

Service Profile for Kingaroy Hospital

Infrastructure Renewal Planning
Project for Rural and Remote Areas

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1 Executive summary

The Infrastructure Renewal Planning Project for Rural and Remote Areas has been identified by the Deputy Premier as a priority project aimed at providing a comprehensive and prioritised health infrastructure program for rural Queensland. The need to address health inequities and access to hospitals in remote areas has also been identified by the Commonwealth Government's National Health and Hospital Network Agreement 2010.

This Service Profile for Kingaroy Hospital is one of 12 profiles developed for each of the Queensland prioritised rural sites. The profile identifies the current level (draft CSCF v3.0 Level 2 and 3) and mix of clinical services provided at each site with a focus on the core services of surgical and procedural, maternity, general medical and Emergency Department. Table 1 summarises current beds and future bed requirements for Kingaroy Hospital.

A number of infrastructure issues identified at Kingaroy Hospital impact on the delivery of surgical and procedural, maternity and emergency services. Infrastructure improvement for these services would provide an appropriate environment for the provision of surgical and procedural services, allow women to access maternity care close to where they live, and enable the growing levels of emergency activity to be safely accommodated. This would also enable Kingaroy Hospital to assume responsibility for some of the activity of other smaller hospitals in the South Burnett Region.

Kingaroy Hospital requires a separate Outpatient Department so that outpatient services can be separated from the Emergency Department where they are currently provided. A separate Outpatient Department would accommodate demand for primary, allied health and general medical services, and those services provided by visiting specialists.

Kingaroy Hospital currently has insufficient capacity for Stage 1 and Stage 2 recovery spaces to be located on the same floor as the Operating Theatres. Refurbishment and extension of the Operating Theatre suite would improve integration and use of workforce, and provide capacity for potential growth in surgical activity.

Rural hospitals rely on visiting clinicians to provide a range of specialist services. Dysfunctional layouts and insufficient treatment spaces make it difficult to attract specialists to the hospital to provide these services. Without the services provided by visiting specialists rural communities will continue to experience health inequities.

Rural hospitals typically have difficulty recruiting skilled staff, and the age and condition of the staff accommodation is a major barrier to attraction and retention of staff. If staff cannot be recruited and retained, patient access to safe and sustainable services will be compromised.

*Table 1: Summary of current and future bed requirements for Kingaroy Hospital**

Bed and treatment spaces	Current number	Number required by 2021/22
Overnight beds	41	58
Same day beds	0	4
Bed alternatives	6 renal chairs	6 currently no day surgery or chemotherapy
Emergency Department treatment spaces	7	16
Multipurpose consultation rooms (for outpatients)	4	7 multipurpose + 3 maternity

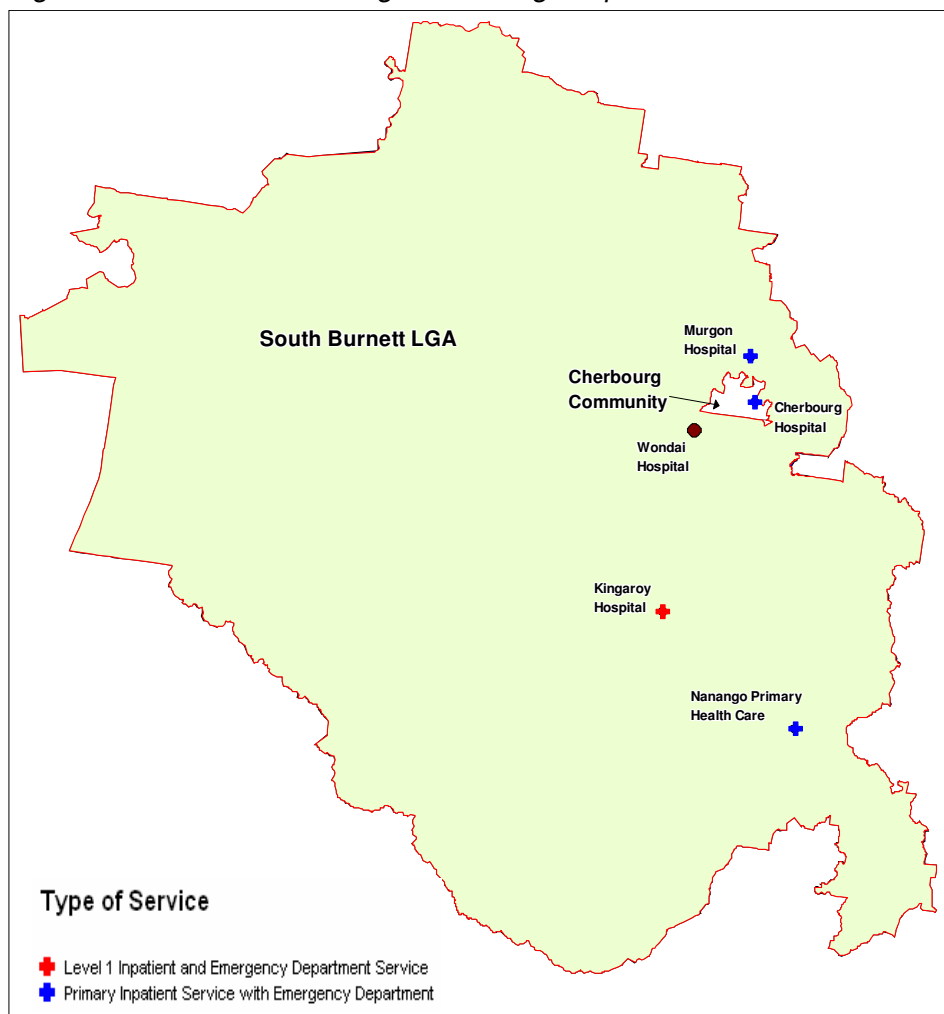
* District data used is that provided in the South Burnett Options Paper rather than Kingaroy Hospital data only.

