Gold Coast Health Service Plan

Gold Coast Health 2016-2026

Strategy and Health Service Planning Department

Gold Coast Health
Building a healthier community

Queensland Government

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ACKNOWLEDGEMENTS

We acknowledge the Traditional Custodians of the land on which we work and live, the Yugambeh and Kombumerri peoples, and recognise their continuing connection to land, waters and community. We pay respect to Elders, both past and present and extend that respect to all Indigenous Australians.

Gold Coast Health 2016-2026 has been developed through an extensive internal and external consultation process. All contributors are sincerely thanked for their input and feedback.

Foreword

It is with great pleasure that we present Gold Coast Health 2016-2026 – the ten year Health Service Plan.

Gold Coast Health 2016-2026 sets an ambitious platform for Gold Coast Health to realize our vision of being recognised as a centre of excellence for world class healthcare. The service priorities and strategies identified in Gold Coast Health 2026 are the result of an extensive process of consultation, performance and activity analysis in line with current Federal and State health policy and global health trends.

Over the next decade, Gold Coast Hospital and Health service will continue to define a new standard of health service delivery that will result in a healthier population and achieve worldwide recognition as a hub of health research and innovation.

We aim to create a culture and environment of engaged, capable staff, within an integrated and responsive health system, able to continuously achieve high quality, patient centred health outcomes for people living and holidaying on the Gold Coast.

We express our sincere thanks to Gold Coast Hospital and Health Service staff, our health service partners and the community for contributing valuable time and expertise to the development of this plan.

This is a challenging and exciting time for Gold Coast Health and we look forward to reporting on progress of Gold Coast Health 2026 throughout its implementation.

Mr Ian Langdon
Chair
Gold Coast Hospital and Health Board

Mr Ron Calvert
Chief Executive
Gold Coast Health

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Executive Summary

Health organisations globally are experiencing immense challenges in delivering the triple aim trifecta of high quality, low cost healthcare with high levels of patient satisfaction. This long-term health service planning document contains a wide range of information from staff, consumers and our key partners who have been asked to examine our service system and environment. Demand drivers, population profiles, disease trends, clinical and information technology, workforce, models of care, geographic location of services, infrastructure and facilities have been examined to develop solutions to our biggest challenges to 2026.

Gold Coast Health 2016–2026 aligns with the strategic plan 2016–2020 focus areas of: access, quality and safety; staff and culture; research, teaching and learning; technology and innovation. It will begin to answer key strategic questions:

- How do we propose to navigate the inevitable demand and capacity challenges to 2026?
- What strategies should we implement to sustain investment and maximise impact?
- What solutions will enable an information empowered health system that flexibly and seamlessly meets patient, purchaser and clinician expectations?
- What models of care do we intend to invest in?
- What service transition strategies need to be implemented by 2018, 2021 and 2026?

Gold Coast Health 2016-2026 will be supplemented by further work delivered by the Strategy and Health Service Planning Department and will inform subsequent, more detailed planning activities, including workforce planning, infrastructure planning, the total asset management plan, enhanced value programs and operational plans.

Aim and Purpose

The aim of this report is to identify the key priorities for Gold Coast Health over the next 10 years. This is in terms of priorities for existing services lines, cross cutting themes and external issues. The purpose of the report is to prioritise strategic activity and inform future decision making and resourcing.

It is important to note that as the report is structured around priorities for service lines there is some duplication in the report. There is a lot of overlap in the service lines' identified priorities. For example obesity, the elderly population, advances in technology and medicine, and the need to make efficiencies. This is acknowledged as unavoidable as the organization felt it important to have a section for each existing service line. As such this report is to be an internal facing document. A separate executive summary is being developed to compliment this report. This executive summary will be the external facing plan.

Scope and Methodology

In January 2016, the Department of Health issued the *Health Priorities for Investment 2016-2017* which were determined by examining four areas of strategic intent; demographics, burden of disease, activity trends and expert opinion. *Gold Coast Health 2016-2026* aligns with the Queensland Health Priorities for Investment and has been developed by following the Queensland Health *Guide to health service planning, version 3* [1], ensuring that Gold Coast Health continues to make a substantial contribution to the broader strategic direction for public health services in Queensland and Australia.

The plan was developed over 12 months of consultation illustrated in Figure 1 below, and was overseen by a steering committee whose time and expertise is greatly appreciated. It is important to note that the service directions in Section 7 were informed by Service Line Directors in each clinical area. Implementation will be supported by ongoing strategic analysis which will continue to examine patient feedback, external partners, horizon scanning and alignment with internal and external strategy and policy platforms.

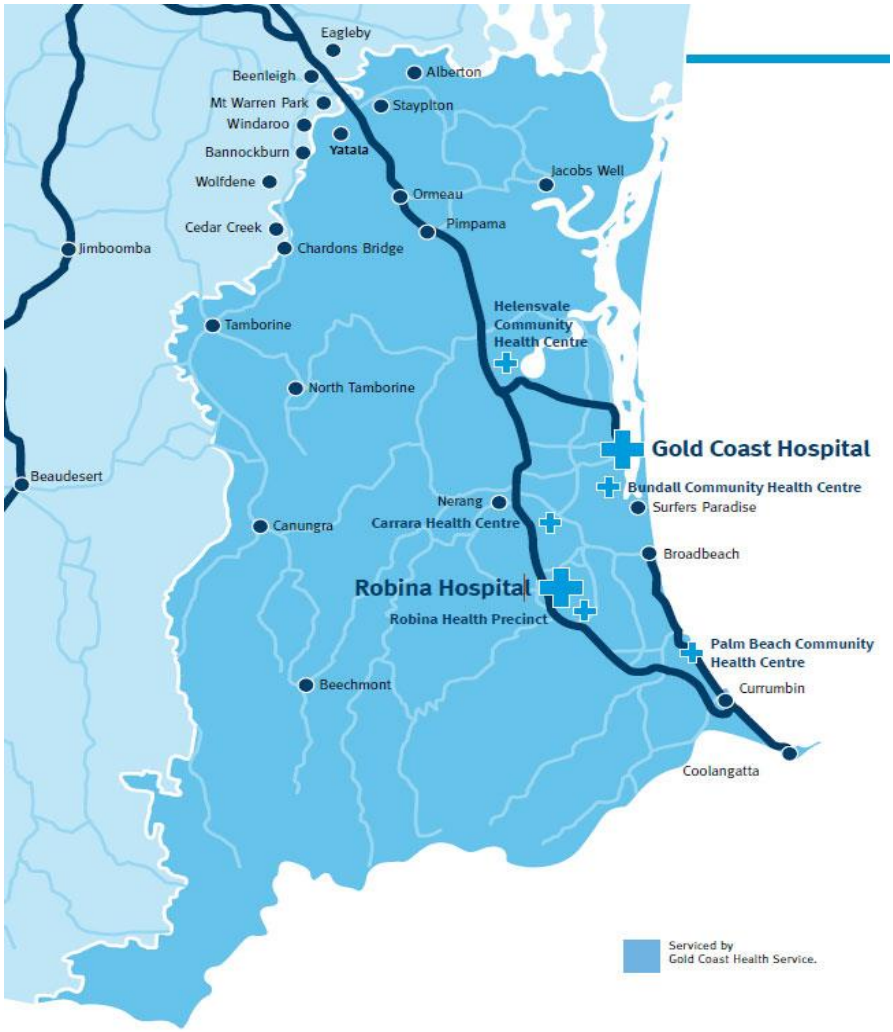
A separate piece of analytical work is being developed by Strategy and Health Service Planning to complement this plan. This gives long terms trends in terms of performance, activity, demographics and social trends and partner's activity. It gives the historical and current picture alongside future projections and predictive analytics. This work also consistent of geospatial analysis of inpatients, outpatients and emergency presentations, correlated with deprivation, patient's home addresses, population and other data.

1 Introduction

1.1 About Gold Coast Health

Gold Coast Health currently employs over 8,300 staff and has an annual operating budget over $1.2 billion. We service an estimated residential population of 593,209 people in 2016 which is projected to have the largest growth rate of any local government area in Queensland at 27%, taking our residential population to over 753,583 people by 2026[2].

Gold Coast Health geographic boundaries are the Logan and Albert Rivers in the north and northwest, Mount Tamborine, Canungra and Beechmont to the west, and Coolangatta in the south. Services are also provided to the northern New South Wales community and the many tourists who visit our region.



Geographic region covered by Gold Coast Health

1.2 Governance

Our Board

Gold Coast Hospital and Health Service (Gold Coast Health) was established as a statutory body on 1 July 2012 under the *Hospital and Health Boards Act 2011.* The inaugural Board was appointed 29 June 2012 and is accountable to the local community and the Minister for Health.

The Board, currently chaired by Mr Ian Langdon, is committed to achieving our vision of being recognised as a centre of excellence for world class healthcare and developing ways to involve the community in designing local health service delivery into the future.

Our Executive Management Team

The Chief Executive, Mr Ron Calvert leads a team of Executive Directors, General Managers and Clinical Directors who are each responsible for a service or portfolio within Gold Coast Health. The Chief Executive and the Executive Management Team report to the Gold Coast Hospital and Health Board. The current Gold Coast Health organisational structure is included as an appendix, see section 9.1.

1.3 Our Values

Gold Coast Health's values underpin our culture and are a promise to the community in terms of what we stand for. The values unite us as an organisation in striving for world class healthcare and provide a common understanding for how we work within and outside the service.

Decision making guided by			Collaborative work through		
Integrity	**Community first**	**Excellence**	**Respect**	**Compassion**	**Empowerment**
To be open and accountable to the people we serve	To have the patient's and the community's best interest at heart	To strive for outstanding performance and outcomes	To listen, value and acknowledge others	To treat others with understanding and sensitivity	To take ownership and enable each other to achieve more

1.4 Strategic Plan 2016-2020

Our vision	Gold Coast Health will be recognised as a centre of excellence for world class healthcare			
Our purpose	Providing excellence in sustainable and evidence based healthcare that meets the needs of the community			
Strategic focus areas	**Patient journey**			
	1 Ensure patients have access to health services	**2 Deliver safe, effective and efficient quality of services**	**3 Support a healthy Gold Coast community**	
	1.1 The Gold Coast community will have timely access to health services 1.2 All members of the Gold Coast community have equal access to health services regardless of economic conditions or social background 1.3 The majority of patients with complex or rare illnesses are treated by Gold Coast Health	2.1 Gold Coast Health will provide sustainable and high quality services through coordinated care and continuous improvement of our healthcare knowledge 2.2 Patients experience seamless treatment across all health service providers involved in their care through collaboration and communication	3.1 Identified patients with chronic and mental illnesses are suitably cared for in the community to ensure continued quality of life 3.2 Gold Coast Health will have established partnerships with GPs and health service providers to reduce the rate of avoidable hospital admissions 3.3 Gold Coast Health will play an active role in promoting a healthy lifestyle through community engagement and public health campaigns	
Strategic enablers	**Staff and culture**	**Research, teaching and education**	**Information management and innovation**	**Health service facilities and partnerships**
	Gold Coast Health has a work environment where staff are proud to work	Capacity, capability and culture to provide a high quality learning environment and research that results in better healthcare	Gold Coast Health has secure, effective and efficient systems and processes	Gold Coast Health will ensure services are available where they are needed

2 Our Facilities

Gold Coast Health delivers a broad range of secondary and tertiary health services across two public hospitals and a number of health precincts and community health centres.

Since 2007, more than two billion dollars has been spent on our health infrastructure allowing for more services to be provided locally. There are now over 1,100 inpatient beds which are complemented by a range of multi-disciplinary services across community health centres in Robina, Southport, Ashmore, Helensvale and Palm Beach. Community services include child health, mental health, oral health, sexual health, alcohol and drug services, renal dialysis and transition care.

2.1 Gold Coast University Hospital

Gold Coast University Hospital is a tertiary level 750 bed facility which opened on 28 September 2013. The hospital has seven main buildings, with a total floor space of approximately 170,000m^2 with design features allowing future expansion. Located next to Griffith University, the Gold Coast University Hospital is one of Queensland's largest clinical teaching and research facilities.

The site is equipped with a helipad, a multi-storey public car park with 2,200 car spaces and is close to the Gold Coast Rapid Transit (light rail) station.

2.2 Robina Hospital

Robina Hospital is positioned in the heart of the Robina CBD and is the sixth largest hospital in Queensland. Located in Robina Town Centre, the original hospital was built in 2000 as a private hospital offering some public services and was acquired by the Queensland Government in June 2002. The two stage Robina Hospital Expansion completed in 2012 saw the hospital double in size to a 364 bed facility with 80 per cent single rooms.

The Bond University Medical Facility actively contributes to providing an active learning, teaching and research environment on site at the Robina Hospital. This has been achieved through collocation in the Robina Hospital Clinical Education and Research Centre (CERC). The CERC includes a 100 seat lecture theatre, clinical skills laboratories and tutorial rooms. The CERC is the first site in Queensland to achieve the highest level of accreditation as an affiliate skills centre with Queensland Health Skills Development Service.

2.3 Southport Health Precinct

The Southport Health Precinct houses a number of important community-based health services in central Southport. The facility provides small and large group education sessions within two auditorium spaces. Services complement existing private health services in the area, as well as provide a support network for Gold Coast Health's acute facilities. Southport Health Precinct is conveniently located close to public transport including bus stations and the Gold Coast Light Rail route (Nerang St station).

