The Midwest is located in the middle-Western section of Western Australia. The Midwest incorporates four health districts – Gascoyne, Geraldton, Midwest and Murchison. The Midwest encompasses 600,000 square kilometres, making up nearly a quarter of the land mass of the State of Western Australia.

The major population centre of the Midwest is the coastal town of Geraldton. The bulk of the population of the Midwest reside on or near the coast. The other main centres are Carnarvon, Dongara, Exmouth, Kalbarri, Meekatharra, Morawa and Mullewa.

According to the Accessibility/Remoteness Index of Australia (ARIA), 91% of the Midwest is classified as Very Remote. The Geraldton and Greenough areas are classified as Inner Regional, with the coastal portion classified as Remote.

Midwest health services

The Midwest region incorporates a network of public hospital facilities supported by a range of community-based services including public health, aged care and mental health services as well as a number of public and private health partners and providers.

The Geraldton Health Campus is the primary public hospital facility in the Midwest region, supported by the smaller Carnarvon Health Campus. Both hospitals support smaller regional hospitals including Dongara, Exmouth, Kalbarri, Meekatharra, Morawa, Mullewa, Northampton and Three Springs, as well as the region’s remote clinics. There is one private hospital in the Midwest region which is located in Geraldton.

There are two Aboriginal Community Controlled Health Services (ACCHSs) in the Midwest region based in Geraldton and Carnarvon. These services provide culturally appropriate services and outreach to the smaller communities in the Midwest.

Population

The estimated regional population of the Midwest in 2016 was 64,884, representing 12% of the population of country Western Australia and 2.5% of the State’s population. There are approximately 0.14 people per square kilometre which is lower than the State and rural average (1.0 and 0.24 people per square kilometre respectively).

There is a slightly greater proportion of males to females in the Midwest (51% vs 49%). The Midwest also has a different age structure to the rest of the State, with a greater proportion of residents in the 0-14 year age bracket and people aged over 40. Figure 1 illustrates the age structure of the Midwest against the rest of Western Australia (see Figure 1 – page 2).

Based on the 2015 estimated regional population, Aboriginal people account for 13% of the population of the Midwest. This is greater than the State proportion of 3.6% and the Western Australian average of 10.4%. The Aboriginal population has a younger age structure than the non-Aboriginal population in the Midwest.
OUTREACH SERVICE CONSIDERATIONS

- The large proportion of Aboriginal people in the Midwest highlights the need for culturally safe health service provision.
- Consider undertaking or updating your cultural awareness and safety training as part of your preparations.
- Consider connecting with the Yamatji Aboriginal Health Planning Forum prior to commencing your outreach service.

Measure of disadvantage

Socio-Economic Indexes for Areas (SEIFA) measures a broad range of determinants of disadvantage. A score of 1,000 is considered a baseline and scores over or below are considered to represent advantage or disadvantage respectively. Research has shown that a lower SEIFA score is correlated with increased factors contributing to poor health.

The Midwest Local Government Area (LGA) with the lowest SEIFA score was Upper Gascoyne (737) and the greatest was Chapman Valley (1,028). Around 2,500 Midwest residents live in an LGA with scores in the lowest 10% of the State. These LGAs are Meekatharra, Mount Magnet, Murchison, Upper Gascoyne and Wiluna.

Hospitalisations

The overall hospitalisation rate in the Midwest was greater (1.2 times) than the State. The main causes of hospitalisation for Midwest residents were digestive diseases (11%) followed by pregnancy and childbirth (8%), and injury and poisoning (8%).

Potentially preventable hospitalisations

In the Midwest, rates of potentially preventable hospitalisations (PPH) were 40% greater than the rest of Western Australia across all categories (vaccine preventable, acute and chronic conditions). Table 1 represents the leading causes of PPH during the period 2011-2015.

Rates of PPH in Aboriginal people were similar to the State rate for Aboriginal people. However, these rates were much greater when compared to PPH in non-Aboriginal residents of the Midwest.

Table 1 – 2011-2015 top five leading causes of PPH in ages 15-64 years

<table>
<thead>
<tr>
<th>Condition</th>
<th>Number</th>
<th>% of total PPH</th>
<th>Rate vs State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cellulitis</td>
<td>909</td>
<td>16</td>
<td>2.4</td>
</tr>
<tr>
<td>Dental conditions</td>
<td>745</td>
<td>13</td>
<td>1.2</td>
</tr>
<tr>
<td>Diabetes complications</td>
<td>581</td>
<td>10</td>
<td>1.8</td>
</tr>
<tr>
<td>UTIs incl. pyelonephritis</td>
<td>515</td>
<td>9</td>
<td>1.3</td>
</tr>
<tr>
<td>Convulsions and epilepsy</td>
<td>428</td>
<td>8</td>
<td>1.7</td>
</tr>
</tbody>
</table>

Source: DOH, Health Tracks

Mortality

Mortality is an important population health indicator. Knowing the reasons for and causes of death can assist in the planning of health services to prevent and avoid mortality where possible.

