide

Average annual deaths from suicide and self-inflicted injury for 2009-2013 were available for Carnarvon (26.1 per 100,000) and Geraldton-Greenough (17.4 per 100,000) LGAs only. These rates were similar to Country WA PHN (17.0 per 100,000 persons), but higher than the State (13.3 per 100,000 persons) (PHIDU, 2016).

For 2002-2011, youth suicide (15-24 years) rate was higher for females from the Midwest than the State.

- Males: 20.2 per 100,000 persons (State 19.9 per 100,000 persons)
- Females: 8.3 per 100,000 persons (State 6.0 per 100,000 persons) (WACHS, 2016d).

Hospitalisations and potentially preventable hospitalisations

Hospitalisations

For 2008-2012, the total hospitalisation rate for Midwest adults was higher than the State (1.1 times higher). Digestive diseases (12%) and pregnancy and childbirth were the leading causes of hospitalisation (7%) for adults aged 16-64 years.

For Aboriginal adults, the hospitalisation rate was lower than the Aboriginal State rate, yet it was three times greater than non-Aboriginal adults from the region (2003-2012). Dialysis accounted for nearly one third of all separations for Aboriginal adults (27%) (WACHS, 2015d).

Alcohol-related Hospitalisations

For 2008-2012, alcohol-related separations were 1.3 times higher for adults from the Midwest compared with State (1,018 per 100,000 persons). Alcohol-related hospitalisation rates were six times higher for Aboriginal than non-Aboriginal people (WACHS, 2015d).

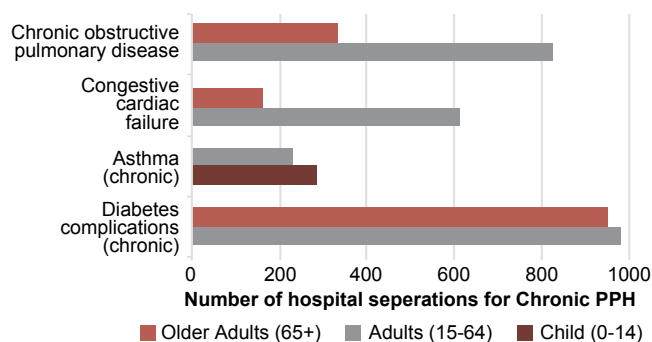


Figure 4.6 Number of chronic PPH separations, Midwest region, 2008-2012 (WACHS, 2015d).

PPHs

'Diabetes complications' was the leading cause of potentially preventable hospitalisations (PPHs) for adults and older adults. PPH rates were 1.5 and 1.1 times higher respectively than other WA regions.

PPH rates for chronic obstructive pulmonary disease were 2 and 1.6 times higher respectively for adults and older adults than their WA counterparts.

PPH rates for chronic asthma for children and adults from the Midwest were 1.5 and 1.2 times higher respectively than their peers from the State.

PPH rates for congestive cardiac failure for adults and older adults were 1.6 and 1.3 times higher respectively than adults and older adults from the State (WACHS, 2015d). Figure 4.6 shows the number of separations for chronic PPHs by age-group.

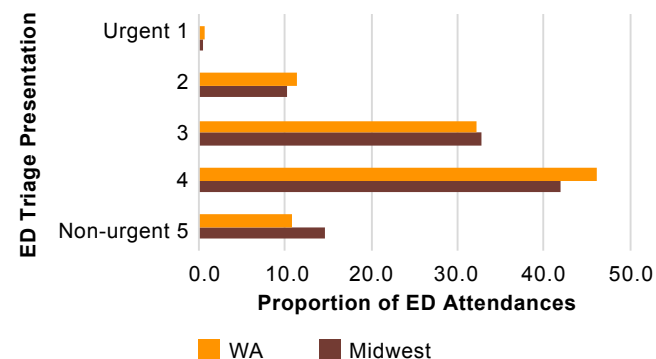


Figure 4.7 Emergency department attendances for the Midwest region and WA, 2013 (WA DoH 2016).

PPHs and Aboriginal People

The total PPH rates for Midwest Aboriginal people aged 15-64 years were slightly higher (approximately 1.02 times higher) than State Aboriginal people in 2012, yet were lower than State Aboriginal rates from 2009 to 2011. The rates were approximately 5.6 times higher than Midwest non-Aboriginal counter-parts (WACHS, 2015d).

Emergency Department Services

In 2013, there were 48,876 emergency department attendances at Midwest hospitals. Of these, over half (58%) were non-urgent or semi-urgent attendances compared with two thirds (66%) for Country WA and just over half (57%) for the State.

National Bowel Screening Program, persons aged 50 to 74 years		
SA3/PHN/State	Females (%)	Males (%)
Gascoyne	37.2	29.9
Midwest	41.9	35.6
Country WA PHN	43.5	38
WA	43.5	38.6
BreastScreen WA, Women aged 50 to 74 years		
Gascoyne	24.8	
Midwest	52.5	
Country WA PHN	54.2	
WA	55.2	
Cervical Cytology Screening Register, Women aged 20 to 69 years		
Gascoyne	45.6	
Midwest	57.0	
Country WA PHN	51.9	
WA	55.7	

Table 4.1. Screening Participation, Midwest region, Jan 2014 to Dec 2015 (AIHW, 2016a)

Services and workforce

Health Professional	Midwest	Country WA PHN	WA Total
	No. per 10,000 persons		
General dentists	4.0	5.3	8.6
Psychologists	4.4	4.8	9.8
Occupational therapists	5.0	5.0	8.6
Physiotherapists	5.9	6.4	10.8
Pharmacists	7.9	6.8	10.4
General practitioners	23.2	22.7	33.7
Registered nurses	112.6	98.9	119.8

Table 4.2 Registered service providers per 10,000 population, Midwest, 2014 (ABS, 2015a; DoH, 2015).

In 2014, all service provider rates for the Midwest were similar to Country WA PHN rates. However, rates were lower than the State for all providers.

Rates for general practitioners (23.2 per 10,000 persons) and registered nurses (113 per 10,000 persons) were most different to the State (GPs 34 and registered nurses 120 per 10,000 persons). The majority of registered GPs (72%) and registered nurses (67%) were located in Geraldton-Greenough, with a further 13% of GPs and 8% of registered nurses in Carnarvon (ABS, 2015a; DoH, 2015) (Table 4.1).

Aged Care

Operational aged care places include transitional, community and residential places which are delivered by Government, For Profit and Not for Profit providers.

Between 2006 and 2015, the number of operational aged care places increased from 446 to 732 places. However, due to a gradual increase in the number of older persons, the number of places per 1,000 persons has declined marginally since 2011. Figure 4.8 shows trends for people aged 70 years and over. (AIHW, 2016c) (Figure 4.8).

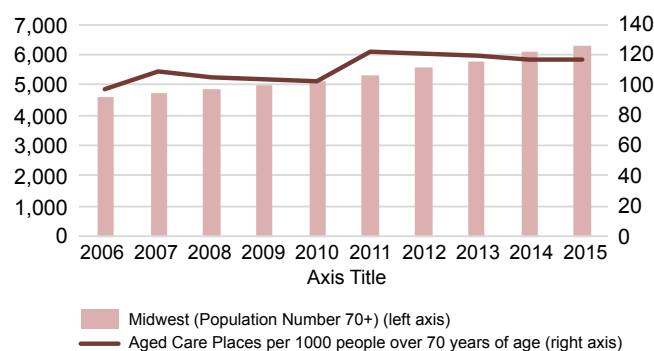


Figure 4.8 Population aged 70 years and over, compared to aged care places available per 1000 people, Midwest Region, 2006 to 2015 (AIHW, 2016c).

After Hours GP Services

Three practices in the Midwest, all in Geraldton, provide general practitioner services outside the standard hours (8 to 7pm Monday-Friday, and 8 to 12 pm Saturday). The afterhours services provided in Geraldton include evenings and Saturday clinics only (NHSD, 2016).

“ It is important that there are multiple culturally safe options for Aboriginal people of Geraldton and the Midwest. There are often divides between families which may mean that one service may not be accessible to an individual. ”

Bolden & Jackson, 2016d

Residents in the Midwest region appear to be accessing mental health support at a lower rate than other WA areas (as evidenced by no mental health care plans) yet mental health issues and mental health-related hospitalisations were substantially higher— particularly in Carnarvon and Meekatharra—compared to Country WA. The number of registered psychologists in the region is less than the State rate which indicates a gap in service supply.

Priority locations of greatest need

Analysis of the social determinants, health indicators, service gaps and stakeholder feedback has indicated priority locations of greatest health needs in the Midwest. Areas include: the Gascoyne region (Carnarvon and surrounding communities), and Murchison areas (notably Meekatharra). The priority population groups, health issues and service gaps are outlined below.

Identified issues and service gaps, including stakeholder feedback

Alcohol and other drugs

- Stakeholder feedback indicates high use in 10 -15 year old children, with links to high levels of crime.
- Alcohol-related hospitalisation rates 6 times higher for Aboriginal than non-Aboriginal people from the region.

Chronic disease

- PPH rates for chronic conditions were higher than State rates for 2008-2012.
- Total PPH rates were 5 to 6 times higher for Aboriginal compared with non-Aboriginal people from the Midwest.
- Renal disease is a significant issue for Aboriginal people accounting for over one quarter of all hospital separations.

Mental health

- Mental health-related hospitalisations were substantially higher in Carnarvon and Meekatharra compared to Country WA.

Domestic violence

- Reports of high levels in Geraldton, as well as sexual abuse and trauma (WA Parliament, 2015).

Service gaps

- Identified need for outreach services for management of chronic conditions e.g. diabetes, respiratory and heart disease.

Theoretical case study

A 56-year-old married man living in Meekatharra has chronic arthritis and experiences pain most days. He has been diagnosed with a mental health condition and recently lost his job during the economic downturn. Consequently, his drinking has increased, along with feelings of depression. Last year, he was in hospital for several days, unable to cope with everyday concerns and his ongoing health issues.

He is unable to speak to his family or community about his disorder or visit anywhere labelled as a mental health service. He has a computer but has limited access to the internet. Due to his ongoing pain and small income, he limits driving so rarely accesses any services he has been referred to.

With a proposal to fund more counsellors to support the existing social worker in the area, he would feel comfortable to see the counsellor in a more informal session. The counsellor has persuaded him to talk to his GP about managing his pain through an appropriate exercise program.

Anticipated outcomes

It is anticipated that with the additional counsellor support, the patient will be able to reduce his reliance on alcohol and is more likely to self-manage his chronic pain. The GP will develop a written mental health care plan so that the patient feels he has more support. He will be better placed to secure new employment opportunities to help support his family.

“ *Domestic violence was identified as an issue of great concern in Carnarvon, with limited access to crisis accommodation in town for families or for men. The association between the incidence of domestic violence and alcohol and/or drug use was strong. There was also a heartfelt concern that because domestic violence is so common in the community, it is becoming normalised.* ”

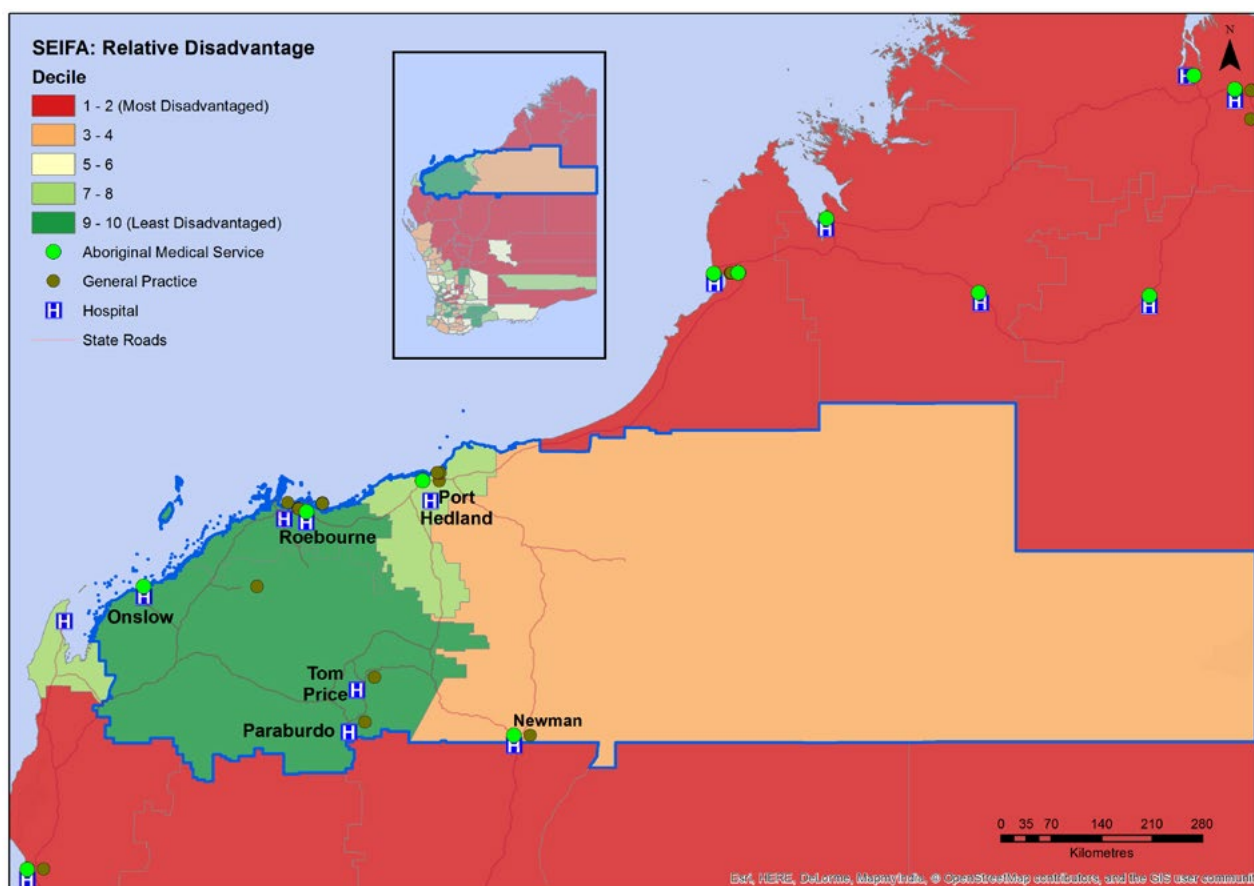
Bolden & Jackson, 2016d

How could the system address the needs?