2.4 Robina Health Precinct

The Robina Health Precinct opened in 2012 and is home to a number of essential community health services including aged and palliative care, child and youth family health, outreach maternity and rehabilitation. Robina Health Precinct is within walking distance to Robina Hospital and additional community health services at Campus Alpha, supporting a model of health delivery that co-locates a range of health services for ease of access.

2.5 Ashmore Community Mental Health Service

Ashmore Community Mental Health facility provides crisis counselling and intervention services, general health services, mental health services and allied health. The Acute Care Treatment team is an acute psychiatric service offering telephone triage, assessment and short term treatment for people experiencing mental health problems or illness. Services are provided on site from Monday to Friday 8.00am to 4.30pm.

2.6 Palm Beach Community Health Centre

Palm Beach Community Centre is a three storey multi-disciplinary centre that provides community health programs and clinics for adults and children. Services include child and adult mental health, child and youth family services, Aboriginal and Torres Strait Islander Health, Oral health and homecare.

2.7 Gold Coast Health and Knowledge Precinct

The 200 hectare Gold Coast Health & Knowledge Precinct (the precinct) facilities include Gold Coast University Hospital, Gold Coast Private Hospital, research and allied health facilities and Griffith University. The precinct offers a unique opportunity to develop global expertise through partnerships and collaboration between local and state government, health and research organisations, industry and the private sector.

A 29 hectare site within the precinct will be the athletes' village for the 2018 Gold Coast Commonwealth Games. Following the Games, approximately 9.5 hectares of residual land within the site will be available for development as the next stage of the precinct's growth creating an estimated 11,000 knowledge based jobs.

A formal partnership has been formed between City of Gold Coast Council, Griffith University and Gold Coast Hospital and Health Service to explore ways to maximise collaboration and attract subsequent beneficial business and industry investment across the precinct. An Investment Attraction Strategy has also been developed to identify and attract key partners for clinical, research and commercial collaborations.

2.8 Other Facilities

There are a number of other owned and leased properties across the service that provide a range of community services including breast screening, oral health, child and adult community services and administrative services.

Gold Coast Health Services by facility in 2016:

GOLD COAST UNIVERSITY HOSPITAL	ROBINA HOSPITAL
• Anaesthetics, neonatal and paediatric anaesthetics • Cancer – Radiation oncology, children's, haematological malignancy, medical oncology, Cardiac – Coronary Care Unit, Cardiac Diagnostics & Interventional Cardiology • Cardiac Medicine • Cardiac Rehabilitation – Inpatients, ongoing prevention and maintenance, outpatient • Cardiac Surgery • Emergency and Children's Emergency department • Gastroenterology • Infections Diseases – negative pressure single roomed inpatient unit • Intensive Care Unit and Children's Critical Care Unit • Maternity – Maternal and fetal medicine, birthing and inpatient unit • Medical and Medical Children's – medical assessment unit, Internal medicine and frail aged inpatient unit • Medical Imaging including interventional radiology, interventional neuroradiology • Mental Health : Adult - Non-acute inpatient, acute inpatient, ambulatory • Mental Health: Targeted – Emergency, homeless health outreach, perinatal & infant • Neonatal Care Unit • Nuclear Medicine • Oncology day only unit • Paediatric day surgery, paediatric inpatient unit • Pathology • Pharmacy • Perioperative -, day surgery, endoscopy, operating suite including sterilising, post-anaesthetic care for children, post-anaesthetic care for adults and acute pain team • Rehabilitation and neurorehabilitation • Renal – dialysis and acute inpatient unit • Respiratory – sleep studies, bronchoscopy • Rheumatology • Surgical; surgical oncology; Children's surgery, neurosurgery, orthopaedic, maxillio-facial, ophthalmology, colorectal, trauma, Head neck and spine, and haematological surgery • Thoracic surgery • Transfer unit	• Anaesthetics, • Cardiac Clinical measurements • Cardiac Medicine – non-interventional • Cardiac Rehabilitation – Inpatients, ongoing prevention and maintenance, outpatients • Chronic pain team • Emergency Department for Adults and children • Endoscopy • Intensive Care Unit • Medical Assessment Unit, Acute medical inpatient, and Acute Care of the Elderly inpatient • Medical Imaging • Mental Health: Adult – Acute inpatient, non-acute inpatient, , ambulatory • Mental Health : Child & Youth – Acute Inpatient, Ambulatory • Mental Health: Older persons – Inpatient and ambulatory • Mental Health: Emergency assessment, PICU, and extended treatment and rehabilitation • Palliative care • Pathology • Perioperative - Elective surgery, day surgery, emergency surgery, operating suite including sterilising, post-anaesthetic care for adults and acute pain team • Pharmacy • Rehabilitation • Renal dialysis • Stroke care • Surgical; general surgery, orthopaedics, plastics, vascular and gynaecology • Surgical - breast cancer surgery and reconstruction • Transfer Unit

Southport Health Precinct	Robina Health Precinct	Ashmore Community Mental Health	Palm Beach Community Health
• Oral Health • Renal Dialysis and Home Therapies • Community Child Health • Child and Youth Mental Health Service and EVOLVE • Alcohol and Drug Services and the Needle Syringe Program (NSP) • Sexual Health • Transition Care Program	• Aged and Palliative Care • Community Child Health Services (Child youth and family health) • Outreach Maternity Services • Rehabilitation Services • Service Development and Transition Unit	• Acute Care Team • Continuing Care Team • Homeless Health Outreach Team • Mobile Intensive Treatment Team • Work alongside the ED of GCUH	• Child and adult mental health care • Child psychology and speech therapy • Child Youth & Family Health Services • Homecare and CHARM services • Aboriginal and Torres Strait Islander Health • Oral health care • Continuing Care Team

3 Policy and Planning Context

3.1 National Policy Context

Australia's Health system is complex. In 2011-2012, health spending in Australia was estimated to be $140.2 billion, or 9.5% of GDP. The amount was around 1.7 times as high as in 2001-02, with health expenditure growing faster than population growth[3].

Overall coordination of the national public health system is the responsibility of all Australian Health Ministers who are collectively referred to as the Standing Council on Health which comes under the asupices of the Council of Australian Governments (COAG). Current COAG priorities in the health and ageing portfolio include[4]:

1. Driving Holistic Health Reforms
2. A More Transparent Health Care System
3. A Better Aged Care System
4. New Investments in Mental Health
5. Preventive Health.

National Health Priority Areas (NHPAs) identified by the Australian Institute of Health and Welfare are diseases and conditions that Australian governments have chosen for focused attention because they contribute significantly to the burden of illness and injury in Australia. Current NHPAs are[5]:

- cancer control
- cardiovascular health
- injury prevention
- mental health
- diabetes
- asthma
- obesity
- dementia
- arthritic/musculoskeletal conditions

National Disability Insurance Scheme (NDIS)

The NDIS is a new way of providing individualised support for eligible people with permanent and significant disability their families and carers, in response to years of discussion about the need for major reform of disability services in Australia. The NDIS will progressively roll out across Queensland over a three year period from 1 July 2016 with roll out for the Gold Coast and Hinterland from 1 July 2018[6]. Health program areas that may be in scope include (but are not limited to) aids and equipment, community mental health, high cost home support and services provided to long stay younger people with disability in public health facilities[7].

National Mental Health Commission

The Australian Government National Mental Health Commission (NMHC) was set up in 2012 to increase accountability and transparency in mental health through public reporting including the delivery of a national report card on mental health and suicide prevention, and to provide independent advice to Government[8]. The Federal Government has tasked the Commission with carrying out a comprehensive national review of mental health services and programs to examine existing mental health services and programs across all levels of government, the private and not-for profit sector.

National Ice Action Strategy

The National Ice Taskforce was established in early 2015 in response to the growing challenges and impacts of the drug crystal methamphetamine, commonly known as "ice". The *National Ice Action Strategy,* endorsed by COAG provides 38 recommendations that aim to provide a systematic, comprehensive and coordinated approach to prevention, early intervention and treatment, community and family support, and law enforcement.

Indigenous Health reform

In 2008, COAG agreed to a comprehensive Indigenous Reform Agenda, to be pursued by all levels of governments in partnership with Aboriginal and Torres Strait Islander communities. To achieve health equality between Indigenous and non-indigenous Australians, COAG committed to achieving the following targets[9]:

• Closing the life expectancy gap within a generation (by 2033); and
• Halving the gap in mortality rates for Indigenous children under five within a decade (by 2018).

3.3 State Policy Context

Queensland Government priorities

Gold Coast Health is committed to contributing to the Queensland Government's priorities for health and the state's future prosperity as identified in *The Queensland Government's objectives for the community*[10]*:*

1. Creating jobs and a diverse economy
2. Delivering quality frontline services
3. Protecting the environment
4. Building safe, caring and connected communities.

The Queensland Health Strategic Plan 2014-2018 (2015 update) identifies six strategic objectives to achieve a vision of healthcare that Queenslanders value[11]:

1. Healthy Queenslanders
2. Safe, equitable and quality services
3. A well-governed system
4. Strategic policy leadership
5. Broad engagement with partners
6. Engaged people

Queensland Mental Health Commission

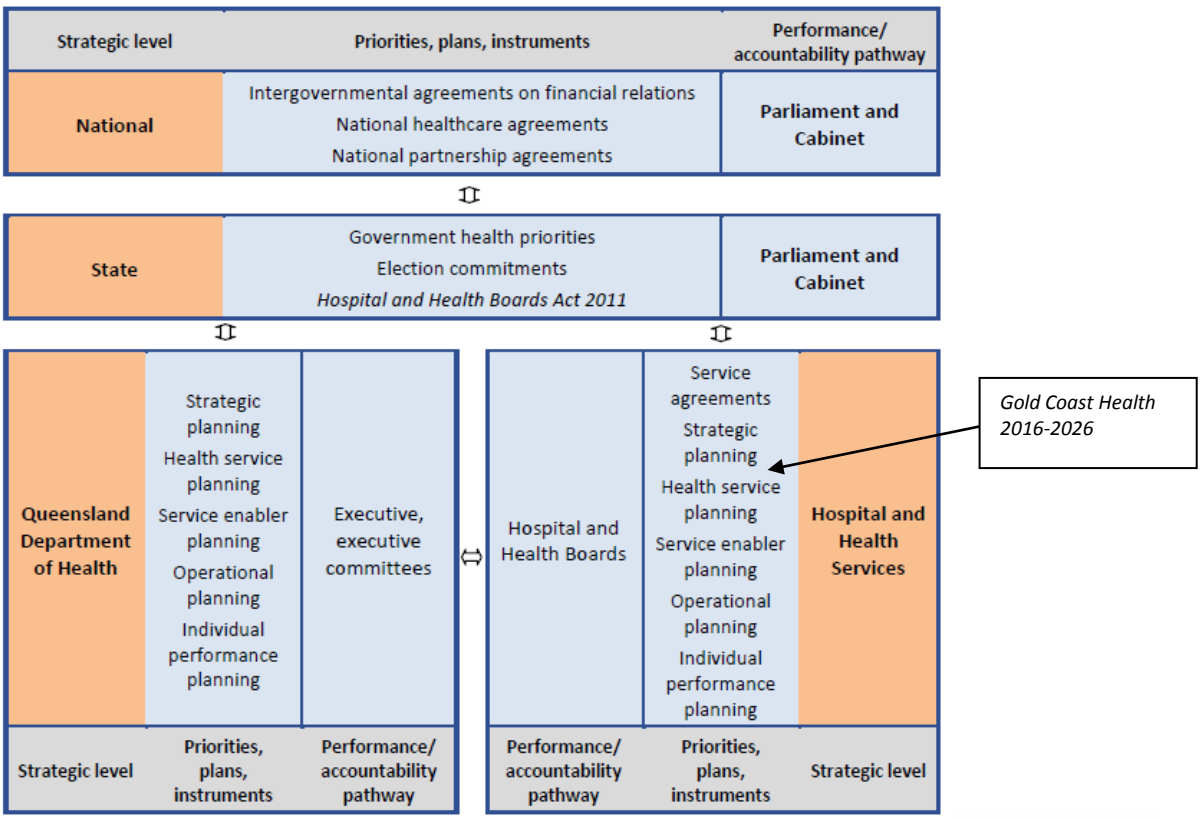
The Queensland Mental Health Commission (QMHC) was established on 1 July 2013 as a statutory body under the Queensland Mental Health Commission Act 2013. The QHMC's purpose is to drive ongoing reform towards a more integrated, evidence-based, recovery-orientated mental health and substance misuse system[12]. The QHMC works collaboratively with the AMHC and the New Zealand Mental Health Commissioner to improve outcomes for people experiencing mental health problems and addictions, and preventing suicide.

3.3 Planning Context

Health service planning has an important relationship to legislation, policy and to other types of planning. The Department of Health is responsible for statewide planning for the public sector health system, and for the monitoring of system performance. Gold Coast Health planning responsibilities are to:

- 'contribute to, and implement, statewide service plans that apply to the service'
- 'undertake further service planning that aligns with the statewide plans'.

The following figure from the Queensland Health Guide to Health Service Planning (v3) illustrates relationships between government priorities, planning and accountability within the health system[13].



4 Population Profile

For a full and detailed population profile of the Gold Coast please refer to the Primary Health Network Population Profile which is published on their website.