2 Service profile for Kingaroy Hospital

2.1 Geographic profile

Kingaroy Hospital is located in the Darling Downs–West Moreton Health Service District (the District), in the South Burnett Region. This region comprises the Statistical Local Areas (SLAs) of Kingaroy, Murgon, Nanango and Wondai and Cherbourg Shire (Figure 1). Kingaroy town is the main centre for the South Burnett Region, located approximately 220 kilometres from Brisbane and 150 and 160 kilometres from the Sunshine Coast and Toowoomba respectively.

Figure 1: South Burnett Region showing hospital locations



Source: Queensland Health

Kingaroy Hospital is the primary hub hospital for the South Burnett Region. As a primary hub hospital it supports the provision of health services in Murgon, Cherbourg, Wondai and Nanango. The Hospital is located 187 kilometres from a major referral hospital—Ipswich Hospital.

Table 2 illustrates travel times within South Burnett. The furthest distance from Kingaroy, as the major hospital, is 41 minutes to Cherbourg. Cherbourg is 6 minutes from Murgon Hospital and 17 minutes from Wondai Health Services.

Table 2: *Travel times (min) between South Burnett towns*

From To	Nanago	Kingaroy	Wondai	Murgon	Cherbourg
Nanango		20	44	46	53
Kingaroy	20		24	35	41
Wondai	44	24		12	17
Murgon	46	35	12		6
Cherbourg	53	41	17	6	

Source: http://www.racq.com.au/travel/trip_planner

According to the Australian Statistical and Geographical Categories, Kingaroy and Nanango are classified as 'inner regional' with a remote area score of RA2, and Cherbourg, Wondai and Murgon are categorised as 'outer regional' with a remote area score of RA3.¹

2.1.1 Catchment population

The primary catchment area for Kingaroy Hospital includes the Statistical Local Area (SLA) of Kingaroy. In 2008, the Estimated Resident Population of the primary catchment was 13,484 people. In 2008, more than one third of the population of the South Burnett Region resided in Kingaroy.

The secondary catchment for Kingaroy Hospital includes the SLAs of Murgon, Nanango and Wondai and Cherbourg Shire (Table 3). In 2008, the total population for the region was estimated at 33,025 people (Table 4). The towns in these SLAs are approximately half an hour from Kingaroy (except for Cherbourg) as outlined in Table 2 and have their own small hospitals. Kingaroy, as the primary hub for the South Burnett region, supports these smaller hospitals to provide acute health services to these communities.

Table 3: *Total Estimated Resident Population in the Statistical Local Areas of the South Burnett Region by age groups 2008*

Area	Age Group in Years					Total
	0–14	15–24	25–44	45–64	65+	
Cherbourg	473	211	316	175	38	1,213
Kingaroy (S)	3013	1684	3377	3457	1908	13439
Murgon	840	397	839	922	609	3607
Nanango	2056	909	2003	3110	1766	9844
Wondai	977	442	1056	1481	859	4815
South Burnett Region	7359	3643	7591	9145	5180	32918

Source: 2008 Estimated resident population Queensland, 2008 Edition, Medium series five year age group ASGC Statistical Local Areas (SLAs)

The population projections (Table 6Table 5) are based on the Medium Series population projections and the 2006 Census figures. Between 2008 and 2021, Kingaroy is predicted to have the greatest increase in the number of people (1722 people) of the five SLAs and a similar percentage increase as the region. Between 2008 and 2021, the population of the South Burnett region is predicted to increase by 8.4 per cent.

Table 6Table 5Table 4: All age population projections for Statistical Local Areas of the South Burnett Region, 2008–2021

SLA	2008	2011	Increase		2016	Increase		2021	Increase		Increase % 2011–2021
			No.	%		No.	%		No.	%	
Cherbourg Shire	1,213	1,249	36	2.9	1,249	0	0	1,249	0	0	0
Kingaroy	13,484	13,978	494	3.7	14,678	700	5	15,206	528	3.6	8.8
Wondai	4,832	5,099	237	5	5,419	320	6.2	5,682	263	4.8	11.4
Murgon	3,619	3,717	98	2.7	3,777	60	1.6	3,839	62	1.6	3.2
Nanango	9,877	10,339	462	4.7	10,887	548	5.3	11,309	422	3.9	9.4
South Burnett Region	33,025	34,382	1357	4.2	36,010	1628	4.7	37,285	1275	3.5	8.4

Source: Population Projections Queensland, 2008 Edition, Medium series five year age group ASGC Statistical Local Areas (SLAs)

The age related population projections for the South Burnett Region demonstrate an ageing population, with the percentage of the population aged 65+ increasing from approximately 16 per cent to 22 per cent by 2021. The various age groups in the 65+ age group (Table 6) demonstrate an increase of between eight and 26.4 per cent sustained through to 2021.

In comparison to the 65+ age group, there is much less projected growth expected in the younger age groups. These groups are generally projected to experience a slight decrease or negative growth. This is especially clear in the 2016 projection year with some age groups experiencing negative growth with the exception of 25–34 year olds where there will be an 8.6 per cent increase.

Table 6Table 5: Population projections for Statistical Local Areas of the South Burnett Region

Age Group in Years	2008	2011	Increase		2016	Increase		2021	Increase	
			No.	%		No.	%		No.	%
0–14	7359	7402	43	0.6	7534	132	1.7	7517	-7	.09
15–24	3643	3790	147	4	3672	-118	-3.1	3744	72	2
25–34	3571	3813	242	6.7	4140	327	8.6	4074	-66	1.6
35–44	4020	4134	114	2.8	4057	-77	-1.9	4166	109	2.7
45–54	4512	4510	-2	0.04	4497	-13	-0.2	4516	19	0.4
55–64	4633	4991	358	5.6	5119	128	2.6	5095	-24	0.4
65–74	3076	3335	259	8.4	4136	801	24	4690	554	13.4
75–84	1584	1783	199	12.6	2066	283	15.9	2530	464	8
85+	520	624	104	20	789	165	26.4	943	154	19.5
Total	33,025	34,382	1357	4.2	36,010	1628	4.7	37,285	1275	3.5

Source: Population Projections Queensland, 2008 Edition, Medium series five year age group ASGC Statistical Local Areas (SLAs)

In the 2006 Census, there were 2115 people who identified as Aboriginal and Torres Strait Islander in the region, representing seven per cent of the total population. Of these people, 230 resided in Kingaroy (less than 2% of the Kingaroy population), with the majority residing in Cherbourg and Murgon.

