

The South East Queensland Paediatric Planning Report



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1. Foreword

Queensland Health is committed to ensuring children have access to quality, safe and sustainable health services. Planning is underway for children's health services across Queensland. The *Queensland Statewide Children's Health Services Plan 2009-2019* will be finalised mid-2009. This Plan will identify the overarching directions, priorities and high-level strategies for children's health services in Queensland, in the areas of community children's health services, ambulatory and acute care services.

Work has commenced on the Queensland Government \$1.1 billion commitment to a single children's tertiary hospital. The Queensland Children's Hospital (QCH), opening in South Brisbane in 2014, will be a centre piece to the overall paediatric services in Queensland. Its principal role will be to provide tertiary inpatient and outpatient services to children with illnesses such as cancer or major trauma requiring highly specialised diagnostic services and treatments like heart surgery. It will have a critical role in supporting paediatric services across the state.

Given this vision of the role of the QCH, at the recommendation of paediatricians involved in services to be transferred to the QCH, the Premier requested an assessment of the paediatric acute services provided in other locations in south east Queensland. This assessment particularly examined the Greater Brisbane metropolitan area's current children's health services capability and capacity, and strategies and resource implications to respond to future demand.

The report identified that it will be important to build the capability of other acute general paediatric services in south east Queensland to complement the mainly highly specialist role of the QCH. The aim is to provide high quality general paediatric services especially emergency services closer to families homes and to reduce the need to travel to the QCH. To achieve this the report makes several recommendations:

- a new dedicated children's emergency department with dedicated children's treatment areas, a short-stay observation unit and outpatient rooms should be established on the North side at the Prince Charles Hospital closer to the centre of the population growth areas
- given the increases in number of children in certain locations, the highest priorities for increased paediatric clinical services in the Greater Metropolitan area are: Ipswich, Logan, Caboolture, Redcliffe and Redland
- there is a need to develop the paediatric services workforce and develop better networking of services and facility planning guidelines.
- there is a need to inform the community about their local emergency department services.

It is also noteworthy that the new tertiary hospitals being developed at the Gold Coast and Sunshine Coast will complement the Greater Brisbane metropolitan area children's services. Both hospitals will have dedicated waiting and treatment areas for children within the emergency department, specialist paediatric outpatient services and inpatient facilities.

This combination of service developments will allow Queensland Children's Hospital to develop as a world class teaching and research hospital focussing on the needs of children with complicated illnesses and injuries. The developments will also improve access to general paediatric services required by a larger number of families closer to where they live.

Michael Reid
Director-General

2. Executive summary

Planning for the Queensland Children's Hospital (QCH) highlighted the need to increase acute and ambulatory children's health service capability and capacity in the Greater Brisbane metropolitan area¹ to meet annual projected increases of 1.4 per cent in child (0-14 years) population and service demand.

In light of this the Honourable Anna Bligh MP Premier of Queensland requested a report from Queensland Health detailing the Greater Brisbane metropolitan area's current children's health services capability and capacity, and strategies and resource implications to respond to future demand. This report is intended to be considered in conjunction with the existing and ongoing planning for statewide children's health service planning.

It should be noted that while the main focus of this report is planning for children's health services in the Greater Brisbane metropolitan area, these suggestions should be read in the wider south east Queensland context.

Report findings are based on several data sources, a situational analysis and population based modelling. The time period for this analysis was considered to be through to the opening of the QCH planned for 2014.

Caboolture, Ipswich, Logan, Redcliffe and Redland Hospitals currently provide *Clinical Services Capability Framework (CSCF)* level 4 services for low to moderate risk predominately medical inpatients and outpatients and combined children/adult emergency department (ED) services. Adult inpatient service demands reduce available children's health capacity at these facilities, and their ED and outpatient facilities are not specifically designed for children. Consequently, children are using the highly specialised ED services at Mater Children's (MCH) and Royal Children's (RCH) Hospitals, when their presenting condition could be safely managed at their local hospital. MCH and RCH should provide services to their immediate catchment population and CSCF level 5 and 6 services for complex and highly complex patients from across the state, acting as a referral service for CSCF level 4 service hospitals.

Gold Coast Hospital provides CSCF level 4 services. The Gold Coast University Hospital, planned to open in 2012 will provide CSCF level 4 and some level 5 services for its local catchment and northern New South Wales. Nambour Hospital provides CSCF level 4 services. The Sunshine Coast University Hospital, planned to open in 2014 will provide CSCF level 4 services for its local catchment and regional centres. Townsville Hospital will also provide CSCF level 4 and 5 services for its immediate catchment population and some CSCF level 5 services for northern rural and regional catchments.

Key options to respond to future service demand were determined and prioritised following consultation with relevant stakeholders. Exploration of the options gave rise to the following recommendations, in order of priority:

- development of additional Greater Brisbane metropolitan area CSCF level 4 service capacity through a mix of multi and same-day beds, ED spaces and outpatient rooms preferably prior to QCH opening in 2014
 - highest priority is the Caboolture, Ipswich and Logan areas
 - The best north Brisbane acute general paediatric services option to be commissioned before RCH closes is the Prince Charles Hospital
 - high priority at Redcliffe and Redland Hospitals.

¹ Greater Brisbane metropolitan area consisting of Brisbane, Caboolture, Ipswich, Logan, Redcliffe and Redland.

- development of a workforce plan to build capability and support services with multidisciplinary specifically-skilled children's health staff
- development of a formal children's health services network with QCH as the major hub for statewide services
- implementation of strategies to increase the public awareness and use of local acute, ambulatory and primary care services at Greater Brisbane metropolitan area facilities
- development and implementation of the CSCF paediatric module in 2009
- development of a statewide whole of system (adult and children) demand management strategy.

Implementation of these recommendations should address the increasing service demand, allowing QCH to focus on the provision of higher level services for the State and CSCF level 4 services for its local catchment area, minimise duplication of CSCF level 4 services, better meet people's needs across the continuum and improve access to safe and sustainable services in children's local areas.

3. Introduction

Planning for the QCH highlighted the need for increased acute and ambulatory children's health service capability in the Greater Brisbane metropolitan area to meet projected increases in child population and service demand. It also confirmed the need for the proposed children's services at Gold Coast and Sunshine Coast hospitals.

The Honourable Anna Bligh MP Premier of Queensland requested a report from Queensland Health detailing the Greater Brisbane metropolitan area's current children's health service capability, strategies to respond to the projected increases in child population and health service demand, and future service directions.

This report and its recommendations needs to read within the context of broader health service development in south east Queensland. The QCH Master Plan provides for a total bed number of 437, of which 359 are public and 78 are private. The new tertiary hospitals, Gold Coast University Hospital and Sunshine Coast University Hospital will provide 42 and 34 paediatric beds respectively. There are commitments to further developments at all of the hospitals mentioned in this report, for example, redevelopment of EDs at Logan and Redland Hospitals. These will need to be taken into account in developing specific responses to the needs and options identified here.

4. Scope of the report

This report focuses on public acute and ambulatory children's health services in Greater Brisbane metropolitan area facilities, and outlines:

- current service capability
- future demand
- options to respond to increased service demand
- recommended future service directions.

5. Background information

The Queensland child population is projected to grow by 1.4 per cent annually between 2006 and 2021 resulting in increased demand for acute and ambulatory children's health services. The projected annual population growth will be greatest in South East Queensland at 1.7 per cent. The Greater Brisbane metropolitan area projected population growth will be 1.4 per cent annually.

In light of projected population and service demand increases, the *QCH Service Plan 2008-2018* (Queensland 2008a) highlighted the need for:

- managing projected future inpatient demand at the QCH and within the Greater Brisbane metropolitan area
- managing projected future ED demand at the QCH and within the Greater Brisbane metropolitan area
- progression of planned services for the Gold Coast and Sunshine Coast University Hospital projects
- integrated management of acute, ambulatory and primary health care services to support effective service delivery

- identification of the capital and recurrent resource implications of building service capability in the other Greater Brisbane metropolitan area facilities².

In light of this, and as projected population and service demand increases, there is also a need for:

- managing projected increased outpatient service demand, that results from increased ED and inpatient service demand
- identification of primary care services that aid in reducing demand on acute and ambulatory services.

Definitions for various terms used in this report are in Appendix 1.

6. Methodology

The findings in this report are based on analysis of several data sources including the Australian Bureau of Statistics (ABS) 2006 census data, Department of Infrastructure and Planning's population projections, data based on the Queensland Hospital Admitted Patient Collection data 2006/07, Emergency Department Information System (EDIS) data and casemix data. Data and information was also gathered through targeted consultation with the stakeholders (as noted in Appendix 2).

Primary data analysis included a situational analysis and population based modelling. These data and data analysis had a number of limitations that impacted the findings.

Modelling projections involve assumptions about future service models and medical technologies and advancements in medical treatments. Population projections are based on current trends and may underestimate or with the current economic changes over-estimate medium to long term growth. This means that projections need to be regularly reviewed as new information on service patterns, medical technology trends and population growth become available particularly beyond 2011/12.

7. Greater Brisbane metropolitan area children's health services

7.1 Population to be serviced

The majority of facilities provide care for children aged 0–14 years on first admission and up to 16 years of age on subsequent admissions. This report defines children as 0–14 years of age, acknowledging that a number of children over 14 years may be admitted to children's health services at Clinical Services Capability Framework (CSCF) level 4 (description provided in Appendix 3 and 4) for ongoing or specific care.