- Meekatharra stakeholder action group has been established to tackle alcohol and drug issues within the town and to ensure greater access to services.
- The Meekatharra Aboriginal reference group is determining the feasibility of establishing an after hours domestic violence response team.
- Chronic disease working group in Carnarvon aims to address fragmented services, strengthen partnerships and support. Two teams in Carnarvon and Geraldton will service surrounding districts with:
- A coordinator to ensure the person receives the appropriate care at the right time and in the right place;
- Assistance with health system navigation, My Health Record and self-management.
- An outreach service has been contracted through the team bus which services the Gascoyne, Murchison and Midwest districts.

The Pilbara region

The Pilbara region is predominantly a mining region and covers 507,896 square kilometres. The region is located in the northern half of WA and is bordered by the Indian Ocean, Northern Territory, and the Kimberley and Midwest regions. The region includes two health districts, the West and East Pilbara districts. The region is classified almost entirely as a very remote health area (99.9%), with a tiny remote area around Port Hedland and Roebourne (0.1%). The majority of the population resides in the West Pilbara, with the main populations located in Port Hedland, Karratha and Newman (WACHS, 2015e). Aboriginal people comprise 15.3% of the total Pilbara population, which is markedly higher than the WA population (3.6%).



Map 5. The Pilbara Region: rates of disadvantage compared to medical service supply (GPs, hospitals and AMS) (ABS, 2011; RHW, 2016).

Population 2014: 67,503, 2.6% of the WA population (WA DoH, 2016).

Highest populated LGA: Port Hedland and Karratha (PHIDU, 2016).

Aboriginal population 2014: 10,326 comprising 15.3% of the Pilbara population (WA DoH, 2016).

65+ population 2014: 1,637 (WA DoH, 2016).

Square kilometres: 507,896 (WACHS, 2015e).

Level of remoteness: 99.9% is classified as very remote with 0.1 as remote (WACHS, 2015e).

GPs: 33.5 (RHW, 2016; WAPHA, 2016).

Hospitals: Hedland Health Campus, with additional public hospitals are located in: Karratha, Newman, Onslow, Paraburdoo, Roebourne and Tom Price. (WA DoH, 2016).

Relative Disadvantage

In 2011, 20% of people from the Pilbara region were living in the second most disadvantaged areas (quintile 2) for WA. East Pilbara (962) and Port Hedland (1033) were identified as the 'most disadvantaged areas of Pilbara. These two LGAs represent almost half of the Pilbara population (45%) (ABS, 2011).

Access to Services

While health services are provided in the main centres, visiting specialists (allied health and medical) are essential for a wide range of services including cardiology and paediatric cardiology, dermatology, orthopaedics, neurology, urology, podiatry and ear health.

Population characteristics, disadvantaged groups and the social determinants of health

Aboriginal People

In 2014, 15.3% of the Pilbara population (10,326 people) identified as Aboriginal, which was higher than the Country WA (10.2%) and State (3.6%) averages. The largest numbers of Aboriginal people were living in the Karratha and Port Hedland LGAs (PHIDU, 2016).

Figure 5.1 shows differences in the age structures for Aboriginal and non-Aboriginal people. An earlier on-set and progression of chronic illness for Aboriginal people is an important factor which contributes to the observed differences. Migration into the region for employment purposes, particularly for males also has a significant impact on the age structure for non-Aboriginal people.

Aboriginal people aged 55 years and over are recognised as 'older adults' due to the earlier onset of chronic illness and disability (AIHW, 2014c; WA DoH, 2016).

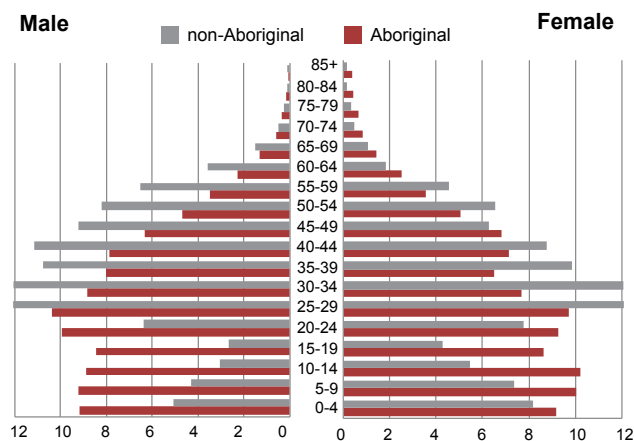


Figure 5.1 Population pyramid, Pilbara population, 2014 (WA DoH, 2016).

Older Persons

In 2014, people aged 65 years and over represented only 1 in 42 people (1,637) or 2.4% of the Pilbara population. Between 2015 and 2025 the percentage of older persons is projected to increase from 2.6% to 7.2% (Figure 5.2).

Culturally and Linguistically Diverse People

In 2011, 2.9% of people were born in a non-English speaking country and had lived in Australia for less than 5 years compared with 1.6% Country WA and 3.8% for WA. Karratha had the highest rate at 3.9%.

Overall, 0.7% of people reported poor English proficiency which was similar to 0.5% Country WA and lower than the State (1.7%). Karratha had the highest percentage of people with poor English proficiency (1.2%) (PHIDU, 2016).

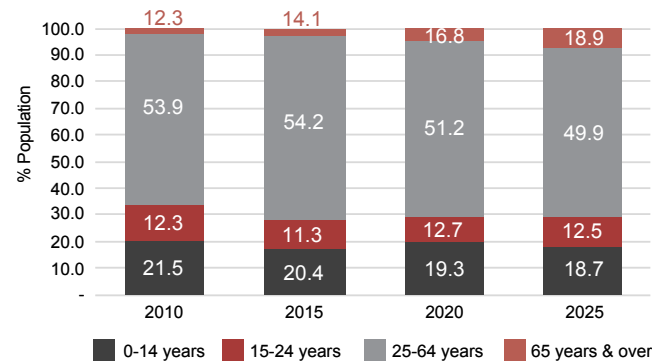


Figure 5.2 Population projections, Pilbara region, 2010 to 2025 (WA DoH, 2016).

Areas with higher social disadvantage

Long-term unemployed people: 1 in 20 from Port Hedland (State: 1 in 33).

Households without a car: 1 in 10 in East Pilbara (State: 1 in 16).

People with a healthcare card: 1 in 17 from Port Hedland (State: 1 in 16).

Houses rented from the Government: 1 in 8 in Port Hedland (State: 1 in 7).

Children in jobless families: 1 in 7 children (15%) from East Pilbara (State: 1 in 10)

(PHIDU, 2016) (Figure 5.3).

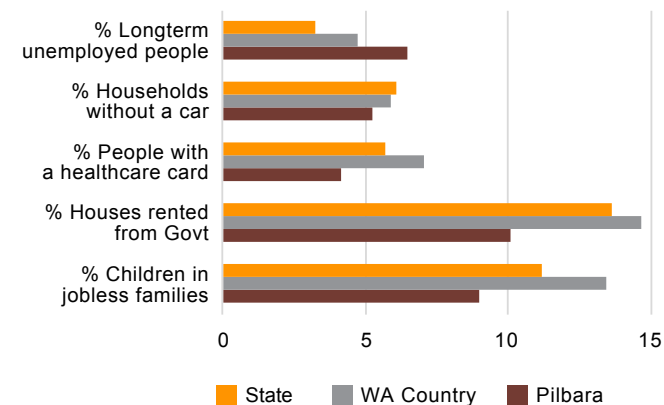


Figure 5.3 Social determinants, Pilbara region, 2011 (PHIDU, 2016).

Living with long-term conditions: physical and mental

Risk Factors for Chronic Disease

The prevalence of the following risk factors were higher for people from the Pilbara than those from the State (Figure 5.4):

- Smoking in males and females
- High risk drinking in males and females
- Obesity in males only (WACHS, 2015e).

Smoking During Pregnancy

For Aboriginal women, the reported rate of smoking during pregnancy was similar to the State in 2013 (51%). For non-Aboriginal women, the reported rate of smoking during pregnancy was lower than the State (10% compared to 14%) (WACHS, 2015e).

Prevalence of Chronic Disease

The prevalence of chronic health conditions for the Pilbara region were comparable with the State. The most common conditions for 2009 to 2012 were current mental health problems (15%) arthritis (10%), and asthma (8.8%) (WACHS, 2015e).

“ The support provided to chronic disease sufferers once they leave the Pilbara for appointments, treatment or training in Perth needs to be addressed. Aboriginal people are left to mostly fend for themselves in an unknown environment... and need someone to attend appointments with them to ensure that they fully understand what is being said. ”

Chronic disease support worker, Pilbara

Mental Health

For 2009-2012, 1 in 12 adults (8%) reported having high or very high psychological distress, while 1 in 7 (15%) reported having a current mental health problem. These estimates were similar to those for people from the State (WACHS, 2015e).

- One in twelve adults (8%) were found to have high or very high levels of psychological distress which was identical to the State (8%).
- One in seven adults (12%) reported having been diagnosed with a current mental health problem in the last 12 months, which was similar to the State (14%) (WACHS, 2015E).

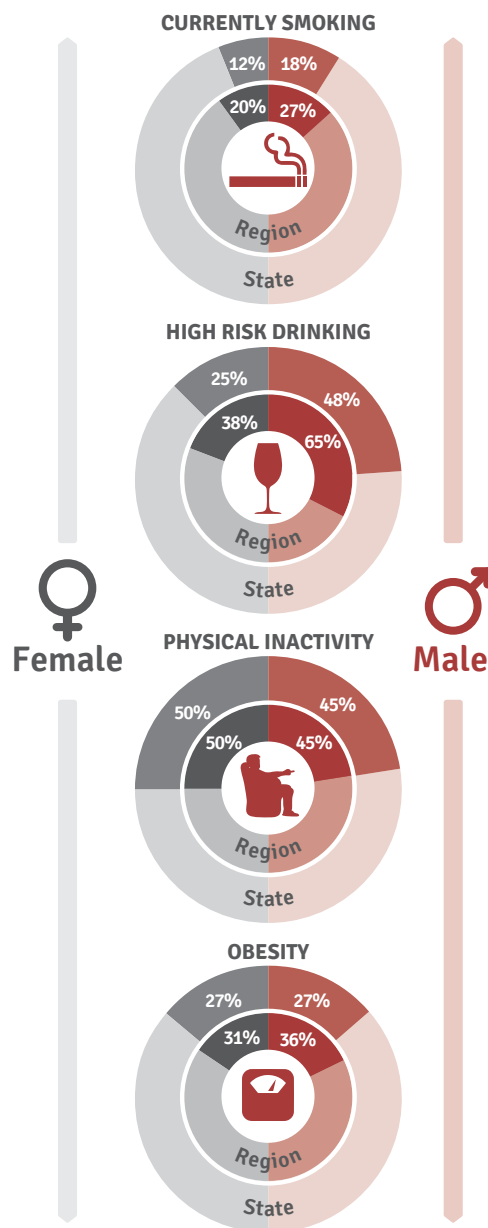


Figure 5.4 Prevalence of modifiable risk factors (WACHS, 2015e).

Access to Mental Health Services

Registered psychologists are lower in the Pilbara region (3.4 per 10,000 persons) compared to Country WA and State rates (4.8 and 9.8 respectively) (see table 5.1, NHSD, 2016), along with limited access to counselling and psychiatric services.

In 2009-2010, development of mental health care plans by GPs under the Better Access program within the Pilbara region was less than half the State (6,722 per 100,000 persons) in the East Pilbara, Ashburton, Karratha LGAs (less than 2,500 per 100,000 persons). Stakeholder feedback indicates that there is an increased demand on funded service places due to a lack of private counselling services (WAPHA, 2016).

For 2008-2012, Pilbara residents aged 15-64 years accessed community mental health services at a lower rate than the State. Of the 47,203 occasions of service, serious psychiatric disorders (48%) and anxiety disorders (10%) were the leading conditions managed. The rate of attendance for Aboriginal people was 3.5 times higher than for non-Aboriginal people (WACHS, 2015e).

Suicide

For 2009-2013, average annual deaths from suicide and self-inflicted injury for people aged 0 to 74 years were available for Port Hedland (18.5 per 100,000) and Karratha (12.1 per 100,000) only. The rates were similar to Country WA (17.0 per 100,000 persons) and WA (13.3 per 100,000 persons) (PHIDU, 2016).

For young adults (15-24 years) suicide rates were similar to the State for both sexes during 2002-2011:

- Males: 20.6 per 100,000 persons (State 19.9 per 100,000 persons)
- Females: 3.2 per 100,000 persons (State 6.0 per 100,000 persons) (WACHS, 2016e).

Hospitalisations and potentially preventable hospitalisations

Hospitalisations

For 2008-2012, the total hospitalisation rate for Pilbara adults was similar to the State rate, although female hospitalisation rates were higher than the State (1.3 times higher). Renal dialysis accounted for 24% of separation for people aged 16-64 years compared with 7% for the State.

For Aboriginal adults, the hospitalisation rate was slightly higher than Aboriginal State rates (1.1 times higher) and 6.1 times higher than non-Aboriginal adults from the region (2003-2012). Dialysis accounted for the largest number of hospitalisations (51%) for Aboriginal people (WACHS, 2015e).