4.1 Demography

4.1.1 Population

Gold Coast Health population is estimated at 593,209 people in 2016 and is projected to increase to 753,583 by 2026[14]. The Northern New South Wales population is projected to grow to 322,641 by 2026, an increase of 11.5% and tourism numbers are expected to increase over the next five years; domestic from 10.5 million to 12 million visitors and international from 747,000 to 1.02 million visitors. The Gold Coast 2018 Commonwealth Games (GC2018) is expected to attract more than 100,000 domestic and international visitors to the city[15].

The table below shows the percentage growth in population by age to 2026[16].

AGE	2016	2021	2026	% Growth 2016-2026
0-14	107,892	122,937	136,434	*26%*
15-24	79,340	87,104	96,370	21%
25-34	84,479	94,572	101,280	20%
35-44	81,632	91,980	104,688	28%
45-54	78,735	87,626	94,345	20%
55-64	67,884	77,169	85,661	26%
65-74	54,025	62,334	70,315	*30%*
75-84	27,577	36,320	47,235	***71%***
85+	11,645	13,454	17,256	***48%***
Totals	**593,209**	**673,496**	**753,583**	**27%**

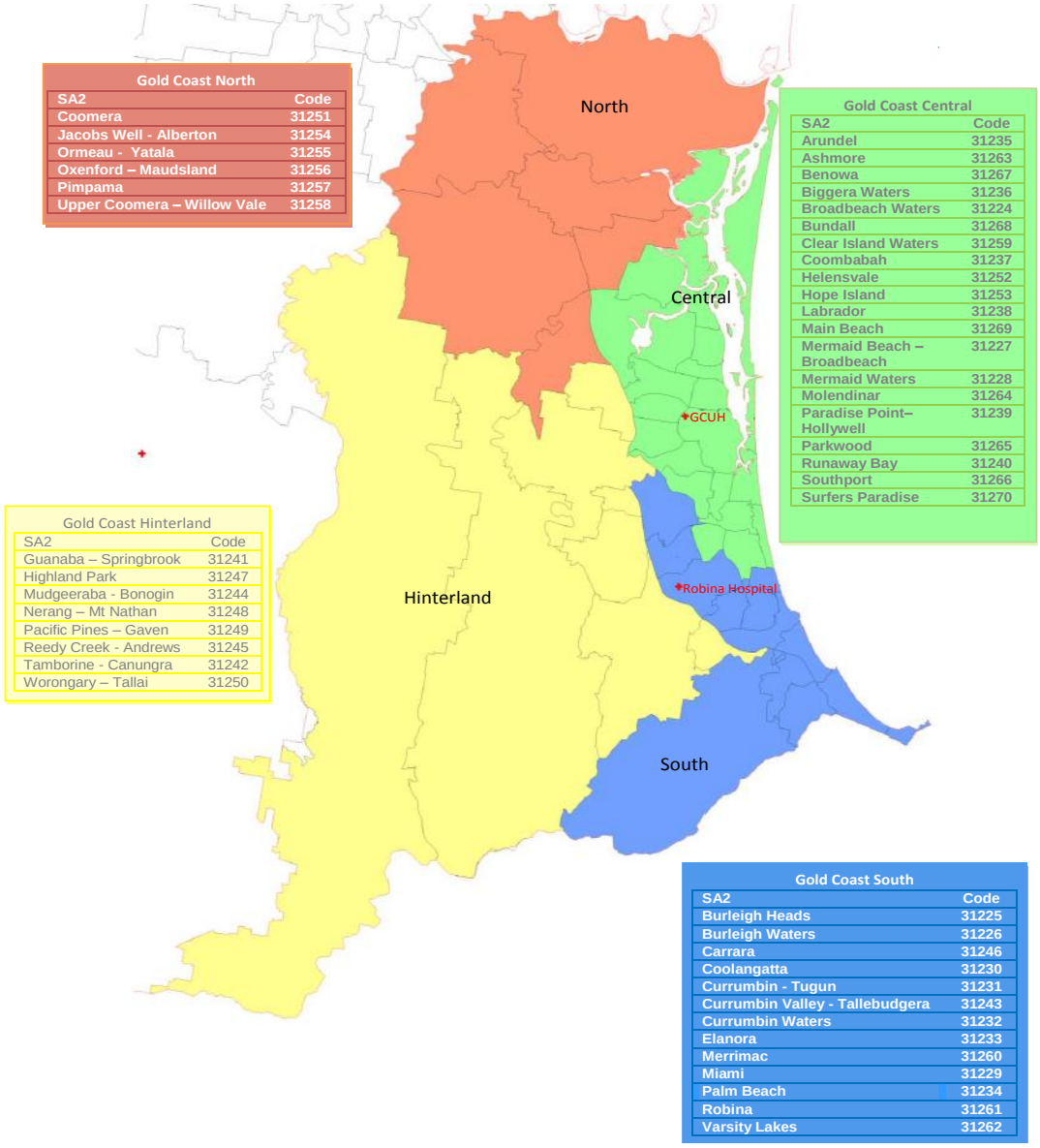
4.1.2 Population Distribution

The Gold Coast City Council strategic plan *Gold Coast 2020* describes the Gold Coast as a linear city without a true centre. Instead, it has distinctive areas such as Southport, now being redefined as a CBD, Surfers Paradise, a principal tourist and entertainment precinct and Robina, a business and retail hub. One of the fastest growing parts of Queensland is the Northern section of the Gold Coast Health catchment area which includes Pimpama, Coomera, Upper Coomera, Willow Vale, Hope Island, Pacific Pines, Gaven and Ormeau[17].

The percentage population growth by region is identified in the table below[18]:

Age in years	Population Growth rate 2016-2026				
	Central	Hinterland	North	South	**GCHHS**
0-14	16%	13%	**58%**	18%	**26%**
15-24	16%	9%	**60%**	14%	**21%**
25-65	17%	12%	**60%**	15%	**23%**
65+	40%	44%	**98%**	37%	**45%**
All Ages	**21%**	**16%**	**63%**	**20%**	**27%**

ABS Statistical Areas



Gold Coast North	
SA2	Code
Coomera	31251
Jacobs Well - Alberton	31254
Ormeau - Yatala	31255
Oxenford – Maudsland	31256
Pimpama	31257
Upper Coomera – Willow Vale	31258

Gold Coast Central	
SA2	Code
Arundel	31235
Ashmore	31263
Benowa	31267
Biggera Waters	31236
Broadbeach Waters	31224
Bundall	31268
Clear Island Waters	31259
Coombabah	31237
Helensvale	31252
Hope Island	31253
Labrador	31238
Main Beach	31269
Mermaid Beach – Broadbeach	31227
Mermaid Waters	31228
Molendinar	31264
Paradise Point– Hollywell	31239
Parkwood	31265
Runaway Bay	31240
Southport	31266
Surfers Paradise	31270

Gold Coast Hinterland	
SA2	Code
Guanaba – Springbrook	31241
Highland Park	31247
Mudgeeraba - Bonogin	31244
Nerang – Mt Nathan	31248
Pacific Pines – Gaven	31249
Reedy Creek - Andrews	31245
Tamborine - Canungra	31242
Worongary – Tallai	31250

Gold Coast South	
SA2	Code
Burleigh Heads	31225
Burleigh Waters	31226
Carrara	31246
Coolangatta	31230
Currumbin - Tugun	31231
Currumbin Valley - Tallebudgera	31243
Currumbin Waters	31232
Elanora	31233
Merrimac	31260
Miami	31229
Palm Beach	31234
Robina	31261
Varsity Lakes	31262

4.1.3 Indigenous Health

Indigenous Queenslanders carry a greater level of ill health and early death than non-Indigenous Queenslanders, and the disparity is greater than any other population group. This is evident in the life expectancy gap of 10.8 year difference between Indigenous Queenslander males and all non-Indigenous males in 2010-2012 and for females an 8.6 year gap. Compared to Indigenous Australians, Indigenous Queenslanders are doing slightly better with a life expectancy gap in their favour of 1.3 years for males and 2.1 years for females[19].

The Gold Coast is home to 6,350 Indigenous persons which equals to 1.3% of the total population. Coolangatta (SA3) recorded the largest percentage of Indigenous persons within the region at 2%. It is likely that these figures are an underestimation according to advice from local Indigenous service providers[20].

4.1.4 Migrant and Refugee Services

Census data collection in 2011 identified 40,398 Gold Coast residents (SA4) who speak a language other than English at home. The most common non-English language spoken at home for the total population was Chinese. Southport (SA3) had the largest number of overseas-born persons who stated they spoke a language other than English at home with 7,783 people[21].

From August 2012 to 2015, more than 200 refugees have resettled on the Gold Coast. Most refugees were from an African background (72%) with the majority being from Eritrea (110 people approximately). These refugees speak 17 different languages other than English, and practice ten different religions, contributing to the Gold Coast's rich diversity[22]. The most common health concerns experienced by refugees settling on the Gold Coast were low levels of vitamin D and iron, vision and eye damage, poor dental health, regular headaches and torture and trauma related concerns. Less common conditions include cancer, inactive tuberculosis and HIV[23].

4.1.5 Homelessness

ABS data, which according to service providers is likely to be an under-representation, indicates 1,426 homeless persons on the gold coast or 26.7 homeless persons per 10,000 persons. Within the region, Southport (SA3) had the highest rate of homelessness (53.4 persons per 10,000 persons), higher than the Queensland average of 44.5 homeless persons per 10,000 persons[24].

4.1.6 Early Childhood Development and Education

In February 2015, there were 285 early childhood education and care services and 182 long day care services on the Gold Coast. Ormeau – Oxenford (SA3) recorded the largest number of services with 72[25]. The Australian Early Development Census (AEDC) is a national collection of information about how children are developing prior to school and encompasses five domains of early childhood development[26]. In 2012, the AEDC report identifies that up to a quarter of children in the Gold Coast SA4 region are developmentally vulnerable in one or more domains. There are 12% developmentally vulnerable children in two or more domains and the social competence domain had the largest percentage (11%) of developmentally vulnerable children.

4.1.7 Persons with a profound or severe disability

The 2011 census of Population and Housing variable "core activity need for assistance" identified over 21,000 persons (or 4.2%) in need of assistance with a profound or severe disability in the region. The Gold Coast – North SA3 had the highest percentage of persons in need of assistance with a profound or severe disability with a rate of 5.6% and the lowest percentage of 3.2% was recorded at Ormeau – Oxenford SA3[27].

4.1.8 Domestic and Family Violence

The Queensland Government has committed resources to addressing the impact of domestic and family violence. The Domestic and Family Violence Implementation Council has been established to monitor implementation of the recommendations from the *Not Now, Not Ever: Putting an End to Domestic and Family Violence in Queensland* report and the Queensland Domestic and Family Violence Prevention Strategy.

Domestic and Family Violence is a significant challenge for Gold Coast Health. In 2013-2014, the Gold Coast had a rate of 470 applications for domestic violence orders per 100,000 persons[28]. During the same period, the Southport magistrate's court recorded the highest number of temporary protection orders of 1,409 and protection orders of 1,763 in Queensland[29].

4.1.9 General Practitioner Visits

For the year 2010-11, 80% of Gold Coast adults reported seeing a GP. Fifteen percent of these had twelve or more visits to the GP (2012-13), which is classed as 'frequent' (12-19 visits per year) and 'very high' (20+ visits per year) use. GP attendance was seen to increase with age, with the highest percentage of 'very high' users aged 75 or older[30]. People who visit the GP more often also tend to see a greater number of GPs. Those who visit the GP more than 20 times per year see on average 4.8 different GPs, whereas those visiting only 1-3 times per year see 1.5.

Overall, people visiting a GP twelve or more times per year also have more diagnostic imaging services, pathology episodes, medical specialist attendances, GP chronic disease planning and management appointments, and after hours GP attendances. They also have a higher number of visits to emergency departments. Socioeconomic status appears to be inversely related to the GP attendance with higher socioeconomic status associated with fewer GP visits (2012-13). Among those who were the most socially disadvantaged were the highest percentages of people who visited the GP 20+ times during 2012-13.

4.1.10 Aged Care Services

The Australian Government Department of Health and Ageing data 2014 identified 120 aged care services and 6,454 aged care operational places within the Gold Coast SA4 region. Within the region, Robina SA3 had the largest number of aged

care service operational places (1,358)[31]. The application of this data is limited due to being based on the location of the service, rather than the region in which the service is delivered.

