



High Level Newman Service Planning Report

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Corporate Details

Project Leader

David Naughton

Principal Authors

David Naughton, Maree Quinlan & Marnie Butson



AURORA PROJECTS PTY LTD
ABN 81 003 870 719
www.auroraprojects.com.au

PERTH
Level 1, 317 Rokeby Road
Subiaco WA 6008

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1 Purpose

This high-level Service Planning Report has been prepared by Aurora Projects for the WA Country Health Service (WACHS) – Pilbara. It summarises the key service planning issues for the Newman Hospital and Health Service and catchment area.

The paper:

- describes the current and future service and facility planning issues; and
- outlines the key ideas for progressing improved health services and health facilities in Newman.

The Project Methodology is described in the (separate) Project Plan.

The key purpose of this report is to inform the architect commissioned to deliver a Concept Master Plan of the services that will be required at Newman Hospital and Health Service. This will enable estimation of future facility requirements and development of a Concept Master Plan. The WACHS - Pilbara is keen to progress capital funding opportunities with Industry, namely BHP Billiton, who have previously expressed a desire to co-invest in improved Health infrastructure in Newman.

The key high-level service and facility planning issues identified are drawn from a table-top review of provided documentation, staff consultation, an analysis of health morbidity data and a summary of existing services and staffing provided by the WA Country Health Service (WACHS). It is also informed by external stakeholder reviews such as the Marella Report (October 2010) into the sustainable provision of primary care and medical service and other related matters. The proposed Statement of Facility Requirements (SoFR) is based on this information.

1.1 Demographic Profile

The Shire of East Pilbara was formed by an amalgamation of the Shires of Marble Bar and Nullagine in 1972, which created the largest Shire in the world, at an area of over 371,696 square kilometres. The main town sites are Newman, Marble Bar and Nullagine. The Shire area contains numerous Aboriginal communities, including Jigalong, Punmu, Parngurr and Kunawarritji. There are also Aboriginal communities in Nullagine (Irrungadji community) and Marble Bar (Pipunya and Goodabinya communities). The Jigalong Aboriginal community, located 170km east of Newman, has a larger population than the township of Nullagine. Parnpajinya Community/Aboriginal Association, located in Newman, has its own set of bylaws and operates as a discrete community.

In 2006, mining and construction were the dominant industries in the East Pilbara, employing 54.6% and 10.1% of employed people, respectively (ABS, 2007). Manufacturing accounted for 4% of workers and services including education, public administration, and health care and social assistance accounted for 25.2%. Just 1% of workers were employed in agriculture, forestry and fishing (ABS, 2007¹).

¹ 2006 Census Community Profiles by Location: available at:
<http://www.abs.gov.au/websitedbs/D3310114.nsf/Home/census?opendocument#from-banner=GT>

Table 1 indicates the East Pilbara population is slightly younger and wealthier (in terms of median income) than the State average, no doubt driven in part by the high proportion of employment in the mining sector. Nearly 80% of residents are aged 44 years or younger (ABS, 2007¹). The unequal distribution of mining wealth is evident in the area's low socio-economic index score, which puts it in the bottom 20% of the State in terms of relative economic advantage.

Table 1: East Pilbara demographic parameters relative to State

Measure	East Pilbara	State
Median age of non-indigenous persons	Between 30 and 34 years	36
Median age of indigenous persons	Between 20 and 24 years	Between 19 and 22 years
Median individual income (\$/weekly)	864	500
Median family income (\$/weekly)	1,990	1,246
Average household size (persons)	3.1	2.5
Average number of persons per bedroom	1.2	1.1
Socio-economic index score ²	936	-

Note: ABS data relating to remote Aboriginal communities should be referenced with caution given the low completion rates of ABS surveys by these communities; the low levels of English literacy and a preference for children to be fluent in Martu wangka or other Aboriginal languages, such as Nyiyparli rather than English.

English is less dominant and Aboriginal languages more prevalent in the East Pilbara than the State as a whole, as shown in Table 2.

Table 2: Languages spoken at home

Language spoken at home	East Pilbara	State
English only	64.8%	81.8%
Australian indigenous languages	14.8%	0.4%
Other non-English languages	4.8%	11.2%

Note: ABS data relating to remote Aboriginal communities should be referenced with caution given the low completion rates of ABS surveys by these communities; the low levels of English literacy and a preference for children to be fluent in Martu wangka or other Aboriginal languages, such as Nyiyparli rather than English.

There are over 100 births per annum attributed to East Pilbara residents. However as deliveries are not performed at Newman Hospital, women are required to travel to Port Hedland, or choose to utilise private maternity services in Perth or interstate.

² Source: ABS, 2033.0.55.001 – Socio Economic Indexes for Areas (SEIFA), data only 2006. Available at: <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/2033.0.55.0012006?OpenDocument>

Because of the dominance of the mining and resource sectors in the East Pilbara economy, at any one time, the population is composed of residents, fly-in-fly-out (FIFO) and construction workers associated with mining and resource projects, and tourists. The 2006 census population of the East Pilbara area was 10,635 people, 58% of whom were residents, and 42% of whom were visitors. At a State level, 94% of people were residents of the Local Government Area they were staying at on Census night, and 5% were visiting. This comparison highlights the more transient nature of the East Pilbara population at any given point in time, relative to the rest of the State.

Population projections for Newman therefore need to take into account both residents, and visitors, particularly in the context of the large volume of fly in fly out (FIFO) workers currently associated with the region and the anticipated ongoing rapid expansion of industry. A recent report by Heuris Partners³, commissioned by the Pilbara Industry's Community Council, projects the estimated residential population of Newman to grow from approximately 7,000 in 2008 to approximately 8,000 by 2015, reflecting growth of 2% per annum. In the Heuris Partners paper, the population at Newman is forecast to remain static from 2015 to 2020, however this is more reflective of the uncertainty around future industry growth after 2015 and the lack of available public knowledge around planned and potential resource projects into the future.

Projected FIFO numbers are uncertain. However local staff predict that by 2015, there will be almost 4,000 FIFO workers at Newman, resulting in a total population of over 12,000 drawing on services within the town.

It is important to acknowledge that a significant number of tourists visit the Pilbara region including Newman, particularly as it is located on the Great Northern Hwy which provides access to Karijini National Park. In 2005/06 there were over 150,000 visiting the Pilbara for reasons other than business (i.e. for holiday/leisure or visiting friends or family)⁴. There is a distinct wet/dry season, with most tourists coming to the area in the dry season to avoid the tropical storms and rain. These visitors will have an impact on the volume of people requiring access to emergency care services and are therefore an important consideration for health services planning in the region.

³ 'Planning for resources growth in the Pilbara: revised employment and population projections to 2020' (for the Pilbara Industry's Community Council), Heuris Partners, March 2010

⁴

[http://www.tourism.wa.gov.au/Publications%20Library/Research/Pilbara%20\(RDC\)%202006.pdf](http://www.tourism.wa.gov.au/Publications%20Library/Research/Pilbara%20(RDC)%202006.pdf)

2 Service Planning Processes

High-level service planning issues for Newman Health Service have been identified through a review of policy and planning documentation, and an analysis of service data and current health service staffing levels. The findings are outlined below.

2.1 Documentation Review

The following information, provided by the WACHS, has been reviewed:

- WACHS Pilbara Clinical Services Plan, March 2009;
- Revitalising WA Country Health Service 2009-2012;
- Clinical Services Framework, 2005;
- Clinical Services Framework, 2010 – 2020;
- Pilbara Industry's Community Council (PICC), Planning for Resources Growth in the Pilbara: employment & population projections to 2020;
- Newman Master Planning Brief, October 2009; and
- Newman Medical Services: A Sustainable Medical and Health Services Framework (Marella Health Consulting), October 2010.