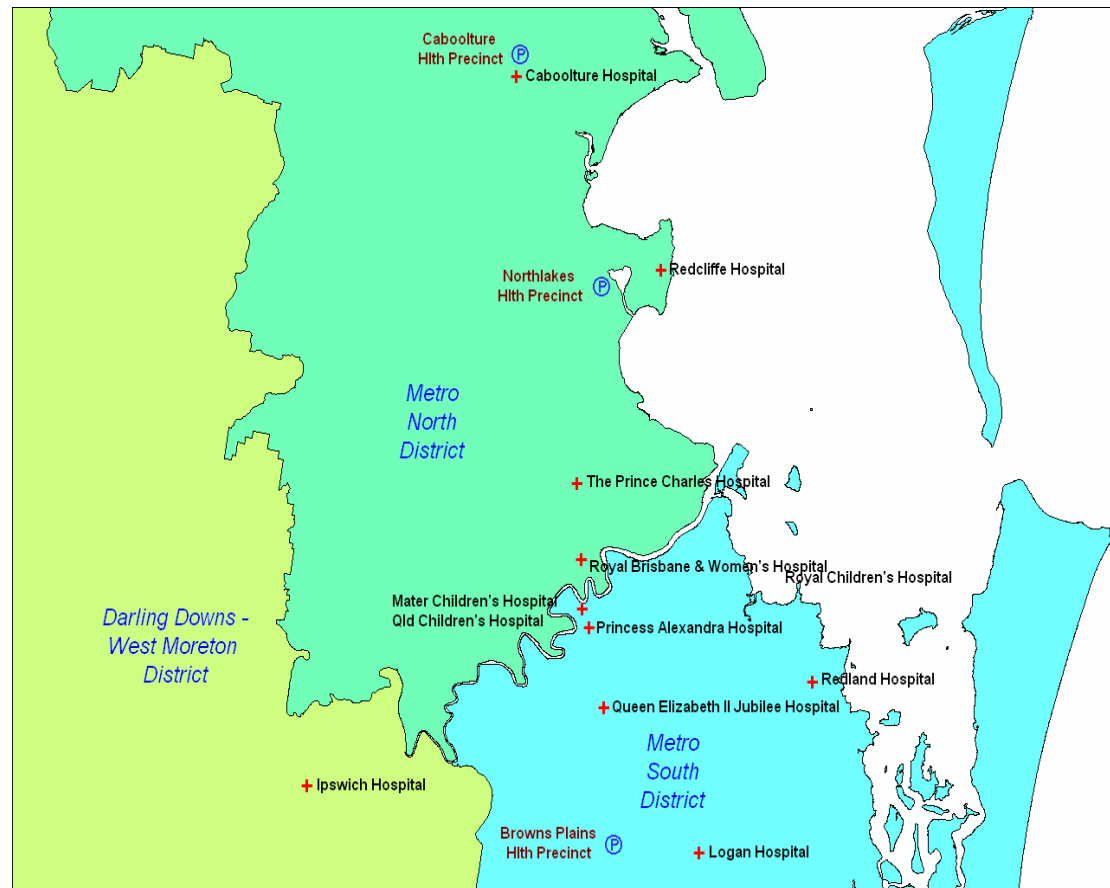
Neonates are excluded from the definition of children used in this report, as they are not typically cared for in acute and ambulatory children's health facilities. Children requiring mental health care are also excluded from the definition of children used in this report as they are usually cared for in specific mental health facilities, although it is acknowledged that children with mental health issues may present to EDs for initial care.

² The current Greater Brisbane metropolitan area children's health services facilities include Mater Children's, Royal Children's, The Prince Charles, Caboolture, Ipswich, Logan, Redcliffe, Redland Hospitals, and the Health Precincts at Caboolture, Browns Plains and North Lakes. These facilities provide services at varying CSCF levels.

7.2 Geographic catchment

Facilities within the Greater Brisbane metropolitan area providing children's health services are the MCH and RCH, and subsequently the QCH and any proposed service/s in the Metro North Health Service District and TPCH, Caboolture, Ipswich, Logan, Redcliffe and Redland Hospitals, and the community-based health precincts planned for Browns Plains, North Lakes and Caboolture. These facilities are represented in Figure 1.

Figure 1: Greater Brisbane metropolitan area health services



Source: Queensland Health, 2008

The MCH is primarily responsible for accepting children from the Metro South Health Service District and RCH is primarily responsible for accepting children from the Metro North Health Service District. Both hospitals accept patients from across Queensland including from each others catchments, northern New South Wales, and a small number of patients from Pacific Rim countries. All other facilities where acute children's health services are provided, predominately accept children from their local catchment area. Health precincts will accept children from their local community and from selected primary, ambulatory and acute services (Queensland Health 2007a).

Not all children attend health services in their local area. Some children attend CSCF level 4 services outside of their local area, even though their local area provides this service. Most children need to travel outside their local area to attend CSCF levels 5 and 6 services, as these are only provided at the MCH and RCH in the Greater Brisbane metropolitan area.

8. Current service capability

8.1 Children's health services

The MCH and RCH currently provide children's health services at CSCF levels 4, 5 and 6; level 4 services for low to moderate risk inpatient and outpatient care; level 5 services for all but the most highly complex patients and procedures; and level 6 services for high level service, delivering complex care and acting as a referral service for all lower level services (Appendix 3 and 4).

Hospital separations data for 2006-07 shows that MCH recorded 12,491 separations and RCH recorded 15,844 inpatient separations. Other facilities where children's health services are provided at CSCF level 4 within the Greater Brisbane metropolitan area are outlined in Table 1. These facilities provide a service for low to moderate risk inpatients and outpatients. TPCH does not currently provide designated health services to children.

Table 1: Current Greater Brisbane metropolitan area children's health services provided at CSCF level 4, 5 and 6

Facility	CSCF level	Current actual ³ same-day beds ⁴	Current funded same-day beds	Current actual multi-day beds ⁵	Current funded multi-day beds	Total actual beds	Total funded beds	Separations 2006 /07*
Caboolture	4	0	0	30	12	30	12	1309
Ipswich	4	0	0	24	12	24	12	2472
Logan	4	0	0	32	20	32	20	2124
Redcliffe	4	0	0	16	10	16	10	2078
Redland	4	0	0	9	6	9	6	671

Source: Advice on Acute Children's Health Service Capability in Greater Brisbane Metropolitan Area, 2008

* Source: Queensland Hospital Admitted Patient Collection Data 2006/07

Gold Coast Hospital provides a CSCF level 4 service and has a 32 bed paediatric and adolescent ward with 2 high dependency beds. Nambour Hospital provides a CSCF level 4 service with access to 24 beds.

8.2 Acute services

Caboolture, Ipswich, Logan, Redcliffe and Redland Hospitals (Table 1) provide acute children's health inpatient medical services, and some facilities provide surgical services. Limited access to paediatric surgeons and in some cases paediatric anaesthetists means that some facilities do not provide surgical services.

The facilities that provide services at CSCF level 4 do not have same-day beds for children's health. All facilities have multi-day beds but not all are funded and hence not all are in use. These current unfunded and unused beds provide the opportunity for utilisation if demand exceeds funded multi-day bed availability.

Seventy-six percent of separations for 0 -14 year olds from the Greater Brisbane metropolitan area hospitals occurred at MCH/RCH. Only 24 per cent of separations occurred at the other facilities that provide children's health services at CSCF level 4.

³ Actual is the built capacity

⁴ Same-day beds are beds that are occupied for 4 to less than 24 hours

⁵ Multi-day beds are beds that are occupied for 24 hours or more

Facilities providing services at CSCF level 4 presently utilise some acute children's health inpatient capacity for adult patients. Potential paediatric inpatient capacity at Greater Brisbane metropolitan area facilities is impacted by demand for acute adult inpatient beds. Any demand management strategy needs to consider the balance of paediatric and adult beds and whether demand is best met by increasing adult or paediatric capacity.

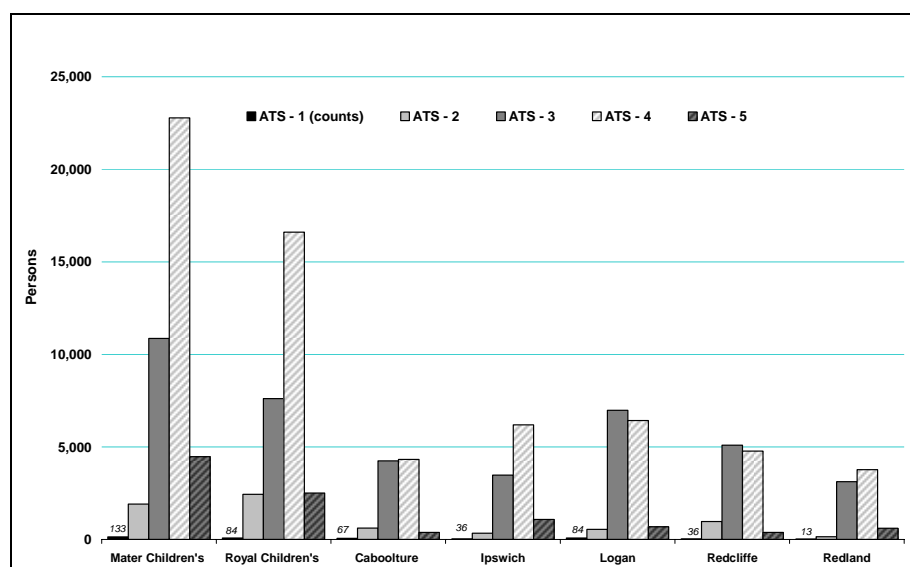
8.3 Emergency department services

A dedicated children's ED facility is one that only treats children. The MCH and RCH have dedicated children's ED facilities. The facilities that provide children's health services at CSCF level 4 (Caboolture, Ipswich, Logan, Redcliffe and Redland Hospitals) have combined EDs that treat adults and children and are not exclusively focused on the needs of children.

Combined EDs that treat adults and children do not generally have separate waiting areas, triage or treatment areas for children and may not have staff specifically trained in children's health. These facilities and work force characteristics limit the ED's ability to cater specifically for the needs of children. None of the combined EDs in the Greater Brisbane metropolitan area have dedicated waiting areas or short stay areas for children. Logan Hospital ED has a small play area for children. Logan Hospital has four dedicated children's ED spaces and Redcliffe Hospital ED has three. None of the other combined EDS have dedicated children's ED spaces.