There is a demonstrable gap in life expectancy between rural Western Australia and metropolitan Perth. This gap increases the more remotely a person lives.

There is also a discrepancy between the life expectancy of Aboriginal and non-Aboriginal people in Australia. This gap is estimated by the Australian Bureau of Statistics to be 8.6 years for males (71.6 years life expectancy) and 7.8 years for females (75.6 years life expectancy).1

1 ABS, Life Tales for Aboriginal and Torres Strait Islander Australians, 2015-2017
In the Midwest during the period 2011-2015, the mortality rate was greater than the rest of the State (rate ratio of 1.1). The top five leading causes of death are described in Table 2.

Table 2 – 2011-2015 Midwest leading causes of mortality

<table>
<thead>
<tr>
<th>Condition</th>
<th>% of all deaths</th>
<th>Rate ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ischaemic heart disease</td>
<td>13</td>
<td>1.2</td>
</tr>
<tr>
<td>Lung cancer</td>
<td>7</td>
<td>1.4</td>
</tr>
<tr>
<td>COPD</td>
<td>5</td>
<td>1.4</td>
</tr>
<tr>
<td>Cerebrovascular diseases</td>
<td>4</td>
<td>0.7</td>
</tr>
<tr>
<td>Diabetes and impaired glucose regulation</td>
<td>4</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Source: DOH, Health Tracks

More than half of all deaths in the Midwest during the period 2011-2015 were considered to be avoidable (54%). Avoidable mortality occurred at a rate 1.4 times greater in the Midwest than the rest of the State. Table 3 shows the causes and rate ratios of the top five causes of avoidable mortality in the Midwest.

Table 3 – 2011-2015 Midwest leading causes of avoidable mortality

<table>
<thead>
<tr>
<th>Condition</th>
<th>% of all deaths</th>
<th>Rate ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ischaemic heart disease</td>
<td>20</td>
<td>1.5</td>
</tr>
<tr>
<td>Suicide and self-inflicted injuries</td>
<td>11</td>
<td>1.4</td>
</tr>
<tr>
<td>Transport accidents</td>
<td>10</td>
<td>2.6</td>
</tr>
<tr>
<td>Colorectal cancer</td>
<td>6</td>
<td>1.4</td>
</tr>
<tr>
<td>Cerebrovascular diseases</td>
<td>6</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Source: DOH, Health Tracks

Low birth weight

Low birth weight is defined by the World Health Organisation as less than 2,500 grams. From the period 2007-2008 to 2015-2016, the proportion of low birth weight full-term babies born to mothers in the Midwest was similar to the rest of the State (2.7% and 2.0% respectively). The proportion was greater amongst Aboriginal babies (5.2%) which was similar to the State rate (5.1%).

Australian Early Development Census

The Australian Early Development Census (AEDC) is a measure of how children are developing across five domains upon commencing full-time school. These domains are physical health and wellbeing, social competence, emotional maturity, language and cognitive skills, communication skills and general knowledge. For more information on the AEDC, visit https://www.aedc.gov.au/about-the-aedc.

Within the Midwest, proportions of developmentally vulnerable children in one or more domains ranged from 12% in Irwin to 30% in Carnarvon. The proportion of developmentally vulnerable children in two or more domains ranged from 0% in Morawa to 17.5% in Carnarvon. Table 4 shows the AEDC scores of LGAs in the Midwest.

Table 4 – 2015 Midwest AEDC scores

<table>
<thead>
<tr>
<th>Community</th>
<th>Vulnerable children</th>
<th>Total surveyed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>One or more domains</td>
<td>Two or more domains</td>
</tr>
<tr>
<td>Carnarvon</td>
<td>24</td>
<td>14</td>
</tr>
<tr>
<td>Chapman Valley</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Exmouth</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>Geraldton-Greenough</td>
<td>145</td>
<td>76</td>
</tr>
<tr>
<td>Irwin</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Morawa</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Northampton</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Australia</td>
<td>22.0</td>
<td>11.1</td>
</tr>
</tbody>
</table>

Source: DOH, Health Tracks

OUTREACH SERVICE CONSIDERATIONS

- Screening and prevention activities can help to reduce the rate of avoidable mortality.
- Interventions should target modifiable risk factors for leading causes of avoidable mortality.
- Drive safely, ensuring you take regular breaks when travelling on Midwest roads.