Acute PPHs

Ear, nose and throat infections were the leading potentially preventable hospitalisation (PPHs) for children and a leading cause for adults. Separation rates were 1.2 and 1.6 times higher respectively than their State peers.

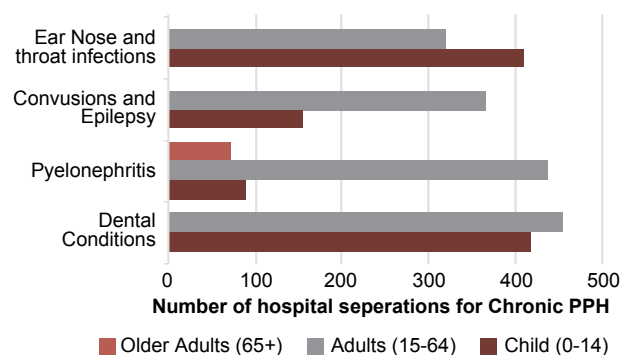


Figure 5.5 No. acute PPH separations, Pilbara region, 2008-2012 (WACHS, 2015e).

Separation rates for convulsions and epilepsy were 1.3 times higher for children and adults compared with their State peers.

Pyelonephritis (kidney disease) were a leading cause of PPHs for children, adults and older adults. Separation rates were 1.3 and 1.8 times higher for adults and older adults, while the rate for children (SRR=1.0) was similar to the State.

Dental conditions were the leading PPHs for children and the second leading cause for adults, however compared with State counterparts the separation rate was lower for children (SRR=0.9) and adults (SRR=0.8).

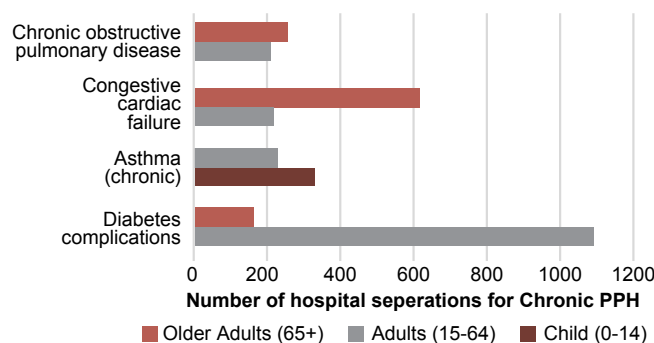


Figure 5.6 Number of chronic PPH separations, Pilbara region, 2008-2012 (WACHS, 2015e).

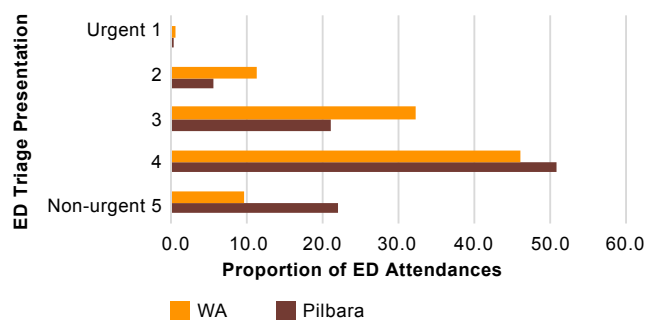


Figure 5.7 Emergency department attendances for the Pilbara region and WA, 2013 (WA DoH 2016).

Chronic PPHs

'Diabetes complications' was the leading PPH for adults and the second leading PPH for older adults. Separation rates were 2.1 and 1.4 times higher respectively than their WA counterparts. Chronic obstructive pulmonary disease was a leading PPH for adults and the leading PPH for older adults. The separation rates were 1.5 and 3.8 times higher respectively than their WA counterparts.

Chronic asthma was the leading PPH for children and adults. PPH rates for children and adults were 1.5 and 1.6 times higher than for State counterparts. Congestive cardiac failure was a leading PPH for adults and older adults. PPH rates for adults and older adults were 2.8 and 1.4 times higher respectively than in other WA regions (WACHS, 2015e). Figure 5.6 shows the number of separations for chronic PPHs by age group.

PPHs and Aboriginal People

For 2008 to 2012, total PPH rates for the Pilbara Aboriginal people aged 15-64 were higher than the Pilbara non-Aboriginal counterparts (approximately 5.2 times higher). Whilst the Pilbara Aboriginal PPH rates were similar to State Aboriginal rates for 2008 to 2012 (WACHS, 2015e).

Emergency Department Services

In 2013, there were 45,753 emergency department attendances at Pilbara hospitals. Of these, 7 in 10 (70%) were non-urgent or semi-urgent attendances compared with two thirds (66%) for Country WA and just over half (57%) for the State (Figure 5.7) (WA DoH, 2016).

Services and workforce

Registered Service Providers

In 2014, all Pilbara registered service providers were lower than Country WA and State rates, with the exception of physiotherapists, that were slightly higher than the Country rate. Compared with Country WA and the State, the lowest rates were for registered nurses (85 per 10,000 persons) and GPs (18 per 10,000 persons).

“ Many patients cannot afford the GP gap and are not Aboriginal therefore are unable to access care except as ED presentation for primary care. ”

Bolden & Jackson, 2016e

The majority of GPs were located in Port Hedland (47%) followed by Karratha (37%), while slightly more registered nurses were located in Karratha (37%) and then Port Hedland (34%) (Table 5.1) (ABS, 2015a; DoH, 2015).

Health Professional	Pilbara	Country WA PHN	WA Total
	No. per 10,000 persons		
General dentists	3.0	5.3	8.6
Psychologists	3.4	4.8	9.8
Occupational therapists	4.9	5.0	8.6
Pharmacists	5.5	6.8	10.4
Physiotherapists	6.8	6.4	10.8
General practitioners	18.2	22.7	33.7
Registered nurses	85.3	98.9	119.8

Table 5.1 Registered service providers per 10,000 population, Pilbara, 2014 (ABS, 2015a; DoH, 2015).

70% of ED presentations are identified as non/semi urgent; this indicates that residents in Pilbara needing care could be treated in the community by primary care providers. There is a gap in registered providers across the region, in particular nurses and GPs.

Aged Care

Operational aged care places include transitional, community and residential places which are delivered by Government, for-profit and not-for-profit providers.

Between 2006 and 2015, the number of operational aged care places increased from 100 to 145 places.

However, due to a gradual increase in the numbers of older persons, the number of places per 1,000 persons has declined since 2011. Figure 5.8 shows trends for people aged 70 years and over (AIHW, 2016c).

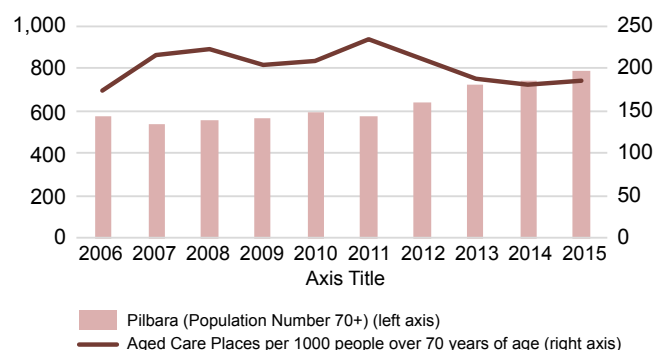


Figure 5.8 Pilbara population aged 70 year and over, compared to aged care places available per 1000 people, 2006 to 2015 (AIHW, 2016c).

After Hours GP Services

Five practices within the region provide general practitioner services outside standard hours (8 to 7pm Monday-Friday, and 8 to 12 pm Saturday). Six practices are reported via NHSD (Table 5.2) (NHDS, 2016).

Location	No. practices	Availability by location
Karratha	2	Evenings, Saturdays
Port Hedland	2	Mornings, evenings, weekends
South Hedland	1	Saturdays

Table 5.2 After hours general practices by location and hours, Pilbara 2016 (NHSD, 2016).

National Bowel Screening Program, persons aged 50 to 74 years		
SA3/PHN/State	Females (%)	Males (%)
Pilbara	27	24
Country WA PHN	43.5	38
WA	43.5	38.6
BreastScreen WA, Women aged 50 to 74 years		
Pilbara	36.3	
Country WA PHN	54.2	
WA	55.2	
Cervical Cytology Screening Register, Women aged 20 to 69 years		
Pilbara	44.6	
Country WA PHN	51.9	
WA	55.7	

Table 5.3 Screening Participation, Pilbara Region, Jan 2014 to Dec 2015 (AIHW, 2016a).

Priority locations of greatest need

Whilst there are common major health issues and service gaps across the entire region, key locations of greatest health needs include: Roebourne, South Hedland, Onslow and Newman. Priority population groups, health issues and service gaps are outlined below.

Identified issues and service gaps, including stakeholder feedback

Drug and alcohol

- Limited drug and alcohol services, including medical detox facilities, counselling for children younger than 14 years, and rehabilitation services for children 14-17 years (stakeholder feedback).
- A need for data to support the high number of methamphetamine cases anecdotally described by clinicians.

Chronic disease

- PPHs for diabetes complications, chronic asthma, chronic obstructive pulmonary disease and congestive cardiac failure were higher than State rates.
- Renal failure is a significant issue, with dialysis accounting for one quarter of all hospital separations, and 51% of separations for Aboriginal people.

Mental health

- While the prevalence of mental health problems was similar to the State, attendance at community-based mental health services was significantly lower, which suggests people are not accessing services.
- Limited mild and moderate mental health services (stakeholder feedback).

Domestic violence

- Inadequate support for domestic violence victims and perpetrators (stakeholder feedback).

Health workforce and services

- Inadequate staff across a wide range of disciplines including allied health, Aboriginal health workers, GPs and midwives.
- Recruitment and retention of suitable workforce for mental health across the board, but particularly for youth and children, and AOD counselling. The Statewide WACHS employment freeze has had significant impact on the Pilbara workforce.
- Service gaps include dialysis and detox facilities (stakeholder feedback).

“ *There is a high level of alcohol use in the community and the related accident rate is high - take away alcohol can't be sold on Sunday and there is a reduction in accident presentations at A&E on Sundays.* ”

Bolden & Jackson, 2016e

Theoretical case study

Carla is a 44-year-old Aboriginal woman who lives in Newman and has two children. Although Carla has suffered from depression for most of her adult life, she has never sought help. Carla started drinking at 12 years of age and now drinks large amounts of alcohol to cope with the challenges of living including long-term unemployment. She lives in house with her children, parents and other occasional family members.

Carla was diagnosed with diabetes 6 years ago. This has not been her priority as she is more concerned about her family's finances and living conditions. Recently, she has started having eye problems and has become more reluctant to leave the house. A few weeks ago, she had to be rushed to the local hospital with kidney problems. The doctors there said she had poorly managed diabetes. Carla was referred to the local General Practice, but feels very uncomfortable about this. Last time she visited, she didn't really understand what they were telling her to do and feels she cannot trust them.

Recent investments and collaboration among health agencies means that an Aboriginal health worker (AHW) has been employed and regularly visits Carla's local GP to assist with Aboriginal patients.

Anticipated outcomes

The AHW now assists Carla during her visits to the local GP, where they have developed a diabetes care plan to help her to better manage understand complications that can arise if it is not managed correctly. The AHW has also helped refer Carla to alcohol treatment and allied health services, that both provide a culturally sensitive service. Although she still drinks, Carla has started to feel less depressed, and is attending her appointments regularly with the support of her AHW. Carla has also encouraged other family members to go and visit the local GP, which, with the help of the AHW, has become more culturally sensitive and accessible to Aboriginal people.

How could the system address the needs?

- Local Alcohol and Other Drug Management Group action plans developed to reduce level of harmful AOD use within the community by implementing whole of community approach.
- A Diabetes Management Plan has been developed for the Pilbara, first stage of roll out includes the training of health staff and is expected to commence in January 2017.
- Ongoing promotion and management of child immunisations within the Pilbara to ensure maintenance of 90% immunisation rates for all age groups.
- The Mental Health Professionals Networks in Karratha and Port Hedland, can continue to provide support and encourage collaboration amongst members.
- Continued support by WACHS, WAPHA and other agencies of private providers to facilitate capacity building and ease reliance on public services.
- Initiation of a Pilbara Collaborative Health Forum focussed on ensuring a local health system that is efficient and sustainable into the future.

The South West region

The South West has a booming economy with a number of local industries including mining, manufacturing, retail, tourism and agriculture. The region is 23,998 square kilometres and is located in the South West corner of Western Australia, bordering the Indian and Southern Oceans. It includes outer regional (50%), inner regional (40%) and remote (10%) health areas, with the LGAs of Bunbury and Busselton as the most populated and offering the greatest health services. Aboriginal people comprise 2.7% of the total South West population, which is slightly lower than the WA population (3.6%). In 2011, the most disadvantaged LGAs were Manjimup and Collie.



Relative Disadvantage

In the South West, the most disadvantaged LGAs in 2011 were Manjimup (958), Collie (958), Bunbury (973), Nannup (978) and Bridgetown-Greenbushes (979). The areas of least disadvantage are Capel (1045), Dardanup (1028) and Augusta-Margaret River (1025) (ABS, 2011).

Access to Services

The South West Health Campus is the major health facility in the South West region, which includes the Bunbury Hospital and SJOG Bunbury Hospital. People living in outer regional and remote areas of the region travel significant distances for specialist health and medical services e.g. the distance Pemberton to Bunbury is 161km or two hours' drive by car.

Population 2014: 174,052, 7% of the WA population (WA DoH, 2016).

Highest populated LGA: Bunbury and Busselton (PHIDU, 2016).

Aboriginal population 2014: 4,472 comprising 2.6% of the South West population (WA DoH, 2016).

