



## SERVICE PLAN:

# SOUTHERN WHEATBELT HEALTH DISTRICT (2011/12 – 2021/22)

Endorsed June 2012

*Working together for a healthier **country WA***



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**Corporate Details**

**Project Leader**

Jo Thorley

**Co-authors and Contributors**

Leeann Murphy, Aurora Projects

Nancy Bineham, WA Country Health Service

David Naughton, WA Country Health Service

Beth Newton, WA Country Health Service

Nerissa Wood, WA Country Health Service

Wheatbelt Regional Executive Team

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**Aurora Projects Pty Ltd**

ABN 81 003 870 719

Suite 20, Level 1,

111 Colin Street,

West Perth, WA 6005

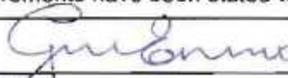
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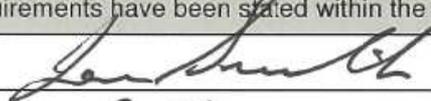
**F** + 61 8 9254 6301

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## SIGNATORY PAGE

To be completed by the Regional Director	
I certify that the <i>Service Plan</i> has been developed to my satisfaction, and that all project deliverables/requirements have been stated within the document.	
Signed 	Date 19.3.12
Print name	Geraldine M. Ennis
Position	WACHS- Wheatbelt Regional Director

To be completed by the Chief Executive Officer	
I certify that the <i>Service Plan</i> has been developed to my satisfaction, and that all project deliverables/requirements have been stated within the document.	
Signed 	Date 7/6/12
Print name	Ian Smith
Position	CEO, WA Country Health Service



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## ACRONYMS

ACAT	Aged Care Assessment Team
ABF	Activity Based Funding
ABS	Australian Bureau of Statistics
ALOS	Average Length of Stay
CAMHS	Child and Adolescent Mental Health Service
COAG	Council of Australian Governments
CSSD	Central Sterilising Services Unit
DGPP	Divisions of General Practice Program
ED	Emergency Department
ENT	Ear Nose and Throat
ERP	Estimated Resident Population
ESRG	Expanded Service Related Group
FESA	Fire and Emergency Services
FTE	Full Time Equivalents
GP	General Practitioner
HACC	Home and Community Care
HCN	Health Corporate Network
HIN	Health Information Network
HWSS	WA Health and Wellbeing Surveillance System
ICT	Information Communication Technology
IDHS	Integrated District Health Service
KEEDAC	Kaata-Koorliny Employment and Enterprise Development Aboriginal Corporation
MOU	Memorandum of Understanding
MPS	Multipurpose Service
RFDS	Royal Flying Doctor Service
SEIFA	Socio-Economic Indexes for Areas
SIHI	Southern Inland Health Initiative
SWWAML	South West WA Medicare Local
WGPN	Wheatbelt General Practitioner Network
WACHS	WA County Health Service

## KEY DEFINITIONS

**Ambulatory care** is a broad term that generally refers to the planned services provided to patients who are able to 'walk in and walk out' on the same-day. Ambulatory care services can include primary health care services, day surgery and outpatients (e.g. wound care and management).

**Ambulatory health care centre** refers to a health facility where ambulatory health care services are provided in close proximity to emergency department care and overnight inpatient admissions.

**Primary health care** is an aspect of ambulatory health care but is generally first level health care. The term is sometimes used interchangeably with the term primary care although primary care tends to refer to the clinical care provided by GPs. Primary health care gives priority to those most in need, maximises community and individual self-reliance and participation and involves collaboration with other sectors. It includes:

- Health promotion
- Illness prevention
- Clinical treatment and care of the sick
- Community development
- Advocacy and rehabilitation

Primary health care is provided by general practitioners; practice nurses; primary/community/child health nurses; pharmacists; dentists; allied health professionals; aged care workers, support workers; and many other providers across the local, state and federal government sectors, non-government organisations and the private sector.

**Primary health care centre** generally refers to a stand-alone health facility where primary health care services are provided. It would ideally be located in close proximity to emergency department and may be collocated with inpatient, outpatients, minor wound care and diagnostic services. A primary health care centre does not include day surgery services.

**Nursing posts** are generally located in small towns that do not have a hospital. Nursing posts are also a setting for primary health care services and visiting outpatient services and although they do not have a functioning emergency department, they do provide low level emergency care and stabilisation to patients prior to transferring to a more specialised health service when required.

A full glossary is listed at the end of this service plan.

# 1 EXECUTIVE SUMMARY

This Service Plan provides the strategic direction for service delivery for the WA Country Health Service's (WACHS) Southern Wheatbelt Health District (*regarded as Southern Wheatbelt*) for the next 10 years and informs the implementation plan for the State Government's \$565 million *Southern Inland Health Initiative (SIHI)*. The service plan was developed via a comprehensive service planning process as detailed in *Appendix A*.

The service planning process has identified a number of opportunities to strengthen service delivery to meet the prescribed role delineations within WA Health's *Clinical Services Framework 2010 - 2020*. It is essential that this service plan is reviewed as facility planning progresses, new policies are introduced and the needs of the community change.

## Planning context

The Southern Wheatbelt includes the Australian Bureau of Statistics (ABS) statistical local areas (SLAs) and associated townsites of Boddington, Brookton, Cuballing, Dumbleyung, Kondinin, Kulin, Lake Grace, Narrogin (Town and Shire), Pingelly, Wagin, Wandering, West Arthur, Wickiepin and Williams.

The Southern Wheatbelt is the catchment area for the Narrogin Hospital, regarded as an Integrated District Health Service (IDHS) and six small hospitals, some of which are also multipurpose service (MPS) sites. These facilities are the major focus for health service reform within this service plan.

## Key catchment area features influencing service delivery

The Department of Health and Ageing (2009) state that health systems with strong primary health care services are more efficient; have lower rates of hospitalisation; fewer health inequalities; and better health outcomes including lower mortality, than those that do not. For this reason, the key feature of this service plan and SIHI is to boost primary health care services to address the following features of the catchment area.

### Rural location

Given the rural location of the Southern Wheatbelt, opportunities to utilise telehealth technologies and new workforce models for care provision and supervision will be required in the future to provide care closer to home.

### Population growth

Overall, the estimated population growth across the Southern Wheatbelt is low and therefore future demands for acute inpatient beds will remain similar to the present day.

### Ageing population

The Southern Wheatbelt has a high proportion of elderly people in the community that will place added pressures on WACHS to provide primary health care services to manage chronic health conditions and co-morbidities. Demand for specialised dementia and high care aged care residential services is also likely to increase as a result of the ageing population.

## Health status

Data from the WA Health and Wellbeing Surveillance System highlighted that there were a number modifiable risk factors within the Wheatbelt such as obesity and lack of physical activity that impacts on health status. There are also a significantly higher number of adults in the Wheatbelt with arthritis and asthma.

Almost nine in ten Wheatbelt residents utilised primary health care services in the past year. This provides opportunities for both health promotion and early intervention initiatives. The focus will need to be on reducing the modifiable risk factors and the range of needs of the people in the district: chronic disease, mental health, aged care, maternal, child, youth health, Aboriginal health, and dental health.

## Mortality

Mortality data for the Wheatbelt and Southern Wheatbelt highlighted:

- There was no significant difference between the mortality rate (the number of deaths per 1,000 people) of all Wheatbelt residents compared with the State.
- Between 2003 and 2007, the leading cause of mortality in the Southern Wheatbelt was diseases of the circulatory system, followed by neoplasms and injury and poisoning.
- Between 1998 and 2007, around two-thirds of Wheatbelt resident deaths under the age of 75 were classified as avoidable. Cancers and chronic conditions accounted for the majority of avoidable deaths including Ischaemic heart disease, lung cancer and suicide and self-inflicted injuries.

## Hospitalisations

Hospitalisation data for the Wheatbelt and Southern Wheatbelt highlighted that between 2005 and 2009:

- Southern Wheatbelt residents had a significantly lower hospitalisation rate when compared to all WA residents.
- The leading cause of hospitalisation of Southern Wheatbelt residents was for factors influencing health status (which includes renal dialysis and chemotherapy), followed by diseases of the digestive system.
- *Diabetes and its complications* was the leading potentially preventable hospitalisation for both Aboriginal and non-Aboriginal Wheatbelt residents.

## Aboriginal people

Aboriginal people are over represented in mortality and hospitalisation statistics. This indicates the importance of providing culturally secure facilities and primary health care programs specific to the conditions and risk factors associated with Aboriginal people.

## WACHS current service profile

The Southern Wheatbelt includes the WACHS hospital and health services highlighted in Figure 1. These operate within a networked model of integrated care, whereby Narrogin

Hospital supports the smaller hospitals, MPS and nursing posts to deliver services to the catchment area, whilst referring patients where necessary to larger metropolitan hospitals.

Patients are referred to the most appropriately resourced and equipped health facility to meet their health care needs. The level of care provided by metropolitan, regional and district health facilities are defined within the Department of Health's *WA Clinical Services Framework 2010 - 2020* (2010a). This Framework also provides direction for the level of care required at Narrogin Hospital in the future. Small country hospitals are not included in the *Clinical Services Framework* but it is assumed that the current services at these small sites will continue and respond to the needs of the local population.

The integrated care model is supported by local general practitioners (GPs), government and non-government services, private providers and not-for-profit agencies. This network of services provides a continuum of care for the 20,000 residents and visitors of the Southern Wheatbelt.

**Figure 1: Current Southern Wheatbelt network of WACHS emergency, acute and primary health care services (as of February 2012)**

Services provided	Small Hospitals/ Multipurpose Service Sites						Narrogin IDHS
	Boddington	Kondinin (MPS)	Dumbleyung (MPS)	Lake Grace (MPS)	Pingelly	Wagin	
Emergency	✓	✓	✓	✓	✓	✓	✓
Elective surgery	✗	✗	✗	✗	✗	✗	✓
Acute admissions	✓	✓	✗	✓	✓	✓	✓
Planned births	✗	✗	✗	✗	✗	✗	✓
Antenatal & postnatal care	✓	✓	✗	✓	✗	✓	✓
Paediatrics	✗	✗	✗	✗	✗	✗	✓
Mental health (voluntary admissions)	✓	✓	✓	✓	✓	✓	✓
Mental health (involuntary admissions)	✗	✗	✗	✗	✗	✗	✗
Community aged care	✓	✓	✓	✓	✓	✓	✓
Hospice / palliative	✓	✓	✗	✓	✓	✓	✓
Outpatients	✓	✓	✓	✓	✓	✓	✓
Oncology/chemo	✗	✗	✗	✗	✗	✗	✓
Renal dialysis	✗	✗	✗	✗	✗	✗	✗
Rehabilitation	✗	✗	✗	✗	✗	✗	✓
Population health	✓	✓	✓	✓	✓	✓	✓
Residential aged care	✓	✓	✓	✓	✓	✓	✗

Peth Metropolitan Hospitals

Source: *Myhospital.gov.au* (accessed 10 October 2011) and WACHS – Wheatbelt Developed by Aurora Projects.

## Proposed strategic directions for service delivery

A review of the government policies, local planning initiatives, State Government commitments, drivers for change and stakeholder expectations within the Southern Wheatbelt has identified the following strategic directions for service delivery for the Narrogin Hospital and Southern Wheatbelt smaller hospitals:

- Strengthen the integration of services across the continuum of care.
- Focus on primary health care and non-inpatient care.
- Enhance demand management particularly in surgery and mental health.
- Deliver care closer to home.
- Improve Aboriginal health outcomes.
- Improve aged care services.
- Attract and retain a skilled workforce.
- Strengthen partnerships with primary care, private and not-for-profit providers.
- Utilise ICT advancements for better care.
- Create a safer environment for all.

The priorities for the Southern Wheatbelt health services include:

- Support the greater integration of services by collocating health services for ambulatory care on the one health campus.
- Ensure 24/7 GP obstetric and anaesthetic coverage for the Narrogin Hospital as a priority.
- Implement a sustainable and safe GP led 24/7 emergency model and roster for 12 hour onsite and 12 hour close on call. This model includes one ED Nurse Practitioner who will provide advanced emergency nursing and support the clinical skills development and maintenance of skills for the nursing staff who are providing emergency responses across the district network of sites and services.
- Provide greater access to visiting specialists – the priorities being general surgery for increased capacity to provide investigative procedures (scopes); ear nose and throat (ENT); ophthalmology; psychiatry; gerontology; anaesthetic cover at Narrogin; and a paediatrician to support developmental paediatric care across the district/region.
- Increase resources for the management of mental health consumers with co-morbidities including alcohol and other drug problems and other chronic health conditions in the community to prevent admissions and facilitate earlier discharge from hospital or prevent admissions.
- Boost primary health care service delivery to better detect, assess and manage chronic health conditions.
- Improve access to sub-acute inpatient care and rehabilitation services.
- Utilise ehealth and telehealth technologies to enhance patient health outcomes. The first priority is to support emergency responses and outpatient care but ultimately across the care continuum and across multiple health providers.
- Attract, retain and nurture a skilled workforce to increase and sustain service delivery through succession planning.
- Provide culturally secure services and increase the Aboriginal workforce to increase access by the local Aboriginal community.

- Upgrade infrastructure to contemporary standards to reduce occupational health and safety risks and support best practice models of care for rural health.
- Examine and work collaboratively with shires, the community and community organisations to improve patient transport options for non-urgent inter-hospital and outpatient transfers

The contents of this service plan details how these priorities were established.

### Translation of service requirements to service implementation and facility requirements

This service plan will also assist in informing the development of future business cases for the potential redevelopment of sites and services. Funding has already been allocated through the SIHI to provide incentives to attract and retain GPs and an emergency nurse practitioner to build a sustainable 24/7 emergency model for the district. Funding is also allocated to increase primary health care services in the district and to develop telehealth services, primarily in ED and for clinical consults.

The facility requirements are summarised in the recommendations section of this service plan. Capital funding has been allocated through the SIHI project (\$39.86 million) and *WA Health Capital Expenditure Program* (\$9.0 million) to redevelop the Narrogin Health Campus with a focus of integrating primary health care services and upgrading the emergency department (ED), inpatient, theatres and site service infrastructure.

Furthermore, SIHIs Stream 3 (*Primary Health Care Demonstration Program*) and Stream 4 (*Small Hospital and Nursing Post Refurbishment Program*) have funding allocated to selected health sites across the Wheatbelt, Midwest, Goldfields, South West and Great Southern regions. The implementation for these streams of work in the Southern Wheatbelt has commenced.

**Table 1: Summary of preliminary facility needs for Narrogin hospital**

Services	Current configuration	Future Configuration
<b>Ambulatory Health Care</b>		2 x chair public dental clinic 4 x chair renal dialysis 3 x chair chemotherapy <sup>#</sup> Maternity outpatients Consult space for outpatients Multipurpose consult rooms Population health
<b>Acute Care Inpatient</b>	42 multiday beds: <ul style="list-style-type: none"> <li>• 28-bed general surgical and medical unit</li> <li>• 6-bed obstetric unit</li> <li>• 4-bed paediatric unit</li> <li>• 2-bed 'rooming in' (psychiatric) unit</li> <li>• 2-bed palliative care unit</li> </ul> 9 same-day beds	42 multiday beds: 9 same-day beds Upgrade existing rooms to be compliant with modern standards Upgrade maternity bathrooms
<b>Emergency Department</b>	4 x Treatment Spaces	6 x Treatment Spaces (includes 2 x resuscitation bays)

		Interview room with dual e-gress Procedure room Consult rooms to be determined
<b>Theatres</b>	2 x theatres (only 1 fully functional)	2 x theatres (both fully functional)
<b>Patient accommodation</b>		2 x twin/double bed hostel accommodation

*# If funding from the Commonwealth Health & Hospital's fund does not eventuate due to changing political priorities than developing cancer units at Narrogin and Northam will remain a priority.*

## 2 INTRODUCTION

This service plan, by the WA Country Health Service (WACHS), sets the strategic vision for the delivery of emergency, acute, primary health care, aged care, mental health and associated clinical and non-clinical services to the 20,000 residents and visitors of the Southern Wheatbelt Health District (the *Southern Wheatbelt*).

The service plan will also inform the \$565 million *Royalties for Region's Southern Inland Health Initiative (SIHI) Implementation Plan* (refer to Section 3.7.1). The *SIHI Implementation Plan* will contain a number of service reform and capital works initiatives designed to enhance the sustainability, self-sufficiency and network of health services in the WACHS Wheatbelt, Midwest, Goldfields, Great Southern and South West regions. This includes the Narrogin Hospital, regarded as an Integrated District Health Service (IDHS); small hospitals; and associated government, non-government and private health services in the Southern Wheatbelt that feature in this service plan.

The planning process undertaken to develop this service plan and the subsequent recommendations for service reform ensure that future service delivery to the Southern Wheatbelt will:

- Align with National and State policy and plans including the WA Clinical Services Framework (Department of Health, 2010a).
- Address the demographic and health needs of the community.
- Meet the projected demand for health services.
- Strengthen primary health care services.
- Implement modern and best practice models of care.
- Utilise contemporary health technologies.
- Be supported by contemporary healthcare facilities.

The service planning process undertaken to develop this service plan is detailed in *Appendix A*.

### 3 PLANNING CONTEXT AND STRATEGIC DIRECTIONS

#### 3.1 Overview of the Wheatbelt Health Region

The Wheatbelt extends from the coast north of Perth to the western boundary of the Goldfields and south from the Darling Scarp to the northern boundary of the Great Southern Region (see *Figure 2*).

The region has 45 local government areas and covers 154,862 square kilometres (Wheatbelt Development Commission, 2011).

Aptly named for its traditional industry, the Wheatbelt also has a diverse geographic profile ranging from pristine beaches to vast agricultural landscapes. The economy is based around the production fields of agriculture, fishing and mining, which are supported by the high availability of infrastructure such as water, transport and energy (Wheatbelt Development Commission, 2011).

**Figure 2: Wheatbelt Region of Western Australia**



Source: [www.wheatbelthealth.org.au](http://www.wheatbelthealth.org.au)

A characteristic of the Wheatbelt is its scattered population dispersion, which has hindered the development of an identifiable regional centre and resulted in the four sub-regional centres: Merredin, Moora, Narrogin and Northam (Wheatbelt Development Commission, 2011).

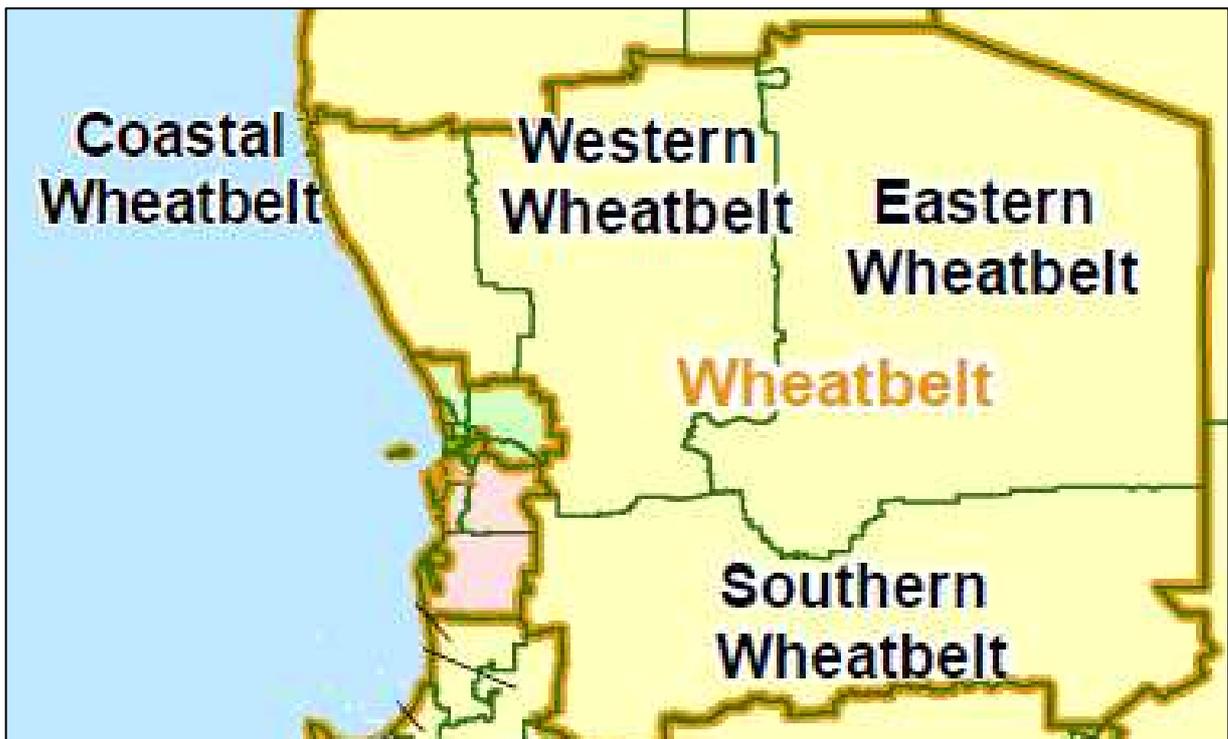
With its proximity to the metropolitan area, many of the bordering communities of the Wheatbelt are experiencing an influx of overflow population from the outer metro areas and those in search of a "lifestyle" change, without sacrificing access to metropolitan facilities (Wheatbelt Development Commission, 2011).

The Wheatbelt has historically been split into three health districts, but as the population is shifting towards the north-west of the region the Western Wheatbelt health district has been divided into the Coastal and Western Wheatbelt health districts, as shown in *Figure 3*.

The four health districts are defined by Statistical Local Areas (SLAs) as follows:

- *Southern Wheatbelt Health District:* Boddington, Brookton, Cuballing, Dumbleyung, Kondinin, Kulin, Lake Grace, Narrogin (Town and Shire), Pingelly, Wagin, Wandering, West Arthur, Wickiepin and Williams.
- *Coastal Wheatbelt Health District:* Chittering, Dandaragan and Gingin.
- *Eastern Wheatbelt Health District:* Bruce Rock, Corrigin, Kellerberrin, Merredin, Mount Marshal, Mukinbudin, Narembeen, Nungarin, Quairading, Trayning, Westonia and Yilgarn.
- *Western Wheatbelt Health District:* Beverley, Cunderdin, Dalwallinu, Dowerin, Goomalling, Koorda, Moora, Northam, (Town and Shire), Tammin, Toodyay, Victoria Plains, Wongan-Ballidu, Wyalkatchem and York.

**Figure 3: Wheatbelt health districts**

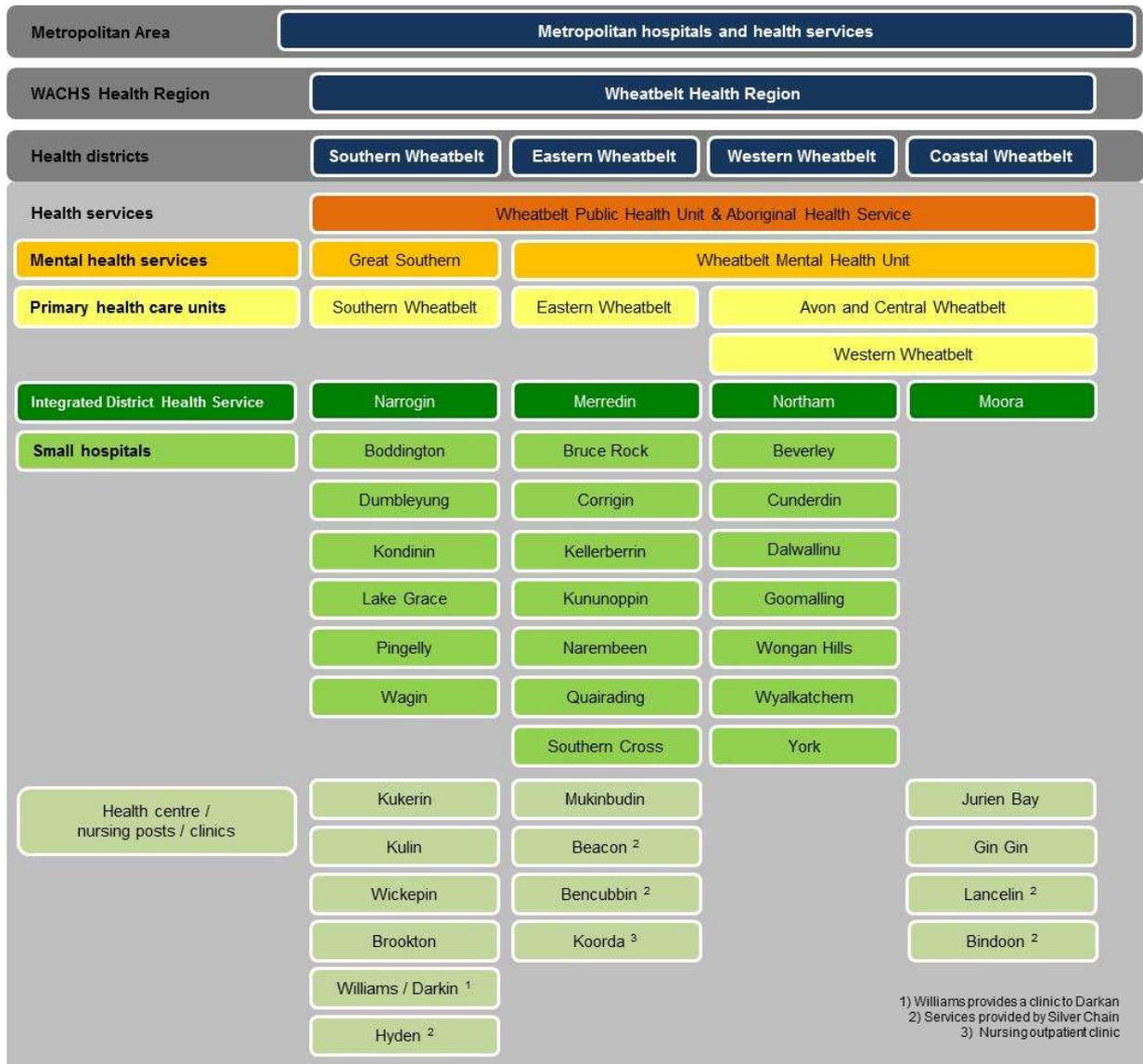


Source: DoH Epidemiology Branch, 2009a.

### 3.2 WACHS Wheatbelt current services

The operational network of WACHS and Department of Health services that residents and visitors can access in the Wheatbelt Region, including the Southern Wheatbelt, are highlighted in the following sections and in Figure 4.

**Figure 4: Wheatbelt Health Region: Current operational network of WACHS and Department of Health services available**



*Note: Dumbleyung, Kondinin and Lake Grace are Multi-Purpose Service (MPS) sites in the Southern Wheatbelt. Moora Hospital whilst listed as part of the Coastal Health District also provides services to some residents of the Western Wheatbelt particularly those living in Dalwallinu. Image by Aurora Projects.*

### 3.3 Southern Wheatbelt health service profile

#### 3.3.1 Ambulatory health care services

*Ambulatory health care services* is a broad title that generally refers to the planned services provided to patients who are able to ‘walk in and walk out’ of a health service on the same-day. This includes:

- Primary health care services which incorporates GPs, nurses, allied health professionals and other health workers, such as multicultural health workers and Aboriginal health workers, health education, promotion and community development workers. This encompasses population health (e.g. child health), community mental health, community aged care and Aboriginal health services.
- Same-day surgery and procedures
- Visiting and permanent outpatient services

Ambulatory health care services are often provided adjacent to emergency and acute services as illustrated in *Figure 5*. Ambulatory health care facilities are usually staffed by nurses and allied health with procedural or specialist medical input provided in a planned and structured way. Depending on resourcing and availability, community based mental health services will provide varying levels of crisis/emergency response.

In the Southern Wheatbelt, the following ambulatory health care services are provided by WACHS in partnership with services described in Section 5:

- *Primary health care services* are provided through the Wheatbelt Population Health Unit including the Wheatbelt Public Health Unit, Wheatbelt Aboriginal Health Service and four Wheatbelt primary health services:
  - *Wheatbelt Public Health Unit* in Northam, provides outreach public health services (including disease control, health promotion programs and project implementation) to the entire Wheatbelt Health Region, including the Southern Wheatbelt.
  - *Southern Wheatbelt Primary Health Service*, one of the four primary health services within the Wheatbelt Population Health Unit, provides local population health and community based services (including Aboriginal health, community health nursing, allied health and health promotion services) to Narrogin and the communities within the Southern District.
  - *Wheatbelt Aboriginal Health Service* is responsible for the coordination and provision of Aboriginal health services across the whole Wheatbelt Health Region, with the majority of resources integrated with and provided from the *Southern Wheatbelt Primary Health Service*.
- *Outpatient services* are provided at all Southern Wheatbelt hospitals. The level and type of outpatient services available depends on the availability of specialists.
- *Same-day surgery* is only provided at Narrogin Hospital.

**Figure 5: Illustration of ambulatory health care services**

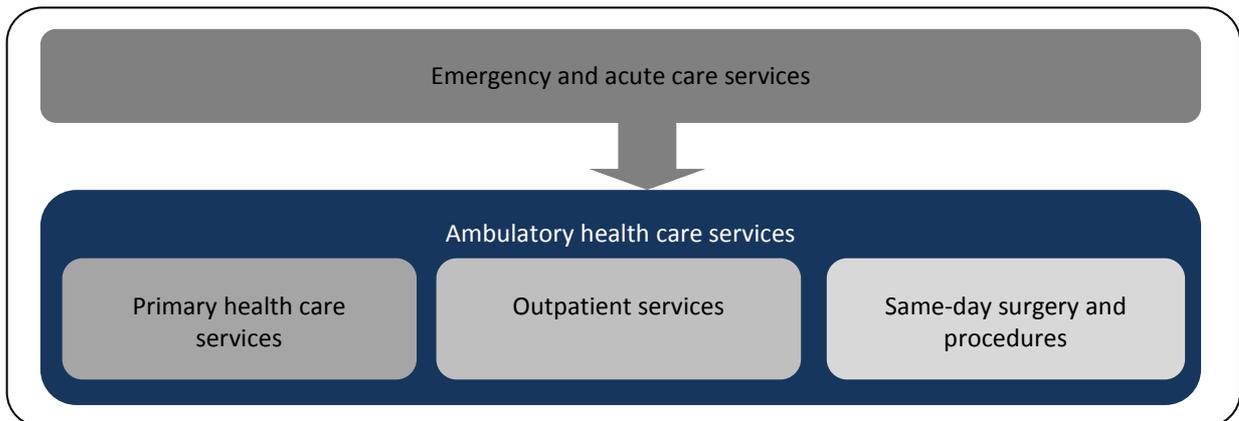


Image by Aurora Projects

### 3.3.2 Narrogin Hospital profile

There is no Regional Resource Centre in the Wheatbelt Region, therefore the Narrogin Hospital as the IDHS is the major health site for residents of the Southern Wheatbelt (Department of Health, 2010a). Narrogin Hospital:

- provides a range of ambulatory, emergency, inpatient, medical, surgical, obstetric, paediatric and inpatient mental health services to the Southern Wheatbelt catchment population; and
- supports an integrated network of services at six smaller hospital / multipurpose sites (MPS) within the Southern Wheatbelt (refer to Section 3.3.3).

The configuration of Narrogin Hospital is shown below.

**Table 2: Narrogin Hospital summary profile**

Department	Features
Emergency Department	4 x treatment bays 1 x consult space (no egress) Triage area 1x procedure room
Medical and surgical inpatient services	42 multiday and nine same-day beds. The multiday beds includes a six-bed obstetric unit, a four-bed paediatric unit, a two-bed psychiatric unit (designed for low risk, voluntary mental health admissions), a two-bed palliative care unit and a 28-bed general surgical and medical unit.
Residential aged care	Nil.
Theatres	2 x theatre and a Central Sterilising Services Department (CSSD).
Outpatients	On site
Narrogin Mental Health Service	Regional service from WACHS Great Southern. On-site
Wheatbelt Public Health Service	Regional service from WACHS Wheatbelt.

Southern Wheatbelt Primary Health Service (including Aboriginal Health programs)	On-site
Medical imaging	General x-ray, CT services, Ultra Sound, Orthopantomogram (OPG) and a C-Arm (image intensifier) for theatres.
Pathology	<i>Collection and laboratory testing facilities available.</i>
Pharmacy	<i>Regional Pharmacy onsite</i>

Source: WACHS (February 2012)

While Narrogin Hospital currently has two operating theatres, only one is regularly used at present. The second theatre is used for emergencies only. Patients who require acute and emergency care beyond the capacity of the Narrogin Hospital and small hospitals are transferred to Perth metropolitan hospitals for care.

*Narrogin Mental Health Service* is based in Narrogin, but is directed and funded through WACHS Great Southern Mental Health Service. The service is primarily a speciality secondary service supporting acute mental health services more so than primary mental health care.

Clinical and non-clinical support services are described in Section 6.

### 3.3.3 Small hospitals / Multi-Purpose Services

Narrogin Hospital works within a network of six small hospitals- three which are multi-purpose service (MPS) sites. All provide 24 hour emergency, aged care and outpatient services. All hospitals (except Dumbleyung Health Service) accept acute inpatient admissions and provide hospice services.

Aged care services in the home and hospital is at present the core business of small hospitals. Lake Grace, Dumbleyung and Kondinin are the MPS sites. The MPS program allows rural communities to pool Commonwealth and State health and aged care funds within a designated geographical area, creating opportunities to coordinate and appropriately target community health and aged care needs. Flexible aged care funding allows services to be provided either in a residential setting (usually, the hospital) or in the community in people's own home. The major objective of MPS is to improve the range of health and aged care services being offered in the community, to dispense with inflexible funding arrangements, to encourage community participation in service planning, and to improve quality of care.