All adults and children presenting to an ED are triaged using the Australasian Triage Scale (ATS), with 1 being 'immediately life-threatening' and 5 being 'less urgent or clinic-administrative problems' (Appendix 5). This process prioritises and assists in the effective management of the patient. Currently a large proportion of MCH and RCH ED attendances (Figure 2) are for ATS category 3, 4 and 5. Some of these ATS category 3, 4 and 5 children presenting to MCH and RCH EDs reside outside the MCH and RCH catchment, and could be safely treated at their local combined ED service.

Figure 2: Greater Brisbane metropolitan area Australasian triage scale (ATS) categories for 0-14 years (07/08) for selected hospitals

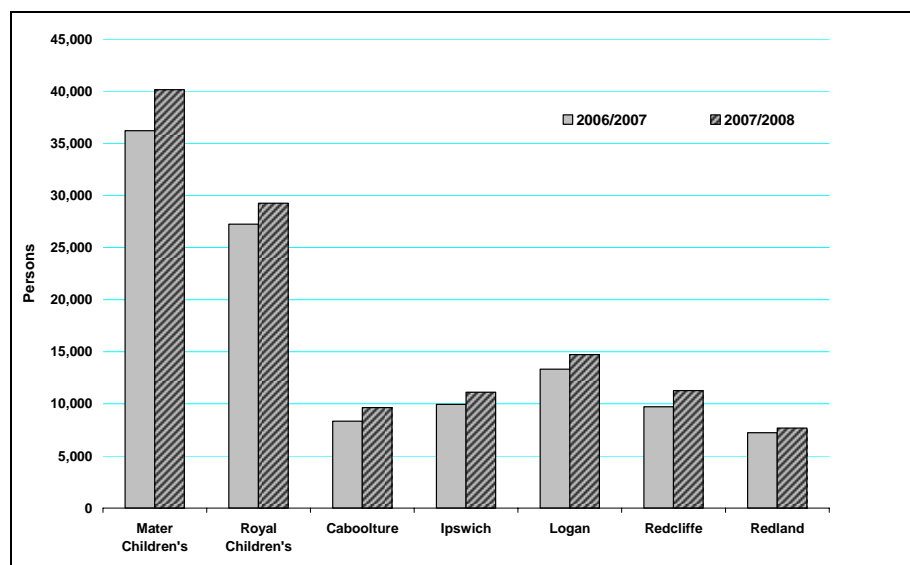


Source: Emergency Department Information System, 2008

Use of ED services varies across the Greater Brisbane metropolitan area, with significantly higher use and hence dependence on the two dedicated children's health facilities, MCH and RCH (Figure 3). Emergency Department Information System (EDIS) data for 2007/2008 indicates that 56 per cent of children's ED attendances are at the RCH/MCH and only 44 per cent occur at the other facilities (CSCF level 4 service EDs). This figure is in contrast to ED attendance rates in

Sydney and Melbourne where district hospitals manage more than 60 per cent of total paediatric care (Pitt 2008). Increasing EDs capacity in facilities offering CSCF level 4 services should reduce reliance on the MCH and RCH EDs.

Figure 3: Greater Brisbane metropolitan area emergency department occasions of service for 0-14 years for selected hospitals (2006/07 – 2007/08)



Source: Emergency Department Information System, 2008

8.4 Outpatient services

All facilities that provide children's health services at CSCF level 4 have outpatient services for children. These outpatient services generally occur in adapted rather than purpose built facilities and most facilities are at built capacity. Outpatient services facilitate the return of patients to their local communities for care and assist with transition between the acute and primary care sectors. Any increase in children's ED and inpatient bed demand will require an increased provision of children's health outpatient service capability and capacity.

8.5 Health precincts

Health precincts promote co-location and networking of community-based service providers and support the movement of primary, ambulatory and selected acute care services from the hospital environment closer to communities. Health precincts offer an effective service delivery model to free up hospital space to focus on CSCF level 4, 5 and 6 services.

Health precincts planned for Browns Plains, Caboolture and North Lakes have a role in providing outpatient and other services (which are currently provided in the hospital) closer to patient's homes.

9. Future demand

9.1 Planning framework

Planning for children's health services takes place in the context of the Queensland Government's commitment to reform health service delivery across the state, as articulated by the *Queensland Health Strategic Plan 2007-2012*, the *Queensland Statewide Health Services Plan 2007 – 2012*, *Advancing Health Action-Making*

These plans identify the strategic directions for health services in Queensland over the next five years and the critical role of the enabling functions: information, funding, workforce, and infrastructure and assets.

The *Statewide Health Services Plan 2007–2012* identifies two clear objectives:

- better meeting people's needs across the health continuum
- improving access to safe and sustainable health services.

Advancing Health Action – Making Queenslanders Australia's Healthiest People outlines five key health challenges and targets for action including expanding our health services to meet the needs of a growing population.

9.2 Population growth

As the birth rate and immigration to south east Queensland has increased in recent years⁶, so too has the demand for children's health services. From 2006 to 2012 annual population growth for 0 – 14 year olds is projected at 1.4 per cent for Queensland, 1.7 per cent for South East Queensland and 1.4 per cent for the Greater Brisbane metropolitan area (Table 2).

Within the Greater Brisbane metropolitan area the Ipswich (Ipswich City Council), Logan (Logan City Council) and Caboolture (Moreton Bay Regional Council) Hospitals' catchment (Table 3 and Appendix 6) populations are projected to have the greatest annual growth to 2021, at 5.5 per cent, 1.2 per cent and 1.1 per cent respectively. Redland Hospital's catchment (Redland City Council) population is projected to have an annual growth of 0.3 per cent (Table 2). The local catchment for RCH and MCH (Brisbane City Council) is projected to grow by one per cent annually.

Given the overall projected population growth for 0 – 14 year olds, it is important that a coordinated approach is taken to demand management. It is also important that a coordinated statewide approach is taken to the planning of children's health services. To this end, Queensland Health is developing the *Queensland Statewide Children's Health Services Plan 2009-2019*. The plan, to be completed in mid 2009, will contain objectives and strategies for the future statewide provision of acute, ambulatory, community and developmental services for children.

⁶ Australian Bureau of Statistics, *Census 2006*

Table 2: Greater Brisbane metropolitan area and Queensland population projections (0-14 years) 2006 – 2021

2008 Local government areas	2006	2011	2021	Avg annual growth (%)
Brisbane City Council	175,606	186,732	202,999	1.0%
Moreton Bay Regional Council	73,991	78,996	86,262	1.1%
Ipswich City Council	33,732	38,431	61,444	5.5%
Logan City Council	61,651	63,147	73,100	1.2%
Redland City Council	27,089	27,799	28,453	0.3%
Gold Coast City Council	84,091	95,640	115,841	2.5%
Sunshine Coast Regional Council	56,786	62,598	76,059	2.3%
Toowoomba Regional Council	32,864	33,882	38,302	1.1%
GBMA [^]	372,069	395,105	452,257	1.4%
SE Qld ^{^^}	545,810	587,225	682,459	1.7%
Queensland	834,591	886,355	1,015,644	1.4%

Source: Planning Information and Forecasting Unit (PIFU), Department of Infrastructure and Planning, 2008

[^] Greater Brisbane metropolitan area (GBMA) = Brisbane, Moreton, Ipswich, Logan, Redland

^{^^} SE Qld=Brisbane, Moreton, Ipswich, Logan, Redland, Gold Coast, Sunshine, Toowoomba

9.3 Trends in service use

9.3.1 Changing complexity

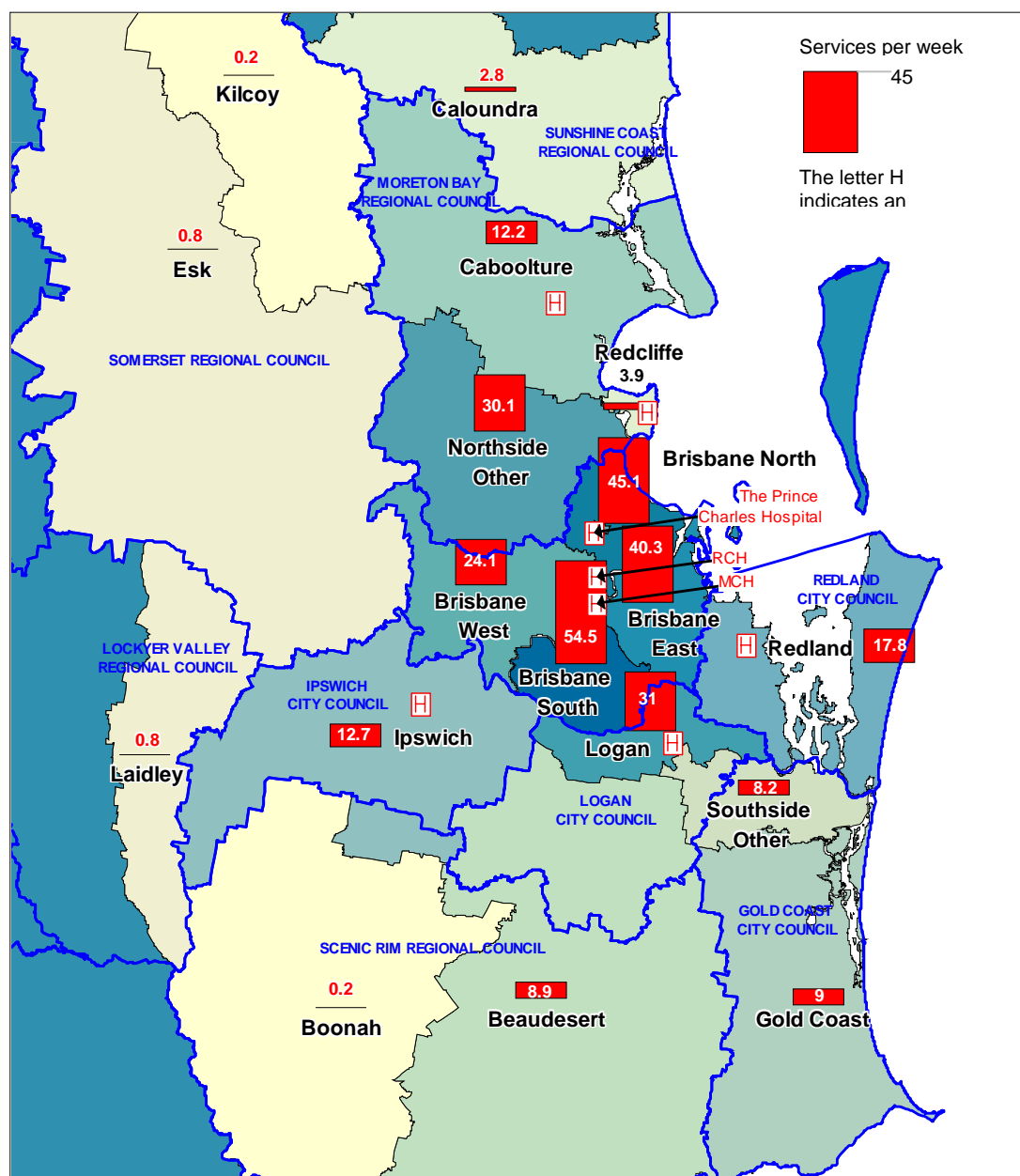
Child hospital presentations are becoming either more acute with shorter inpatient stays or more complex and chronic with longer hospital stays (La Trobe Health Management Group 2002). This trend has resulted in increased demand for same-day beds and the requirement for effective integration across acute, ambulatory and primary children's health services. Increasing the number of children's same-day hospital beds may reduce demand for multi-day inpatient beds. Same-day beds can either be attached to an ED or be situated within an acute children's health inpatient unit.