65+ population 2014: 25,788 (WA DoH, 2016).

Square kilometres: 24,000 (WACHS, 2015f).

Level of remoteness: 10% of the region is remote (WACHS, 2015f).

GPs: 357 in 2015, an increase of 16% from 2014 (includes Mandurah, Pinjarra and Waroona) (RHW, 2016).

Hospitals: 13, with Bunbury and Busselton having the highest number of hospitalisations (WACHS, 2015f).

Map 6. The South West region: rates of disadvantage compared to medical service supply (GPs, hospitals and AMS) (ABS, 2011; RHW, 2016).

Population characteristics, disadvantaged groups and the social determinants of health

Aboriginal People

In 2014, 4,753 Aboriginal people were living in the South West region. Aboriginal people represented 2.6% of the South West (WA DoH, 2016). LGAs with the greatest proportion of Aboriginal populations included Bunbury (3.9%), Collie (3.7%) and Manjimup (3.2%).

Figure 6.1 shows differences in the age structure for Aboriginal and non-Aboriginal people. The Aboriginal population is relatively young with half of all people aged less than 20 years. In 2014, only 1 in 11 South West Aboriginal people (8.7%) were aged 55 years and over, which was slightly lower than for Country WA (10.2%) and WA (9.1%) (PHIDU, 2016. WA DoH, 2016) (Figure 6.1).

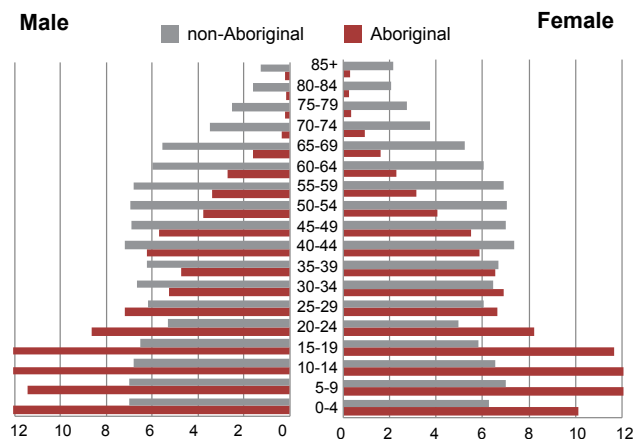


Figure 6.1 Population pyramid, South West region, 2014 (WA DoH, 2016).

Older Persons

In 2014, there were 25,788 people aged 65 years and over, representing 14.8% of the South West population (WA DoH, 2016). In Nannup, Bonyup Brook and Bridgetown-Greenbushes, 1 in 8 persons were over 65 years (Figure 6.2).

Between 2015 and 2025 the proportion of people aged 65 years and over is expected to increase from 15.3% to 20.4% of the population (WA DoH, 2016).

Culturally and Linguistically Diverse People

In 2011, 1.6% people (2,097) were born in a non- English speaking country and had lived in Australia for <5 years compared with 1.6% Country WA and 3.8% for WA. Bunbury had the highest rate at 2.5%.

Overall, 0.5% (698) people reported poor English proficiency which was similar to 0.5% Country WA and lower than the State (1.7%). Bunbury had the highest percentage of people with poor English proficiency (0.8%).(PHIDU, 2016).

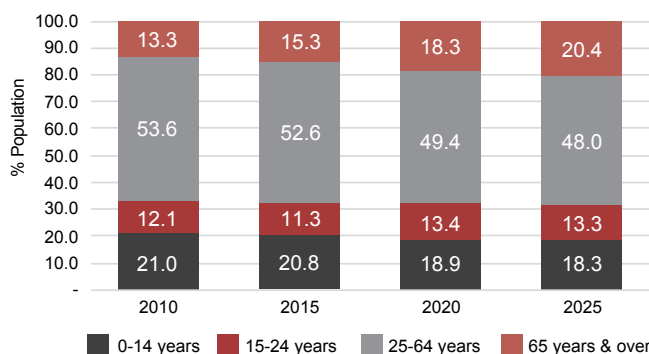


Figure 6.2 Population projections, South West region, 2010 to 2025 (WA DoH, 2016).

Areas with higher social disadvantage

Long-term unemployed people: 1 in 16 Nannup and Collie (State: 1 in 33).

Households without a car: 1 in 14 in Bunbury (State: 1 in 16).

People with a healthcare card: Nannup (8.6%) and Bunbury (8.0%)

Children in jobless families: Collie (33.1%) and Bunbury (32.1%).

(PHIDU, 2016)

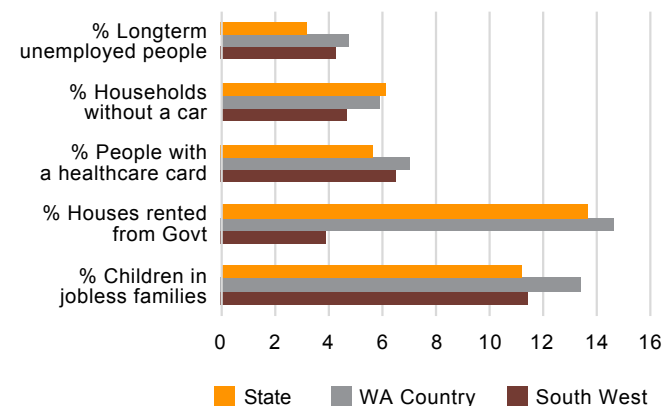


Figure 6.3 Social determinants, South West region, 2011 (PHIDU, 2016).

Living with long-term conditions

Risk Factors for Chronic Disease

The prevalence of risk factors for people from the South West were similar to those from the State (Figure 6.4) (2009-2012).

Smoking During Pregnancy

The prevalence of smoking during pregnancy was 3.5 times higher for Aboriginal compared with non-Aboriginal women from the South West (45% compared to 13%), 2013. For non-Aboriginal women from the South West, the smoking rate was similar to the women from the State (14%) (WACHS, 2015f).

Prevalence of Chronic Disease

For 2009-2012, the prevalence of arthritis for adults from the South West (22%), was significantly higher than the State.

Other common chronic conditions included asthma (8%) and current mental health problems (14%), for which estimates were similar to the State (WACHS, 2015f).

Rates for diabetes prevalence appear to be similar to State rates (WACHS, 2015) yet diabetes complications were the leading cause of chronic potentially preventable hospitalisations (PPHs) for adults (15 to 64 years) and older adults (65 years and over) in the South West region. Further investigation is recommended to identify diabetes prevalence rates and improvements in treatment and management.

Mental Health

One in seventeen adults (6%) from the South West reported high or very high psychological distress, which was similar to the State (7%).

One in seven adults (14%) reported being diagnosed with a mental health condition in the last 12 months, which was comparable to the State rate (14%) (WACHS, 2015f).

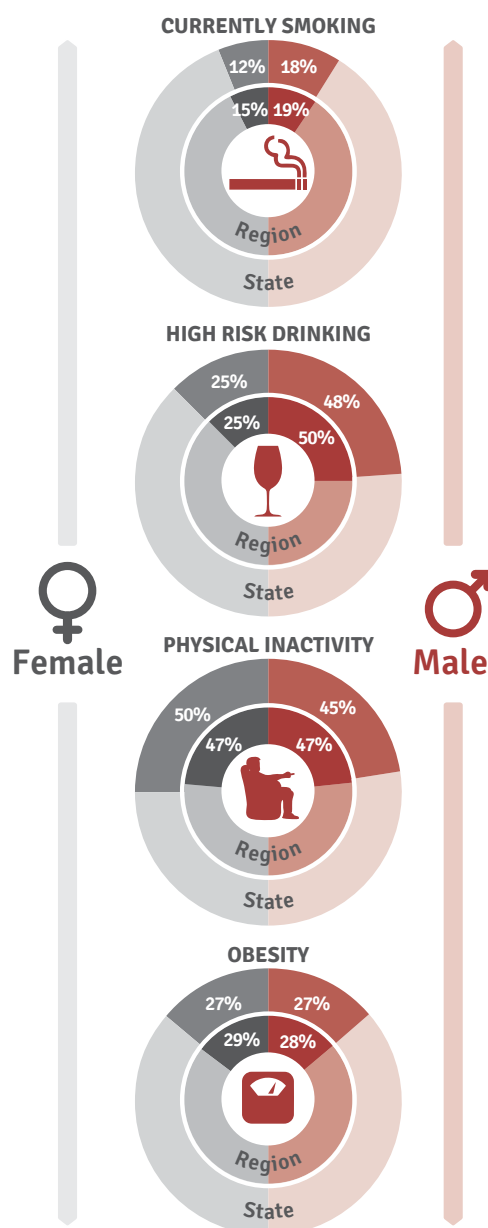


Figure 6.4 Prevalence of modifiable risk factors (WACHS, 2015f).

Mental Health Services

In 2009-2010, the rates of mental health care plans developed by GPs under the Better Access program were lower than the State (6,722 per 100,000 persons) in: Donnybrook-Balingup, Bridgetown-Greenbushes, Capel, Dardanup, Nannup, Collie, Bunbury, and Harvey.

For 2008-2012, there were 144,434 occasions of service at community based mental health services. Although the overall rate of attendance was lower than the State rate, attendances for alcohol and drug disorders were 1.4 times higher than the State rate.

Half of all attendances were for management of serious psychiatric disorders and attendance rates for Aboriginal people were 1.7 times higher than for non-Aboriginal people (WACHS, 2015f).

Suicide

For 2009-2013, average annual death rates from suicide and self-inflicted injury for people aged 0 to 74 years were not available for Boyup Brook, Bridgetown-Greenbushes or Nannup due to small numbers.

Where available, rates were similar to the State average (13.3 per 100,000 persons). For 2002-2011, youth suicide rates (15-24 years) were not statistically different from the State rates.

- Males: 21.6 per 100,000 persons (State 19.9 per 100,000 persons)
- Females: 3.6 per 100,000 persons (State 6.0 per 100,000 persons) (WACHS, 2016f).

Hospitalisations and potentially preventable hospitalisations

Hospitalisations

For 2008-2012, the total hospitalisation rate for South West adults was similar to that for the State. Digestive diseases (14%) was the leading cause of hospitalisations (by major disease category) for adults followed by musculoskeletal diseases (8%). Renal dialysis accounted for 8% of all separations, compared with 13% for the State.

For Aboriginal adults, the hospitalisation rate was 1.6 times higher than non-Aboriginal adults from the region (2003-2012). Dialysis accounted for nearly one quarter of all separations for Aboriginal adults (24%) (WACHS, 2015f).

Emergency Department

In 2013-14, there were 90,765 emergency department attendances at South West hospitals. Of these, 6 in 10 (59%) were non-urgent or semi-urgent attendances compared with two thirds (66%) for Country WA and just over half (57%) for the State (WA DoH, 2016, WACHS, 2015f).

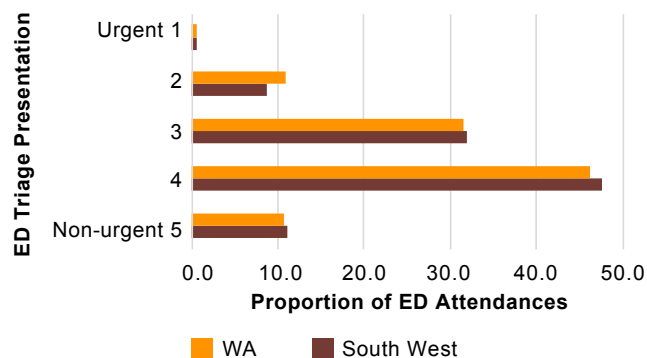


Figure 6.5 Emergency department attendances for the South West region and WA, 2014 (WA DoH, 2016).

Chronic Potentially Preventable Hospitalisations

Diabetes complications were the leading cause of chronic potentially preventable hospitalisations (PPHs) for adults (15 to 64 years) and older adults (65 years and over) in the region. The separation rate for adults was similar to their State counterparts, while the rates for older adults was higher (1.1 times higher) than older people from the State.

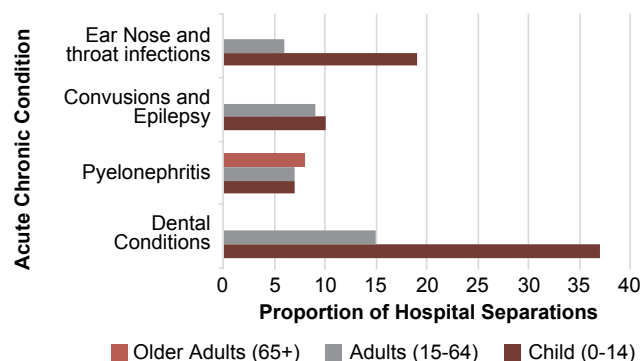


Figure 6.6 Proportion of acute PPH separations, South West region, 2008-2012 (WACHS, 2015f).

PPH separation rates for chronic obstructive pulmonary disease for adults and older adults were both the same as their WA counterparts.

PPH rates for chronic asthma for children and adults were 1.1 and 1.2 times higher respectively than peers from the State.

PPH rates for congestive cardiac failure for older adults were higher than older adults from the State (1.2 times higher) (WACHS, 2015f). Figure 6.6 shows the number of separations for chronic PPHs by age-group.

PPHs and Aboriginal People

For 2008-2012, PPH separation rates South West Aboriginal adults were approximately five times higher than their non-Aboriginal counterparts.

In 2012, the PPH rate for South West Aboriginal adults was lower than the rate for State Aboriginal people.