The findings from the review of this information are summarised below.

2.1.1 WACHS Pilbara Clinical Services Plan, March 2009

A comprehensive service planning process has been undertaken for the development of this overarching strategic document, which sets out the vision and strategic approach for the development of health services in the Pilbara Region.

The document identifies key drivers for changing the delivery of health services. These include:

- the major direction for the development of services is based on a population health approach which supports services across the continuum of care with an increased focus on ambulatory care;
- rapid population growth and an increase in local heavy industry activity is a major driver for change particularly within the regional centre of Port Hedland and the towns of Karratha and Newman. Of significance is the variance in quantum between the population projections of the ABS and the mining and health industries;
- much of the anticipated increase in health service activity will be related to accident and trauma requiring emergency responses/disaster management. This is related to tourism and an increase in mining activity;
- health care is rapidly moving to an ambulatory model of care (walk in walk out planned activity) and the need for acute inpatient beds is reducing;

- the proportion of the region’s population who are Aboriginal and Torres Strait Islander(ATSI) people is both significant (13.5%) with identified poor health outcomes;
- health data demonstrates a growth in chronic disease (diabetes, renal disease) as result of lifestyle choice, plus an increasing incidence of teenage pregnancy, sexual transmitted illness, smoking, alcohol misuse, obesity and mental health conditions, including youth self harm;
- significant health staff attraction and retention issues exist in the Pilbara
- existing health infrastructure (including staff accommodation) requires significant improvement in functionality (efficiency), clinical capacity to meet a growing demand and improved quality and volumes in respect to staff accommodation.;
- poor patient transport systems and the challenges patient face to access necessary services are key health issues;
- increased ATSI participation in the health workforce is required;
- there is a need to co-locate services that require similar clinical support;
- health facilities are recognised as an integral component in support of the model of care. The number, location, and scope of facilities must balance the need to:
 - minimise barriers to access;
 - reduce inequalities;
 - maximise flexibility in health care delivery; and
 - make the most of scarce clinical and physical resources.

Health service planning has identified that the WACHS – Pilbara must make changes to the existing health service profile, service configuration and the way services are provided if it is to continue to safely and effectively provide services beyond the year 2020. Significant levels of service reform are required to more effectively manage the future health needs of the population.

2.1.2 Revitalising WA Country Health Service 2009-2012

Published in October 2009, *Revitalising WA Country Health Service 2009-2012* provides a high level strategic vision for WACHS.

The four key strategic directions in the document that describe what WACHS “is striving for” are:

A fair share for country health

- *Securing a fair share of resources* and being accountable for their use

Service delivery according to need

- *Improving service access based on need and improving health outcomes*

Closing the gap to improve Aboriginal health

- *Improving the health of Aboriginal people*

Workforce stability and excellence

- *Building a skilled workforce and a supportive workplace*

The WACHS values are described below. There is a clear expectation that that staff will demonstrate these at all times. They are:

Community

Country hospitality, where there is openness, generosity and cooperation. Building healthy and empowered communities and teams being inclusion, working together, valuing each other and the difference we can make. A 'can-do' attitude.

Compassion

Commitment to caring for others with consideration, appreciation, understanding, empathy, kindness and respect. Listening and being heard.

Quality

Always striving to provide the best possible care and service through questioning and review, high standards, innovation, creativity, learning and improving. All of us being part of the solution.

Integrity

Building trust based on openness, honesty, accountability and valuing and respecting others opinions and points of view. Demonstrating the values. Respectful communication and relationship building. Being mindful of the legacy we hand on to future staff and communities.

Justice

Achieving equity and fairness, showing cultural respect, valuing and embracing diversity and respecting confidentiality. Treating everyone equally. Speaking up when there is injustice. Transparency.

Key actions for WACHS to focus on are described in *Revitalising WA Country Health Service 2009-2012* these are to.

- Strengthen and improve access to emergency department services.
- Work with communities so that health and hospital services match health need.
- Link alcohol, drug and mental health services and strengthen prevention
- Improve access of communities in rural and remote WA to primary health care services.
- Stabilise and the skill workforce and provide a safe and supportive workplace.
- Improve services to Aboriginal communities and boost Aboriginal employment opportunities.
- Establish the WA Centre for Country Health Service Research and Education.
- Develop the WA Country Health Service Permanent Employee Housing Accommodation Strategy.
- Develop secure electronic clinical information system, telehealth & e-health.
- Revitalise community and stakeholder partnerships and communication.
- Develop a financial resource model to improve funding of country health services.

- Improve country aged care services.
- Introduce new models of care that improve services and the health and well being of country people.

2.1.3 Clinical Services Framework (2005)

The *WA CSF 2005 - 2015* was developed in response to Health Reform Committee recommendations and a Clinical Services Consultation process, which gathered input on service planning from health care staff, community and other stakeholders.

The CSF provided a clear statement of the strategic role for each metropolitan hospital with an outline of the type and level of clinical services at each site.

2.1.4 Clinical Services Framework (2010)

The 2005 CSF was reviewed in 2009 and a new *WA CSF 2010 – 2020* was published prior to the end of the 2009 calendar year. The updated CSF now includes WACHS hospitals and statements regarding WACHS health service delivery models. It also provides the current and future role delineation for all Regional Resource Centres and Integrated District Health Centres.

Newman is classified as an Integrated District Health Centre. Other than an increased role in disaster management (moving from level 3 to level 4), there is no significant change in the *WA CSF 2010 – 2002* to Newman Hospital role delineation. However, the patient demand activity and bed profiles demonstrate that the future acute inpatient activity is not projected to be as great as when the facility was first established.

The Department of Health activity modelling will continue to inform services planning and any capital developments along with local knowledge, contemporary service models and safe and improved practice approaches.

2.1.5 Pilbara Industry's Community Council (PICC), Planning for Resources Growth in the Pilbara: Revised Employment & Population Projections to 2020, March 2010 (report prepared by Heuris Partners)

This report, commissioned by the Pilbara Industry's Community Council (PICC) was developed to provide a framework that could broaden the understanding of the implications of the planned growth in the resource sector on the wider community, in particular the need for infrastructure provision.

The paper identifies that the traditional population measure for service planning (ABS recorded place of residence) does not provide a complete picture for areas such as the Pilbara, with a significant proportion of the population being fly in-fly out (FIFO). This factor, combined with the planned and the very real rapid expansion of heavy industry, has an impact on population and accordingly demand for infrastructure, such as hospitals. The report identifies that there will be significant increases in the Pilbara population by the year 2015, to approximately 57,000-60,000. This is a significant variance from the 2006 ABS population projections which proposed a population of 41,000 by the same year.

The Heuris Partners high end dataset was adopted as the basis for projecting future demand for healthcare services in the Pilbara (see section 2.2). The FIFO and construction workforce projections were included in the ED activity modelling, whereas inpatient projections were based on resident population forecasts only.

Table 3: Heuris Partners (high end) population projections for the Pilbara, including FIFO and construction workforce

Population Component	2010	2015	2020
Projected Resident Population	50,087	60,106	61,529
FIFO	14,584	26,644	32,805
Construction	22,329	9,202	2,100
Total	87,000	95,952	96,434

2.1.6 Newman Master Planning Brief, October 2009.

Briefing paper provided by the WACHS- Pilbara that describes the current facilities profile at Newman Health Service and a brief history of the facility since commissioning in 1969. The paper provides a summary of the current level of operational facilities, staffing profile and inpatient activity and is attached as Appendix A.

The paper also provides a summary of the current facility issues/problems at Newman Health Service and a summary of the identified and emerging health issues, plus flags the opportunity for some level of local mining industry capital investment into the existing Newman Health Service facility.