The existing and future models of care for all these emergency, acute and ambulatory care services are described in Section 6.

### 3.4 Organisational governance

The organisational governance structure for the Southern Wheatbelt is highlighted in *Appendix B*. There are four structures for the District:

- Operational structure for acute, emergency, clinical support, non-clinical support and associated corporate functions (managed through the Operations Manager).
- Corporate Services structure (managed through the Corporate Services Director).
- Mental Health Services structure (managed through the WACHS Great Southern Region).
- Population Health structure for Aboriginal, community and allied health services (managed through the Director of Population Health).

### 3.5 National and State health policies

The strategic direction for service delivery to the Southern Wheatbelt within this Service Plan considered the recommendations of National and State government policies as outlined in *Table 3*. Further background information regarding these policies can be found at <http://www.wacountry.health.wa.gov.au/index.php?id=445>

**Table 3: Major Commonwealth and State policy and strategic framework**

Policy	Implications for Southern Wheatbelt Service Plan
<b>Commonwealth Policy</b>	
<b>COAG National Health Reform Agreement (2011) including Local Health Networks and Medicare Locals</b>	<p>In August 2011, all States and Territories agreed to the <i>COAG National Health Reform Agreement</i> which will deliver major reforms to the organisation, funding and delivery of health and aged care. The Agreement sets out the shared intention of the Commonwealth, State and Territory governments to work in partnership to improve health outcomes for all Australians and ensure the sustainability of the Australian health system. The reforms will achieve better access to services, improved local accountability and transparency, greater responsiveness to local communities and provide a stronger financial basis for our health system into the future.</p> <p>Local Health Networks and Medicare Locals are being established to locally manage public hospital health services and primary health care services respectively.</p> <p><a href="http://www.coag.gov.au/docs/national_health_reform_agreement.pdf">www.coag.gov.au/docs/national_health_reform_agreement.pdf</a></p>
<b>National Partnership Agreement Closing the Gap in Indigenous Health Outcomes (2009)</b>	<p>Service planning enables key strategies within the <i>Western Australian Implementation Plan</i> to be achieved including strong collaboration of ambulatory care services for the Southern Wheatbelt.</p>
<b>Rural Cancer Units</b>	<p>The Commonwealth have endorsed providing \$22.091 million of infrastructure funding over three years (2010/11 – 2012/13) to develop a multi-site rural cancer centre and patient accommodation located in four WACHS regions.</p> <p>Under this plan, by 2013/14 Narrogin will have a three chemotherapy chair unit plus a two double bedroom patient accommodation facility.</p> <p>Funding has also been provided to St John of God to expand their rural cancer centre in Bunbury.</p>

Policy	Implications for Southern Wheatbelt Service Plan
<b>National Primary Health Reform Program</b>	<p>As part of the National Health and Hospitals Reform Agenda, the Commonwealth Department of Health and Ageing has outlined the national reform agenda for primary health care services in Australia which includes:</p> <ul style="list-style-type: none"> <li>• Better integration of services</li> <li>• Access to multiple primary health professionals at one site</li> <li>• Co-location of services to improve accessibility for small communities.</li> </ul> <p>SIHI provides the opportunity to implement this reform in the Wheatbelt. It will result in a strengthening of primary health services that integrate with GPs and other non WACHS primary care services. This will enhance early intervention, prevention and health promotion type services to better detect and manage chronic conditions in the community. Co-location of primary health services offers the opportunity for improved economies of scale and efficiencies, integrated systems and promotion of a ‘working together’ approach to address complex issues within the community.</p>
<b>State Government Policy</b>	
<b>WA Health Strategic Intent 2010-2015 (2010)</b>	<p>This document has a number of overarching goals for WA Health to build <i>healthier, longer and better quality lives for all Western Australians</i>. The intention of this Service Plan is to align with these overarching goals within this policy. Refer to:  <a href="http://www.health.wa.gov.au/about/docs/WAHealth_Strategic_Intent_2010_2015.pdf">www.health.wa.gov.au/about/docs/WAHealth_Strategic_Intent_2010_2015.pdf</a></p>
<b>WA Health Clinical Service Framework 2010-2020 (2010)</b>	<p>This Policy stipulates that Narrogin Hospital provide Level 2 – 4 health services (as per pp. 24-5).</p> <p>Service planning utilises this State policy to understand the level of service delivery as an IDHS and the level of integration required with other Wheatbelt and metropolitan hospitals. Refer to:  <a href="http://www.health.wa.gov.au/publications/documents/CLINICAL_SERVICES_FRAMEWORK_WEB.pdf">www.health.wa.gov.au/publications/documents/CLINICAL_SERVICES_FRAMEWORK_WEB.pdf</a></p>
<b>WA Health, Greening Health, Building and Renovations</b>	<p>Service reform provides an opportunity to maximise environmental safety and energy efficiencies which will address climate change issues and support actions to reduce WA health’s environmental footprint. The full implications of this policy are available on the WA Health Intranet site. Go to: <a href="http://greeninghealth/1/31/2/building_and_renovations.pm">greeninghealth/1/31/2/building_and_renovations.pm</a></p>
<b>WA Health Telehealth Strategic Direction</b>	<p>A major initiative of health service reform is to enhance telehealth facilities in health services to enable efficiencies to be gained in providing patient assessment and care; staff training; and patient-to-practitioner communication.</p>
<b>WA Health Network Models of Care (ongoing)</b>	<p>Service planning offers the opportunity to create facilities that best support the delivery of modern models of care as developed by the Network. The published models of care are found at  <a href="http://www.healthnetworks.health.wa.gov.au/modelsofcare">www.healthnetworks.health.wa.gov.au/modelsofcare</a></p>
<b>State Government Policy</b>	
<b>Mental Health 2020: Making it personal and everybody’s business (Strategic Policy)</b>	<p>The WA Government’s ten year strategic policy for mental health, <i>Mental Health 2020: Making it personal and everybody’s business</i>, provides a whole of government and community approach and sets out three key directions: person centred supports and services; connected approaches; and balanced investment.</p> <p>For more information go to:  <a href="http://www.mentalhealth.wa.gov.au/Libraries/pdf_docs/Mental_Health_Commission_strategic_plan_2020.sflb.ashx">www.mentalhealth.wa.gov.au/Libraries/pdf_docs/Mental_Health_Commission_strategic_plan_2020.sflb.ashx</a></p>

Policy	Implications for Southern Wheatbelt Service Plan
<b>WA Health Redundancy and Disaster Planning Guidelines (2008)</b>	Narrogin Hospital will comply as a Group 3 facility for Redundancy and Disaster Planning as per these Guidelines: <a href="http://www.public.health.wa.gov.au/cproot/2540/2/Redundancy%20and%20Disaster%20Planning.pdf">www.public.health.wa.gov.au/cproot/2540/2/Redundancy%20and%20Disaster%20Planning.pdf</a>
<b>WACHS Policy</b>	
<b>WACHS Strategic Plan, Revitalising Country Health Service 2009-2012 (2009)</b>	Service reform enables WACHS to achieve many of the key action areas within this strategic plan for the Southern Wheatbelt community. Refer to: <a href="http://www.wacountry.health.wa.gov.au/uploaddocs/booklet%20final.pdf">www.wacountry.health.wa.gov.au/uploaddocs/booklet%20final.pdf</a>
<b>Operational Plan 2011/12 WACHS</b>	This <i>Operational Plan</i> actions the <i>Strategic Plan</i> , providing practical direction for WACHS operations across the State.
<b>WA Country Health Services Human Resources Strategic Directions Framework (2011)</b>	Human Resources Priorities Plan for 2011/12 will be developed as an outcome of WACHS endorsing this framework. Workforce development within the Southern Wheatbelt should engage in this process to improve the attraction and retention of a skilled workforce.
<b>Aboriginal Employment Strategy 2010-2014</b>	This strategy advocates for more Aboriginal people to be employed in all levels of the organisation as a strategy to make services more culturally secure.
<b>WACHS Renal Dialysis Plan</b>	This plan identifies the need for renal satellite outreach dialysis or community supported dialysis services (small satellite services) in the Wheatbelt to enable care closer to home. 4 chairs are planned for Narrogin.
<b>WACHS ED Services Planning and Facility Design Principles and Benchmarks</b>	Calculation of the required number of treatment bays to manage future demand is based on the benchmarks published in this document.

### 3.6 Local planning initiatives

The SIHI and service reform initiatives outlined in this Service Plan have evolved from the previous planning initiatives for the Wheatbelt Region as follows.

#### 3.6.1 Wheatbelt Health Memorandum of Understanding (2006)

The Wheatbelt Health Memorandum of Understanding Group (Health MOU group) was formed in 2006 and is a partnership between the Western Australian Country Health Service, Wheatbelt (WACHS Wheatbelt), Wheatbelt General Practice Network, Avon Midland, Central and Great Eastern Country Zones and the Wheatbelt Development Commission, that have come together to improve health service delivery in the Wheatbelt.

This partnership provides an avenue for all levels of Government to work together to address the delivery of health services in a contemporary environment. The Principals of the MOU Agreement are, the parties:

- Commit to frequent and productive communication and consultation on matters relating to health service provision for Wheatbelt communities.
- Commit to engaging communities in the planning and delivery of health services in their communities.

- Recognise the regional development impacts of health service delivery within the Wheatbelt.
- Recognise the importance of new and innovative health service delivery models and methods.

In March 2009 the Health MOU group engaged MMT Consultancy Services to undertake the Wheatbelt Health Planning Initiative project. The project incorporated past health papers and reviews and undertook extensive consultation across the Wheatbelt community to inform future health planning for the Wheatbelt WACHS region. The final report outlined the following priorities:

- Improving health planning, coordination and the sharing of resources.
- Addressing service boundaries to improve access to services.
- Ensuring access to sustainable emergency care and transport.
- Ensuring access to a well-coordinated and affordable transport system.
- Attracting and retaining health workers and GPs.
- Ensuring access to a wide range of services for older people.
- Making better use of existing facilities.
- Increasing funding.
- Increasing support for volunteers and developing new roles for volunteers.
- Increasing access to health promotion and prevention.
- Increasing the use of technology, particularly to reduce the need to travel to access health care.

The SIHI and this plan build and take forward the recommendations from the community consultation. The final consultation report is available at: [www.wheatbelt.wa.gov.au/projects/wheatbelt-health-planning](http://www.wheatbelt.wa.gov.au/projects/wheatbelt-health-planning)

### 3.6.2 Wheatbelt Clinical Services Plan (2008)

The *Wheatbelt Clinical Services Plan* is one of seven plans that the WACHS initiated to set strategic directions for health care services in regional WA. The overarching strategies for service delivery, as outlined in the *WACHS – Wheatbelt Clinical Services Plan* include:

- A review of the funding for the region to recognise the population growth and dependency ratio.
- The provision of reliable medical cover and alternative models of service delivery to address workforce shortages.
- Workforce strategies to develop and implement paraprofessional support roles for acute care, community health, mental health and aged care.
- The implementation of an ambulatory care model to reduce inpatient demand and strengthen primary health care.
- Effective change management that focuses on integration of services and capacity building.
- Enhancing access to services through information and communications technology.
- Increasing the capacity of the integrated district health services to become hubs for the delivery of sustainable and safe health services.

### 3.6.3 Wheatbelt Aboriginal health planning (2008 - ongoing)

The *Wheatbelt Aboriginal Community Engagement Project* identified the following key findings and recommendations:

- Community engagement findings as summarised by the Wheatbelt Aboriginal Health Team four areas:
  - Wheatbelt Aboriginal communities were most concerned with diabetes, alcohol and drug abuse, oral health, social / emotional wellbeing and vision.
  - The Aboriginal community had significant concerns with their ability to access health services and specialist appointments, as well as access to prescription medicine.
  - The majority of health services were delivered through the emergency department of rural hospitals.
  - Culturally appropriate communication and health care were an important factor in health service delivery for the Aboriginal community.
- The Wheatbelt Aboriginal Community Engagement Project identified the following recommendations:
  - Focus attention on the social and emotional wellbeing of the community, grief and loss within the family and wider community and its impact on mental health (relates to key finding #1).
  - Address alcohol and drug abuse within the Wheatbelt Aboriginal community (relates to key finding #1).
  - Ensure the community can access medical services and sensory health – vision and hearing. This includes addressing the barriers of cost and travel (relates to key finding #2).
  - Advocate and seek affordable pharmaceutical access for the community (relates to key finding #2).
  - Place priority on oral health and dental services to ensure access to these services occurs within the Wheatbelt (relates to key finding #1).
  - Address chronic diseases, particularly diabetes and kidney disease within the community (relates to key finding #1).
  - Ensure cultural security for Aboriginal people across the entire range of health services including general practice, specialist care, acute care and population health services (relates to key finding #4).
  - Address health issues which are likely to lead to presentation at hospital emergency departments, particularly injury and acute exacerbations of chronic conditions (relates to key finding #3).
  - In addition to the above priorities, common themes raised during the community consultation support the need the following recommendations:
    - Implement programs for early year’s health including parenting, early education and access to child health within the region.
    - Highlight the impacts of youth disengagement within the Aboriginal community and address the ripple effects this has on health and wellbeing.
    - Seek additional funding and coordinate cross agency programs, research and activities to address the community’s concerns and issues in regards to health services and transport within the Wheatbelt for Aboriginal communities.

- Improve the promotion of existing services to the local Aboriginal people.
- Promote to and support training for local Aboriginal people in health areas.

WACHS Wheatbelt in line with state-wide strategy was integral in developing and establishing the Wheatbelt Regional Aboriginal Health Planning Forum. As part of the preparations for the COAG funding submission, this planning forum completed an extensive community consultation of its own, with the information from the community, consumers, WACHS and other key stakeholders used to develop the Wheatbelt Aboriginal Health Plan. The *Wheatbelt Aboriginal Health Plan 2010* identified the following 12 priority health service delivery issues:

- Social and emotional wellbeing, grief and loss, mental health.
- Smoking, alcohol and drug abuse.
- Medical service access and sensory health – vision and hearing.
- Affordable pharmaceutical access.
- Oral health & dental services.
- Chronic diseases – diabetes (includes podiatry), kidney disease, asthma, cardiovascular disease, cancer.
- Youth disengagement, and associated poor sexual health.
- Early years – parenting, early education, access to child health.
- Injury, community based first aid skills.
- Aged care, respite and dementia.
- Transport and accommodation to attend medical appointments.
- Cultural security across the spectrum of health services.

These issues and recommendations highlighted in the engagement project and health plan have been captured in the recommendations of consequent State Government policies and this service plan where possible. For example, this service plan documents the need to increase the availability of renal dialysis services for the local catchment as per the *Clinical Services Framework* and recommends a number of strategies to address the primary health care and mental health care concerns of the Aboriginal community. Refer to Section 5 for more information.

Ongoing service planning should continue to reference these two documents to ensure Aboriginal health services are culturally secure and meeting the needs of the local community.

### **3.6.4 Wheatbelt Emergency Services Review (2010)**

An independent review of emergency services in the Wheatbelt was completed in October 2010. The review concluded that the historical model of service delivery is not sustainable given the inconsistent medical/GP availability, variable medical and nursing competency, unclear referral and escalation pathways, and limited utilisation of new technologies and workforce models.

The review recommended that a coordinated, tiered and integrated response to emergency service delivery was required to improve emergency care to Wheatbelt residents and ensure people were referred to the most appropriate location for care. A hub and spoke model where Northam, Narrogin and Merredin hospitals have sufficient resources to provide 24/7

emergency services by competent and supported medical staff in the hub emergency department, as well as telephone medical support to peripheral sites.

Recommendations also included ensuring Wheatbelt residents are informed of where they can obtain essential medical services and that essential support services, such as pathology, radiology and telehealth are available.

This review and its recommendations are fundamental to the future model of emergency and primary health care in the region.

### **3.6.5 Wheatbelt Indigenous Services Assessment (WISA) Project (2010)**

The Wheatbelt Development Commission in partnership with the Department for Indigenous Affairs completed the *Wheatbelt Indigenous Services Assessment Project* in early 2010; a mapping and gap analysis of services accessed by Aboriginal people in the Wheatbelt region of Western Australia.

While many issues and gaps were identified, the following two findings are considered key in understanding the current issues, and planning future service design and delivery:

- Services that involve Aboriginal people in the design and delivery of the service, in partnership with facilitating agencies, are achieving the greatest results. That is, more people are using the services, are satisfied with the results, and recommend the services to others.
- Aboriginal people view all services as inter-related, including with the broader community. Effective service delivery reform is most likely if this view is accepted and practically implemented. Very strong links and inter-relationships were identified between all the services, and Aboriginal people consistently stressed the importance of these inter-relationships and the role of the general community in discussions and meetings.

The Draft Report contained the following health recommendations:

- A larger regionally collaborative approach to mental and emotional wellbeing issues should be developed by agencies including: explore a regional proposal for services delivery that combines the resources and assets of each; engage with the regional Aboriginal community; and co-design and co-deliver culturally secure and effective services for specific target areas.
- The primary and general health issues and gaps of the report should be analysed and an implementation plan be developed through an extensive consultative process with the regional Aboriginal community; that reviews outcomes of recent COAG funding; includes exploration of ways to increase Aboriginal people’s involvement in their health service delivery; supports additional Aboriginal health professional training and appointments; and - explores the development of a regional Aboriginal health service, designed specifically for the Wheatbelt, working through the sub-regional centres.

## 3.7 Existing Federal or State Government Commitments

### 3.7.1 Southern Inland Health Initiative

The \$565 million *SIHI* project aims to work with the Commonwealth to reform and improve access to health care for all residents of the Southern Inland area of Western Australia over the next five years. This area encompasses the Wheatbelt, Midwest, South West, Great Southern and Goldfields health regions excluding the region hospitals and SW coastal areas.

This Service Plan and accompanying service planning process is a direct outcome of the SIHI announcement by State Government. The Service Plan aims to inform the SIHI Implementation Plan for the Southern Wheatbelt, which will recommend the best strategy for investing funds from the State Government's *Royalties for Region Scheme* that includes:

- \$240 million investment in health workforce and services over four years.
- \$325 million in capital works over five years.

SIHI aims to dramatically improve medical resources and 24 hour emergency coverage, while boosting primary health care service delivery via the implementation of six streams of work. The streams are highlighted below with the allocations made for the Southern Wheatbelt to achieve the intention of the Stream.

### 3.7.2 WA Health Capital Expenditure Program

The *WA Health Capital Expenditure Program* has allocated \$9.0 million to redevelop the Narrogin Hospital site. This capital funding is in addition to the funding available through SIHI (refer to Section 3.7.1).

### 3.7.3 SuperTowns

SuperTowns is a *Royalties for Regions* initiative to encourage regional communities in the southern half of the state to plan and prepare for the future so they can take advantage of opportunities created by WA's population growth. The Wheatbelt towns of Northam, Boddington and Jurien Bay have been selected at SuperTowns based on their potential for population growth; economic expansion and diversification; strong local governance capabilities; and their potential to generate net benefits to WA. Refer to Appendix C for more information.

### 3.7.4 Federal Government Hospital and Health Service Fund

The Federal Government recently awarded funding from the Hospital and Health Service Fund to the Department of Health to upgrade laboratory facilities in Narrogin and awarded \$2.8M for a new Narrogin General Dental Clinic.

**Table 4: SIHI overview and related plans for the Southern Wheatbelt**

Stream (Total Southern Inland Area)	Allocations for Southern Wheatbelt to achieve the Stream
<p><b>1. District Medical Workforce Investment Program</b> (\$182.9 million) to significantly improve medical resources and 24 hour emergency response across the districts.</p>	<p><i>Allocation of recurrent funding for the district.</i></p>
<p><b>2. District Hospital and Health Services Investment Program</b> (\$147.4 million) to provide major upgrades at Northam, Narrogin, Merredin, Katanning, Manjimup (Warren Hospital) and Collie.</p> <p>Recurrent funding of \$26 million will also be provided under this program to boost primary and ambulatory health care services across each district.</p>	<p><i>Allocation of \$39.8M (capital funding)<sup>#</sup> towards construction of a new Integrated Primary Health Unit, with upgrades to engineering and site services, ED, inpatient areas, day procedure unit and operating theatres.</i></p> <p><i>Funding allocated to provide the resources to boost primary health care services.</i></p>
<p><b>3. Primary Health Care Demonstration Program</b> (\$43.4 million) will provide communities with the opportunity to re-examine how health services are delivered in their districts. Funding will be made available to boost primary and ambulatory health services for communities that opt in.</p>	<p><i>Opportunity available for small hospitals to be converted to Primary Health Care Centres with adjacent Emergency Department (removing the inpatient functions). The scope of work for Southern Wheatbelt is yet to be determined.</i></p>
<p><b>4. Small Hospital and Nursing Post Refurbishment Program</b> (\$108.8 million) will provide a capital works program for small hospitals and nursing posts to be refurbished or, if required, rebuilt to enable delivery of health care services that will match the needs of their communities.</p>	<p><i>The scope of work for Southern Wheatbelt is yet to be determined.</i></p>
<p><b>5. Telehealth Investment</b> (\$36.5 million) will introduce innovative "e-technology" and increased use of telehealth technology across the region, including equipment upgrades.</p>	<p><i>Allocation of funding for procurement of equipment and FTE to enhance technology for patient care, staff supervision, training and consultation. Includes procurement of fixed telehealth units in Emergency Departments.</i></p>
<p><b>6. Residential Aged Care and Dementia Investment Program</b> (\$20 million) will provide incentive for private providers to expand options for residential aged care and dementia care across the Southern Inland area.</p>	<p><i>The scope of work for the Southern Wheatbelt is yet to be determined.</i></p>

*# Excludes the \$9M from the WA Health Capital Expenditure Program.*

### 3.8 Strategic directions for service delivery in the Southern Wheatbelt

A review of government policies, local planning initiatives and the demography and health need of the Wheatbelt and Southern Wheatbelt has identified the following strategic directions for service delivery for the Narrogin Hospital and Southern Wheatbelt smaller hospitals:

- Strengthen the integration of services across the continuum of care.
- Focus on primary health care and non-inpatient care.
- Enhance demand management particularly in surgery and mental health.
- Deliver care closer to home.
- Improve Aboriginal health outcomes.
- Improve aged care services.
- Attract and retain a skilled workforce.
- Strengthen partnerships with primary care, private and not-for-profit providers.
- Utilise ICT advancements for better care.
- Create a safer environment for all.

### 3.9 Key drivers for change

The catchment population, current and projected activity data, and qualitative information have been analysed along with information gained from a series of consultative workshops with service providers and external stakeholders. This analysis has identified a series of service strengths and specific issues which are driving the development of future models of care and priority service reform strategies for WACHS Southern Wheatbelt as outlined in Section 6.0.

#### Service strengths

- Stakeholders have an excellent knowledge of local issues impacting on health service delivery.
- Health staff have high empathy for the pressures some teams experience in delivering primary health and emergency services.
- Willingness to look at how to deliver services more efficiently in an integrated way across the District from GPs services through to ED and primary health care services.
- Committed, experienced and passionate management and staff.
- Good teamwork evident within all areas.
- Good level of co-operation between GPs and ED staff.
- Primary health care services strong on holistic approaches to care.
- Great opportunities to further integrate primary health care services.
- Mental Health Service provides a good standard of care for non-acute patients.

- The existing two bed mental health suite at Narrogin Hospital and the advanced scope of practice enrolled mental health nurses model of care was seen to be a successful way to provide early interventions and treatment for known mental health patients and a successful strategy in preventing the deterioration of patients' mental health that in other circumstances could result in transfer to an authorized inpatient psychiatric facility.
- Telehealth and e-health technology generally was seen as a key enabler to the ongoing enhancement of all health services.
- Telehealth was seen as a way to increase access and support for training and professional supervision.
- Primary care provides a number of 'lifestyle programs' with and for the community.
- High immunisation rates for children.
- COAG Closing the Gap funding for Aboriginal health utilised well. The Wheatbelt Aboriginal Health Services (WAHS) provides services to the SWHD.
- Digital Medical Imaging is being implemented across SWHD sites.

## Identified service issues

### *Primary health care*

- There is a lack of community based health and respite services. Consultation with staff suggests collocation and operational integration of 'like programs' could overcome this challenge by pooling resources and provide greater access to consumer (e.g. creating one stop shop for like programs). The collocation strategy would need to be developed with consideration of consumer's health needs and demographics.

### ***Maternal and child health:***

- There is an identified gap in future service delivery for child development. WACHS has identified three priority areas for child development and tenders have been submitted to address the gap in services delivery for visiting specialist paediatrician services - child development; audiology and clinical psychology.
- The results of the Australian Early Childhood Development Index in 2009 showed that there was a significantly larger proportion of young children in Narrogin that were developmentally vulnerable when compared to the whole of Australia.

### ***Aged care, Aboriginal health and chronic disease:***

- There is a high prevalence of lifestyle behaviours reported by Wheatbelt residents that indicate the population is at greater risk of chronic disease. This is supported by data that shows a high proportion of avoidable deaths and potentially preventable hospitalizations of Wheatbelt residents relate to chronic diseases (refer to Section 4.0).
- Recognition that the emerging demographic (high proportion of elderly, youth and Aboriginal people) means that there is a need for community based primary health care specific strategies, post-acute care and hospital in the home for these population cohorts to help prevent admissions to hospital or to reduce the length of stay in hospital.

- There is currently a large gap in providing chronic disease management (e.g. diabetes education), with demands being placed on the ED for chronic disease assessment and care.
- Access to primary health care for Aboriginal people at an earlier stage of illness needs to occur to help reduce the over-representation of Aboriginal people in inpatient acute care.
- There is a reported need to provide more culturally appropriate health services and facilities for the area's Aboriginal population. There are reported gaps in service delivery. For example, there is limited uptake of Home and Community Care services by Aboriginal families and there is no Aboriginal community controlled health organisation providing services in the district or wider Wheatbelt region. Furthermore, there is a need to recruit more Aboriginal people as health workers and across the workforce more generally to improve the cultural security of health services.

***Health Promotion, allied health and oral health:***

- There is limited access to adult public dental health services. As shown in Section 4.0, dental conditions feature as one of the key categories for avoidable hospitalisation in the Southern Wheatbelt.
- Workforce shortages, particularly for allied health, limit the provision of primary health care service delivery.
- Allied health prioritises inpatient assessment above primary care, which is waitlisted. There is some over servicing of inpatient allied health care and therefore potential to increase community based allied health care.
- There is currently a long standing gap in social work and audiology service delivery.

***Community-based mental health / alcohol and drugs:***

- Managing complex co-morbid patients who present with both alcohol and other drug and mental health issues and other psycho-social issues is growing and an area of unmet need in primary health care service delivery.
- Due to the level of demand with the more complex high risk presentations, the community mental health service is involved in more crisis type intervention. There is a need to provide more case management/treatment and recovery services for those with severe mental illnesses.
- There are no alternative care and respite options for the community and carers. More local community supported accommodation and respite services are needed for aged care, mental health and disability services.
- Demand for social and emotional wellbeing support for children and young people is increasing.
- There is no supported accommodation for high care young people living in Narrogin.

***Outpatients***

- Currently there is no visiting oncologist, paediatrician, ENT and rheumatologist and the orthopaedic clinics are heavily booked.
- Geriatrician visits are often underutilised.
- Staff report greater access is required to a range of specialists, including: ear nose and throat (ENT), ophthalmology, general surgeon, general physician, psychiatry,

gerontology, orthopaedics, gynaecology, plastics, developmental paediatrics, cardiology, endocrinology and renal specialists.

### *Emergency department issues*

- The ED is often used as a primary health care service by the community due to the lack of GPs and other primary health care services such as, drug and alcohol services, mental health, dental and some ambulatory care.
- Through SIHI, there will be 24-hour 7-day per week coverage by GPs at Narrogin ED. This may increase the number of presentations to the ED.
- After-hours mental health service support to the ED is limited.
- Consult spaces with dual egress, duress and telehealth capability are required at all Southern Wheatbelt hospitals to manage patients whose behaviour places them and/or staff at risk of harm.
- A dedicated fast-track area at Narrogin Hospital to manage triage 4 and 5 cases could improve efficiencies within the Narrogin ED.
- A quarter of ED attendances across Southern Wheatbelt are for people under 15 years. This supports the need to increase investment in paediatrician services.
- Service coordination of emergency patient transport via RFDS or St John Ambulance can be an issue.

### *Inpatient issues*

- By 2021/22, it is projected that the number of bed-days at Narrogin will be approximately 10,500. This indicates that the current number of inpatient beds (51, of which 44 are active) and renal chairs (four) will be sufficient to meet future demand.
- Renal dialysis is an area of rapid growth and high hospitalisations due to the ageing population, the increased use of hypertension medication, the increase in diabetes and the high Aboriginal population.
- 2011 activity projections estimate there will be 793 renal dialysis separations at Narrogin Hospital in 2016/17 and 1,067 separations in 2021/22 (these figures are included in Section 6.0). Currently there are no renal services offered in the Wheatbelt despite renal services being one of the major reasons of hospitalisation (refer to Section 4.0). Patients requiring renal services are referred to services in Perth.
- In terms of Cancer Care Coordination and Chemotherapy, the WA Cancer and Palliative Care Network in collaboration with WACHS appointed a Rural Cancer Nurse Coordinator (RCNC) in January 2007. The RCNC facilitates a coordinated regional approach to cancer services for patients in the Wheatbelt. The Narrogin Hospital employs a full time Cancer Support Nurse who provides support in the home and within the hospital via a two-bed palliative care unit.
- There are currently five dedicated chemotherapy chairs/places at Narrogin Hospital providing low level chemotherapy in accordance with chemotherapy guidelines
- Poor obstetric coverage on weekends at Narrogin due to the lack of anaesthetic and GP obstetrician coverage results in women having to deliver out of the area.
- Southern Wheatbelt requires greater access to more surgical and medical specialists: Ear, Nose and Throat (ENT) services, ophthalmology, General Surgeon, anaesthetics, General Physician, psychiatry, psychogeriatrics, gerontology, urology, orthopaedics, gynaecology and plastic surgery.

- Currently there are no visiting surgeons.
- Community-based patient accommodation for day surgery at Narrogin is limited.
- Demand for services in regional areas, particularly for paediatric care is highly episodic and seasonal and this is reflected in the lower occupancy rate of 75% used to derive the future bed requirements. However, the skill level of existing and future staff could be enhanced to decrease the need to transfer patients to a metropolitan facility and provide care closer to home.
- Current paediatric inpatient accommodation needs to be reviewed to ensure compliance with infection control standards and occupational health and safety standards.
- Often, mental health patients may occupy up to seven beds at one time at Narrogin Hospital, where only two dedicated unauthorised mental health beds are available.
- After-hours support for mental health services is limited.
- Services experience ongoing challenges in managing the growing number of complex co-morbid patients who present with alcohol and other drug, mental illness and other psychosocial issues.
- The community identified that it requires an increasing level of need and unmet demand for people with a mental illness requiring sub-acute type services.
- There is a need to establish the Cancer and Palliative Care Network Model of Care for WA locally.
- There is limited access to assessments (telehealth, allied health and medical records) in inpatient areas.
- There is currently a gap in the delivery of sub-acute and rehabilitation care in the Southern Wheatbelt.

### *Residential Aged Care*

- Older people make up the majority of inpatients in the acute ward at Narrogin Hospital and in the smaller district hospitals. The 50 bed high care residential facility in Narrogin and a large facility in Brookton cater for the current high care needs of the district. The high care beds in the smaller hospital sites are often not fit for purpose.
- More resources are needed to enable more timely Aged Care Assessments in the hospitals and the community to be conducted.
- There are no sub-acute aged care services / beds at Narrogin Hospital and not enough activities and therapy to prevent functional decline for patients or aged care residents accommodated in the smaller hospital sites.
- There is a shortage of high care aged care residential beds across the Southern Wheatbelt, specifically secure dementia care services as well as very limited overnight respite beds and limited extended aged care packages to support people living with high care needs at home.
- Acute care beds are being used as respite beds.

### *Clinical support service issues:*

- Additional demands may be placed on support services if the SIHI increases activity in the EDs. This is an issue particularly for after hours and for the weekend roster.

- Small hospitals' medical imaging services are becoming digitalised, however the electronic transfer of images is not occurring across the District due to the limited bandwidth available.
- Occasionally there are distribution problems with pharmacy supplies delivered to the smaller hospitals (e.g. occasionally items go from Narrogin to Perth and then back to the smaller hospital).
- If call outs increase then the capacity of Pathology scientists would need to increase.
- There are no urgent pathology services in smaller hospitals.
- There is no Certificate III in Central Sterilising Services Department Technician course in WA.
- Increasing multi-resistant infections and Zoonotic diseases (HIV, Bird and animal diseases).
- Current facilities generally are not designed for clinical telehealth service delivery in the ambulatory or acute care venues.
- Change management is required to manage the reform of service provision for service users, consumers and staff.

*Non-clinical support service issues (e.g. kitchen linen, engineering, corporate, supply)*

- Inefficiencies are experienced in food service delivery whereby multiple sites prepare meals.
- The current kitchen facility at Narrogin Hospital is well above the recommended size and the kitchens at the smaller sites are not fully utilised.
- If a regional cook chill service delivery model is introduced then the Narrogin Hospital kitchen will need to be reconfigured and have new equipment installed.
- Concern was expressed by Southern Wheatbelt staff that corporate and ICT regional models do not have capacity to adequately support the Southern Wheatbelt efficiently or effectively.
- There is a shortage of staff especially electricians and trades.
- The maintenance workforce is ageing.
- Coordination of ordering through Oracle with Health Corporate Network could be improved.
- The lack of integrated electronic medical records was seen as a significant barrier to developing improved operational models of care across the region and the district.
- ICT is not always supportive of e-health technologies.
- There is a need for wireless technology across all the hospital sites.
- Corporate and ICT regional models are not resourcing the Southern Wheatbelt efficiently or effectively (e.g. additional human resource and occupational health and safety support required is the Southern Wheatbelt).
- Office capacity for non-clinical support staff is limited and does not support functions and can pose a risk to staff health and safety.