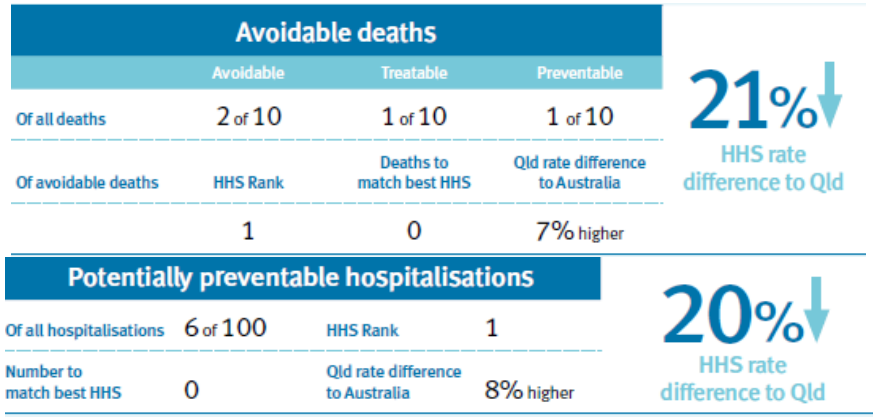
Aged care services by SA3 and Gold Coast SA4 (2014)

SA4/SA3	Aged care services	Australian funding	Number of operational places by care type			
		$m	Community care	Residential aged care	Transition care	Total places
Gold Coast SA4	**120**	**275.1**	**1,797**	**4,561**	**96**	**6,454**
Broadbeach – Burleigh	3	20.0	0	363	0	363
Coolangatta	26	31.5	517	337	0	854
Gold Coast North	13	45.4	50	848	0	898
Gold Coast Hinterland	1	1.9	0	38	0	38
Mudgeeraba - Tallebudgea	7	14.0	62	299	0	361
Nerang	11	13.4	173	251	0	424
Ormeau -Oxenford	14	32.7	196	615	0	811
Robina	21	54.1	559	799	0	1,358
Southport	16	48.7	142	904	0	1,046
Surfers Paradise	8	13.4	98	107	96	301

4.2 Health Status and Disease

4.2.1 Health Status

Population health measures quantify the total impact of health conditions on the individual at the population level, in a comparable and consistent way. The burden of disease is measured by quantifying the gap between the ideal of living to old age in good health, and the current situation where healthy life is shortened by illness, injury, disability and premature death[32]. The following population health figures compare Gold Coast Health with other Queensland Hospital and Health Services, sourced from *the Health of Queenslanders 2014: Fifth report of the Chief Health Officer Queensland*[33].



Risk and protective factors	Obesity	Smoking	Alcohol	Immunisation (5-year milestone)	BreastScreen
Rate	19%	14%	21%	90%	54%
HHS Rank	2	4	4	15	14
Number to match best HHS	4500 fewer	4900 fewer	11,000 fewer	400 more	7400 more
HHS difference to Qld	16% lower	1% lower	same	2% lower	7% lower
Qld difference to Australia	10% higher	4% higher	16% higher	0.5% lower	5% higher

Median age of death	All	Indigenous	Non-Indigenous
	81 years	65 years	81 years
HHS Rank	3	2	3
Difference to best HHS	0 years	-2 years	0 years
HHS difference to Qld	+1 years	+8 years	+1 years
Qld difference to Australia	-1.2 years		

Causes of death	CVD	Cancer	Injury
Largest cause of death – CVD			
Largest cause of premature death – Cancer			
Rate difference to best HHS	3% higher	0%	10% higher
HHS rate difference to Qld	18% lower	12% lower	13% lower
Qld rate difference to Australia	5% higher	same	9% higher

4.2.2 Chronic Disease

Chronic diseases are the leading cause of death in Queensland and worldwide and their impact is steadily growing. They are characterised by complex causality, multiple risk factors, long latency periods, a prolonged course of illness and functional impairment or disability[34]. The growth rates below in this table show variations in health (PHIDU: Social Health Atlas of Australia Queensland – Data by Local Government Area)[35].

	2004-2005		2011-2013		
Estimated number of people with	Number	Rate per 1,000	Number	Rate Per 1,000	% Growth
Type 2 Diabetes	13,113	25	20,224	48	54%
High Cholesterol	32,660	63	129,156	309	295%
Mental & Behavioural problems – females	30,188	120	43,476	159	9%
Mental & Behavioural problems – males	28,373	117	34,437	130	21%
Circulatory system diseases	97,200	190	98,694	186	2%
Hypertensive disease	57,845	112	54,841	101	-5%
Respiratory System diseases	134,407	272	145,203	270	8%
Asthma	51,622	105	51,926	97	1%
Chronic obstructive pulmonary			14,207	26	N/A

disease					
Musculoskeletal system diseases	157,221	310	145,793	268	-7%
Arthritis	75,981	148	73,586	135	-3%
Injury events	89,228	183	123,036	2,370	38%

Growth in disease rates 2004-2013 for the Gold Coast.

4.3 Queensland Health Priorities for Investment 2016-2017

Gold Coast Health 2016-2026 has been developed to strategically align with the *Queensland Health Priorities for Investment 2016-2017* paper. Each year, Queensland Health reviews trends in population projections, burden of disease and clinical activity trend data to identify priority areas for the allocation of growth funding. The 12 identified proposed priority areas for investment for 2016-2017 growth funding are:

Table: Queensland Health priority areas for growth funding 2016-17

Priority Area	Focus
Preventative Health	• Targeted health promotion for Aboriginal and Torres Strait Islander populations, those living with socioeconomic disadvantage or in rural and remote communities. • Intervention programs to minimise poor lifestyle choices, especially for obesity
Primary and community health care	• Hospital avoidance programs, including integrated care and chronic disease management • Targeted ante-natal care for Aboriginal and Torres Strait Islander women and those living in rural and remote locations
Outpatient services	• Specialist outpatient review within clinically recommended time frames
Emergency department	• Continued reduction in low complexity presentations
Interventions and procedures	• Increase in endoscopy service provision, aligned with evidence of demand and supported by role diversification to maximise effectiveness and efficiency
Inpatient services	• Focus on areas of high growth and long waits for elective surgery • Support implementation of contemporary statewide strategies and plans as they are endorsed • Support appropriate and effective hospital substitution programs including Hospital in the Home/Nursing Home, community based rehabilitation and palliative care in the home or hospice.
Mental Health	• Focus on services to improve outcomes around suicide prevention
Aboriginal and Torres Strait Islander People	• Targeted responses to meet the increasing need in mental health, chronic disease and sexually transmissible infections

5 Activity Profile

GCHHS Activity Snapshot 2015[36]

4,744 Babies Birthed

16,800 Chemo Visits

156,496 ED Presentations

144,259 Inpatient Admissions

477,563 Outpatients Visits

47,094 Operative Procedures

$1.2 Billion Budget for Gold Coast Healthcare

3,600 Nurses and Midwives employed

1,563 Patients through Rehabilitation

6 Our Strategic Challenges and Solutions

6.1 Our Key External Challenges

The external challenges experienced by Gold Coast Health are similar to those experienced across Queensland, Australia and Globally. Extensive consultation with staff, clinicians and key stakeholders and PESTELO analysis completed by Strategy and Planning has identified some of the following major external future challenges:

These external issues are considered throughout the plan.

6.2 Strategic Focus Areas

6.2.1 Ensure patients have access to health services

Gold Coast Health will ensure all members of our community, regardless of economic conditions or social background, have timely access to health services including those patients with complex or rare illnesses. This will be achieved by:

- Ensuring the right people with the right skills are available when patients need them.
- Continuously monitoring health trends and environmental conditions to anticipate demand and accurately understand service requirements.
- Planning and preparing responses to potential large-scale incidents and service disruptions.

There are many publically reportable performance measures that gauge whether our patients receive access in line with State and National comparable services. Gold Coast Health will continue to deliver improvements to tertiary services, National Emergency Access Time (NEAT), National Elective Surgery Targets (NEST) and Mental Health performance targets. Responsive and flexible models of care will also be implemented to combat the pace and complexity of change over the next 10 years.

Gold Coast Health will progressively address the challenging boundaries between primary care, community services and hospitals along the care continuum to deliver the personalised and coordinated care that our diverse community needs and expects. Delivering lasting health outcomes requires long term partnerships with patients and their carers rather than providing single, and unconnected episodes of care.

Improvements to service configuration and service models over time will ensure patients get the right care, at the right time, and in the right place. For Gold Coast Health, this means a shift to providing more outpatient, ambulatory and day procedure services in the community, enabling Gold Coast University Hospital and Robina Hospital to deliver exceptional emergency care, intensive care, specialist surgical interventions, maternity services, paediatric care and better health outcomes for patients with complex medical conditions.

Identified priorities to 2026 include:

- Implement responsive systems and networks of care where information is shared between professionals, organisations and networks in a timely way to enable quality clinical decision making and care integration.
- Out of hospital care options need to be implemented where possible, to provide services closer to people's homes and enable Hospitals to function as the tertiary and acute care facilities. This includes greater capacity in the community for support services such as pharmacy, medical imaging and allied health.
- Service integration around the patient, for example there is an increasing need for cancer survivorship programs and cancer patients often require mental health and social care coordinated around them. Patients with a mental illness also benefit when their physical health needs are addressed concurrently.
- Multi-disciplinary team approaches should be utilised where possible to ensure patients with multiple and complex medical conditions receive coordinated care that addresses the full scope of their healthcare needs.
- Specialist outpatient clinics, nurse-led clinics and procedural clinics should be utilised wherever possible enabling growth in advanced scope of practice roles such as Nurse Practitioners, Clinical Nurse Consultants, Nurse Navigators, Nurse Endoscopists and Advanced Practice Allied Health roles in Physiotherapy, Social Work and Occupational Therapy.
- Maximise utilisation of emerging advances in treatment to achieve a major impact on improving quality of care and patient outcomes.
- Developing comprehensive geospatial and strategic analysis and implementing predictive analytics to identify where to locate future services and what type of service to establish and when based patient and population profiling.
- There is an identified organisational strategic risk that existing operations are unable to meet unplanned and rapid impact events in emergencies causing reputational damage. There are a number of actions being progressed across the organisation to deal with this.
- There is a further identified organisational strategic risk that unmet community demand growth leads to insufficient resources to address future requirements causing mismatch of resources affecting patient care. There are a number of actions being progressed across the organisation to deal with this.

6.2.2 Deliver safe, effective and efficient quality services

Gold Coast Health will provide sustainable and high quality services through coordinated care and continuous improvement of our healthcare knowledge. Our patients will experience seamless treatment across all health service providers involved in their care through collaboration and communication. This will be achieved by:

- Effective implementation of the clinician engagement strategy with continued commitment to supporting staff to participate in professional development, training and research,
- Developing and maintaining reliable and secure information systems and processes that support coordinated care,
- Utilising the Gold Coast Health Investment Framework as a streamlined and transparent process for decision making with regard to proposals for future investment,
- Creating a culture that encourages continuous evaluation, disinvestment or discontinuation of services, equipment and initiatives that are obsolete, to deliver clinical excellence and best value healthcare.
- Completing strategic analysis, impact and cost benefit analysis to identify efficiencies in existing practices, and
- Implementing predictive analytics to discover new patterns and projections that will lead to improved quality of care for the patient, and enable effective and efficient provision of care from the organisation. For example analysis to reduce readmission rates, increase the accuracy of diagnosis, predicting high risk patients and predictions for new therapies and future market changes.

Clinical Governance:

Gold Coast Health Clinical Governance Unit is mandated to deliver the Australian Council Health Care Standards (ACHS) framework. This defines clinical governance and supports initiatives such as:

- Establishing evidence based clinical standards
- Clinical risk management system proactively analysing and managing risks
- Clinical quality and safety framework
- Clinical audit
- Accreditation
- Systems for credentialing and defining the scope of clinical practice
- Consumer feedback
- Clinical incident management
- Research and development
- Coordination of policy and procedures

Established Clinical Improvement Leaders support staff in providing best practice, improving patient safety and meeting the National Safety and Quality Standards. Clinical leads cover clinical handovers, nutrition services, falls prevention, pressure injury prevention, medication safety and venous thromoemolism. The Clinical Council is a clinical leadership forum for Gold Coast Health. It engages with clinicians on issues of strategic significance and provides advice to the Chief Executive. The Gold Coast University Hospital Ethics Committee was established in 2013 and provides support to staff through ethics education, supporting staff to resolve challenging ethical aspects of clinical practice and policy review, and providing expert advice and support.

Our Funding Environment:

The increasingly fiscally constrained environment has placed undeniable pressures on our health service to deliver the best possible value for money services. Each financial year's funding is subject to a service agreement between the Department of Health and Gold Coast Health based on the department's funding and purchasing models. Broadly, the funding model determines the price at which the department purchases services from each Hospital and Health Service and the purchasing model determines the volume of services that are purchased.

There is an identified organisational strategic risk that changes in future funding model and business arrangements could lead to pressures to reduce public services. There are a number of actions being progressed across the organisation to deal with this risk.

Gold Coast University Hospital and Robina Hospital are funded through the Queensland Activity Based Funding (ABF) model, which sets prices at a disaggregated level of each type of public hospital service. Most non-hospital services (e.g. preventive health, primary and community health) are funded based on historical funding levels; however some services are based on a price per unit of output.

An area of particular impact on Gold Coast Health is the recent decreased utilisation of Private Health Insurance. The private health insurers have identified a trend towards the down grading of cover and as a result the public sector will be required to support these services even for privately insured patients. The most common exclusions include mental health, rehabilitation and palliative care, renal dialysis, heart surgery, pregnancy and birthing.

Consultation with staff has reiterated the continuing need to prioritise efficiency and effectiveness improvement initiatives, minimise revenue loss due to unfunded activity and implement strategies that future proof services against future changes in State and Federal funding models.

