

# 4 Sustainability and innovation in the health system

Create a sustainable, proactive and continually improving health system

## Objectives

- 4.1 Improve health system sustainability by implementing health reforms that drive innovation, efficiency and improvements for consumers.
- 4.2 Actively encourage innovation and evidence-based improvement in service models to deliver the best possible service outcomes with available resources.
- 4.3 Engage partners in health service planning and delivery.
- 4.4 Develop and manage infrastructure and assets to ensure safe, efficient and effective service delivery.
- 4.5 Increase capacity for education, learning and research.
- 4.6 Develop and maintain systems to assess and monitor quality outcomes and provide feedback to health professionals, service providers, the community and governments to support continuous improvement and innovation.
- 4.7 Provide leadership for and foster collaboration across the broader Queensland health and medical research sector to improve the translation of research into practice and promote the transfer of knowledge into improved health outcomes.
- 4.8 Increase the availability and use of technological advances to improve the efficiency, effectiveness and quality of health services.
- 4.9 Implement an integrated electronic medical record across Queensland Health to increase availability of information for providers and enhance their ability to deliver safe and effective healthcare.
- 4.10 Contribute to the development and implementation of a nationally consistent approach to activity based funding to improve the efficiency and effectiveness of service provision and provide mechanisms to reward good practice and support quality initiatives.
- 4.11 Support 'green' initiatives that protect our lifestyle and environment.

## Key strategies

- 4.1.1 Implement national health reforms so that HHSs have the flexibility to be more innovative and responsive to local health priorities.
- 4.2.1 Continued implementation of the Clinical Redesign Program.
- 4.2.2 Continue to support the development of the transition of primary health service provision to community controlled Aboriginal and Torres Strait Islander health services where there is appropriate community support and capacity.
- 4.2.3 Create a culture that invites participation in research, problem-solving and innovation.
- 4.2.4 Recognise and promote achievements in innovation and continuous improvement.
- 4.3.1 Develop mechanisms to ensure local clinicians have a voice in the planning, implementation and review of services at the local health and hospital network level.
- 4.3.2 Engage clinicians in development and management activities.
- 4.3.3 Building collaboration through networks, communities of practice and consumer engagement.
- 4.4.1 Maintain infrastructure and assets through developing and implementing effective maintenance and life cycle replacement strategic planning, management and funding models.
- 4.4.2 Deliver long-term health service and capital planning for future health services.
- 4.5.1 Ensure health service planning recognises the need for education, learning and research facilities to be integrated or collocated with service delivery.
- 4.6.1 Implement the Queensland Health Performance Management Framework to increase the monitoring and evaluation of service delivery to continually improve the quality, safety and efficiency of health service delivery and inform resource allocation decisions.
- 4.6.2 Effective mechanisms are established to hold HHSs accountable for their performance.
- 4.6.3 More effectively integrate risk management into the work of Queensland Health executive committees and the department's strategic planning.

- 4.7.1 Establish the Knowledge Transfer Initiative to drive the translation of research conducted in Queensland Health into real world outcomes (commercial products and clinical care).
- 4.7.2 Promote Queensland's research and development expertise and capability to potential researchers, funders, partners and to the community through community engagement activities.
- 4.8.1 Continued implementation of the Queensland Health Technology Assessment Process including the New Technology Funding Evaluation Program mechanism.
- 4.9.1 Progress implementation of the eHealth strategy and continue the roll out and expansion of the Telehealth network.
- 4.9.2 Increase the information available to healthcare providers by implementing an integrated electronic medical record in alignment with the national Personally Controlled Electronic Health Record.
- 4.9.3 Develop and implement a transparent and effective governance framework to enable the efficient and effective use of ICT in support of health outcomes.
- 4.10.1 Implement funding models that drive transparency and efficiency in the funding of public health services.
- 4.11.1 Minimise energy consumption, its carbon footprint and demand.
- 4.11.2 Achieve enduring cultural change in carbon reduction management across the entire organisation.

## Key performance indicators

- Expenditure on maintenance.
- Cost per weighted activity unit.
- Weighted activity units.
- Cost per weighted activity unit for sub-and non-acute patients.
- Sub- and non-acute weighted activity units.
- Own source revenue.
- Achieving a balanced operating position.
- Electricity consumption reduced across all Queensland Health facilities.

## Clinical services redesign, innovation and excellence

Queensland Health's Clinical Services Redesign Program (CSRP) supports local clinicians and other frontline workers to diagnose and solve local barriers to efficient patient care. During 2011–2012, the CSRP commenced or completed 16 projects, as well as the *Improve and Move Chest Pain* statewide initiative.