### *Workforce issues*

- There have been challenges for several years in filling vacant allied health positions across the Southern Wheatbelt, resulting in periods of times when some types of allied health services are not provided. This impacts on the provision of inpatient and community allied health programs.
- Low activity at smaller hospital sites can reduce opportunities to build skills and sustain services (e.g. medical imaging).
- Back-filling for leave, travel and training is problematic for service sustainability.
- The Southern Wheatbelt has had limited success to date in attracting private providers that could access Medicare Benefit Scheme funding to deliver services that could increase the range of primary mental health services including allied health services and primary mental health nurses.
- The standard of housing and incentives limits workforce attraction.
- There is limited access to a range of professional supervision.
- There are gaps identified in learning and development in terms of identifying suitable Registered Training Organisations; accessing general computer training for Department of Health systems; and releasing and back-filling staff for training.
- There is a need to standardise WACHS education programs.

### *Patient transfers / transport issues*

- Challenges exist with patient transport including emergency and non-urgent transfers between sites and for patients travelling to outpatient appointments in Perth. Mental health patient transfers were particularly highlighted as a concern as they take hospital, specialists, police and ambulance staff out of the district for extended periods of time, thereby reducing the service capacity of the district.
- There is limited support/ consultation from metropolitan health services with regards to emergency patient transfers. A Clinical Coordination Project is underway to develop sustainable models for patient transport in collaboration with St John Ambulance and RFDS.
- Limited access to transport reduces presentations to health services locally, regionally and to the metropolitan area.

### *Facility issues that constrain service delivery*

- Six treatment bays will be required to meet future demand for emergency services at Narrogin Hospital.
- There is a need for multipurpose rooms with dual egress, duress and video conference facilities that could accommodate patients at risk to self and others across all Southern Wheatbelt sites.
- Narrogin has three consult rooms in the outpatient areas. Occasionally specialists bring a team and the number of consult rooms is inadequate.
- ECG is operated out of the ED which is not an ideal setting.
- The ward area is not purpose-built for optimal health care.
- Not all facilities have mental health interview rooms in the ED.

- While Narrogin Hospital has two theatres, only one is fully functioning, as the second theatre is not set up for modern surgery.
- Pathology is currently located at a distance from the main hospital facility in Narrogin. The work environment is extremely dysfunctional and cramped and represents a security risk for staff, especially at night.
- Additionally, patient amenities for pathology are outside the building and difficult to access.
- Upgrades to non-clinical support services are required (e.g. laundry, administration and stores).
- The supply area at Narrogin Hospital does not meet Australasian Health Facility Guidelines.
- Security upgrades are required across the sites.
- Site services including wiring, switchboards and hydraulics are nearing the end of their functional life.

### Key priorities identified by providers and stakeholders

Key strategies (in no particular order) identified at workshops that were most common amongst groups included:

- Establish a 'one stop shop' for all ambulatory type health services as a way of integrating operations and assisting the patient to navigate the continuum of care, particularly for those patients presenting with multiple co-morbidities.
- Introduce innovative, outreach focused models of care that improve access to services for groups who have difficulties accessing acute and primary health care services (e.g. rural and remote communities; elderly; young mothers; Aboriginal communities and those living with a disability).
- Enhance Aboriginal health initiatives (consistent with 'Closing the Gap' and other local priorities) and build the capacity of Aboriginal health initiatives by attracting and retaining positions and leadership roles for Aboriginal people.
- Working with the WACHS SIHI, utilise telehealth and other technologies to increase the level of training and education opportunities available for staff. In addition, telehealth and other technologies will be employed to improve patient care via enhancing access to specialists.
- In response to the ageing population of the catchment areas, explore and develop models of care to improve access to the full range of primary health care services, residential aged care, chronic disease management and management of other disorders of aging, such as depression, dementia and cancer. Utilise telehealth where possible to enhance access to services and self-management of health conditions.
- In response to the identified patient transport issues, develop a multi-tiered plan and business case for patient transport across the Wheatbelt region in collaboration with Shires, St John Ambulance, District Advisory Committee (DHAC) members and the existing volunteer run patient transport service.
- Strengthen communication networks between the community and between health care providers. The community is not always aware of various programs available and therefore not fully utilising them. Communication between health care providers could also be improved to reduce duplication and inefficiencies in service provision and to ensure patients are referred to the most appropriate service provider.

- Provide staff assisted renal dialysis in Narrogin through a four-chair satellite outreach service as per the WACHS renal dialysis plan.
- Provide a three-chair chemotherapy unit plus a two double bedroom patient accommodation facility at Narrogin as per the WACHS Cancer Plan.
- Develop a two-chair public dental service at Narrogin.

### 3.10 Priorities for service reform

It is proposed that the priorities for the Southern Wheatbelt health services are:

- Support the greater integration of services by collocating health services for ambulatory/primary health care on the one health campus.
- Ensure 24/7 GP obstetric and anaesthetic coverage for the Narrogin Hospital as a priority.
- Implement a sustainable and safe GP led 24/7 emergency model and roster for 12 hour onsite and 12 hour close on call. This model includes one ED Nurse Practitioner who will provide advanced emergency nursing and support the clinical skills development and maintenance of skills for the nursing staff who are providing emergency responses across the district network of sites and services.
- Provide greater access to visiting specialists – the priorities being general surgery for increased capacity to provide investigative procedures (scopes); ear nose and throat (ENT); ophthalmology; psychiatry; gerontology; anaesthetic cover at Narrogin; and a paediatrician to support developmental paediatric care across the district/region.
- Increase resources for the management of mental health consumers with co-morbidities including alcohol and other drug problems and other chronic health conditions in the community to prevent admissions and facilitate earlier discharge from hospital or prevent admissions.
- Boost primary health care service delivery to better detect, assess and manage chronic health conditions.
- Improve access to sub-acute inpatient care and rehabilitation services.
- Utilise ehealth and telehealth technologies to enhance patient health outcomes. The first priority is to support emergency responses and outpatient care but ultimately across the care continuum and across multiple health providers.
- Attract, retain and nurture a skilled workforce to increase and sustain service delivery through succession planning.
- Provide culturally secure services and increase the Aboriginal workforce to increase access by the local Aboriginal community.
- Upgrade infrastructure to contemporary standards to reduce occupational health and safety risks and support best practice models of care for rural health.
- Examine and work collaboratively with shires, the community and community organisations to improve patient transport options for non-urgent inter-hospital and outpatient transfers

## 4 DEMOGRAPHY AND HEALTH NEEDS

The future models of care delivered in the Southern Wheatbelt will need to be responsive to the needs of the local catchment area and the social and economic realities within which services operate, including the availability of the resident or visiting workforce. This section provides an overview of the health status, demography and other factors that influence the health status of local residents. This information on the population's health needs informs the types and locations of services required in the Southern Wheatbelt and broader Wheatbelt over the next 10 to 20 years.

### 4.1 Demography

The demography of the Southern Wheatbelt and the broader Wheatbelt Health Region will influence the type of services and the models of care delivered to residents and visitors. This section highlights the population growth, gender, age distribution and cultural diversity of the Southern Wheatbelt that will need to be considered in determining the future Wheatbelt and Southern Wheatbelt models of care, types and location of services.

#### 4.1.1 Population and population growth

The Australian Bureau of Statistics (ABS, 2011) Estimated Resident Population (ERP) of the Wheatbelt Health Region grew by 5% over the last five years, to 77,227 in 2010. The Southern Wheatbelt grew by 3% over the same period. This increase was markedly less than the 14% for the State.

The ABS population projections (2010b)<sup>1</sup> estimate the region's population to increase by 14,000 (18%), from 80,166 in 2011 to 94,225 in 2021, as shown in the Table below. This level of growth is slightly lower than the expected 20% growth of the State for the same time period. The Southern Wheatbelt population is anticipated to increase by approximately 11% by 2021. That is, on average, 1% growth per year.

**Table 5: Southern Wheatbelt: 2010 ERP and population projections (2011 to 2021)**

Area	2010 ERP	Population Projections			Growth (2011-2021)	Average annual growth
		2011	2016	2021		
Southern Wheatbelt	19,514	19,081	19,917	21,096	11%	1%
<b>TOTAL WHEATBELT</b>	<b>77,227</b>	<b>80,166</b>	<b>87,080</b>	<b>94,225</b>	<b>18%</b>	<b>2%</b>

Source: ABS 2010 ERP and ABS Series B+ projections

#### Implications for service planning:

Over the last five years (2005 to 2010) the population of the Wheatbelt Region has grown at a slower pace than the population of the State (5% compared with 14%). In the future population growth in the Wheatbelt and Southern Wheatbelt is anticipated to be less than

<sup>1</sup> WA Health has endorsed the use of the ABS series B+ population projections rebased to the 2009 Estimated Resident Population. The projections by Statistical Local Area (SLA) are obtained by applying the distribution of Department of Planning and Infrastructure population projections by SLA, five-year age group and sex to the ABS population projections.

### 4.1.2 Gender distribution

The 2010 ERP (ABS, 2011) shows there were slightly more males than females in the Southern Wheatbelt (52% compared with 48%). The gender imbalance is projected to remain in the future (ABS, 2010b), as shown in Table 6.

**Table 6: Southern Wheatbelt: 2010 ERP and 2011 to 2021 population projections, by gender**

Area	Gender	2010 ERP	Population Projections			Growth (2011-2021)	Average annual growth
			2011	2016	2021		
Southern Wheatbelt	Female	9,408	9,089	9,467	10,011	10%	1%
	Male	10,106	9,992	10,450	11,086	11%	1%
TOTAL WHEATBELT	Female	36,949	38,254	41,621	45,117	18%	2%
	Male	40,278	41,912	45,459	49,109	17%	2%

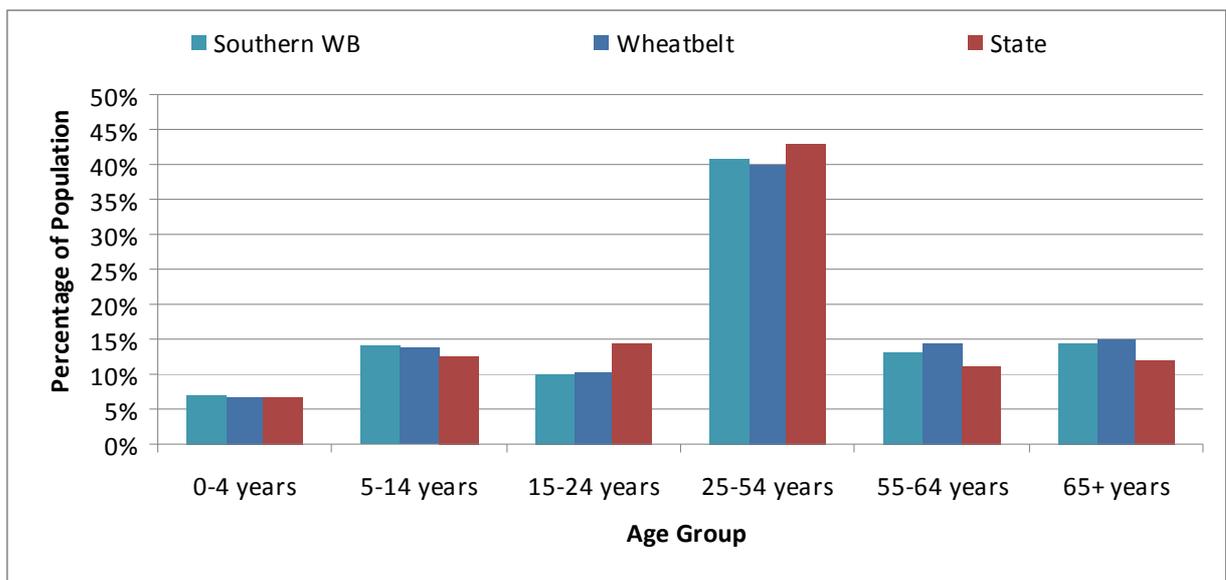
Source: ABS (2011), 2010 Estimated Resident Population and Department of Health (2010b), ABS Series B+ projections.

### 4.1.3 Age distribution

In the 2010 ERP (ABS, 2011) the Wheatbelt region had an older age distribution compared with the State of Western Australia, as shown in the next Figure. In the Southern Wheatbelt 14% of the population are aged 65 years and over, compared with 12% in the State.

According to the ABS 2010 ERP (2011), the dependency ratio of the Southern Wheatbelt was greater than that of the State (0.55 compared with 0.46) and is anticipated to increase to 0.60 in 2021 (Department of Health 2010b). The dependency ratio is a ratio of those typically not in the labour force to those in the labour force and is calculated by dividing the number of people under 15 or over 64 years of age by the number of people aged 15 to 64 years.

**Figure 6: Age distribution comparisons of Southern Wheatbelt, Wheatbelt Region and the State, 2010 ERP**



Source: Australian Bureau of Statistics (2011), 2010 Estimated Resident Population

The proportion of residents who are aged 70 years and over in Southern Wheatbelt is anticipated to increase from 10% in 2010 (ABS, 2011) to 14% in 2021 (Department of Health, 2010b) reflecting an increasing longevity. With this increase there will be an additional 963 older adults aged 70 years and over in 2021 when compared to 2011, as shown in Table 7.

**Table 7: Southern Wheatbelt: Older adult 2010 ERP and population projections (2011 to 2021)**

Area	Age	2010 ERP	Projections			Growth (2011-2021)	Average annual growth
			2011	2016	2021		
Southern Wheatbelt	<b>70-84 yrs</b>	1,597	1,506	1,810	2,378	58%	5%
	<b>85 yrs+</b>	362	378	421	469	24%	2%
	<b>Total</b>	1,959	1,884	2,230	2,847	51%	4%
<b>WHEATBELT TOTAL</b>	<b>70-84 yrs</b>	6,397	6,477	7,798	9,806	51%	4%
	<b>85 yrs+</b>	1,303	1,275	1,622	1,930	51%	4%
	<b>Total</b>	7,700	7,752	9,420	11,736	51%	4%

Source: ABS 2010 ERP and ABS Series B+ projections

NOTE: In some instances the 2010 ERP is already greater than the 2011 projection.

#### Implications for service planning:

The ageing population will place added pressures on health services to manage health conditions commonly seen in older adults and indicates an increasing need for community, primary health (chronic conditions) and residential aged care services.

With the Southern Wheatbelt's older population the residential aged care and dementia investment program of the SIHI will be particularly important for providing the residential aged care and dementia services that will be required in the region in the future.

#### 4.1.4 Cultural diversity

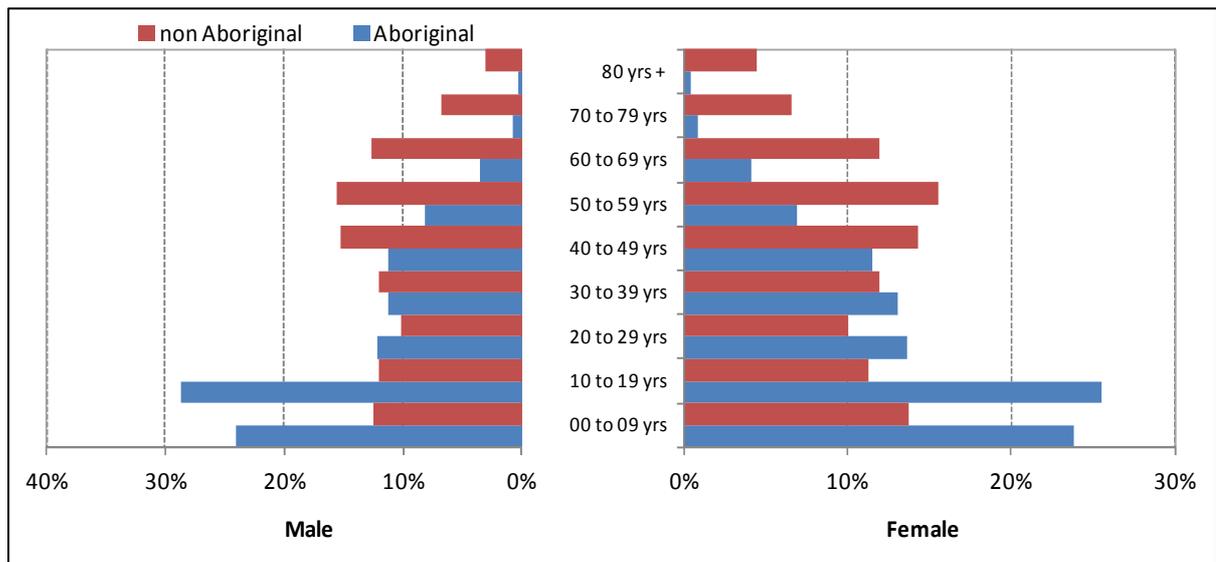
##### Aboriginal people

In the 2006 Census, 4% of Wheatbelt residents (3,062) and 5% of Southern Wheatbelt residents identified themselves as being of Aboriginal descent which was slightly higher than the State which is 3% (ABS, 2006a).

According to the ABS (2006a), the Statistical Local Areas with the greatest proportion of Aboriginal people in the Southern Wheatbelt was Brookton (12%). Cuballing, Lake Grace and Narrogin Shire had the lowest proportion (1%).

The Aboriginal Wheatbelt population has a slightly greater proportion of females than the non-Aboriginal population (50% compared with 48%) and a much younger age structure, as shown in Figure 7.

**Figure 7: Wheatbelt Region: Age structure, by Aboriginality, 2010**



Source: Estimated by the Epidemiology Branch, Public Health Division, Department of Health.

### Ethnicity

In the 2006 Census, 13% of the Wheatbelt residents reported being born overseas (ABS, 2006a). This proportion was less than half that of the state (27%). Half (50%) the Wheatbelt residents born overseas were born in the United Kingdom.

#### Implications for service planning:

The Aboriginal population of the Southern Wheatbelt has a much younger age structure than the non-Aboriginal population. Nearly half the Aboriginal population are aged under 20 compared with a quarter for the non-Aboriginal population. This differing age structure will need to be taken into account in the planning of primary health services and programs.

## 4.2 Determinants of Health

There are many factors that influence a person's health, including genetics, lifestyle and environmental and social factors. These factors may have a positive or a negative impact (Joyce and Daly, 2010). The following section describes the current health status of the region and summarises the factors (or determinants of health) that will influence the health status of residents now and into the future.

- Level of disadvantage experienced in the community (according to the Socio-Economic Indexes for Areas)
- Level of remoteness experience by the area (according to the Accessibility Remoteness Index of Australia)
- Lifestyle behaviours

The factors highlighted influence the demand for health services and should be considered when designing the future models of care for the Southern Wheatbelt.

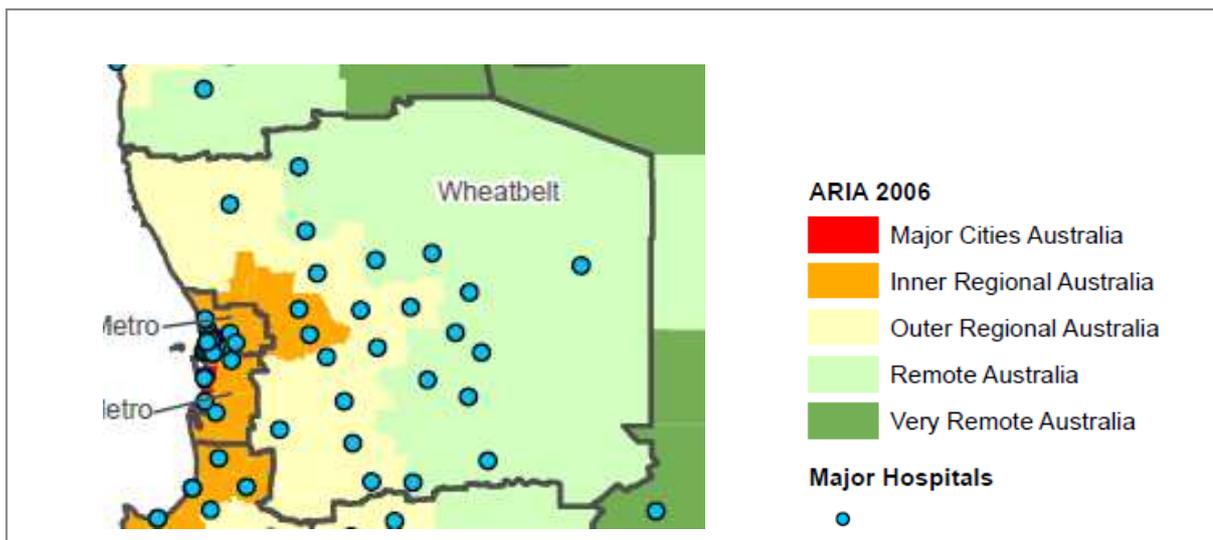
### 4.2.1 Remoteness

Remoteness is measured by the Accessibility Remoteness Index of Australia (ARIA), where areas classified as remote have very restricted accessibility of goods, services and opportunities for social interaction (Department of Health and Ageing, 2001).

Based on the 2006 ARIA the Wheatbelt has areas classified as *inner regional*, *outer regional* and *remote*, as shown in *Figure 8* (Department of Health, Epidemiological Branch, 2010).

The distances and approximate vehicle travel time between Perth and major Wheatbelt towns are shown in Table 8.

**Figure 8: ARIA classification of the Wheatbelt**



Source: Department of Health, Epidemiology Branch

**Table 8: Southern Wheatbelt towns: Distance and approximate travel time from Perth**

Town	Hours:minutes	Kilometers
Jurien Bay	2:30	270
Merredin	3:55	271
Moora	2:00	172
Narrogin	2:50	199
Northam	1:45	97

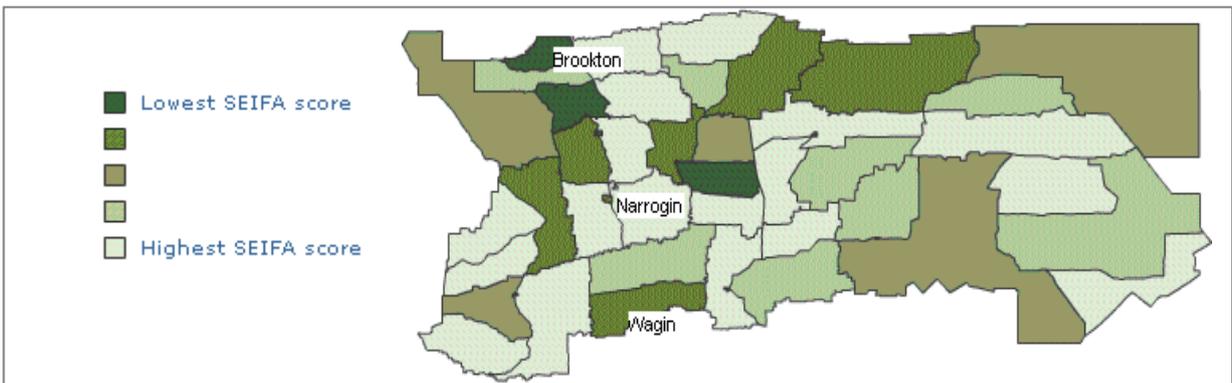
Source: Tourism Western Australia (n.d.)

### 4.2.2 Socio-economic disadvantage

Socio-Economic Indexes for Areas (SEIFA) Index of Relative Socio-Economic Disadvantage scores are calculated by the ABS from responses to the Census. They look at 17 different measures which include things like levels of education, income, rent, Aboriginality and more. The indexes do not take into account accumulated wealth, infrastructure of areas or differences in cost of living between areas. It has been shown that more disadvantaged areas have higher proportions of reported ill health or risk factors for ill health.

The mean SEIFA score for Australia is 1,000. Scores below 1,000 indicate areas of relative disadvantage, whereas scores above 1,000 shows areas of relative advantage. The ABS (2008) Socio-Economic Indexes for Areas (SEIFA) reveals that Southern Wheatbelt SLA scores ranged from 936 in Pingelly to 1077 in Narrogin Shire. Only eight of the 15 SLAs in the Southern Wheatbelt had a score greater than 1000. An indication of the distribution can be seen in the map below.

**Figure 9: SEIFA classification of the Southern Wheatbelt**



Source: Australian Early Development Index website

#### Implications for service planning:

The SEIFA Index of Relative Socio-Economic Disadvantage shows that there are areas within the Wheatbelt with differing levels of disadvantage. Services and programs will need to be flexible to respond to the needs of these disadvantaged communities.

### 4.2.3 Australian Early Childhood Development Index

The Australian Early Development Index (AEDI) measures how young children are developing when they first enter full time school. A teacher completes a checklist for each child and the scores of all children across Australia are ranked in each of the five areas, or domains, of early childhood development. Children ranked in the bottom 10% are classed as “developmentally vulnerable”, those in the top 75% are classed as “on track” and those in between are classed as “at risk”.

Across Australia one in four children (24%) were developmentally vulnerable on one or more domain/s of the AEDI and 12% were developmentally vulnerable on two or more domains. The results for Southern Wheatbelt communities are shown below in Table 9.

**Table 9: Southern Wheatbelt: Proportion of children vulnerable on one of more domain, 2009**

Community	Number children surveyed	% Developmentally vulnerable on one or more domains	% Developmentally vulnerable on two or more domains
Narrogin	67 (17% ATSI)	33%	20%
Lake Grace	25 (<3 ATSI)	17%	4%
Wagin	27 (<3 ATSI)	27%	15%
<b>Australia</b>	<b>261,203 (4.8% ATSI)</b>	<b>24%</b>	<b>12%</b>

Data Source: Australian Early Development Index

### 4.2.4 Local risks and climate

Narrogin, due to its rural location; proximity to major highways; and role delineation as the only IDHS for the Southern Wheatbelt, is at a higher risk of receiving high trauma cases from motor vehicle and farming accidents.

The Southern Wheatbelt due to its proximity to the Perth has a similar climate to the metropolitan area.

Health services should also be responsive to extreme conditions such as storms and flooding and natural disasters like fire.

#### Implications for service planning:

Narrogin IDHS will need to maintain effective emergency management plans for receiving, stabilising and transferring patients to tertiary hospitals in the future and be responsive to climate risks such as storms, flooding and fires.

### 4.2.5 Self-reported risk factors

Lifestyle behaviours are particularly important because of their relationship with chronic conditions that are considered to be preventable (Joyce and Daly, 2010). Prevention and management of these modifiable risk factors can therefore have a substantial effect on these preventable chronic conditions. *Table 10* shows the relationship between these modifiable risk factors and the National Health Priority Areas.

**Table 10: Chronic conditions and related modifiable risk factors**

Chronic disease/ condition	Behavioural risk factors				Biomedical risk factors		
	Poor diet	Physical inactivity	Tobacco smoking	Excess alcohol use	Excess weight	High blood pressure	High blood cholesterol
Coronary heart disease	✓	✓	✓	✓	✓	✓	✓
Cerebrovascular disease	✓	✓	✓	✓	✓	✓	✓
Lung cancer			✓				
Colorectal cancer	✓	✓		✓	✓		
Depression				✓	✓		
Diabetes	✓	✓			✓		
Asthma			✓		✓		
COPD <sup>(a)</sup>			✓				
Chronic kidney disease	✓		✓		✓	✓	
Oral diseases	✓		✓	✓			
Osteoarthritis		✓			✓		
Osteoporosis	✓	✓	✓	✓			

(a) Chronic obstructive pulmonary disease  
Source: AIHW 2002a.

Source: Australian Institute of Health and Wellbeing (2006). Reproduced from Australian Institute of Health and Wellbeing's chronic diseases and associated risk factors in Australia.

Risk factor information is usually collected by population based surveys, such as the WA Health and Wellbeing Surveillance System (HWSS). The data is not available for districts – only broader health region. The Epidemiology Branch and Cooperative Research Centre for Spatial Information (2009a) reported that in 2010 adults aged 16 years and over in the Wheatbelt region reported the following:

- More than four in five adults (83%) did not eat the recommended daily five serves of vegetables.
- Nearly half (47%) the adults did not eat the recommended daily two serves of fruit.
- Nearly half the adults (48%) who drank alcohol drank at risk for long-term harm.
- Half the adults (50%) did not do sufficient physical activity.
- One in five adults (18%) reported having high blood pressure.
- One in four adults (24%) reported having high cholesterol.
- One in three adults (34%) reported height and weight measurements that classified them as obese. This prevalence was significantly higher than the State (26%).

While many of the lifestyle behaviours of Wheatbelt residents may not be significantly higher than the State the prevalence is still important because these behaviours are modifiable risk factors for chronic conditions.

Lifestyle risk factor information is not available for Aboriginal Wheatbelt residents. At the National level Aboriginal people have been found to be twice as likely as non-Aboriginal people to be a current smoker (45% compared with 20%). Nearly a third (31%) of Aboriginal people have never smoked compared to half of non-Aboriginal people (52%). Furthermore, twice as many Aboriginal people report poor self-assessed health and report higher levels of psychological stress as non-Aboriginal people (ABS, 2006b).

### **Implications for service planning:**

The modifiable risk factors and self-reported chronic conditions should continue to be monitored and used as a guide for developing and sustaining public health programs and interventions within the Wheatbelt.

Wheatbelt residents were more likely to report height and weight measurements that classified them as obese compared with the State (one in three adults). They also reported high levels of blood pressure and insufficient physical activity. These behaviours are of particular interest as excess body weight, physical inactivity and high blood pressure are linked with several chronic conditions, including coronary heart disease and some cancers. The increasing trend of obesity in the State may suggest an increase in these chronic conditions in the future.

While specific information regarding the Wheatbelt Aboriginal population is not available, nationally Aboriginal people are more likely to smoke and to have poorer health than non-Aboriginal people. This demonstrates a need for culturally secure health promotion and brief intervention programs and services.

## **4.3 Health Status**

### **4.3.1 Self-reported chronic conditions**

Chronic conditions refer to long-term conditions that last for six months or more (Joyce, S and Daly, A. 2010). Not all chronic conditions result in hospitalisations and so hospital data does not give the full picture. This type of information is usually collected by population based surveys, such as the WA Health and Wellbeing Surveillance System (HWSS).

According to the Epidemiology Branch and Cooperative Research Centre for Spatial Information (2009a), the most prevalent chronic conditions for adults in the Wheatbelt in 2010 were:

- One in four adults (26%) had arthritis. This prevalence was significantly higher than the State (20%).
- One in seven adults (15%) had asthma. This prevalence was significantly higher than the State (9%).
- More than one in ten adults (12%) had a current mental health problem.

Nationally, Aboriginal people report a higher prevalence of most chronic conditions compared with non-Aboriginal people. For example, at a national level, after adjusting for age, Aboriginal people were 1.6 times more likely to report asthma, and three times more likely to report diabetes (ABS, 2006b). As the HWSS may not be representative of the Aboriginal population, national levels of chronic disease among the Aboriginal population must be considered.

### **4.3.2 Self-reported service utilisation**

The Epidemiology Branch and Cooperative Research Centre for Spatial Information (2009a) reported in 2010 there were no significant differences in the reported health service utilisation in the last year of Wheatbelt residents compared to the State. In 2010:

- More than eight in ten Wheatbelt adults (89%) reported having used a primary health care service.
- Half the Wheatbelt adults (51%) reported having used a dental health care service.
- One in three adults (29%) reported having used a hospital based health care service.
- One in twenty adults (5%) reported having used a mental health care service (e.g. a psychiatrist, psychologist or counsellor).

**Implications for service planning:**

As the majority of Wheatbelt residents use primary health care this presents an opportunity for chronic conditions and modifiable risk factors to be assessed. While 12% of Wheatbelt adults reported having being a current mental health problem, only 5% reported having used mental health services in the past year. This indicates the importance of:

- Implementing health promotion programs, population health level interventions, awareness raising and de-stigmatising initiatives and intervention at the time of assessment to improve access to mental health services.
- Enhancing the continuum care, service integration and coordinated care planning between emergency, inpatient and primary health care services within the acute and community sector to enable more effective assessment, management and follow-up as patients transition from acute care to the community (and vice versa) particularly for chronic disease management and mental health care.

**4.3.3 Mortality**

Mortality is an important indicator of the health of the population. Aboriginal people have a significantly lower life expectancy compared with their non-Aboriginal counterparts, with the gap at the national level estimated to be 11.5 years for males and 9.7 years for females (ABS, 2006b).

**Mortality rate**

Between 2003 and 2007 more than 400 Wheatbelt residents died each year. After removing the impact of the different age structures in the populations there was no significant difference between the mortality rate (the number of deaths per 1,000 people) of all Wheatbelt residents compared with the State (Epidemiology Branch and Cooperative Research Centre for Spatial Information 2009b).

From 1998 to 2007 Wheatbelt, Great Southern and South West Aboriginal residents had a significantly higher mortality rate for cardiovascular disease compared with the State Aboriginal population.

Aboriginal residents in the Wheatbelt, Great Southern and South West had a significantly higher mortality rate for diabetes, cardiovascular disease, respiratory disease, injury and poisoning, alcohol-related conditions and tobacco-related conditions compared with non-

Aboriginal residents of the same area (Hocking, Draper, Somerford, Xiao, and Weeramanthri, 2010).