6.2.3 Support a healthy Gold Coast Community

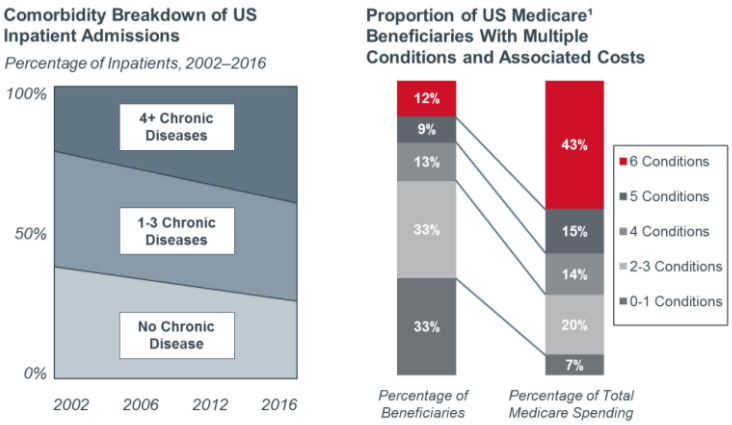
As identified in Section 4, Population Profile, the needs of the Gold Coast Community are complex and diverse. There is widespread consensus that we need to increase community based services and provide services closer to people's homes, both improving access and serving as effective hospital avoidance strategies. Existing community capacity should be leveraged where possible in settings such as community libraries, early childhood facilities, community mental health facilities, and residential aged care.

There is an identified organisational strategic risk that poor community wellbeing leads to increase in preventable diseases impacting critical medical care. There are a number of actions being progressed across the organisation to deal with this.

Preventative Health for our Community:
Gold Coast Health is experiencing the impacts and burden of chronic disease and ageing population trends as identified in the 5th Report of the Chief Health Officer, *The Health of Queenslanders 2014*[37]. People are living longer, but living longer with disease. The major causes of the loss in healthy life in Australia are cardiovascular disease, cancers and diabetes. These causes are also more expensive to treat and have the most potential for prevention, cardiovascular disease and diabetes in particular.

If Gold Coast Health is to manage the exponential burden of disease on our health system, more resourcing and a more strategic approach to targeted prevention activities is required. We need to fully utilise primary healthcare and non-government organisation partnerships and utilise technology as an education, diagnostic, monitoring and self-management enabler to achieve targeted clinical prevention outcomes.

A further driver to fill the gap in prevention and health promotion is the cost of delivering care to patients with multimorbidity. The below diagram, reproduced from US Medicare data by The Advisory Board Company, *Global Forum for Health Care Innovators* illustrates the correlation between increasing morbidity and cost to provide care.



Correlation between increasing morbidity and the cost to provide care[38].

6.3 Strategic Enablers

6.3.1 Staff and culture

Gold Coast Health will continue the cultural improvement journey and invest in initiatives to sustain a work environment where staff are safe and proud to work. Initiatives such as the Magnet Recognition Program, Clinical Council, Clinical Congress, and the Improvers will function as a platform for workforce and organisational innovation navigating communication and process barriers.

Workforce planning will anticipate the rapidly changing staffing and capability requirements of the organisation and address identified workforce gaps for example:

- Ensure access to continuing education and research opportunities
- Increase staff support capacity and ensure staff wellbeing and resilience
- Invest in a workforce with appropriate skill mix, clinical and leadership capability including advanced and specialised roles.

There is an identified organisational strategic risk that inadequate workforce capability and disenfranchised culture leads to sub-standard health service delivery causing ineffective clinical engagements and defensive medicine. There is a further identified risk that our inability to attract and retain talent may limit ability to achieve operations objectives. There are a number of actions being progressed across the organisation to deal with these risks relating to staff and culture.

Magnet Recognition Program:
The Magnet Recognition Program is an international organisational credential that recognises excellence in healthcare organisations. It is a highly prestigious award which only a small number of organisations internationally have attained. Gold Coast Health has started the journey towards Magnet excellence, with the objective of becoming the first Magnet-designated health service in Australia. Gold Coast Health is also expanding the principles and philosophy of Magnet to incorporate the clinical interdisciplinary teams and support services teams.

Health Workforce Australia (HWA):
In 2012 HWA published the *Health Workforce 2025* report which predicted long-term national workforce projections for doctors at the medical specialty level. The report provided further evidence of the need for coordinated long-term reforms by government, professional groups and the higher education and training sectors targeting training, immigration and workforce reform[39]. Whilst the supply of medical specialists is increasing, the total medical specialty workforce is moving towards a balance of supply and demand by 2025. Key findings included:

- Many barriers to the successful implementation of workforce reform
- The medical workforce will be reliant on international medical graduates until 2025, particularly in general practice, obstetrics, gynaecology, ophthalmology, psychiatry, and radiology
- The medical training pathway is poorly coordinated with no tangible mechanism to coordinate training efforts of state and territory health systems.

The Department of Health has invested in strategies to boost productivity and address workforce shortages such as advanced scope of practice roles (e.g. first contact physiotherapists in the Emergency Department, podiatric surgery, and advanced allied health assistant roles) and emerging roles (e.g. physician assistant, nurse colposcopist, nurse navigator roles). Additionally, there has been a statewide focus on responding to the impacts of workplace violence experienced by frontline health staff. There are a range of measures in place including de-escalation techniques and occupational violence prevention through better building design, redesigned work practices, support technology, and duress alarms for employees.

6.3.2 Research, teaching and education

Gold Coast Health is establishing a strong research culture that will increase the capacity and capability of staff to provide evidence-based and innovative health services to the Gold Coast Community, as well as enhance our reputation as a world-class centre of research excellence.

A robust research infrastructure has been established to provide strategic guidance and operational support at all levels in the health service:

- The Strategic Research Advisory Committee is the peak advisory body responsible for developing a sustainable research strategy that grows research capacity with local and international academic and corporate partnerships to build long lasting relationships and to profile the research achievements of Gold Coast Health
- The Research Council, representative of all divisions and workforce elements, is the peak communication body for aligning and supporting long term collaborations in research across all clinical directorates and research active services
- The Divisional research committees coordinate research conducted within individual departments, identify opportunities for collaboration and drive specific themes of research to be pursued within each division.

These governing bodies work together to develop a research agenda that is focused on enhancing health outcomes and improving the quality of care in areas that are considered a priority for the Gold Coast Health region.

The Research Office supports this infrastructure and individual researchers by overseeing the administration and processes associated with research governance, ethics, research training and education and grant funding. Timely access to research literature and academic support for researchers is provided through Gold Coast Health Library services.

Clinicians are often the identifiers and drivers of improving the way care is provided (McKeon, 2013). Therefore, Gold Coast Health is creating a learning organisation that supports the translation of evidence based practice into clinical care. As such, an Evidence Based Practice Unit has been established at Gold Coast Health in collaboration with the Centre of Research and Evidence Based Practice at Bond University. Evidence Based Practice training initiatives have been introduced and supported with knowledge translation activities with the aim of facilitating the translation of current best practice into clinical care, leading to improvement in patient outcomes and the efficient use of resources.

6.3.3 Information management and innovation

Creating an Information-Powered Health System:

The information revolution promises to radically transform how we manage our patients and system. The Gold Coast Health Information Management Technology (IMT) directorate will enable secure, effective and efficient systems and processes that support the core functions of Gold Coast Health facilities. The team delivers efficiencies by implementing new technologies, supported by educating staff how to utilise the technology to gain maximum benefit. Information availability will enable improved care and meet the increasing need and expectation for information, particularly regarding patient history, electronic medical records and diagnostic results to be available in real time, across health professionals in all stages of the healthcare continuum. Current IMT projects include the Windows 7 upgrade, implementation of the Electronic Medical Record (EMR), and the Patient Queuing and Wait Management System.

There is a lack of analytical work being produced across the organisation. Quality analysis is pivotal to the success of any organisation in terms of maintaining competitive advantage, evolving swiftly in light of the external environment and being efficient, effective and securing revenue for growth. All areas of the organisation are keen to have this service, as are our partners. Gold Coast Health are a data rich organisation and we are not making the best use of the data to improve care quality, access to services, performance, reduce costs, improve efficiencies and acquire revenue for growth. Examples of work that need to develop includes predictive analytics, impact and cost benefit analysis, strategic trends, forecasts and predictions, and visualisation.

With the increasing application of biomedical technology and integrated systems, the threat to patient safety through cybercrime is increasing. Gold Coast Health will work collaboratively with our internal and external partners to ensure maximum security of patient and system information and to ensure a rapid and effective response should incidences occur.

There is an identified organisational strategic risk that the failure to identify and exploit technical and innovative opportunities leads to being outpaced relative to peers, affecting the ability to attract and retain high calibre staff. A lack of contemporary ICT limits opportunities to provide care in more appropriate settings, compromises patient safety and decreases clinician efficiency. There is an identified organisational strategic risk that compromised electronic information management may disrupt core operations and damage reputation. This impacts on data integrity compromising patient care and safety. There are a number of actions being progressed across the organisation to deal with these ICT risks.

FixIT Conference 2016:

The inaugural Gold Coast Health FixIT conference was held in March 2016 and was attended by approximately 100 clinical and administrative staff to discuss issues and needs in relation to the use of Information Technology. A preliminary summary of findings from the conference reports the top 5 issues of greatest concern from the IMT department's perspective as:

1. Clinical safety – ensuring reliability of solutions that directly influence clinical workflows such as eMR and messaging solutions.
2. Identity management – ensuring that users are appropriately credentialed and provisioned with access to IT systems to do their jobs.
3. WAN capacity - many Gold Coast Health core systems are dependent on the Queensland Health Wide Area Network restricting ability to leverage cloud technologies and implement unified communications across sites.
4. Complexity – across multiple systems with dependencies across multiple vendors.
5. Cost management – IT costs have grown significantly over the last few years with the commissioning of Gold Coast University Hospital, increase in staff and activity and complexity of our solutions.

To realise the vision of becoming a Digital Hospital and Health Service the future program of work needs to include a number of large transformational activities. These include but are not limited to:

- Replacement of the QRIS/Epacs solutions with A Medical Imaging Informatics Solution (MIIS)
- Replacement of the HBCIS with a contemporary Patient Administration System (PAS)
- Implement a new Interoperability platform (Orion Rhapsody)
- Implement a new Identity and Access Management solution and processes
- Implementation of full ieMR (Cerner) Digital Hospital Stack[40].

Advances in Clinical Technology:
Advances in Clinical Technology and equipment will be a critical enabler in providing world class healthcare into the future. The Australian medical technology industry is comprised of a diverse array of national and international manufacturers and suppliers with an equally diverse product range and is characterised by a high level of innovation, often resulting in relatively short life cycles for products. We are approaching an era of rapid biotechnical advancement, where care solutions will increasingly draw on an individual's biological characteristics to cure disease for example, gene therapy. These treatment options however, are often delivered at a greater cost.

Specific areas of clinical technology advancement for Gold Coast Health include:

- **Cardiac advancements:** Bioabsorbable coronary artery stents, left ventricular assist devices for destination therapy, multi-detector computerised tomography, hyperoxemic perfusion for treatment of microvascular ischemia, gene therapy, and B-type Natriuretic Peptide measurement.
- **Medical imaging:** Advances in modalities are driving a change in referral patterns. Cross sectional modalities provide higher sensitivity but are delivered at an increased cost for example plain film examinations to CT; CT exams to MRI; Nuclear Medicine to PET studies.
- **Aged Care:** Nano technology and 3D printing has the potential to grow organic matter to replace tissue, organ and bone. Further research may pave the way for future treatments of osteoporosis, osteoarthritis and bone fractures will significantly reduce years with disability and quality of life as our population ages.
- **Robotics:** Present opportunities for increased cost effectiveness and improved safety in pharmacy, neurosurgery, support services, aged care and rehabilitation.

Gold Coast Integrated Care Program:
Gold Coast Integrated Care (GCIC) is a joint initiative between Gold Coast Health and the Gold Coast Primary Health Network (GCPHN). The model has been developed by Gold Coast general practitioners and hospital staff specialists to put the patient at the centre of care by bringing together multi-disciplinary teams across organisations. The model minimises duplication and maximises care coordination within a holistic framework and aims to reduce demand on Gold Coast Health for acute hospital services[41] by:

- Reducing presentations to the emergency department
- Improving capacity of specialist outpatients
- Decreasing admission rates (including unplanned admissions)
- Acknowledging and better supporting the role of the GP in managing a group of patients with complex and comorbid conditions.

With in excess of 10,000 patients enrolled in the program, transitioning the initial pilot into mainstream business as usual for the management of patients with complex conditions and chronic diseases is a priority for Gold Coast Health to 2018.

6.3.4 Health service facilities and partnerships

Over the next five years, Gold Coast Health will improve long term estate management which will enable service availability appropriate to population and geographic need.

The Northern Growth Corridor:
Gold Coast Health geographical catchment has a population growth projection of approximately 27% in the next 10 years seeing our population rise from 593,209 in 2016 to over 753,583 in 2026. The northern area is expected to have the largest population growth rate of 62% between 2016 and 2026[42]. For the purpose of planning, the "Northern Growth Corridor" refers to the area defined by the Australian Bureau of Statics, Statistical Area 2 including Coomera, Jacobs Well-Alberton, Ormeau-Yatala, Oxenford-Maudsland, Pimpama and Upper Coomera-Willowvale.

The population growth in the northern corridor, considered with the full service and facility profile including the increase in acuity at Gold Coast University Hospital, demonstrates the need for capital infrastructure in the north. A northern

corridor facility would act as a "spoke" to the two major hospitals providing ambulatory and sub-acute care closer to people's homes. The facility would potentially include a polyclinic, minor injuries unit, spaces for community health, allied health and rehabilitation, day medicine, day surgery, palliative care day services and step-down facilities for patients transitioning from acute care or mental health care.