9.3.2 Service preference and use

There are a number of factors impacting on the use of acute and ambulatory children's health services including parent preference, medical referral patterns and transport availability. Parents' preference is a clear driver in the choice and use of children's health facilities. These typically lean towards use of more specialised facilities (Kini and Strait 1998) such as the RCH and MCH, particularly for ED use. Parents will travel to these specialised hospitals, in preference to their local general hospital (Kini and Strait 1998).

Figure 4 highlights patient flows to the MCH and RCH from Level 4 children's health service catchment areas. Of particular note are those from Brisbane North, other Northside, Logan, Brisbane West, Ipswich and Caboolture catchments with flows of 45.1, 30.1, 31, 24.1, 12.7 and 12.7 services per week, respectively. These current service trends support the 'parent preference factor' that impacts the use of acute and ambulatory children's health services.

Figure 4: Greater Brisbane metropolitan area CSCF level 4 inpatient services provided by MCH/RCH for children aged 0 – 14 years (2006/2007)



Source: Australian Bureau of Statistics and Department of Infrastructure and Planning, 2008

An Australian study (Woolfenden, Ritchie, Hanson and Nossar 2000) exploring parental attitudes, perceptions, and beliefs influencing parental choice of paediatric emergency departments over their local medical services for non-urgent illnesses indicated that a 'child friendly environment', and a perceived expertise (knowledge, training and experience) of the paediatric ED staff were significant factors in parental choice. Parents would take their children to local hospital EDs if they perceived the staff had experience and there was a lack of local primary health services (Cooper, Simpson and Hanson 2003). Satisfaction with the local combined (adult and children's) ED increases when a dedicated children's health ED area, including child specific waiting area, treatment area, entertainment and décor, and dedicated paediatric nurses is established within the ED (Judkins 2003).

Transport availability, particularly major arterial roads also influence parental preferences and hence are another contributor to patient flows especially to specialised acute children's health services. The current major arterial routes lead directly to the RCH and MCH. The site of the QCH will also be highly accessible, with

access from the south via the South East Freeway and the north with the completion of the Clem Jones (North–South) Bypass Tunnel in 2010. This ease of access is likely to encourage parents to bypass their local ED and drive to the specialist children’s health facility.

Medical referral patterns and transfer between acute children’s health services also drive acute service demand. These patterns are historical, medical practitioner specific and currently not based on a specified model for the integration of acute children’s health services across the Greater Brisbane metropolitan area.

All these influences impact on patient flows within the Greater Brisbane metropolitan area. Additionally, the opening of a tertiary hospital has been demonstrated to have a magnet effect on patient flows (Pitt 2008). This was supported by MCH ED data, which also noted that there was a 10 per cent rise in attendance when it initially opened (Pitt 2008). This trend could affect QCH when it opens, impacting on its capacity to manage demand and reducing capability in other Greater Brisbane metropolitan CSCF level 4 services.

9.4 Acute services

Department of Infrastructure and Planning population projections and patient flow assumptions were used to determine projected separations for Greater Brisbane metropolitan area facilities that provide children’s health services at CSCF level 4. This population based modelling projects that same-day and overnight separations will continue to increase in the Greater Brisbane metropolitan area facilities that provide services at CSCF level 4. Caboolture, Ipswich and Logan are projected to have the largest increases at 15.9 percent, 15.3 percent and 11.3 percent respectively (Table 3).

Table 3: Greater Brisbane metropolitan area children’s health services separations, 2006/07 and 2011/12

Facility	Separations 2006 /07	Projected separations 20011/12	% Change from 2006/07 to 20011/12	Projected same-day separations 2011/12	Projected overnight separations 2011/12
Caboolture	1309	1517	15.9%	447	1070
Ipswich	2472	2850	15.3%	1219	1631
Logan	2124	2364	11.3%	858	1506
Redcliffe	2078	2285	10%	1186	1099
Redland	671	702	4.6%	303	399
TOTAL*	8654	9718	12.3%	4013	5705

Source: Population Based Modelling, 2008

9.5 Emergency department

Children’s ED attendances at the Greater Brisbane metropolitan area facilities are projected to increase by between 7.3 per cent (Redland) and 29.0 per cent (Ipswich) from 2006/07 to 2011/12 (Table 4). These projections are based on population growth projections based on 2006 census data applied to current activity levels. These projections also assume the rates of ED attendance do not change for the forecast period and that no changes in current service models, service providers or population demographics occur. These assumptions could be invalidated if for example general practitioner access and availability (particularly bulk billing) is increased or decreased.

Table 4: Greater Brisbane metropolitan area children's health services actual and projected emergency department attendances

Facility	Actual attendances 2006/2007	Projected attendances 2011/12	% change
Caboolture	8342	10266	23.1%
Ipswich	9943	12826	29.0%
Logan	13323	15343	15.2%
Redcliffe	9714	11220	15.5%
Redland	7233	7762	7.3%
TOTAL	48555	57417	18.2%

Source: Advice on Acute Children's Health Service Capability in Greater Brisbane Metropolitan Area, 2008

9.6 Outpatient services

The need for outpatient services is deemed to be proportional to the increase in the use of acute services. As indicated in Table 3, Caboolture, Ipswich and Logan are determined to have the largest projected increase in demand for acute services and hence outpatient services.

10. Response options to increased service demand

Acute and ambulatory children's health services, across the Greater Brisbane metropolitan area need to meet projected population growth (1.4 per cent annually) and increased service demand (18.2 per cent growth in ED attendances and 12.3 per cent growth in annual patient separations). To meet this demand a combination of demand management, capability and capacity building, workforce and service access, network and planning strategies are required. Suggested strategies must not solely rely on increasing resources. For example, as well as building capability, capacity and workforce, emphasis is required on collaboration between service providers to promote and implement new and alternative models of care.

Delivering these changes to children's health services will only be possible by recognising and working with the complexity of the relationships between children's and adult services, particularly at the combined children's/adult hospitals. Concomitant need for increasing capability and capacity in adult (ED and inpatient) services necessitates concurrent changes to adult services with any increased capability and capacity in children's health services. This is particularly an imperative for Caboolture, Ipswich and Logan Hospitals. Optimal results have the greatest chance of success by considering the wider impacts on the provision of children's health services including balancing paediatric and adult beds and considering whether demand is best met by increasing adult or paediatric capacity.

10.1 Demand management

10.1.1 Statewide

A statewide whole-of-system (adult and children's) demand management strategy has the potential to reduce pressure on Queensland hospitals by facilitating new initiatives for managing demand within the areas of prevention, substitution, management of patient flows and the primary, community, ambulatory and acute interface. The Victorian *Hospital demand management strategy 2001-02* (Victorian

Government 2003) provides an example of a whole-of-system strategy that has achieved positive outcomes for health services with improvements in key performance indicators for 2001/02. These included health services reaching the target of 100 per cent for ED ATS category 1 patients seen within target indicators, substantial decreases in ambulance bypasses and increases in the percentage of patients 'admitted within 12 hours'. The Victorian experience provides sound evidence for implementing such a strategy for Queensland children's health services with an opportunity to test such an approach in the Greater Brisbane metropolitan area in the first instance.

10.1.2 Greater Brisbane metropolitan area

A demand management strategy is required for the Greater Brisbane metropolitan area preferably prior to QCH opening in 2014. Specific approaches to ensure acute and ambulatory children's health services meet projected population growth and service demand include:

- increasing capability and capacity at CSCF level 4 services
- building workforce capability and sustainability
- establishing and formalising service networks
- improving patient access to timely and appropriate services
- commissioning services at Gold Coast and Sunshine Coast University Hospitals in 2012 and 2014 respectively.

10.2 Capability and capacity

All facilities and services have a maximum capacity or number of patients that can be received or cared for within current resources. Increasing service capability and capacity in the Greater Brisbane metropolitan area requires a networked approach beyond the planned capability and capacity of the QCH. Capability describes a facility's or services ability to perform, while capacity refers to the ability of a facility to receive or hold patients.