### Leading cause of mortality

The leading cause of mortality is shown in Table 11. Between 2003 and 2007 the leading cause of death of Southern Wheatbelt residents was diseases of the circulatory system, followed by neoplasms and injury and poisoning. The leading causes of death were similar to all Western Australian residents (Epidemiology Branch and Cooperative Research Centre for Spatial Information, 2009c).

**Table 11: Southern Wheatbelt residents: Leading cause of mortality (2003- 2007)**

Rank	Category	No.	% of total	State Rank
1	Circulatory diseases	201	32%	1
2	Neoplasms	166	27%	2
3	Injury and poisoning	52	8%	4
4	Respiratory diseases	49	8%	3
5	Endocrine and nutritional diseases	44	7%	6

Source: ABS Mortality data

### Avoidable mortality

Each year people die from diseases that have medical interventions and/or effective public health programs. These deaths are referred to as avoidable mortality and are classified into three categories related to the type of intervention according to Hocking, Draper, Somerford, Xiao, and Weeramanthri (2010). Primary intervention includes deaths that could potentially have been avoided via effective public health measures. Secondary intervention includes deaths that could potentially have been avoided by early intervention through primary health care services or early detection through screening. Tertiary intervention includes deaths that could potentially have been avoided using medical or surgical techniques.

Between 1998 and 2007 around two-thirds of Wheatbelt resident deaths under the age of 75 were classified as avoidable, as shown in the next table. Cancers and chronic conditions accounted for the majority of avoidable deaths. Ischaemic heart disease was responsible for one in four avoidable deaths (24%), followed by lung cancer (13%) and suicide and self-inflicted injuries (7%).

**Table 12: Wheatbelt Health Region residents: Leading causes of avoidable mortality, aged 0-74 years (1998-2007)**

Rank	Condition	No.	% of total
1	Ischaemic heart disease	296	24%
2	Lung cancer	159	13%
3	Suicide and self-inflicted injuries	88	7%
4	Colorectal cancer	83	7%
5	Cerebrovascular diseases	64	5%

Source: ABS Mortality Data

The use of primary interventions could potentially have avoided more than half (54%) the avoidable deaths, while 24% could have potentially been avoided through the use of secondary interventions, such as primary health care services or early detection through screening. One-fifth of the avoidable deaths could potentially have been avoided through the use of tertiary interventions, such as medical or surgical techniques.

Between 1998 and 2007 Aboriginal Wheatbelt residents had a greater proportion of deaths classified as avoidable compared with non-Aboriginal Wheatbelt residents (75% compared with 63%). As shown in Table 13, ischaemic heart disease and diabetes accounted for a greater proportion of Aboriginal than non-Aboriginal deaths.

**Table 13: Wheatbelt Health Region residents: Leading causes of avoidable mortality by Aboriginality, aged 0-74 years (1998-2007)**

Condition	No.	% of total
<b>Aboriginal</b>		
Ischaemic heart disease	32	31%
Diabetes	11	11%
Cerebrovascular diseases	10	10%
Alcohol related disease	9	9%
Suicide and self-inflicted injuries	7	7%
<b>Non-Aboriginal</b>		
Ischaemic heart disease	254	24%
Lung cancer	146	14%
Suicide and self-inflicted injuries	80	7%
Colorectal cancer	78	7%
Cerebrovascular diseases	53	5%

Source: ABS Mortality Data

**Implications for service planning:**

More than half the deaths of Wheatbelt residents under the age of 75 could potentially be avoided through the use of primary health programs. Circulatory diseases were the leading cause of mortality for Southern Wheatbelt residents, with Ischaemic heart disease the leading cause of avoidable mortality for the Wheatbelt. This highlights that many of these deaths could potentially be avoided with the use of health programs. In particular, Wheatbelt residents are significantly less physically active and have a significantly higher prevalence of obesity compared with the State. These are both modifiable risk factors for Ischaemic heart disease. With the increasing trend of obesity seen across the State, heart disease may also be likely to increase in the future, suggesting the need for primary health services targeted at this condition and its risk factors.

Injury and poisoning was also a leading cause of mortality for Wheatbelt residents with suicide and self inflicted injuries one of the leading causes of avoidable mortality for both Aboriginal and non-Aboriginal residents. Again, this suggests the need for primary health services targeted at creating resilience within the community and identifying people at risk of self harm. The primary health care streams of the SIHI will be integral to reducing avoidable deaths of Wheatbelt residents.

**4.3.4 Hospitalisations**

Hospitalisations are an indicator of relatively severe conditions in the community and assist in targeting primary care resources to prevent hospitalisations. Wheatbelt residents may be admitted to a hospital in the region, or may choose to attend a hospital in the metropolitan area, as a public or private patient.

*Hospitalisation rate*

Between 2005 and 2009 Wheatbelt residents had a significantly lower hospitalisation rate than that of the State (Epidemiology Branch and Cooperative Research Centre for Spatial Information, 2009). There were notable differences within the Wheatbelt health districts: Southern Wheatbelt residents had significantly lower hospitalisation rates compared with the State (Epidemiology Branch and Cooperative Research Centre for Spatial Information, 2009).

Aboriginal Wheatbelt residents had a significantly lower hospitalisation rate when compared with all Aboriginal WA residents. However, their hospitalisation rate was twice that of the non-Aboriginal Wheatbelt residents (Epidemiology Branch and Cooperative Research Centre for Spatial Information, 2009f & 2009g).

*Leading cause of hospitalisation*

The leading categories of hospitalisation are shown in the next table. Between 2005 and 2009 the leading cause of hospitalisation of Wheatbelt residents was for factors influencing health status (which includes renal dialysis and chemotherapy), followed by diseases of the digestive system. The leading causes of hospitalisation of Southern Wheatbelt residents were different to those of the state in that Neoplasms were not in the leading five categories.

**Table 14: Southern Wheatbelt residents: Leading categories of hospitalisations for (2005 – 2009)**

Southern Wheatbelt Rank	Category	No.	% of total	State Rank
1	Factors influencing health status	4,941	15%	1
2	Digestive diseases	3,665	11%	2
3	Injury and poisoning	3,074	9%	5
4	Musculoskeletal diseases	2,723	8%	4
5	Ill-defined conditions	2,584	8%	7

Source: WA Hospital Morbidity Data System

Between 2005 and 2009 the leading causes of hospitalisation differed markedly between Aboriginal and non-Aboriginal Wheatbelt residents, as shown in Table 15. Injury and poisoning, and mental and behavioural disorders accounted for a greater proportion of hospitalisations of Aboriginal compared to non-Aboriginal Wheatbelt residents. Injury and poisoning is one of the leading causes of hospitalisation for both Aboriginal and non-Aboriginal residents and is also one of the leading causes of mortality.

**Table 15: Wheatbelt residents: Leading categories of hospitalisations, by Aboriginality (2005 – 2009)**

Wheatbelt Rank	Category	No.	% of total
<b>Aboriginal</b>			
1	Factors influencing health status	1,739	23%
2	Injury and poisoning	808	10%
3	Respiratory diseases	807	10%
4	Pregnancy and childbirth	764	10%
5	Mental disorders	639	8%
<b>Non-Aboriginal</b>			
1	Factors influencing health status	20,567	24%
2	Digestive diseases	13,832	14%
3	Musculoskeletal diseases	10,039	7%
4	Injury and poisoning	10,013	7%
5	Neoplasms	9,352	5%

Source: WA Hospital Morbidity Data System.

### **Potentially preventable hospitalisations**

Many hospitalisations result from conditions where hospitalisations could potentially be prevented by the use of preventive care and early disease management. These hospitalisations are known as *potentially preventable hospitalisations* and are grouped into three major categories acute, chronic and vaccine preventable. Public health measures have the greatest influence on vaccine preventable and chronic conditions.

Between 2005 and 2009, potentially preventable hospitalisations accounted for 10% of hospitalisations of Wheatbelt residents, a similar proportion to that of the State (Epidemiology Branch and CRC-SI. 2009). Of these, vaccine preventable conditions accounted for 3%, acute preventable accounted for 42% and chronic conditions accounted for 55% of potentially preventable hospitalisations in the Wheatbelt (Epidemiology Branch and CRC-SI. 2009). As shown in the following Table, diabetes and its complications was the leading *potentially preventable hospitalisations*, accounting for more than one in four hospitalisations.

**Table 16: Wheatbelt residents: Leading potentially preventable hospitalisations (2005 – 2009)**

Category	No.	% of total
Diabetes complications	3,588	28%
Dental conditions	1,321	11%
Chronic obstructive disorders	1,095	9%
Ear Nose and Throat (ENT) infections	1,054	8%
Congestive cardiac failure	938	7%

Source: WA Hospital Morbidity Data System.

Between 2005 and 2009 potentially preventable hospitalisations accounted for a greater proportion of hospitalisations of Aboriginal Wheatbelt residents compared with non-Aboriginal Wheatbelt residents (21% compared with 9%) (Epidemiology Branch and CRC-SI, 2009).

Chronic conditions accounted for 59% of the Aboriginal potentially preventable hospitalisations. While diabetes and its complications was the leading potentially preventable hospitalisations for both Aboriginal and non-Aboriginal Wheatbelt residents, it accounted for a greater proportion of hospitalisations of Aboriginal residents, as shown in Table 17 (Epidemiology Branch and CRC-SI, 2009).

**Table 17: Wheatbelt residents: Leading potentially preventable hospitalisations by Aboriginality (2005 to 2009)**

Category	No.	% of total
<b>Aboriginal</b>		
Diabetes complications	643	41%
Convulsions and epilepsy	228	14%
Asthma	143	9%
ENT infections	133	8%
Dental conditions	86	6%
Pyelonephritis	86	6%
<b>Non-Aboriginal</b>		
Diabetes complications	2,945	27%
Dental conditions	1,235	11%
Chronic obstructive disorders	1,024	9%
ENT infections	921	8%
Congestive cardiac failure	880	8%

Source: WA Hospital Morbidity Data System.

**Implications for service planning:**

Southern Wheatbelt residents had a significantly lower hospitalisation rate compared with the State.

The leading cause of hospitalisation of Southern Wheatbelt residents is for factors influencing health status, which includes renal dialysis and chemotherapy. Currently there are no renal dialysis services available within the Southern Wheatbelt, but will be in the future with the introduction of renal chairs in Narrogin. This will be particularly important for Southern Wheatbelt residents as it will enable them to receive care closer to home.

One in ten hospitalisations of all Wheatbelt residents and one in five hospitalisations of Aboriginal Wheatbelt residents could potentially be avoided through the use of preventative care and early disease management. The SIHI will move the focus from providing inpatient hospital services to the delivery of primary care, including the prevention and detection of chronic conditions, such as diabetes related conditions and dental conditions, which accounted for the greatest proportion of potentially preventable hospitalisations.

Aboriginal Wheatbelt residents have a greater need for health care services compared with their non-Aboriginal counterparts. Future services planning needs to ensure culturally appropriate services for the Aboriginal residents are incorporated in this planning.

## 5 HEALTH PARTNERS

The following services support WACHS to deliver services to the Southern Wheatbelt to provide a continuum of care from primary health care to acute and emergency services in the regional and metropolitan area.



## 5.1 State Government

### Department of Child Protection

Department of Child Protection focuses on working with children and families assessed as ‘at risk’. WACHS has working relationships Department of Child Protection to assess and monitor the health needs of ‘at risk’ children in the community.

### Department for Communities

The Department for Communities informs the development of social policy, advocating on behalf of Western Australian children, parents and their families, young people, seniors, women, carers, volunteers and non-government organisations. Department for Communities is also responsible for the delivery of programs and services to support and strengthen WA’s diverse communities. This includes administering WA’s child care regulatory framework and, through the Child Care Licensing and Standards Unit, managing the licensing and compliance of some 1,500 child care services throughout WA.

Department for Communities also offers the *Best Start* program for Aboriginal families in Moora and Narrogin, which provide activities for children aged 0 to 5 years old, and their families “to enhance the children’s social, educational, cultural and physical development.” This includes mentoring, support and role modelling by mothers with older children. The main program aims are:

- improved transition to school environment;
- improved child health;
- increased confidence by parents in parenting role;
- families better linked to community services; and
- increased opportunity for children to learn through play.

### Disability Services Commission

Disabilities Services Commission work with people with disabilities and their families to access support in the community, access funding, and work across the community in collaboration with other agencies in the community.

### District Health Advisory Council (DHAC)

DHACs have been established by the State Government to give country people a say in how their health services are delivered and provide the opportunity for continuously improving consumer and community participation at the local, district and State levels. The Council consists of a group of people - health consumers, carers, community members & service providers who actively seek to improve service planning, access, safety and quality.

The composition of Advisory Councils intends to reflect a cross-section of community health interests. Health service providers and agency representatives should comprise no more than 30 per cent of the total number of members.

## WA Mental Health Commission

The WA Mental Health Commission was established in March 2010 with responsibility for policy, planning and the purchasing of mental health services in Western Australia. The Commission's functions include:

- development and provision of mental health policy and advice to the government;
- leading the implementation of the Mental Health Strategic Policy;
- articulating key outcomes and determining the range of mental health services required for defined areas and populations across the state;
- specifying activity levels, standards of care and determining resourcing required;
- identifying appropriate service providers and benchmarks and establishing associated contracting arrangements with both government and non-government sectors;
- providing grants, transfers and service contract arrangements;
- ongoing performance monitoring and evaluation of key mental health programs in WA;
- ensuring effective accountability and governance systems are in place; and
- promoting social inclusion, public awareness and understanding of matters relating to the wellbeing of people with mental illness to address stigma and discrimination.

## PathWest

PathWest provide collection and testing services as per Section 0.

## Patient's Assisted Travel Scheme (PATS)

The PATS provides an important role in linking specialist treatment to country Western Australians. The Patient Assisted Travel Scheme (PATS) provides assistance to people in the country who are required to travel more than 100 km (one way) to obtain the nearest available medical specialist treatment not available locally, via telehealth or from a visiting service.

## Regional Development and Lands, Royalties for Regions

Regional Development and Lands is responsible for initiatives such as SIHI and SuperTowns (refer to Section 3.7) and enable opportunities to develop partnerships with State, Local, Commonwealth and non-government agencies and private providers in the Wheatbelt Region.

## RuralLink

RuralLink provides a specialist after-hours mental health telephone service for the rural communities and health services of WA.

## WA Police and Fire and Emergency Services (FESA)

WA Police and FESA work together with WACHS and St John Ambulance to coordinate emergency management responses for the Southern Wheatbelt. This is largely coordinated through the Local Emergency Management Committee.

WA Police also provide patient escorts as required by the Mental Health Act for acute mental health patients requiring admission to metropolitan health facilities.

## WA Dental Health Services

Providing visiting dental health services to school aged children in the Southern Wheatbelt.

## Wheatbelt Health Memorandum of Understanding Group

The membership and purpose of this group is detailed in Section 3.6.1.

## WoundsWest

WoundsWest is an innovative project that aims to improve wound prevention and management throughout Western Australia. The project implemented in partnership between WA Health, Silver Chain and Curtin University.

## 5.2 Local Government

The Southern Wheatbelt includes the Shire of Boddington, Shire of Brookton, Shire of Cuballing, Shire of Dumbleyung, Shire of Kondinin, Shire of Kulin, Shire of Lake Grace, Town of Narrogin, Shire of Narrogin, Shire of Pingelly, Shire of Wagin, Shire of Wandering, Shire of West Arthur, Shire of Wickepin and Shire of Williams.

Local Governments provide a number of health and community services that support the health and wellbeing of their communities. These include environmental health, immunisation services, accommodation for Child Health Clinics, aged care and accommodation, community care, recreational and sporting venues and welfare services. . In some cases local governments will provide financial, accommodation, vehicles and other incentives to attract GPs to the district.

## 5.3 Commonwealth Government

### Wheatbelt GP networks

The *Wheatbelt GP Network* and Amity Health (formerly Great Southern GP Network) deliver services into the Southern Wheatbelt catchment. The *Wheatbelt GP Network* (formerly the Central Wheatbelt Division of General Practice) is a network of GPs who work within a geographical area known as the Central Wheatbelt that encompasses the towns of Northam, Toodyay, York, Beverley, Quairading, Corrigin, Bruce Rock, Narembeen, Cunderdin, Wyalkatchem, Kellerberrin, Kununoppin, Merredin, Goomalling, Dowerin, Wongan Hills, Dalwallinu, Bindoon, Gingin, Moora, Lancelin and Cervantes.

The Network aims to improve the health outcomes of the Central Wheatbelt area population through facilitating links between GPs and strengthening primary health care services. WGPN also offers the following allied health services:

- *Wheatbelt Support Services* comprises a team of counsellors and psychologists, who together provide counselling service to the Wheatbelt.
- *Dietician* provides individual and group consultations
- *Diabetes Educator* provides individual and group consultations.

*Wheatbelt GP Network* is also funded via COAG to increase Aboriginal people's access to GP services provided in Northam, Merredin and Narrogin.

*Wheatbelt GP Network* is a not-for-profit organisation that is largely funded by the Commonwealth Department of Health and Ageing Divisions of General Practice Program. With the introduction of Medicare Locals, core funding will progressively transfer to the Medicare Locals program and cease on the 30<sup>th</sup> June 2012.

### Home and Community Care (HACC)

The HACC Program is a joint Commonwealth, State and Territory initiative which funds basic maintenance and support services to help frail older people and younger people with disabilities to continue living in their community.

### Kaata-Koorliny Employment and Enterprise Development Aboriginal Corporation (KEEDAC)

Kaata-Koorliny Employment and Enterprise Development Aboriginal Corporation (KEEDAC) Narrogin and Northam, WA, have received funding over 36 months to deliver the *Community Support Service* to improve Aboriginal access to mainstream and Aboriginal services in Narrogin and Northam, WA.

The KEEDAC Community Support Service supports Indigenous community members and their families by providing links and referrals to a range of mainstream and Aboriginal services, which may include welfare and social support, family violence, health (including drug and alcohol services), housing, child care and legal. The role will also entail the development and fostering of relationships with other service providers through promoting access and pathways to their services.

KEEDAC provides other key services for Aboriginal people living in the Wheatbelt. These include the:

- *Indigenous Employment Program* aims for sustainable employment, mainly within the rural industries
- *Youth and Family Support*.
- *Personal Helpers and Mentors Program*.

### Medical Specialist Outreach Assistance Program (MSOAP)

The MSOAP aims to improve access to medical specialists in rural and remote communities and reduce some of the financial disincentives incurred by medical specialists in providing outreach services. Funds are available for the costs of travel, meals and accommodation, facility fees, administrative support at the outreach location, lease and transport of equipment, telephone support and up-skilling sessions for resident health professionals.

## South West WA Medicare Local (SWWAML)

The *South West WA Medicare Local (SWWAML)* is one of first group of 19 Medicare Locals that commenced across Australia on the 1 July 2011. SWWAML was formed through an alliance of the following three GP Networks: GP Down South; Greater Bunbury Division of General Practice; and Great Southern GP Network. SWWAML covers the Wheatbelt, South West and Great Southern, with offices in Albany, Northam and Busselton. For further information visit: [www.sw-medicarelocl.com.au](http://www.sw-medicarelocl.com.au)

## 5.4 Not-for-Profit Agencies

### Aged care residential services

The aged care residential services are detailed in Section 6.5.

### Holyoak

Holyoake Community Drug Service Team provides services for individuals and their families with alcohol and other drug misuse issues. It also provides education and prevention services to communities and professionals within the Wheatbelt area. Its main role is to empower people and communities impacted by addictions to create positive and sustainable outcomes.

Holyoake operates under a Memorandum of Understanding with the WACHS Mental Health section to provide a coordinated service to clients with 'cross-over' needs. They operate the 'No Wrong Door' model that works for people with both a drug and/or alcohol issue and a mental health problems.

Holyoake offers individual, couple, family and group counselling. The *Indigenous Services Program* supports Aboriginal families impacted by alcohol or drug use

The Team is based in both Northam and Narrogin, and provides outreach services to Merredin, Wyalkatchem, Gin Gin, Goomalling and all points west to Beverley.

### Relationships Australia

Provide mediation and counselling services to individuals, couples, children and families.

### Royal Flying Doctor Service (RFDS)

The RFDS provides a pivotal role throughout country Western Australia providing medical and nursing services to transfer patients to larger regional or metropolitan hospitals. There are no RFDS bases located in the Wheatbelt, but they do transfer patients from the Wheatbelt to the metropolitan area. This is due to the relative closeness of the Wheatbelt to Perth metropolitan.

### Silver Chain

Silver Chain is one of the largest providers of community and health services to the Western Australian community. Silver Chain provide a diverse range of services, including home care, palliative care, emergency care, family health care and other care services to residents living in metropolitan and rural Western Australia. Within the Southern Wheatbelt, Silver Chain

provide palliative care and rehabilitation services in the home and support the WoundsWest Program.

### **St John Ambulance**

Narrogin has one paramedic employed to support 22 ambulance volunteers that coordinate patient transfers in partnership with WACHS to district, regional and metropolitan health services.

## **5.5 University programs**

### **Rural Clinical School**

Narrogin accepts fifth year medical students to further their studies in a rural hospital setting. Narrogin Hospital provides the training, educational facilities and equipment to support ongoing training of students. The aim of the school is to attracting more doctors to regional, rural and remote practice.

## **5.6 Private providers**

As of late 2011, there were one part time and six full time GPs in Narrogin. Full time GPs are currently in all small towns in the Southern Wheatbelt, except Dumbleyung where GP cover is not consistently full time.

Two GPs provide obstetric services and three provide anaesthetic services.

There are a number of private dentists, at least two private physiotherapists, one private dietician and two private clinical psychologists in Narrogin. There is also a part time physiotherapist in Kondinin.

## 6 CURRENT & FUTURE SERVICE DELIVERY

The following section details the current service models and future service reform strategies for the Southern Wheatbelt based on the issues and priorities highlighted in Section 3.0, the demography and health status information in Section **Error! Reference source not found.** and the activity seen by the hospitals and health services (Section 6.0). The information in this chapter will provide guidance for services in the district as they work towards consolidating improved models of care under the SIHI (refer to Section 3.7).

Section 6.3 provide an overview of current and future inpatient demand and supply activity for the District including patient flows within the region and outflows to other regional and metropolitan healthcare facilities.

The remaining sub sections detail each service/department's current service profile, historical activity, activity projections (where data is available and reliable) and proposed strategies for:

- Meeting the health needs of the population and projected demand for services.
- Implementing Commonwealth and State Government policy. For example, the required role delineations as described in the *WA Health Clinical Services Framework 2010 -2020* (Department of Health, 2010a).
- Addressing the identified service issues and meeting the expectations of staff and stakeholders.
- Achieving the intent of the SIHI to ensure high quality, sustainable safe services for Southern Inland area.

Overall the region reports that they are meeting or working towards meeting the role delineations stipulated in the *Clinical Services Framework*. Implementing the recommended strategies will be dependent on appropriate resourcing, endorsement, local collaborations and partnerships with other providers. The degree to which the staff, GPs and specialists can be attracted and retained to deliver the services will also determine the level of change achieved.

### 6.1 Ambulatory Health Care Services Profile

The current and proposed ambulatory care services for Southern Wheatbelt residents are outlined below. Please note, quantitative activity data is presented where available.

#### 6.1.1 Primary Health Care Services

The preferred future model of primary health care in the Wheatbelt will support the *National Primary Health Reform Program*, align with the intentions of SIHI and link with Medicare Locals and Local Health Networks.

Integrated primary health care services offer the opportunity for improved economies of scale and efficiencies, integrated systems and promotion of a collaborative approach to patient and consumer health care and service improvement.

This service planning exercise for the Southern Wheatbelt is an opportunity to reconsider the organisation of primary health care service in line with developments in acute, aged and emergency care. Integrated programs addressing issues such as chronic disease care coordination, community rehabilitation, maternal and child health, youth health, oral health and suicide prevention, will enhance the services delivered.

The current service model, key issues and challenges and proposed service model are described, by each primary health care service below.

## WACHS Population Health Services

WACHS – Wheatbelt Population Health Unit services are an essential element of the continuum of care for the Southern Wheatbelt. Population health services cover public and community health services across the age and care continuum. The focus is on health promotion and prevention plus interventions directed at preventing or minimising the progression of disease where possible.

In the Wheatbelt, WACHS Population Health Services include:

- Wheatbelt Public Health Unit is based in Northam and provides services across the region including:
  - Disease control and health promotion programs.
  - In-reach services are provided to the small communities - either at a health site or another local facility.
- Wheatbelt Aboriginal Health Service is also based in Northam and provides Aboriginal health services from Northam and outreach services to all towns in the district based on need to address the health and wellbeing needs of the Aboriginal community. The service is also responsible for the delivery of Aboriginal health promotion, social work and *Bringing Them Home* counselling to the whole Wheatbelt region.

Aboriginal Health Services are highly integrated within the Wheatbelt Population Health Unit, with the Wheatbelt Aboriginal Health Service providing some regional services and holding a programmatic responsibility and coordinating function.

The Wheatbelt GP Network currently provides a weekly Aboriginal health GP clinic in Narrogin in collaboration with the Southern Wheatbelt Primary Health Service’s Aboriginal Health Team.

- Four primary health care teams deliver the following services in partnership with non-government providers, GPs and other private primary care providers:
  - Child development teams - including the provision of services for children with developmental delays and disabilities
  - Child health services
  - School health services
  - Immunisation services
  - Continence services
  - Women’s health services
  - Chronic disease services including asthma and diabetes education
  - Allied Health Services
    - Occupational Therapy
    - Physiotherapy
    - Speech Pathology
    - Dietetics
    - Podiatry

- Health Promotion

- The Southern Wheatbelt Primary Health Service manages and delivers the Aboriginal Health services to the Southern Wheatbelt in collaboration with the Wheatbelt Aboriginal Health Service.

In 2009/10 there were 23,429 occasions of service for ambulatory type services in Narrogin (AOD pivot, 2011). This data should be used as a guide only, as there are often inconsistencies in recording community health activity.

Around 6% of the community health occasions of service were for Aboriginal residents, which is similar to the overall proportion of Aboriginal people living in the Southern Wheatbelt (5%).

There are several other not-for-profit and private providers in the district and region who provide primary health care services – refer chapter five health partners.

It is the intention that more service and funding partnership approaches will develop over time to address the health needs of the population identified in this plan.

### Community Aged Care Services

The Wheatbelt Regional Community Aged Care Program includes the following services:

- *Aged Care Assessment Teams (ACATs)* assess the care needs of the aged care client and refers them to community and residential aged care service providers. There is an ACAT team in Narrogin. In 2009, ACAT undertook an average of 15 assessments per month.
- The *Home and Community Care (HACC)* program which provides services such as domestic assistance, social support, nursing care, respite care, food services and home maintenance, which aims to support people who live at home and whose capacity for independent living is at risk of premature admission to long-term residential care.
- The *Older Patients initiative (OPI)* aims to reduce avoidable or premature admissions of older people to hospitals through early identification of people at risk, complex care coordination and provision of age friendly services.
- *Community Aged Care Packages (CACPs)* are funded by the Australian Government and are targeted at frail older people, aged 70 years and over (or 50 years and over for Aboriginal and Torres Strait Islander people), with complex care needs who wish to remain living in their own home. The CACP program support people who would otherwise be assessed as requiring a low level of residential care. The *Extended Aged Care at Home (EACH)* provides care for people who would otherwise be assessed as requiring a high level of residential care and the *Extended Aged Care at Home Dementia (EACHD)* program supports people who have complex high-care needs associated with their dementia
- *Residential care*, while provision of residential aged care is the responsibility of the Australian Government, the WACHS provides 'flexible care places' in some small towns where private aged care facilities are not viable. These are provided under a Multi-Purpose Service funding agreement.

Furthermore, geriatrician services are contracted through Fremantle Hospital for the Southern Wheatbelt. Geriatricians visit Narrogin ten times a year.

## Public Oral Health Care

Public adult dental care is unavailable locally to residents of the Southern Wheatbelt. However, public dental services for school children are available at dental therapy centres at a range of schools.

## Alcohol and other drug services

The community drug and alcohol service is provided by Holyoak as described in Section 5.4.

## Community Mental Health Services

Within the Southern Wheatbelt, community mental health services are coordinated from Narrogin but governed by WACHS Great Southern Mental Health Service.

The Great Southern Mental Health Service manages a Commonwealth funded primary mental health program (Rural Community Support Service) that implements collaboratively with many agencies. The Rural Community Support Service also is funded to deliver suicide prevention under the One Life Suicide Prevention Strategy. The Narrogin community mental health service is located on the hospital site and they provide in-reach services to the hospital. The majority of the work of the team is in the assessment and treatment of high risk, acutely unwell people with complex needs. The Narrogin mental health service also employs two advanced enrolled nurses in mental health that provide nursing care to admitted patients.

Department of Education school psychologists are also available across the district.

The community mental health activity provided by Narrogin is outlined below, but as with the community health data, this should be treated as a guide only.

Quantitative projected activity is unavailable however anecdotally the areas of reported greatest need for community mental health services are awareness raising, building resiliency programs, de-stigmatization programs and health promotion.

**Table 18: Narrogin Community Mental Service: Occasions of service (2007/08 - 2009/10)**

Community Mental Health	Occasions of service			% change (2007/08 – 2009/10)
	2007/08	2008/09	2009/10	
Narrogin	5,814	6,120	6,484	11%

Source: MHIS. Note this is indicative only.

### Recommendations for service reform - Primary health care services

#### Health promotion, allied health and oral health

- Support the development of a new Primary Care Service Team through SIHI for the Southern Wheatbelt area based in Narrogin. This includes a primary care coordination service and primary care nurse practitioner which will work collaboratively to focus on the following areas of need:
  - Employ a dedicated social worker to manage social and emotional wellbeing work, particularly for subacute care.

## Recommendations for service reform - Primary health care services

- Review the need for lactation consultancy in the Southern Wheatbelt.
- Provide an asthma educator for the Southern Wheatbelt.
- Provide a Southern Wheatbelt Diabetes Educator.
- Explore the need for audiology services
- Advance primary care nursing through a primary care nurse practitioner.
- Develop new and partnership focussed service delivery models and services for primary health care including:
  - Increase the focus on chronic disease management in the community and develop new models of care.
  - Increase the emphasis on health promotion and illness prevention to keep people well in the community.
  - Provide for more culturally appropriate and accessible outreach focused chronic disease prevention, screening and palliative care programs for Aboriginal people.
  - Redirect some inpatient allied health resource to community based allied health services.
  - Consider a community midwifery model of care for antenatal and postnatal care, especially for people who live in small communities.
  - Increase and improve collaborative working arrangements between WACHS Southern Wheatbelt Primary Care Team, Brookton NGO community health services and other primary health care focused providers to ensure a collaborative patient centred approach to care. This could include exploring funding and resource partnerships to enhance attraction and retention of allied health and nursing staff (e.g. combine two 0.5 FTE across agencies into 1.0 FTE).
  - Review what support and treatment services are available and needed to meet the needs of young people experiencing mental health and/or drug and alcohol problems, including capacity for mental health promotion and illness prevention.
  - In terms of child development, address the three priority areas for action identified by the region which include visiting specialist paediatrician services, audiology and clinical psychology.
- Establish District Inter-agency Primary Health Care planning forums.
- Increase capacity for continence management in Adults across the Southern Wheatbelt required (current capacity two days/week).
- Provide a two-chair public dental service, possibly located within the proposed ambulatory health care facility (funded as part of SIHI Stream 2) to address the high level of potentially preventable hospitalisations (refer to Section 4.0).

### **Aged care, Aboriginal health and chronic diseases**

- Ensure HACC Services are more culturally appropriate and flexible and promote these services to families. The employment of more Aboriginal staff and support workers and working with Aboriginal families to determine their needs would assist in this process.
- Provide aged care self-directed packages for an individual and/or family to purchase services that they require, similar to the Disability Services Model.

**Recommendations for service reform - Primary health care services**

- Expand the Older Persons Initiative across the Southern Wheatbelt with associated enhancements across the referral pathways.
- Community-based mental health / alcohol and other drugs**
- Explore opportunities to establish sustainable funding for primary mental health services (i.e. by securing a credentialled social worker that can deliver services under MBS ATAP)
  - Explore opportunities to utilise telehealth to access private psychiatrists from Metropolitan area.

**6.1.2 Same-day surgery**

Refer to Section 6.4.2.

**6.1.3 Outpatient Services**

**Current service model**

The following outpatient services are provided at Narrogin through visiting medical and surgical specialists:

- Respiratory specialists.
- Cardiologist for stress test ECG and echo cardiograms.
- Dermatologist.
- Ophthalmologist.
- Rheumatologist.
- Aged Care Assessment Team.
- Geriatrician and geriatrician services.
- Lactation consultant.
- Endocrinologist.
- Diabetes clinic for children.
- Audiology.
- Radiologists.
- Orthopaedic clinics.
- A range of nursing outpatient services (e.g wound care).

**Recommendations for service reform - Outpatient Services**

- Explore the options of utilising telehealth to improve access to specialist services if the number of visiting specialist appointments cannot be increased.
- Refer also to recommendations regarding priorities for visiting specialists listed under medical services (Section 6.4.1)

## 6.2 Emergency Services Profile

### Current service model

#### *Narrogin Hospital Clinical Services Framework role delineation – Level 3*

Level 3 emergency services should provide:

- Local GPs who are rostered to provide 24 hour cover, with services provided by a Registered Nurse (RN).
- Resuscitation and stabilisation.
- Access to visiting specialist services or by telehealth.

The Narrogin Hospital ED currently meets the *Clinical Service Framework* role delineation. The ED operates a nurse led model of care with a GP rostered 12 hours a day, 7 days a week (depending on activity of GP surgeries). This includes a resident surgeon who also participates in the emergency surgical roster.

