Midwest – population and health snapshot

The Midwest region comprises about 25% of Western Australia’s total land area, with its population concentrated along the coast. Geraldton is the main regional centre with other population hubs centred around Dongara, Kalbarri, Morawa, Meekatharra, Mullewa, Carnarvon and Exmouth. The region incorporates four health districts – Gascoyne, Geraldton, Midwest and Murchison.

Based on the Accessibility/Remoteness Index of Australia (ARIA), the Midwest region is classified as:

- Outer regional for the Geraldton and Greenough areas.
- Remote for the coastal portion of the Midwest health district.
- Very remote for the remaining 91% of the Midwest region.

Socio-Economic Indexes for Areas (SEIFA) measures a broad range of socio-economic indices from a baseline of 1,000. Research shows that a lower SEIFA (<1000) correlates with a lower health status with increased risk factors to ill health.

The Midwest region has areas with differing levels of disadvantage especially in the eastern areas. Higher proportions of Aboriginal people live in areas with lower SEIFA scores. A significant number of Midwest residents live in local government areas with SEIFA scores in the bottom 10% of the state. These are:

- Upper Gascoyne 760
- Wiluna 814
- Meekatharra 857
- Mount Magnet 862
- Cue 864
- Murchison 910

1 ABS, 2033.0.55.001 – Socio-economic Indexes for Areas (SEIFA), Data Cube only, 2011.

Planning outreach teams

- Consider differing age structure when planning Aboriginal programs and services.
- Target low Socio-Economic Indexes for Areas (SEIFA) score areas, in particular very remote Midwest communities.

With thanks to WA Country Health Service for permission to use data from various sources including the Midwest Regional Health Profile 2015 which can be accessed at www.wacountry.health.wa.gov.au/index.php?id=445.
Overview of rural maternity services

Community based pregnancy and maternity care services are provided by WA Country Health Service, private general practitioners, Aboriginal Community Controlled Health Services and a range of community based and non-government organisations. Specialist obstetric services are mainly provided at the regional hospitals. In the Midwest, planned birthing services are available at Geraldton Hospital, Carnarvon Health Campus and the St John of God Geraldton Hospital.

Aboriginal maternity issues

There is a large body of evidence to demonstrate that Aboriginal women experience poorer maternal health outcomes, higher rates of perinatal and infant mortality, and deliver babies with lower average birth weights when compared to non-Aboriginal women.

Birth rates

The following trends were seen within the Midwest region between 2009-2013:

- There was a 7% decrease in total number of births within the region. On average, births in Aboriginal women decreased by 6% per year and by 0.3% per year in non-Aboriginal women.
- The age-specific birth rate for Aboriginal women was 111 per 1,000 women which was 1.6 times higher than the non-Aboriginal rate (69 per 1,000 women).

Teenage pregnancy

In 2012, 7.1% of Midwest women who gave birth were aged less than 20 years, a proportion that is 1.8 times greater than the State. In 2012, the percentage of Aboriginal teenage women giving birth was 19% and 4% in non-Aboriginal teenage women.

Smoking during pregnancy

Risks associated with smoking during pregnancy include low birth weight, premature birth, placental complications and stillbirths. Figure 1 shows the proportion of births to Midwest women who reported smoking during pregnancy. In 2013, 45% of Aboriginal mothers and 14% of non-Aboriginal mothers smoked during pregnancy.

Alcohol during pregnancy

Fetal Alcohol Spectrum Disorder (FASD), miscarriage and stillbirth are among the consequences of drinking during pregnancy. FASD is a common cause of medical, cognitive and behavioural problems for children including prematurity, brain damage, birth defects, growth restriction and developmental delay.

The FASD birth prevalence has been reported to be 0.26 per 1,000 births within all of the WA population. Of these, 89% were Aboriginal. The FASD birth prevalence was 4.08 per 1,000 within the WA Aboriginal population, significantly higher than non-Aboriginal children (0.03 per 1,000).

Table 1 below shows the proportion of Australian women drinking during pregnancy.

Table 1: 2012-2013 levels of drinking during pregnancy, Australian women aged 18-44 years.

<table>
<thead>
<tr>
<th></th>
<th>Low risk levels of drinking</th>
<th>High risk levels of drinking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aboriginal</td>
<td>28.4%</td>
<td>11.6%</td>
</tr>
<tr>
<td>Non-Aboriginal</td>
<td>42%</td>
<td>9.5%</td>
</tr>
</tbody>
</table>

Sources: WA Register for Developmental Anomalies and the Midwives Notification System
**Maternal health**

**Gestational diabetes mellitus**

Diabetes in pregnancy increases the risk of complications of pregnancy, labour and delivery for mothers and their babies. It is also an indicator of increased risk of developing type 2 diabetes later in life. The risk is increased for those with pre-existing diabetes prior to pregnancy. Aboriginal mothers and their babies generally experience the adverse effects of gestational diabetes mellitus (GDM) at higher rates.