The local catchment (Brisbane City Council) for QCH is projected to have an annual population growth of one per cent, the largest volume in the Greater Brisbane metropolitan area (Table 2). This being the case, capability and capacity of the Greater Brisbane metropolitan area CSCF level 4 services should be augmented in order to respond to projected demand that will impact on acute, ED and outpatient services. Importantly facilities providing children's health services must have a sufficient volume of specialised children's health care to ensure that they can provide safe, sustainable and comprehensive support services.

Building capability and capacity in CSCF level 4 Greater Brisbane metropolitan area facilities should allow QCH to provide services focused at CSCF level 5 and 6 for Queensland and at level 4 for its local catchment. QCH could act as a hub and referral service for other CSCF level 4 facilities in the Greater Brisbane metropolitan area. For the network of children's health services within the Greater Brisbane metropolitan area to effectively meet projected demand, expanded and new service capability and capacity will be needed at existing facilities providing CSCF level 4 services (Caboolture, Ipswich, Logan, Redcliffe and Redland) and the new Brisbane northside service which will coincide with the RCH relocation to the QCH south Brisbane site.

10.2.1 New service at The Prince Charles Hospital

The development of the QCH was prompted by The *Review of Paediatric Cardiac Services in Queensland* (Mellis, Cartmill, Dobson, Gentles and Shann 2006) which recommended one 'tertiary' children's facility in the Greater Brisbane metropolitan area. This facility (QCH) will involve the merger of MCH and RCH at South Brisbane.

In 2006 the Queensland government made a commitment (Queensland Health 2008b) that:

A dedicated, seven day a week children's emergency department will be retained at the Royal Children's and continue to provide services to children presenting with emergencies requiring medical or surgical care. At least 20 children's beds will be retained to allow children to be stabilised and observed, for example when a child needs hydration.

The merger of the MCH and RCH at the QCH will necessitate the development of a facility providing CSCF level 4 ED and short stay acute services in the Metro North Health Service District.

Taking into consideration the above commitments and the critical issue of demand management, the provision of a children's health CSCF level 4 ED service sited on Brisbane's northside is necessary. Given the capital constraints including current infrastructure, time and costs associated with building new facilities, the Herston/RCH or TPCH campuses are the only viable options. Out of these two and for the medium to longer term, TPCH is the preferred site over RCH for provision of children's health ED and short stay services for an inner Brisbane north metropolitan ED facility. The reason for this is that it is planned that once open the QCH at South Brisbane will service inner metropolitan areas for general paediatrics. Access for this population will be facilitated by the Clem Jones Bypass Tunnel and Hale Street Bridge. The greatest need will then be for a service in northern Brisbane away from the city centre and closer to the paediatric population growth areas. In addition:

- projected annual population growth of 1.1 per cent between 2006/07 and 2011/12 in the Moreton Bay Region
- high flows of children requiring CSCF level 4 services from Brisbane north (TPCH catchment) and northside to the MCH and RCH (Figure 4), currently at 45.1 and 30.1 services per week respectively
- need for a health facility to service north side children residing north of the river but closer to Brisbane city than Redcliffe and Caboolture
- need to reduce the magnet effect of a new QCH facility by providing a service closer to north Brisbane children's homes and local environs.

Using population based modelling and service projections and a situation analysis the requirements for CSCF level 4 services at TPCH out to 2011/12 were determined. The projected separations at 2011/12 were 2684 and ED attendances were assumed at a base target of 20,000 for 2011/12. The service requires additional capacity in beds, ED spaces and outpatient consult rooms to service the inner and middle northern suburbs of Brisbane.

Currently TPCH has no designated acute or ambulatory children's health service. Based on what is able to be provided to address increased service demand TPCH requires the following additional services in preparation for the transfer of RCH to QCH:

- 20 funded same-day (short stay) beds to support the ED (no multi-day beds)
- 12 ED spaces
- 8 outpatient rooms situated on the hospital campus.

It is estimated that a lead / transition time of approximately two and half years would be required to commission beds, ED spaces and consult rooms at TPCH and have a fully functioning service commissioned well before RCH is decommissioned.

To facilitate effective service transition, clinical safety and early utilisation of TPCH children's health services a detailed decommissioning and commissioning

plan including a communication strategy and a staff and public awareness program must be developed and implemented for services at RCH and TPCH. This plan should be developed by QCH service planning, in conjunction with Metro North Health Service District.

10.2.2 Enhancing services

Table 5, 6 and 7 outline the additional bed, ED spaces and outpatient rooms needed by new and existing services to respond to increased service demand based on 2012 population, inpatient separations and ED attendance projections.

Table 5: Additional beds for Greater Brisbane metropolitan area children's health services at CSCF level 4

Facility	Current and actual funded same-day beds	Current actual multi-day beds and total actual beds	Current funded multi-day and total funded beds	Additional** same –day beds	Additional** multi-day beds	Additional** beds^	Total future funded beds
Caboolture	0	30	12	5	0	5	17
Ipswich	0	24	12	6*	10	10 (6*)	28
Logan	0	32	20	8	14	22	42
TPCH	0	0	0	20	0	20	20
Redcliffe	0	16	10	6	0	6	16
Redland	0	9	6	0	3	3	9
TOTAL				45	27	72	132

Source: Advice on Acute Children's Health Service Capability in Greater Brisbane Metropolitan Area, 2008

* part of current master planning processes

** Additional beds are extra to funded beds and additional beds include same-day and multi-day beds

The Gold Coast University Hospital will provide CSCF level 4 and some level 5 services from 2012. The service will be provided from a 32 bed paediatric unit, two paediatric intensive care beds (located in the adult intensive care unit) and six short stay beds in the emergency department. There will also be 10 day stay beds collocated with the inpatient paediatric unit. Two of the inpatient beds will be designated high acuity beds.

The Sunshine Coast University Hospital will provide CSCF level 4 services from 2014. The service will be provided from a 24 bed unit with 4 beds designated for adolescents. There will also be 10 short stay beds collocated with the inpatient paediatric unit.

Table 6: Additional emergency department spaces for facilities where children's health services are provided at CSCF level 4

Facility	Current actual and funded ED spaces	Additional ED spaces	Total future ED spaces
Caboolture	0	8*	8*
Ipswich	0	12*	12*
Logan	4	12	16
TPCH	0	12	12
Redcliffe	3	0	3
Redland	0	4	4
TOTAL	7	48	55

Source: Advice on Acute Children's Health Service Capability in Greater Brisbane Metropolitan Area, 2008

* part of current master planning processes

The Gold Coast and Sunshine Coast University Hospitals will each have 10 ED treatment places dedicated for paediatrics.

Table 7: Proposed Greater Brisbane metropolitan area outpatient facilities where children's health services are provided at CSCF level 4.

Facility	Current outpatient facilities for children's health services	Proposed additional consults#	Proposed No. of additional outpatient rooms	Proposed site of additional outpatient rooms
Caboolture	Children's outpatient clinics are run from an adapted area in the inpatient unit due to unavailability of space in the general outpatients.	13 440	4*	The planned Caboolture Health Precinct
Ipswich	Children's outpatients are conducted in a dedicated area, which is at capacity.	10 080	3	In a leased community based facility
Logan	Three outpatient rooms and waiting area are dedicated to children's health services however this space is now fully utilised.	10 880	3	Logan Hospital
TPCH	Nil	26 880	8	In TPCH collocated with ED and same-day unit
Redcliffe	A building previously used as an aged care facility is now used for outpatient activity. It has no dedicated children's health area and requires refurbishment to meet current standards.	13 440	4	Redcliffe Hospital campus
Redland	Outpatients services are provide from a building separate to the hospital, designed for that purpose. Two rooms are dedicated to children's health services for set times however these are a capacity.	13 440	4	Redland Hospital campus

Source: Advice on Acute Children's Health Service Capability in Greater Brisbane Metropolitan Area, 2008

* part of current master planning processes

based on optimal staffing and hence could be reduced if inadequate staffing occurs or consult times increased (as occurs with developmental assessments)

The infrastructure solutions proposed in this report are multi-faceted – there is a need to provide additional multi and same-day beds and dedicated children's health ED spaces (Table 5 and 6) to manage increasing attendance numbers and specifically increasing ATS category 3 and 4 ED attendances. Additional outpatient rooms (Table 7) are also required to respond to current and future demand.

The capital options for existing services are short term and influenced by other planning initiatives. Further planning is required to ensure medium to long term solutions. In some cases current master planning is identifying medium to long term solutions. For example, master planning for Caboolture Hospital identifies it as a children's health service hub for the inpatient and outpatient growth requirements for the Moreton Bay local government area and flow reversal from QCH for follow up care. The Caboolture Health precinct, once built, is also a critical element of the broader solution in the Caboolture area. Capital options presented are also influenced by other short term demand management strategies (Logan) and the existing site constraints at all services.

In the Greater Brisbane metropolitan area additional capability and capacity is required preferably prior to QCH opening in 2014. All proposed additional capacity is based on what can be achieved within current facility environmental constraints. Due to variation in service demand the delivery of additional capacity is prioritised as follows:

- Caboolture, Ipswich and Logan
- TPCH (in preparation for RCH's transfer to QCH)
- Redcliffe and Redland

Options for Ipswich Hospital and Caboolture Hospital depend on the current master planning processes occurring before 2012. The future capacity of Caboolture outpatient services is related to the development of the Caboolture Health Precinct.

10.3 Workforce

The provision of additional capability and capacity is inextricably linked and dependent on a trained and available workforce. The provision of a workforce to support capability and capacity is dependent on the use of existing and new models of service delivery and effective strategies to recruit and retain staff. In line with these findings, a complimentary activity to QCH service planning is the development of an integrated children's health multi-disciplinary workforce plan.