Day Surgery:

Gold Coast Health is required to appropriately balance tertiary service provision with lower acuity and ambulatory services by providing services in the most appropriate location. There is evidence to suggest that freestanding centres provide high quality and patient focussed care and are cost efficient models for delivery of day surgery. A service and facility solution which is aligned with other ambulatory services such as those established in the GCHHS Health Precincts offers potential synergies and a strategic approach which promotes an integrated service model with additional operational and workforce efficiencies due to service colocations.

The redirection of lower acuity and day only surgical activity will increase tertiary capacity to meet the continued consolidation of services at Gold Coast University Hospital; the reversal of flows from adjacent Hospital and Health Services; and the increasing population demand from the catchment area and Northern New South Wales.

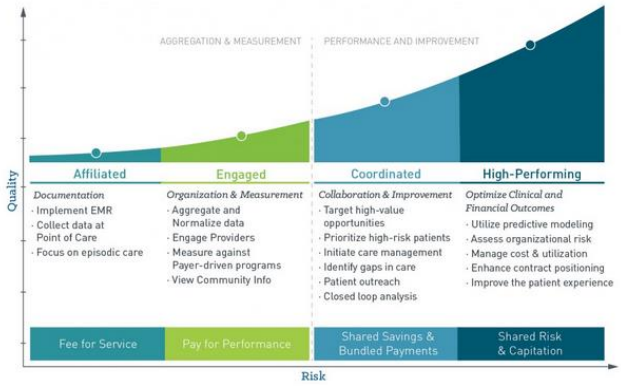
Carrara Community Health Facility:

Gold Coast Health is the owner of the land at 45 Chisholm Road, the site of the former Carrara Health Centre. The land and buildings have no planned clinical use and remains part of the Health Service's property portfolio. The likely future options for the property are either disposal or retained for long term development. The Gold Coast Planning Scheme currently defines the property use as "Residential Care Facility".

Key Partnerships and Stakeholder Engagement:

Gold Coast Health has advanced significantly in organisational maturity over the past four years with the catalyst being the major injection of capital infrastructure at Gold Coast University Hospital, the Robina Hospital redevelopment and the introduction of functional community spaces within respective health precincts. There is an increasing need to sustain this rapid development in maturity to become a high-performing health network, which at a macro level involves strong partnerships and care integration across physicians and facilities to proactively and consistently meet all triple aim goals.

The following diagram from Wellcentive[43] describes the stages of developing health care organisation maturity to achieve maximum quality within a balanced risk management framework, from a fee for service model to a high performing shared risk and capitation model.



Continuing to strengthen our key external partnerships with Queensland Health, the Gold Coast Primary Healthcare Network, Gold Coast City Council, Bond University, Griffith University, Consumer Advisory Groups and key Non-Government Organisations will be a significant priority to 2026. Our external partnerships currently align to eight categories:

- Primary Health care providers e.g. GPs, Blue Care Nurses
- Public Hospital service providers, partners, and purchasers
- Consumer groups
- Emergency service providers QAS, QPS, NSW Ambulance, NNETS
- Private service providers and partners e.g. ROQ
- Non-Government Organisations e.g. residential aged care sector, Youngcare
- Universities, education and research providers
- Business continuity and estate management

There is an identified organisational strategic risk that ineffective business networks and partnerships results in poor performance in economic, social and commercial returns causing negative value added. There are a number of actions being progressed across the organisation to deal with this.

Social Entrepreneurship and Social Benefit Bonds:
Gold Coast Health will need to adapt to the changing social service funding landscape in Queensland driven by the need to overcome the traditional red-tape restrictions of public-private business agreements that span across multiple government departments. The Queensland Government is investigating the value and benefits of Social Benefit Bonds as a form of Social Impact Investment under the broader framework of payment or contracting for outcomes. Social Impact Investment strategies seek to create both financial returns and positive social impacts that are measured – both in terms of financial and social impacts[44].

Partnering for demand management:
As new services have been implemented and existing services expanded our existing relationships are changing and offer the opportunity to better manage demand and capacity. Improved analytics will enable more accurate predictions and proactively management of purchased activity from other regions by early in reach and improved return transfer strategies. An example being the potential to support cross border planning for trauma and cardiology patients, and complex maternity cases. Proactive and agile approaches to procurement will also help support Gold Coast Health meet surges in demand. This can be seen in the presence of Radiation Oncology Queensland in our radiotherapy service and also with our infrequent use of external providers to manage surgical or investigative waiting lists within clinically appropriate treatment times.

Leveraging co-location opportunities:
Perhaps the most exciting area of our future partnering opportunities is our relationship with the Gold Coast Health and Knowledge Precinct and the advantages of accessing cutting edge Health innovation in device design, 3D modelling and printing, wearable technology, and world class research. The breadth of vision leading this development is consumer focussed, innovative, and inclusive. It brings change and an ability to drive change with industry and technology partners that is seldom seen in Australia.

Gold Coast Health has partnered effectively with tertiary education providers for many years. The co-location at GCUH with Griffith University and Robina with Bond University respectively, has expanded these partnerships with enhanced research facilities, opportunities and improved information access across a range of services. Active encouragement of research and ongoing dialogue around future practitioner and education needs will ensure that innovation and healthcare are moving forward together to ensure that evidence is at the heart of our clinical care. Partnering professorial positions and inclusive development of future educational strategies will be key in ensuring our health service has the right fit with our service providers and our clinicians of the future.

Managing the environment:
Health is, in part, dependent on the natural and built environments. In developed countries like Australia the visible effects mankind can have on nature, such as poor sanitation, litter, waste, smog and haze, are often not directly linked back to our declining health outcomes. However it is critical that we preserve the quality of life for both present and future generations and so foster stewardship of our natural resources such as land, water, soil, plants and animals. This is particularly important when our climate is changing. Such changes include an upward trend in the average annual number of hot days and an increase in the number and severity of storm events.

Also many decisions that ultimately affect the health and wellbeing of our communities, such as land use and transport planning policies and decisions are made outside our health services department. As part of preventative health we play a key role communicating the importance of the built environments to health and wellbeing inside and outside our organisation. Internally due to the nature of the services we consume significant amounts of energy and water and generate large volumes of waste. Gold Coast Health is committed to sustainability management through the support of the Finance and Business Services Department.

7 Service Directions to 2026

7.1 Cancer, Access and Support Services

7.1.1 Cancer, Blood & Palliative Services

Future Activity Trends and Changes

The increasing elderly population and corresponding increase in cancer activity will require increased capacity for inpatient and ambulatory treatment. Elderly patients are often frailer and more likely to experience toxicity requiring medical, nursing, allied health and community support including palliative care.

Major investment to improve information technology capability and integration will be required to support patient care, service planning and research.

The service faces a number of access challenges including:

- the cost of new treatments and drugs
- lack of access to community hospices, respite facilities, acute rehabilitation and geriatric facilities creating inpatient bed-block
- lack of access to day hospital beds to deliver infusions, medications, bloods, drainage, allied health and respite.

Future Service Direction

Demand from the Northern catchment area and Northern New South Wales requires major infrastructure investment to implement a hub and spoke model, with Gold Coast University Hospital as the hub with community spokes located in the Northern and Southern catchments and Robina.

Implementation of a robust Cancer Multidisciplinary Team structure, governed by evidence-based timeframes for diagnosis and treatment will achieve efficiencies and collaborative care co-ordination between medical, nursing allied health and support services.

Nurse Practitioner models and nurse-led clinics in cancer and non-cancer care will address gaps in day unit capacity, holistic cancer rehabilitation and cancer survivorship. Nurse Navigators will enhance service delivery and expand services provided by the Cancer Care Coordination team.

Specific improvements and expansions to the service include:

- Increased day unit activity to reduce overnight admissions for iron and blood transfusions
- Develop dedicated thrombosis / haemostasis services, obstetric haematology services and late effects clinics
- Develop niche services such as rare tumours and further develop stem cell transplant treatment
- Provide cancer genome analysis to guide individual treatment options
- Implement geriatric oncology and haematology clinics
- Develop an acute oncology service to assess medically unwell patients in the oncology day unit to improve admission avoidance
- Develop and implement cancer survivorship programs

An increased focus on research and clinical trials is essential for developing a world class cancer service including developing a Cancer Research Institute in the Health and Knowledge Precinct by 2026. Links with major Universities will be strengthened and the service aims to have 5% of cancer patients enrolled in clinical trials by 2021 in line with the state-wide Cancer Strategy.

Continuing education and research opportunities are a key component of ensuring workforce sustainability. Registered Nurse recognition, local post graduate oncology nursing education, advancement pathways and in-house development programs will assist with staff attraction, satisfaction and retention.

Improvements to end-of-life care will also be a key focus with implementation of the *State-wide Strategy for end-of-life care 2015* across Gold Coast Health.

The use of telehealth to improve management of palliative and elderly patients in the community and will assist patient education and post treatment review. Changes to drug delivery will see an increase in oral and take home medications, and improved access to medical and nursing after-hours services will reduce demand on Emergency Department presentations.

Pharmacy: Growth in Cancer treatment directly requires increased capacity in pharmacy. New drugs and drug delivery models will require collaboration with pharmacy to implement. With the increased cost of drugs, pharmacy will play an increasing role in medication management and de-prescribing clinics.

Pathology: The service will seek opportunities to advocate for and support pathology capabilities for local oncology and haematology service development. A wider range of tests available locally will manage delays currently experienced by sending tests to Brisbane or elsewhere.

Medical Imaging: Improved imaging technologies will be required for tumour identification and targeted radiation therapy. Increased access to Positron Emission Tomography is also required.

Allied Health: The Multidisciplinary team approach integrating the role of allied health will avoid inpatient admissions, reduce length of stay and improve treatment outcomes.

Primary Care: Effective partnerships with the primary healthcare sector are essential to manage growth in

patient numbers. Collaborative learning and education with primary healthcare providers will support patient cohorts in the community.

Non-Government Organisations: Reliance on our Non-Government Organisation partners in aged care and Palliative care will increase. Support in the growth and capacity of this sector is essential including access to quality, timely data to support patient management, monitoring and clinical decision making. The new on-site private hospital may provide opportunities to increase clinical links with the private sector.

7.1.2 Infectious Diseases & Immunology

Future Activity Trends and Changes

Service demand is expected to continue to increase for all Infectious Diseases and Immunology services. Unforseen events such as an outbreak or the emergence of a new pathogen have a high impact on Gold Coast Health, often requiring immediate action, and our effective response is dependent on our cooperative preparedness with internal and external service partners.

The emergence of new pathogens, and the re-emergence of pathogens that have developed microbial resistance or have become hypervirulent will continue to challenge us. Significant improvements in flexibility and responsiveness are required for Gold Coast Health to meet these challenges in a timely and efficient way.

Severe Acute Respiratory Syndrome (SARS CoV), avian influenza, pandemic influenza, EVD, Norovirus and C. *difficile* are examples of known causes of potential disease outbreaks.

Future Service Direction

Infectious Diseases, Rheumatology and Dermatology services have experienced short term growth as a result of the 2014 organisational re-structure, however further improvements are required to achieve a world class service.

Infectious Diseases and Immunology Specialty Areas

Significant improvements and expansions to the model of care across all specialty areas within the service line, drugs, surgical procedures and clinical equipment will be progressed over the next three to five years to accommodate increased demand on the service.

By 2021, the service will:

- Implement an integrated hub and spoke model of care incorporating Hospital in the Home and Telehealth options with outreach community clinics offered in the Northern, Southern and Robina catchments
- Implement nurse-led and multidisciplinary team models of care with a specialist dermatological nurse in the adult outpatient department, addition of allied health into the Rheumatology service and gain access to Podiatry and Pedorthic Services
- Offer a full Immunology service on site at Gold Coast University Hospital
- Offer the latest treatment options available for Dermatology and Rheumatology and expand to paediatric care
- Be recognised as a Centre of Excellence for Infectious Diseases and Infection Control with a sustainable research agenda
- Achieve excellent infection control outcomes through quality bedside care
- Explore the option of a dedicated medical infusion centre
- Implement a highly regulated, centralised control system for Antimicrobial Stewardship.

Sexual Health

Collaborative community based service provision with clinical spaces reflecting geographical population growth, expansion to deliver services, integrated telehealth and non-clinician-led screening programs or “selfie tests” will maximise effectiveness of the sexual health service going forward.

Targeted relationships with tertiary education providers will enable better workforce sustainability with a focus on undergraduate and post graduate pathways and establishment of a University Chair of Sexual Health at Griffith University. Mentoring opportunities with National and International Sexual Health, HIV and Hepatitis services will also be explored.

Hepatitis C management is undergoing revolutionary advances in treatment which will have a major impact on co-infected client’s routine care and may potentially be offered to a wider population within the community. This will be achieved by implementing a hub and spoke model of care incorporating Hospital in the Home and Telehealth options with outreach community clinics in the Northern, Southern and Robina regions.

Clinical Equipment Resource Unit

The Clinical Equipment Resource Unit aims to secure sufficient financial resources to meet benchmark standards and growing demand for equipment and maintenance costs to support all Inpatient Units within two years. It is clear that CERU will need to invest further in additional of bariatric equipment.