These projects improved access to emergency departments and outpatient care; reduced delays during hospital stays; and improved the patient experience through enhanced communication and engagement with patients and their carers.

In 2011–2012, priorities for clinical services redesign included:

- the establishment of a formalised 'redesign school' to further support the education and training of the Queensland Health workforce in improvement methodologies
- commencement of a further ten major redesign projects
- the extension of successful solutions across Queensland by bringing clinicians and hospital staff together in regional and statewide forums.

The Gold Coast's *Patient Journey Project* undertaken at the Southport and Robina hospitals is an exemplar of clinical services redesign. Prior to the project, less than 50 per cent of category 2 emergency department patients were seen within the recommended 10 minutes and over 40 per cent of all patients requiring a hospital admission waited more than eight hours for a hospital bed.

In 2011–2012, the *Patient Journey Project* transformed performance opening a Medical Assessment and Planning Unit; and establishing a new Patient Access and Flow Unit. As of April 2012, more than 80 per cent of the category 2 emergency department patients are seen within 10 minutes and less than 20 per cent of patients requiring admission spend over eight hours in the emergency department. Although improvements are still required, these results represent significantly improved access for the people of the Gold Coast. From 1 July 2012, the Gold Coast HHS will be responsible for making further access improvements to support the needs of the growing Gold Coast community.

An online discussion forum was established in 2011 to facilitate communication between Queensland Health

staff about issues that affect patient flow. Staff from across the state can post queries about topics that affect patient flow and share best practice learnings. A central repository was established of 30 service improvement initiatives and service delivery models that have proven efficacy in relation to patient flow. This central repository is hosted on the patient flow website.

In 2011, three Queensland Health projects were recognised for their outstanding contribution to health service provision in the Healthy Category of the Premier's Awards for Excellence in Public Service Delivery:

- The *Electronic Patient Journey Boards Project* was recognised as an innovative and cost-effective solution to managing information vital to patient care and duly awarded winner of the Healthy Category.
- The Queensland Health *Emergency Medical System Coordination Centre* and Cairns and Hinterland Health Service were named joint winners of the Disaster Management Category in recognition of their preparation and response to severe Tropical Cyclone Yasi.
- The *End of Life Project* was awarded Highly Commended status in recognition of efforts to improve communication and planning in relation to end-of-life care.

Introduced in 2010–2011, clinical practice improvement payments recognised and financially rewarded health service districts for improving performance in relation to outpatient service delivery. In 2011–2012, four health service districts received reward funding. The Sunshine Coast and Rockhampton Health Service Districts received \$100 000 each for meeting outpatient delivery indicators.

## Clinicians leading reform

Queensland Health continued to engage and support clinicians to share their collective knowledge on how to deliver the best care to Queenslanders through strategic oversight and secretariat support of:

- state and geographic-area clinical network meetings—there were 18 formal clinical networks that met regularly across the state to consider a variety of strategic and operational issues that impact on service provision
- the Queensland Clinical Senate—this network of 65 clinicians met to provide strategic advice to

the Director-General on key issues and matters relating to health service delivery. The Senate was the primary stakeholder group consulted in relation to the design of the Queensland Health Clinician Engagement Framework

- clinical workshops and forums targeting specific issues—these are dependent on whether the topic has statewide or local relevance
- the Outpatient Operational Advisory Committee—provided a forum for primary care and specialist clinicians from government, general practice and non-government organisations to collectively consider ambulatory care service integration issues that have a negative impact on continuity of care of Queenslanders.

## Funding models

The Queensland Health (Phase 14) ABF Model was reviewed to ensure the transparency and efficiency of the current state ABF model. The review was used to inform the 2012–2013 purchasing model. This process was used to determine hospital and health service contract offers (budget allocation and activity targets). A nationally consistent ABF model was developed by the Independent Hospital Pricing Authority (IHPA) and will be included in the Queensland Health Decision Support System (DSS). It is currently planned to use the nationally consistent ABF model to inform the 2013–2014 State Purchasing Model.

## Research and health technology assessments

The Office of Health and Medical Research implemented a strategy to change culture and build capacity in research, problem-solving and innovation through:

- the Health Research Fellowship Program and the Near Miss Funding
- establishment of the Knowledge Transfer Initiative to drive the translation of research conducted in Queensland Health into commercial products and clinical care
- the promotion of Queensland's clinical research and development expertise and capability to potential researchers, funders, partners and the community through community engagement activities, streamlining of administrative and

regulatory processes impacting health and medical research, including human ethics approval and governance processes.

The Database of Research Activity (DoRA):

- puts patients in touch with research in which they want to participate
- puts researchers in touch with potential collaborators
- allows potential funders and partners to find expertise and assess capability in clinical research.