The workforce plan should include:

- strategies to recruit the appropriate numbers, with the children's health specific skills in the disciplines of medicine (paediatrician, registrars and resident), nursing (unit management, educational and clinical) and allied health staff (physiotherapists, occupational therapists, speech pathologist, dietician) essential to support inpatient and outpatient services
- new workforce models to respond to increased service demand
- strategies to share staff with other family services (for example neonatology, obstetrics or child protection services) if full time staff are not required at a specific facility to support children's health services
- knowledge, skills and training programs for a multi-disciplinary workforce that work within and across service networks and facilities
- recommendations for additional infrastructure to house additional staff (not included in the current proposed capital options)

- increasing the existing staff complement before developing additional capacity.

Specific workforce challenges arise in the provision of acute inpatient and ED services. CSCF level 4 acute inpatient services predominately manage medical patients as paediatric surgeons are difficult to recruit. Currently surgical paediatric registrars are only employed at MCH, RCH, Townsville Hospital and Gold Coast Hospital (GCH). Some reversal of general surgical services may be supported by outreach of children's health surgical services from MCH/RCH, and subsequently QCH. In some specialities, for example orthopaedics, it may be possible to deliver some surgical services by specialist adult surgeons. Surgery for children less than 2 years of age can only be provided where paediatric anaesthetists are available and hence this service is limited to MCH, RCH, Townsville Hospital and GCH.

ED services also provide specific workforce challenges. Proposed ED services will utilise a new short stay model with short stay (same-day) beds attached to either the ED or inpatient unit. The staffing model required should reflect the service configuration with same-day beds attached to an ED staffed by ED staff and same-day beds attached to an inpatient unit staffed by inpatient staff. The EDs will also need access to particular children's health service staff, including child youth and mental health staff and child protection paediatricians for children's assessment and review.

Retention and recruitment of staff is an essential part of workforce management. Retention of staff may be improved if current MCH/RCH staff are made aware of opportunities in their local area should they not want to transfer to QCH on its commissioning. Active publicising of children's health staff opportunities in CSCF level 4 services along with training opportunities should be considered.

New workforce models such as nurse practitioners should be investigated and implemented to support service delivery. ED child health nurse practitioners are a model that could be used in CSCF level 4 EDs. Nurse practitioners could specifically assist in the management of ED ATS category 4 and 5 patients and some ATS category 3 attendances. TPCH would provide an appropriate site for implementing new staffing models. The Office of the Chief Nursing Officer is working on a strategy for nurse practitioner implementation including the target area of ED (adult and children). Nurse practitioners are currently delivering services to adults and children at combined EDs in the Greater Brisbane metropolitan area at Caboolture (2 trained), Redcliffe (3 trained and 1 cadet), and Redland (2 trained and 2 cadets). Since the introduction of nurse practitioners and remodelling of services there have been improvements in wait times, and 'did not wait' rates. The MCH who has a nurse practitioner in the children's ED, supports expansion of the model.

To build parents' preference and use of local CSCF level 4 children's health services, parents' confidence in the care provided needs to be enhanced. This occurs through parents and children being cared for by familiar staff who have children's health expertise and particularly by more specialised staff having joint appointments across the network of children's health services in the Greater Brisbane metropolitan area.

Further, clinicians who more regularly work at facilities offering CSCF level 4 services should have the opportunity to increase their skills through periodic rotation to facilities offering more complex care, such as MCH/RCH, and then QCH. This strategy is supported by Pitt, Clark, Acworth and Gilhotra (2008) who recommended that medical specialists be deployed half time in CSCF level 6 ED services and half time in CSCF level 4 EDs. Consideration should also be given to other clinicians rotating through other clinical services and facilities that offer CSCF level 4, 5 and 6 children's health services. Examples include MCH/RCH, and subsequently QCH junior medical staff and nurse educators being seconded for 3 to 6 months to work in CSCF level 4 children's health services. Nurses and paediatricians could rotate in the reverse, from CSCF level 4 children's health services into MCH/RCH and subsequently QCH. All rotations need to ensure that staff receive appropriate training

opportunities and support to meet relevant college training requirements. If staff rotate between services it is vital for safe and sustainable clinical practice that adequate consultant and core staff cover is maintained at CSCF level 4 children's health services so that local ownership of services occurs. This would potentially boost the level of subspecialty expertise at hospitals offering services at CSCF level 4 and generally increase health services to the local community.

10.4 Service access and utilisation

Concurrently, with the build of capability, capacity and workforce, service access and utilisation patterns need to be changed so that patients:

- increasingly access primary health services in their community
- use ambulatory health services in their community (where appropriate)
- increasingly use local acute health services at CSCF level 4
- appropriately use services at CSCF levels 5 and 6.

These strategies are important given the need to reduce over dependency on MCH and RCH, and subsequently the QCH.

10.4.1 Access to primary health services

Increasing access to primary health services can be attained by:

- increasing public awareness and knowledge of children's primary health services available in their local area
- increasing knowledge and use of the 13 HEALTH line and after hours bulk billed general practitioner home visits
- utilising general practitioners clinics collated with EDs (State Government of Victoria 2007)
- facilitating follow up of ED ATS category 4 and 5 attendances by general practitioners through shared care models including timely exchange of information and professional development opportunities for general practitioners.

10.4.2 Use of ambulatory health services

Supporting use of ambulatory (local ED and outpatient) health services in the community by:

- increasing public awareness, confidence and knowledge of ED services in their local area. This will initially occur through building capability and capacity and workforce. Ensuring children's health services identified at CSCF level 4 have ED support that, although there may not be a separate children's ED, caters for the specific needs of children. It is essential that children's ED have staff with paediatric-specific skills and knowledge. Specific support should also consider the inclusion of a separate children's entrance, waiting room and treatment areas and décor appropriate for children.
- 'Badging' CSCF level 4 services as QCH services. This is one option that has shown to be effective in New South Wales and Boston for reducing admissions to facilities providing CSCF level 5 or 6 services and increasing utilisation of facilities providing CSCF level 4 services. This approach would require the implementation of a public awareness campaign to build community awareness and confidence in the use of their local CSCF level 4 children's health services. The implementation of this strategy should commence well before the opening of the QCH and continue beyond, to ensure community commitment to their local paediatric service. 'Badging' is viewed as important to support utilisation of the new service at TPCH and other Greater Brisbane metropolitan area services and should also be considered for South East Queensland children's health services.

The 'badging' model needs to be further explored and any 'badging' model developed should give consideration to:

- a clear distinction between service governance and 'badged' service delivery
- 'badging' being explicitly linked to a children's health service network
- 'badging' not subverting the direction of funds raised by, and for, local children's health services
- a stepped approach to the introduction of 'badging' across outpatient, ED and inpatient services
- utilising community settings including health precincts as a site for delivering children's health outpatient services, where specific speciality outpatient clinics do not require hospital based equipment. This is proposed for Caboolture children's health services
- Outreach clinics from MCH / RCH and subsequently QCH, to Greater Brisbane metropolitan facilities for some specialist outpatient clinics including asthma, diabetes and cystic fibrosis.

10.4.3 Use of local acute inpatient health services

Increasing use of local acute inpatient CSCF capability level 4 health services by:

- increasing public awareness and knowledge of children's health services available in their local area
- modifying medical referral patterns to services, supported by the development and implementation of the CSCF paediatric module.

10.4.4 Use of CSCF levels 5 and 6 health services

Appropriate use of CSCF levels 5 and 6 health services by:

- shared staffing arrangements between facilities offering CSCF level 5 or 6 services (MCH and RCH, then QCH) and providing an ability to support and enhance clinical expertise at facilities offering services at CSCF level 4 in Greater Brisbane metropolitan area and Gold and Sunshine Coasts
- modifying medical referral patterns to services, supported by the development and implementation of the CSCF paediatric module.

10.5 Service networks

CSCF level 5 and 6 (complex and highly-complex) and CSCF level 4 (low-moderate complexity) children's health services are multifaceted and mutually dependent. Service inter-dependency works in two directions: between CSCF level 5 and 6 services themselves and with CSCF level 4 services. Dependency needs to be addressed in both directions through the development of formal service networks. This will require collaboration within and across local, Greater Brisbane metropolitan area, the Gold and Sunshine Coasts and statewide children's health services including the RCH, MCH and then QCH. Utilising a hub and spoke service network model between QCH and the other Greater Brisbane metropolitan area children's health facilities will assist in establishing links between services to create safe and sustainable services.

Formal service networks require an agreed framework of dependencies that will guide service planning, implementation and provision of low to highly complex acute children's health services for the future. The wider development and implementation of formal service networks will be crucial and should include:

- collaboration and partnerships between clinicians and services
- joint policy procedures, guidelines and standards

- access to information related to evidence-based care, treatments and management
- coordination mechanisms for appropriate referral to the most appropriate and relevant services
- agreed pathways of care for specialised services, delivered within clinical networks, should enable a child to be treated closer to home and to travel only for those elements (of care) that are essential.

Within the network framework, safe and sustainable service delivery will be supported by effective patient transport including:

- transport support to cover a range of dependencies, not just for critical care
- timely responses to EDs when non-critical transfers between services are required
- managing the complexity of relationships for both critical and non-critical transport, to aid the movement of children from ED to inpatient admission.

A Greater Brisbane metropolitan area service network for children's health services should be developed and implemented by Queensland Health with input from QCH service planning, clinical children's health service networks and Queensland Ambulance Service, to ensure an effective service network and transport structures, are in place before QCH is commissioned.

10.6 Service planning

As is common with projects of this scale, to ensure consistency and rigour in children's health service planning across the state and to ensure the most up-to-date data and information is used a review of QCH planning and prioritisation of the CSCF paediatric module development and implementation is required.

10.6.1 Prioritising CSCF paediatric module

To support implementation of effective demand management and service networks the development and implementation of the *Clinical Service Capability Framework* (Appendix 3) paediatric module(s) must be prioritised. This includes:

- providing six standardised levels of capability requirements for public and private health services
- providing consistent service planning descriptors
- encouraging explicit clinical risk management practices where services do not meet minimum patient safety requirements
- monitoring and auditing.