2.1.2 Services in the secondary catchment

In 2008/09, the majority of inpatient activity for the secondary catchment was provided at Kingaroy Hospital, with lower levels of activity at Cherbourg, Murgon, Wondai and Nanango Hospitals. When referring to the self sufficiency of health services the combined level of self sufficiency refers to the whole of the District. The District's total self sufficiency was:

- 80 per cent in adult overnight separations
- 76 per cent in adult same day separations
- 71 per cent for children's overnight separations
- 57 per cent for children's same day separations.

The District was also self sufficient for some non-special Enhanced Service Related Group services, including adult non-subspecialty medical and adult non-subspecialty surgical categories.

The District was not self sufficient in some Enhanced Service Related Group services, including significant adult outflows for rehabilitation, cataract procedures, orthopaedics and neurology and renal medicine. There was a variety of children outflows for other non-subspecialty surgery and other non-subspecialty medicine (high volumes of outflow), other respiratory medicine and other orthopaedics–surgical. Most outflows were to Metro South and Metro North Health Service Districts.

Outflows to public hospitals

Outflow of patients from the South Burnett Region is primarily to Royal Brisbane and Women's, Toowoomba and Princess Alexandra Hospitals. In 2006/07, the total outflows numbered 1192 separations (Table 6). While surgical activity at Kingaroy Hospital decreased during the period 2004/05–2007/08, outflows to the public hospital sector increased. Note that over the period:

- outflows to the public hospital sector increased by 102 separations (9.4%)
- one third of outflows were same day, decreasing by 24 separations (-6%)
- two thirds of outflows were overnight outflows, increasing by 126 separations (18.2%)
- in 2008/09, the South Burnett outflows for diagnostic gastrointestinal endoscopy service related group was equivalent to 205 same day and 40 overnight beddays.

Table 6: South Burnett resident outflows to public hospitals for acute surgical Episodes of Care by day status

	Same day		Overnight			3 Yearly	
	No.	%	No.	%	Total	No. Incr.	% Incr.
2004/05	398	36.5	692	63.5	1090	102	9.4
2005/06	388	35.3	710	64.7	1098		
2006/07	374	31.4	818	68.6	1192		

Source: Queensland Hospital Admitted Patient Data Collection 2006

2.2 Kingaroy Hospital

Kingaroy Hospital provides a range of surgical and procedural, maternity, general medical and Emergency Department inpatient and ambulatory care services, including:

- accident and emergency
- maternity
- specialist outpatients
- medical imaging
- pharmacy
- general medical
- general surgical
- palliative care
- paediatric
- dental surgery
- day surgery
- general surgery
- obstetrics and gynaecology
- ophthalmology
- urology.

The basis for identifying gaps in service capability against the core service profile is to secure and consolidate services provided at Kingaroy Hospital, the primary rural hub service in the District. This may involve enhancing existing service roles and staffing levels to support its role in the District.

The current level of service capability at Kingaroy Hospital is outlined in Table 7. Gaps are also identified against this level of service. Services provided should align with draft CSCF v3.0 Level 3 or lower.

Providing the minimum suite of core services aims to ensure the provision of surgical and procedural, maternity, Emergency Department and general medical services at Kingaroy Hospital.

Table 7: Draft CSCF v3.0 service gap analysis

Core services	Draft CSCF v3.0 Level	Current services	Current CSCF Level	Gaps
Emergency services	3	Emergency services	3	
Medical services	3	Medical services	3	
Surgical services	3	Surgical services	3	
Peri-operative services	3	Peri-operative Services	3	
Anaesthetics services	3	Anaesthetics services	3	
Maternity services	3	Maternity services	3	
Neonatal services	3	Neonatal services	3	
Mental health services	2	Mental health services	2	
Rehabilitation services	3	Rehabilitation services	3	
Palliative care services	2	Palliative care services	2	
Pathology services	3	Pathology services	3	
Medical imaging services	3	Medical imaging services	3	No ultrasonographer on site – visiting service only

Core services	Draft CSCF v3.0 Level	Current services	Current CSCF Level	Gaps
Pharmacy services	3	Pharmacy services	3	Insufficient pharmacist hours

Source: Queensland Health, February 2010

2.2.1 Hospital inpatient activity

Kingaroy Hospital has an annual average overnight occupancy rate of 54 per cent (Table 8) for all age overnight services, with a higher occupancy rate for the maternity beds. Patients from the District account for 78.6 per cent of beddays, and 17 per cent of patients are from Metro North, Metro South and Sunshine Coast–Wide Bay combined. The remaining four per cent of separations are for patients from a range of Health Service Districts.

Table 8: Activity at Kingaroy Hospital by district of residence

District of residence	Separations	% of total
Darling Downs–West Moreton	7458	78.6
Metro North	875	9.2
Metro South	442	4.7
Sunshine Coast–Wide Bay	293	3.1
Mater Public Hospitals	189	2
Children's Health Services	167	1.8
Gold Coast	19	< 1
Townsville	12	< 1
Central Queensland	12	< 1
Mackay	7	< 1
South West	7	< 1
Central West	2	< 1
Mt Isa	2	< 1
Cairns and Hinterland	3	< 1
Cape York	2	< 1
Total	9490	100

Source: Queensland Health Admitted Patient Data Collection, April 2010

The acute ward at the Kingaroy Hospital is a 41 bed unit that provides care for acute/medical conditions, paediatrics, some limited high acuity care, aged and respite care, mental health, and some rehabilitation for post-operative patients within the parameters of draft CSCF v3.0 Level 3 services. There are four maternity beds included in the 41 beds.