The ED at Narrogin Hospital provides capacity for acute management and stabilisation of all forms of emergency illness including life threatening illnesses requiring immediate resuscitation and management of all traumas. The presence of a helipad onsite assists with the direct transfer of acutely ill patients.

There is no current fast track system at Narrogin. The GP surgery does allocate triage appointments on weekdays for emergencies and ED staff can book patients in.

Small hospitals in the Southern Wheatbelt operate nurse-led models of care with close on call support from local GPs.

### Activity summary

#### *Actual and projected activity*

- Table 19 outlines the historical and projected number of attendances to Narrogin Hospital's ED. The number of attendances to the ED has been steadily increasing each year.
- Since 2008/09, there has been a notable change in the proportion of total ED attendances within the triage categories, with the later years having a lower proportion in the less urgent triage categories. This may be a result of an operational change in the classification of patients into triage categories.
- At Narrogin Hospital 21% of attendances were recorded as being for an Aboriginal client. At other Southern Wheatbelt hospitals, the proportion of attendances by Aboriginal clients varied from 2% in Lake Grace to 28% in Kondinin.
- While it is projected that the number of ED attendances will increase by 43% between 2011/12 and 2021/22, the attendances projected for 2011/12 are 19% lower than those of 2009/10. This is because in the modelling the State ED triage rates are applied to the local population. The attendances for triage 5 categories are projected to decrease in line with what has been happening at a State level, which is consistent with the expected decrease as a result of the SIHI. The ED information will be remodelled in late 2011/12.

- While Emergency attendances to other Southern Wheatbelt hospitals are projected to increase by 14% between 2011/12 and 2021/22 again the projected activity for 2011/12 is lower than the actual 2009/10 (11% lower) and does not reach 2009/10 levels until 2021/22.

**Table 19: Southern Wheatbelt hospitals: Current and projected emergency Department presentations, by triage category (2008/09 – 2021/22)**

Hospital	2008/09 (actual)	2009/10 (actual)	2010/11 (actual)	2011/12 (projected)	2016/17 (projected)	2021/22 (projected)
<b>Narrogin</b>						
Triage 1	85	46	54	69	87	107
Triage 2	734	690	681	586	791	1,046
Triage 3	2,367	2,362	2,601	1,938	2,381	2,860
Triage 4	2,618	3,538	3,670	2,916	3,741	4,645
Triage 5	1,377	1,398	1,440	1,021	848	675
<b>Total</b>	<b>7,181</b>	<b>8,034</b>	<b>8,446</b>	<b>6,530</b>	<b>7,848</b>	<b>9,333</b>
<b>ED bays</b>	<b>4.6</b>	<b>4.8</b>	<b>5.1</b>	<b>4.0</b>	<b>4.9</b>	<b>5.9</b>
<b>Other Southern Wheatbelt Hospitals</b>						
Triage 1	22	29	29	20	27	35
Triage 2	165	213	275	130	175	234
Triage 3	640	706	921	566	700	844
Triage 4	1,917	2,094	2,374	2,212	2,824	3,492
Triage 5	3,545	3,302	2,746	2,718	2,282	1,842
<b>Total</b>	<b>6,289</b>	<b>6,344</b>	<b>6,345</b>	<b>5,645</b>	<b>6,008</b>	<b>6,447</b>
<b>ED bays</b>	<b>2.7</b>	<b>2.8</b>	<b>3.0</b>	<b>2.4</b>	<b>2.6</b>	<b>2.9</b>

Source (historic): WACHS online ED pivot, extracted August 2011;  
 Source (projections) WACHS ED Projections Pivot (Based on ABS Series B+)

Within the ED modelling the number of required treatment bays is estimated from the projected attendances in each of the triage categories using the benchmarks in Table 20. These benchmarks have also been applied to the historic activity above to give an indication of the number of ED bays.

**Table 20: Emergency department planning benchmarks**

Measure	Treatment Space	Benchmark	Source
ED attendances (all ages)	Fast Track	1/3000 yearly T4 and T 5 attendances	Adapted from Emergency Demand Treatment Space Calculator, The Advisory Board Company, 2009
	General ED	1/1000 yearly T 2 and T3 attendances	
	Trauma/Critical Care	1/500 yearly T1 attendances	

Source: WACHS Planning Team. Emergency department presentations, by age

The majority of ED presentations in the Southern Wheatbelt are by people aged 15 - 44 years, followed by those aged under 15 years (24%). Those aged over 65 years account for 14% of presentations.

**Table 21: Southern Wheatbelt hospitals: Emergency department activity, by age category (2010/11)**

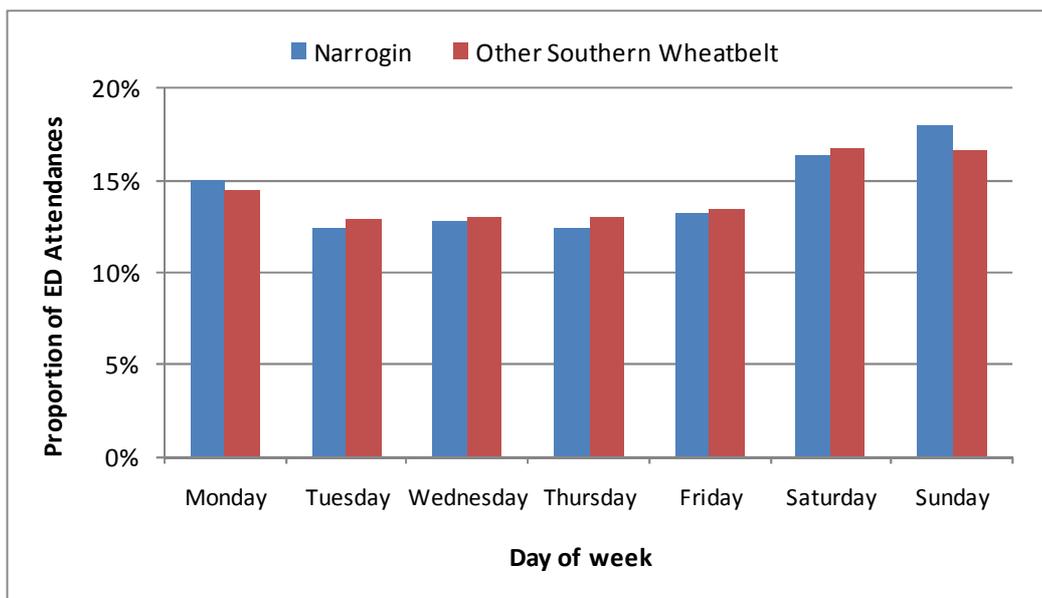
Hospital	0-14	15-44	45-64	65-84	85+	Total
Boddington	384	815	347	148	42	<b>1,736</b>
Dumbleyung	94	116	74	41	3	<b>328</b>
Kondinin	279	325	154	97	12	<b>867</b>
Lake Grace	167	279	157	82	5	<b>690</b>
Narrogin	2,012	3,538	1,753	945	198	<b>8,446</b>
Pingelly	278	364	268	163	23	<b>1,096</b>
Wagin	341	521	426	270	70	<b>1,628</b>
<b>Total</b>	<b>3,555</b>	<b>5,958</b>	<b>3,179</b>	<b>1,746</b>	<b>353</b>	<b>14,791</b>

Source: WACHS online ED pivot, extracted 12th September 2011

### Actual day and time of attendances

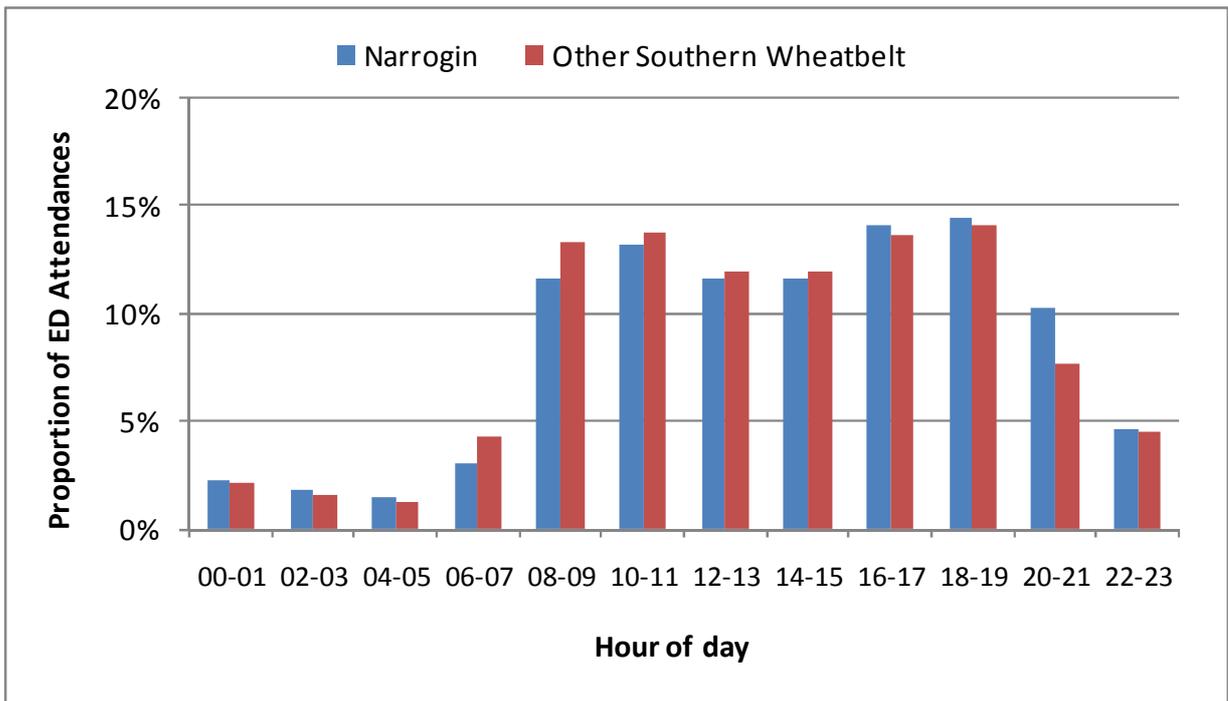
As shown in the following Figures Narrogin Hospital and the other Southern Wheatbelt hospitals show similarities in regards to the weekday and time of day that people attend to the Southern Wheatbelt EDs. One in three attendances occurs over the weekend. Three in five attendances occur between 8am and 6pm, with peak times being between 8am and 11am and 4pm and 7pm.

**Figure 10: Proportion of emergency department attendances by day of week (2009/10)**



Source: WACHS online Emergency Department pivot, extracted 2nd June 2011

**Figure 11: Proportion of emergency department attendances by hour of day (2009/10)**

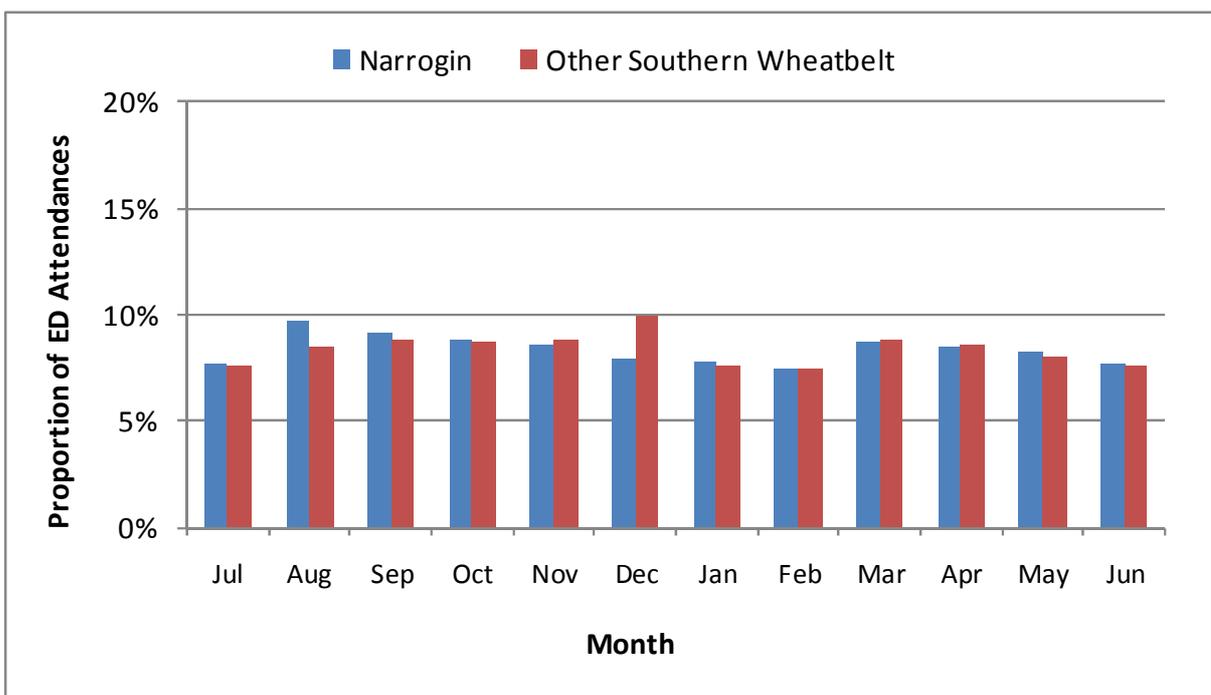


Source: WACHS online emergency department pivot, extracted 2nd June 2011

### Actual month of attendances

There is little seasonal variation shown in the ED attendances at Narrogin and other Southern Wheatbelt hospitals.

**Figure 12: Proportion of emergency department attendances by month of year (2009/10)**



Source: WACHS online emergency department pivot, extracted 2nd June 2011

### Actual mental health ED attendances, including alcohol and other drugs

- Since 2007/08, 3% to 5% of all attendances to the Narrogin ED and 2% of attendances to the other Southern Wheatbelt hospitals were classified as 'mental health or alcohol/drug' (WACHS Online ED Pivot, 2 June 2011).
- In 2009/10 'alcohol/drug (only)' accounted for around 15% of the mental health and alcohol/drug ED attendances at Narrogin Hospital and 22% of ED attendances at other Southern Wheatbelt hospitals (WACHS Online ED Pivot, 2 June 2011).

### Recommendations for service reform - Emergency Services

- According to the WA Health's *Clinical Services Framework*, the role delineation for ED services at Narrogin Hospital will remain as Level 3 (Department of Health, 2010a).
- Disaster preparedness services to increase from Level 3 to 4 by 2014/15. The detailed descriptions for each level are outlined in the *Clinical Services Framework* (Department of Health, 2010a).
- Provide 24/7 medical coverage to the ED and meet emergency surgical services (as per SIHI Stream 1), by providing the resources from SIHI.
- Clarify and confirm the ED 24/7 model of care (Stream 1 SIHI) including:
  - Clarifying the role of a nurse practitioner in emergency care.
  - Determining the care pathways for emergency services that are consistent with the District network model.
  - Identifying strategies to separate ambulatory care cases from the ED - moving outpatients and visiting specialist to the new Ambulatory Health Care Centre.
- Participate actively in the Clinical Coordination Project to improve clinical coordination; consultation and advice from metropolitan emergency specialists; and intra-regional coordination and clinical governance for emergency care.
- Implement training for GPs, staff and other stakeholders to meet changes to emergency services models of care.
- Facilitate access of all stakeholders to emergency services training.
- Establish electronic integrated medical records across all sites.
- Introduce telehealth and eHealth services to increase access to supervision, assessment and training (e.g. videoconferencing for RuralLink).
- Introduce workforce reform initiatives to sustain service delivery as per Section 7.1.

## 6.3 Inpatient Services Profile

### 6.3.1 District Current Activity Overview

Table 22: Southern Wheatbelt hospitals: Health activity summary

Category	Narrogin	Boddington	Dumbleyung	Kondinin	Lake Grace	Pingelly	Wagin
<b>EMERGENCY DEPARTMENT (2010/11)</b>							
Number of treatment bays	4	2	1	2	1	2	2
Emergency Department Attendances	8,034	1,736	328	867	690	1,096	1,628
<b>RESIDENTIAL AGED CARE as at 31/11/2011</b>							
Number of active residential beds (low & high care)	0	5	4	4	4	10	6
<b>ACUTE INPATIENT CARE (2009/10)</b>							
Number of active acute multiday beds	30	3	0	4	4	5	12
Total multiday separations	1,852	100	0	77	80	54	273
Total multiday bed-days	6,082	824	0	269	406	393	1,583
Average multi day Bed Occupancy	16.7	2.3	0.0	0.7	1.1	1.1	4.3
Number of active same-day beds	14	-	-	-	-	-	-
Total same-day separations	831	22	0	17	19	20	24
Total same-day bed-days	831	22	0	17	19	20	24
Average Same-day bed occupancy	2.3	-	-	-	-	-	-
Total separations	2,683	122	0	94	99	74	297
Total bed days	6,913	846	0	286	425	413	1,607
Average bed occupancy	18.9	2.3	0.0	0.8	1.2	1.1	4.4
Average Multiday Length of Stay	3.3	8.2	0	3.5	5.1	7.3	5.8
Public Acute Self Sufficiency (All SWHD Hospitals)	58%						

*Inpatient data excludes boarders, unqualified neonates and residents. Also excludes Nursing Home Type patients with bed-days greater than 180 days at separation. Average bed occupancy is derived by bed-days/365.*

*Source: WA Hospital Morbidity Data System, via Clinical Activity Modelling Unit*

### 6.3.2 Supply of acute inpatient services from Southern Wheatbelt hospitals

Narrogin Hospital provides a range of inpatient and ambulatory emergency, medical, surgical, obstetric, paediatric and mental health services to its catchment population and supports an integrated network of services at six smaller hospital sites.

There were 3,369 separations from all WACHS Southern Wheatbelt hospitals in 2009/10, as shown in the following Table. Nine in ten (2,993) of these separations involved residents of the Southern Wheatbelt. The majority of separations were from Narrogin Hospital (80%). Dumbleyung had no separations as it does not accept inpatient admissions.

**Table 23: Southern Wheatbelt hospitals: Total separations (supply of acute services) for residents and non-residents (2009/10)**

Hospital	Separations, by Resident Location (2009/10)					Total 2009/10	% of Total Separations
	Coastal Wheatbelt	Eastern Wheatbelt	Western Wheatbelt	Southern Wheatbelt	Other localities		
Narrogin	0	99	45	2,384	155	2,683	80
Boddington	0	0	0	99	23	122	3
Dumbleyung	0	0	0	0	0	0	0
Kondinin	0	<5	<5	81	8	94	3
Lake Grace	0	0	0	79	20	99	3
Pingelly	0	0	0	73	<5	73	2
Wagin	0	0	0	277	20	297	9
<b>Total</b>	<b>0</b>	<b>99</b>	<b>45</b>	<b>2,993</b>	<b>226</b>	<b>3,369</b>	<b>100</b>

*Note: Excludes boarders, unqualified neonates and residents. Also excludes Nursing Home Type patients with bed-days greater than 180 days at separation.*

*Source: WA Hospital Morbidity Data System, via Clinical Activity Modelling Unit*

### 6.3.3 Where do residents of Southern Wheatbelt go for acute inpatient treatment?

In 2009/10, 7,233 separations from all WA private and public hospitals involved residents of the Southern Wheatbelt.

Of these separations:

- 41% (2,993) were from hospitals within this health district:
- 1% (43) were from other Wheatbelt health district hospitals;
- 24% (1,767) were from public metropolitan hospitals; and
- 28% (2,051) were privately treated (2% were privately treated in rural facilities and 27% were privately treated in metropolitan facilities).

The data is presented in the next Table.

Table 24: Southern Wheatbelt residents: Total inpatient separations at all public and private WA hospitals (2009/10)

Area	Hospital	Residents' Total Separations 2009/10	% of Total Public & Private Separations	% of Total Public Separations
<b>WACHS Southern Wheatbelt</b>	Boddington	99	1.4	1.9
	Dumbleyung	0	0.0	0.0
	Kondinin	81	1.1	1.6
	Lake Grace	79	1.1	1.5
	Narrogin	2,384	33.0	46.0
	Pingelly	73	1.0	1.4
	Wagin	277	3.8	5.3
<b>Sub-total (WACHS – Southern Wheatbelt)</b>		<b>2,993</b>	<b>41.4</b>	<b>57.8</b>
<b>Other Wheatbelt District</b>	All	43	0.6	0.8
<b>Other WACHS Regions</b>	All	379	5.2	7.3
<b>Sub-total ( WACHS)</b>		<b>3,415</b>	<b>47.2</b>	<b>65.9</b>
<b>SMAHS</b>	Armadale	133	1.8	2.6
	Fremantle	177	2.4	3.4
	Other	48	0.7	0.9
	PHC	50	0.7	1.0
	RPH	325	4.5	6.3
	RPH Rehab	40	0.6	0.8
<b>Sub-total (SMAHS)</b>		<b>773</b>	<b>10.7</b>	<b>14.9</b>
<b>NMAHS</b>	Graylands	15	0.2	0.3
	Joondalup	26	0.4	0.5
	KEMH	120	1.7	2.3
	Other	37	0.5	0.7
	SCGH	399	5.5	7.7
	Swan	38	0.5	0.7
<b>Sub-total (NMAHS)</b>		<b>635</b>	<b>8.8</b>	<b>12.3</b>
<b>CAHS</b>	All	186	2.6	3.6
<b>Contracted Metro</b>	All	173	2.4	3.3
<b>Sub-total (metro)</b>		<b>1,767</b>	<b>24.4</b>	<b>34.1</b>
<b>Total Public*</b>		<b>5,182</b>	<b>71.6</b>	<b>100.0</b>
<b>Private</b>	Metro	1,931	26.7	
	Rural	120	1.7	
<b>Total (Private and Public)</b>		<b>7233</b>	<b>100</b>	

Excludes boarders, unqualified neonates and residents. Also excludes Nursing Home Type patients with bed-days greater than 180 at separation.  
Includes public patients in private hospitals.

Source: WA Hospital Morbidity Data System, via Clinical Activity Modelling Unit

### 6.3.4 Self-sufficiency

'Self-sufficiency' is a calculation used to identify the proportion of acute separations (admissions) required by the residents of a district that are treated locally by that district's hospitals. It is an indicator of the hospital(s) capacity to provide acute care closer to home. Due to the level of remoteness and availability of onsite specialists, a country health service will never achieve 100% self-sufficiency. Highly acute and complex patients will continue to be transferred to Perth where more specialised services and medical equipment are located.

As shown in Table 24 and Table 25, out of the 5,182 public health care separations involving Southern Wheatbelt residents in 2009/10, 2,993 of them were treated in a Southern Wheatbelt hospital (58%). This has slightly decreased from 62% in 2005/06.

**Table 25: Southern Wheatbelt hospitals: Public self-sufficiency (2005/06 - 2009/10)**

Public self sufficiency – Southern Wheatbelt hospitals				
2005/06	2006/07	2007/08	2008/09	2009/10
62%	62%	59%	56%	58%

*Excludes boarders, unqualified neonates and residents. Also excludes Nursing Home Type patients with bed-days greater than 180 at separation. Source: WA Hospital Morbidity Data System, via Clinical Activity Modelling Unit Patient transfers*

### 6.3.5 Patient satisfaction at Narrogin Hospital

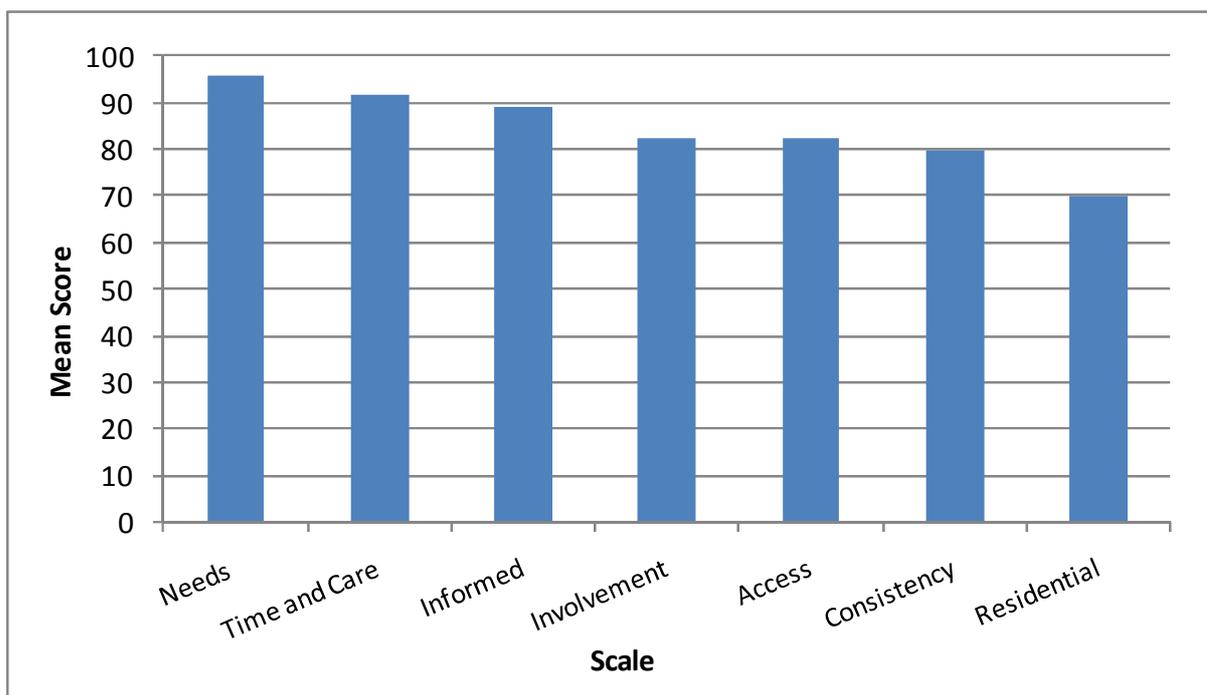
In 2009/10 a sample of adult patients who had stayed less than 35 nights at Narrogin Hospital completed a patient satisfaction survey. The answers to the survey have been grouped into themes (scales) that represent how the patients rated the hospital on a particular aspect of health service.

The following items were measured:

- Needs Scale: Meeting personal as well as clinical needs
- Time and Care Scale: Time and attention paid to patient care
- Informed Scale: Information and communication
- Involvement Scale: Involved in decisions about your care and treatment
- Access Scale: Getting into hospital
- Consistency Scale: Continuity of care
- Residential Scale: Food and residential aspects

As shown in the next figure, the Needs and Time and Care scales were rated the highest (above 90), while the Residential scale was rated the lowest (70). Overall patients were satisfied with their hospital stay and its outcome.

**Figure 13: Narrogin Hospital: Patient satisfaction mean scale scores, adults staying 0-34 nights (2009/10)**



Source: Patient Evaluation of Health Services (Epidemiology Branch)

**Note:** this scale score does not represent the percentage of patients satisfied with the service.

### 6.3.6 Length of stay performance

#### Narrogin Hospital

WA Health is now using an activity based funding (ABF) and management (ABM) system. Within the ABF, inpatient separations with a length of stay between one-third and three times the WA average length of stay (known as the central episode) for a DRG will be funded at the same price. This funding mechanism means that separations within the central episode that have a length of stay greater than the average will tend to cost the hospital more than the payment they receive and those with less are an opportunity to save money which can be reinvested in other services.

Separations with a length of stay greater than three times the WA average are regarded as being over the high boundary of the central episode (outlier episodes of care). These high boundary separations are of particular interest from a safety and quality perspective and in the ABF/M as they are more likely to have adverse events associated with them.

In 2009/10 there were 90 separations at Narrogin Hospital that had a length of stay that was greater than three times the WA average. These 90 separations resulted in 299 *bed-days* (0.8 beds) of over boundary stay.

Within the service planning the models of care and hospital processes, such as admission and discharge, will also need to be considered within the context of how they impact on the average length of stay.

## 6.4 Inpatient services profile

Inpatient services at Narrogin Hospital include medical, surgical, maternity, paediatric, palliative care and mental health services. Rostered GPs at Narrogin Hospital cover the acute inpatient admission and services as required. The current service model and activity are outlined in the following Sections.

### Activity summary

Prior to interpreting the data please read the assumptions of the data collected below.

#### *Wheatbelt Assumptions for Projected Activity, 2011*

Future inpatient activity projections were remodelled in late 2011 by the Department of Health Clinical Modelling Unit, the WACHS Planning Team and the region. The updated modelling was based on the following assumptions:

- An increase in the relative utilisation of renal dialysis to account for people moving to receive their dialysis care.
- An increase in the public self-sufficiency of renal dialysis (to 95%), in line with the WACHS renal plan. In the Southern Wheatbelt the renal dialysis service will operate at Narrogin Hospital with four chairs.
- An increase in the public self-sufficiency for chemotherapy (to 75%), in line with the WACHS cancer plan.
- An increase in the public self-sufficiency of select ESRGs, in line with the role delineation of the hospitals.

The specific inpatient service areas are analysed in greater detail in the following sections.

#### *Current and projected activity*

- As shown in the next table, the separations at Narrogin Hospital are projected to more than double between 2009/10 and 2021/22. The bed-days are projected to increase at a slower rate, as a result of the increase in the proportion of same-day separations in the future.
- The introduction of renal dialysis at Narrogin accounts for 1,067 (41%) of the 2021/22 activity.
- The separations at the smaller Southern Wheatbelt hospitals are also projected to nearly double.
- The inpatient activity at Narrogin Hospital and other Southern Wheatbelt hospitals are broken down by medical, surgical, obstetrics, paediatrics and palliative care in subsequent sections of this service plan.

**Table 26: Southern Wheatbelt hospitals: Actual and projected inpatient separations (2009/10–2021/22)**

Hospital	2007/08 (actual)	2008/09 (actual)	2009/10 (actual)	2012/13 (projected)	2016/17 (projected)	2021/22 (projected)	% growth (2009/10 - 2021/22) (projected)
<b>Narrogin</b>							
Sameday	686	819	831	1,023	2,016	2,573	210%
Multiday	1,798	1,766	1,852	1,840	1,923	2,053	11%
<b>Total</b>	<b>2,484</b>	<b>2,585</b>	<b>2,683</b>	<b>2,863</b>	<b>3,938</b>	<b>4,627</b>	<b>72%</b>
<b>Other</b>							
Sameday	130	118	102	117	137	178	75%
Multiday	616	627	584	574	594	638	9%
<b>Total</b>	<b>746</b>	<b>745</b>	<b>686</b>	<b>691</b>	<b>732</b>	<b>816</b>	<b>19%</b>

*Excludes boarders, unqualified neonates and residents. Also excludes Nursing Home Type patients with bed-days greater than 180 days at separation.*

*Source (actual): WA Hospital Morbidity Data System, via Clinical Activity Modelling Unit*

*Source (projections): WACHS Inpatient 2011 Modelling– based on ABS Series B+*

*Includes 793 renal dialysis separations in 2016/17 and 1,067 in 2021/22. Beds for renal dialysis is based on a 170% occupancy.*

**Table 27: Southern Wheatbelt hospitals: Actual and projected inpatient bed-days and bed requirements (2009/10–2021/22)**

Hospital	2009/10 (actual)		2012/13 (projected)		2016/17 (projected)		2021/22 (projected)	
	Beddays	Occupied Beds	Beddays	Occupied Beds	Beddays	Occupied Beds	Beddays	Occupied Beds
<b>Narrogin</b>								
Sameday	831	2.3	1,023	2.8	2,016	6.8	2,573	8.8
Multiday	6,082	16.7	7,190	19.7	7,459	20.4	7,939	21.8
<b>Total</b>	<b>6,913</b>	<b>18.9</b>	<b>8,213</b>	<b>22.5</b>	<b>9,474</b>	<b>27.2</b>	<b>10,512</b>	<b>30.5</b>
<b>Other</b>								
Sameday	102	0.3	117	0.3	137	0.4	178	0.5
Multiday	3,475	9.5	3,463	9.5	3,607	9.9	3,837	10.5
<b>Total</b>	<b>3,577</b>	<b>9.8</b>	<b>3,580</b>	<b>9.8</b>	<b>3,745</b>	<b>10.3</b>	<b>4,015</b>	<b>11.0</b>

*Excludes boarders, unqualified neonates and residents.*

*Source (2009/10): WA Hospital Morbidity Data System, via Clinical Activity Modelling Unit*

*Source (projections): WACHS Inpatient 2011 Modelling– based on ABS Series B+*

*Includes 793 renal dialysis separations in 2016/17 and 1,067 in 2021/22. Beds for renal dialysis is based on a 170% occupancy.*

### Inpatient activity, by age group

- As shown in Table 28, around two in five separations at Narrogin Hospital involved individuals aged between 15 to 44 year olds, while 6% were aged 85 years and over (171 separations).
- At the smaller Southern Wheatbelt hospitals, 283 (41%) of inpatient separations involved individuals aged over 65 years (refer to Table 29).

