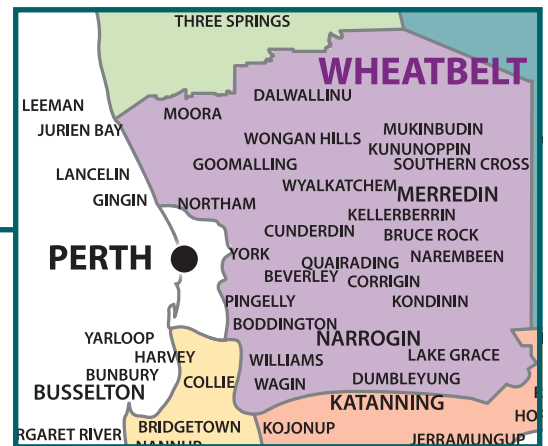


Wheatbelt – population and health snapshot

The Wheatbelt region covers around 157,000 square kilometres and includes 45 local government authorities and four health districts – Coastal, Western, Eastern and Southern. Current health services include four integrated sub-regional hospitals (Narrogin, Northam, Merredin and Moora), 20 small hospitals and 15 health centres/nursing posts. The Wheatbelt’s geography and dispersed population poses challenges to health service delivery.

Based on the Accessibility/Remoteness Index of Australia, the Wheatbelt region is classified as:

- 4% inner regional
- 31% outer regional
- 57% remote
- 8% very remote



Population

The estimated resident population in 2013 was 77,480, a 5% increase since 2006. Although the Wheatbelt is the second most populated country region in Western Australia, the population is highly dispersed with a population density lower than State average.

The age structure in the Wheatbelt differs from the State in that there is a significantly lower proportion of adults aged 15-44 years. Population growth to 2026 is expected to grow at an average rate of 0.9% per year, increasing mostly in the coastal health district. The proportion of adults 65+ years is expected to double by 2026.

Based on the 2011 ERP, Aboriginal people represented 5.1% of the population. When compared to the non-Aboriginal population, the Wheatbelt Aboriginal population has a younger age structure, with 50% of the population aged under 20.

Planning outreach teams

- ⇒ Consider differing age structure of Aboriginal population when planning services.
- ⇒ Projected increase in older adult population will impact demand for chronic disease and aged care programs.
- ⇒ Target low SEIFA score areas to reach disadvantaged areas.



Measure of disadvantage

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 Wheatbelt has small pockets of disadvantage near areas of high advantage, particularly in Northam and Narrogin. The Local Government Areas with a 2011 SEIFA scores in the lowest 20% of the State are¹:

Kellerberrin	905
Pingelly	907
Northam town	923
Quairading	930
Wyalkatchem	931
Narrogin township	932
Beverley	936
Trayning	943

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

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



Major health services

Hospital services	Community and public health services	Mental health and aged care services
<ul style="list-style-type: none"> • Merredin Hospital (redevelopments mid-2016) • Narrogin Hospital (redevelopments mid-2016) • Northam Hospital (redevelopments mid-2016) • Moora Health Service 	<ul style="list-style-type: none"> • Avon and Central Primary Health Service • Eastern Primary Health Service • Southern Wheatbelt Primary Health Service • Health centres/nursing posts – Cunderdin*, Kukerin, Mukinbudin, Pingelly*, Wickepin, Williams • Jurien Bay Health Centre • Wheatbelt GP Network – Northam, Toodyay, Narrogin 	<ul style="list-style-type: none"> • Narrogin Mental Health Unit • Wheatbelt Mental Health Service • Wheatbelt Aged Care Assessment Team • Avon Hospice

* New primary health centres being built in Cunderdin and Pingelly.

Further health service information can be found at www.myhospitals.gov.au and www.ruralhealthaustralia.gov.au.

Maternal health

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 Wheatbelt, planned birthing services are available at Northam and Narrogin Hospitals².

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 Wheatbelt region during 2009-2013:

- There was an overall decrease of 19% in number of births. On average, births by Aboriginal

women decreased by 2.3% per year and by 5.7% per year in non-Aboriginal women.

- The age-specific birth rate for Aboriginal women was 94 per 1,000 women which is 1.2 times higher than the non-Aboriginal rate (75 per 1,000).