Six hundred research activities have been published and maintained on DoRA since its establishment in May 2011.

The Office of Health and Medical Research also implemented a strategy to identify, protect and commercialise intellectual property emerging from the department's research and development. This includes:

- engaging *Uniquist* to provide commercialisation services to Metro North Health Service District: a number of commercialisation prospects were identified, including several inventions that have been identified as suitable for patent protection
- engaging the *Australian Institute of Commercialisation* to provide intellectual property, commercialisation, and research collaboration services to the Gold Coast Health Service
- continuing the agreement with the *Medical Research Commercialisation Fund*, to support investment in medical research.

Under the Queensland Health Technology Assessment Program in 2011–2012, 14 new health technologies were reviewed under the New Technology Funding Evaluation Program. Eight of these were funded for implementation and evaluation. These technologies are new to Queensland's public health sector and include:

- BioNESS L300 foot drop system to support functional gait in acute and sub-acute stroke patients who demonstrate foot drop as a result of first time stroke (pilot at the RBWH, Gold Coast Hospital, Ipswich Hospital and the Townsville Hospital)
- EX-VIVO lung perfusion system to recondition non-viable or marginal donor lungs to enhance overall numbers of lung transplant operations in Queensland each year (TPCH)
- laser lead extraction to aid in the removal of chronically implanted pacemaker and defibrillator leads (TPCH)

- GeneXpert MTB/RIF for simultaneous detection of *M. tuberculosis* complex and resistance to rifampicin from sputum samples (Queensland Mycobacterium Reference Laboratory, RBWH)
- Fibroskan for the detection of liver fibrosis and management of chronic viral hepatitis patients (RBWH and PAH)
- NxStage home haemodialysis machines for patients with end stage renal failure requiring haemodialysis (PAH and Cairns Base Hospital)
- renal denervation to treat patients with resistant hypertension (PAH)
- monoplace recompression chamber to administer hyperbaric oxygen therapy (RBWH).

Comprehensive Health Technology Assessments (HTAs) were commissioned on:

- a Comprehensive Epilepsy Service for patients with refractory epilepsy
- obesity management service for the delivery of bariatric surgery within a framework of multidisciplinary model of care for adults and children.

These assessments include a systematic review of the clinical literature and an economic evaluation.

As part of the broader HTA program, 14 research reports were prepared on new health technologies in order to provide advice to clinical executives and health service districts.

## Infrastructure, assets and planning

The streamlining of policies to guide health infrastructure and project management was a key priority in 2011–2012. The development of an Asset Management Policy and Implementation Standard provides a strategic policy framework that brings together existing asset management related policies. Implementation standards specifying requirements for maintenance planning, funding, delivery and information management were implemented to support the Building and Infrastructure Maintenance Policy. The capital infrastructure planning process was enhanced to improve the consistency, rigour and quality of capital planning.

Other key achievements for 2011–2012 in regard to health infrastructure and asset maintenance included:

- implementation of annual maintenance planning providing detailed programs of works

- development and improvement of the Computerised Maintenance Management System
- review and rationalisation of approximately 200 maintenance task specifications
- delivery of emergency maintenance and infrastructure failure rectification projects being progressed within the Maintenance Enhancement Program and Critical Maintenance and Infrastructure Works Program
- infrastructure plans for Redland, Dalby and Gladstone hospitals.

The Building Performance Evaluation Methodology and Guidelines were prepared as a performance monitoring tool, which contributes to a continuous improvement cycle to drive innovation and efficiency within hospitals. It also serves to better support service quality, improve patient outcomes and support links between facility design and performance to the long-term strategies of Queensland Health.

To support HHSs to align with changing patterns of need while ensuring effective use of resources, district-wide health service plans have been informed by service planning benchmarks and data in partnership with the following districts:

- Townsville Health Service District
- Cairns and Hinterland Health Service District
- Mount Isa Health Service District
- Central Queensland Health Service District.

Three new tertiary hospital builds are to be delivered by 2016, including the GCUH (\$1.76 billion), QCH (\$1.4 billion) and the SCUH (\$2.03 billion).

The capital infrastructure program comprised over 200 projects across a broad range of health infrastructure—including community health centres, hospitals, health technology, pathology, research and scientific services, mental health services, residential care, staff accommodation, and information and communication technologies.

The infrastructure program is generating approximately 40 000 construction jobs over the life of the program.