Generally occupancy rates have remained consistent for the five year period between 2004/05 and 2008/09 (Table 8). The slight increase in the occupancy rate at Kingaroy in 2006/07 is directly related to increases in average length of stay (ALOS).

Table 9: Kingaroy Hospital inpatient activity summary 2004/05–2008/09

Year	Separations	Beddays	ALOS [^]	Bed Numbers	% Occupancy
2004/2005	2622	6281	2.40	41	42
2005/2006	2902	6876	2.37	41	46
2006/2007	3167	7777	2.46	41	52
2007/2008	3204	7303	2.28	41	49
2008/2009	3376	8051	2.38	41	54

Source: Queensland Hospital Admitted Patient Data Collection, Queensland Health (Extracted 1 Oct 2009)
[^] Average length of stay

The highest numbers of separations and beddays were for obstetric Service Related Groups (SRGs), of which there were 519 separations, or 45 per cent of total separations (Table 10). The next top 10 SRGs at Kingaroy Hospital during 2008/09, excluding neonates, were:

- medical separations accounted for the next three highest groups
- non-subspecialty surgery accounted for the fifth highest number of separations
- respiratory medicine had the second highest beddays after obstetrics.

Table 10: Top 10 adult Service Related Groups at Kingaroy Hospital in descending order of separations in 2008/09

SRG Same day	Separations	SRG Overnight	Separations	Beddays
06 Diagnostic GI Endoscopy	205	35 Obstetrics	519	1274
16 Non–subspecialty Medicine	128	16 Non–subspecialty Medicine	351	857
30 Non-subspecialty Surgery	115	14 Respiratory Medicine	253	1019
25 Orthopaedics	105	01 Cardiology	230	672
35 Obstetrics	71	30 Non–subspecialty Surgery	182	487
34 Gynaecology	69	05 Gastroenterology	116	263
11 Neurology	68	11 Neurology	102	407
01 Cardiology	67	08 Immunology and Infections	96	338
39 Psychiatry-acute	45	25 Orthopaedics	94	269
05 Gastroenterology	38	39 Psychiatry -acute	76	190

Source: DSS Panorama, 30 April 2010

Overnight separations for obstetrics have consistently been the highest SRG at Kingaroy Hospital for the five year period 2004/05–2008/09. Cardiology and neurology has increased by 52 per cent and 53 per cent respectively for the same period, whereas gastroenterology increased by 127 per cent.

Table 11: Five year trend of adult overnight activity at Kingaroy Hospital in decreasing order for 2008/09

Overnight separations	2004/05	2005/06	2006/07	2007/08	2008/09	% change
Obstetrics	388	426	464	445	408	5.2
Respiratory Medicine	92	117	200	174	253	175
Cardiology	151	175	222	288	230	52
Non-subspecialty Medicine	128	151	217	236	192	50
Non-subspecialty Surgery	121	164	151	155	170	41
Gastroenterology	51	110	92	87	116	127
Obstetrics Surgery	89	87	113	94	109	22.5
Neurology	66	70	71	89	101	53
Immunology & Infections	44	63	75	58	96	118
Orthopaedics	58	77	68	61	94	62

Table 12: Five year trend of adult same day activity at Kingaroy Hospital in decreasing order for 2008/09

Same day separations	2004/05	2005/06	2006/07	2007/08	2008/09	% Change
Diagnostic GI Endoscopy	172	186	144	68	205	19
Non-subspecialty Surgery	56	46	51	68	107	91
Orthopaedics	76	52	94	96	93	22
Non-subspecialty Medicine	35	49	63	88	92	162
Obstetrics	42	52	72	56	71	69
Cardiology	28	42	57	73	67	139
Neurology	13	11	31	73	67	415
Gynaecology surgery	68	71	60	65	58	-15
Psychiatry - Acute	22	29	34	50	45	104
Gastroenterology	19	15	23	47	38	100

Source: Queensland Health Admitted Patient Data Collection, April 2010

The majority of same day activity was for endoscopies, although same day non-subspecialty surgery nearly doubled in 2008/09. Only gynaecology surgery decreased over the five year period 2004/05–2008/09. Most same day activity was for medical SRGs, with the SRG of non-subspecialty medicine increasing by 163 per cent, with cardiology and neurology also having increases in activity.

2.2.2 Projected activity

In rural hospitals beds are classified as multipurpose as they are not designated into specific bed type categories because at draft CSCF v3 Level 3 services there are no specialist clinical units. When projecting overnight beds, bed type categories have been limited to multipurpose beds only.

The profile of projected activity in rural hospitals is not expected to change, however, with improved infrastructure, including modernised layouts or refurbished buildings, service provision could be enhanced. Maternity, emergency services, surgical and outpatient services could continue to grow and provide more efficient services.

The bed types and treatment spaces set out in Table 25 and Table 26 reflect the categories from the More Beds for Hospitals Strategy.² It should be noted that many of the categories outlined in the More Beds for Hospitals Strategy² are not applicable for rural hospitals. The projections have been calculated using aIM data and data templates developed by the Planning and Coordination Branch Statewide (Data) Team. The benchmarks and methodology used for calculating the projected bed categories are described in the Statewide Implications for Service Provision Section 4.

Kingaroy Hospital currently has 41 multipurpose overnight beds and projections indicate that 58 overnight beds will be required by 2021/22 (applying an 85% occupancy rate). If Kingaroy Hospital was not to assume some of the activity in other hospitals in the south Burnett Region, then fewer beds would be required (29 applying a 70% occupancy rate and 33 applying a 70% occupancy rate). Additionally, if further planning considered reverse flows for mental health, endoscopies and other surgical activity other bed types would also be required.

