Bowen, Galilee and Surat Basins
Health Services Plan
2011–2021 Summary

December 2011

Delivering more services sooner and closer to home
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Prepared by Planning Branch
Health Planning and Infrastructure Division
Queensland Health

Published by the State of Queensland
(Queensland Health), December 2011

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1. Background

The Bowen, Galilee and Surat Basins Health Services Plan 2011-2021 (the Basins’ Plan) examines the impact of projected population growth and demographic changes in the Basins’ region on the health service needs of the community. It describes how Queensland Health services will need to adapt to accommodate those needs over time.

To provide safe and sustainable health services in the rapidly expanding mining and energy production area, the future service direction for the Basins’ region aims to enhance local service delivery and increase self-sufficiency of local services using a hub and spoke model. Through this model formal links and service level agreements will be developed with centralised, higher capability level sites providing services and support to smaller, lower capability level sites. This model increases the ability of lower-level services to provide improved access to a broader range of services—particularly in rural and remote areas where the safe and sustainable provision of some services is often challenged by workforce and throughput issues. This model will ensure flexibility is available to provide services as required in response to population growth and changes in community need.

The Basins’ Plan has been developed by expert planners in Queensland Health in partnership with the Health Service Districts of Mackay, Central West, Central Queensland, South West, and Darling Downs-West Moreton. Consultation was undertaken with key stakeholders from the government, non-government and resource sectors as well as community-based organisations, to identify current and potential health service needs arising from mining and energy industry expansion in the Basins’ region.

The Basins’ Plan focuses on six towns including Dalby, Roma, Emerald, Gladstone, Bowen and Moranbah, which were assessed as likely to have the highest population growth as a result of resource sector projects. Queensland Health sites in these towns were identified as those with the greatest potential to enhance health services as well as being able to provide outreach services to smaller facilities in line with the Queensland Health “hub and spoke” model of service delivery.

Future planning for Queensland Health services within the Bowen, Galilee and Surat Basins will continue in-line with the directions outlined in this plan and in future District Health Service Plans.
2. Overview of methodology

The planning included a comprehensive review of strategic documents including:

- statewide strategies and plans such as the *Towards Q2, The Queensland Statewide Health Services Plan 2007-2012* and the *Queensland Health Strategic Plan 2011-2015*
- relevant district health service plans
- current and projected health service activity
- mining and energy production project proposals
- Office of Economic and Statistical Research (OESR) medium services population projections.

2.1 Consultation

Consultation with internal and external stakeholders was undertaken between September 2010 and February 2011. The purpose of consultation was to engage key stakeholders in identifying current and potential health service needs arising from mining and energy industry expansion in the Basins’ region and determine possible service solutions and options for addressing them. This consultation was undertaken by Queensland Health as well as in conjunction with other departments through Local Community Leadership Groups for each of the Basin regions. These leadership groups had subcommittees on specific areas, one of which was the Sustainable Resource Communities Partnership Health Working Group. Workshops and meetings were held in Bowen, Moranbah, Mackay, Dalby, Roma and Gladstone. In addition, consultation with non-Queensland Health stakeholders was undertaken at a regional government forum conducted in Emerald. More than 120 delegates representing key government, non-government and community groups attended the forum. Consultation is ongoing with the Queensland Resources Council and the various mining companies as new projects in the regions commence.

3. Geographic profile

The Bowen Basin is an area of coal reserves and resource mining related communities that extends over approximately 60 000 square kilometres of central Queensland from the town of Collinsville in the north to Theodore in the south (Figure 1). For the purposes of the Basins’ Plan it includes the Whitsunday, Isaac, Barcaldine and Central Highlands Regional Councils and the Banana Shire Council. The Bowen Basin currently produces over 83 per cent of Queensland’s coal, and has the largest coal reserve in Australia with over 49 mines currently operating and at least a further 84 proposed mine expansions or development projects. Three major rail duplication projects are currently underway, along with two other major proposed support infrastructure development projects. Expansion of the Abbot Point Coal Terminal is also expected to stimulate significant population growth in Bowen. While Bowen and Gladstone are not within the Basins’ region, the towns are included in this Plan as they will be directly affected by mining activities in the Basins’ region through expansion of shipping activities at the ports.