7% of Western Australian women who gave birth in 2012 were diagnosed with GDM. Table 2 provides an overview of gestational diabetes mellitus status in Australia during 2005-2007.

<table>
<thead>
<tr>
<th>Gestational diabetes mellitus</th>
<th>Births</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent</td>
<td>Number</td>
</tr>
<tr>
<td>-----------</td>
<td>--------</td>
</tr>
<tr>
<td>Aboriginal</td>
<td>5.1%</td>
</tr>
<tr>
<td>Non-Aboriginal</td>
<td>4.7%</td>
</tr>
</tbody>
</table>

Source: Australian Institute of Health and Welfare, 2010

**Planning outreach teams**

- Health promotion interventions on drinking during pregnancy targeting Aboriginal women of child bearing age.
- Access to dietitians and nutritional professionals for expectant Aboriginal mothers.
- Strengthen partnerships with primary care providers such as local general practices and Aboriginal Medical Services.

**Child and adolescent health**

**Low birth weight**

A baby’s birth weight is a key indicator of health status. The World Health Organisation defines low birth weight as less than 2,500 grams.

Babies born with a low birth weight have a greater risk of poor health and dying, and are more likely to develop significant disabilities and have a greater risk of poor health and mortality outcomes.

From 2008-2012 in the Midwest region, 15% of Aboriginal babies were born with a low birth weight, compared to the overall Midwest low birth weight rate of 8%.

**Australian Early Development Census**

The Australian Early Development Census (AEDC) is a measure of how children are developing upon commencing full-time school for the first time.

In 2012, Australian Bureau Statistics data classed 22% of Australian children as developmentally vulnerable on one or more domains of the AEDC. In addition, 11% were developmentally vulnerable on two or more domains.

Within Midwest communities the proportion of children rated as developmentally vulnerable ranged from 10% to 65%.

The five towns in the Midwest with the highest percentages of children developmentally vulnerable are shown in Table 3.


<table>
<thead>
<tr>
<th>Community</th>
<th>Children vulnerable: 1+ domains</th>
<th>Children vulnerable: 2+ domains</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>% of total surveyed</td>
</tr>
<tr>
<td>East Carnarvon/Kingsford</td>
<td>8</td>
<td>42</td>
</tr>
<tr>
<td>Karloo</td>
<td>9</td>
<td>47</td>
</tr>
<tr>
<td>Meekatharra and surrounds</td>
<td>15</td>
<td>65</td>
</tr>
<tr>
<td>Spalding</td>
<td>19</td>
<td>42</td>
</tr>
<tr>
<td>Utakarra</td>
<td>11</td>
<td>65</td>
</tr>
</tbody>
</table>

Table 3: 2012 AEDC, Midwest children vulnerable on at least one domain.
Ear health

Ear diseases, in particular otitis media, and associated hearing loss are highly prevalent among Aboriginal children. In 2012-2013, national prevalence of chronic otitis media causing hearing problems in Aboriginal children aged 0-14 years was double that of non-Aboriginal children (7% as compared to 3.6%)3.

Otitis media begins within weeks of birth and can persist into adolescence with reoccurring episodes. Preventing ear disease is a high priority as it can significantly reduce delays in child learning and development. Risk factors include poor environmental-household conditions, passive smoking, premature birth and malnutrition4.

In the Midwest, the following ear health trends were observed during 2008-2012 for children aged 0-14 years:

- Ear, nose and throat (ENT) infections were the second leading cause of potentially preventable hospitalisations (PPH) and was slightly higher than the State rate.
- The majority (70%) of these hospitalisations were for very young children aged 0-4 years.

Planning outreach teams

- Focus on ENT infections and respiratory disease in children especially Aboriginal children.
- Increase programs aimed at prevention and management of risk factors.
- Identify links with other primary health care services.

Adult health

Chronic disease prevalence

Chronic disease refers to long-term conditions that last for six months or more. Prevalence data within the Midwest population collected during 2009-2012 by WA population based surveys found that:

- One in five adults (21%) reported arthritis.
- One in five adults (21%) reported an injury requiring medical treatment.
- One in eight adults (12%) reported a currently diagnosed mental health problem.
- One in eleven (8%) adults had asthma.

The top five cancer incidence rates in Midwest from 2008-2012 were for cancers of the breast, skin (melanoma), prostate gland, colorectal and lung, bronchus and trachea.