**Table 28: Narrogin Hospital: Inpatient separations, by age group (2009/10)**

Stay Type	Inpatient Separations					
	0-14 yrs	15-44 yrs	45-64 yrs	65-84 yrs	85+ yrs	Total
Sameday	42	254	299	217	19	831
Multiday	160	776	379	385	152	1,852
<b>Total</b>	<b>202</b>	<b>1,030</b>	<b>678</b>	<b>602</b>	<b>171</b>	<b>2,683</b>

*Excludes boarders, unqualified neonates and residents. Also excludes Nursing Home Type patients with bed-days greater than 180 at separation.*

*Source: WA Hospital Morbidity Data System, via Clinical Activity Modelling Unit*

**Table 29: Other Southern Wheatbelt hospitals: Inpatient separations, by age group (2009/10)**

Hospital	Inpatient Separations					
	0-14 yrs	15-44 yrs	45-64 yrs	65-84 yrs	85+ yrs	Total
Boddington	n/a	33*	29	46	14	122
Kondinin	8	32	28	19	7	94
Lake Grace	6	35	20	31	7	99
Pingelly	n/a	21*	18	22	13	74
Wagin	29	71	74	72	52	298
<b>Total</b>	<b>49</b>	<b>186</b>	<b>169</b>	<b>190</b>	<b>93</b>	<b>687</b>

*\*Numbers of children were too small to report (<5) so have been included in the 15-44 year olds.*

*Excludes boarders, unqualified neonates and residents. Also excludes Nursing Home Type patients with bed-days greater than 180 at separation.*

*Source: WA Hospital Morbidity Data System, via Clinical Activity Modelling Unit*

### Inpatient activity, by Aboriginality

- Aboriginal people were over-represented in the 2009/10 inpatient separations at Narrogin Hospital. Whilst Aboriginal people account for 5% of the population, 10% (273) of inpatient separations involved Aboriginal people.
- Aboriginal people were also over-represented in the 2009/10 separations at Wagin Hospital, accounting for nearly 20% of separations, but only 5% of the population<sup>2</sup> (Table 31).

<sup>2</sup> Aboriginal population information taken from Epidemiology Branch Rates Calculator, 25<sup>th</sup> August 2011.

**Table 30: Narrogin Hospital: Inpatient separations, by Aboriginality (2009/10)**

Inpatient Separations		
Aboriginal people	Non-Aboriginal people	Total
273	2,410	2,683

*Excludes boarders, unqualified neonates and residents. Also excludes Nursing Home Type patients with bed-days greater than 180 at separation.*

*Source: WA Hospital Morbidity Data System, via Clinical Activity Modelling Unit*

**Table 31: Other Southern Wheatbelt hospitals: Inpatient separations, by Aboriginality (2009/10)**

Inpatient Separations				
Hospital	Aboriginal people	Non-Aboriginal people	Total	% Aboriginal people
Boddington	5	117	122	4%
Kondinin	13	81	94	14%
Lake Grace*	<5	n/a	99	n/a
Pingelly	8	66	74	11%
Wagin	55	243	298	18%

\*Numbers were too small to report (<5).

*Excludes boarders, unqualified neonates and residents. Also excludes Nursing Home Type patients with bed-days greater than 180 at separation.*

*Source: WA Hospital Morbidity Data System, via Clinical Activity Modelling Unit*

## 6.4.1 Medical services profile (Adult)

### Current service model

#### *Narrogin Hospital Clinical Services Framework role delineation – Level 3*

Level 3 medical services should provide:

- 24/7 on-call by GP or visiting medical practitioner.
- 24 hour cover by a Registered Nurse.
- GP inpatient care.
- Outpatient care by general physician or visiting general medicine specialist or via telehealth.
- Access to some allied health services.

Narrogin currently achieves this broad *Clinical Services Framework* role delineation. Medical services to Narrogin Hospital are provided by the local GPs, and a range of visiting medical specialists or via telehealth and provide the following services:

- Medical.
- Post natal and antenatal care.
- Paediatric inpatient.
- Non-acute.
- Drug and alcohol.
- Mental health.
- Palliative care.
- Medical imaging.
- Stress ECG.
- Cardiology.
- Respiratory.
- Rheumatology.
- Dermatology
- Cancer services – including some low level chemotherapy.

## **Activity summary**

### *Current and Projected Activity (Adult)*

- The activity for inpatient medical services in Narrogin for patients aged 15 and over, is outlined in the following table. The data excludes activity that is categorised as paediatrics, mental health, obstetrics and palliative care, as these service areas are presented in subsequent sections.
- There has been a 5% increase in medical separations involving individual aged 15 years and over at Narrogin Hospital between 2007/08 and 2009/10. This has been driven by an increase in same-day activity.
- The number of medical separations involving individuals 15 years and over to Narrogin is anticipated to more than double in future years. The majority of this increase is due to the introduction of renal dialysis separations at Narrogin (1,067 in 2021/22).
- Medical activity of children (aged under 15 years) is included within Section 6.4.4.

**Table 32: Southern Wheatbelt hospitals: Actual and projected adult medical service separations, 15 years and over (2007/08 – 2021/22)**

Hospital	Historical			Projected		
	2007/08	2008/09	2009/10	2012/13	2016/17	2021/22
<b>Narrogin</b>						
Sameday	186	225	230	346	1,222	1,602
Multiday	895	817	904	914	969	1,063
<b>Total</b>	<b>1,081</b>	<b>1,042</b>	<b>1,134</b>	<b>1,260</b>	<b>2,191</b>	<b>2,665</b>
<b>Other</b>						
Sameday	100	95	87	100	119	157
Multiday	504	512	471	464	481	518
<b>Total</b>	<b>604</b>	<b>607</b>	<b>558</b>	<b>564</b>	<b>600</b>	<b>674</b>

*Excludes unqualified neonates and boarders.*

*Source (historic): Hospital Morbidity Data System via Clinical Activity Modelling Unit*

*Source (projections): WACHS Inpatient 2011 Modelling– based on ABS Series B+*

### Recommendations for service reform - Medical Services

- Under the *Clinical Services Framework*, the role delineation for the majority of medical services at Narrogin Hospital will remain at Level 3 to 2020, except for:
  - renal dialysis which will be a new Level 4 service by 2014/15 (refer to Section 6.1.1); and
  - medical oncology which will increase from a Level 2 to a Level 4 service by 2014/15 due to the increased availability of chemotherapy.
- As per Stream 1 of SIHI, prioritise needs allocating the SIHI resources for visiting medical specialist(s). Expanding public patient access to visiting specialists could be achieved through Public and Private Partnerships and might include one or more of any of the following areas of identified need: Ear, Nose and Throat (ENT) services, ophthalmology, General Surgeon, anaesthetics, General Physician, psychiatry, paediatrician, psychogeriatrician, gerontology, oncologist, orthopaedics, rheumatologist, gynaecology, obstetrician and plastic surgery.
- According to the *Clinical Services Framework* and *Renal Dialysis Plan*, there will be Level 4 renal services at Narrogin Hospital by 2014/15. This means Narrogin will provide:
  - Four-chair general hospital-based satellite service.
  - Visiting specialist or general physician with nephrology skills.
  - More complicated cases.
  - Assessment services.
  - Specialist RN.
  - Access to designated allied health services.
  - Outreach support for home dialysis.
  - Some allied health undergraduate education.
  - Other strategies as directed by the WACHS Renal Dialysis Plan (2010).

## Recommendations for service reform - Medical Services

- The *WACHS Cancer Services Plan 2011* and the *WA Health Clinical Services Framework* recommends the role delineation for medical oncology services increase from a Level 2 to a Level 4 service at Narrogin Hospital by 2014/15 which means they will offer:
  - Three-chair low risk chemotherapy service for four most common cancers and palliative patients.
  - Specialist Registered Nurse in the region who links with relevant tumour specific Cancer Nurse Coordinator (CNC) and treating facility for care coordination.
  - Inpatient care by a resident general physician.
  - 24 hour cover by a Registered Nurse.
  - Outpatient care by resident general physician and visiting medical oncologist with support via telehealth.
  - Outpatient consultation by visiting medical oncologist on regular basis with tertiary facility support for complications.
  - Links with radiotherapy, palliative care and pain management services.
  - Chemotherapy shared care with the tertiary facilities for common cancers with more complex needs.
  - Multidisciplinary case conferencing with tumour specific specialist for all patients.
  - Access to designated allied health services and allied health undergraduate education.
- Integrate patient flow for renal dialysis and chemotherapy from small hospitals to Narrogin.
- Assess opportunities to treat more patients locally.
- Introduce hospital in the home initiatives to reduce admissions to acute services, including:
  - Increasing resources to enable more timely Aged Care Assessments in the hospitals and community.
  - Improve how WACHS support people to be discharged home earlier and prevent readmission through better use of technology.
- Reduce preventable hospitalisations and readmission through a Chronic Disease Management Program.
- Work with metropolitan hospitals to improve the discharge system (from metropolitan to country health services) to enhance the continuum of care and ensure optimal health is needed.
- Advocate to the Department of Health WA and WACHS Area Information Services to establish shared electronic medical records
- Expand clinical services by the increased use of telehealth technology to provide care such as patient assessment closer to home and reduce unnecessary patient transfer.
- Introduce workforce reform initiatives to sustain service delivery as per Section 7.1.

## 6.4.2 Surgical services profile (Adult)

### Current service model

#### *Narrogin Hospital Clinical Services Framework role delineation – Level 3*

Level 3 surgical services should offer:

- Surgery by GPs, general surgeons and visiting sub-specialists.
- Broad range of day and general surgery and some specialty surgery.
- Emergency surgery.
- Theatre trained nurses.
- More than one theatre.
- Access to designated allied health services.
- Some allied health undergraduate education.
- 24 hour cover by a Registered Nurse.
- Outpatient care.

Narrogin is one of four Integrated District Health Services that provide acute surgical services within the Wheatbelt Region. Its current service delivery model achieves the *Clinical Services Framework* role delineation but it is fragile given the recent retirement of the local resident general surgeon. If the region is unsuccessful in obtaining additional GP proceduralists, given the very limited availability of this workforce, Narrogin would have great difficulty in sustainably and reliably achieving this role delineation. Alternatives would need to be considered such as increasing visiting specialist lists, transferring out where necessary or using more telehealth outpatient services. The region will also work towards nurse lead models of care primary health and chronic disease management with the implementation of the Nurse Practitioner workforce. Identification of opportunities for proceduralist Nurse Practitioners roles over the next few years will enhance the opportunities to meet customer demands for care closer to home. The Nurse Practitioner is not a substitute model for the GP proceduralist's service, rather, a service model in its own right.

Narrogin is the only hospital in the Wheatbelt Region with a 24 hour GP anaesthetic roster and 24 hour cover by a registered nurse. A resident surgeon and visiting surgical specialists ensure theatres operate four days per week catering for overnight and same-day procedures. The Central Sterilising Services Department (CSSD) operates five days per week, offering equipment and services to others including local dentists.

Smaller hospitals can do simple procedures such as removal of lesions otherwise people go to Narrogin for more complex surgery and care. Post-operative care is also provided in small hospitals either inpatient admission or as outpatient.

All eye surgeries are referred to Bunbury and bariatric surgeries are redirected to Perth.

## Activity summary

### Current and projected activity (adult)

- The multiday and same-day surgical activity for 15 years and over at Narrogin is outlined below. Surgical activity has remained steady between 2007/08 and 2009/10, while procedural activity has increased, particularly for same-day activity.
- It is projected that the number of same-day surgical separations for 15 year olds and over at Narrogin Hospital will increase by 44% between 2012/13 and 2021/22. Procedural activity is projected to increase at Narrogin Hospital between 2012/13 and 2021/21, with same-day increasing more than multiday.

**Table 33: Southern Wheatbelt hospitals: Actual and projected adult surgical and procedural\* separations, 15 years and over (2007/08 – 2021/22)**

Hospital	Historical			Projected		
	2007/08	2008/09	2009/10	2012/13	2016/17	2021/22
<b>Narrogin</b>						
Sameday surgical	121	144	125	144	168	208
Multiday surgical	218	220	205	212	225	237
<b>Total surgical</b>	<b>339</b>	<b>364</b>	<b>330</b>	<b>356</b>	<b>393</b>	<b>445</b>
Sameday procedural	283	360	373	418	491	605
Multiday procedural	49	61	44	44	47	50
<b>Total procedural</b>	<b>332</b>	<b>421</b>	<b>417</b>	<b>462</b>	<b>538</b>	<b>656</b>
<b>Other</b>						
Surgical/procedural	<5	<5	<5	4	5	5

\* Procedural includes scopes, dental extractions and restorations

Source (historic): Hospital Morbidity Data System via Clinical activity modelling

Source (projections): WACHS Inpatient 2011 Modelling– based on ABS Series B+

## Recommended strategies for service reform

### Recommendations for service reform - Surgical Services

- Under the *Clinical Services Framework*, the role delineation for surgical services at Narrogin Hospital is proposed to increase from Level 3 to 4 for 'general surgical services' and 'burns' by 2014/15. All other surgical services remain at Level 3 role delineation to 2020.
- Explore options to increase elective surgery at Narrogin Hospital and/or District by reviewing the central waitlist postcodes to ensure people can be offered surgery in their local community.
- Attract a medical workforce to provide surgical services and participate on an on-call 24/7 roster. Priorities include GP surgeon, anaesthetist and obstetrician.
- Recruit and retain theatre staff to provide 24/7 care.
- Recruit visiting specialists (e.g. ENT, orthopaedics, urology and ophthalmology).

## Recommendations for service reform - Surgical Services

- Implement a Nurse Practitioner proceduralist model.
- Provide equipment and facilities to support visiting specialists and their support teams when appropriate.
- Promote new Medicare items to support use of telehealth.
- Promote Southern Wheatbelt surgical services to all GP practices and district hospitals.
- Introduce workforce reform initiatives to sustain service delivery as per Section 7.1.
- Advocate to the Department of Health WA and WACHS Area Information Services to establish shared electronic medical records.
- Utilise telehealth for post-operative care to occur more often and reduce the need for patient transport.

### 6.4.3 Obstetric Services

#### Current service model

##### *Narrogin Hospital Clinical Services Framework role delineation – Level 3*

Level 3 obstetric services should provide:

- Elective and emergency caesarean capability.
- 24 hour anaesthetic service.
- Visiting obstetrician.
- Access to some allied health services.
- Service by GPs/GP obstetricians/District Medical Officers (DMO) and midwives.
- Access to 24 hour telephone support from obstetricians.
- Access to e-health or telehealth.
- Onsite level 1 neonatal facilities.

Within the Southern Wheatbelt, obstetric services are only provided at Narrogin Hospital. There is no capacity for deliveries at the smaller hospitals across the Southern Wheatbelt. The majority of emergency maternity referrals in the Wheatbelt are referred to Narrogin as it is the only facility in the region with the capacity to perform emergency caesareans. This enables Narrogin to achieve its role delineation except at weekends or when local GPs or the resident surgeon take leave.

However, if Narrogin is unsuccessful in obtaining additional GP anaesthetic services, given the very limited availability of this workforce, it would have great difficulty in sustainably and reliably achieving this role delineation. Alternatives would need to be considered such as increasing visiting specialist lists, transferring out where necessary or using more telehealth outpatient services. The region will work towards a Nurse Practitioner proceduralist

model over the next few years. This model will not be a substitute model for the GP anaesthetist service, rather, be a service model in its own right.

All planned high risk deliveries for Southern Wheatbelt residents are transferred to Perth metropolitan hospitals (i.e. Armadale or King Edward Memorial Hospital).

In terms of antenatal care, there is an antenatal education program at Narrogin conducted by a multidisciplinary team consisting of a physiotherapist, child health nurse, dietician, midwife and visiting lactation consultant from Kaleeya Hospital (two - three days/month). This is conducted for all expectant mothers.

An extended antenatal care program for Aboriginal mothers also exists which extends to the smaller Southern Wheatbelt towns.

Antenatal screening for depression is also available and referrals are made to mental health services and/or private psychologist services where necessary. A postnatal care education and new mothers group is also coordinated.

The Maternity Unit at Narrogin Hospital also has a self-contained flat where prospective fathers can stay during their partner's hospitalisation.

## Activity summary

### Current and projected activity

- There were 265 separations from Narrogin Hospital for maternity services in 2009/10. This includes 173 deliveries.
- At Narrogin Hospital the actual obstetric activity has decreased slightly (12%) between 2007/08 and 2009/10, but is projected to increase between 2012/13 and 2021/22.

**Table 34: Southern Wheatbelt hospitals: Actual and projected obstetric service deliveries and separations (2007/08 – 2021/22)**

Hospital	Historical			Projected		
	2007/08	2008/09	2009/10	2012/13	2016/17	2021/22
<b>Narrogin</b>						
Deliveries	182	153	173	171	179	193
Ante-natal/Post-natal	119	107	92	86	91	86
<b>Total</b>	<b>301</b>	<b>260</b>	<b>265</b>	<b>257</b>	<b>270</b>	<b>279</b>
<b>Other</b>						
<b>Total</b>	<b>11</b>	<b>9</b>	<b>&lt;5</b>	<b>4</b>	<b>3</b>	<b>3</b>

Source (historic): Hospital Morbidity Data System via Clinical activity modelling

Source (projections): WACHS Inpatient 2011 Modelling– based on ABS Series B+

## Obstetric patient flows

In 2009/10, there were 440 obstetric separations of Southern Wheatbelt residents. As shown in Table 35 two thirds (253) of these residents received their public health care from a local WACHS facility, giving a public obstetric self-sufficiency of 66%.

**Table 35: Southern Wheatbelt residents: Obstetric separations at all WA public and private hospitals (2009/10)**

Area	Hospital	Residents' total seps 2009/10	% of total public & private seps	% of total public seps
WACHS Southern Wheatbelt	Boddington	0	0%	0%
	Dumbleyung	0	0%	0%
	Kondinin	<5	n/a	n/a
	Lake Grace	0	0%	0%
	Narrogin	253	58%	66%
	Pingelly	0	0%	0%
	Wagin	<5	n/a	n/a
<b>Sub-total (WACHS – Southern Wheatbelt)</b>		<b>253</b>	<b>58%</b>	<b>66%</b>
Other WACHS	All	28	6%	7%
<b>Sub-total ( WACHS)</b>		<b>281</b>	<b>64%</b>	<b>73%</b>
CAHS	All	<5	n/a	n/a
SMAHS	All	19	4%	5%
NMAHS	All	79	18%	21%
<b>Sub-total (metro)</b>		<b>98</b>	<b>22%</b>	<b>26%</b>
<b>Total Public*</b>		<b>385</b>	<b>88%</b>	<b>100%</b>
Private	Metro	49	11%	
	Rural	6	1%	
<b>Total (Private and Public)</b>		<b>440</b>	<b>100%</b>	

\*Includes the <5s not shown elsewhere.

Source: Hospital Morbidity Data System via Clinical activity modelling

## Recommendations for service reform – Obstetric Services

- Under the *Clinical Services Framework*, the role delineation for obstetrics services at Narrogin Hospital is to remain at a Level 3.
- Ensure second theatre is operational to meet Level 3 role delineation.
- Consider a community midwifery model of care for antenatal and postnatal care, especially for people who live in small communities. Explore options within the new Primary Care Model.
- Develop partnerships for care pathways with the Central Great Southern Health District for provision of back up services, such as GP obstetric cover.
- Recruit and retain GP obstetricians, anaesthetists and surgeons, including the consideration of incentives and grants to support local GPs to access training to maintain

## Recommendations for service reform – Obstetric Services

specialist requirements.

- Develop improved recruitment and retention strategies to maintain Midwives, Child Health Nurses and Aboriginal Health staff and introduce other workforce reform initiatives to sustain service delivery as per Section 7.1.
- Implement an appointment system for Outpatient maternity services to meet staffing and community requirements.
- Improve ICT systems, such as STORK and patient held computers that allows them to access telehealth from home.
- Promote shared care opportunities and the uptake of telehealth by GP Obstetricians for higher risk patients so that antenatal care can be provided locally.
- Utilise video-conferencing to provide antenatal, postnatal and parenting education and support to the community.
- Advocate to the Department of Health WA and WACHS Area Information Services to establish shared electronic medical records.

### 6.4.4 Paediatrics services profile (0 – 14 years)

#### Current service model

##### *Narrogin Hospital Clinical Services Framework role delineation – Level 3*

Level 3 paediatric services offer:

- Designated paediatric ward, including short stay.
- Inpatient medical care by GP or paediatrician.
- On-call paediatric advice.
- Outpatient care by visiting paediatrician.
- Limited surgery by visiting paediatric surgeon or surgeon with paediatric skills.
- Day surgery, uncomplicated elective surgery and emergency surgery.
- Access to some allied health services.

Narrogin Hospital does not currently meet the *Clinical Services Framework* as they have no outpatient services via a visiting paediatrician. Narrogin currently provides four paediatric inpatient beds and has the capacity to admit children to the hospital.

A resident General Surgeon is available to performs some surgery on paediatrics and one GP anaesthetists is available who is credentialed to give an anaesthetic to a child under 4kg.

Highly acute or complex paediatric patients are transferred to Princess Margaret Hospital in Perth for care.

## Activity summary

### Current and projected activity

- Paediatric inpatient activity across the Southern Wheatbelt has remained relatively steady in recent years.
- Historical and projected paediatric activity in Southern Wheatbelt hospitals is outlined in the table below. At Narrogin Hospital paediatric activity has increased slightly (7%) between 2007/08 and 2009/10 and is similar to the future activity,
- Paediatric activity is projected to remain steady between 2012/13 and 2021/22.
- The paediatric activity at the other Southern Wheatbelt hospitals is projected to remain steady between 2012/13 and 2021/22.

**Table 36: Southern Wheatbelt hospitals: Actual and projected paediatric services separations, 0-14 years (2007/08- 2021/22)**

Hospital	Historical			Projected		
	2007/08	2008/09	2009/10	2012/13	2016/17	2020/21
<b>Narrogin</b>						
Medical	155	175	166	157	158	168
Surgical	19	11	22	21	22	24
Procedural	15	12	14	14	14	14
<b>Total</b>	<b>189</b>	<b>198</b>	<b>202</b>	<b>192</b>	<b>194</b>	<b>206</b>
<b>Other</b>						
Medical	73	62	49	48	49	53
Surgical	0	0	0	0	0	0
Procedural	0	0	0	0	0	0
<b>Total</b>	<b>73</b>	<b>62</b>	<b>49</b>	<b>48</b>	<b>49</b>	<b>53</b>

Source (historic): Hospital Morbidity Data System via Clinical activity modelling

Source (projections): WACHS Inpatient 2011 Modelling– based on ABS Series B+

### Paediatric patient flows

As shown in the next table, just under half (47%) the public paediatric activity of Southern Wheatbelt residents is seen in a local hospital in the area. A similar proportion is seen within the metropolitan area.

**Table 37: Southern Wheatbelt residents: Paediatric inpatient separations at all WA public and private hospitals, 0-14 years (2009/10)**

Area	Hospital	Total resident separations 2009/10	% of total public & private separations	% of total public separations
WACHS Southern Wheatbelt	Narrogin	185	30%	38%
	Boddington	<5	n/a	n/a
	Dumbleyung	0	0%	0%
	Kondinin	6	1%	1%
	Lake Grace	5	1%	1%
	Pingelly	<5	n/a	n/a
	Wagin	0	0%	0%
<b>Sub-total (WACHS – Southern Wheatbelt)</b>		<b>227</b>	<b>38%</b>	<b>47%</b>
Other Wheatbelt District	All	6	1%	1%
Other WACHS Regions	All	33	5%	7%
<b>Sub-total ( All WACHS)</b>		<b>266</b>	<b>44%</b>	<b>55%</b>
South Metropolitan Area Health Service	All	31	5%	6%
North Metropolitan Area Health Service	All	23	4%	5%
Child and Adolescent Health Service	All	167	28%	34%
<b>Sub-total (Metropolitan - public)</b>		<b>221</b>	<b>36%</b>	<b>45%</b>
<b>Total Public*</b>		<b>487</b>	<b>80%</b>	<b>100%</b>
Private	All	119	20%	
<b>Total (Private and Public)</b>		<b>606</b>	<b>100%</b>	

\*Includes public patients in private hospitals.

Excludes unqualified neonates, boarders and obstetrics.

Totals include suppressed <5 cells.

Source: Hospital Morbidity Data System via Clinical activity modelling

### Recommendations for service reform - Paediatric Services

- Paediatric services will remain at Level 3 role delineation to 2020 (Department of Health, 2010a).
- Work to establish greater paediatric services for the district, including visiting speciality paediatric services.
- Four paediatric beds will remain at Narrogin Hospital.
- The trend for paediatric patients to receive high levels of inpatient care at Princess Margaret Hospital is expected to continue.

## 6.4.5 Mental health inpatient service profile (including Alcohol and Other Drugs)

### Current service model - adult and older adult emergency and inpatient services

#### *Narrogin Hospital Clinical Services Framework role delineation – Level 4*

Level 4 adult and older adult mental health inpatient and emergency services offer:

- Mental health professionals on call for emergency services.
- Emergency assessment capacity.
- Capacity for dedicated non-authorized mental health beds.
- Admission and management by GP or other medical officers.
- Capacity to cope with acutely unwell.
- Assessment and treatment for severe and persistent mental health conditions.
- Multidisciplinary staff available on call 24/7.
- Capacity for undergraduate and postgraduate teaching role.

Mental health services in the Southern Wheatbelt are managed by the WACHS Great Southern Region.

Inpatient mental health services achieve the *Clinical Services Framework* role delineation currently through a model whereby enrolled mental health nurses are available to provide inpatient care at Narrogin Hospital where there is a unit with two unauthorised beds and a harm minimisation room.

This existing model of care is to provide early interventions and treatment for known mental health patients. The model is a successful strategy in preventing the deterioration of patients' mental health and achieving a high mental health self-sufficiency – that is a high proportion of patients can be treated locally avoiding the need for transfer to Perth.

There is difficulty however in maintaining 24/7 oncall support and emergency assessment capacity as described by the *Clinical Services Framework*. Rurallink can provide consultation and liaison services by phone but they cannot provide any in-person assessment/treatment and the specialist mental health assessment service is only available within working hours. The service may not always be available within the triage timeframes.

Complex patients requiring authorised admission to a hospital are stabilised and transferred to metropolitan services for inpatient care.

Inpatient and emergency services refer to the Narrogin Community Mental Health Team for outpatient care. Although the majority of the team's case load is with acute services, the community drug and alcohol services do provide some services to inpatients who are also clients of the Holyoake Community Drug Service Team. Community Mental Health Services are further described in Section 6.1.1.

## Current service model - child and adolescent services

Child and adolescent *emergency* mental health services are also currently role delineated as a Level 4 service, however the role delineation for child and adolescent *inpatient* mental health services is nil.

In the *Clinical Services Framework* there is no distinction between the different age groups in the detailed descriptions of the mental health services. It is however recognised that the service provided to children (under 15 years) is specialised and requires appropriately trained mental health practitioners. The number of children treated in Narrogin Hospital is very low (5 patients in 2009/10).

Child and adolescent patients requiring admission to hospital are transferred to the Child and Adolescent Mental Health Service (CAMHS) in the metropolitan area.

## Activity summary

### Current and projected activity - Adult and older adult (15 years and over)

- As outlined in the table below, there has been a 37% increase in adult mental health separations (15 year olds and over) from Narrogin Hospital between 2007/08 and 2009/10. This is driven by an increase in *acute psychiatry* activity. This category includes Schizophrenia, Major Affective Disorders and Other Psychiatry (including Anxiety Disorders, Eating & Obsessive Compulsive Disorders).
- In 2009/10, there were very few mental health separations of children (five at Narrogin).
- Adult mental health inpatient separations are projected to increase by 12% for Narrogin Hospital between 2012/13 and 2021/22. The largest increase is projected for drug and alcohol admissions (21%).

**Table 38: Southern Wheatbelt hospitals: Actual and projected adult mental health inpatient separations, 15 years and over (2007/08- 2009/10)**

Hospital	Historical			Projected		
	2007/08	2008/09	2009/10	2012/13	2016/17	2021/22
<b>Narrogin</b>						
Acute Psychiatry	161	188	244	240	251	265
Drug & Alcohol	77	93	83	86	92	100
<b>Total</b>	<b>238</b>	<b>281</b>	<b>327</b>	<b>327</b>	<b>343</b>	<b>365</b>
<b>Other</b>						
Acute Psychiatry	35	35	44	42	43	45
Drug & Alcohol	14	20	16	17	19	21
<b>Total</b>	<b>49</b>	<b>55</b>	<b>60</b>	<b>60</b>	<b>62</b>	<b>67</b>

Data includes acute mental health and drug and alcohol ESRGs.

Source (historic): Hospital Morbidity Data System via Clinical activity modelling

Source (projections): WACHS Inpatient 2011 Modelling– based on ABS Series B+

### Adult mental health patient flow

- In 2009/10 there were 502 adult mental health separations involving residents of the Southern Wheatbelt at all WA health facilities, as shown in Table 39.
- Eight in ten (360) of these residents received their public health care from a local WACHS facility, giving the Southern Wheatbelt public mental health services a self-sufficiency of 80%. The vast majority of these patients (314) received their care at Narrogin Hospital.
- Southern Wheatbelt mental health patients who received their care within Southern Wheatbelt hospitals have a much shorter average length of stay than those who received their care within the metropolitan area. So, while the Southern Wheatbelt hospitals accounted for 80% of the public mental health separations, they only accounted for 48% of the bed-days. This indicates that people who have complex and/or highly acute mental illness and who required longer lengths of stay are being transferred to Perth appropriately but that the hospital is providing a great deal of mental health care close to home which is highly commendable.

**Table 39: Southern Wheatbelt residents: Mental health inpatient separations, 15 years + (2009/0)**

Area	Hospital	Residents' total seps 2009/10	Residents' total bed-days 2009/10	% of total public & private seps	% of Total Public Seps
WACHS Southern Wheatbelt	Boddington	10	68	2	2
	Dumbleyung	0	0	0	0
	Kondinin	6	12	1	1
	Lake Grace	<5	n/a	n/a	n/a
	Narrogin	314	956	66	70
	Pingelly	9	12	2	2
	Wagin	21	70	4	5
<b>Sub-total (WACHS – Southern)</b>		<b>360</b>	<b>1,118</b>	<b>72</b>	<b>80</b>
Other WACHS	All	44	280	9	9
<b>Sub-total ( WACHS)</b>		<b>404</b>	<b>1,398</b>	<b>80</b>	<b>89</b>
SMAHS	All	18	79	3	4
NMAHS	All	30	835	6	7
<b>Sub-total (metro)</b>		<b>48</b>	<b>914</b>	<b>10</b>	<b>10</b>
<b>Total Public*</b>		<b>452</b>	<b>2,312</b>	<b>90</b>	<b>100</b>
Private	Metro	50	468	10	
	Rural	0	0	0	
<b>Total (Private and Public)</b>		<b>502</b>	<b>2,780</b>	<b>100</b>	

*Includes acute mental health and drug and alcohol ESRGs.*

*Source: Hospital Morbidity Data System via Clinical activity modelling*

## Recommendations for service reform - Inpatient Mental Health Services

- Under the WA Health *Clinical Services Framework*, the role delineation for mental health services will remain at Level 4 for Narrogin Hospital (i.e. unauthorised beds only). The development of mental health services will be guided by the *WACHS Strategic Intent for Mental Health Services*, the *Clinical Services Framework* and the strategic directions of the Mental Health Commission. Strategies include:
  - Review what support and treatment services are available and required to meet the needs of young people experiencing mental health and/or drug and alcohol problems, including capacity for mental health promotion and illness prevention.
  - Increase the visiting CAMHS psychiatry services and Psychogeriatrician. This could be achieved by increasing existing psychiatry FTE and/or increasing capacity of visiting specialists.
  - Increase primary mental health care capacity within the intentions of SIHI.
  - Provide a Primary Mental Health Clinician that is enabled to access: Medicare funding under Better Access, Better Outcomes; and/or Mental Health Nurse incentive program; or through SIHI Stream 2 primary health care services enable a long term funding stream for primary mental health. This would allow those who can be managed by GPs in primary care to stay in primary care with the additional support of psychotherapy or case management.
  - Co-locate mental health service with the hospital to provide timely specialist liaison services and to enable greater security and duress support.
  - Discuss with Mental Health Commission the provision of sub-acute mental health services (e.g. an intensive day therapy program to allow early discharge or admission diversion i.e. providing 1:1 intervention and group programs). Programs would be designed to prevent transfer to authorised facilities, reduce ALOS for Narrogin inpatient admissions or provide day therapy options instead of hospitalisation.
  - Promote awareness of RuralLink, the after-hours telephone mental health specialist support.
  - Maintain the existing two bed mental health unit at Narrogin Hospital and the advanced enrolled mental health nurse model of care as this is proven to achieve a very high ability to provide care close to home and to provide early interventions and treatment for voluntary mental health patients and to provide consultation and liaison to general ward and ED.
  - Negotiate for more services in the management of alcohol and other drug issues and upskilling of staff to enable more holistic care for clients with comorbidities.
  - Investigate strategies to improve patient transport/transfer options (e.g. mental health retrieval team).
  - Introduce workforce reform initiatives to sustain service delivery as per Section 7.1.
  - Establish an integrated electronic medical records system across multiple sites.
  - Increase use of telehealth and eHealth services to increase access to treatment, supervision, assessment and training.

## 6.4.6 Palliative care services profile

### Current service model

#### *Narrogin Hospital Clinical Services Framework role delineation – Level 3*

Level 3 palliative care services should offer:

- Inpatient care by an accredited GP.
- 24 hour cover by a clinical nurse with experience in palliative care services.
- Outpatient care by visiting general physician and possible palliative care specialist by telehealth.
- Access to some allied health services.
- Consult liaison services for inpatients.

There is a two-bed Palliative Care and Cancer Support Unit at Narrogin Hospital. Inpatient palliative care services are provided as part of the medical ward in Narrogin five days a week. Silver Chain provides a linked community based palliative care service under contract to WA Health. All the smaller hospitals provide palliative care either in the community or the hospital.

### Activity summary

#### *Current and projected activity*

- The recent and projected palliative care activity at Narrogin Hospital is presented in the next table. The palliative care separations fluctuated in 2008/09, but are projected to remain steady in the future.
- There is a small increase in palliative care separations projected for the Other Southern Wheatbelt hospitals.