It is anticipated that the CSCF paediatric modules will be finalised in 2009.

11. Risk

The response options presented include a number of risks that require management. These risks include:

- insufficient Greater Brisbane metropolitan service capability
- inability to recruit and retain appropriate staff
- the public continuing to bypass their local hospital facilities
- limited implementation of an effective service network.

12. Resource implications

Capital and recurrent expenditure will be required to meet future service directions for children's health services to Greater Brisbane metropolitan area facilities.

Projected costings will need to consider that:

- paediatricians must be available 24/7 to provide confidence to patients and their family and to meet relevant standards or service provision
- demand growth is based on 2006 population projections census data
- there will be the development of a workforce strategy, establishment of an effective referral network and creation of detailed models of care to ensure take-up of additional emergency and inpatient capacity
- emergency treatment spaces are based on a preferred capacity of approximately 1300 attendances per space per year
- 80 per cent of ATS category 4 and 5 and 30 per cent of ATS category 3 will potentially reverse flow from QCH
- short stay observation units accommodate patients expected to require care for 4 to 24 hours
- short stay observation units admit patients on an episode basis for funding purposes
- ambulatory consultation rooms provide at a maximum for up to 7 patients per session (2 sessions per day for 5 days per week) (up to 48 weeks per year).

13. Conclusion and recommendations

This report recommends enhancement of CSCF level 4 services within the Greater Brisbane metropolitan area preferably to be commenced prior to QCH opening in 2014. The highest priorities being Caboolture, Ipswich, Logan and The Prince Charles Hospitals followed by Redcliffe and Redland.

13.1 Children's health services

It is recommended that:

- capital infrastructure be increased at Caboolture, Ipswich, Logan, TPCH, Redcliffe and Redland Hospitals to provide children's health services at CSCF level 4 to support their local catchment areas
- the planned Health Precincts for Caboolture, North Lakes and Browns Plains be utilised, where appropriate to provide ambulatory services.

13.2 Service planning

It is recommended that:

- QCH, in partnership with Queensland Health's Workforce Planning and Coordination Branch and the Office of the Chief Nurse, lead development of a workforce plan that sets strategies to build capability and support services with multi-disciplinary specifically-skilled children's health staff across South East Queensland

- QCH planning team review its planning and modelling assumptions and projections utilising up-to-date data and information including 2006 census data and statewide service planning methods
- the development and implementation of the *Clinical Service Capability Framework* paediatric module(s) be prioritised for completion by 2009.

13.3 Demand management

It is recommended that:

- formal children's health service networks are developed to lead service improvement demand management strategies to ensure appropriate utilisation of level 4,5 and 6 services by the public and other service providers
- strategies are implemented to increase public awareness and use of local acute, ambulatory and primary care services at Greater Brisbane metropolitan area facilities
- a statewide whole of system (adult and children's) demand management strategy be developed.

Implementation of these recommendations should address the increasing service demand, allowing QCH to focus on the provision of higher level services for the State and CSCF level 4 services for its local catchment area, minimise duplication of CSCF level 4 services, better meet peoples' needs across the continuum and improve access to safe and sustainable services in families' local areas.

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15. Abbreviations

ABS	Australian Bureau of Statistics
ALOS	Average length of stay
ATS	Australasian Triage Scale
MSHSD	Metro South Health Service District
CAHS	Central Area Health Service
CSCF	Clinical Services Capability Framework
DRG	Diagnostic Related Group
ED	Emergency department
EDIS	Emergency Department Information System
DDGPPR	Deputy-Director General, Policy Planning & Resourcing Division
EMT	Executive Management Team
ESRG	Enhanced Service Related Groups
GCH	Gold Coast Hospital
HSD	Health Service District
LOS	Length of stay
MCH	Mater Children's Hospital
MP	Member of Parliament
NAHS	Northern Area Health Service
PCB	Planning and Coordination Branch
QCH	Queensland Children's Hospital
QLD	Queensland
RCH	Royal Children's Hospital
SAHS	Southern Area Health Service
The Plan	Queensland Statewide Children's Health Services Plan 2009–19
TPCH	The Prince Charles Hospital
QTC	Queensland Treasury Corporation

16. Appendices

Appendix 1: Definitions

Term	Definition
Acute care	Acute care services generally include services provided in hospitals or other settings for people with a new illness or injury or people experiencing an exacerbation of a pre-existing condition. The acute program includes hospital-based medical and surgical services provided on a day-only and overnight basis.
Ambulatory care	The ambulatory care program includes services provided by emergency departments, outpatient services and other specialist ambulatory care clinics and services. Services in the ambulatory care program primarily target population groups who have been identified as being in need of “early identification and intervention” to limit the progression of, or ameliorate, ill-health and wellbeing.
‘Badging’	Sharing the brand name of a CSCF level 5 and 6 children’s hospital with other children’s health units in other hospitals.
Capability	The ability to perform actions or functions. Underdeveloped or unused faculty.
Capacity	The ability to contain, receive or hold. The maximum amount that can be contained.
Casemix	Casemix classifies patients into different groups according to their clinical characteristics. Casemix funding models fund each patients health care based on the average cost of providing care to patients with similar characteristics.
Child / Children	Children are defined as 0-14 years and excludes qualified and unqualified neonates and children admitted to Child Youth and Mental Health (CYMH) Services. 0- 14 years was used, as this is predominately the age range for facilities services that provide acute and ambulatory children’s services at CSCF level 4.
Emergency Department Space	An Emergency Department (ED) space is a dedicated area for assessment, treatment, observation and disposition of emergency patient presentations. This includes both urgent and non-urgent conditions. It also includes provision for resuscitation.
Emergency Department – Short Stay Unit	Emergency Department – Short Stay Unit provides short stay accommodation and observation for patients for 4 to less than 24 hours.

Term	Definition
Hub and spoke model	The hub and spoke model of service networking formally link services of a lower level of complexity to services of a higher level of complexity. In the case of acute care services, this will normally mean connecting services assessed as having a higher level of complexity under the Clinical Services Capability Framework to services that have been assessed as having a lower level of complexity under the CSCF. Services that are designated as hubs will generally serve a larger catchment population to ensure that there is sufficient critical mass to sustain health services of greater complexity and specialisation. Spoke services generally service smaller catchment populations and have less supporting infrastructure, relying on hubs to provide more complex services.
Multi-day beds	Beds that are occupied for 24 hours or more.
Neonate - qualified	Neonatal qualified refers to those new born babies who are admitted to special care nursery.
Neonate - unqualified	New born babies who are not admitted to special care nursery.
Outpatient care	A service at a hospital or other health care facility in which the patient is not admitted.
Outpatient room	An area where outpatient consultations and/or treatment occur. It may also include specialist consulting and / or diagnostic areas.
Paediatric	Of or relating to the medical care of children.
Paediatric Unit	Paediatric inpatient accommodation can be either a dedicated unit, or in smaller hospitals a specific bay or area included in the Acute Medical/Surgical ward. The unit is specifically designed for infants, children and adolescents and includes facilities for families.
Primary care	The primary health care program includes early detection and intervention services and risk factor management programs for people experiencing the early effects of ill-health and who without intervention, may progress to having acute or chronic consequences from their condition.
Separation	A separation is the process by which an admitted patient completes an episode of care. This generally occurs when a patient is discharged, is transferred to another institution, absconds, or dies whilst in care.
Same-day beds	Beds that are occupied for 4 to less than 24 hours.

Appendix 2: Consultation schedule

Targeted consultation occurred through:

- The Queensland Statewide Children's Health Services Plan 2009-2019 Advisory Committee meetings
- Area (prior to September 2008) and District Health Service Planning Units. These units also undertook separate consultation as part of their planning processes, the recommendations of which have been considered for this report
- The Paediatric Directors and The Clinical Director's Reference Group meetings
- Meetings with key stakeholders, including telephone and email consultations and health facility site visits.

The table below identifies some individuals roles as they were prior to the recent QLD Health restructure in September 2008.

Consultation schedule

Name	Position	Organisation	Method of consultation	When consulted
Catherine Borich	Principal Planning Officer Service Planning	CAHS	Interview	25/06/08
Brett Bricknell	Executive Director Service Planning and Development Unit	SAHS	Meeting	17/09/08
Doug Brown	District Manager	RCH	Interview	01/07/08
Dr Scott Burgess	Director of Paediatrics	Redland Hospital	Meeting	17/09/08
Quentin Clarke	Team leader, Service planning		Meeting	17/09/08
Dr Jan Cullen	Director of Paediatrics	Logan Hospital	Meeting	17/09/08
Corelle Davies	Senior Director	Maternity, Child Health and Safety Branch	Advisory Committee Member	
Elizabeth Davis	Manager Hospital Liaison and Service Planning	QCH Hospital Executive Planning Team	Meeting Advisory Committee Member	04/07/08
Dr John Gavranich	Director of Paediatrics	Ipswich Hospital	Meeting	17/09/08
Brenda Green	Team Leader Family Health Clinical Support Directorate	NAHS	Advisory Committee Member	