Using the Victorian Normative Benchmarks, Kingaroy Hospital currently has a major and minor theatre with insufficient Stage 1 recovery bays to meet benchmark requirements. An additional two recovery bays are required now, with no further increase required by 2021/22.

There are currently no Stage 2 recovery chairs and very little day surgery activity at Kingaroy Hospital. If specialists can be organised to visit, surgical services could recommence, and sufficient Stage 2 recovery chairs would be required by 2021/22 to accommodate the volume of scheduled day surgery activity.

The number of Emergency Department treatment spaces will need to increase from 7 to 16 by 2021/22. These treatment spaces will need to include a mix of acute treatment trolley spaces, including a resuscitation cubicle, consultation rooms and specific treatment rooms (e.g. plaster procedure and isolation rooms). Additional multipurpose consultation rooms will be required for outpatient activity.

As there is currently no Outpatient Department at Kingaroy Hospital, there are insufficient outpatient consultation rooms to meet the needs of routine clinics and visiting specialists. Seven multipurpose outpatient consultation rooms and three maternity/women's health consultation rooms are required by 2021/22.

Kingaroy Hospital currently has sufficient delivery suites, but requires a multipurpose/maternity/staff education room and a child-friendly waiting area. According to the Perinatal Data Collection, there were 427 births in 2007 at Kingaroy Hospital, which currently manages approximately 95 per cent of the births in the South Burnett Region.

During the period 2004/05–2008/09, Kingaroy Hospital showed a five per cent increase in births (Table 13). Using the High Series population projections for the SLAs of the South Burnett Region, total births in the region are expected to increase from 431 in 2007/08 to 563 by 2021/22 if there is no change in the model of care (Table 13).

Table 13: Current and projected births for South Burnett Region SLAs 2007/08–2021/22

	2007/08	2011/12	2016/17	2021/22
SLA for the South Burnett Region – part of the Darling-Downs West Moreton Health Service District	Delivery Hospital	projected births for nominated SLAs using high series population projections		
Kingaroy	427	235	254	251
Murgon no birthing	1	54	55	57
Nanango no birthing		124	141	152
Wondai no birthing		64	69	73
Cherbourg no birthing	3	33	33	32
Total projected births (95% likely to occur at Kingaroy Hospital)	431	507	551	563

**Live births by district of usual residence Queensland 2006–2008 source perinatal data collection
Projections developed by Office of Economic and Statistical Research using Perinatal Data Collection and high series population projections.

Table 14 provides projected numbers for Emergency Department treatment places, based on the Australian College of Emergency Medicine Benchmark of one place per 1300 emergency attendances. By 2021 it is projected that the Hospital will require 16 treatment places, an increase of nine treatment places from the seven currently available. There will also be an additional 10 (7 multipurpose and 3 maternity) outpatient consultation rooms required.

Due to the demographic changes in the region associated with the ageing population, the projected presentations may be an underestimation. In addition, a substantial proportion of Emergency Department activity is general practitioner type services and may increase because of the difficulty in recruiting general practitioners to the community.

Table 14: South Burnett projected Emergency Department occasions of service and required treatment places

Year	2006*	2011	2016	2021
Projected emergency presentations for South Burnett Hospitals	17667	19362	20129	20881
Treatment places for Kingaroy Hospital	14	15	15	16

Source: Service Planning Unit, SAHS August 2008

* Actual activity.

2.3 Core services

Outlined below is a description of the four core services provided at Kingaroy Hospital: surgical and procedural, maternity, Emergency Department and general medical.

2.3.1 Surgical and procedural

Kingaroy Hospital provides surgical and procedural services at a draft CSCF v3.0 Level 3. Kingaroy Hospital's Operating Theatre is accessible 24 hours a day, seven days a week. There are currently no visiting surgeons providing surgical services at Kingaroy Hospital. Surgery is managed by Hospital medical staff and local general practitioners.

The Hospital requires infrastructure improvements as the Operating Suite does not have the built capacity to provide sufficient Stage 1 and Stage 2 recovery bays in the same place. There are no Stage 2 recovery chairs in the Operating Theatre suite. The Operating Theatre suite is on the second floor and accessed via a lift that is currently being replaced. The dysfunctional and aged layout of the Operating Theatre exacerbates problems of capacity and inhibits the capability to provide services.

Kingaroy Hospital does not have an Intensive Care Unit and therefore cannot undertake complex surgery. Kingaroy Hospital, like all rural hubs, has the capability to manage emergencies and higher acuity care while waiting transfer out to a higher level facility.

Although there are currently no visiting surgeons at Kingaroy Hospital, surgery is still undertaken at the Hospital. The top ten overnight SRGs for the Hospital are shown in Table 15. The top overnight surgical SRG was for obstetric separations, with the next highest being the gynaecology SRG. The obstetric and gynaecology SRGs had the highest number of beddays. The top same day SRG was for cataract procedures, followed by wrist and hand procedures, then urological procedures.

Table 15: Top 10 overnight Service Related Groups treated at Kingaroy Hospital in 2008/09 (descending order by separations)

Service Related Group	Overnight Separations	Beddays	Av. Length of Stay
Obstetrics	122	414	3.4
Gynaecology	45	80	1.8
Non-subspecialty Surgery	34	63	1.9
Upper GIT Surgery	33	40	1.2
Colorectal Surgery	11	19	1.7
Head and Neck Surgery	8	11	1.4
Plastic and Reconstructive Surgery	5	15	3.0
Vascular Surgery	4	5	1.3
Orthopaedics	1	35	35
Unallocated	1	3	3

Source: DSS Panorama (Extracted 4 May 2010)

2.3.2 Maternity

Kingaroy Hospital is the primary hub for maternity services in the region. Rural public hospitals play an important role in providing emergency care. Although planned birthing is only available at Kingaroy Hospital (95% of births in the region), it is inevitable that some emergency deliveries will occur at other rural hospitals that do not provide a birthing service, e.g. Cherbourg Hospital. A small percentage of women will also transfer out of the District to a higher level service.