Child and adolescent health

OUTREACH SERVICE CONSIDERATIONS

- Screening and prevention activities can help to reduce the rate of avoidable mortality.
- Interventions should target modifiable risk factors for leading causes of avoidable mortality.
- Drive safely, ensuring you take regular breaks when travelling on Midwest roads.

Source: DOH, Health Tracks
Immunisation
The Australian target for immunisation is a rate of greater than 90% of children with a complete vaccination schedule at two years of age, with the recommendation that 100% of children are vaccinated at the age of school entry.

In the Midwest in 2017, the proportion of all children vaccinated exceeded the target of 90% with the exception of Aboriginal children in the 12 to 27-month age group. Table 5 describes the immunisation status of children in the Midwest.

Table 5 – 2017 Midwest immunisation rates by age and Aboriginality

<table>
<thead>
<tr>
<th>Age group</th>
<th>Aboriginal</th>
<th>Non-Aboriginal</th>
<th>All persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 to &lt; 15 months</td>
<td>89%</td>
<td>94%</td>
<td>93%</td>
</tr>
<tr>
<td>24 to &lt; 27 months</td>
<td>77%</td>
<td>96%</td>
<td>91%</td>
</tr>
<tr>
<td>60 to &lt; 63 months</td>
<td>94%</td>
<td>93%</td>
<td>93%</td>
</tr>
</tbody>
</table>

Source: DOH, Health Tracks

Chronic diseases in Aboriginal people
In 2018-2019, 46% of Aboriginal people reported having at least one chronic disease that posed a significant health problem. This represents an increase of 6% since 2012-2013.

National evidence reports a greater burden and prevalence of chronic disease among Aboriginal people when compared to non-Aboriginal people. The demographic factors of remoteness (isolation) and socio-economic disadvantage of the Aboriginal population contribute to this burden of disease.

When compared to non-Aboriginal people, Aboriginal people in Western Australia are:

- 9.4 times more likely to have chronic kidney and/or urinary disease;
- 8.7 times more likely to have diseases of the endocrine system including diabetes;
- 4.1 times to have gastrointestinal disease; and
- 4 times more likely to have a long term injury.

Adult health

Chronic disease
Chronic diseases are long lasting conditions with persistent effects. The self-reported, doctor-diagnosed prevalence of chronic disease in regional Western Australia is collected via the Western Australian Health and Wellbeing Surveillance System (HWSS) survey. In 2013-2016, the HWSS found that of the Midwest residents:

- 22% of adults reported requiring medical treatment for an injury in the previous year;
- 22% reported having arthritis;
- 10% had asthma;
- 13% reported a current mental health problem; and
- 8% of adults had diabetes, which is greater than the State rate of 6%.

Ear health

Hearing problems and ear diseases such as otitis media occur at greater rates in Aboriginal children than non-Aboriginal children (7% and 3.6% respectively). Chronic otitis media is a key concern in the Midwest because of the consequences of the condition in relation to language, social development and education.

The following trends have been observed in the Midwest in regard to ear health:

- In 2011-2015, ear, nose and throat infections were the second greatest cause of PPH in children aged 0-14, accounting for 22% of all PPH for that age group and occurring at a rate 1.1 times greater than the State.
- Between 2006 and 2015, the rate of disease of the ear and mastoid process hospitalisations were 2.8 times greater for Aboriginal children than for non-Aboriginal children.

OUTREACH SERVICE CONSIDERATIONS
- Culturally appropriate services delivered through ACCHSs are crucial in addressing the disparity in health between Aboriginal and non-Aboriginal people.
- Telehealth is a viable way of increasing the frequency of services while keeping costs low.

OUTREACH SERVICE CONSIDERATIONS
- Familiarise yourself with the WA Child Ear Health Strategy and ensure that your proposed service aligns with the objectives.

3 ABS 2019. National Aboriginal and Torres Strait Islander Health Survey, 2018-2019
Eye health

Eye health conditions are very common in Australia and can contribute to disadvantage due to childhood learning delays, lower participation in education and employment, and social isolation.

Based on national data, 13 million Australians (or 55% of the population) have one or more long-term eye conditions. Aboriginal people experience greater rates of visual impairment and blindness than non-Aboriginal people. Nationally, an estimated 18,300 Aboriginal people aged 40 and over experience vision impairment and blindness.

Trachoma

Trachoma is an eye infection that is caused largely by environmental factors such as sub-standard living conditions and overcrowded housing. Trachoma has been largely eliminated from the developed world; however, it is still prevalent in some remote Aboriginal communities in Australia.