Pathology & Ordering Support Services

Pathology Services are provided by *Pathology Queensland* under a contract managed by the Infectious Diseases and Immunology Service Line. The Gold Coast Health *Choosing Wisely* project presents an opportunity through National benchmarking to become a National leader in efficient pathology ordering. The improvement methodology may be further applicable to other support services such as medical imaging, pharmacy and blood products.

Identified priority areas are onsite lab based Rapid Diagnostic Molecular Microbiology to address delays with the service currently provided in Brisbane

7.1.3 Nutrition and Food Services

Future Activity Trends and Changes

Gold Coast Health Nutrition service provides inpatient, outpatient, out of hospital services in all community health centres as well as home visits to patients of all ages. Qualified Dietitians and Nutrition Assistants undertake consultations, education and therapeutic treatments to treat trauma and illnesses that either inhibit a patient's ability to eat or drink or require supplementary nutritional support. Services are largely targeted at chronic disease (cardiovascular disease, diabetes, obesity, COPD and renal) and Indigenous Health. There is currently no dedicated public health nutrition service provided in Gold Coast Health and affordable accessible primary care is minimal.

Extended scope of practice is enabling change in the delivery of nutrition services and improvements in this area enable the development of dietitian led clinics. For example:

- Dietitian credentialing for ordering blood biochem will enable provision of artificial nutritional support in a safer more evidenced based approach.
- Obesity management is a complex issue and requires collaboration from multiple agencies outside of the health service. It is imperative that Gold Coast Health Dietitians are part of the solution but in combination with many others.
- Nutrition Assistants will become "nutrition champions" in ward settings with responsibilities including nutrition screening, ensuring weights are completed, feeding assistance, meal auditing, education and oral nutrition support in consultation with ward Dietitians.

Future Service Direction

The Nutrition Service will continue to evolve in line with providing support to the increasing complexity and acuity of patients seen across Gold Coast Health.

The Indigenous Health Nutrition service will utilise social marketing techniques to meet increasing demand, improve post-acute follow up, improve type 2 diabetes management, promote increased breastfeeding initiation and duration and investigate workforce pathways specific for Aboriginal and Torres Strait Islander nutrition.

Children's Nutrition Service covers a broad range of nutritional areas including cystic fibrosis, obesity, allergies, faltering growth, eating disorders, premature infants, paediatric feeding and gastronomy.

Partnerships with schools, GPs and sporting organisations, proactive nutrition assessment and maximum utilisation of multi-disciplinary team clinics will be essential for Children's services in the next five years.

Influencing the exponential obesity problem is a continuous challenge which will be managed through developing partnerships, introducing an advisory team for children with Mental Health Issues and obesity, partnering with Westmead in research and offering a variety of clinic pathways for teenagers.

Adult Nutrition Services supports an extensive range of clinical service areas including:

- Adult Obesity
- Intensive Care Unit
- Gastrointestinal Surgery
- Protein Energy Malnutrition
- Parenteral Nutrition
- Oncology
- Mental Health and Eating Disorders
- Renal Services
- Diabetes
- Cardiology and Cardiac Services

Improvements include but are not limited to:

- Dietitian and social work/psychology led clinics focusing on behaviour change and mindfulness principles to assist with weight loss and obesity management
- Becoming the first Australasian centre of excellence for the Enhanced Recovery After Surgery program (ERAS) for gastrointestinal surgery
- Utilising gold standard Computed Tomography to assess body composition in (surgical) oncology patients at the time of cancer staging and treatment planning with referral to dietitian
- Increased capacity for oncology patients to support more high risk patients due to increased toxicities with more intense treatments being administered
- Increase in geri-oncology with age no longer seen as a barrier to treatment. For dietetics this means the combination of age-related nutritional challenges and oncological treatments
- Anticipated increase in stem cell transplants with patients previously sent to the Royal Brisbane Hospital able to be treated locally. These patients require intensive dietetic support
- In oncology dietetics Gold Coast has world class researchers
- Eating disorder special interest group and day program
- Offer combined diabetes and renal dietetic clinic to relieve the workload of the diabetes dietitian resulting in single appointments for patients
- Home visits by renal dieticians to improve access.

7.1.4 Pharmacy

Future Activity Trends and Changes

Pharmacy services are currently provided on site at the Gold Coast University Hospital and Robina Hospital five days per week during business hours. A 365 day, 24hr on call service is also available. Demand is directly linked to overall activity delivered by Gold Coast Health and will increase significantly with the increasing acuity and ageing population requiring prolonged support for medication and therapies.

Financial sustainability is a major challenge for Pharmacy Services with the substantial flow-on cost effect of bringing new treatments to the market, driving the need for efficiencies in prescribing, medication review, medication management and de-prescribing. Revenue recovery improvements are immediately required to address the gap in uncounted activity in a number of areas.

Innovative technology will enable advancements in medication technology and individualised therapies by supporting a shift in the pharmaceutical role from a dispensing and supply service to a patient advocacy role adding value through clinical review and medication management by clinical pharmacists.

Future Service Direction

Pharmacy services will need to be responsive and flexible to maintain the pace and complexity of change over the next 10 years. By 2021, the service anticipates expansion to a seven-day clinical pharmacy service at both hospitals within a risk minimisation model including improved Hospital in the Home services, computerised medication supply and robotic delivery models.

The increasing complexity of both patients and available therapies such as gene based or individualised will be supported by:

- The development of advanced level pharmacists
- Integrating pharmacy into multidisciplinary teams, away from ward based services
- Collaborative partnerships with education providers
- Improved succession planning with training to support specialist needs
- A pharmacist residency program similar to USA models

The increasing costs associated with long term management of the chronic disease and ageing population co-horts can be managed by pharmacist expanded practice into de-prescribing and medication review clinics delivered in facilities across Gold Coast Health for improved access, closer to patient's homes.

To accommodate the increase in in-home and community care, pharmacy services will need to maximise community based partnerships, consider outreach services and mobility of pharmacists, telehealth opportunities and cross-skilling of relevant health professionals.

Advances in technology and robotics will improve safety, enhance financial management and release pharmacy assistants into expanded roles to support clinical pharmacists. A fully integrated prescribing, dispensing and administration record system will also be implemented.

Pharmacists have a potential role in the proactive use of medicines to achieve preventative health outcomes and in the identification of patients who will or will not benefit from expensive but effective individualised medicines or gene therapy treatment.

Further efficiencies will be gained through:

- Introduction of robotic delivery systems for the safe and efficient distribution of pharmaceuticals
- Effective research partnerships in clinical areas and workforce models to inform best practice, alternative service models and locations
- A dedicated team to conduct Pharma funded trials, rationalising support required for such programs away from traditional silo approaches
- Implementing a Drug Utilisation Program to assist finance and clinicians determining appropriate choices, reducing wastage from over-use or incorrect use of medicines

Models proposed will assist all other clinical services:

- review clinics
- de-prescribing clinics
- pre-admission clinics
- releasing time

Transition to in-home and community services will require support from community providers and integrated care.

7.1.5 Speech Pathology

Future Activity Trends

Achieving appropriate speech pathology workforce size and skill mix is a key challenge in meeting future demand. Gold Coast Health has the highest percentage of HP3 and lowest percentage of HP4 Allied Health professionals in Queensland, and there are a consistently higher number of new graduates than other Queensland facilities. Increased workforce investment is required to ensure appropriate skill mix including advanced roles and speech pathology assistants to manage complex conditions in the community.

Changes to location or expansion of services must ensure availability of suitable accommodation and clinical equipment. Speech pathology services require sound attenuated, clinical treatment rooms with a hand basin for a range of individual and computer-based treatment and group therapies.

Future Service Direction

A shift toward community-based speech pathology, closer to people's homes is required over the next 10 years to meet the increase in demand in the *at risk* populations in the under 14 and over 65 years age groups. Existing community capacity will be utilised for speech pathology intervention where possible such as community libraries and early childhood facilities.

Where clinically appropriate, services may be provided in people's homes for progressive neurological disorders, palliative care and paediatric *at risk* populations.

By 2026, speech pathology services will expand and improve in the following areas:

- An Ear, Nose and Throat first contact model at the Gold Coast University Hospital.
- Multidisciplinary models of care for community based tracheostomy management, Chronic Obstructive Pulmonary Disease management, palliative care, cognitive disorders and dementia clinics, post-acute services for at risk infants and a one-stop-shop for complex case transition.
- High intensity treatment and early intervention models of care for acute stroke, voice treatment regimes, fluency disorders, paediatric feeding and motor speech treatments, severe traumatic brain injury patients and early consideration of percutaneous endoscopic gastrostomy (PEG) insertion for head and neck cancer patients.
- Socially determined child health community education preventative programs and interventions.
- Increased scope of practice will address growth in demand for example:
    - Prescribing medication
    - Requesting medical imaging referrals for video fluoroscopic assessment of swallowing (VFSS) procedures
    - Speech pathology-led clinics for endoscopic examination of the larynx and management of chronic otitis media
    - Undertaking tracheal suctioning.

Telehealth, technological innovations and equipment will have a significant role in increasing efficiency. For example:

- Prognosis predicting tools based on imaging for stroke/aphasia
- Apps for analysis of language errors and biofeedback
- Augmentative and alternative communication aids
- New advancements in laryngectomy and rehabilitation products
- Specialist equipment (Nasendoscopy, manometry, acoustic analysis, ultrasound) to support swallowing and communication management
- Equipment that provides biofeedback for speech and swallow rehabilitation
- High tech communication aids for example in head and neck cancer

7.1.6 Public Health

Future Activity Trends

The work currently undertaken by the Public Health Unit across all specialty areas will increase due to growing populations, the ageing population, tourism, global warming, new and emerging diseases and new public health legislation to enforce.

The Gold Coast 2018 Commonwealth Games will require significant investment in public health resources in planning, surveillance and environmental monitoring. The Games will also offer a unique opportunity to leverage community benefit by encouraging physical activity and healthy lifestyle behaviours.

The Public Health Unit coordinates the delivery of the national and state immunisation program for the Gold Coast. From January 2016, service delivery will increase due to a significant change in the service delivery model. Free community immunisation clinics and the School Immunisation Program will be provided in conjunction with over 300 Vaccine Service Providers including GPs and Aboriginal and Torres Strait Islander health services.

Improvements to information technology capability and integration are immediately required to enhance the ability to benchmark, monitor, track and report activity.

Gaps to address capability include:

- A comprehensive electronic document management system
- Data entry access to state and national databases to enable linkage between Gold Coast Health, Queensland Treasury, Health Statistics, Medicare and Pharmaceutical Benefits Scheme data
- Integrated information management applications for the environmental health team
- Cost effective remote access to the intranet while working off-site
- Requirements for effective data management litigation and freedom of information

Communicable diseases contribute to mortality and morbidity in the community. Diseases may spread from person to person, from animals to people (zoonotic diseases) and from insects to people (vector borne diseases). Current trends in communicable diseases are:

- Increased disease notifications requiring enhanced surveillance and response
- Increased outbreaks in vulnerable settings including child care centres and residential care facilities
- New and emerging diseases such as Ebola and MERS
- Global travel will continue to rise which will lead to a corresponding rise in potential rabies exposure cases, overseas acquired dengue and other diseases
- Global warming will potentially lead to local dengue cases in the Gold Coast area
- Increased Chlamydia, particularly in young females

Over the last five years, public health service provision relating to monitoring and enforcing public health legislation has increased by 278% for sample collection, 58% for audits of regulated businesses and 41% for investigations and enquiries. Current trends in Environmental Health management include:

- Increased number of businesses to monitor and promote compliance with the *Public Health Act 2005*
- Increased consumer complaints about alleged breaches of public health legislation and demand for public health risk assessments
- Global warming and global travel will result in increased mosquito activity, natural disasters requiring response, incursion of exotic vectors and increased food and water borne illness outbreaks requiring response and control
- Legislative changes require public health staff to monitor, enforce and promote compliance on behalf of the Department of Health. Potential legislative changes include:
  - Amendments to food legislation requiring kilojoule display on menu boards
  - Amendments to tobacco legislation banning smoking in transit and transport locations (major work for public health)
  - A new Medicines and Poisons Act to be introduced to replace the *Health Act 1937* which result in a significant change

Future Service Direction

Effective workforce sustainability strategies will ensure increasing demand can be met by the Public Health Unit. This will involve components of succession planning, mentoring programs, an increase in full time equivalent allocations and the introduction of Environmental Health technicians and public health officers. Also strategic links with Universities for nursing and epidemiology students to be hosted by public health.

Workload management strategies will be used to streamline, prioritise and monitor activity, complemented by development of agreed standard operating procedures. For implementation of major public health legislation changes, business cases will be required to ensure resourcing matches additional workload and activity. By 2021, sub-offices will be required at dedicated locations throughout the Gold Coast to negate the need for excessive travel to deliver services.

Communication technology including social media pathways, internet and intranet resources will enable better community awareness and prevention regarding public health issues. This will extend to better outcomes and community preparedness through a preventative model for residential aged care facilities and child care centres.

A prevention pilot program with Integrated Care will be implemented for identified *at risk* populations and strong partnerships will be developed with the Gold Coast Primary Health Network, Universities, Local Government and other key stakeholders. By 2018, a whole of Gold Coast *Population Health Plan* will be implemented with system surge capacity strategies to ensure appropriate response to public health incidents.