2.1.7 Newman Medical Services: A Sustainable Medical and Health Services Framework (Marella Health Consulting, October 2010)

A review of the Newman Medical Services was commissioned by local industry. This report provides a high level view of the existing GP medical services in Newman and proposes strategies to assist to ensure the sustainability of medical service provision in the town and catchment.

The report recommends that that the WACHS – Pilbara work with the local Aboriginal Medical Service and the private sector GP provider to develop an integrated primary health care service and facility that links existing primary health services (GPs, Population Health and Aboriginal Health) to provide a range of health services to meet the emerging needs of the local community and continue to support the provision of acute care hospital services (emergency and acute inpatient beds). This is line with the developing WA Country Health Service Primary Health Care future models of service provision.

The report also recommends that the private GP provider continue to develop and provide occupation health medical services.

2.2 Service Data Review

Aurora Projects performed a review of service data to identify high-level service planning issues. The key issues identified for the Newman Health Service catchment were:

2.2.1 Inpatient and Emergency Services

Table 3 shows the historical and projected inpatient activity at Newman Health Service, based on the March 2010 Heuris Partners (high end) resident population forecasts.

The projected demand for beds at Newman Health Service demonstrates that, at a target occupancy rate of 65%⁵, demand in 2021 can be met with 11 inpatient beds. However, considering operational economies of scale, and the fact that Newman's nearest hospital is more than 200 kilometres away, 12 beds in 2021 are recommended to accommodate surges in demand. The *2010 – 2020 Clinical Services Framework* recommends 12 beds..

Table 4: Historical and base case inpatient activity projections

	Historical			Projected		
	2007/08	2008/09	2009/10	2011/12	2016/17	2020/21
Multi-day separations ⁶	547	551	632	699	621	603
Same day separations	190	202	256	321	369	401
Total separations	737	753	888	1020	990	1004
% same day	26%	27%	29%	31%	37%	40%
Bed days ⁷	1866	1841	2121	2,490	2,402	2,587
ALOS	2.5	2.4	2.4	2.4	2.4	2.6

Source: WACHS Inpatient Demand Modelling Pivot 2010. Projections based on Heuris (high end) resident population projections.

Appendix C presents further detail on inpatient activity modelling.

2.2.2 Emergency Services

Table 5, below, demonstrates the anticipated growth in emergency presentations to Newman Health Service. Significant ongoing growth is forecast based on the resident population projections, along with the FIFO workforce that is anticipated to create increased demand for emergency services.

⁵ Occupancy rate is a measure of supply. WACHS area office applies a 65% occupancy rate to calculate demand at hospitals such as Newman.

⁶ The term used for the completion process at the end of a patient's episode of care; be it discharge, death, or transfer.

⁷ A hospital bed occupied by an admitted patient for all or part of a day

Table 5: Historical and projected emergency activity

Activity	Historical			Projected		
	06/07	07/08	08/09	2011/12	2016/17	2020/21
Emergency presentations ⁸	5,591	4,555	4,665	8,461	9,544	10,879

Source: WACHS ED Demand Modelling Pivot (based on Heuris Partners projections March 2010)

Applying the WACHS-recommended ratios for bays per triage category (see Appendix C), a total of six emergency bays – four ED and two resuscitation bays – is appropriate for Newman’s projected demand to 2021, which is an increase of three bays over the current number.

The health service advises that the current allocation of one resuscitation area in the ED is inadequate due to the complex multi-trauma that can present. Master planning should consider increasing the resuscitation areas to two, providing greater flexibility when demand for ED peaks.

This strategy is advisable in similar sized hospital facilities, given the risk of the ED facility being overwhelmed in the event of a major incident from adjacent heavy industrial sites, major motor vehicle trauma or indeed significant and severe weather events such as cyclones.

Appendix C presents further detail on emergency activity modelling.

2.2.3 Ambulatory and Community Services

Ambulatory Care Services is a broad title that generally refers to the planned services provided to patients who are able to ‘walk in and walkout’ on the same day (e.g. procedural day surgery), community based clinic services (child health, school health, community health) and community based programmes such as community mental health services.

Ambulatory 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.

The Department of Health is not able to provide activity modelling for ambulatory care services, mainly due to inconsistent reliability of the historical data. Instead it is recommended that to predict future activity in this sector the following factors be considered:

- a review of historical data (despite the data integrity concerns);
- application of local knowledge and population projections to estimate future needs; and
- application of best practice and most practical service models for ambulatory care services to support the established WACHS wide Region/District/small hospital network model.

⁸ Includes triage categories 1 to 5

Outpatient activity projections are presented in Table 6. These projections are derived from linear extrapolation of historical data that includes allied health, medical and surgical occasions of service. As such, they are not authoritative and serve mainly to support the proposition that demand for outpatient services is increasing and will continue to increase to at least 2021, albeit that the rate of increase is a fundamental estimate.

Table 6: Historical and projected outpatient activity

Activity	Historical					Projected		
	03/04	04/05	05/06	06/07	07/08	2011	2016	2021
Outpatient occasions of service	1,981	2,487	1,534	1,860	2,055	2,600	3,100	3,550

Accordingly, using this data review and the other techniques mentioned above, the following issues have been identified for the core ambulatory care type services for the Newman catchment.

Mental Health and Drug Service

Mental Health services report a gradual increase in demand for their services as the population grows. In particular, the need relates to drug and alcohol abuse and psychiatric problems associated with illicit drug use, such as drug induced psychosis. There is also a need to provide improved mental health specialist care for the Aboriginal population. These service trends are in line with mental health service demands in other, similar jurisdictions.

Currently, five FTE based in Newman provide mental health and drug and alcohol services to the local community. Regional management and professional supervision is provided from Port Hedland with a Consultant Psychiatrist providing visiting planned sessions.

The mental health service is currently located in offices shared with the Population Health Unit on the Newman Health Service campus. These facilities do not meet expected needs of a mental health facility, specifically from a patient and staff safety perspective.

Relocating the Mental Health team to shared ambulatory care facilities is therefore supported by the health service. This would improve administrative/reception efficiencies, aid improved access to shared medical records and create operational synergies between the mental health and other ambulatory care staff.

Population Health

The demand for Population Health services will increase growing as the population grows. The increase in incidence across the catchment area of a range of chronic disease such as diabetes, renal disease, sexual health and obesity due to lifestyle choices is impacting on the demand for Population Health services. The burden of chronic disease is having a significant impact on acute services.

Population Health is the major provider of illness prevention and health promotion services, the demand for this 'population' level intervention is increasing, along with demand for the full range of ambulatory care services.

Of significance for Population Health is the need to ensure mechanisms are in place to improve access to the full range of health services for Aboriginal people. A key to this is the need to create a welcoming and culturally appropriate setting where Aboriginal people feel safe. Population Health services are often the first point of contact for Aboriginal people. It is essential that the staff and facilities are conducive to encouraging access. This would include suitable indoor and outdoor assessment and treatment spaces that cater for family groups with children.

There are currently 14 FTE in the Population Health team, including community nurses, child health, school health, sexual health, Aboriginal health, health promotion, and allied health. Notably, there is no Aboriginal medical service in Newman. A significant level of the outpatient care for this community is provided by the community health nursing team.

The Australian Government's *Closing the Gap* initiative being rolled out across the country in 2010 has resulted in additional services targeting Aboriginal health being resourced for the Pilbara region. These initiatives will assist in improving Aboriginal people's access to primary health care.