Name	Position	Organisation	Method of consultation	When consulted
Colleen Jen	Manager Service Planning	SAHS	Interview Advisory Committee Member	16/06/08
Joan Kennedy	Team leader Maternal and Child Health	CAHS	Interview	26/05/08
Pam Lane	Acting District CEO	Darling Downs- West Moreton District	Meeting	17/09/08
Susan Mahon	Assistant General Manager	CAHS	Advisory Committee Member	
Mark Mattiussi	District Manager	Southside HSD	Meeting	17/09/08
Dr Julie McEniery	Co-Chair	Joint Medical Directors Reference Group	Meeting	1/10/08
Dr Lynne McKinlay	Director	QLD Paediatric rehab Service, RCH & HSD	Meeting	1/10/08
Debra Moen	Director of Nursing and Midwifery	Mater Children's Hospital	Meeting	30/06/08
Dr Sue Moloney	Chair, SAHS Clinical Network for Children's Health Executive Director – Family, Women's and Children's Health	SAHS Gold Coast Hospital	Advisory Committee Member Site Visit Interview	 13/06/08
Mary Montgomery	District Manager	Metro North HSD	Interview Meeting	02/07/08 17/09/08
Odette Pagan	Acting Executive Director, Planning and Business Services	Metro North HSD	Interview Meeting	02/07/08 17/09/08
Sigrid Patterson	Manager Service Planning	NAHS	Interview	23/06/08
Dr David Rogers	Director of Paediatrics	Redcliffe Hospital	Meeting	17/09/08
Dr Tony Slater	Director QPCIS	RCH	Meeting	1/10/08
Dr Alan Sive	Chair, NAHS Clinical Network for Children's Health	NAHS	Advisory Committee Member	

Name	Position	Organisation	Method of consultation	When consulted
	Head of Paediatrics	Townsville Hospital	Interview Meeting	26/05/08 1/10/08
Carol Swendson	Manager Service Planning	CAHS	Interview	25/06/08
Dr Mark Waters	Executive Director	Mater Children's Hospital	Meeting	30/06/08
Dr John Waugh	Director of Medical Services	Redcliffe Hospital	Meeting	17/09/08
Dr Neil Wigg	Chair, CAHS Clinical Network for Children's Health Director of Community Child Health	CAHS RCH	Advisory Committee Member Interview Meeting	26/05/08 1/10/08
Dr David Wood	Chief Medical Officer	Mater Children's Hospital	Meeting Meeting	30/06/08 1/10/08
Dr Nicholas Woolfield	Director of Paediatrics	Caboolture Hospital	Meeting	17/09/08

Appendix 3: Proposed CSCF levels – generic descriptors

Level 1 service: A level 1 service will provide a low risk outpatient service only, predominantly delivered by health providers (Registered Nurse (RN) &/ or health worker) other than a GP. A visiting GP may intermittently provide a medical service and patients requiring a higher level of care can be managed for short periods before transfer to a higher level service.

Level 2 service: A level 2 service will provide a low risk inpatient and outpatient service, delivered mainly by RN's and GP's with admitting rights to the local hospital. There will be some limited visiting/ outreach allied health services and manage emergency care till transfer to a higher level service

Level 3 service: A level 3 service will provide a low risk inpatient and outpatient service with access to limited support services. A level 3 service will predominantly be delivered by GP's (available 24/7 but not necessarily on site) and RN's (including midwife/ speciality qualifications) with visiting day only specialist services. Day only specialist services may include low risk surgery, minor procedures and an education and training role. Manage emergency care till transfer to a higher level- no access to ICU or HDU although may have access to a monitored area

Level 4 service: A level 4 service will provide a low and moderate risk inpatient and outpatient service delivered by a variety of health professionals (medical, nursing, midwifery and allied health) including resident and visiting specialists. Medical staff will be on site 24/7 and an ICU &/or HDU with related support services will also be available on site (size to be determined with review of the ICU module). If higher level or more complicated care is required, patients may need to be transferred to a Level 5 service. Some specialist diagnostic services will also be available Level 4 services will have a university affiliation including an education, teaching and research commitment.

Level 5 service: A Level 5 service will manage all but the most highly complex patients and procedures. It will act, as a referral service for all but the most complex service needs. This may therefore mean that highly complex high risk patients will require transfer or referral to a Level 6 service. A tertiary service will have strong university/ies affiliation/s and major teaching with some research commitments in both local and multi-centre research.

Level 6 service: A Level 6 service will be the ultimate high level service delivering complex care and acting as a referral service for all lower level services. A level 6 service can also be a statewide superspecialty service accepting referrals from across the state, Health Service Area (HSA) and interstate where applicable. This level of service will generally be provided at a large metropolitan hospital. A tertiary service will have strong university/ies affiliation/s and major teaching and research commitments in both local and multi-centre research.

Appendix 4: Proposed CSCF levels 4, 5 and 6 - case examples

Proposed CSCF levels – case examples

CSCF level	Definition	Case examples
Level 4	low & moderate risk inpatient and ambulatory care services	febrile convulsions gastroenteritis tonsillectomy whooping cough fracture wrist, hand or foot critical cases managed until transfer
Level 5	all but the most highly complex patients & procedures, act as a referral service for all but the most complex service needs with sub speciality medical services available	trauma asthma with complications seizures with complications neurosurgery combined children's and adult ICU
Level 6	provide services up to the highest level of complex care & act as a referral service for all lower level services	cardiac surgery transplantation severe burns free standing children's ICU

Source: Planning and Coordination Branch, 2008

Appendix 5: The Australasian Triage Scale (ATS)

The Australasian Triage Scale (ATS) is designed for use in hospital-based emergency services throughout Australia and New Zealand. It is a scale for rating clinical urgency. Although primarily a clinical tool for ensuring patients are seen in a timely manner, commensurate with their clinical urgency, the ATS is also a useful casemix measure.

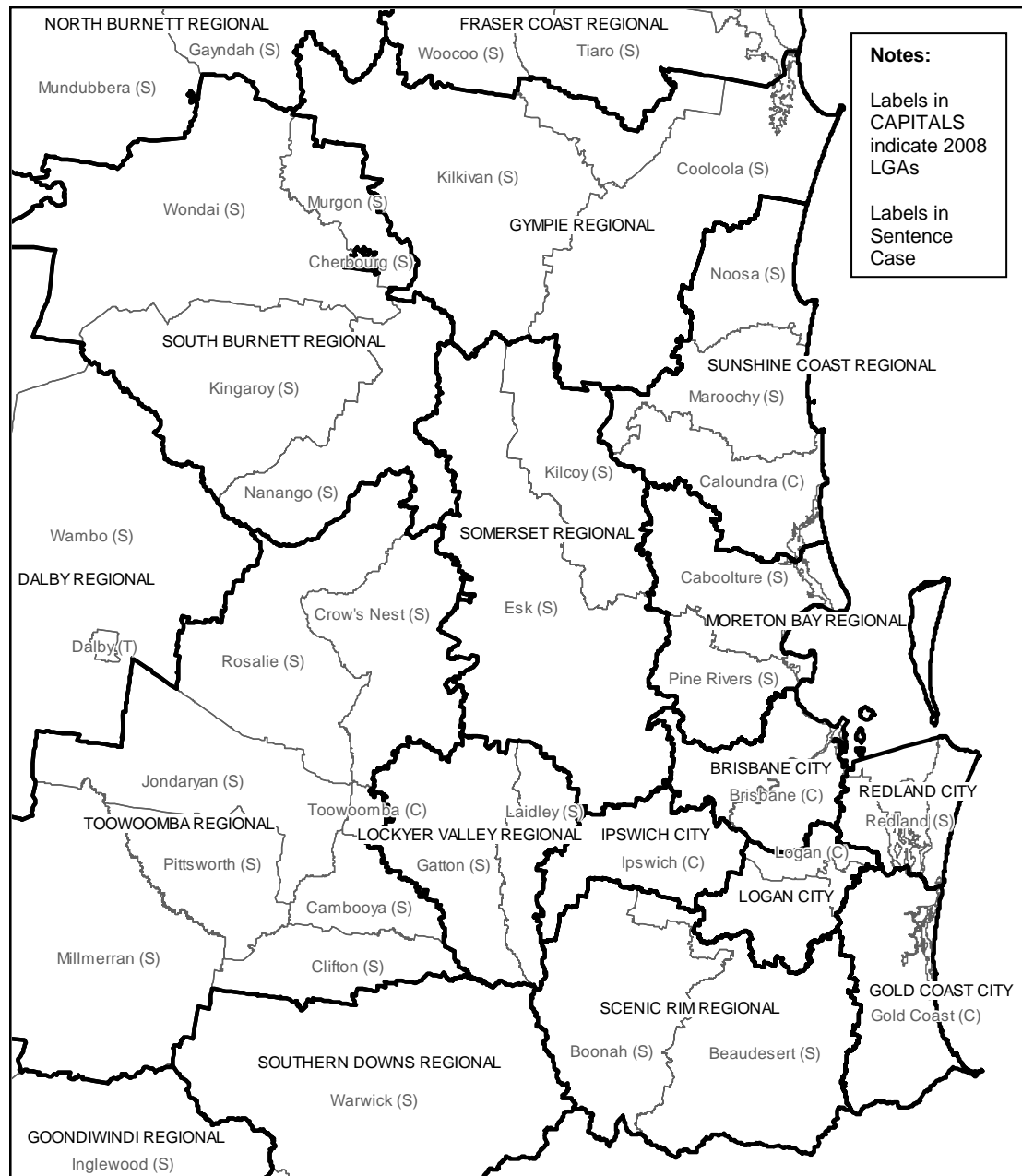
The Australasian Triage Scale (ATS): descriptors for categories

ATS category	Response	Description of category
Category 1	Immediate simultaneous assessment and treatment	Immediately life-threatening,
Category 2	Assessment and treatment within 10 minutes	Imminently life-threatening or Important time-critical treatment or very severe pain
Category 3	Assessment and treatment start within 30 minutes	Potentially life-threatening or Situational urgency or Humane practice mandates the relief of severe discomfort or distress within thirty minutes.
Category 4	Assessment and treatment start within 60 minutes	Potentially serious or Situational urgency or Significant complexity or severity or Humane practice mandates the relief of severe discomfort or distress within one hour.
Category 5	Assessment and treatment start within 120 minutes	Less urgent or Clinic-administrative problems

Source: Australasian College of Emergency Medicine 2005 & 2006

Appendix 6: Local government areas

South east Queensland local government areas



Source: Department of Natural Resources, 2008