The GCUH is the largest public health infrastructure project currently underway in Australia. It will feature leading edge technology and one of the state's largest clinical teaching and research facilities, providing specialised health services that meet the needs of patients and the learning requirements of students. It

is estimated that the 750-bed GCUH will have capacity to manage the demand for health services on the Gold Coast until 2020. The hospital design incorporates future-proofing initiatives that provide the ability for the facility to expand by around 60 per cent and caters for changing models of care and technology. The major initiative in model of care, patient safety and management flexibility is the inclusion of 70 per cent single rooms (as opposed to the traditional 25 per cent ratio). It is estimated that over 9800 construction-related jobs will be created over the life of the project, and once fully operational the facility will employ approximately 5000 staff.

The QCH will be a purpose-built facility and, once completed, will be the major specialist children's hospital for the state providing clinical, educational and support services to the statewide network of children's health services.

The SCUH is the centrepiece of a network of health services offering a comprehensive range of community and primary healthcare for the Sunshine Coast community. The hospital is Queensland's first PPP project and the largest hospital PPP in Australia. Key features of the hospital include a cancer care centre, neurosurgery, cardiothoracic surgery, maxillofacial surgery and a trauma service. The Kawana Health Precinct will also include a private hospital, a skills, academic and research centre and health-related commercial developments in the Kawana Health Innovation Park.

Future capital infrastructure plans are proposed to be undertaken during 2012–2013 in Cape York, Mackay, Darling Downs, South West, Metro South, Gold Coast, West Moreton and the Sunshine Coast. Statewide clinical stream plans to be undertaken in 2012–2013 include intensive care services, diabetes services and respiratory medicine services. Capital infrastructure planning studies are proposed to be undertaken during 2012–2013 in Townsville and other areas that are yet to be determined.

## Energy efficiency

All capital infrastructure planning terms of reference for capital infrastructure planning studies include building principles which ensure environmentally sustainable designs and energy conservation obligations are considered.

Queensland Health carbon management projects have generated utility savings of 35 498 tonnes CO<sub>2</sub>, 38 107 387 kilowatt hours of electricity, 92 655 gigajoules of gas, and 334 170 kilolitres of water.

## ICT and E-Health

The E-Health Program aims to increase the amount of information available electronically to healthcare providers at the time they need it, and wherever they need it. The latest solution, *The Viewer*, allows patient records from different locations to be seen in one place, giving clinicians faster access to patient information and results. *The Viewer* is available to authorised users and provides a single point of access where clinicians can view a range of important summary patient information. The solution is available to any Queensland Health facility connected to the department's network.

Queensland Health is in the initial stages of introducing an integrated electronic medical record (ieMR) solution which will progressively replace paper-based records. ieMR will provide key sites with integrated advanced decision support.

The Queensland Health E-Health Program is working closely with other jurisdictions and the National E-Health Transition Authority (NeHTA) to support the development of the Personally Controlled Electronic Health Record. Queensland Health is participating in a Wave 1 pilot in the north of Brisbane.

Queensland Health established an ICT Enterprise Governance Framework in 2010 outlining mechanisms to manage investment and mitigate risks to the ICT portfolio. The framework supports senior executives in understanding and fulfilling the legal, regulatory and ethical obligations in relation to the organisation's investment and use of ICT. In 2011–2012, this ICT governance framework was reviewed and updated to reflect the organisational health reform scheduled to commence on 1 July 2012.

A draft HHSs ICT Governance model was also developed and distributed to guide the new HHSs in the establishment of appropriate local governance mechanisms.

## Community engagement and service planning

All health service plans undertaken in 2011–2012 included significant key stakeholder and community engagement. From August through to December 2011, Cairns and Hinterland, Townsville, Central Queensland and Mount Isa health service districts undertook targeted consultation on the future service directions with General Practice Queensland, Medicare Locals (or their equivalent), non-government and private organisations, resource sector companies, universities and other local interest groups. In addition, districts hosted community forums to actively inform communities of the future directions for Queensland Health services.

## Gold Coast University Hospital project

Community engagement has continued to be a high priority throughout the construction stage of the GCUH. The Stakeholder Advisory Group (comprising members representing the local community, universities, health service providers and local business) have met bi-monthly with executive team members of the GCUH project team. The district's community advisory group has been engaged to provide input to a number of aspects for the project (including art, wayfinding and prototype patient rooms). A number of community open days have been held, including opportunities to tour buildings as they achieve practical completion, in addition to presentations to local community groups. Static displays in shopping centres and libraries provide further project information to members of the public. The GCUH project website continues to experience high volumes of traffic and includes functionality to direct general enquiries to members of the project team.

## Queensland Children's Hospital project

The QCH project team regularly engages with the community to ensure they are kept informed about the project including its benefits, future services and amenities, key construction milestones and activities, and planning for the move into the new hospital in late 2014.