National Bowel Screening Program, persons aged 50 to 74 years		
SA3/PHN/State	Females (%)	Males (%)
Augusta/Margaret River/Busselton	50.7	45.2
Bunbury	46.6	41.6
Manjimup	50.3	45.9
Country WA PHN	43.5	38
WA	43.5	38.6
BreastScreen WA, Women aged 50 to 74 years		
Augusta/Margaret River/Busselton	50.7	
Bunbury	46.6	
Manjimup	50.3	
Country WA PHN	54.2	
WA	55.2	
Cervical Cytology Screening Register, Women aged 20 to 69 years		
Augusta/Margaret River/Busselton	61.1	
Bunbury	52.6	
Manjimup	58.6	
Country WA PHN	51.9	
WA	55.7	

Table 6.1. Screening participation, South West region, Jan 2014 to Dec 2015 (AIHW, 2016a)

Services and workforce

Registered Service Providers

In 2014, all registered service provider rates for the South West, except for registered nurses, were higher than Country WA PHN rates. In contrast, all rates were lower than the State, with registered nurses having the largest difference.

“ I could provide numerous examples of patients failing to negotiate the hurdles required to obtain good care - especially trying to access public clinics. ”

South West GP, qualitative feedback

More than half of the GPs (58%) and registered nurses (53%) were located in Bunbury, followed by 16% of registered GPs and 18% of registered nurses in Busselton (Table 6.2) (ABS, 2015a; DoH, 2015).

Health Professional	South West	Country WA PHN	WA Total
	No. per 10,000 persons		
Psychologists	5.2	4.8	9.8
Occupational therapists	5.3	5.0	8.6
General dentists	7.1	5.3	8.6
Physiotherapists	7.2	6.4	10.8
Pharmacists	7.4	6.8	10.4
General practitioners	24.3	22.7	33.7
Registered nurses	93.8	98.9	119.8

Table 6.2 Registered health service providers per 10,000 population, South West, 2014 (ABS, 2015a; DoH, 2015).

Aged Care

Operational aged care places include transitional, community and residential places which are delivered by Government, for-profit and not-for-profit providers.

Between 2006 and 2015, the number of operational aged care places has steadily increased from 1,253 to 1,835 places. However, due to a gradual increase in the numbers of older persons, the number of places per 1,000 persons has not increased since 2011. Figure 6.7 shows trends for people aged 70 years and over (AIHW, 2016c).



Figure 6.7 Population aged 70 year and over, compared to aged care places available per 1000 people, South West region, 2006 to 2015 (AIHW, 2016c).

After Hours GP Services

Nineteen practices within the region provide general practitioner services outside standard hours (8 to 7pm Monday-Friday, and 8 to 12 pm Saturday).

Location	No. practices	Availability by location
Australind	1	Weekends
Boyup Brook	1	Weekends
Bunbury	5	Weekends, public holidays
Collie	1	Saturdays
Dalyellup	2	Evenings, weekends, public holidays
Dunsborough	1	Evenings
Eaton	1	Evenings
Harvey	1	Saturdays
Manjimup	2	Evenings, Saturdays
Margaret River	3	Evenings, Saturdays
South Bunbury	1	Evenings, Saturdays, public holidays

Table 6.3 After hours general practices by location and hours, South West, 2016 (NHSD, 2016).

Priority locations of greatest need

Analysis of the social determinants, health indicators, service gaps and stakeholder feedback has indicated locations of priority health needs within the South West region. Areas include: Manjimup, Boyup Brook and Bridgetown. Priority population groups, health issues and service gaps are outlined below.

Identified issues and service gaps, including stakeholder feedback

Chronic disease

- PPH rates for chronic obstructive pulmonary disease and chronic asthma were higher than State rates.
- PPH rates were 5 times higher for Aboriginal than non-Aboriginal adults from the region.
- Renal disease is a significant issue for Aboriginal people accounting for over one quarter of all hospital separations (29%).

Aged care

- There has been some variability in the rate of aged care services places due to the population growth of older people.

AOD

- Occasions of service for alcohol and drugs at community-based mental health services were higher for males from the South West than those from the State.
- Alcohol and smoking related hospitalisations were markedly higher for Aboriginal than non-Aboriginal people from the region.

Services

- Private hospital model, making access to public health services an issue, especially for inland areas.
- Barriers to access due to private costs, travel and inconsistent referral patterns.

Theoretical case study

Susan is 34 years old and relocated to Manjimup to be near her two older children who are in the custody of her ex-partner. Susan has a new partner and they have a baby. She is dependent on diazepam and was taking up to 50mg a day and doctor shopping to enable this. Her current partner has a prison record which is making it difficult to find work. Susan is well known to the court system due to appearances for shoplifting. She has also lost her driving licence.

Susan has been diagnosed with depression, anxiety and borderline personality disorder. She is a frequent attender at the Emergency Department and has been a client of the Adult Mental Health Service. They have recommended she apply to join a Perth based Dialectic Behaviour Therapy (DBT) course but this would require relocating to Perth for at least a year. Her attendances at emergency were characterised by her threatening self harm if not offered admission.

“ Access issues were reportedly challenging for individuals with chronic health conditions, the aged or the disadvantaged. Many individuals rely upon the goodwill of friends or neighbours to get them to and from appointments. ”

Bolden & Jackson, 2016f

The chronic nature of her mental health issues and the fact that they are likely to lead to hospitalisation meet the criteria to involve a mental health nurse. The nurse formulates a plan to help Susan which involves frequent scheduled visits with the GP, more frequent visits from the nurse and a contract to reduce benzodiazepine use. This contract includes agreement with all the pharmacies in town and prescribing her medication on weekly “pick-up” from an agreed pharmacy, as well as regular checks with the doctor shopper line to enforce compliance.

Anticipated outcomes

After a year Susan’s use of diazepam has reduced. The intention is to withdraw this completely. Her attendances at emergency are now rare and do not involve threats to harm herself. She is now able to calm herself without involving hospital staff. The mental health nurse has encouraged her to engage with the court system and renegotiate the terms of her fines rather than becoming overwhelmed by these pressures and incurring further penalties for non-attendance.

Her family unit is better cared for and the household is more functional although there is a long way to go. Despite the intervention requiring considerable input from clinicians, it has prevented even more resources being devoted to crisis management.

“ From a Busselton perspective, which is the one I know best, even Bunbury can be a long way away for some people. A 100km round trip is not pleasant for someone in poor health and can involve a day away from home which is problematic for parents of small children. Trips to Perth are even more difficult. Busselton has a number of visiting specialists but they are usually private billing and expensive. ”

South West GP

How can the system address the needs?

- Establishing a good local networking, planning and partnership group for the region.
- Funding to integrate and coordinate services, rather than those that are standalone, including the support of an integrated mental health care model that is culturally appropriate and timely.
- Coordinate specific mental health programs, including suicide prevention and stolen generation counselling.
- Design a coordinated service model for the region, and fund a chronic disease care coordinator for identified regions.

The Wheatbelt region

The Wheatbelt region is made up of four health districts, Eastern, Western, Southern and Coastal, comprising 157,000 square kilometres along the northern Perth coast and wrapping around to the northern Great Southern region. The Wheatbelt includes inner regional (4%), outer regional (31%), remote (57%) and very remote (8%) health areas. There are 43 local government areas with Northam as the most populated LGA. Aboriginal people comprise 5.8% of the total Wheatbelt population, which is slightly higher than the WA population (3.6%). In 2011, Pingelly and Kellerberrin were the most socially disadvantaged areas.

Population 2014: 78,121, 3% of the WA population (WA DoH, 2016).

Highest populated LGA: Northam (PHIDU, 2016).

Aboriginal population 2014: 4,565, 5.8% of Wheatbelt population (WA DoH, 2016).

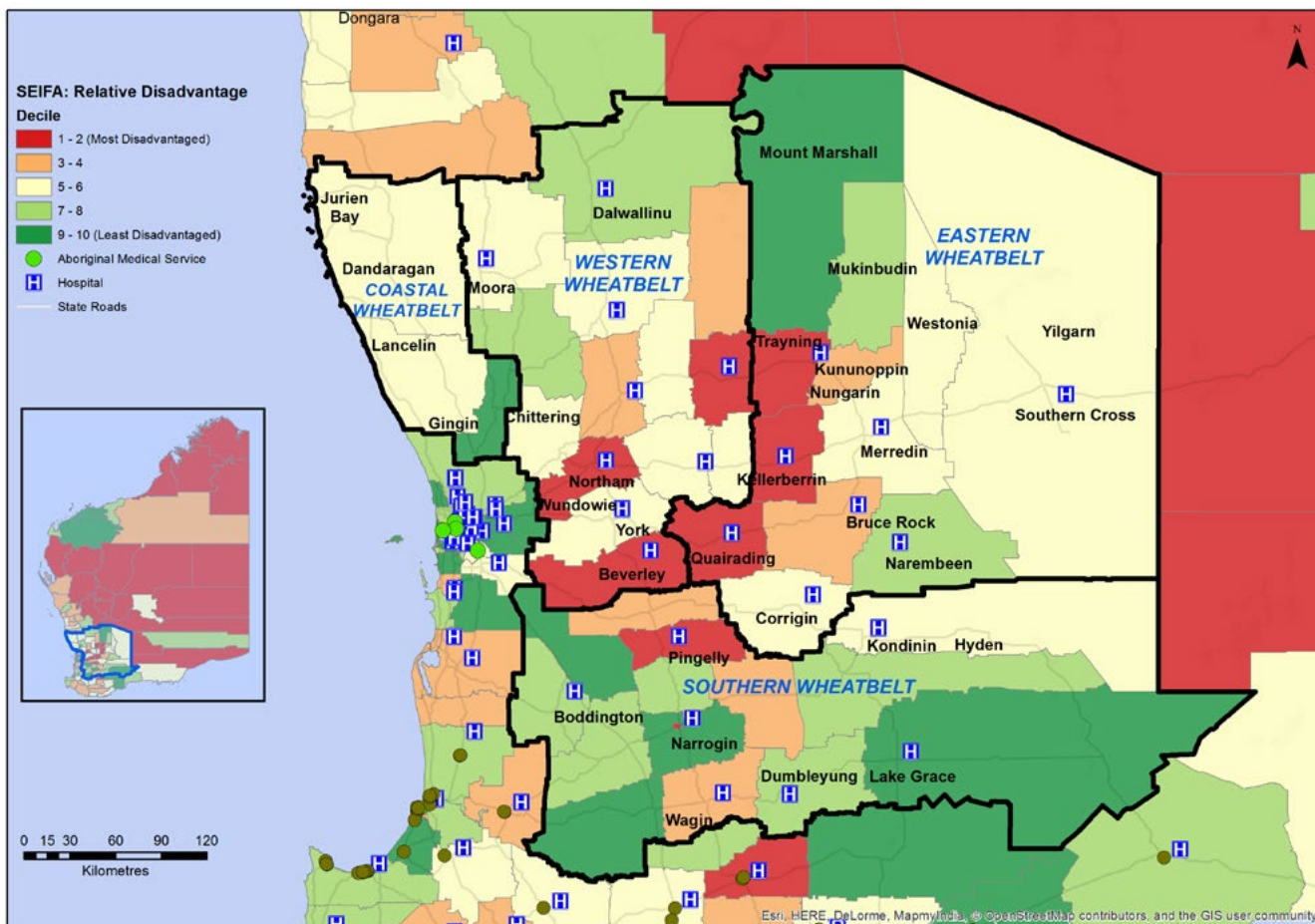
65+ population 2014: 13,510 (WA DoH, 2016).

Square kilometres: 157,000 (WACHS, 2015g).

Level of remoteness: 57% of the region is remote and 8% is very remote (WACHS, 2015g).

GPs: 71 (RHW, 2016).

Hospitals: 24, most visited located in Northam (Avon) and Narrogin (Wheatbelt South) (WACHS 2015g). No hospital services are available within the Coastal Wheatbelt region.



Map 7. The Wheatbelt Region: rates of disadvantage compared to medical service supply (GPs, hospitals and AMS) (ABS, 2011; RHW, 2016).

Relative Disadvantage

In 2011, 30% of the Wheatbelt population were living in second 'most disadvantaged' areas (quintile 2), with the LGA of Northam (SEIFA, 946) having 51.1% (10,569) of the population living within those areas. Pingelly (903), Kellerberrin (910), Quairading (931), Trayning (941), Beverly (942) were the most disadvantaged LGAs in the Wheatbelt (ABS, 2011).

Access to Services

There are limited health services the further inland people live within the Wheatbelt. Some people living in the Wheatbelt are required to travel to the metropolitan area to access health services.

Population characteristics, disadvantaged groups and the social determinants of health

Aboriginal People

In 2014, 1 in 17 people (5.8%) were Aboriginal, which is higher than the state average (3.6%).

Figure 7.1 demonstrates that there was a significantly larger proportion of Aboriginal people aged 0 to 19 years compared with their non-Aboriginal counterparts. Overall, nearly half of the Aboriginal population were aged under 20 years (46.9%), whilst less than a quarter of the non-Aboriginal population were in this age group (23.3%).

In respect to older people, 1 in 11 Wheatbelt Aboriginal people (12.4%) were aged 55 years and over compared with 1 in 3 non-Aboriginal people (33.4%) (WA DoH, 2016).

The largest estimated numbers of Aboriginal people in the Wheatbelt were living in the Northam (853), Moora (359) and Merredin (220) (PHIDU, 2016).

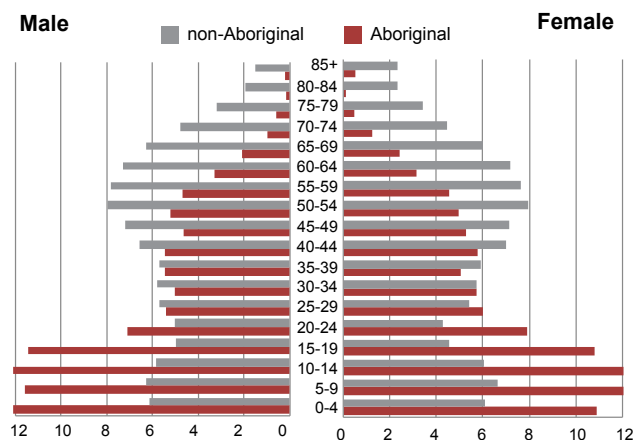


Figure 7.1 Population pyramid, Wheatbelt region, 2014 (WA DoH, 2016).