For the purposes of the Basins’ Plan, the Surat Basin includes the Blackall-Tambo, Murweh, Western Downs and Maranoa Regional Councils and the region has strong linkages through Banana Shire to Gladstone where coal seam gas will be processed and exported. There has been significant recent growth in potential and planned projects within the Surat Basin, along with a number of planned coal mines, wind farms and power stations. Over 100 new projects are proposed for the region which is likely to experience rapid population growth over the next three to five years.
For the purposes of the Basins’ Plan, the Galilee Basin is defined as a remote, sparsely populated, but major, coal province north-west of Emerald. Large scale mining developments have been precluded to date due to the remote location of the Basin and the limited supporting infrastructure. The Galilee Basin includes the Barcaldine, Blackall-Tambo, Central Highlands, Charters Towers and Flinders Regional Councils. Four major projects are expected to drive short term rapid development in the Barcaldine Regional Council area and wider region.

4. Population profile

Details of population growth, including residents and non-residents of towns in each of the three mining Basins are outlined below.

4.1 Bowen Basin

In 2010, the estimated resident population of the Bowen Basin was 107,473 and it is projected to increase by 30 per cent to 139,550 by 2021 (Chart 1). In 2010, there were an additional 14,613 non-resident workers in the Bowen Basin. Many of the non-resident workers came from the surrounding regions, including Mackay, Rockhampton and Gladstone with only a small

* Non-resident worker estimates are available only for Whitsunday (Bowen only), Isaac, Central Highlands and Banana Regional Councils
percentage coming from outside the region. The key Queensland Health facilities in the Bowen Basin, for the purposes of the Plan providing services directly and through outreach, include the Emerald, Bowen and Moranbah Hospitals.

4.2 Galilee Basin

In 2010 the estimated resident population of the Galilee Basin was 51,228 and it is projected to increase by more than 20 per cent to 62,678 by 2021 (Chart 1). The Office of Economic and Statistical Research (OESR) is determining the estimated resource sector workforce population and projected population of the Galilee Basin as an adjunct to the most recent Bowen Basin Population Report. This will be available in mid 2012. The key Queensland Health facility for the Galilee Basin for the purpose of the Plan, providing services directly and through outreach, is the Emerald Hospital.

4.3 Surat Basin

In 2010, estimated resident population of the Surat Basin was 52,436 and it is projected to increase by close to 12 per cent to 58,666 in 2021 (Chart 1). In 2010, there were an additional 2,180 non-resident workers in the Surat Basin. Data on the place of residence of these non-resident workers is currently unavailable. The key Queensland Health facilities in the Surat Basin for the purpose of the Plan providing services directly and through outreach, include the Dalby and Roma Hospitals. As Gladstone Hospital is impacted by activity in the Surat Basin it has been included as part of the Plan.

* Non-resident worker estimates are available only for the Western Downs and Maranoa Regional Councils.
5. Economic profile or impact of mining growth in the regions

The Basins’ region represents some of the dominant economic zones for Queensland’s economy including minerals, coal, gas, agriculture and tourism. The area to the west of the region boasts a significant proportion of the world’s known mineral resources, with further expansion of mining projects anticipated in coming years. These will require enhancement of infrastructure such as road, rail and port facilities. Various workforce models will be required to manage the development of both the projects and their associated infrastructure. Whilst there is some fly-in fly-out workforce a large proportion of the workforce is currently sourced locally, however over time this may change as the demand for a skilled workforce increases in line with project development.

Further to this, the coal and coal seam gas industry, which is predominantly located in the Surat Basin, is anticipated to dramatically expand over the next 20 years and boost Gladstone’s standing as an export port. The Bowen and Galilee Basin coal deposits are the largest in the country and the export needs of India and China will see this area continue to expand requiring further development of transport and electricity infrastructure.

Additionally this is an agricultural area which also contributes to the economic profile of the region. Investment in social infrastructure in the region will promote liveability in the region and support the expansion of the resource sector industries.

6. Service Needs

The Basins’ Plan considers the population’s need for health services across the Basins’ region including demand for a range of hospital, primary, preventative and allied health services. Population fluctuations due to expansion in the mining and energy sectors are likely to impact on delivery of health services in this region.