The Population Health team currently operate from three locations across the Newman Health Service campus. In addition, the Child Health Centre is located away from the main hospital campus. As with the community Mental Health Service, relocating these staff to one flexibly designed ambulatory care facility would yield operational synergies and efficiencies. A singular collocated model needs to allow for future expansion.

Although collocation of the Population Health team on one site is the preferred model, it is acknowledged that population changes in the future may lead to the requirement for a satellite child health centre located in the areas of planned urban development to cater for the needs of young families.

Acute Ambulatory Services

A new position of Nurse Practitioner (ED) has been created for the Newman Health Service, which provides high-level specialist nursing care in emergency situations. This new role improves capacity for the short-term emergency care of patients. Newman has a high number of Triage 1 emergency presentations relative to other Pilbara locations. This increased incidence is partly due to the heavy industry in the town and severe motor vehicle accidents often as a result of unsealed arterial roads that serve the inland communities and mine sites.

Accordingly, as the population grows and industry expands (particularly more new mine sites) this will put upward pressure on demand and an improved capacity will be required to service that demand. Investment in a re-modelled and enhanced ED should be pursued.

2.3 Consultation

Aurora consultants met via teleconference with the WACHS - Pilbara Regional Director and Senior Project Manager and interviewed the Senior Project Manager during the course of preparing this high level Service Plan. This consultation provided confirmation of insights derived from analysis of clinical activity data and demographic profile of the community: noting that the community is growing, the demand for emergency/disaster response is growing and that there is a need for an improved ambulatory care facility at the Newman Health Service campus.

Aurora service planning consultants facilitated internal staff workshops on the 7th April and the 3rd June 2010. During the workshops the capital projects service and facility planning process was outlined and staff were provided with the opportunity to discuss current service issues and future directions for their health service.

On the 8th April the Pilbara Executive met with identified Newman based health partners (external stakeholders) to brief them on the planning processes and possible future directions for the health service.

Of note, the existing General Practice private medical clinic, that rents space in the Pilbara Population Health building on the hospital grounds, was actively recruiting additional GPs. However, facility constraints within the existing building make any expansion difficult.

Given the presence of the GP clinic in the WACHS building, it is also difficult for WACHS population health services to expand as required.

There is an obvious 'spatial tension' between two service providers over limited accommodation that neither meets their individual current accommodation needs nor has the capacity to fulfil the future challenges of increased demand for their respective services.

2.3.1 Emerging Strategic Directions

The following key service objectives have emerged from this high level service planning process.

- As a matter of priority improve access to health services and facilities, especially for ATSI people and ensure services are culturally appropriate;
- increase emergency/disaster management services in response to increasing demand;
- increase and enhance ambulatory care services via an integrated 'one-stop shop' approach;
- develop a community based model of maternity care that supports women and their families during pregnancy and post delivery;
- improve safety for staff and patients;
- respond appropriately to the reduced need for acute inpatient health services; and
- improve operational efficiencies in clinical and non-clinical service delivery.

2.3.2 Service and Facility Planning Themes

The key themes from the high-level service planning process that support the emerging strategic direction include:

1. Support and opportunity for change
2. Support for a patient-centred approach to care
3. Support for strengthening of primary care/ambulatory care
4. Need to improve the physical health facilities.

Support and Opportunity for Change

- This planning opportunity was a good time to flag potential service changes and to identify improved models of care that would be greatly enhanced by improved physical facilities.
- Corporate support from local industry means there is now an opportunity to make improvements to the existing health and hospital facilities that match the real health need.

Support for a patient-centred approach to care

- Recognition that a ‘continuum of care’ model of care that improves patient outcomes whilst empowering patients to take more responsibility in their care is required.
- A patient-centred approach which aims to reduce multiple clinical assessments⁹, unnecessary patient travel, multiple appointments and lack of patient responsibility for their own care was strongly supported.

Support for strengthening primary care/ambulatory care

- Support was expressed for improved levels of care and resourcing at the primary care/ambulatory care level of service delivery. This would include greater multidisciplinary integration and physical collocation with an improved focus on care of the ATSI population and the sufferers of chronic disease.
- Opportunities that new 2010 *Closing the Gap* (Commonwealth funded) resources will become available for new programmes and additional services/staff. These funding programmes are provided for four years.
- Support for a refurbishment of the existing facilities that allows for the:
 - collocation of all public sector ambulatory care type services on the health service campus, potentially freeing up space for the private general practice clinic to expand;
 - a reduction in the operational number of acute beds and the utilisation of this space to develop and expand the ambulatory care facility;
 - safety and security for staff and patients; and

⁹ GP assessment and referral, emergency department assessment and treatment, acute care assessment and intervention, sub acute care assessment and rehabilitation, VMP assessment, treatment and referral.

- the development of a facility that is culturally appropriate and improves access to acute, primary and preventative care for Indigenous people. As a matter of priority and in consultation with the Indigenous communities, it is essential that a model of service delivery is established that is inclusive of the community needs, is culturally appropriate and ensures WACHS Pilbara works in partnership with community and other service providers.

Need to Improve the Health Service Facilities

- reconfigure current acute inpatient bed numbers;
- redevelop the redundant inpatient space for the new ambulatory care facility, including new consulting room spaces for visiting public and private sector specialists;
- expand the building footprint so to relocate Population Health.
- recycle the former population health building for primary medical service provision.
- redevelop and improve the functionality and operational capacity of the ED to meet the need of the community;
- opportunity to improve the physical fabric of the building, make it more appropriately accessible and at the same time more secure with monitored egress;
- opportunity to improve the cultural appropriateness of the facility for the ATSI population; and
- recognise that any planned changes to services need to occur prior to any new facility being commissioned and that some of these planned changes to services could begin immediately.

3 Proposed Service and Facility Reforms

A number of service and facility reforms for the Newman Hospital and Health Service have been proposed by the WACHS – Pilbara. These reforms warrant exploration and future development as part of a future detailed service planning project that is yet to be commissioned.

Key service reforms that may impact facility requirements have been factored into the data analysis assumptions. The major service and facility reforms are described below.

3.1 Proposed Service Reform Strategies

3.1.1 Newman Hospital

Culturally secure health services

Plan to ensure that all health service provision and models of care are delivered in a culturally appropriate way for the community of Newman. This means meeting with, consulting and listening to community groups (indigenous and non-indigenous) as models are developed and introduced.

Integrated ambulatory services

Develop an integrated ambulatory care service and realise efficiency improvements by streamlining administration and record keeping and the sharing of consulting room spaces.

Bringing together all ambulatory type functions will create enhanced multidisciplinary team strategies and improve access for patients to services across the care continuum or patient journey. This is especially significant with the management of patients who suffer from chronic diseases requiring access to different services and clinical specialities.

Future Indigenous health service

As a matter of priority, in consultation with the Indigenous communities, there is a need to determine a model of service delivery that is inclusive of the community needs, is culturally appropriate and ensures WACHS Pilbara works in partnership with community and other service providers. The model can then be included in the development of the Newman Health Service Master Plan and construction of health service facilities on site.

Facility design should support partnership development, be culturally appropriate and based on patient flow with easy access to acute, primary and preventative care for Indigenous people.

Demand for Indigenous health services is increasing in line with demographic changes and an increase in the local Aboriginal community. Whilst the actual numbers are not significant relative to the greater Newman population, the high level of multi-system chronic disease and high use of the health service by this cohort population warrants the development of specific Indigenous health services.

Acute Inpatients

Despite being historically a 27-bed facility the hospital reports it currently manages effectively with eight beds.

This is in line with other similar sized hospital services and corresponds with the nation-wide trend to increase ambulatory care service provision. The number of physical acute inpatient beds can be safely reduced. The 2010 - 2020 Clinical Services Framework identifies the current and future need at 12 beds.