There are currently four maternity beds located in the general ward area, with an occupancy rate of 170 per cent. There were 106 qualified neonate beddays in 2006/07, indicating a need for the neonatal capacity of a Level 3 neonatal service. The average length of stay for maternity patients is currently 2.8 days after a vaginal delivery, 4.3 days after a caesarean section, 2.5 days for a postnatal stay (readmission) and 1.9 days for an antenatal admission.

Table 16: Obstetrics and maternity occasions of service at Kingaroy Hospital 2004/05–2008/09

	2004/05	2005/06	2006/07	2007/08	2008/09	% Growth 2004/05–2008/09
Gynaecology	607	605	497	358	299	-41
Maternity	2794	2524	2460	2607	2254	-19

Source: Queensland Hospital Admitted Patient Data Collection Queensland Health (Extracted April 2010)

Despite the increase in caesarean sections, the consistent number of births and the obstetric SRGs having the highest number of separations, there has been a decrease in the maternity outpatient occasions of service at Kingaroy Hospital. One reason for this may be the greater uptake of shared care by general practitioners in the community.

There was a small change in the number of maternity separations for the period 2004/05 to 2008/09; however, during that period, caesarean births at Kingaroy Hospital increased by 24 per cent.

Table 17: Maternity separations at Kingaroy Hospital 2004/05–2008/09

	2004/05	2005/06	2006/07	2007/08	2008/09	% Growth 2004/05–2008/09
Vaginal	300	317	357	327	300	0
Caesarean	95	93	121	96	118	24
Total	395	410	478	423	418	5 fluctuation

Source: Queensland Hospital Admitted Patient Data Collection, Queensland Health (Extracted April 2010)

Maternity beds/rooms

Using the Victorian Normative benchmarks for Level 3 services, there needs to be one birth suite for every 250 births. As there were over four hundred births in 2008/09, two birth suites are required. In addition, a room is required for the combined purposes of antenatal assessment, gynaecological and maternity procedures, and a birth suite, should the need arise.

Accommodation for families

Not applicable for Kingaroy Hospital.

Paediatrics

Paediatric inpatient services at Kingaroy Hospital consist of low risk non-specialty paediatrics, which meets the requirements of a draft CSCF v3.0 Level 3 service. There are currently four beds located within the general ward. Acute medical and surgical paediatric patients are managed together and there is minimal non-acute paediatric activity. Non-subspecialty medicine is the highest SRG for both same day and overnight paediatric activity (Table 17).

Table 18: Top 10 Service Related Groups for paediatrics 2008/09 at Kingaroy Hospital

SRG Same day	Separations	SRG Overnight	Separations	Beddays
Non-subspecialty Medicine	24	Non-subspecialty Medicine	63	100
Orthopaedics	22	Respiratory Medicine	31	60
Non-subspecialty Surgery	18	Qualified Neonate	27	127
Dentistry	8	Non-subspecialty Surgery	18	27
Respiratory Medicine	6	Immunology & Infections	10	12

Source: DSS Panorama (Extracted 4 May 2010)

Changes in the level of paediatric activity over the last five years are shown in Table 19, and include an increase in the number of separations for non sub-specialty medicine, paediatric respiratory medicine and immunology and infections, with a 28 per cent decrease in orthopaedics.

Table 19: Five year trend paediatric activity by overnight separations

	2004/05	2005/06	2006/07	2007/08	2008/09	% Change Over 5 Years
Non-subspecialty Medicine	48	50	95	96	63	31
*Qualified Neonate	27	28	22	23	31	15
Respiratory Medicine	19	19	21	19	31	63
Non-subspecialty Surgery	17	16	18	16	18	6
Orthopaedics	7	9	2	6	5	-28
Immunology and Infections	2	7	8	10	10	400

*While qualified neonates are not considered to be paediatrics because of small numbers they have been included here.

Source: DSS Panorama (Extracted 4 May 2010)

2.3.3 Emergency Department

Kingaroy Hospital has an Emergency Department constrained by the available space, number of treatment spaces and configuration of the current layout. This service is provided by staff at the Hospital, including nurses and general practitioners.

In the period 2004/05 to 2008/09, there was a 67 per cent increase in emergency presentations from 8237 to 13,748 presentations (Table 20). It is assumed that Kingaroy Hospital will continue to provide the majority of acute services for the South Burnett Region and will increasingly manage acute presentations from Murgon, Nanango and Wondai Hospitals. The total number of presentations for all these hospitals in 2008/09 was 19,484, with both Murgon (23%) and Wondai (49%) already experiencing the largest decrease in their emergency activity. Nanango had a five per cent decrease in its activity for 2008/09. There was a two per cent increase in population in the South Burnett Region during the same period.

The majority of activity presenting to Kingaroy Hospital is comprised of triage Category 4 and Category 5 presentations, with much of the increase in activity in Category 5 presentations. Category 1, 2 and 3 presentations made up approximately 25 per cent of total presentations in 2008/09, with 13 per cent being admitted or transferred in the same year (Table 20).

Table 20: Percentage of Emergency Department presentations admitted/transferred at Kingaroy Hospital 2004/05–2008/09

	2004/05	2005/06	2006/07	2007/08	2008/09	% Change Over 5 Years
Number of Presentations	8237	8688	9208	11,165	13,748	70
% of admitted transferred	13	15	16	16	13	0
% of triage Category 1, 2 and 3	10	11	13	27	25	150
% of triage Category 4 and 5	90	89	87	73	75	-17

Source: Queensland Hospital Admitted Patient Data Collection, April 2010

Kingaroy Hospital’s Emergency Department has a lack of both space and appropriate consultation rooms. The Emergency Department is used for outpatient appointments, resulting in an inadequate number of consult rooms for emergency presentations. In addition, it becomes a challenge to meet requirements when specialists are visiting as they often takeover multiple rooms. Routine care can be compromised because of the lack of adequate treatment spaces and the utilisation of hallways and public thoroughfares due the absence of an Outpatients Department.