Older Persons

In 2014, people aged 65 years and over represented 1 in 6 people (13,510), or 17.3% of the Wheatbelt population, compared to 12.7% for the WA population. People aged 65 years and older are projected to increase by 5.4% or 4,911 people from 2015 to 2025, which represents the largest increase within a Wheatbelt age group population (see Figure 7.2).

Culturally and Linguistically Diverse People

In 2011, 1.2% of the population was born in a predominantly non-English speaking country and had lived in Australia for less than five years, compared to 1.6% Country WA and 3.8% for WA. The largest CaLD populations resided within Cunderdin (4.0%) and Merredin (3.3%) (PHIDU, 2016).

Overall, 0.3% of people reported poor English proficiency which was similar to 0.5% Country WA and lower than the State (1.7%). The largest proportions of people with poor English proficiency were located in Merredin (15%) or Northam (20%).

Areas with higher social disadvantage

Long-term unemployed people: 1 in 10 from Tammin and Pingelly (State: 1 in 33).

Households without a car: 1 in 10 from Narrogin (State: 1 in 16).

People with a healthcare card: 1 in 7 people from Pingelly (State: 1 in 16).

Houses rented from the Govt: 1 in 8 Narrogin (State: 1 in 7).

Children in jobless families: 1 in 3 people from Quairading (State 1 in 10). (PHIDU, 2016).

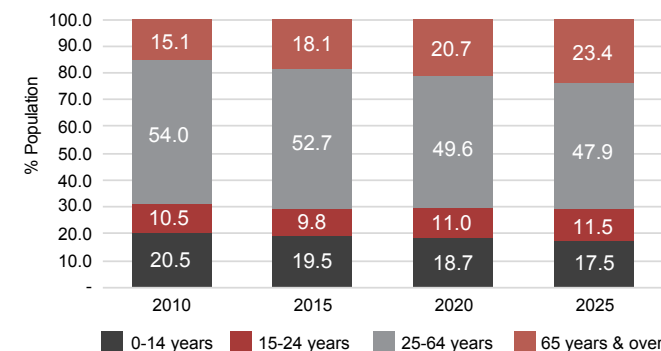


Figure 7.2 Population projections, Wheatbelt region, 2010 to 2025 (WA DoH, 2016).

Living with long-term conditions: physical and mental

Risk Factors for Chronic Disease

Prevalence of the following risk factors were higher for people from Wheatbelt than those from the State (Figure 7.3):

- Insufficient physical activity—males only.
- Obesity—females and males.

Smoking During Pregnancy

For Aboriginal women, the reported rate of smoking during pregnancy was similar to the State (52% compared to 51%). For non-Aboriginal women, the reported rate of smoking during pregnancy was slightly higher than the State (18% compared with 14%) (WACHS, 2015g).

Chronic Disease for 2009-2012

- Heart disease: a larger percentage of people from the Wheatbelt (7.5%) than the State (5.9%).
- Arthritis: a larger percentage of people from the Wheatbelt (25.3%) than the State (19.6%) (Figure 7.4) (WACHS, 2016g).

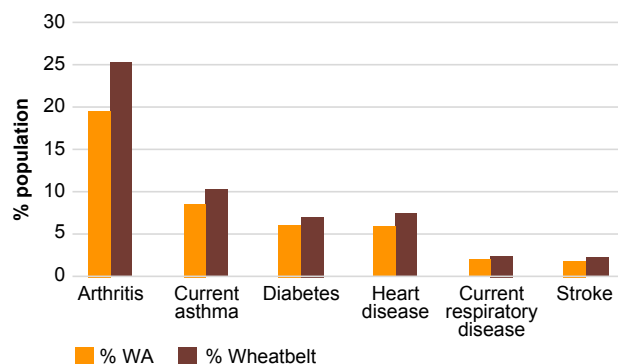


Figure 7.4 Prevalence of chronic conditions, Wheatbelt region, 2009-2012 (WACHS, 2015g).

Illicit Drugs

Methamphetamine use within the Wheatbelt is reported to have increased in usage and as a preferred drug of choice. In January to June 2016, methamphetamines overtook alcohol

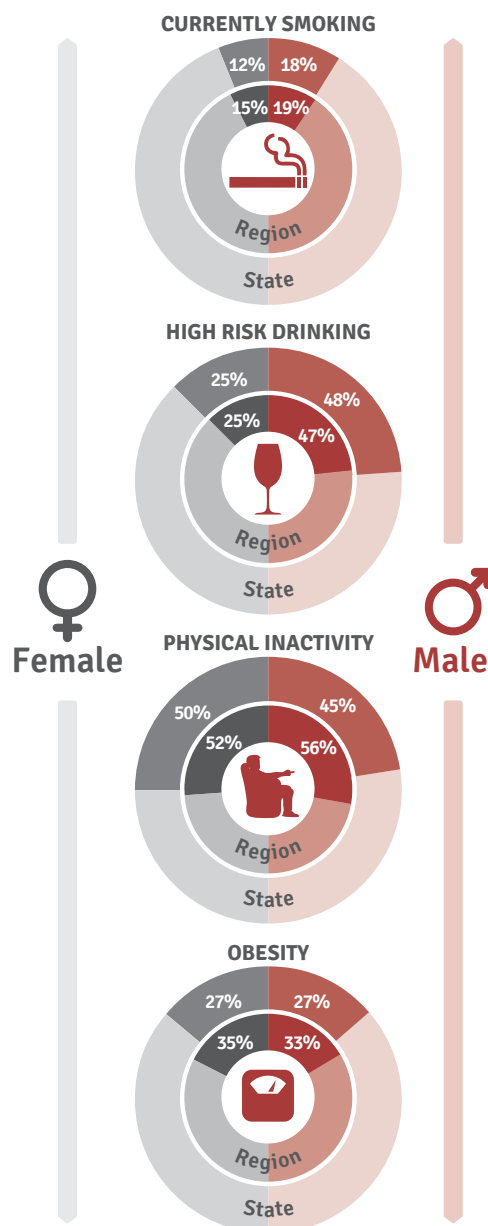


Figure 7.3 Prevalence of modifiable risk factors (WACHS, 2015g).

for the first time as the primary drug of concern for clients accessing the Wheatbelt Community Alcohol and Drug Service. The number of people seeking support for methamphetamine use in this period increased by 71% (Holyoake, 2015).

Mental Health

- One in fourteen adults (7.3%) from the Wheatbelt compared with 1 in 12 from the State reported high or very high psychological distress.
- One in twenty three adults (4.1%) in the Wheatbelt reported feeling a lack of control over life in general, which was similar to the State (4.2%) (WACHS, 2015g).

Mental Health Services

In 2009-2010, the rates of mental health care plans developed by GPs under the Better Access program were lower than the State (6,722 per 100,000 persons) in all areas except Northam, while rates were higher in Merredin, Toodyay, Brookton and Beverley (>7,000 per 100,000 persons). For 2008-2012, there were 75,000 occasions of service at community-based mental health services. While the overall rate of occasions of service was lower than the State, attendances for alcohol and drug services were 1.2 times higher than the State rate. Aboriginal residents accessed community mental health services nearly two times the rate of non-Aboriginal residents (WACHS, 2015g).

Suicide Rates

For 2009-2013, average annual death rates from suicide and self-inflicted injury for people aged 0 to 74 years were available for Northam, Narrogin and Merredin LGAs only. The rates for these LGAs were not different to the State.

For 2002-2011, youth suicide rates (15-24 years) were higher than the State rate for both sexes.

- Males: 43.7 per 100,000 persons (State 15.6 per 100,000 persons).
- Females : 8.6 per 100,000 persons (State 5.4 per 100,000 persons) (WACHS, 2016g).

Hospitalisations and potentially preventable hospitalisations

Hospitalisations

For 2008-2012, the overall hospitalisation rate for adults from the Wheatbelt region was lower than for State counterparts. The leading cause of hospitalisations was digestive diseases (12%) followed by pregnancy and childbirth (10%) (WACHS, 2015g).

“ *The ED is often used as a primary health care service by the community due lack of access to primary health care services locally. Current policy states that when there is no doctor available after hours patients must be transferred to a hospital with a doctor rostered on.* **”**
Health worker, Wheatbelt

Hospitalisation for Aboriginal people were two times greater than the non-Aboriginal residents from 2003-2012 (WACHS, 2015). Among the Aboriginal population, dialysis accounted for the highest number of hospitalisations from 2003 to 2012 (17%) (WACHS, 2015g).

Alcohol-related Hospitalisations

Alcohol hospitalisations was 1.2 times higher than the WA rate for adults aged 15-64 (WACHS, 2015g). Among Aboriginal people, the rate of alcohol hospitalisations was 6.4 times higher than the non-Aboriginal rate (WACHS, 2015g).

High numbers of non-urgent ED attendances and PPHs, along with lower rates of primary care providers (particularly GPs and after hour services) in the Wheatbelt region, indicate the need for additional primary care and community services.

Emergency Department Services

ED attendances (2013/2014) were 41,828. Of these, 61% were categorised as non-urgent, compared to 57% for WA (triage 4 and 5) (WA DoH, 2016). This highlights the need to increase access to non-urgent services, GPs and after hour services (Figure 7.6).

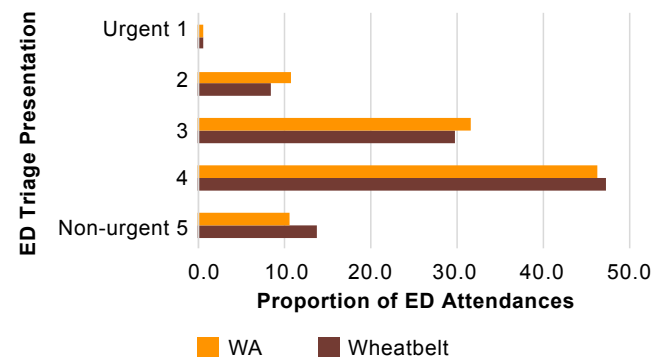


Figure 7.6 Emergency department attendances for the Wheatbelt region and WA, 2014 (WA DoH, 2016).

Chronic PPHs

Diabetes complications were the leading cause of chronic potentially preventable hospitalisations (PPHs) for adults (15 to 64 years) and older adults (65 years and over) in the region. PPH rates for adults were 1.2 times

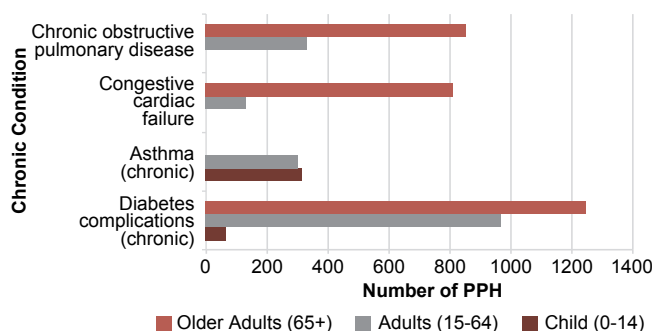


Figure 7.5 Number of chronic PPH separations, Wheatbelt region, 2008-2012 (WACHS, 2015g).

higher than their WA counterparts.

PPH rates for chronic obstructive pulmonary disease adults and older adults were 1.3 and 1.1 times higher respectively than their WA counterparts.

PPH rates for chronic asthma for children and adults were 1.2 and 2.5 times higher respectively than peers from the State.

PPH rates for congestive cardiac failure for adults and older adults were 2.8 and 1.7 times higher respectively than WA rates for these age groups (WACHS, 2015g). Figure 7.5 shows the number of separations for chronic PPHs by age-group.

PPHs and Aboriginal People

From 2003 to 2012, the Wheatbelt PPH rates for acute and chronic conditions for Aboriginal people were higher than non-Aboriginal people (3.8 and 7.1 times higher respectively).

Acute PPHs for Aboriginal people from the Wheatbelt were 1.2 times higher than for State Aboriginal people, while hospitalisations for chronic PPHs were lower than the State rate for Aboriginal people (WACHS, 2015g).

Services and workforce

Registered Service Providers

In 2014, the majority of Wheatbelt registered service provider rates were greater than Country WA rates, with the exception of GPs and occupational therapists. In contrast, all rates were lower than the State with the exception of pharmacists which were slightly higher.

“ A key area of concern is the lack of cultural security for local Aboriginal people and it was deemed necessary to begin embedding culturally safe practices across the board in health care delivery, including the need for Aboriginal Liaison Officers and well-funded care coordination being an identified need. ”

Bolden & Jackson, 2016g

Northam (29%) and Narrogin (18%) had the greatest rate of registered GPs within the region. It is important to note the 24 of 43 LGAs in the Wheatbelt did not have reported data on GPs, 7 of which do not receive a GP service (outreach or local) (ABS, 2015a; DoH, 2015).

Health Professional	Wheatbelt	Country WA PHN	WA Total
	No. per 10,000 persons		
Occupational therapists	4.9	5.0	8.6
Physiotherapists	6.7	6.4	10.8
General dentists	8.2	5.3	8.6
Psychologists	9.1	4.8	9.8
General practitioners	10.0	22.7	33.7
Pharmacists	13.6	6.8	10.4
Registered nurses	114.6	98.9	119.8

Table 7.1 Registered health service providers per 10,000 population, Wheatbelt, 2014 (ABS, 2015a; DoH, 2015).

Aged Care

Operational aged care places include transitional, community and residential places which are delivered by Government, for-profit and not-for-profit providers.