Emergency Department

Improve patient access to the ED, focussing on providing a culturally appropriate, efficient service to address the growing demand for ED activity and in line with the high acuity of ED presentations. Future models of care also need to consider the role of the Nurse Practitioner within ED.

Renal Dialysis Services

It is acknowledged that improved access to renal dialysis services for the Newman Community is becoming a growing priority. In the long term, the preferred model for delivering renal dialysis services is to provide staff assisted dialysis through a satellite outreach service located in Newman. The service would be supported by the Port Hedland satellite service and Royal Perth Hospital with dialysis sessions linked by videoconference for remote monitoring.

Ante natal and post natal services

Given the birth rate and the requirement for women to travel to Port Hedland, or choose to utilise private maternity services in Perth or interstate, consideration should be given to the development of a community based model of maternity care. This could include

- shared care options with general practitioners and midwives working in private practice;
- community based midwives; and
- midwifery led clinics in ambulatory care centres or located within the community

3.2 Proposed Facility Reform Strategies

3.2.1 Newman Hospital

Cultural Security

Ensure that the Newman Health Service plans for, and develops, facilities that are culturally appropriate for the catchment population, with a specific focus on ensuring that the ATSI population's needs are addressed.

Identify a space on the hospital campus that could be used at some time in the future for the construction of an Indigenous specific health service.

Emergency Department

Review and redesign the existing ED, expanding the ED bay and resuscitation capacity plus improving access and patient and staff security.

Inpatient Areas

Reduce the acute inpatient ward areas to twelve beds, freeing up space under the main roof of the hospital for a new and expanded ambulatory care facility. Planning will need to address the potential future provision of dialysis chairs.

Ambulatory & Other Primary Health Care

Review and redesign the old inpatient areas to convert these areas into a new 'one stop shop' ambulatory and other primary health care facility. Relocate the Population Health staff from the general practice building, freeing up this facility for potential GP expansion.

3.3 Summary of Service and Facility Reform Strategies

The proposed service and facility reform strategies are summarised in Figures 2 and 3, below.

The proposed changes may be subject to change as planning continues.

Figure 1: Current service configuration of Newman Health Service

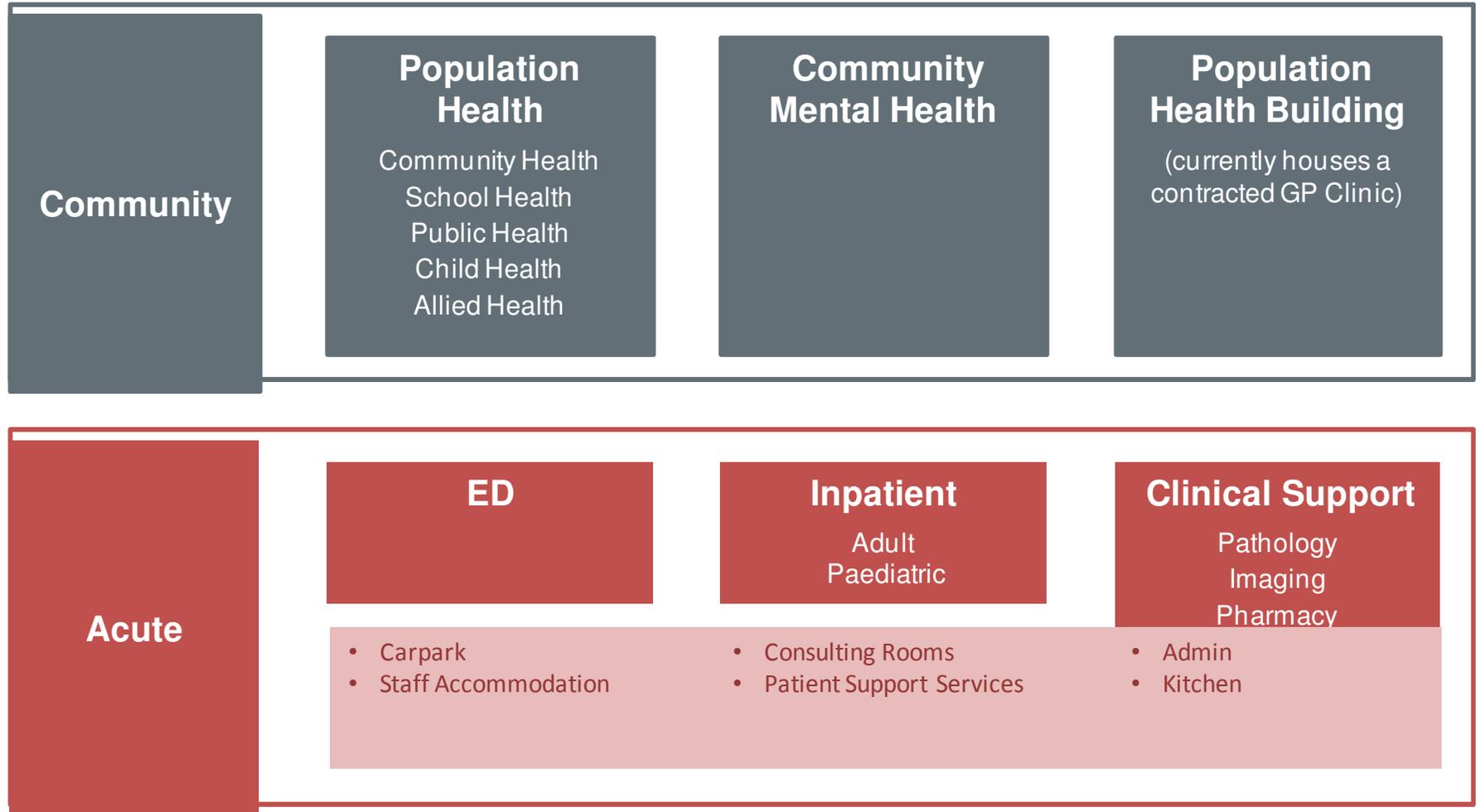
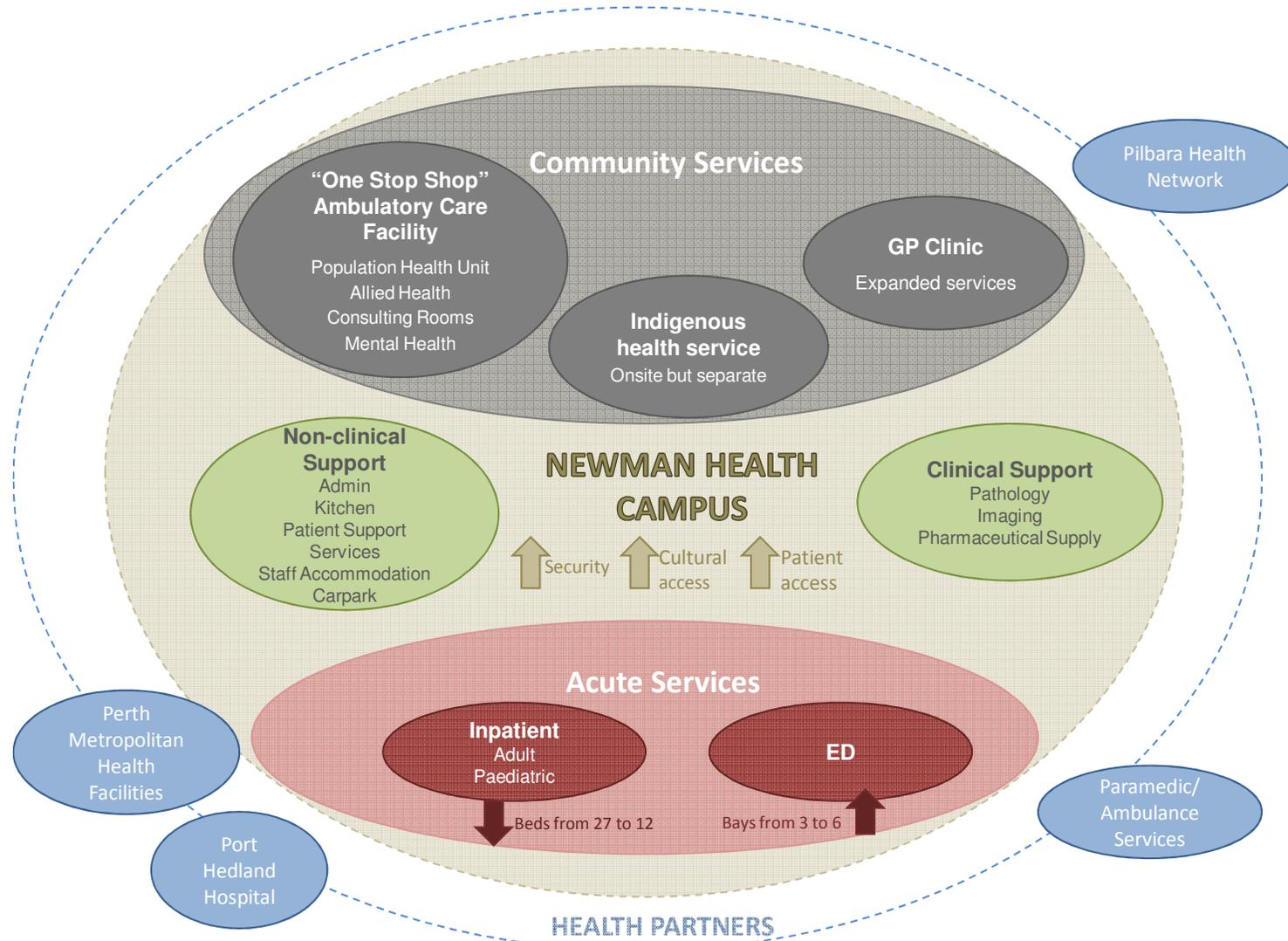