The Emergency Department has no triage room and desk for initial assessment, and no ability to continually observe the waiting room. There is also no central observation desk for health professionals to view patients who are ill in the acute treatment spaces. Additionally, there is no security to prevent the Emergency Department being used as a public thoroughfare.

Emergency Department services are currently provided at each of the five South Burnett hospitals, although at a lower level of service than Kingaroy Hospital. In order to be an Emergency Department, Kingaroy Hospital should provide a draft CSCF v3.0 Level 3 emergency service providing emergency services for the South Burnett Region (Attachment A). The capability to provide a Level 3 emergency service means that the Hospital would:

- be able to manage emergency care until transfer to a higher level
- not have access to an Intensive Care Unit or High Dependency Unit, but it may have access to a monitored area.

General medical

Medical services at Kingaroy Hospital are routinely provided by nursing, medical and allied health staff, including general practitioners and senior medical officers. In addition, there are various visiting medical specialists who provide services on a regular basis including a specialist medicine clinic/chest clinic, cardiac, neurology, specialist mental health, hearing services, paediatrician, vision clinic, and echocardiography.

During 2006/07, a proportion of medical outflows to public hospitals were for chemotherapy or radiotherapy (15.6%), or renal dialysis (50.2%). There is no visiting oncologist to Kingaroy Hospital, so there is no ability to provide chemotherapy. Consumer consultation for the South Burnett Health Service Plan (June 2008) noted the high priority need for renal dialysis services. In recognition of this, Kingaroy Hospital now has a Renal Dialysis Unit and has been treating patients since 5 October 2009 with six renal chairs being used.

Table 21: Five year trend for non-acute activity at Kingaroy Hospital (separations and beddays) 2004/05–2008/09

	Overnight				
	2004/05	2005/06	2006/07	2007/08	2008/09
Separations					
Other	13	24	21	17	13
Rehabilitation	29	30	33	36	31
Total separations	45	54	54	53	44
Beddays					
Other	173	236	221	274	101
Rehabilitation	357	271	476	488	344
Total beddays	530	507	697	762	445

Source: DSS Panorama (Extracted 4 May 2010)

Non-acute activity at Kingaroy Hospital includes palliative care activity and geriatric management activity for both same day and overnight separations. The level of non-acute activity has fluctuated over the last five years. A significant increase in the people over 65 in the South Burnett region (Table 4) may impact on the level of non-acute activity at Kingaroy Hospital in the next decade (Table 21).

Non-admitted occasions of services

Outpatient services at Kingaroy Hospital provide a range of non-admitted services, these include general practice clinics (provided by Hospital medical officers or visiting general practitioners), a minor operations clinic, fracture clinic, pre-admission/ anaesthetic clinic, ophthalmology clinic and dressing/wound management clinic; there is also a range of allied health services provided at the Hospital.

Visiting services including specialists

Visiting services include palliative care and renal, and specialists include an obstetrician and gynaecologist. There are currently no visiting surgical specialists, however, medical specialists require consultation rooms, waiting areas and staffing to manage the outpatient activity generated by visiting services. Were day surgery to recommence, overnight beds in the ward would be used as there are no post operative chairs or day surgery beds available.

Table 22: Visiting Specialists, Kingaroy Hospital 2004/05–2008/09

Type of service	Locations serviced
Surgeon - 22 visits per year	Kingaroy Hospital
Urologist - 12 visits /year.	Kingaroy Hospital
Ophthalmologist - 11 visits per year	Kingaroy Hospital
Paediatrician - 18 visits per year	Kingaroy Hospital

Kingaroy private specialist services

South Burnett Community Private Hospital is the only private hospital in the region. Located in Kingaroy, it is licensed for 28 beds and owned and managed by PulseHealth as a private listed company. The hospital provides:

- acute medicine, general surgery and palliative care services
- visiting specialists—paediatrician, cardiologist, urologist, two general surgeons, gynaecologist, and two ophthalmologists
- surgical services—diagnostic endoscopy, general surgery, urology, gynaecology, and ophthalmology
- medical services include general medicine, palliative care, chemotherapy, cardiac stress testing, halter monitoring and respite care.

Flying specialist services

Flying obstetrician and gynaecologist services visit the District monthly but provide gynaecology.

Medical Specialist Outreach Assistance Program

Kingaroy Hospital does not qualify for this program.

2.3.4 Current support services

Table 23: Medical imaging and pharmacy occasions of service, Kingaroy Hospital 2004/05–2008/09

Services	2004/05	2005/06	2006/07	2007/08	2008/09	% Change Over 5 Years
Medical Imaging	6169	6252	4104	2511	2374	-61
Pharmacy	1910	1348	1313	1292	2018	10

Source: Queensland Health Admitted Patient Data Collection, May 2010

Pathology

The Kingaroy Pathology Laboratory is located on the Hospital site and provides laboratory and phlebotomy services during business hours Monday to Friday with a laboratory service available on call after hours.

Medical imaging

Medical imaging services are provided at Kingaroy Hospital by utilising one x-ray room and one ultrasound room. Additional x-ray rooms will be required by 2021/22. There has been a large decrease in the number of occasions of service (-61%), which may be due to private services available in town or a problem in recruiting sufficient radiographers.

Pharmacy

Pharmaceutical services are provided at Kingaroy Hospital by a full time pharmacist. The pharmacy is open between the following hours:

- Monday/Tuesday 10.30 am to 12.30 pm and 2.00 pm to 4.30 pm
- Wednesday 2.00 pm to 4.30 pm
- Thursday 1.00 pm to 4.30 pm
- Friday 10.30 am to 12.30 pm.

Medications and pharmacy services are provided through a contracted local pharmacist.

Dental/oral health services

The Dental Clinic in Kingaroy Hospital:

- provides a full range of dental services to eligible clients
- has administration facilities, four surgeries, and a laboratory
- is staffed by four dentists, four dental assistants, one technician, and one administration officer.