Recent improvements in trachoma control in Aboriginal communities across Western Australia show that the number of at-risk communities has halved from 2010 to 2017; however, there are still some remote communities that only experienced a marginal decrease in trachoma incidence.

Maternal health

Overview of rural maternity services

Community based pregnancy and maternity care services are provided by WA Country Health Service (WACHS), regional hospitals, private general practitioners, ACCHSs and a range of community-based and non-government organisations.

Birth rates

In 2015, the age-specific birth rate in the Midwest was similar to that of the State at 68 and 64 per 1,000 women respectively. The age-specific birth rate was 1.4 times greater (94 per 1,000 women) for Aboriginal residents of the Midwest than for non-Aboriginal residents (66 per 1,000 women).

Teenage mothers

The Midwest experiences a high number of births to teenage mothers. In 2015-2016, the proportion of births to women aged less than 20 years was significantly greater (2.3 times) than the State.

Over the same time period, the rate of births to teenage mothers that were Aboriginal was 14% and 3% for non-Aboriginal mothers in the Midwest.

Smoking in pregnancy

The risks associated with smoking in pregnancy include low birth weight, premature birth, placental complications and stillbirths.

Figure 2 (above) shows the proportion of women who smoked during pregnancy from 2011-2012 to 2015-2016. Reported smoking during pregnancy amongst Aboriginal women followed an upward trend over this time period, peaking at 54% in 2013-2014. The five-year average proportion of births to Aboriginal mothers who smoked was 47% over this time period. Conversely, there was a downward trend in smoking during pregnancy for non-Aboriginal mothers, with the five-year average being 12%.
Alcohol in pregnancy

The effects of alcohol consumption during pregnancy are well documented. The prevalence of Fetal Alcohol Spectrum Disorder (FASD) in Western Australia has been estimated at 0.26 per 1000 births with a disproportionate amount being observed in Aboriginal children (89%). It has been estimated that the prevalence rate has doubled over the past 30 years.

In some remote Aboriginal communities where high rates of prenatal alcohol exposure have been recorded, FASD and partial FASD rates of 120.4 per 1000 children have been observed.

Figure 3 (above) shows an indication of alcohol use in pregnancy in the Midwest. The majority (88%) of mothers in the Midwest reported not consuming alcohol while pregnant. Of the respondents, 82% of Aboriginal women reported not consuming alcohol while pregnant.

Gestational Diabetes Mellitus

In the period 2011-2012 to 2015-2016, it was reported that 4.9% of Aboriginal women in the Midwest who gave birth had a diagnosis of Gestational Diabetes Mellitus (GDM). This is compared to 5.9% in non-Aboriginal women. Percentages of Aboriginal and non-Aboriginal women with GDM across the WACHS catchment was 7.1% and 5.9% respectively for the same time period.

OUTREACH SERVICE CONSIDERATIONS

- High rates of smoking and alcohol use during pregnancy amongst Aboriginal women highlight the need for culturally appropriate antenatal and health promotion services in the Midwest.
- Consider tailoring and distributing health promotion resources targeting smoking during pregnancy whilst providing outreach health services.

Mental health

Suicide was the leading cause of death in Midwest residents aged 15-25 in 2011-2015. Rates of youth suicides were significantly greater in the Midwest when compared to the State and metropolitan Perth (see Table 6). The youth suicide rate was 1.4 times greater than the State rate, being 1.1 greater for males and 1.7 times for females.

In 2013-2016, one-in-seven (13%) of Midwest adults aged 16 and over reported having a current diagnosis of a mental health problem. Females experienced a similar prevalence when compared to males (15% and 12% respectively). While these rates are lower than the State (17% for females and 10% for males), only 6% of those surveyed in the Midwest reported using a mental health care service in the past 12 months.

Midwest residents aged between 15-64 accessed mental health services at a significantly lower rate when compared to the State. Intentional self-harm was the second greatest cause of mortality after ischaemic heart disease in the Midwest, at a rate 1.4 times greater than the State.

Table 6 – 2006-2015 youth suicides per 100,000 persons by gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Midwest</th>
<th>Metropolitan</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males (15-24 years)</td>
<td>22.2</td>
<td>15.1</td>
<td>19.6</td>
</tr>
<tr>
<td>Females (15-24 years)</td>
<td>13.3</td>
<td>6.4</td>
<td>7.7</td>
</tr>
</tbody>
</table>

Source: DOH, Health Tracks

OUTREACH SERVICE CONSIDERATIONS

- Increase access to mental health services targeting youth and the Aboriginal population in the Midwest.
- Collaborate with other service providers delivering social and emotional wellbeing programs in the Midwest.