In the Basins’ region it is acknowledged that people working in the resource industry are predominantly male who visit general practitioners less frequently than the general population. Common health needs that have been identified for those working in resources projects include physical injury, respiratory illness, mental health and chronic diseases such as heart disease and cancer. Workers are also prone to health risk behaviours because of increased levels of alcohol intake, drug and tobacco use, obesity and overweight issues and chronic fatigue, particularly among those working shifts.

The service needs of those working on mining projects need to be considered in addition to the needs already existing in the Basins’ region. There is also the challenge of providing health services in rural and remote areas, ensuring equitable and timely access for all residents—including people who are only temporary residents. Health service delivery models must be flexible to accommodate these fluctuations and changes in health service needs.

6.1 Key health service needs

The key health service needs identified in the Basins’ Plan include demand for preventative and primary health care, a range of acute health services as well as providing sufficient workforce and information and communication technology to support these services.
6.1.1 Preventative health and primary health care

For the purpose of the Basins’ Plan, preventative health services refers to a broad range of health promotion, prevention and protection services such as injury prevention, screening services, communicable diseases prevention and management and environmental health functions.

The key preventative and primary health care service needs identified in the Basins’ region consultation include:

- allied health services across all settings
- early intervention and community mental health
- Alcohol, Tobacco and Other Drugs (ATODs), particularly prevention and early intervention
- pre and post operative care and rehabilitation
- preventative health services, including health promotion.

All health professionals need to assist in providing preventative health services where possible. Clinical staff can provide health education or preventative health services such as immunisation or referral to community health promotion programs when the opportunity arises during clinical service provision. Flexible integrated service delivery models will be developed across the primary health care sector to manage the changes in demand.

6.1.2 Core hospital services

Assessment of health service use in the Basins’ region indicates that the main conditions that people travel for higher level care include orthopaedics, obstetrics, non-subspeciality medicine and surgery and diagnostic gastrointestinal endoscopy. The Basins’ Plan consultation process validated these as key service needs which are congruent with the endorsed Queensland Health policy direction relating to a rural model of health service delivery. These key service needs can be delivered within the core services of surgical and procedural, emergency, maternity, and general medical services.

Although these services have been identified as key needs in the Basins’ region, meeting these needs is not confined to increasing services, but also includes finding ways to better provide access to services close to where people live and improving the organisation of before and after operative/injury care. Flexible integrated service delivery models are required throughout the Basins’ hospitals to manage the changes in demand.

6.1.3 Workforce

There are significant opportunities for innovative solutions to address current workforce challenges for the Basins’ region. Across the rural and remote regions of Queensland, the recruitment and retention of an appropriately skilled health workforce is an ongoing challenge, reflective of the global shortage of health professionals. This, together with an ageing workforce and the trend towards part-time work, will have an impact on the labour workforce available to deliver health care. Whilst these issues will impact on the health services’ ability to meet the growing demand for services, they present opportunities to strengthen partnerships with key stakeholders, including the resource sector, and investigate new and emerging roles to better meet the health needs of the local population.

Workforce development will continue to remain a priority for Queensland Health. Suitable staffing and resource allocation models will inform staff attraction and retention programs at each hospital to support continued provision of differentiated and coordinated services across the Basins’ region. Ongoing workforce planning will consider requirements for skilled staff related to contemporary models of service delivery and new or changing roles.

The provision of appropriate, safe and secure staff housing in rural areas is broadly acknowledged as a vital element in the ongoing attraction and retention of staff and in many cases is either part of award requirements or terms of employment for locum and relieving
staff. Queensland Health will investigate opportunities to support clinical research and skills enhancement and improve staff accommodation options as part of refurbishment and hospital upgrades.

6.1.4 Information, communication and technology

The efficient management of information, communication and technology is essential for the effective delivery of health services. Health service delivery involves the use of non-clinical and clinical information and communication systems and associated technologies including a skilled workforce to develop and operate these systems. As the health system becomes increasingly complex, so the information systems and associated technologies must continue to be developed by Queensland Health to ensure appropriate and accurate information is available to support service delivery and planning. It is necessary that Queensland Health continues to provide information technology that:

- supports clinical practice
- assists evidence-based practice
- improves patient outcomes
- supports hospital patient administration
- supports results reporting for hospitals
- supports and facilitates innovation.