Cancer of the lung, bronchus and trachea was significantly higher (1.4 times) than the State rate.

Chronic disease amongst Aboriginal people

Available national evidence reports a greater burden and prevalence of chronic disease among Aboriginal people. The demographic factors of remoteness (isolation) and socio-economic disadvantage of the Aboriginal population contribute to the significantly greater burden of disease compared to non-Aboriginal people. Research collected from 2011-2013 indicates that compared to non-Aboriginal people, Aboriginal people were found to be5,6:

- Half as likely to report excellent or very good health.
- 3.5 times more likely to report having diabetes.
- 1.2 times more likely to report having cardiovascular diseases.
- 2 times more likely to report having asthma.
- 2 times more likely to report kidney disease.

Diabetes: Majority have type 2 diabetes. Risk factors include being overweight/obese, leading a sedentary lifestyle and poor nutritional intake.

Cardiovascular disease: The leading types are ischaemic heart disease and stroke.

Respiratory disease: The two major types being asthma and chronic obstructive pulmonary disease.

Kidney disease: Often develops as a complication of other medical conditions including diabetes, high blood pressure, urinary tract infections and drug use.

Strategic focus areas that have been identified for Aboriginal health planning in the Midwest region are chronic disease particularly diabetes, sexual health, child development and tobacco cessation7.

Planning outreach teams

- Health promotion interventions targeting the prevention and management of modifiable risk factors for chronic disease.
- Consider how services can align with the strategic focus areas of the region.
- Contact major health care providers and discuss how your team could collaboratively work together in service delivery and coordination.

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**Health trends**

For 2009-2012, one in eight (12%) Midwest adults 16 years and over suffered from a diagnosed mental health problem, yet only 5% accessed a mental health care service in the last year.

Prevalence was higher among females than males (15% and 10% respectively). Aboriginal residents have reported levels of psychological stress 2.7 times higher than non-Aboriginals on a national level.

**Access:** Community mental health services accessed in the Midwest between 2006 and 2010 were at a significantly lower rate than the State, primarily for serious psychiatric disorders. Rates for acquired and congenital brain disorders in males and alcohol and drug disorders in females were both significantly higher in the Midwest than the State.

**Youth Suicide:** From 2007-2011, the female youth suicide rate in the Midwest is markedly higher than the State youth suicide rate. Table 4 shows the Midwest youth suicide rates by gender during 2002-2011 to preserve confidentiality.

### Table 4: 2002-2011 youth suicide rates, Midwest residents, 15-24 years.

<table>
<thead>
<tr>
<th></th>
<th>Midwest</th>
<th>Metro</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males (15-24 years)</td>
<td>20.2</td>
<td>15.6</td>
<td>19.9</td>
</tr>
<tr>
<td>Females (15-24 years)</td>
<td>8.3</td>
<td>5.4</td>
<td>6.0</td>
</tr>
</tbody>
</table>

These rates have been age-standardised to the Australian 2001 population. Source: DoH, Health Tracks

**Planning outreach teams**

- Increase access to mental health services targeting the Midwest female and Aboriginal population.
- Health promotion interventions for Aboriginal people need to be targeted and culturally appropriate.

### 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. In 2011-2012, over half (53.7%) of Australians reported having a chronic eye condition. In 2013-2014, Aboriginal people had a lower rate of hospitalisations for cataract extraction as compared to non-Aboriginals (7.3 compared with 8.9 per 1,000 population)\(^8\).

### Hospitalisations

**Regional hospitalisations**

Overall, the hospitalisation rate for Midwest residents was 1.1 times higher than the State in 2008-2012, meaning Midwest residents are hospitalised 10% more often. The hospitalisation rate for Aboriginal residents in the Midwest was 2.3 times higher than the rate for non-Aboriginals. Renal dialysis accounted for 14% of total hospitalisations of Midwest residents.

Table 5 shows the leading causes of hospitalisation other than renal dialysis, by major category.

### Table 5: 2008-2012 leading causes of hospitalisation by major category, Midwest residents.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Cause of hospitalisation</th>
<th>Number</th>
<th>% of total (15-64 yrs)</th>
<th>State rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Digestive diseases</td>
<td>14,343</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Injury and poisoning</td>
<td>9,677</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>Neoplasms</td>
<td>9,632</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Musculo-skeletal diseases</td>
<td>8,562</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>Pregnancy and childbirth</td>
<td>7,856</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>All hospitalisations</td>
<td>134,546</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

Note: leading causes exclude 'factors influencing health status and contact with health services' and 'attending health services for examination and investigation', reproduction, specific procedures, and other circumstances, and potential health hazards related to communicable diseases, socioeconomic and psychosocial circumstances, family and personal history. This also includes renal dialysis. Source: DoH, Health Tracks
**Hospitalisations**