Between 2006 and 2015, the number of operational aged care places has more than doubled, increasing steadily from 418 to 901 places. However, due to a gradual increase in the numbers of older persons, the number of places per 1,000 persons has declined slightly since 2012. Figure 7.7 shows trends for people aged 70 years and over (AIHW, 2016a).

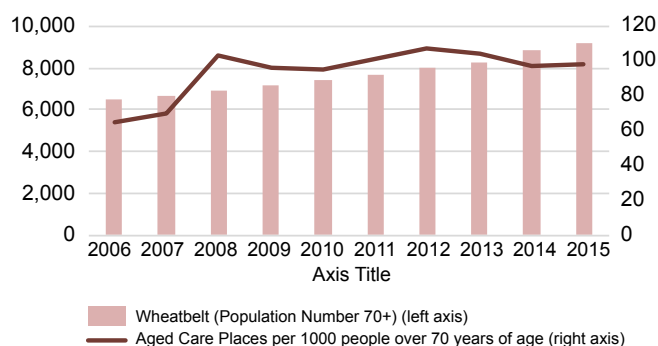


Figure 7.7 Wheatbelt population aged 70 year and over, compared to aged care places available per 1000 people, 2006 to 2015 (AIHW, 2016c).

After Hours GP Services

Four practices within the region provide general practitioner services outside standard hours (8 to 7pm Monday-Friday, and 8 to 12 pm Saturday) (Table 7.2).

Brookton, Cunderdin, Gingin, Jurien Bay, Kondinin, Lancelin do not provide services outside of the standard hours.

Location	No. practices	Availability by location
Bindoon	1	Mornings
Merredin	1	Saturdays
Northam	2	Weekends

Table 7.2 After hours general practices by location and hours, Wheatbelt, 2016 (NHSD, 2016).

National Bowel Screening Program, persons aged 50 to 74 years		
SA3/PHN/State	Females (%)	Males (%)
Wheatbelt-North	44.7	39.3
Wheatbelt-South	48.1	40.2
Country WA PHN	43.5	38
WA	43.5	38.6
BreastScreen WA, Women aged 50 to 74 years		
Wheatbelt-North	44.7	
Wheatbelt-South	48.1	
Country WA PHN	54.2	
WA	55.2	
Cervical Cytology Screening Register, Women aged 20 to 69 years		
Wheatbelt-North	52.1	
Wheatbelt-South	51.9	
Country WA PHN	51.9	
WA	55.7	

Table 7.3. Screening participation, Wheatbelt region, Jan 2014 to Dec 2015 (AIHW, 2016a)

Priority locations of greatest need

Analysis of the social determinants, health indicators, service gaps and stakeholder feedback has indicated locations of greatest health needs in the Wheatbelt. Areas include: the Shire of Moora, the Shire of Northam, specifically Wundowie; Central Eastern Wheatbelt and the Coastal Wheatbelt area. Priority population groups, health issues and service gaps are outlined below.

Identified issues and service gaps, including stakeholder feedback

Alcohol and other drugs

- Methamphetamine use has been identified as a priority issue. Further research is needed.

Chronic disease

- PPH rates for chronic conditions were higher than State rates.
- Acute and chronic PPH rates significantly higher for Aboriginal than non-Aboriginal people from the region.
- Renal disease is an important issue for Aboriginal people accounting for over one quarter of all hospital separations (17%).

Dental health

- Dental conditions was the leading PPH for children, with a rate 1.2 times higher than for State counterparts.

Service integration

- Stakeholder feedback has raised workforce gaps and a lack of integrated services.
- The population based rate of registered GPs was lower than for Country WA PHN and WA rates.

Transport

- Very limited public transport in the area.

Theoretical case study

A young girl aged 9, lives in Wundowie with her parents and three siblings. Lately, her parents have been worried because she has been complaining of her tooth hurting. The girl has only been to the dentist once in her life, due to the lack of public dentists in her area, no public transportation to the nearest town of Northam, and financial limitations.

One evening, the girl could not stop crying from tooth pain, so her parents took her to the Northam emergency department (ED), as there were no other after hour services available. She was diagnosed with an abscess, given pain medication, antibiotics and a referral to the local dentist in Northam. The next day Jasmine felt a little better and her family attended a community funeral, causing her to miss her appointment. As there was no follow-up after ED discharge, the case was overlooked until she returned to the ED one week later with reoccurring tooth pain.

The ED subsequently utilised Health Pathways to refer the family to a child health nurse and social worker who work from Wundowie Health Centre in an integrated primary health care team. The social worker arranges transport to the Northam Dental Practice where she was able to access free dental treatment as the practice participates in the Country Public Dental Scheme.

“ *The region has a widely dispersed population and a high number of ageing populations.* ”
Bolden & Jackson, 2016g

Anticipated outcomes

Low health literacy, lack of public dental services and inadequate public transport have impacted on the family's access to dental health services.

As a result of the Northam ED knowing what local services are available to in Wundowie and referring the family to these services, as well as the support from the Wundowie Health Centre, the child was able to travel to Northam to receive care for her tooth abscess. The family's children have all been scheduled for dental check-ups twice a year. It has also enable the whole family to have greater awareness of what services are available at the Wundowie Health Centre through the integrated primary health care team.

“ *The lack of continuity of care and the impact on the patient journey is compounded by poor communication between services and lack of understanding of service constraints in rural areas.* ”

Bolden & Jackson, 2016g

How could the system address the needs?

- Increased access to non-urgent, after hours care and primary health services.
- Continue to build capacity for health services to provide culturally safe practices.
- Support access to care at the right place and right time through the provision primary health care locally and via digital health methods.
- Improve communication between providers and more coordinated discharge planning by utilising digital health tools and implementing care coordination roles.

What we intend to achieve

Our Expected Outcomes

Good commissioning is person-centred and focuses on the outcomes people say matter to them most. It empowers people to have choice and control in their lives, and over their care and support. Health systems should be built around desired outcomes that are achieved through a range of integrated activities which collectively contribute to progress and positive change.

Our work is built on the foundation of achieving improved outcomes by using an outcomes hierarchy approach. We are commissioning activities and working with agencies across the health and social care system. We use three levels: by starting at level 1 (population health outcomes) we are focused on a long-term or strategic approach. The objective is 'optimised health life' and an 'optimised health system'; everything we do in our work is shaped towards this horizon.

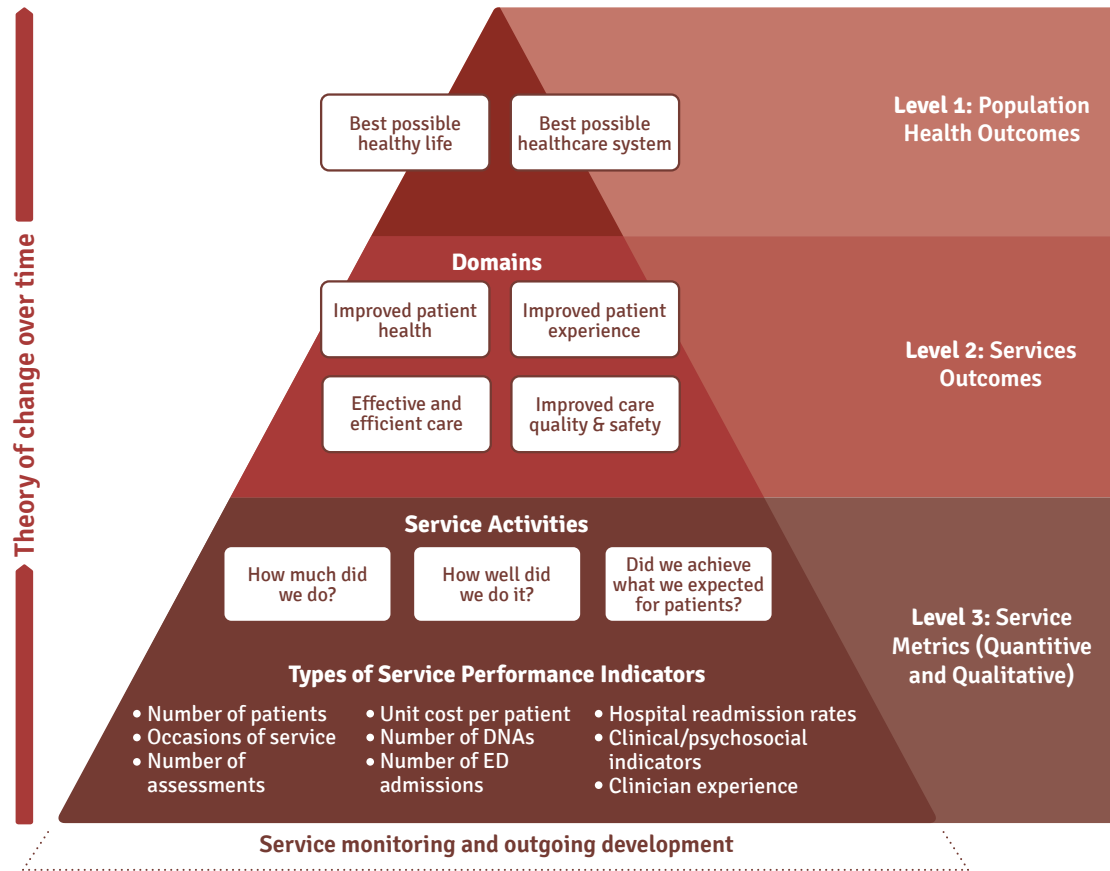


Figure 15. Population health outcomes hierarchy: population health, investment domains and service delivery

Effective and efficient commissioning achieves tangible outcomes for patients, clinicians and the system. Investment in health activities should result in the following changes:

- Improved patient health;
- Improved patient experience;
- Effective and efficient care; and
- Improved care quality and safety.

We are working with service providers to ensure investments achieve these results through continual monitoring and evaluation.

Our Priorities for Action



Figure 16. WAPHA's priorities

As part of our PHN population health planning, issues are considered in consultation with local communities, consumers and healthcare providers as well as analysis of local-level data and information.

During our initial data analysis and stakeholder consultation process in 2015, we identified the priorities for action in Figure 16. We will continue to focus on these priorities for action in all our work.

Improving health outcomes in our communities

Within the priorities articulated in the Baseline Needs Assessment, options and opportunities were generated to address identified population needs and system inadequacies. The following options show promise in addressing those 5 priorities:

1. Keeping people well in the community

Comprehensive Primary Care — A targeted program for general practice to build capacity to care for patients with complex and co-occurring chronic disease. It provides workforce training, IT tools and other support to enable patients to be better cared for in the community and avoid unnecessary trips to hospital.

Continuity of care—supporting clinicians to track and measure patient outcomes with the use of digital health strategies.

2. People with multiple morbidities especially chronic co-occurring physical conditions, mental health conditions and drug and alcohol treatment needs

Access to self-management education — country-wide respiratory disease and diabetes telehealth to ensure country people have access to contemporary self-management education and support.

Targeting interventions to address high prevalence disorders—understanding the data that indicate where needs are highest.

Coordination of care—collaborating with a range of agencies in the health and other sectors to address social determinants of health.

3. Services designed to meet the health needs of vulnerable and disadvantaged people, including those of Aboriginal heritage

Integrated Team Care (ITC) — Aiming to contribute to improving health outcomes for Aboriginal and Torres Strait Islander people with chronic health conditions and contribute to closing the gap in life expectancy. It does this by providing care coordination services and more accessible multidisciplinary care, and by working with general practice to improve access to culturally appropriate mainstream primary care services for Aboriginal and Torres Strait Islander people.

4. System navigation and integration to help people get the right services, at the right time and in the right place

Coordinating Care for Chronic Disease — Regional Integrated Chronic Disease Management teams to ensure care coordination, access to services and self-management support. By working and collaborating with a range of agencies in health and other sectors, Country WA PHN can improve coordination of care to ensure patients receive the right care in the right place at the right time.

Mental Healthcare managers in general practice for complex mental health conditions.

5. Capable workforce tailored to these priorities

Building the capacity of the existing workforce and services — Country WA PHN does this through education, consultation, innovation hubs and workshops. We are piloting training in some regions to build a local and responsive skills base.

- **Supporting General Practice** — PHN staff work with GPs and other practice staff on a range of issues including improving immunisation rates, improving cancer screening rates, accreditation, quality improvement, MBS queries, data for improvement, and other issues.
- **HealthPathways** — An online portal with condition-specific 'pathways'. Each pathway provides clinicians with information about assessment, management and local referral options for people with particular conditions. The HealthPathways site is designed to be used at point of care, primarily by general practitioners but is also available to hospital clinicians, nurses and other health professionals across WA.
- **Digital health** — this encompasses a broad range of innovative technologies including: telehealth initiatives, sharing of health information, data extraction and analytics. Country WA PHN supports primary care clinicians to navigate and enhance patient care by providing advice, resources, advocacy and support.

The implementation of an outcomes framework across all commissioning activities will ensure services are monitored and evaluated in a consistent way. Relevant information will be collected and analysed to provide evidence to support longer-term patient and systems' change into the future.

Further Information

Contact us for more information

This report is an extension of a more in-depth analysis of Western Australian population health status and outcomes. Further information is available on request by emailing info@wapha.org.au.

WAPHA acknowledges all stakeholders that have been involved in this Report.

More information can be found at wapha.org.au



Primary Health Exchange

Primary Health Exchange is an online engagement site hosted by the WA Primary Health Alliance. The site supports stakeholders to join the conversation and inform the planning and design of primary health care in their community.

WAPHA and the PHNs recognise that engagement is an ongoing process and Primary Health Exchange provides a platform where people can exchange ideas, opinions and experiences across primary health.

By registering through the site stakeholders can get involved in forums, surveys and ideas boards, and stay in touch with their local Primary Health Network and its activities.