Figure 2: Proposed service configuration at Newman Health Service



4 Determining Future Facility Requirements

4.1 Statement of Facility Requirements

The draft Statement of Facility Requirements (SoFR) for Newman Health Service is presented in Appendix B. This document provides an estimate of the future facility needs, based on the high level service planning.

These estimates are based upon data analysis assumptions and build on the high level service planning themes identified through the document review.

The method for developing the SoFR is described below.

4.1.1 Method for Developing Statement of Facility Requirements

Appendix C presents the baseline projection modelling of acute services (inpatient and emergency) for the Newman Health Service. This data provides the projected activity information that underlies the estimated future facility needs.

In addition to considering historical and projected activity in facility requirements, key health service supply and demand issues were posed:

- What is the level of anticipated inpatient activity from residents and FIFOs?
- What type of patients are still being transferred by specialty to other sites and will that change into the future?
- Given the high number of Emergency Department (ED) presentations to Newman Health Service already, what is a sustainable number of presentations into the future?
- What new models of care/service delivery strategies need to be identified and developed as part of a yet to be initiated service planning exercise?
- Additional ambulatory care human resources resulting from the Closing the Gap funding.

Responses to these queries inform the future facility requirements and draft SoFR.

4.2 Refining future service and facility requirements

There are ongoing opportunities to refine the future service and facility requirements for Newman Health Service. Appendix D provides a list of useful resources that may be of use to progress service and facility planning for some components of the Newman Health Service.

5 Summary

This high level Service Planning Report for the Newman Health Service has been developed to inform future facility and master planning of the site. Currently, there is a potential opportunity for the WA Country Health Service – Pilbara to work with BHP Billiton to redevelop the existing facilities.

Due to time constraints, this plan has remained high-level; however it identifies the key health issues facing the community, the possibilities for improving the health service and the hospital facility, and, importantly, the likely health outcomes of the community. These improvements are in line with current WACHS policy and strategic direction and in line with best practice directions of other similar sized rural hospitals across Australia.

Existing activity data has been analysed and, after applying a range of planning assumptions, future facility requirements have been estimated. The detailed calculations for projecting future facility requirements are provided in Appendix C.

Table 7: Projected Newman Hospital facility requirements

Facility	2009 - Current	2021 - Requirement
Inpatient Beds	8	12
Emergency Bays	2	4
Resuscitation Room/Bay	1	2

5.1 Recommendations

1. Develop an integrated 'one stop shop' ambulatory care facility creating an enhanced multidisciplinary team approach to service delivery and improving access for patients to services.
2. Ensure the appropriate provision of Indigenous health services for the Newman Health Service catchment population.
3. Ensure that any future service and facility planning is culturally appropriate for the local Aboriginal community.
4. Reduce the acute inpatient beds to more closely match the real need of the catchment population and free up space in the hospital for the new ambulatory care facility.
5. Redevelop the ED area, improve patient access to the service and staff security. Provide increased ED space, increasing the number of resuscitation bays. Develop a Nurse Practitioner service model.

Appendix A. Newman Master Planning Brief – Draft Version 1

BACKGROUND

Facilities Profile

- Newman Hospital was built in 1969 by Mount Newman Mining. The original hospital was a 27-bed as constructed inpatient facility with A&E, operating theatre, birthing suite and x-ray facilities.
- A free standing medical centre facility was built on adjacent hospital land in the mid 1970's by Mount Newman Mining to accommodate private medical and dental services. This building is currently occupied by Gemini Medical (via lease) and WACHS population health services.
- The only significant modification to the hospital since 1969 occurred in the mid 90's with the redevelopment of a new A&E department including a dedicated resuscitation room, administration / medical records block, upgraded medical imaging facilities, and a new Pathology laboratory.
- Other facilities include a purpose built (transportable) free standing state Dental Health clinic located between the medical centre and hospital. There is also a transportable 'donga' type structure located along the Hamilton Street boundary – it is not considered fit for any ambulatory care type service delivery.
- Eight free standing 2 and 3 bedroom houses were completed in 2009 and these are located behind the medical centre.

Services Profile (WACHS)

Acute:

Function	No of Beds	Comments
In patients	12	Operational
Accident and Emergency	2	Operational
Resuscitation	1	Operational
Operating Theatre		Not operational
Obstetric delivery		Not operational - all planned deliveries referred to alternative destinations.
Pathology (PathWest)		Operational
Medical Imaging		Full time 24 hour coverage X-ray including ultrasound.
Medical Records		Operational
Administration		Operational
Laundry		Operational - potential for service reform
Kitchen		Operational - potential for service reform
Morgue		Operational

Acute FTE (based on 08/09 Actuals):

Nursing	15.47
Admin	3.70
Medical Support	1.65
Support Services	8.13
TOTAL	28.95

Ambulatory Care:

Function	NEWMAN BASED FTE
Mental Health & Drug Service	
Adult MH Clinician	1.00
Child & Adol MH Clinician	1.00
Indigenous MH Clinician	1.00
Drug & Alcohol Counsellors	2.00
Reception	-
Visiting:	
Regional Manager	-
Manager, Alcohol Program	-
Senior Counsellor	-
Team Leader	-
Psychiatrist	-
Psychogeriatrician	
Psychologist	
	5.00
Population Health	
Community Health Generalist Nurse	2.00
Child Health Nurse	1.00
School Health Nurse	1.00
Aboriginal Health Worker	2.00
Health Promotion Officer	1.00
Healthy Communities Project Officer	1.00
Receptionist (shared with MH)	1.00
Senior Physiotherapist	1.00
Speech Pathologist	1.00
Senior Occupational Therapist	1.00
Social Worker	1.00
Sexual Health Nurse	1.00
Visiting Management	-
Meeting Room	-
	14.00
Acute Services	
Nurse Practitioner (A&E)	1.00
Aboriginal Liaison Officer (A&E)	1.00
Visiting Clinical Nurse	
Visiting O&G	-
Visiting Paediatrician	-
Visiting Physician	-
Visiting Geriatrician	
	2.00
TOTAL	21.00

Other Services:

- State Dental Clinic
- Gemini Medical currently three GP's and recruiting fourth doctor ASAP.
- Child Health Clinic – currently located off-site in poor accommodation.