**Potentially preventable hospitalisations**

Potential preventable hospitalisations (PPH) are hospitalisations which could have been avoided with disease intervention plans and various methods of preventative care. Three categories are identified: acute, chronic and vaccine preventable. During 2008-2012, the following trends were observed for PPH in Midwest residents:

- PPH accounted for 10,334 (8%) of hospitalisations. This figure was significantly higher when compared to the rest of the State.
- Diabetes with its complications was the leading cause of PPH for both Aboriginal and non-Aboriginal residents in the Midwest (25% and 18% respectively). Other conditions are shown in Figure 2.
- Aboriginal residents had an overall PPH rate three times greater than non-Aboriginal residents.

**Figure 2: 2008-2012 leading conditions for potentially preventable hospitalisations, Midwest residents.**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>diabetes complications</td>
<td>1165</td>
<td>807</td>
</tr>
<tr>
<td>dental conditions</td>
<td>682</td>
<td>695</td>
</tr>
<tr>
<td>chronic obstructive pulmonary disease</td>
<td>600</td>
<td>516</td>
</tr>
<tr>
<td>pyelonephritis</td>
<td>264</td>
<td>578</td>
</tr>
<tr>
<td>congestive cardiac failure</td>
<td>492</td>
<td>284</td>
</tr>
<tr>
<td>ENT infections</td>
<td>373</td>
<td>393</td>
</tr>
<tr>
<td>convulsions and epilepsy</td>
<td>415</td>
<td>395</td>
</tr>
<tr>
<td>asthma</td>
<td>242</td>
<td>308</td>
</tr>
</tbody>
</table>

Source: DoH, Health Tracks

**Major health services**

- **Hospital services**
  - Health Services: Dongara-Eneabba-Mingenew, Morawa-Perenjori, North Midlands (Three Springs), Northampton Hospital, Mullewa Hospital
  - Geraldton Hospital
  - Exmouth Multipurpose Service
  - Carnarvon Multipurpose Service
  - Meekatharra Hospital
  - St John of God Geraldton Hospital

- **Community and public health services**
  - Community Health Service - Carnarvon, Exmouth, Geraldton, Meekatharra, Morawa-Perenjori, Mount Magnet, Mullewa, North Midlands
  - Population Health Unit – Gascoyne, Geraldton

- **Mental health and aged care services**
  - Central West Mental Health Service – Geraldton
  - Midwest Community Drug Service Team
  - Meekatharra Mental Health Service
  - Midwest Aged Care Assessment Team
  - Carnarvon Mental Health Service
  - Murchison Hostel
  - Nazareth Care
  - Juniper Hillcrest

- **Aboriginal Medical Services**
  - Geraldton Regional Aboriginal Medical Service
  - Carnarvon Medical Services Aboriginal Corporation
  - Ngangganawilli Aboriginal Health Service

Mortality is an important population health indicator. Knowing the reasons for and causes of death can assist in the planning of primary and community care services to prevent avoidable mortality. There is still a discrepancy between the life expectancy of Aboriginal people when compared to non-Aboriginal people. Current estimations suggest that non-Aboriginal people live around ten years longer than Aboriginal people.

**Leading causes of death**
The Midwest mortality rate was significantly higher than the State rate in 2007-2011.

During this period, the leading causes of death in the Midwest region were found to be:

- ischaemic heart diseases, lung cancer, chronic obstructive pulmonary disease, cerebrovascular diseases and diabetes including impaired glucose regulation.

For Aboriginal residents, the leading causes of death were:

- ischaemic heart diseases, diabetes including impaired glucose regulation, lung cancer, transport accidents and cerebrovascular diseases.

**Avoidable mortality**
During 2007-2011, 58% of Midwest resident deaths under the age of 75 could have been avoided through the better use of primary prevention and treatment interventions.

The avoidable mortality rate for Aboriginal people was 5 times higher than for non-Aboriginal people in the Midwest. In 2002-2011, the leading causes of Aboriginal avoidable deaths were ischaemic heart disease (18%) and lung cancer (6%). These were also the leading causes of avoidable deaths in non-Aboriginal people in 2007-2011, accounting for 12% and 11% of deaths, respectively.

**Planning outreach teams**
- Interventions should consider modifiable risk factors for leading causes of avoidable mortality.
- Explore partnerships with existing primary and therapeutic services.

9,10 All mortality and avoidable mortality statistics were sourced from the Department of Health, Health Tracks – Epidemiology Branch (PHI) in collaboration with the Cooperative Research Centre for Spatial Information (CRC-SI).