The Community Dental Clinic provides emergency care to eligible clients on an as-needed basis. Several hours each day are allocated to each operator to treat emergent dental problems.

School Dental Service

All Queensland resident school children aged four years or older, who have not completed year 10, are universally eligible for publicly funded oral health care.

The school dental service has two mobile dental vans, each with two chairs, and is staffed by four therapists, and four dental assistants. Staff are based at Kingaroy Hospital and travel daily to the relevant site.

Community clinic dentists provide dental officer services on a one day per week, per van basis, with continuous access for consultation.

2.4 Primary health care and community health services

One of the major challenges of health services in the catchment is to effectively implement evidence-based interventions aimed at addressing preventable disease. The growth in the population, the travel required to access health services and the need to provide services to sparsely populated regions has created a need to reconsider current models of care and look for alternative service delivery models.

Implementation of alternative models of care, such as Hospital in the Home, Hospital in the Nursing Home, integrated models of care across primary health care and acute services, and nurse practitioner led clinics, may achieve some efficiency in service delivery.

A key strategy in achieving these efficiencies will be expanding community-based resources for targeting, identifying and managing key chronic diseases and common conditions of ageing in collaboration with other local agencies.

Future community-based service requirements have been broadly considered in the context of the catchment and opportunities for enhancing community-based services. Detailed consideration of future community health services and capacity requirements will occur if the preliminary evaluation progresses to a Business Case.

Primary health care incorporates a range of primary community health services, Aboriginal and Torres Strait Islander health services, oral health services and importantly, primary general practice services.

The South Burnett Community Health Service multidisciplinary teams have a focus on working across communities and agencies to develop supportive environments for health.

Community health services are situated at Kingaroy Hospital.

The following RHealth (Division of General Practice) programs are run in Kingaroy:

- Chapters meetings (local general practitioner networks) occur in Kingaroy approximately once per month
- Better Outcomes in Mental Health Care/Access to Allied Psychological Services: three allied mental health professionals—all have offices in Kingaroy (one clinical psychologist, psychologists through Aggregate Corporation, and occupational therapist), total full time equivalent (FTE) = 0.5
- Other allied health services: South Burnett - dietician/diabetes educator (0.18 FTE), Kingaroy - podiatrist (0.13 FTE)
- National Primary Care Collaborative: Kingaroy Family Care and South Burnett Medical (Kingaroy)
- Mental Health Nurse Program Incentive: one mental health nurse contracted to provide services - 3½ days per week (Tuesday, Wednesday, Thursday and some Friday mornings) FTE = 0.35.

Integrated mental health services

Mental health services are managed under the auspices of Community Health. It is a Monday to Friday service.

Allied health services

The following allied health and outreach services are available from Kingaroy:

- *Dietician*
Based in Kingaroy with outreach services to Yarraman, Nanango and Wondai on a monthly basis (with an additional one day weekly visit to Wondai).
- *Physiotherapist*
Based at Kingaroy with outreach services to Cherbourg, Nanango and Wondai for one day per week, and Murgon for one half day per week.
- *Speech Pathologist*
Based at Kingaroy with outreach services to Cherbourg, Nanango, Wondai and Murgon for one day per week.
- *Occupational Therapist*
Based at Kingaroy with outreach services to Wondai (specific fortnightly clinic) and Nanango (specific weekly clinic), and home visits to all areas of South Burnett.
- *Podiatrist*
Based at Wondai with outreach services to Kingaroy for two days per week and visiting sessions at Cherbourg.

Allied health occasions of service are shown in Table 24.

Table 24: Allied health occasions of service 2008/09, by location

	Kingaroy	Cherbourg	Murgon	Nanango	Wondai
Nutrition and Dietetics	872	21			
Occupational Therapy	531	56	data not	data not	data not
Physiotherapy	2816	193	available by	available by	available by
Podiatry	171	225	Individual service	service	service

	Kingaroy	Cherbourg	Murgon	Nanango	Wondai
Speech Pathology	461	49			
Total	4851	544	410	802	1254

Source: Monthly Activity Collection Sheets MTACPH4X or 3X

3 Current and projected bed requirements

Summary of projected bed requirements

Table 25 and Table 26 present a high-level summary of the projected bed and other treatment space requirements for the Kingaroy Hospital to 2021. Projections are based on the assumption that Kingaroy Hospital will continue to provide the majority of acute services for the South Burnett Region and will increasingly manage acute presentations from Murgon, Nanango and Wondai Hospitals.

Table 25: Current and projected bed requirements for Kingaroy Hospital

	Current numbers	Projections using 85% occupancy rates		
Overnight Beds	2010	2011	2016	2021
Total multipurpose overnight beds	41	48	53	58
Same day beds/bed alternatives				
Same day beds	0	3	4	4
Stage 2 recovery chairs	0	Limited service as no visiting surgeons		
Chemotherapy chairs	0	No service as no visiting oncologist		
Renal dialysis chairs (in centre)	6	6	6	6
Other medical (inc. Discharge Lounge)	0	0	0	0
Total same day beds/bed alternatives	6	9	10	10

Other treatment spaces

Projected requirements for recovery spaces, delivery suites, outpatient clinic rooms and Emergency Department spaces currently exceed the current built capacity at Kingaroy Hospital.

Table 26: Current and projected other treatment space requirements for Kingaroy Hospital

	2010	2011	2016	2021
Operating Theatres	2	2	2	2
Procedure rooms	0	1	1	1
Recovery spaces (Stage 1)	2	4	4	4
Delivery Suites	2	2	2	3
Outpatient clinic rooms	0	7 + 3 maternity	7 + 3 maternity	7 + 3 maternity
ED treatment spaces	7	15	16	16
X-ray rooms, ultrasound, plain film x-ray	1 x-ray 1 plain x-ray	2 x-ray 1 ultrasound	2 x-ray 1 ultrasound	2 x-ray 1 ultrasound
CT scanner		May be planned for at a future date		

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