Activity Profile:

		2006/07	2007/08	2008/09	2009/10 **	Grand Total
A&E	T1	11	14	18	2	45
	T2	75	102	221	81	479
	T3	416	484	1,099	315	2,314
	T4	2,246	2,031	2,281	750	7,308
	T5	2,827	1,924	1,046	142	5,939
	(blank)	16				16
TOTAL A&E		5,591	4,555	4,665	1,290	16,101
Separations		910	831	1,088	295	3,124
Sum of Days	Acute(A)	1,369	1,277	1,631	402	4,679
	Maintenance Care(NA)		433			433
	Newborn	2	1	2		5
	Other/Boarder	218	172	139	42	571
	Palliation(SA)	5	11	11		27
	Rehabilitation(SA)	5	113			118
		1,599	2,007	1,783	444	5,833
ALOS	Acute(A)	1.8	1.8	1.6	1.5	1.8
	Maintenance Care(NA)		216.5			78.1
	Newborn	1.0	1.0	1.0		2.1
	Other/Boarder	1.7	1.7	1.6	1.2	1.9
	Palliation(SA)	5.0	3.7	3.7		3.9
	Rehabilitation(SA)	5.0	56.5			39.3
		1.8	2.4	1.6	1.5	2.0

** All data is for Jul - Sept 2009 inc.

Future Considerations:

- There is no Aboriginal medical service based in Newman, a significant amount of outpatient services in the form of dressings, minor health checks, and medication management is provided to the Indigenous population by local community health staff. Newman has a proportionally high amount of general T1 emergencies presentations compared to the rest of the Pilbara towns per capita of population. This is in part due to the mining industry and MVA accidents and to a lesser extent the poor health status of the large Indigenous population that the town services both resident and in outlying communities.
- Recent rapid population growth combined with WACHS Pilbara's response to grow services to meet population demands and a history of short term facility planning and deployment has culminated in an urgent need to undertake a master planning process that will not only provide solutions to current accommodation issues but will also be cognizant of the future projected health needs of the population. In contrast to the ABS 2006 Census Newman's population is currently considered to be approximately 8,000 based on the anecdotal experience of Industry and local government.

- The current Hospital and associated facilities require major remodeling and adaptation to make more efficient use of under utilised acute floor space and then in turn provide for the growing needs of the non acute services being delivered via population and mental health, respectively. Current functionality is poor.
- The anticipated growth in the population due to BHP Billiton Iron Ore (BHPIO) planned Rapid Growth Project's (RPG) in Newman have had and will continue to impact on the capacity of existing health and medical service providers.
- Recent negotiations between WACHS and Gemini has resulted in more space to be made available to Gemini to better accommodate a third GP and to employ a fourth GP to meet demand for general medical consultations and to safely service the needs of Newman Hospital (both within and out of hours) via the Medical Services Agreement.
- Establishment of private services to relieve the pressure upon public services is also encouraged but factors such as reasonably priced commercial facilities for rent and residential accommodation comes at a premium cost and is difficult for private operators to overcome without significant subsidisation.

CURRENT STATUS

- The need to conduct a master planning process for Newman was agreed and acknowledged between WACHS and Industry and was subsequently supported by Industry in the Pilbara Health Partnership (PHP) submission to State Cabinet. Cabinet approved funding in early August 2009 as part of a total Industry and Royalties for Regions package worth over \$38 million over five years. Funding of \$100,000 has been made available specifically for master planning.
- Furthermore, a sum of \$900,000 was also made available within the PHP to remediate in the short term, patient flow and safety issues with the current A&E and nurse's station and to refurbish part of the existing in-patient ward area for use by 'ambulatory' care services. This sum was recently supplemented by \$100,000 through a special one-off grant from the Department of Health's Mental Health Division. Total available funding for minor works/refurbishment is now \$1 million and is exclusive of the master planning funding.
- BG Architects have recently been commissioned to undertake a site visit and to prepare a brief scope of options for consideration by WACHS Pilbara in relation to spending the sum recently approved under the PHP. A copy of the scope of service requirements for population health, mental health and other services requiring spatial consideration is appended, as supplied to BG Architects.



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- WACHS CEO and BHPBIO recently discussed BHPBIO's future intentions with respect to Rapid Growth Project No 6 (RGP6) which is about increasing overall mining capacity and export tonnage, and if approved by the Board of BHPB will result in increased construction and concomitant operational workforce, placing further pressure on local health care delivery systems and infrastructure in Newman.
- As an extension to the Pilbara Health Partnership BHPBIO is very keen to see if WACHS is able to 'fast track' certain aspects of the master planning process, and if so, is prepared to consider a direct financial contribution in the future re-development of the Newman Health precinct.

- BHPBIO plans to seek their Board's final approval for RGP6 in December 2009 which presents WACHS with a unique opportunity to quickly develop a future vision for the Newman Health precinct and a broad cost estimate that BHPBIO is prepared to consider in partnership with WACHS with the view to taking this forward in the context of BHPBIO's internal approval process for RGP6.
- WACHS CEO has indicated broad support for developing the future vision for discussion with BHPBIO in several weeks time.
- Aurora is being tasked with fast tracking the creation of a future master planning concept/vision for the Newman Health Precinct by no later than 23rd November 2009.

Author: Paul Aylward
Senior Project Manager – Planning and Infrastructure
WACHS Pilbara
M 0419936179

Appendix B. Facility Estimates Summary

The facility estimates presented in Tables 7, 8, and 9 use the [Australian Health Facility Guideline](#) recommended area allocations for generic spaces in emergency, inpatient, and ambulatory care units. Table 11 presents the total facility requirement area including Travel and Engineering allowance.

The following schedules of accommodation represent a high level concept only and will require further review at the next phase of planning.

Table 8: Newman Hospital inpatient facility requirements (12 beds)

Component	Quantity	Area	Total Area
Patient Areas			
1 Bed Room	6	15m ²	90m ²
2 Bed Room	3	25m ²	75m ²
Ensuite - standard	5	5m ²	25m ²
Ensuite - super	1	6m ²	6m ²
Toilet - patient	3	4m ²	12m ²
Shower - patient	3	6m ²	18m ²
Staff Areas			
Bay - handwashing	2	1m ²	2m ²
Bay - linen	1	2m ²	2m ²
Bay – mobile equipment	1	4m ²	4m ²
Bay - beverage	1	4m ²	4m ²
Net Area			238m²
Circulation @40%			95m ²
Gross Area			333m²

Table 9: Newman Hospital Emergency Department facility requirements (4 treatment bays + 2 resuscitation bays)