**Table 40: Southern Wheatbelt hospitals: Actual and projected palliative care separations, 15 years and over (2007/08 – 2021/22)**

Hospital	Historical			Projected		
	2007/08	2008/09	2009/10	2012/13	2016/17	2021/22
Narrogin	<5	19	8	9	10	11
Other	7	8	11	11	13	14

Source (historic): Hospital Morbidity Data System via Clinical Activity Modelling Unit.  
Source (projections): WACHS Inpatient 2011 Modelling– based on ABS Series B+

## Recommendations for service reform - Palliative Care Services

- Under the *Clinical Services Framework*, palliative care services will remain at Level 3 role delineation to 2020.
- Establish the Palliative Care Network Model of Care for WA locally.

### 6.4.7 Subacute and Rehabilitation Inpatient Care

#### Current service model

##### *Narrogin Hospital Clinical Services Framework role delineation – Level 3/4*

Level 3/4 rehabilitation services should offer:

- Regular visiting services provided by district/regional allied health staff.
- Full time salaried physiotherapy, occupational therapy.
- Speech and social work services.
- Region referral role.
- Limited day hospital program.
- Rehabilitation program for both inpatients and outpatients.
- Links between regions and designated metropolitan hospitals.
- Rehabilitation specialist services with experienced registered nurses, physiotherapists, occupational therapists, speech pathologists and dietitians.

Subacute care is defined as interdisciplinary care in which the need for *care is driven primarily by the patient's functional status* and quality of life rather than the underlying medical diagnosis. It may include care for patients who have multiple diagnoses, none of which is a principal diagnosis.

There is currently limited access to sub-acute and rehabilitation services in the Southern Wheatbelt for people with physical and/or mental health issues.

#### Activity summary

The WACHS Planning Team has undertaken subacute modelling using the projected inpatient activity within select ESRGs including rehabilitation and neurology. This modelling considers multiday separations of patients 15 years and over and considers how many subacute beds would be required by the projected activity of Narrogin Hospital as well as transferring 25% of subacute activity from smaller hospitals. Based on an 80% bed occupancy seven subacute beds would be required in Narrogin Hospital by 2016/17.

## Recommendations for service reform - Inpatient Sub Acute and Rehabilitation Care Services

- The role delineation for rehabilitation services will remain as a level 3/4 until 2020.
- Review the need to strengthen the capacity of the Southern Wheatbelt to provide rehabilitation services, including a limited Rehabilitation Day Hospital Program at Narrogin Hospital, in alignment with the *Clinical Services Framework* role delineation of a Level 3/4 rehabilitation service.
- Review the number of acute and subacute beds required for Southern Wheatbelt hospitals, so that care requirements meet population need.
- Determine a subacute model of care across the Southern Wheatbelt that is flexible to meet the population needs (aged care and mental health) that is supported by appropriate workforce and infrastructure (including day-hospital type social work services). Examples for mental health subacute care may include providing an intensive day therapy program to allow early discharge or admission diversion (i.e. providing 1:1 intervention and group programs). Programs would be designed to prevent transfer to authorised facilities, reduce length of stay for Narrogin inpatient admissions or provide day therapy options instead of hospitalisation.

## 6.5 Residential Aged Care Services Profile

### Current service model

WACHS provide residential aged care beds at the small hospital sites. The Table below indicates the residential aged care beds in the Southern Wheatbelt and shows:

- Residential aged care services are not provided at Narrogin Hospital.
- In the townsite of Narrogin, residential aged care services are currently provided by private facilities. Narrogin has the highest number of private aged care inpatient beds in the Southern Wheatbelt.
- High and low care residential aged care beds are provided in a range of other Southern Wheatbelt hospitals with Dumbleyung recognised as a MPS.

**Table 41: Southern Wheatbelt District: Residential aged care facilities (as of December 2011)**

Residential Care Facility	Location	High Care Beds	Low Care Beds	Respite Beds	Total
Principal Narrogin (private)	Narrogin	50	-	-	50
Karinya Hostel (private)	Narrogin	-	34	1	35
Boddington Health Service	Boddington	5	-	-	5
Dumbleyung MPS	Dumbleyung	4	-	-	4
Kondinin MPS	Kondinin	4	-	-	4
Kondinin/Kulin Aged Care	Kondinin	-	4	-	4
Lake Grace MPS	Lake Grace	5	-	-	5
Pingelly Hospital	Pingelly	3	-	-	3
Somerset House	Pingelly	-	6	1	7
Wagin Hospital	Wagin	5	-	1	6
Waratah Lodge	Wagin	-	18	-	18

Source: <http://www.agedcareguide.com.au/> and WACHS online bed pivot

In support of the residential aged care places there are currently 18 Community and Extended Aged Care Packages (CACP's and EACP's) managed by Silver Chain in the Southern Wheatbelt.

### Activity summary

#### *Actual and projected activity summary*

Activity recorded in 2009/10 relating to residential care activity at Southern Wheatbelt hospitals is outlined in the following table. This includes data relating to acute beds being utilised for residential care activity. Instances where the occupancy rate is greater than 100% denote where residential care activity has overflowed into acute beds.

Commonwealth aged care planning benchmarks for high and low care residential aged care places applied to forecast populations provide another indicator of demand. The current benchmarks are for the provision of 44 high beds and 44 low care beds for every 1,000 people (non-Aboriginal aged 70 years and over and Aboriginal aged 50 years and over). There are not currently Aboriginal projections available for the Southern Wheatbelt district. Based on the 2021 projected population of all Southern Wheatbelt residents aged 70 years and over (2,847 persons) there will be a need for 250 residential care beds (125 high and 125 low). However, the trend is for people to be cared for in their own home with support via HACC and community aged care packages rather than enter low care facilities. Where sites are part of an MPS the "cashed out" funding for residential care places can be used based on the community needs and transferred into such community care packages.

**Table 42: Residential care activity – Southern Wheatbelt hospital (2009/10)**

Facility	Beddays	No. of residential care beds	Occupancy Rate
Narrogin	51	0	n/a
Boddington	1,424	5	78%
Dumbleyung MPS	1,371	4	100%
Kondinin MPS	1,597	4	101%
Lake Grace	1,784	5	101%
Pingelly	374	3	34%
Pingelly Somerset House Frail Aged Hostel	1,848	7	72%
Wagin	2,202	6	101%
<b>Total</b>	<b>10,651</b>	<b>34</b>	<b>86%</b>

Source: WACHS online Bed Numbers pivot.

### Recommendations for service reform – Residential aged care

- Leverage partnerships with private aged care residential providers to increase the number of residential aged care beds as per Stream 6 of the SIHI Initiative to meet demand beyond 2016.
- Review the need for the provision of HACC services after hours.
- Explore the option to implement the Geraldton respite model in Southern Wheatbelt, whereby the health service funds respite beds at a private nursing home.
- Explore options to deliver nursing care services to private nursing homes.
- Review the need for an aged care nurse practitioner for the Wheatbelt.
- Increase visits or telehealth consults by a geriatrician.
- Increase the capacity for older persons mental health services in the Southern Wheatbelt including visits and telehealth consults by a psychogeriatrician.
- Explore options to deliver aged care assessment and treatment by telehealth.
- Explore opportunities to provide access to programs that promote community participation and activities for aged care residents of the small district hospitals.

## 6.6 Clinical Support Services Profile

### 6.6.1 Medical Imaging

#### Current service model

##### *Narrogin Hospital Clinical Services Framework role delineation – Level 4*

- Mobile service and limited to x-ray of extremities, chest, abdomen
- Interpreted by onsite doctor/health professional or by electronic means
- On site designated room
- Radiographer in attendance who has regular access to radiological consultation
- Simple ultrasound capacity for foetal monitoring
- Teleradiology facility available
- Facilities for general and fluoroscopy, in addition to mobile CD for wards, OR and ED
- Auto film processing capacity
- Mobile image intensifier in OR and/or ICU/CCU
- Staff radiographer on-call 24 hours
- Visiting specialist radiological appointment
- Always has ultrasound
- May have CT scanner
- Registered nurse as required
- Teleradiology facility available

The Medical Imaging Department at Narrogin Hospital provides general x-ray, CT services, Ultra Sound, Orthopantomogram (OPG) and a C-Arm (image intensifier) service for theatre work and the ED.

The opening hours are 0830-1700 five days per week. The service is available 24hours a day, seven days a week. There are 3.0 FTE medical imaging technologists, visiting ultrasound services (two to three days a week) and visiting procedural radiologist (one day a week). There are no nurse operators on site. Images are transferred digitally for reading by Global Diagnostics.

The introduction of the CT scanner has meant Narrogin Hospital can service the local population closer to home and better plan care for patients transferring to Perth.

Smaller hospitals are introducing digitalised imaging, improving the quality of imaging and removes some of the occupational health issues that were associated with the chemicals

## Activity summary

- Medical imaging occasions of service has increased from 3,000 to 7,000 in a 12 month period with the inclusion of the CT scanner.

### Recommendations for service reform - Medical Imaging Services

- Maintain Medical Imaging modalities at Narrogin.
- Monitor the activity at EDs and the impact on Medical Imaging as part of the new models of care for Stream 1 of SIHI.
- Review medical imaging facilities at small district hospitals.

## 6.6.2 Pharmacy

### Current service model

#### *Narrogin Hospital role delineation – Level 2*

- Service oversight by pharmacist located elsewhere
- Drugs supplied on individual prescription from community pharmacy
- Visiting pharmacist from regional hospital
- Minimal clinical service
- Staff education
- Drugs provided by regional hospital

Overall the Wheatbelt region's pharmacy service, which is located in Narrogin, achieves the *Clinical Services Framework* level 2 role delineation.

The Pharmacy Department at Narrogin Hospital includes a Chief Pharmacist (1.0 FTE), Senior Clinical Pharmacist (2.0 FTE), Vaccines Officer (0.5 FTE), Assistant In Pharmacy (2.5 FTE - 0.5 FTE located Northam) and a Pharmacy Technician (1.0 FTE). Narrogin Hospital supplies Regional Pharmacy Services for the whole of the Wheatbelt.

The regional model supplies the Wheatbelt Region with both clinical pharmaceutical and supply services to the small hospitals. Supplies are ordered via the iPharmacy system and are imprest based (weekly).

Only inpatient medications are provided. Dispensary upon discharge is unavailable. Webster packs are dispensed for mental health patients when required.

There were no changes to pharmacy services as a consequence of the Pharmaceutical Benefits Scheme reform, whereby the cost shifted from State to Commonwealth Government.

Smaller hospitals have pharmacies close by or some local GP surgeries have dispensaries.

### Recommendations for service reform - Pharmacy Services

- Implement pharmaceutical reform as directed by the *WACHS Operational Plan 2011/12*.
- Review the management and governance processes for the provision of pharmacy services to smaller hospitals.
- Review the transportation of pharmaceuticals to smaller hospital sites.

## 6.6.3 Pathology

### Current service model

#### *Narrogin Hospital role delineation – Level 3*

- Specimen collection by RN or GP
- Specimens transmittal to referral laboratory
- Specimen collection by pathology staff
- Able to perform a defined range urgent tests

PathWest are contracted to provide all pathology services for WACHS including the Narrogin Hospital. Full blood count (haematology), biochemistry, microbiology, coagulation and transfusion are carried out on site, with the exception of histopathology, cytology and specialised blood tests, which are sent through to Perth. Overall the Pathology service achieves the *Clinical Services Framework* Level 3 role delineation.

This service operates Monday to Friday 0800-1700 and Saturday 0900-1000 and provides on call support 24 hours/7 days a week.

PathWest supports collection services to all small towns regularly and provides liaison services to ensure correct collection of samples. PathWest do not currently provide Point of Care testing services and training to Narrogin Hospital, although Narrogin does have its own iStat machine.

A number of other sites in the District also have access to a Reflatron to carry out basic tests.

### Recommendations for service reform - Pathology Services

- Narrogin Hospital to continue to provide 'hub' type pathology services for Southern Wheatbelt patients.
- Review the transportation pathology collections to/from smaller hospital sites.
- To review location of pathology in capital planning to ensure safety and working conditions are optimised.

## 6.6.4 Sterilising Services

### Current service model

The Central Sterilising Services Department (CSSD) is staffed by 1.0 FTE Sterilising Technician at Narrogin Hospital and provides sterilising services for outlying hospitals, health centres and doctors' surgeries.

Supplies are transferred via well-established processes. There no plans to change these processes.

### Recommendations for service reform - CSSD

- Current capacity and service delivery model to continue.

## 6.6.5 Infection Control

### Current service model

There is 0.5 FTE allocated to the Level 2 Clinical Nurse - Infection Control at Narrogin. This position manages infection control and prevention activities at Narrogin. It also acts as a resource and supports the portfolio role in smaller sites.

There is a both a district and regional committee structure that feeds into an Annual Operational Plan.

### Recommendations for service reform - Infection Control

- Current capacity and service delivery model to continue.
- Implement the WACHS – *Wheatbelt Infection Prevention Implementation Plan 2010-2011*

## 6.6.6 Telehealth and e-health

### Current service model

The Wheatbelt region currently utilises telehealth for staff meetings, staff education, and the receiving of outpatient appointments provided by the metropolitan health services.

The SIHI telehealth investment will provide the opportunity to standardise telehealth venues ensuring that these are clinically appropriate. This will assist with receiving additional services from specialists and other health professionals for patient assessment, follow up and care planning. Additionally it will allow telehealth service delivery to be developed within the region resulting in improved access to healthcare for Wheatbelt health consumers.

Considerable work is being undertaken by the *Statewide Telehealth Service* to establish and deploy improved videoconferencing technologies and supporting systems in a consistent and scaleable manner across WA Health Department sites.

The initial focus of telehealth will be:

**Clinical Telehealth Service Provision** – live, synchronous interaction between two or more locations conducted by videoconference.

**Emergency Telehealth** – enabling remote monitoring and triage of patients in the acute care setting.

These models will be developed to enable smaller regional sites to link into larger resource centres and / or metropolitan providers in order to access services and advice.

Telehealth can deliver:

- Efficient and cost effective services while improving service access, equity, safety and quality.
- Improved health outcomes through increased service access and support.
- Better education, training and support opportunities for local health care providers and consumers.
- Improved collaboration and communication between health care providers.

### Recommendations for service reform - Telehealth Services

- Ensure infrastructure and staffing are available to support the implementation and uptake of new and existing telehealth services that will be enabled through SIHI.
- Strengthen and improve access to services through the use of innovative technologies such as videoconferencing to link tertiary, secondary and primary care providers with health consumers.
- Plan and deploy 'fit for purpose' telehealth facilities and systems in both clinical and education areas that are appropriate for the service delivery being undertaken.
- Ensure that training and other education packages address the different skill sets of clinicians, administrators and telehealth coordinators.
- Drive greater use of telehealth for clinical care including assessments, follow up, support and patient monitoring.

## 6.7 Non-Clinical Support Services Profile

### 6.7.1 Food Services

#### Current service model

Meals are prepared at all Southern Wheatbelt hospitals in cook fresh kitchens. Narrogin Hospital also provides catering for Meals on Wheels.

#### Recommendations for service reform – Food Services

- Review the option to introduce a cook chill regional model of service delivery to gain efficiencies in food production. The new model would see all cook chill meals prepared at Narrogin Hospital and delivered to Southern Wheatbelt hospitals. Inclusive of the activity at Narrogin Hospital, this will see an average of 100,000 meals prepared at Narrogin Hospital per annum.
- The capacity to incorporate the regional Meals on Wheels service from the Narrogin Hospital kitchen should also be explored as this may improve efficiencies for other service providers.
- If the regional cook chill model is introduced, reconfigure the Narrogin Hospital kitchen and install new equipment. Any reconfiguration or consolidation of food services will need to:
  - Ensure that transport costs are not greater than moving the service to a single site.
  - Consider the cost and logistics of installing appropriate equipment and storage facilities to receive the cook chill meals at the smaller hospital sites.
  - Estimate the extent of anticipated operational savings.
  - Address the potential workforce issues of centralising services.

### 6.7.2 Linen services

#### Current service model

Narrogin Hospital has a large on site laundry that services Narrogin, Pingelly, Wagin and Boddington hospitals.

Laundry is delivered offsite by a purpose built laundry van owned by Narrogin Hospital.

Linen services at Narrogin Hospital have been upgraded to cater for extended community services.

### Recommendations for service reform - Linen Services

- Review what services can be consolidated and provided from Narrogin Hospital. The review would focus on a cost benefit analysis, a social cost analysis and involve consultation with staff, communities, industrial and professional groups.
- Any reconfiguration or consolidation of laundry services will need to:
  - Ensure that transport costs are not greater than moving the service to a single site.
  - Ensure delivery service and facilities enable cage trolleys to be wheeled on and off the trucks.
  - Ensure that there are appropriate short and long-term storage facilities for clean and dirty linen.
  - Address the potential reduction of onsite staff at smaller facilities.
- Continue to the use of disposable linen in theatres.

### 6.7.3 Engineering and Maintenance / Cleaning and Gardening

#### Current service model

Engineering and Maintenance are managed within a regional model with a centralised maintenance budget, however there is an Engineering and Maintenance Team based at Narrogin Hospital.

The Engineering and Maintenance team has the responsibility for continuing essential services on all Southern Wheatbelt hospital sites and hospital buildings.

Cleaning and gardening services are provided by locally employed WACHS staff at all sites. Patient Care Assistants do all cleaning in addition to providing patient care.

### Recommendations for service reform – Engineering and Maintenance / Cleaning and Gardening

- Undertake a thorough audit of all Southern Wheatbelt facilities (e.g. condition of infrastructure).

## 6.7.4 Supply Department

### Current service model

A regional service model is operated for Supply, providing a 'just in time' service.

Narrogin Hospital has a temporary store person (two days per week) who monitors all consumables except for kitchen supplies.

Small hospitals run an impress system to allow for ten days of stores. Deliveries are made weekly.

### Recommendations for service reform – Supplies

- There are no plans to change the service model in the future.
- Concept master planning will review the supply area.

## 6.7.5 Learning and Development

### Current service model

The Learning and Development team is responsible for the coordination of training and development across the Wheatbelt region.

### Recommendations for service reform – Learning and Development

- Establish a coordinated approach at the Wheatbelt for training and education including facilities for this.
- Provide an increased level of staff development and support in the use of telehealth and ehealth technology.

## 6.7.6 Corporate Services

### Current service model

The WACHS - Wheatbelt Regional Corporate Services are coordinated from Northam. This includes the administration, ICT, clinical governance, human resource, medical records management and financial accountability structures and systems for the Southern Wheatbelt.

HCN known as WA Health's shared services centre, was established five years ago and provides WACHS with centralised Employment and Payroll Services. In addition, HCN provides support to components of the finance function.

The Health Information Network (HIN) was established in 2005 as Health's shared ICT service. HIN provides WACHS with a range of ICT related services, but ICT staff remain managed through WACHS.

### Recommendations – Corporate services

- WACHS has an ICT Strategic Plan that will guide developments for the next five years, including equipment investment and application development. Service and workforce implications of establishing electronic medical records and human resource systems will need to be identified.
- Enhance partnerships with HIN for ICT support (e.g. define role delineation and level of collaboration).
- Review departmental ICT needs to manage services, databases and records (e.g. electronic medical records and maternity requires upgrades to STORK).
- Plan for integrated electronic medical records across the continuum of care (e.g. GPs, primary care services, mental health and discharge planning).
- Increase capacity of Human Resources and Occupational Health and Safety to provide support to health services across the Southern Wheatbelt.
- Undertake a review of human resources and learning and development to determine structure and FTE requirements.
- Review of Southern Wheatbelt government vehicles to ensure suitability to meet changing models of care. For example, current vehicles do not meet ICT staffing requirements where tools and equipment are transported.

## 7 OTHER SERVICE DELIVERY ENABLERS

### 7.1 Workforce attraction and retention

Regional and district level workforce planning to attract, retain and nurture the Southern Wheatbelt workforce is the key priority for ensuring the successful implementation of this Service Plan.

The Southern Wheatbelt is an ageing workforce which experiences difficulties in sustaining the primary health care services; building up expertise due to low activity in small hospitals and maintaining 24/7 on-call, after-hours and visiting medical and surgical services.

Furthermore, WACHS have been unable to fill vacant positions despite funding being available. These issues have many impacts on the availability and sustainability of models of care in the Southern Wheatbelt, particularly the efficiency and effectiveness of patient assessment and care.

Consultation undertaken with stakeholders expressed a need for a comprehensive review of the workforce to develop and implement a strategy to attract, retain and nurture the workforce. This strategy would include:

- Succession planning to build career pathways for staff and graduates.
- Succession planning to ensure staff can work across the Southern Wheatbelt and in areas that require back-filling for staff training or general staff absences.
- Orientation programs.
- Continue 'trans-disciplinary' types of interventions (e.g. maximizing the use of core skill sets common to allied health) for high need groups of patients.
- Increased access to a range of professional supervision and mandatory / clinical training (e.g. face-to face and via telehealth technologies).
- More opportunities for permanency for casual staff.
- Providing better incentives for staff to remain in rural and remote areas rather than the metropolitan area (e.g. suitable and modern housing for singles and families onsite and offsite and paid overtime).
- Provide short-term self-contained accommodation for visiting specialists, locums and transient staff to access.
- Enhance access to mentoring.
- Enhance partnerships with employment networks to extend the reach of recruitment efforts.
- Review workforce models to support new models of care that include assistants in nursing and nurse practitioners.

Concurrent to this is the need to employ and nurture Aboriginal people through all levels of the health system. This would also include the development of traineeships and mentoring to increase recruitment of Aboriginal people.

The Narrogin Health Campus has a 39 single bedroom staff accommodation facility located on site. It is spread over three floors and has bathrooms, a kitchen and lounge/dining room

on each floor (shared). The campus also contains two staff houses (1 x 3 bedroom and 1x 2 bedroom unit).

While the staff accommodation is appropriate for short term single staff it is not appropriate for couples or families or for housing staff who wish to bring pets with them. A variety of staff accommodation options to enhance attraction and retention will need to be explored.

## 7.2 Transport and retrieval

The need for efficient transport service options for patients and consumers is a high priority for WACHS. The transport and retrieval of acute patients and primary health care consumers within the Wheatbelt region and to surrounding areas is undertaken by a mixture of services including St John Ambulance, RFDS, hospital vehicles, private vehicles and helicopter evacuations.

In 2009/10 there were 242 RFDS transfers from Southern Wheatbelt hospitals to metropolitan hospitals. The WACHS RFDS pivot (extracted 30th June 2011) shows that most of these were to Royal Perth Hospital (42%) and Sir Charles Gardiner Hospital (24%). Within the Southern Wheatbelt, there were 321 inter-hospital transfers involving St John Ambulance (29%), hospital vehicles (8%) or private/other vehicles (61%) or helicopter.

There are many challenges that exist with patient transportation between sites, including emergency, unplanned and non-urgent cases. At times, staff are required to escort patients during transportation which takes human resources and expertise out of the local health system. Being a rural and remote area this can mean staff are away from the service for up to five or more hours.

Within the community, there is limited public transport for consumers, particularly those outside of Narrogin. Transport is available within particular programs (e.g. transport is available for HACC eligible patients) and the Patient Assisted Travel Scheme (PATS) does not cover all patients and all expenses for planned appointments.

There is also a Narrogin based Community Patient Transport Service which is a volunteer service operated by a local community group in partnership with the Shire who provide the vehicle. PATS subsidises the operational costs of the service. This service only has capacity to transport Narrogin patients to and from outpatient appointments and has very limited capacity to transport patients to and from outlying areas. However, it is an excellent model that could be considered for replication across the district with more input and support from WACHS – Wheatbelt.

The limited patient transport options can place demands on existing transport services and consumers without access to transport do experience delays in accessing assessment and care or miss services entirely. This is particular pertinent to patients requiring ongoing primary health care services and Aboriginal patients who may leave conditions undetected or unmanaged until acute or emergency care is required.

Currently, a COAG funded transport and liaison service exists which helps with the coordination of appointments and transport of Aboriginal clients to health related appointments in Narrogin, between Southern Wheatbelt towns and to and from specialist appointments in Perth and Bunbury. However, this funding is due to expire in June 2013.

The SIHI aims to reduce inter-hospital transfers for emergency triage 3-5 through improved access to medical services for assessment and care. This is likely to result in more admissions of triage 3 locally. The SIHI will provide a safe, sustainable and coordinated 24/7 emergency model for the Wheatbelt in partnership with GPs, ensuring a networked ED

response model across the region and with other emergency response providers (refer to Section 3.7.1). In addition, the SIHI aims to ensure Narrogin achieves its *Clinical Services Framework* role delineation so more patients can be admitted from ED locally, reducing the need for patient transfers. The statistics for patient transfers are shown below.

### *RFDS inter-hospital patient transfers*

The following table outlines the number of inter-hospital RFDS patient transfers from the Southern Wheatbelt between 2007/08 and 2009/10. In 2009/10 half the Southern Wheatbelt hospital transfers were from Narrogin Hospital.

**Table 43: Southern Wheatbelt hospitals: Total RFDS inter-hospital transfers (2007/08 - 2009/10)**

Southern Wheatbelt Hospital	2007/08	2008/09	2009/10
Narrogin	134	138	122
Lake Grace	48	47	42
Wagin	34	29	52
Other	27	8	26
<b>Total</b>	<b>243</b>	<b>222</b>	<b>242</b>

Data *includes* unqualified neonates and boarders. Excludes emergency evacuations funded by the Commonwealth.

Source: WACHS RFDS pivot, extracted 30<sup>th</sup> June 2011.

In 2009/10 two in five (42%) RFDS transfers from Southern Wheatbelt hospitals were to Royal Perth Hospital, followed by one in four (24%) to Sir Charles Gairdner Hospital.

**Table 44: Destination of RFDS transfers from Southern Wheatbelt hospitals (2009/10)**

Destination Hospital	2009/10
Fremantle Hospital	23
Royal Perth Hospital	101
Sir Charles Gairdner Hospital	57
King Edward Memorial Hospital	15
Princess Margaret Hospital	30
Other	16
<b>Total</b>	<b>242</b>

Data *includes* unqualified neonates and boarders. Excludes emergency evacuations funded by the Commonwealth.

Source: WACHS RFDS pivot, extracted 30<sup>th</sup> June 2011.

### Other inter-hospital patient transfers

The following Table outlines the number of inter-hospital patient transfers from the Southern Wheatbelt hospitals via ambulance, health service owned transport or helicopter evacuation.

In 2009/10 there were 123 of these transfers from Southern Wheatbelt hospitals, with 15 of these being from Narrogin Hospital. Note: there would also be ambulances associated with the RFDS transfers shown above in Table 44 that are excluded from this information.

**Table 45: Southern Wheatbelt hospitals: Total non-RFDS inter-hospital transfers (2008/09 – 2009/10)**

Place of departure	Type	2008/09	2009/10
Narrogin	Ambulance	9	10
	Hospital Transport	9	<5
	Helicopter Evacuation	<5	<5
	Other*	95	109
	Total	113	124
Other (excludes nursing posts)	Ambulance	67	84
	Hospital Transport	13	21
	Helicopter Evacuation	<5	<5
	Other*	85	89
	Total	165	194
<b>Total<sup>^</sup></b>		<b>283</b>	<b>321</b>

Data *includes* unqualified neonates and boarders.

Includes transfers to acute hospitals, psychiatric hospitals and nursing homes. Excludes transfers from residential aged care facilities and nursing posts.

\* Other includes private/public transport, police and other.

<sup>^</sup>Total includes the small numbers suppressed in the table.

Source: WACHS online ED pivot and WACHS online ATS pivot, as at 7<sup>th</sup> February 2011.

Note: Ambulances include volunteer, community or hospital owned ambulances, but exclude instances where an ambulance is used in conjunction with RFDS, other plane or helicopter.

In 2009/10 two in five (39%) of the non-RFDS transfers from Southern Wheatbelt hospitals were to Wheatbelt facilities (hospitals and nursing homes). More than half the transfers (52%) were to metropolitan facilities, with Royal Perth Hospital receiving the largest number (37 or 12% of all transfers).

**Table 46: Destination of non RFDS inter-hospital transfers from Southern Wheatbelt hospitals (2009/10)**

From region	To hospital	2009/10
<b>Transferred from ED</b>		
Wheatbelt	Narrogin Hospital	40
	Narembeen Hospital	5
	Wagin Hospital	6
	Other Wheatbelt Hospital	<5
Other WACHS	Katanning Hospital	6
	Other	<5
Metro	Armadale/Kelmscott Hospital	22
	Royal Perth Hospital	18
	Princess Margaret Hospital	15
	Sir Charles Gairdner Hospital	6
	Other^	25
<b>Transferred from inpatient</b>		
Wheatbelt	Narrogin Hospital	17
	Narrogin Nursing Home	17
	Pingelly Frail Aged Hostel	14
	Karinya Frail Aged Lodge Hostel	8
	Other Wheatbelt	14
Other WACHS	Albany Hospital	5
	Bunbury Hospital	11
	Other	5
Metro	Fremantle	6
	Royal Perth Hospital	19
	Princess Margaret Hospital	6
	Sir Charles Gairdner Hospital	10
	Other^	41
<b>Total</b>		<b>321</b>

*Data includes unqualified neonates and boarders.*

*Includes transfers to acute hospitals, psychiatric hospitals and nursing homes. Excludes transfers from residential aged care facilities and nursing posts.*

*^Includes not stated.*

*Source: WACHS online ED pivot and WACHS online ATS pivot, as at 7th February 2011*

### 7.3 Cultural security

Southern Wheatbelt health services and facilities need to be culturally appropriate for the catchment area's Aboriginal population. This will work towards ensuring Aboriginal people receive appropriate care at the right time in the right setting and would align with the intentions of Commonwealth and State Government policies.

### 7.4 Patient accommodation

There is a current lack of patient accommodation options in the Southern Wheatbelt. As a result, people often are required to go to metropolitan areas. Certain population groups are currently suffering from a lack of patient accommodation services and they include patients requiring long-term accommodation, those with drug and alcohol problems, those with a mental illness and young people who have suffered a head injury.

Similarly, there is a lack of short-term family type accommodation settings. This is of particular importance where pregnant women are concerned and the ability to have family staying close by is an attractive option and a better alternative than travelling to Perth to deliver their child.

## 7.5 Disaster preparedness and response

The *Clinical Services Framework* recommends Narrogin Hospital operate as a Level 4 service (Department of Health, 2010a). This equates to a Group 3 rating in WA Health Capital Works Program's *Redundancy and Disaster Planning Guidelines*. The full requirements are listed online ([www.public.health.wa.gov.au/cproot/2540/2/Redudancy%20and%20Disaster%20Planning.pdf](http://www.public.health.wa.gov.au/cproot/2540/2/Redudancy%20and%20Disaster%20Planning.pdf)) and include strategies to enhance security across the sites. Refurbishment of the Narrogin Hospital should include the opportunity upgrade facilities for greater compliance to Government Policy.

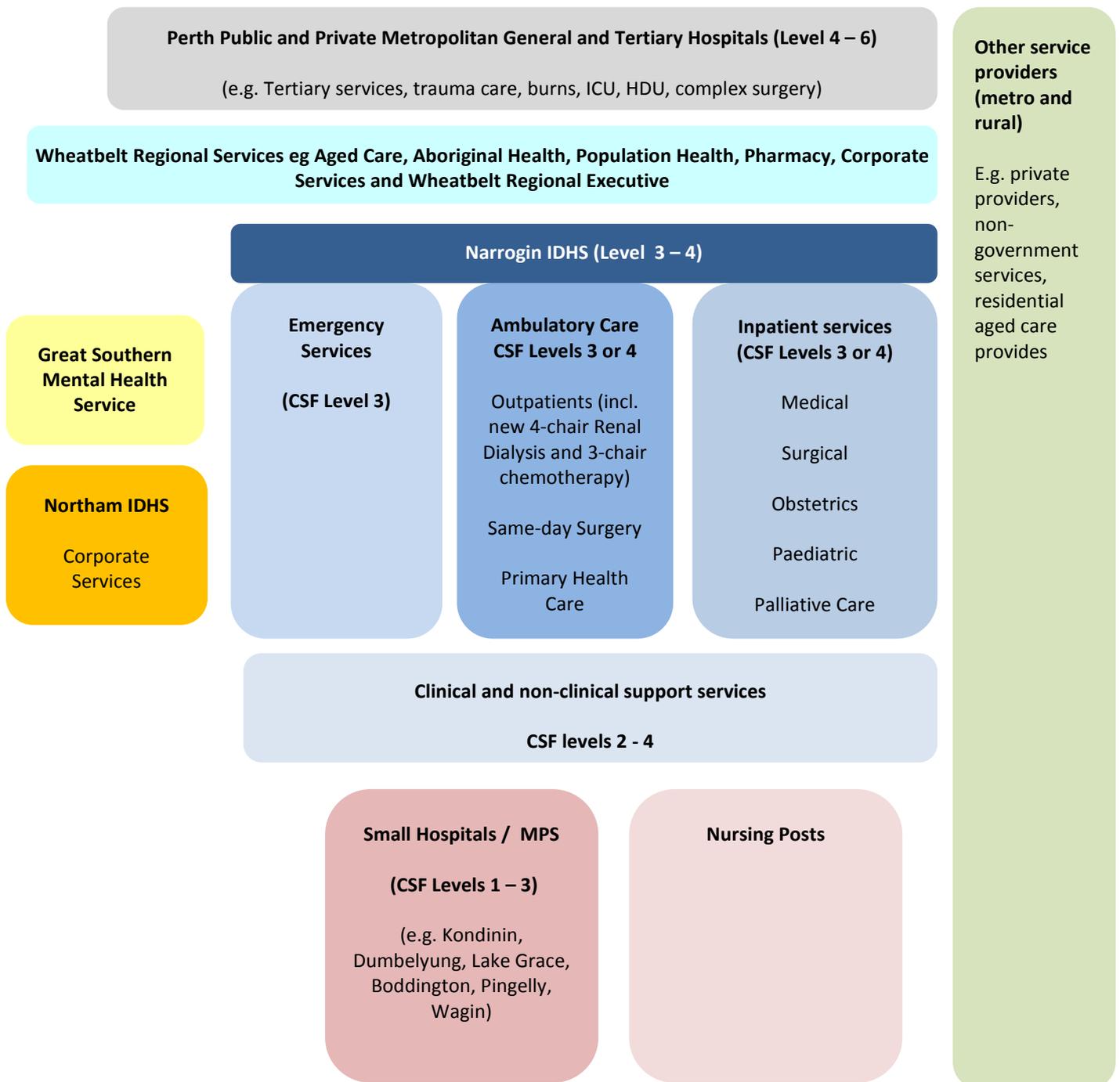
## 7.6 Contemporary facility design

Future redevelopment of the Southern Wheatbelt sites should align with the *Australasian Health Facility Guidelines* and various building codes and guidelines of Australia to ensure the facilities are contemporary and able to meet modern best practice models of care. The list of upgrades highlighted during service planning is detailed in Section 10.