Teenage pregnancy

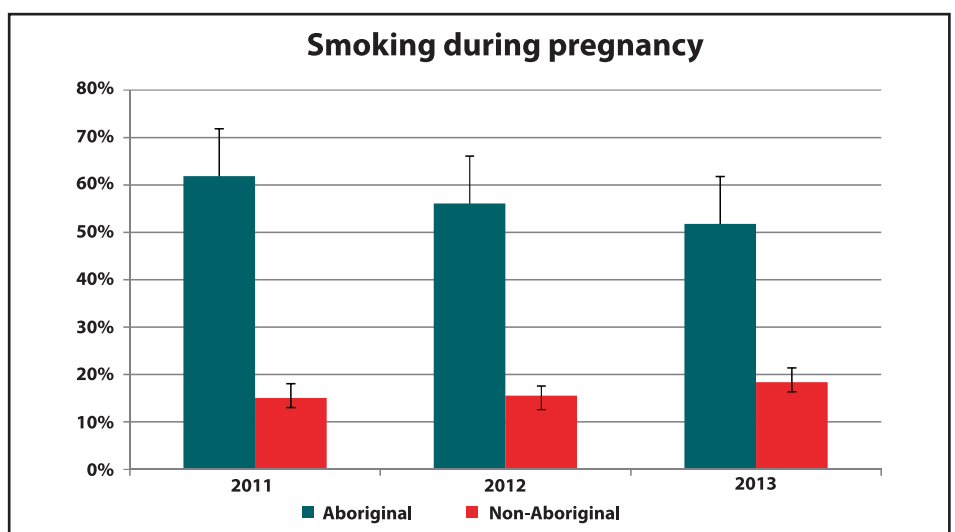
In 2012, 7% of Wheatbelt women who gave birth were aged less than 20 years, a proportion 1.8 times greater than the State. In 2012, 20% of births were to Aboriginal teenage women,

compared to 6% of births to 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 Wheatbelt women who reported smoking during pregnancy. In 2013, 52% of Aboriginal mothers and 18% of non-Aboriginal mothers smoked during pregnancy.

Figure 1: 2011-2013 proportion of women smoking during pregnancy, Wheatbelt residents.



Notes: The error bars represent the 95% confidence interval of the proportion: 2013 is preliminary data. Source: Midwives Notification System.

² www.healthywa.wa.gov.au/Articles/F_/Having-a-baby-in-a-public-country-hospital-in-WA

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 prevalence in WA has been reported to be 0.26 per 1,000 births. Of these, 89% were Aboriginal. The Aboriginal rate of 4.08 per 1,000 was significantly higher than non-Aboriginal children (0.03 per 1,000). Table 1 shows the proportion of Australian women drinking during pregnancy.

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.

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

	Low risk levels of drinking	High risk levels of drinking
Aboriginal	28.4%	11.6%
Non-Aboriginal	42%	9.5%

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

Table 2: 2005-2007 women who gave birth in Australia and gestational diabetes mellitus status.

	Gestational diabetes mellitus		Births
	Percent	Number	Total
Aboriginal	5.1%	1,562	30,518
Non-Aboriginal	4.7%	37,539	802,175

Source: Australian Institute of Health and Welfare, 2010

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.

Planning outreach teams



- ⇒ Culturally appropriate and targeted health promotion interventions on drinking and smoking during pregnancy.
- ⇒ Increase access to maternity services particularly support for teenage mothers.
- ⇒ Strengthen partnerships with primary care providers such as local GPs and community health 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 are more likely to develop significant disabilities and have a greater risk of poor health and mortality outcomes. From 2008-2012 in the Wheatbelt, the low birth weight rate for babies born

to Aboriginal mothers was 16%, as compared to 6% for non-Aboriginal babies.

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 of 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 the Wheatbelt region, the proportion of children rated as developmentally vulnerable on one or more domains ranged from 6.3% - 47%. The Wheatbelt local government areas with high vulnerability are shown in Table 3.

To learn more about the AEDC, visit www.aedc.gov.au/about-the-aedc.

Planning outreach teams

- ⇒ Increase allied health professionals to assist early childhood development.
- ⇒ Teams could include speech pathologists, occupational therapists, physiotherapists and child health nurses.



Table 3: 2012 AEDC, Wheatbelt children vulnerable on at least one domain.

Community	Children vulnerable: 1+ domains		Children vulnerable: 2+ domains	
	Number	% of total surveyed	Number	% of total surveyed
Merredin	14	30	7	15
Narrogin	23	31	11	14
Northam	50	34	33	22
Boddington	12	46	8	31
Toodyay	15	31	8	16
York	15	47	7	22

Adult health

Chronic disease prevalence

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

- One fifth of adults (22%) reported an injury requiring medical treatment.
- One quarter of adults (25%) reported arthritis.
- 8% of adults reported heart disease.
- One in ten (10%) reported current asthma.
- 13% reported a current mental health problem.

Wheatbelt prevalence rates for arthritis and heart disease were significantly higher than the State rates.