Component	Quantity	Area	Total Area
Reception	Shared		
Waiting Room	1	12m ²	12m ²
Play Area	1	8m ²	8m ²
Parenting Room	1	6m ²	6m ²
Triage Cubicle	1	9m ²	9m ²
Bay – wheelchair/trolley hold	1	8m ²	8m ²
Toilet - public	2	2m ²	4m ²
Toilet - disabled	1	5m ²	5m ²
Treatment Areas			
Treatment Bay	4	12m ²	48m ²
Resuscitation Room	2	25m ²	50m ²
Procedure Room	1	20m ²	21m ²
Plaster Room	1	14m ²	14m ²
Support Areas			
Store - crutch	1	2m ²	2m ²
Shower - patient	1	4m ²	4m ²
Bay - handwashing	1	1m ²	1m ²
Bay – resuscitation trolley	1	2m ²	2m ²
Bay - pathology	1	1m ²	1m ²
Toilet - patient	1	4m ²	4m ²
Net Area			198m²
Circulation @40%			79m ²
Gross Area			277m²

Table 10: Newman Health Service Ambulatory & Other Primary Health Care facility requirements

Component	Quantity	Area	Total Area	Comments
Clerical support/medical records	1	9m ²	9m ²	
Lobby/airlock	1	12m ²	12m ²	
Reception/clerical	1	9m ²	9m ²	
Waiting Room	1	20m ²	20m ²	
Toilet - disabled	1	5m ²	5m ²	
Toilet - public	1	2m ²	2m ²	
Patient Areas				
Consulting Room	4	12m ²	48m ²	Note that Bateman Grundman draft schedule of accommodation includes "A Safe Interview Room" and a "Meeting Room" (35m ² versus 108m ² of treatment space)
Group Treatment room	2	16m ²	32m ²	
Treatment Room	2	14m ²	28m ²	
Staff Areas				
Bay - Beverage (Staff)	1	4m ²	4m ²	
Bay – resuscitation trolley	1	2m ²	2m ²	
Bay - linen	1	2m ²	2m ²	
Bay - pathology	1	3m ²	3m ²	
Office – single person (Mental Health & Drug Services)	6	9m ²	54m ²	2 Drug & Alcohol Counsellors; 1 Indigenous MH Clinician, 1 Child & Adol MH Clinician, 1Adult MH Clinician; And, the Nurse Practitioner from Acute Services
Workstations:				
<i>Population Health & Acute Care staff (n=13)</i>	12	4m ²	48m ²	Count matches Bateman Grundman SOA count. Assumes Nurse Practitioner has own office
<i>Visiting Staff (n=5)</i>	0	4m ²	0m ²	"091013 functional brief info from Alyward.xls" lists zero visiting staff (to be confirmed)
Toilet - staff	2	3m ²	6m ²	
Property Bay - staff	1	3m ²	3m ²	
Store – equipment/general	1	14m ²	14m ²	
Net Area			301m²	
Circulation @ 40%			120m ²	
Gross Area			421m²	

Table 11: Newman Health Service redevelopment area requirement including travel & engineering

Component	Total Area
Inpatient Accommodation Unit	333m ²
Emergency Unit	277 m ²
Ambulatory & Other Primary Health Care	421m ²
Net Area	1031m²
Travel & Engineering @ 30%	309m ²
Gross Area	1,340m²

Appendix C. Projected Activity Modelling

1. Data Sets

- WACHS Inpatient Demand Modelling Pivot (2010) – based on Heuris (high end) resident population projections.
- WACHS ED Demand Modelling Pivot (2010) – based on Heuris (high end) resident, construction and FIFO projections.

2. Projections

Table 12 outlines inpatient projected activity and facility requirements, and their source and/or derivation.

Table 12: Projected inpatient activity and facility requirements

	2007/08	2008/09	2009/10	2011/12	2016/17	2020/21	Comments
Multi day separations	547	551	632	699	621	603	Source: WACHS Inpatient Demand Modelling Pivot. Projections based on Heuris (high end) resident population projections
Same day separations	190	202	256	321	369	401	Source: WACHS Inpatient Demand Modelling Pivot 2010
Total separations	737	753	888	1020	990	1004	Source: WACHS Inpatient Demand Modelling Pivot 2010
% same day	26%	27%	29%	31%	37%	40%	
Bed days	1866	1841	2121	2,490	2,402	2,587	Source: WACHS Inpatient Demand Modelling Pivot 2010
ALOS	2.5	2.4	2.4	2.4	2.4	2.6	Source: <u>Calculated</u> - Bed Days/Seps
Daily bed demand	5.1	5.0	5.8	6.8	6.6	7.1	Source: <u>Calculated</u> - Bed Days/365
Historical Occupancy rate	19%	19%	21%	-	-	-	Source: <u>Calculated</u> - Daily Bed Demand/ Total Actual Beds (n=27)
Target Occupancy rate	-	-	-	65%	65%	65%	

	2007/08	2008/09	2009/10	2011/12	2016/17	2020/21	Comments
Optimal Inpatient bed numbers				11	11	11	
Adjustment for operational efficiency and demand spikes related to disasters and trauma (surge capacity)				1	1	1	
Total projected inpatient bed numbers (Base case)				12	12	12	

WACHS recommends the following benchmarks to calculate WACHS ED bays (Table 13):

Table 13: WACHS ED activity benchmarks

Measure	Treatment Space	Benchmark	Source
ED Attendances (all ages)	Fast Track	1/3000 yearly T4 and T 5 attendances	<i>Emergency Demand Treatment Space Calculator, The Advisory Board Company, 2009</i>
	General ED	1/2000 yearly T 2 and T3 attendances	
	Trauma/Critical Care	1/500 yearly T1 attendances	

The benchmarks presented above were applied to the projected ED activity from the WACHS ED Demand Modelling Pivot (2010), based on the Heuris (high end) projections. Historical ED data (supplied by the WACHS Pilbara office) is also presented below for completeness. The benchmarks indicate that, for the projected level of ED activity, a total of 6 ED bays will be required to 2021. This total will include resuscitation areas i.e. 4 ED bays and 2 resuscitation bays.

Table 14: Projected emergency facility requirements

Triage Category	2006/07	2007/08	2008/09	2011/12	2016/17	2020/21
T1	11	14	18	32	38	44
T2	75	102	221	376	487	628
T3	416	484	1099	1,696	1,995	2,308
T4	2246	2031	2281	4,617	5,760	7,001
T5	2827	1924	1046	1,740	1,264	896
(blank)	16	0	0			
SUM	5,591	4,555	4,665	8,461	9,544	10,879
BAYS	2	2	2	4	5	6

WACHS Area office supplied historical data for outpatient occasions of service (Table 15). These data were extrapolated to produce a status quo projection of outpatient activity, as indicated below.

Table 15: Newman Health Service non-admitted occasions of service – historical and projected

	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2010/11	2015/16	2019/20
Allied Health	1,583	2,326	950	1,374	1,759	2,203	-	-	-
Medical	398	161	584	486	296	712	-	-	-
Surgical	-	-	-	2	1	-	-	-	-
Total	1,981	2,487	1,534	1,862	2,056	2,915	2,600	3,100	3,550

Appendix D. Recommended Resources

A number of resources are recommended to inform service and facility planning. These include:

No.	Document
1.	Australian Resource Centre for Healthcare Innovations (ARCHI) http://www.archi.net.au/
2.	Australasian Health Facility Guidelines. www.healthfacilityguidelines.com.au
4.	Establishing Partnerships by Dare Mighty Things and Compassion Capital Fund National Resource Centre. Available at: http://www.acf.hhs.gov/programs/ocs/ccf/about_ccf/gbk_pdf/ep_gbk.pdf
5.	The Clockwork Emergency Department by The Advisory Board. <i>Available from Aurora Projects - Perth Office.</i>
6.	<i>A Guide to Emergency Medical and Surgical Admissions</i> by Department of Health (UK). http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_4121902.pdf
7.	NSW Health. <i>Caring for Mental Health Patients</i> . April 2008. <i>Available from Aurora Projects – Perth Office.</i>