## 8 PROPOSED FUNCTIONAL MODEL OF CARE

The following section provides a visual representation of the future functional external relationships for Southern Wheatbelt. The figure attempts to summarise the range of services available across the District and the role delineation. Patients will flow to and from any of the services listed. The Levels provided are from the *Clinical Services Framework* (Department of Health, 2010a).

**Figure 14: Future Functional Model of Care for Southern Wheatbelt**



## 9 CONCLUSION

This Service Plan is the outcome of extensive research and consultation with WACHS and their stakeholders to set the strategic directions for service delivery across the Southern Wheatbelt for the next ten years.

The Service Plan will be invaluable to the development of the *Implementation Plan* for the \$565 million *Royalties for Region's Southern Inland Health Initiative (SIHI)* as well as forming the basis for other funding opportunities as they arise. The recommendations contained within will inform the service reform and capital works initiatives designed to enhance the sustainability, self-sufficiency and network of health services in the Southern Wheatbelt over the next five years.

The strategic directions and recommendations for service delivery outlined in this Service Plan will enable the WACHS to better manage demand for services, improve efficiencies in patient care, meet the needs of the local catchment area and ensure alignment with existing policies and strategies, including the SIHI project.

The Plan will also assist in informing the development of future business cases for the potential redevelopment of services. It is essential that this Service Plan is reviewed as facility planning progresses, National/State policies are introduced and the needs of the community change.

An ongoing proactive approach to service planning will ensure that healthcare services remain responsive to the rapidly changing community, new policy developments and advances in medical care and technology.

## 10 RECOMMENDATIONS

The following recommendations should be undertaken over the next six to 12 months as planning progresses to Business Case development and beyond.

### Service reform recommendations

- Determine the higher level strategic directions for the Wheatbelt region once the development of service plans for the Southern, Western, Eastern and Coastal Wheatbelt areas is complete and where possible pool resources and efforts to achieve service reform across the Region (e.g. workforce development, patient transport, community midwifery model, sub-acute rehabilitation services and increasing post-acute services).
- Develop an Implementation Plan to identify the key operational activity and tasks arising from the service delivery strategies outlined in this document. This will ensure all key issues arising from the Service Plan are considered to progress service reforms and to enable full achievement of current and future *Clinical Services Framework* role delineations. This includes determining priorities within the Service Plan for the Southern Wheatbelt and Wheatbelt region that align with the funding intentions of the SIHI to ensure priorities are met, including but not limited to:
  - Utilise recurrent funding for medical and emergency services (Stream 1)
  - Establishing a one-stop shop by co-locating primary health care services on the Narrogin Hospital (Stream 2) by building an Ambulatory Care facility.
  - Prioritise recurrent funding for primary health care services (Stream 2).
  - Determine Wheatbelt sites that are suitable for Stream 3: Primary Health Care Demonstration Program informed by their historical and projected acute activity levels.
  - Prioritise the redevelopment or refurbishment of small hospitals and nursing posts in the Southern Wheatbelt as per Stream 4 supported by building condition audits.
  - Employ a Wheatbelt Telehealth Project Implementation Team (Stream 5)
  - Leverage partnerships with private aged care providers to establish residential aged care and respite beds (Stream 6)
- Implement the recommendations of the key Commonwealth and State Government policy, including:
  - Provide a four chair satellite outreach renal dialysis service at Narrogin Hospital as per the WACHS Renal Dialysis Plan 2010-2021.
  - Provide three chemotherapy chair service as per the WACHS Cancer Services Plan.
  - Upgrade services and facilities to comply as a Group 3 service for emergency management and redundancy planning.
  - Work with the Department of Health's Health Information Network branch (HIN) to establish electronic integrated medical records (as per the National Health Reform Agreement).
- Consolidate the future functional models of care for emergency services and primary health care within the Southern Wheatbelt.

- Determine the workforce strategy and recurrent cost implications (workforce model to include a focus on education and training for GPs, medical, nursing and allied health staff).
- Determine the private and inter-governmental partnerships to be formed to enable the future models of care to be established.
- Continue the 'community engagement' model for service planning to ensure services are suitable and culturally secure services for all residents.

## Facility development

Support the achievement of service reform above by redeveloping Narrogin Hospital. This includes utilising the funding allocation available from SIHI and other funding sources to:

- Collocate primary health care services, outpatients and visiting medical specialists within a purpose built Ambulatory Care Centre. Include an area for maternity outpatient services. Area to accommodate three-chair chemotherapy unit, four-chair Satellite Outreach Service renal service and ECG space (as funded through SIHI Stream 2).
- Provide a two-twin/double bed hostel accommodation for cancer patients incorporated on the Narrogin Hospital site as per the WACHS Cancer Services Plan.
- Increase the number of ED treatment bays from four to six (including two resuscitation bays) at Narrogin Hospital.
- All Southern Wheatbelt EDs to have an interview room with dual egress, duress and access to videoconferencing facilities.
- Provide a fully functional second operating theatre and review and upgrade current theatre area to improve function and ensure compliance with relevant Australian codes and standards.
- Maintain 42 bed multiday and nine same-day bed capacity at Narrogin Hospital.
- Upgrade to inpatient area at Narrogin to be compatible with modern models of care.
- Review and upgrade Narrogin Hospital maternity bathroom facility.
- Upgrade Narrogin Hospital paediatric inpatient area to meet infection control standards, occupational health and safety and to accommodate borders
- Provide multipurpose consult rooms to accommodate visiting mental health and allied health staff.
- Upgrade Narrogin Hospital Pathology and Pharmacy facilities to meet current and future service needs and to ensure staff safety.
- Upgrade the Narrogin Hospital laundry that currently does not have a ceiling.
- Refurbish the Kitchen at Narrogin Hospital to make better use of space and improve functional capacity.
- Provide hot desks with appropriate technology available for visiting staff.
- Ensure ICT bandwidth is upgraded to support telehealth and viewing of medical imaging.
- Provide wireless technology across all hospitals.
- Ensure telehealth technology is available and accessible across all hospitals.

- Provide telehealth enabled interview rooms in the hospital and ambulatory centre to allow crisis level primary assessment and secondary consultation but also may be able to utilise private MBS funded psychiatrists in an outpatient capacity.
- Ensure telehealth facilities are located closer to the ward areas (e.g. mobile telehealth facilities and fixed facilities in ED and inpatient areas, including areas for viewing of Medical Imaging results).
- Review security at all hospital sites.
- Refurbish Southern Wheatbelt facilities to meet WA Health Redundancy and Disaster Planning.
- Disability access required to all services.
- Consider appropriate short term staff accommodation on-site (e.g. for locums and transient staff).
- Upgrade laundry (e.g. provision of a ceiling).
- Refurbishment of the Supply area.

**Table 47: Summary of preliminary facility needs for Narrogin Hospital**

The following needs will be discussed and determined as planning continues.

Services	Current configuration	Future Configuration
<b>Ambulatory Health Care</b>		2 x chair public dental clinic 4 x chair renal dialysis 3 x chair chemotherapy <sup>#</sup> Maternity outpatients Consult space for outpatients Multipurpose consult rooms Population health
<b>Acute Care Inpatient</b>	42 multiday beds: 28-bed general surgical and medical unit; 6-bed obstetric unit; 4-bed paediatric unit; 2-bed 'rooming in' (psychiatric) unit; 2-bed palliative care unit; and 9 same-day beds	42 multiday beds: 9 same-day beds Upgrade existing rooms to be compliant with modern standards Upgrade maternity bathrooms
<b>Emergency Department</b>	4 x Treatment Spaces	6 x Treatment Spaces (includes 2 x resuscitation bays) Interview room with dual e-gress Procedure room Consult rooms to be determined
<b>Theatres</b>	2 x theatres (only 1 fully functional)	2 x theatres (both fully functional)
<b>Patient accommodation</b>		2 x twin/double bed hostel accommodation

*# If funding from the Commonwealth Health & Hospital's fund does not eventuate due to changing political priorities than developing cancer units at Narrogin and Northam will remain a priority.*



- Explore the opportunities in the SIHI project (Stream 4 or 5) to refurbish small hospitals/MPS site as per this Service Plan:
  - Ensure telehealth facilities are located closer to the ward areas (e.g. mobile telehealth facilities and fixed facilities in ED and inpatient areas, including areas for viewing of Medical Imaging results).
  - Provide multipurpose consult rooms with dual egress to accommodate visiting mental health and allied health staff across all Southern Wheatbelt sites.
  - Refurbish small hospitals which have large kitchens that are not currently fully used.

## 11 GLOSSARY

Term	Meaning
<b>Acute care</b>	Care in which the need for treatment is driven primarily by the patient's principal medical diagnosis rather than their functional status.
<b>Admitted patient</b>	Is a person who has been assessed by the treating clinician as meeting at least one of the minimum criteria for admission to an inpatient area and who undergoes the hospital's formal or statistical admission process as either a same-day, overnight or multi-day patient.
<b>Ambulatory health care centre</b>	Is a health facility where ambulatory health care services are provided along with emergency department care and overnight inpatient admissions.
<b>Ambulatory care services</b>	Is a broad term that generally refers to the planned services provided to patients who are able to 'walk in and walk out' on the same-day. Ambulatory care services can include primary health care services, day surgery and outpatients (e.g. wound care and management).
<b>Authorised bed</b>	Authorised under the <i>Western Australia Mental Health Act, 1996</i> to accept involuntary admission to a Mental Health Unit. Unauthorised facilities cannot accept involuntary admissions.
<b>Catchment area</b>	A catchment area refers to the geographical area that a health service will primarily provide services to. It is usually bound by one or more local statistical areas as defined by the Australian Bureau of Statistics.
<b>Clinical support services</b>	Includes services to support the operations of clinical services. Includes pharmacy, medical imaging, central sterilising services and pathology.
<b>Co-located/ Collocated</b>	Co-located services are located together in the one facility. Collocated services are located adjacent to another another or in close proximity to one another, generally in a separate buildings.
<b>Culturally secure</b>	Services or facilities that are culturally appropriate and meet local cultural and religious needs.
<b>Fluoroscopy</b>	Is a type of medical imaging that shows a continuous x-ray image on a monitor, much like an x-ray movie. It is used to diagnose or treat patients by displaying the movement of a body part or of an instrument or dye (contrast agent) through the body.
<b>Health consumer</b>	A term utilised to refer to individuals who are likely to or are currently accessing WACHS services. Includes inpatients and clients.
<b>Length of stay</b>	The number of days spent in hospital by a patient for a single admission. Calculated as date of separation minus date of admission.
<b>Model of care / service delivery model</b>	A service delivery model is a framework that establishes how particular health care services will be delivered. The model stipulates the key features of a service such the key aim/focus of care provided; type of specialist and general services provided; the preferred strategy for patient management and flow; and the relationships required with other stakeholders to deliver care. One of the key features of the Service Plan is the future service delivery models. These form the foundation for workforce and master planning.
<b>Multi-day patient</b>	Is a patient that was admitted to, and separated from, the hospital on different dates. Therefore, a booked same-day patient who is subsequently required to stay in hospital for one night or more is an overnight patient; a patient who dies, is transferred to another hospital or leaves of their own accord on their first day in the hospital is a same-day patient even if the intention at admission was that they remain in hospital at least overnight.

Term	Meaning
<b>Non-clinical support services</b>	Includes corporate support, information and communication technology services, supply services, site maintenance, cleaning, kitchen services and laundry services. Services that are required to maintain the safety and comfort of staff, patients and visitors.
<b>Orthopantomogram (OPG)</b>	An orthopantomogram, or OPG, is a special type of x-ray looking at the lower face that displays both the upper and lower teeth in a long flat line. It demonstrates the number, position and growth of all teeth including those that have not yet surfaced.
<b>Primary health care</b>	<p>Is an aspect of ambulatory health care but is generally first level health care. The term is sometimes used interchangeably with the term primary care although primary care tends to refer to the clinical care provided by GPs. Primary health care gives priority to those most in need, maximises community and individual self-reliance and participation and involves collaboration with other sectors. It includes:</p> <ul style="list-style-type: none"> <li>• Health promotion</li> <li>• Illness prevention</li> <li>• Clinical treatment and care of the sick</li> <li>• Community development</li> <li>• Advocacy and rehabilitation</li> </ul> <p>Primary health care is provided by general practitioners, practice nurses, primary/community/child health nurses, pharmacists, dentists, allied health professionals, aged care workers, support workers and many other providers across the local, state and federal government sectors, non-government organisations and the private sector.</p>
<b>Primary health care centre</b>	Generally refers to a stand-alone health facility where primary health care service are provided. It would ideally be located in close proximity to emergency department and may be collocated with inpatient, outpatients, minor wound care and diagnostic services. A primary health care centre does not include day surgery services.
<b>Role delineation</b>	Indicates the type and level of services provided by a hospital, as outlined in the WA Health <i>Clinical Services Framework 2010 - 2020</i> .
<b>Same-day patient</b>	<p>A same-day patient is a patient who is admitted and separated on the same day of inpatient admission. May be either a planned booked patient or an unplanned patient transferred from the emergency department. A patient cannot be both a same-day patient and an overnight or multi-day stay patient at the one hospital.</p> <p>The category of same-day is determined retrospectively; that is, it is not based on the intention to admit and separate on the same date. Rather, a patients is deemed to have been a same-day patient, if in retrospect, it can be seen that the patient was admitted to, and separated from, the hospital on the same date. Therefore patients who die, transfer to another hospital or leave of their own accord on their first day in the hospital are included. Booked same-day patients who are subsequently required to stay in hospital for one night of more are excluded and regarded as a multi-day patient. Examples of same-day activity include renal dialysis, colonoscopy and chemotherapy.</p>
<b>Separation</b>	Separation is the most commonly used measure to determine the utilisation of hospital services. A separation equates to a patient leaving a healthcare facility because of discharge, sign-out against medical advice, transfer to another facility/service or death. Separations, rather than admissions, are used because hospital data for inpatient care are based on information gathered at the time of discharge.
<b>Service planning</b>	<p>Is a process of:</p> <ol style="list-style-type: none"> <li>1. Documenting the demographics and health status of a health service's</li> </ol>



Term	Meaning
	<p>catchment area.</p> <p>2. Recording the current status and projected future demands for the health service.</p> <p>3. Evaluating the adequacy of the existing health service to meet the future demands.</p> <p>The process involves analysis of current and future population and service data and consultation with a range of internal and external stakeholders to develop the future service delivery models for the identified health campus or site.</p> <p>The key deliverable or outcome of service planning is a Service Plan.</p>
<b>Service plan</b>	<p>A Service Plan will outline the current and preferred future profile for services operating from an identified health campus or site. It will include the context for service delivery including the population profile, future demand, existing policies and strategies and the preferred future service delivery models.</p>
<b>Sub-acute care</b>	<p>Interdisciplinary or multidisciplinary care in which the need for care is driven primarily by the patient's functional status and quality of life rather than the underlying medical diagnosis. It may include care for patients who have multiple diagnoses, none of which can be specified as the principal diagnosis.</p>

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## **APPENDIX A: METHOD FOR DEVELOPING THE SERVICE PLAN**

The following methodology was undertaken by Aurora Projects and WACHS to develop the Southern Wheatbelt Service Plan:

### **Project Plan (July 2011)**

A Project Plan detailing the method, consultation process, timeframe, key milestones and budget for the planning process for developing the Service Plan was negotiated with and signed off by WACHS.

### **Literature Review (August – December 2011)**

Key literature including Commonwealth, State and local policies were reviewed to provide direction for service reform as contained Section 3.5 in this Service Plan.

### **Data Analysis (August – December 2011)**

WACHS Clinical Planning Team provided the following data:

- Demographic data analysis of Estimated Resident Population (population numbers) and Australia Bureau of Statistics Series B+ (population growth).
- Health status activity data obtain from the WA Health and Wellbeing Survey (2009) and various morbidity and mortality databases.
- Actual and projected health service activity from various Department of Health databases.

### **Consultation workshops (September 2011)**

Round 1 of Service Planning Consultation workshops were conducted with staff of the Southern Wheatbelt hospitals to determine the District's strengths, emerging issues, areas for improving the existing model of care and opportunities to implement the intentions of the Southern Inland Health Initiative. Workshops engaged representatives from emergency, acute, aged care, primary health care services and clinical and non-clinical support services.

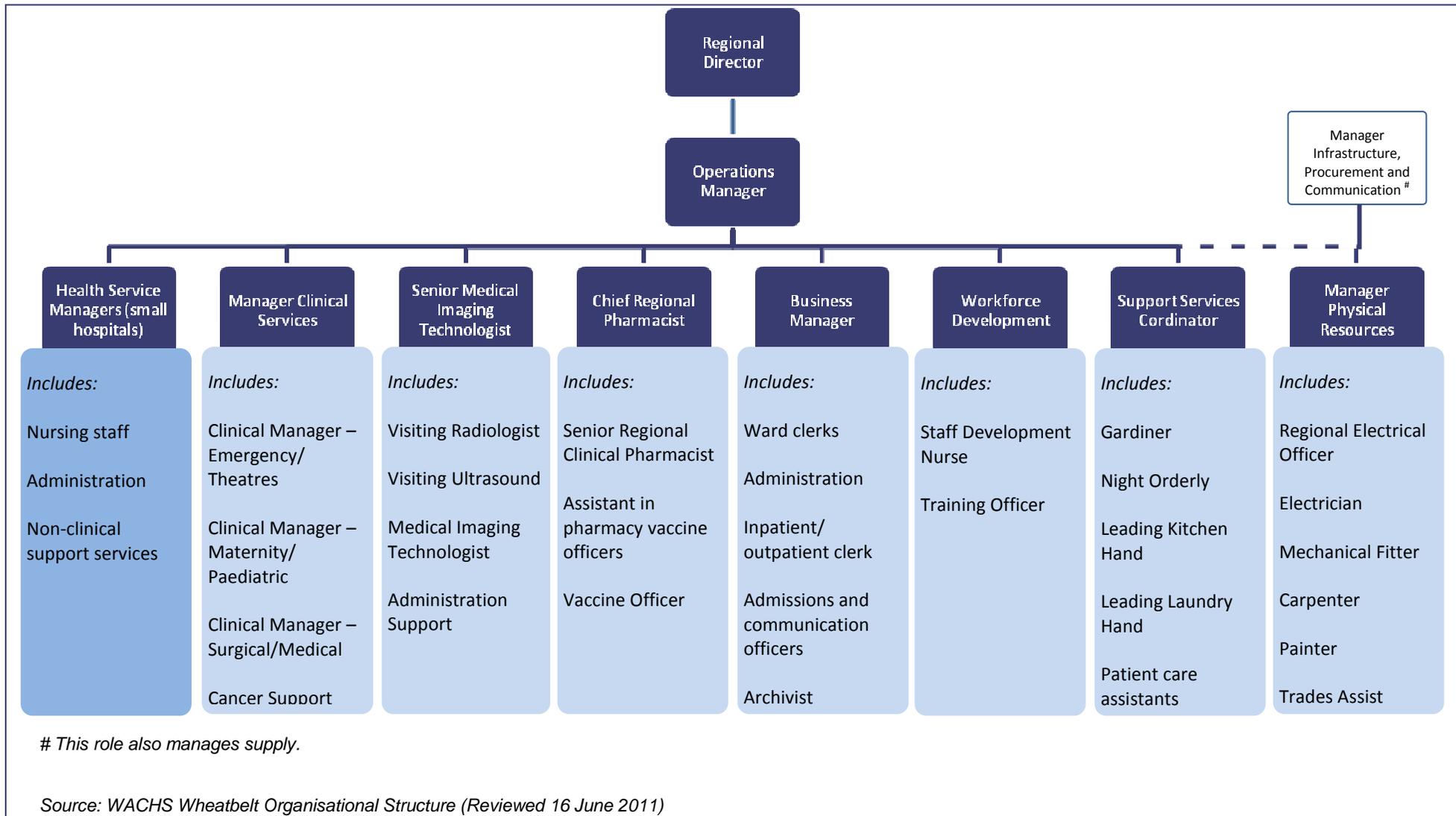
### **Validation workshops (October 2011)**

A thematic analysis was undertaken of the data collected in Round 1. Validation workshops were held with staff of Round 1 to confirm the outcomes and determine the strategic direction as detailed in this Service Plan.

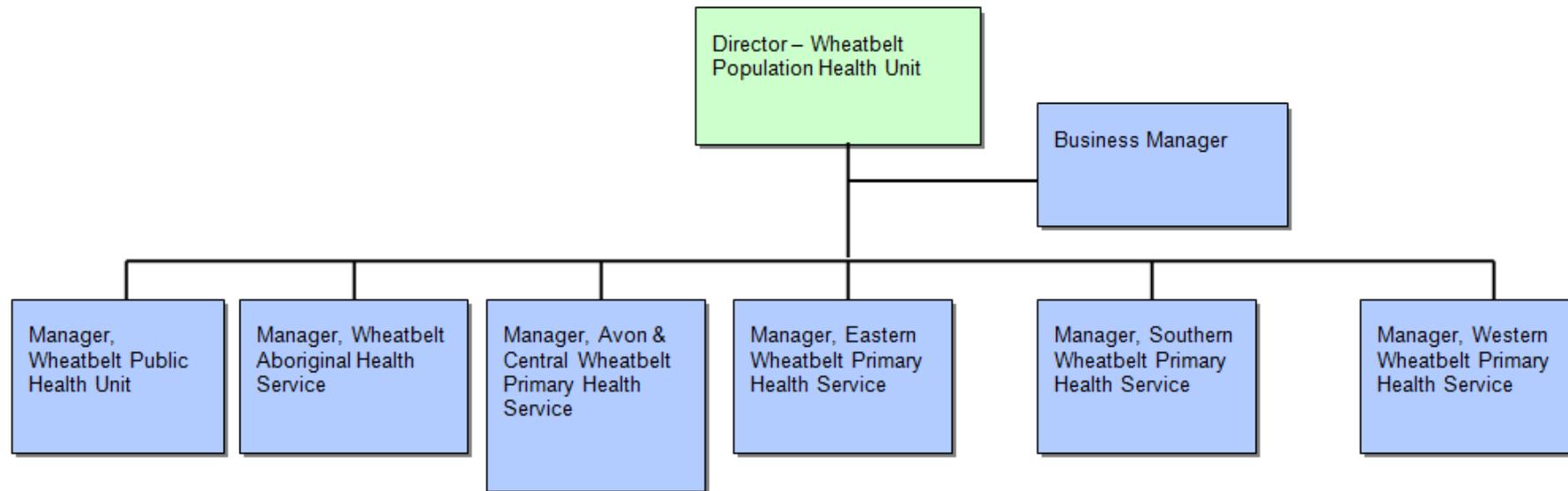
### **External stakeholder consultation (November 2011)**

WACHS – Wheatbelt Regional Director and WACHS Manager Planning led a series of workshops with external stakeholders to promote the objectives of the Service Plan and the Southern Inland Health Initiative and obtain their views for local service reform.

## APPENDIX B: OPERATIONAL STRUCTURE (NARROGIN AND SMALL HOSPITALS)



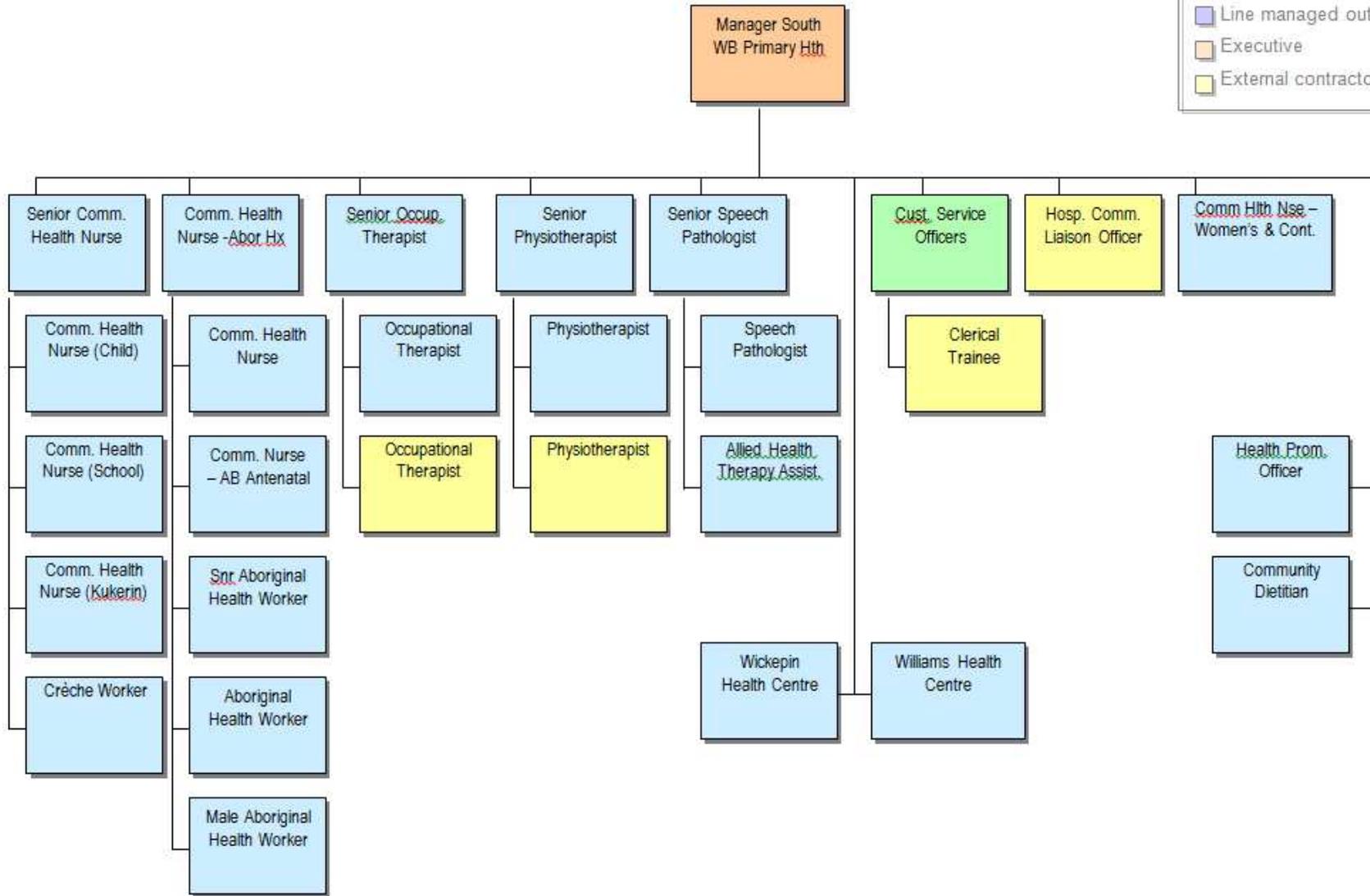
## WACHS WHEATBELT REGION: Population Health (as of January 2012)



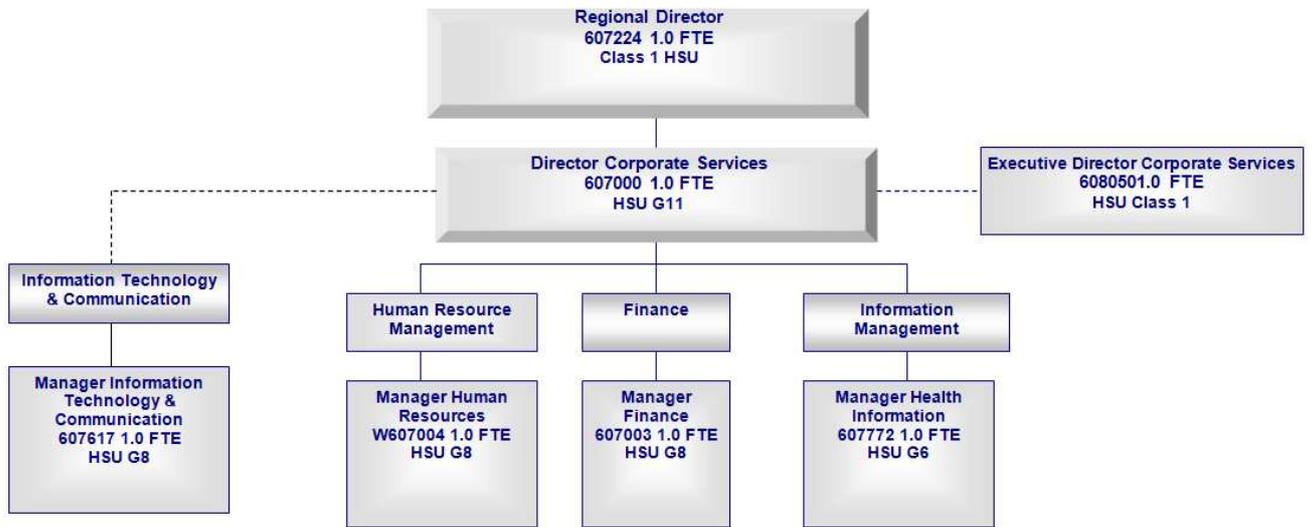
# WACHS – WHEATBELT: Population Health (SWHD)

**LEGEND**

- Client services
- Customer / executive support
- Line managed outside of unit
- Executive
- External contractor

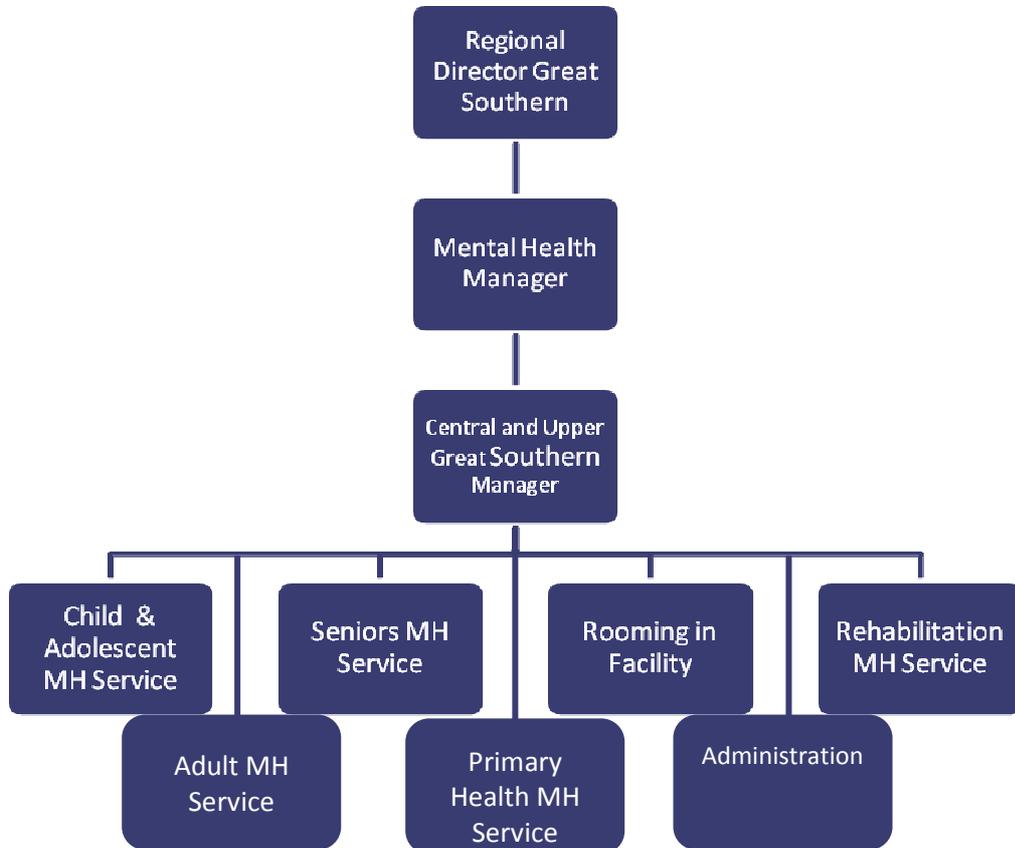


## CORPORATE SERVICES STRUCTURE



Source: WACHS Wheatbelt Organisational Structure (Provided 14 May 2012)

## MENTAL HEALTH SERVICE STRUCTURE



Source: WACHS Wheatbelt Organisational Structure (Reviewed 16 June 2011)