The top five cancer incidence rates in the Wheatbelt from 2008-2012 were for cancers of the prostate gland,

breast, colorectal, skin (melanoma) and lung, bronchus and trachea. Prostate and respiratory cancer rates were significantly higher than the State rate (1.2 and 1.3 respectively).

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 be:

- 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^{3,4}.

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 as major priorities for Aboriginal health planning in the Wheatbelt region are mental health, chronic disease particularly diabetes, sexual health and tobacco cessation⁵.

Planning outreach teams

- ⇒ Culturally appropriate and targeted chronic disease interventions that consider modifiable risk factors.
- ⇒ 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.



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 2011-12, over 1 in 2 (53.7%) Australians reported having a chronic eye condition. In 2013-14, 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)⁶.

Diseases of the eye and adnexa was the leading cause of hospitalisation (8%) for Wheatbelt residents 65 years and over, from 2008-2012.

³ AIHW 2015. Cardiovascular disease, diabetes and chronic kidney disease – Australian facts: Aboriginal and Torres Strait Islander people.

⁴ ABS 2013. Australian Aboriginal and Torres Strait Islander Health Survey: First Results, Australia, 2012-13.

⁵ Wheatbelt Regional Aboriginal Health Planning Forum data.

⁶ www.aihw.gov.au/eye-health/cataract-surgery/#t2

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%)⁷.

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 malnutrition⁸.

In the Wheatbelt, ear, nose and throat (ENT) infections were the third overall leading cause of potentially preventable hospitalisations (PPH), accounting for 13%.

The following ear health trends were observed during 2008-2012 for children aged 0-14 years:

- ENT infections accounted for 30% of all PPH and was 1.4 times the State rate.
- The majority (69%) of these hospitalisations were for very young children aged 0-4 years.

- Rate of PPH due to ENT infections was significantly higher for Aboriginal children than for non-Aboriginal children (1,504 vs 796 per 100,000).

Planning outreach teams



- ⇒ Focus on ENT infections and diseases in children especially Aboriginal children.
- ⇒ Increase programs aimed at prevention and management of risk factors.

Mental health

Health trends

In 2009-2012, 13.4% of Wheatbelt adults 16 years and over had suffered from a mental health problem, with prevalence almost twice as high in females.

Access: Despite this, only 5% had accessed mental health care services within the year. In the region, high psychological distress (7%) and perceived lack of control over life in general (4%) were reported at levels similar to the State.

Planning outreach teams



- ⇒ Increase access to mental health services targeting Wheatbelt youth.
- ⇒ Health interventions for Aboriginal people need to be targeted and culturally appropriate.

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

Youth suicides (per 100,000 persons)*	Wheatbelt Health Region	Metro	State
Males (15-24 years)	43.7	15.6	19.9
Females (15-24 years)	8.6	5.4	6.0

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

Between 2006 and 2010, community mental health services were accessed at a significantly lower rate than the State. Occasions of service were predominately for serious psychiatric disorders followed by anxiety disorders and alcohol and drug disorders.

Nationally, Aboriginal people have reported levels of psychological stress 2.7 times higher than non-Aboriginal people. During 2003-2012, Wheatbelt Aboriginal residents aged 15-64

years accessed community mental health services twice the rate of non-Aboriginal residents.

Youth Suicide: For 2007-2011, the youth suicide rate in the Wheatbelt for males (2.2 times) and females (1.4 times) was significantly higher than the State youth suicide rate. Table 4 shows the youth suicide rates in the Wheatbelt by gender during 2002-2011 to preserve confidentiality.

⁷ ABS 2013. Australian Aboriginal and Torres Strait Islander Health Survey: First Results, Australia, 2012-13.

⁸ Closing the Gap Clearinghouse (AIHW & AIFS) 2014. Ear disease in Aboriginal and Torres Strait Islander children. Resource sheet no.35.

Hospitalisations

Regional hospitalisations

For 2008-2012, the overall hospitalisation rate of Wheatbelt residents was significantly lower than that of the State.

However, in 2003-2012 the hospitalisation rate of Aboriginal residents was 1.8 times higher than the rate for non-Aboriginal residents.

Table 5 shows the top five leading causes of hospitalisation by major category in the Wheatbelt.

There was a marked difference between the leading causes for hospitalisation between Aboriginal and non-Aboriginal Wheatbelt residents (Table 6).