7. Service direction

To ensure the delivery of safe and sustainable patient care and maximise workforce skills, a formalised hub and spoke model of service delivery between higher level services and the rural hubs will be used. Currently, rural hubs provide a range of acute and community services and support spokes to provide health services. Rural hub facilities provide services at a Level 3 Clinical Services Capability Framework (CSCF) v3.0, with the ability to support some higher-level services when medical outreach services are required. Facilities designated as spokes generally provide Level 1 and 2 CSCF v3.0 services.

The tiered hub and spoke model outlined in Figure 2 below will enable delivery of health services across the healthcare continuum through an integrated service network of hospitals, community facilities and primary care arrangements. This facilitates operational efficiencies and supports the long term sustainability of health care provision and the ability to adapt to fluctuation in demand because of resource sector projects. The model will also promote the attraction and retention of staff to the region by providing education, training and support for staff and exposure to a diversity of clinical activity through the network. This has the potential to fill currently funded, but vacant positions—particularly in the allied and primary health sector—without added cost.

Due to the unique positioning of Gladstone as the export gateway for many of the resource projects in the Basins’ region, such as Coals Seam Gas (CSG), Gladstone has the potential to become the key regional town for many mining companies and their associated workforce. As such, the Gladstone Hospital and the regional specialist services of the Rockhampton Base Hospital will play a central role in the provision of and the growth of health services to support the development of Gladstone, and the Bowen, Galilee and Surat Basins. The regional hub of Gladstone Hospital will provide the minimum four core services —surgical and procedural, maternity, emergency and general medical—as well as additional specialist services to meet the needs of the population.

The Basins’ Plan proposes that the rural hub hospitals (Emerald, Roma and Dalby) will deliver, at a minimum, four core health services—surgical and procedural, maternity, emergency and
general medical—at Level 3 CSCF v3.0. The regional and rural hub hospitals will support the spoke services in their catchments to provide health services to their communities.

Bowen and Moranbah hospitals are currently spoke services but projected population growth based on proposed resource sector investment indicates the potential for these hospitals to become hub services within the next decade. These six hospitals will be responsible for providing visiting and telehealth outreach services to smaller facilities in the Basins’ region (spoke services) and will be part of the larger service network supported by regional and metropolitan specialist services including those in Mackay, Rockhampton, Toowoomba and Brisbane. Increasing general practitioner proceduralist numbers and specialist outreach services at hub sites will grow capacity to meet identified health service needs and enable support of spokes especially within allied health and primary care services.

**Figure 2: Hub and spoke model of service**
7.1 Preventative health and primary health care

The Basins’ Plan recognises the need for collaboration with other health service providers and the resource sector to deliver preventative, primary and community health services to promote healthy living and working environments in the Basins’ region; increasing the focus of all health services towards preventative health in alignment with the *Health Protection Strategic Directions 2010–2013* and *Preventative Health Strategic Directions 2010–2013*.

The Basins’ Plan identifies partnerships with local governments, regional planning committees, and other state agencies to create policies and environments that support improved community health and wellbeing as an important component of meeting the preventative and primary health care needs of the community.

7.2 Core hospital services

The regional hub of Gladstone Hospital and the rural hub hospitals of Dalby, Emerald and Roma, have been endorsed to provide four core services of surgical and procedural, maternity, emergency and general medical as well as ensuring the appropriate level of associated support services. Due to ageing infrastructure and increase in demand as well as requirements for changing models of care, site specific infrastructure solutions have been identified to support the delivery of these core services.

7.2.1 Surgical and procedural services

Surgical and procedural services will be provided at the regional hub of Gladstone Hospital and the rural hubs of Dalby, Emerald and Roma, as same day services to meet a recognised need in the community. Although these visits are arranged to meet patient needs, they are dependent on the availability of visiting specialists, travel options and alignment with specialist schedules of the larger hospitals. The frequency of surgical days and volume of surgical and procedural activity will vary at each hub site across the region. Bowen and Moranbah are currently operating as spoke sites but have the potential to operate as rural hubs providing surgical and procedural services in the future.

Orthopaedic services (including surgical, non-surgical and outpatient procedures) are a specific need across the Basins’ region. Specialist outreach orthopaedic services—including post operative services such as allied health—will need to be provided to each hub site. Rural hub services will provide telehealth and outreach support to spoke services in their catchment for non-complex pre and post operative care.