During October and November 2011, the QCH project team and builders Abigroup ran a colouring-in competition giving Queensland children the opportunity to name the six cranes on the construction site.

The Name the Cranes competition invited children aged three-to-14 years of age to colour in one of two crane illustrations, give it a name, and say why they chose that name.

Six winners were chosen from more than 300 entries received all over the state. Winners attended an official crane naming ceremony at the hospital construction site in South Brisbane, and received a prize pack including a QCH construction hat, certificate and \$100 movie pass donated by Abigroup. The six cranes now proudly bear banners with their new names.

## Sunshine Coast University Hospital project

The SCUH has enjoyed the input and advice of its community reference group which is made up of 15 representatives of the local community and community interest groups. The community reference group has provided input on the design plans for the SCUH and will continue to be a source of advice to the project team as the design takes shape and construction gets underway. The group also plays an important role in sharing information provided on SCUH with other community members.

## Hospital redevelopments

Each of the large hospital redevelopments in Cairns, Townsville, Mackay, Rockhampton and Mount Isa have undertaken regular community engagement and consultation activities. The Regional Enhancement Program (REP) which led and managed the design and construction of four new multipurpose health services at Winton, Mount Morgan, Baralaba and Biggenden have undertaken community advisory group processes during the planning and design.

# National partnership agreements

## National Partnership Agreement on E-Health

The NPA on E-Health establishes a Healthcare Identifiers (HI) Service and national E-Health standards, infrastructure and legislation to enable the development of a national E-Health system for Australia.

The adoption of the HI Service and national E-Health standards, infrastructure and legislation are critical to the success of the Personally Controlled Electronic Health Record (PCEHR) System, which will be launched on 1 July 2012.

Queensland Health has developed the HI Service Strategy and Implementation Plan which identifies the mechanisms required to link the Queensland Health patient identifiers with an Individual Healthcare Identifier (IHI) and provides strategic direction for HI Service integration. The aim is to ensure Queensland Health will have the ability to support current processes, while supporting future linkage to the HI Service.

A 'seed' Healthcare Provider Identifier–Organisation (HPI-O) was obtained by Queensland Health in May 2011. This is a key requirement for Queensland Health to interact with the HI Service. An options analysis is being undertaken to identify the preferred HPI-O hierarchy structure to represent Queensland Health when interacting with the HI Service.

Queensland Health is participating as part of the 'Wave 1' E-Health Implementation Site Project with Metro North Brisbane Medicare Local (MNBML). Queensland Health received funding from the NeHTA to implement a long-term solution to connect to the HI Service using existing Queensland Health infrastructure. As part of this project, the consumer's IHI will be included on the new Clinical Document Architecture (CDA) formatted discharge summary.

Queensland Health is collaborating with the NeHTA to complete a data profiling exercise to identify the likely percentage of Queensland Health patient records that can be successfully matched to an IHI.

Queensland Health is also participating in a steering committee that has been formed to guide development of the Intergovernmental Agreement (IGA) on E-Health, which will replace the NPA on E-Health when it initially expires.

The NPA on E-Health requires that a review of the operation of the HI Service, as well as operation of the legislation, commences on 1 July 2012. Queensland Health is providing input into this review through representation on the National Health Information Regulatory Framework (NHIRF) Working Group.

Significant financial investment is required for Queensland to progress full implementation of national eHealth foundations such as the HI Service and establish the infrastructure and systems needed to be PCEHR ready.

## National Partnership Agreement on the Digital Regions Initiative

The NPA on the Digital Regions Initiative was signed on 9 May 2009 and ends on 30 June 2013. The agreement is to deliver innovative digital enablement projects supporting improved health, education and emergency services in regional, rural and remote communities throughout Australia.

In November 2011, two implementation plans were signed under this NPA:

- Townsville National Broadband Network Telehealth Diabetes Trial
- PAH Online Outreach Services.

The Townsville trial is providing Telehealth home monitors for patients with type 2 diabetes living in the National Broadband Network rollout areas in Townsville. Patients who require assistance to control their diabetes are being recruited through general practices and are randomly assigned to an intervention or control group.

In 2011–2012, the PAH Online Outreach Services project established a Telehealth facility at the PAH in Brisbane and equipped rural hospitals with a videoconferencing capability. Videoconferencing will enable the delivery of specialist services from Brisbane to regional and rural Queensland, commencing with specialist geriatric services to Kingaroy, Dalby and Warwick, and specialist diabetes and endocrinology services to Mount Isa, Cloncurry and Cunnamulla. In addition, a solution will be implemented for the review of echo-cardiac and dermatological images.