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 the Wheatbelt:

- PPH accounted for 11,628 (8%) of all hospitalisations of Wheatbelt residents, which was slightly higher (1.1 times) than the State rate.
- The overall leading PPH condition was diabetes complications, which accounted for 20% of PPH. Other conditions are shown in Figure 2.
- The leading PPH condition for both Aboriginal and non-Aboriginal residents was diabetes complications (23% and 20% respectively).
- PPH rates were significantly higher (3.6 times) for Aboriginal than non-Aboriginal Wheatbelt residents.

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

Rank	Cause of hospitalisation	Number	% of total (15-64 yrs)	State rank
1	Digestive diseases	15,914	11	1
2	Neoplasms	12,040	8	2
3	Injury and poisoning	11,777	8	4
4	Musculo-skeletal diseases	11,695	8	5
5	Ill-defined conditions	11,156	8	3
All hospitalisations		145,641	100	

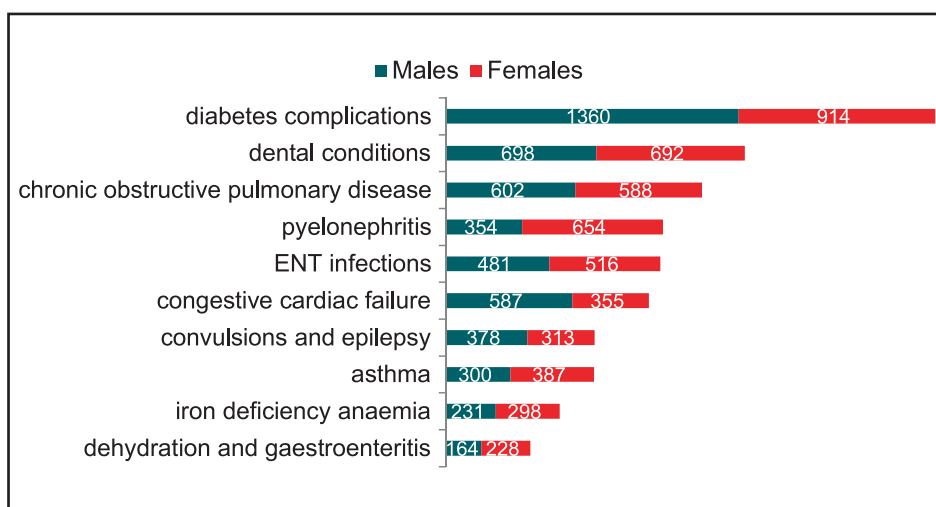
Note: leading causes exclude 'factors influencing health status and contact with health services' and 'attending health services for examination and investigation', reproduction, specific procedures, and other circumstances, and potential health hazards related to communicable diseases, socioeconomic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

Table 6: 2008-2012 leading conditions for hospitalisation, by Aboriginality.

Aboriginal	Non-Aboriginal
<ul style="list-style-type: none"> • Dialysis (14%) • Acute respiratory infections • Mood and anxiety disorders • Injuries to head and neck • Alcohol and drug disorders 	<ul style="list-style-type: none"> • Chemotherapies • Arthropathies • Diseases of the eye and adnexa • Digestive system and abdominal symptoms • Benign neoplasms

Source: DoH, Health Tracks

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



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 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.

The current estimated life expectancy for Aboriginal people is ten years lower than for non-Aboriginal people.

Planning outreach teams



- ⇒ Higher PPH rates and diabetes incidence in the Wheatbelt suggest need for targeted prevention and primary health services.
- ⇒ Explore partnerships with existing primary and secondary services.
- ⇒ Interventions for Aboriginal residents need to be targeted and culturally appropriate.

Leading causes of death

From 2007-2011, the Wheatbelt's mortality rate was significantly higher than the State.

The leading causes of death in the Wheatbelt region were found to be⁹:

- ischaemic heart diseases, lung cancer, cerebrovascular diseases, transport accidents and diabetes and impaired glucose regulation. The death rate for transport accidents was 4 times higher than the State.

For Aboriginal residents, the leading causes of death were¹⁰:

- ischaemic heart diseases, diabetes and impaired glucose regulation, intentional self-harm, lung cancer and transport accidents. The death rate for intentional self-harm was significantly higher than the State.

Avoidable mortality

During 2007-2011, 54% of Wheatbelt resident deaths under 75 years could have been avoided through the better use of primary prevention and treatment interventions. The leading cause of avoidable deaths for Wheatbelt residents was ischemic heart disease (12%) followed by lung cancer (9%).

The rates of treatable and preventable avoidable deaths for Aboriginal people in the Wheatbelt was 4 and 3 times higher respectively than that of non-Aboriginal residents. Ischaemic heart disease was the leading cause of avoidable mortality, accounting for 20% of total Aboriginal deaths in the Wheatbelt.

^{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).