7.2.2 Maternity services

Gladstone Hospital as the regional hub hospital and Dalby, Emerald and Roma hospitals as the rural hubs, will provide core maternity, neonatal and anaesthetic services at a Level 3 CSCF v3.0. The hub services will support the spoke services in the catchment to provide antenatal and postnatal services. Bowen and Moranbah hospitals, as spoke services, currently provide only antenatal and postnatal services. As potential hubs, Bowen and Moranbah Hospitals may deliver birthing services in the future.

7.2.3 Emergency services

Emergency Departments at the regional hub of Gladstone Hospital and the rural hubs of Dalby, Emerald and Roma, currently provide a Level 3 CSCF v3.0 service which means they are able to manage a range of emergency presentations and emergency care until transfer to a higher-level hospital when required. Access to close observation beds and telehealth services to support critical clinical decision making is available. Bowen and Moranbah currently provide Level 2 CSCF v3.0 services, however as potential hub sites in the future may provide Level 3 CSCF v3.0 emergency services.
7.2.4 General medical services

General medical services are provided by general practitioners both in the community and as part of general medical services at each of the hospitals. Medical specialist outreach services are provided if there is a recognised need in the community. The regional hub of Gladstone Hospital and the rural hubs of Dalby, Emerald and Roma, will support spoke services in each of the Basin regions to provide general medical services. To do this sufficient qualified medical practitioners will need to be available to provide rural generalist proceduralist services to Level 3 CSCF v3.0.

7.2.5 Clinical support services

Key clinical support services, such as pharmacy, medical imaging and allied health services, will be provided at Level 3 CSCF v3.0 to support core services, preventative and primary health care services.

7.2.6 Acute mental health services

Acute mental health services are a recognised need across the Basins’ region. The regional hub of Gladstone Hospital and the rural hubs of Dalby, Emerald and Roma, will support spoke services in their catchment to provide preventative and early intervention programs, along with community based mental health services. These hubs do not have specialist psychiatric services, although they need the ability to manage acute mental health episodes until transfer to a higher level facility is possible. They will operate at Level 2 CSCF v3.0 for inpatient mental health services with support from higher level facilities provided through outreach and telehealth.

7.3 Workforce

The provision of professional opportunities, development and support to recruit and retain the health professional workforce are key to ensuring the safe and sustainable delivery of health services in the Basins’ region.

It is important to connect new health service workforce to the community via support for the families of workers moving into the area, assistance to find employment opportunities for spouses/family members and assistance in procuring accommodation or the provision of employee housing accommodation. New staff accommodation has been built at Roma, Moranbah and Emerald since 2009 and it has been identified that additional housing is still required in a number of the sites.

Health service planning will inform future workforce planning at a District level to support the implementation of identified service directions across the Basins’ region.

7.4 Information, communication and technology

Enhanced use of telehealth models of service delivery will continue to drive better access to health services in the Basins’ region. Ensuring sufficient information and communication technology and technical support is available to implement information communication technology strategies, is also recognised as a key component of sustainable health service provision in the Basins’ region.

Through the provision of remote diagnostics and monitoring, patients will be able to have follow-up care and other specialist services delivered closer to home, reducing patient travel costs and inconvenience.
8. Infrastructure

Across the Basins’ region, with the exception of Gladstone Hospital, all key facilities have sufficient overnight beds. Most facilities require additional same day beds, although some facilities might reconfigure existing overnight beds to suit same day needs. Gladstone Hospital requires additional overnight beds to meet projected population demand. All facilities require reconfiguration/ refurbishment of their Emergency Department treatment spaces. Site specific infrastructure solutions that have been identified are being incorporated into Queensland Health processes for infrastructure renewal.

9. Summary

The Basins’ Plan will enhance local health service delivery and increase the self sufficiency of local health services. The key mechanism through which this change will be achieved is the implementation of the tiered hub and spoke model of service delivery with higher capability level sites providing support to lower capability level sites. This approach will meet the changing health service needs in the Basins’ region by enabling a broader range of health services to be safely and sustainably delivered. The Basins’ Plan provides an overarching direction to ensure Queensland Health is in an optimal position to deliver more services sooner and closer to home for the Basins’ region population. The Basins’ Plan will inform the development of health service plans for the respective Health Service Districts included in the Basins’ regions to ensure safe, sustainable and coordinated health service delivery.

10. References