For more information about Primary Health Exchange and to register to participate, visit the website at phexchange.wapha.org.au

How do I get involved?



facebook.com/waphaphns



[@WAPHA_PHNs](https://twitter.com/WAPHA_PHNs)



This report has been prepared by WAPHA's academic partner, Curtin University. All data is accurate on the date of publication (November 2016).

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Methodology and data limitations

1. Prevalence estimates are used to describe the percentage of a population who have a particular risk factor or health condition. The estimate may also be referred to as the proportion of individual persons in a community with a given condition (Tomlin S et al, 2015).
2. In this report, where available, 95% confidence intervals have been used to identify statistically significant differences between areas. The 95 percent confidence interval is the range within which a 'true' estimate would occur 95 out of 100 times. Overlapping confidence intervals indicate that there is probably no difference in the estimates that have been compared. When the confidence intervals do not overlap, then the estimates are considered to be significantly different. The wider the confidence interval is around an estimate the less precise that estimate is considered to be and greater caution that should be applied when using it (Tomlin S et al, 2015).
3. Prevalence estimates for chronic diseases and conditions, psychological distress and health risk factors obtained from the Social Atlas of Australia (PHIDU, 2016) are 'modelled' estimates. Demographic, socio-economic and other known attributes have been used to estimate the prevalence of conditions based on the findings from areas within Australia with similar characteristics. As age standardised estimates were provided for LGAs, PHNs and overall State only, it was not possible to recalculate results for individual Country WA PHN Regions. Where regional prevalence estimates have been reported, the information has been obtained from WA Country Health Service Health Profile reports (2015).
4. Modelled estimates for WA Country PHN LGAs were often accompanied by 'wide' confidence intervals due to the relative rarity of estimated cases and statistically small populations within LGAs. For indicators where there were no statistically significant differences compared with the overall Country WA PHN, or the State as a whole, rates have been ranked within the PHN to establish localities with 'highest' or 'lowest' Country WA PHN rates.
5. Due to non-alignment of SA3 boundaries with the Goldfields, Great Southern and Midwest regions, indicators available at SA3 only have not been included in this report.
6. Number of aged care places extracted from the National Aged Care Places Stocktake Reporting Tool was available by Aged Care Planning Regions (ACPR), which aligns with the boundaries of two Perth metropolitan PHNs and 7 planning regions in Country WA PHN. Finer granularity was not available at the time of this analysis.
7. The NHSD data is based on self-reporting of practices, so therefore it may be inaccurate in terms of practices and opening hours.
8. The case studies presented in this report are a theoretical illustration based on a range of evidence to demonstrate what is happening in each region, and the desired outcomes.
9. The number of general practitioners reported for each region includes those employed within general practices, Aboriginal medical services and hospitals.

Glossary

Aboriginal

The term Indigenous is used to refer to Australian Aboriginal and Torres Strait Islander people. The most widely adopted definition of Aboriginal or Torres Strait Islander (the 'Commonwealth working definition') is:

- a person of Aboriginal or Torres Strait Islander descent;
- who identifies as being of Aboriginal or Torres Strait Islander origin; and
- who is accepted as such by the community with which the person associates.

This definition was developed during the period 1967 to 1978 and is now widely accepted by Commonwealth and other government agencies. In WA, the term Aboriginal is used in preference to Aboriginal and Torres Strait Islanders peoples, in recognition of the Aboriginal peoples as the Traditional Owners of WA. No disrespect is intended towards the Torres Strait Islanders members of the Western Australian community.

Admission

The formal process, using registration procedures, under which a person is accepted by a hospital or an area or district health service facility as an inpatient.

Age- standardised rate

A method of adjusting the crude rate to eliminate the effect of differences in population age structures when comparing crude rates for different periods of time, different geographic areas and/or different population sub-groups (e.g. between one year and the next and/or States and Territories, Indigenous and non-Indigenous populations). Adjustments are usually undertaken for each of the comparison populations against a standard population (rather than adjusting one comparison population to resemble another). Sometimes a comparison population is referred to as a study population.

Avoidable mortality

Refers to deaths from certain conditions that are considered avoidable given timely and effective health care. Avoidable mortality measures premature deaths (for those aged 0-74 years) for specific conditions defined internationally and nationally as potentially avoidable given access to effective health care

Body Mass Index (BMI)

The most commonly used method of assessing whether a person is normal weight, underweight, overweight or obese (see overweight and obesity). It is calculated by dividing the person's weight (in kilograms) by their height (in metres) squared; that is, $\text{kg} \div \text{m}^2$. For both men and women, underweight is a BMI below 18.5, acceptable weight is from 18.5 to less than 25, overweight is from 25 to less than 30, and obese is 30 and over. Sometimes overweight and obese is combined, and is defined as a BMI of 25 and over.

Culturally and linguistically diverse (CALD)

Culturally and linguistically diverse (CALD) populations generally have poorer health outcomes than other population groups, suggesting a need for additional or better targeted health services. The ethnic composition of a population can provide insight into potential health service requirements. People from CALD backgrounds experience higher levels of disadvantage and other risk factors than Anglo-Australians.

Chronic diseases

A chronic condition is a human health condition or disease that is persistent or otherwise long-lasting in its effects or a disease that comes with time. The term chronic is usually applied when the course of the disease lasts for more than three months.

Co-morbidities/multi-morbidities

The presence of one or more additional disorders (or diseases) co-occurring with a primary disease or disorder; or the effect of such additional disorders or diseases.

Coronary heart disease

Coronary heart disease, also known as ischaemic heart disease, is the most common form of heart disease. There are two major clinical forms—heart attack (often known as acute myocardial infarction) and angina.

Chronic obstructive pulmonary disease (COPD)

Chronic obstructive pulmonary disease is a serious, progressive and disabling condition that limits airflow in the lungs. It includes emphysema and chronic bronchitis. People with COPD are often short of breath and may have frequent coughing. The condition mainly affects older people and its main cause is active smoking or exposure to smoking, although some people with COPD have never smoked in their lives.

Dental practitioner

Dental practitioner refers to the sum of dentists, oral health therapists, dental hygienists and therapists.

Glossary

Diabetes mellitus

A chronic condition marked by high levels of glucose in the blood. This condition is caused by the inability to produce insulin (a hormone produced by the pancreas to control blood glucose levels), or the insulin produced becomes less effective, or both. The three main types of diabetes are: Type 1, Type 2 and gestational diabetes.

- Type 1 diabetes, an autoimmune condition, is marked by the inability to produce any insulin and those affected need insulin replacement for survival. Type 1 diabetes is rare among Indigenous Australians;
- Type 2 diabetes (non-insulin dependent) is the most common form of diabetes. Those with Type 2 diabetes produce insulin but may not produce enough or cannot use it effectively. There is a high prevalence of Type 2 diabetes among Indigenous Australians, who tend to develop it earlier than other Australians and die from the disease at younger ages;
- Gestational diabetes occurs during pregnancy and usually disappears after birth.

Dialysis

A medical procedure for the filtering and removal of waste products from the bloodstream. Dialysis is used to remove urea, uric acid and creatinine (a chemical waste molecule that is generated from muscle metabolism) in cases of chronic end-stage renal disease. Two main types are:

- haemodialysis — blood flows out of the body into a machine that filters out the waste products and returns the cleansed blood back into the body;
- peritoneal dialysis — fluid is injected into the peritoneal cavity and wastes are filtered through the peritoneum, the thin membrane that surrounds the abdominal organs.

Foetal alcohol spectrum disorders (FASD)

Conditions that may result from foetal exposure to alcohol during pregnancy. Disorders include foetal alcohol syndrome, alcohol-related neurodevelopmental disorder and alcohol-related birth defects. These disorders include antenatal and postnatal growth retardation, specific facial dysmorphism and functional abnormalities of the central nervous system.

Health care provider

Health professional or health organisation involved in supplying health services.

Health literacy

Is the ability to obtain, read, understand and use healthcare information to make appropriate health decisions and follow instructions for treatment.

Illicit drugs

Illicit drugs include illegal drugs (amphetamine, cocaine, marijuana, heroin, hallucinogens), pharmaceuticals when used for non-medical purposes (pain-killers, sleeping pills) and other substances used inappropriately (inhalants such as petrol or glue).

Incidence

The number of new cases (of an illness or event, and so on) occurring during a given period. Compare with prevalence.

Life expectancy

The average number of years of life remaining to a person at a particular age. Life expectancy at birth is an estimate of the average length of time (in years) a person can expect to live, assuming that the currently prevailing rates of death for each age group will remain the same for the lifetime of that person.

Overweight and obesity

Overweight and obesity are both labels for ranges of weight that are greater than what is generally considered healthy for a given height. The terms also identify ranges of weight that have been shown to increase the likelihood of certain diseases and other health conditions. See also Body Mass Index (BMI).

Potentially preventable hospitalisations (PPH)

Hospital separations from a specified range of conditions where hospitalisation is considered to be largely preventable if timely and adequate care were provided through population health services, primary care and outpatient services. The PPH conditions are classified as vaccine-preventable, chronic and acute. Respective examples include influenza and pneumonia, diabetes complications and COPD, and dental and kidney conditions. The rate of PPHs is currently being used as an indicator of the effectiveness of a large part of the health system, other than hospital inpatient treatment.

Prevalence

The number or proportion (of cases, instances, and so forth) in a population at a given time. In relation to cancer, refers to the number of people alive who had been diagnosed with cancer in a prescribed period (usually 1-, 5-, 10- or 26-years). Compare with incidence.

Primary health care

Primary health care usually is the first point of contact a person encounters with the health care system. In mainstream health throughout Australia primary health care is normally provided by general practitioners, community health nurses, pharmacists, environmental health officers etc., although the term usually means medical care. Primary health care may be provided through an ACCHO or satellite clinic (AH&MRC 1999).

Glossary

Respiratory disease

Respiratory disease includes conditions affecting the respiratory system — which includes the lungs and airways — such as asthma, COPD and pneumonia (see also Chronic Obstructive Pulmonary Disease).

Risk-rising population

The rising-risk chronic disease population group typically represent 20-30% of the population, and due to their numbers, can actually account for a higher total healthcare spend than the high risk group. The rising-risk group is not yet sick enough for expensive clinical care, and they are past the point where preventative solutions are effective.

SA3

Statistical Areas Level 3 (SA3s) are geographical areas that will be used for the output of regional data, including 2011 Census Data. There is no equivalent unit in the Australian Standard Geographical Classification (ASGC). The aim of SA3s is to create a standard framework for the analysis of ABS data at the regional level through clustering groups of SA2s that have similar regional characteristics. There are 351 SA3s covering the whole of Australia without gaps or overlaps. They are built up of whole SA2s. Whole SA3s aggregate directly to SA4s.

Secondary health care

Secondary health care refers to particular services provided by hospitals, such as acute care, as well as services provided by specialists.

Socio-cultural determinants influencing health

Social and cultural determinants of health are the broader social, cultural and economic conditions that contribute to disease. These are the conditions into which people are born, grow, live, work and age. According to this view, a person's occupation, education, material resources, social support networks and socio-economic status can affect their health and contribute to health inequalities.

Socio-economic Indexes for Areas (SEIFA) The SEIFA Index of Disadvantage can be used to determine the relative level of disadvantage of different areas based on a range of statistics gathered through census surveys. The indicators reflecting social disadvantage include low income, low educational attainment, high unemployment, and jobs in relatively unskilled occupations. A higher SEIFA score indicates an area with a lower relative level of disadvantage, while a lower score signifies an area with a higher level of disadvantage.

Tertiary health care

Tertiary health care refers to highly specialised or complex services provided by specialists or allied health professionals in a hospital or primary health care setting, such as cancer treatment and complex surgery.

Unemployment rate

The number of unemployed people expressed as a proportion of the labour force (i.e. employed and unemployed).

Vulnerable person

A vulnerable person is someone who has less access to the right services; this includes people who are disadvantaged by their age, gender or disabilities. Some services may not be culturally appropriate and therefore access is restricted to that individual.

Years of life lost

Is an indicator of premature mortality and is calculated by multiplying the number of deaths by the standard life expectancy (in years).

Abbreviations

ABS	Australian Bureau of Statistics
AHMAC	Australian Health Ministers' Advisory Council
AHW	Aboriginal Health Worker
AIHW	Australian Institute of Health and Welfare
AMS	Aboriginal Medical Services
AOD	Alcohol and other Drugs
ASR	Age Standardised Rate
BMI	Body Mass Index
CALD	Culturally and Linguistically Diverse
CCF	Congestive Cardiac Failure
CDC	Centres for Disease Prevention and Control
COPD	Chronic Obstructive Pulmonary Disease
CVD	Cardiovascular Disease
DAO	Drug and Alcohol Office
DoH	Department of Health

DSS	Department of Social Services
ED	Emergency Department
ERP	Estimated Residential Population
ENT	Ear Nose Throat
FAS	Fetal Alcohol Syndrome
FIFO	Fly In Fly Out
GP	General Practitioner
HIV	Human Immunodeficiency Virus
IT	Information Technology
ITC	Integrated Team Care
K10	Kessler 10 Scale
LGA	Local Government Area
LGBTIQ	Lesbian, Gay, Bisexual, Transgender, Intersex and Questioning
LITC	Local Integrated Team Care
MBS	Medicare Benefits Schedule

MHC	Mental Health Commission
NDSS	National Diabetes Services Scheme
NES	Non-English Speaking
NGO	Non-Government Organisation
NHPA	National Health Performance Authority
NHSD	National Health Service Directory
NT	Northern Territory
PHN	Primary Health Network
PHIDU	Public Health Information Development Unit
PPH	Potentially Preventable Hospitalisation
RHW	Rural Health West
SA	South Australia
SA3	Statistical Area Level 3
SEIFA	Socio-Economic Indexes for Areas
SRR	Separation Rate Ratio



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