As the largest public health vaccine service provider in Queensland, resources will be committed to identify and implement evidence-based best practice. Required investment includes electronic consent form capability, vaccination reminder systems and enhanced systems for monitoring and reporting vaccination data.

7.1.7 Social Work and Support Services

Future Activity Trends

Social Work and Support Services currently operate under a hybrid decentralised model of care with interventions provided throughout all inpatient and ambulatory acute and subacute services across the Gold Coast University Hospital, Robina Hospital and Carrara Health Facility.

The role and impact of social workers in the healthcare setting is increasing exponentially with widespread research available regarding the positive health impact from targeted social work interventions.

A major challenge is the scope of practice in social work. With the Gold Coast University Hospital becoming a tertiary service, psychosocial assessment, crisis and intervention services are required to meet growing demand and the complexity of presentations such as child protection, drug and alcohol, domestic violence, aggression and violence, sudden death and trauma.

Immediate investment is required to address current service gaps and accommodate the shift to community based models of care in a number of clinical and prevention areas. Services are required over a seven day period with dedicated after hours coverage and 24hr coverage for both hospital emergency departments.

There is an immediate need for the implementation of best practice social screening tools to identify patients requiring more intensive social work case management, discharge planning and social-health program access that contributes to a reduction in length of stay, emergency department presentations and readmissions.

Growth areas in demand for social work services are:

- Family Women's and Children's services
- Cancer survivorship and oncology
- Support to mortuary and pathology
- Emergency medicine
- Child protection
- Domestic violence

A lack of information technology and data is a major barrier to achieving service efficiency. Investment is required to improve capability in payroll, rostering, establishment and financial information systems. Limited data for Allied Health is available across Gold Coast Health due to the absence of a shared data management system.

Lack of funding and capacity in community based support agencies particularly housing, domestic violence, advocacy services, financial counselling and parenting support directly impacts on discharge planning and length of stay.

Healy and Lonne (2010) have identified the following issues regarding the Australian Social Work workforce:

- An undersupply of qualified social workers to meet workforce demand
- The rapid ageing of the workforce with many social workers approaching retirement
- Limited career and salary structures creating disincentives for retention
- Increasingly highly diverse qualification base across the workforce

Future Service Direction

Social Work Services require changes in current work processes and functions. Future direction will likely see the development of a centralised Social Work referral and intake, workload allocation systems, including the development of psycho-social screening and social work risk and priority tools.

New models of care with Full Scope and Expanded Scope of Social Work practice including specialisations will be implemented to meet the increase in demand. This will be supported by increased delegation models to assistants, creative models of student placement, increased use of technology, better care co-ordination at the clinical level and more efficient interdisciplinary and trans-disciplinary team services.

With an increase in acuity, multiple diagnosis and increasing social inequality, social workers will provide more one to one case management of complex presentations. Social Workers are likely to follow patients throughout the patient journey irrespective of admitted inpatient area rather than patients being seen by multiple social workers due to the current funding demarcation and traditional allocation by clinical area.

Social Work Services will increase the skill and specialisation at the acute and sub-acute level, and increase preventative and post-discharge support provided in targeted, multi-disciplinary teams that will be more community-based utilising integrated care frameworks.

Collaboration with a range of acute and sub-acute health roles such as discharge planners, patient flow managers, nurse navigators, cancer care co-ordinators, Hospital In The Home programs and Aged Care Assessment Teams will reduce multiple assessments and over servicing in the area of discharge planning.

7.2 Diagnostic, Emergency & Medical Services

7.2.1 Respiratory Services

Future Activity Trends and Changes

The main demographic changes influencing respiratory services are the ageing population, increasing obesity rates and the declining smoking prevalence rate. Chronic Obstructive Pulmonary Disease (COPD) is expected to be the third leading cause of death worldwide by 2020. Whilst lung cancer incidence rates related to smoking are declining, an increase is expected in the number of people with mesothelioma, obesity related diseases (obstructive sleep apnoea (OSA), and obesity hyperventilation syndrome).

These changing demographics will result in increased hospital admission for respiratory failure, predominantly due to acute exacerbations of COPD and obesity hypoventilation syndrome. The projected top conditions are shown in Table 8 below.

Projected peak conditions:

By volume and cost	By growth
• Cystic fibrosis • Non-invasive Ventilation • COPD/Emphysema • Lung Cancer • Asthma • Interstitial lung diseases • Bronchiectasis	• Acute exacerbations of COPD • Acute type 2 respiratory failure • Lung Cancer • Asthma • Interstitial lung diseases • Cystic Fibrosis • Bronchiectasis

The table below describes increased demand for each service area:

Inpatient Service
• Management of acute respiratory failure • Sophisticated home ventilator devices • Non-pharmacological approaches to COPD management such as bronchoscopic lung volume reduction strategies • Medical videopleuroscopy
Lung Function Service
• Resourcing of staff and equipment to manage increased referrals • Accessibility to lung function testing services, particularly for patients who live far away or have difficulty attending hospital appointments due to mobility or cost
Ambulatory Care
• Education and up skilling of staff in primary care to meet level of care expectations • Review appointment demand • Access to all patient information and diagnostics, including radiology, pathology and clinical measurements
Sleep Service
• Diagnosis of OSA • Provision of government funded CPAP treatment for OSA • Management of patients on treatment for chronic sleep and respiratory disease which impacts on cardiovascular problems. Management of increasingly complex OSA, and other respiratory failure patients with increasing demands on the Scientific team

To achieve a world class service, investment is required in:

- Equipment such as smart devices, health management applications, home monitoring devices, a lung function van, home ventilator devices and endobronchial valves
- Outpatient facilities based in primary care settings within an integrated care model
- Education and training with more focus on obesity and weight loss reduction strategies
- Software:
  - Patient booking system
  - System to support reporting of bronchoscopy
  - Sleep service data management system
  - Cystic fibrosis data management system
  - Electronic Medical Record for all services

Future Service Direction

Advances in technology and innovative models of care will enable respiratory services to meet changing and increasing demand over the next 10 years. Specific improvements are required in models of care, research and technology, information management and workforce sustainability.

By 2026, a hub and spoke model of care will be fully implemented with complex high care patients seen in the hospital setting. All other care will be provided in the community or home in collaboration with primary healthcare providers. This will be supported by the introduction of a mobile lung function testing service and technology that enables optimum information flow between all care providers across the continuum and supports self-management and in home diagnostic and monitoring capabilities.

There will be an increase in specialist nurse positions within the Emergency Departments and direct admission pathways to a dedicated Non

Invasive Ventilation Service. Respiratory Care Coordinators will coordinate clinics and triage referrals to minimise waiting lists and coordinate diagnostics before a patient arrives for their outpatient appointment.

Obesity clinics will implement best available evidence for management of patients with morbid obesity through a specialist obesity support team of doctors, nurses, dietitian, physiotherapist and pharmacist.

Advances in treatment will also be explored including:

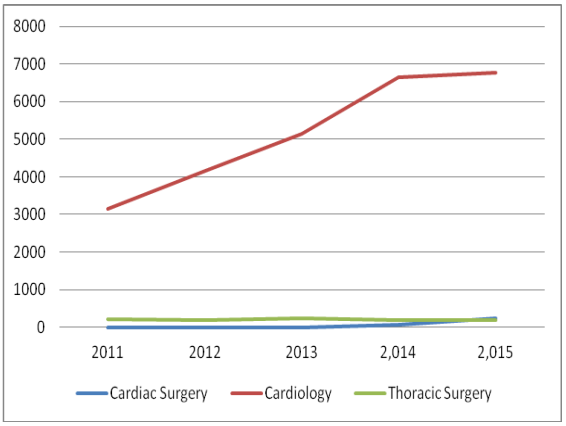
- Non-invasive bio monitors “apps” for spirometry, right heart failure and respiratory self-management
- New genomic maps enable health risk predictions and earlier disease detection
- Discovery of biomarkers and pathways
- Transplant medicine with the potential of intravenous pancreas transplants
- Gene base drug therapies
- Home Bi level Non-Invasive Ventilation devices to reduce hospital readmission rates for COPD
- Increased availability of medical Pleuroscopy

7.2.2 Cardiac Services

Future Activity Trends and Changes

Cardiac services incorporate cardiac surgery, cardiology including coronary care, clinical measurements and the cardiac catheter suite. The continuum of care and management for cardiology and cardiothoracic patients is complex and requires a high degree of specialisation by a diverse range of health professionals.

Cardiac surgery commenced at the Gold Coast University Hospital in February 2014. Cardiology services have risen by 116% between 2011 and 2015 as shown in the graph below.



Approximately 45% of cardiac surgery patients and 68% of admissions to cardiology are emergency presentations. In 2015, 78% of cardiology separations were between 45 and 84 years of age.

To meet the increase in demand and changing demographics robust assessment and planning of new technologies and clinical practice is required to ensure clinically and cost effective technology is embedded into the system. Minimally invasive procedures are promising and are currently being assessed in clinical trials. Suture-less and percutaneous-delivered heart valves can provide tremendous patient benefits, and greater efficiencies by freeing up hospital beds due to reduced length of stay.

These procedures, including the new and emerging implantable devices, are costly and currently there is limited long-term clinical and cost-effectiveness data. Significant capital and infrastructure investment is required to support these new technologies.

Information and Communication Technology will play an increasingly pivotal role in connecting and coordinating services, increasing access to specialist services and supporting clinical decision making and care planning.

A Queensland Health horizon scan for cardiac devices and new technology was undertaken in 2005 identifying advancements in:

- Bioabsorbable/biodegradable coronary artery stents
- Left ventricular assist devices for destination therapy
- Multi-detector computerised tomography
- Hyperoxemic perfusion for treatment of microvascular ischemia in patients with acute myocardial infarction
- Robotic surgery
- Gene therapy for heart disease
- B-type Natriuretic Peptide measurement

Future Service Direction

The Cardiac Reform Project will enable maximum service performance and the implementation of clinical innovation. Priorities for the next 10 years are:

- Strengthening system performance
- Improving services for people with cardiac disease
- Faster access to time critical cardiac care by improving early diagnostic capability
- Support for the cardiac workforce including teaching, supervision and mentoring
- Advocating for major investments
- Creating a research culture enabling the implementation of evidence bsed practice in partnership with Universities

Ambulatory and short stay models of care in collaboration with the Hospital in the Home service will increase the number of patients able to be discharged home sooner post coronary interventional procedures. E-health opportunities will be explored including changing health technology that supports mobile, community based care and better networking between facilities and specialists. Improvements to cultural capability particularly for Aboriginal and Torres Strait Islanders and socially disadvantaged communities will also be implemented.

By 2018, it is envisaged an additional cardiac catheter lab will be opened increasing the number of patients for same day discharge from percutaneous coronary intervention with a full range of advanced cardiology interventions available. A rapid chest pain clinic will be estabilised and cardiac surgery capacity will be increased to 300 - 400 cases per year to enable medical training positions.

Beyond 2018, an adult congenital cardiac service, a heart disease in pregnancy service, a comprehensive research program and robotic cardiac surgery will be implemented.

Interdependencies

Cardiac services rely on the success of many internal and external functional relationships and are also dependent on a number of services. These dependencies will continue to grow with increased activity and with changes to models of care. In 2016/2017, there will be an increase in support required from Pharmacy and Physiotherapy with the implementation of same day discharge post percutaneous coronary intervention and with the increasing acuity of patients coming to cardiology from the Intensive Care Unit.

7.2.3 Emergency Care Services

The Emergency Departments (EDs) (GCUH) and Robina Hospital) are respectively Level 6 and Level 4 in the Clinical Services Capability Framework. Emergency Department Information System (EDIS) data in 2016 indicates both departments have seen an increase in patient throughput with GCUH seeing an average of 280–300 patients per day and Robina an average of 180-200 patients. GCUH has a well-developed trauma service which has grown in terms of patients entering the service by a greater flow from northern New South Wales. This is due to the opening of the helipad allowing direct patient transfers.

The growth in Gold Coast population has added pressures to both sites in terms of presentations and funding. Furthermore staffing models are not currently growing at the same rate as the number and complexity of patient presentations.

The workforce is staffed with rotating consultants in Emergency Medicine and Gold Coast Health has a national reputation for delivering fellowship preparation and training for Australian College of Emergency Medicine candidates. There are nurse practitioners at both sites and a robust program for the development of future specialist practice nurses. Robina Hospital has also developed a program for the development of extended scope of practice (ESP) physiotherapists. It is anticipated that this course will become a statewide design for the model of care in ED fast track areas for appropriate patients. Social work, administration staff and other allied health professionals are also present in the EDs and play a vital role in delivering Key Performance Indicators (KPIs).

Both EDs report on a range of KPIs which are recorded in EDIS. This system monitors patient progress, provides alerts and records treatment details. It provides day by day reporting via the Queensland Health Enterprise Reporting System website and gives data for event reporting. It is envisaged that the system will be replaced by the FirstNet system in the future.

Future Activity Trends and Changes

Overall, future activity growth has shown no sign of plateauing. Robina ED had a slight plateau after the GCUH ED opened however levels have now started to rise again. Displacement from the private sector has brought a rise in paediatrics presentations at both sites. This is understood to be in part due to the number of families that are reducing their level of cover from private health funds. Since 2011 to 2015 paediatric separations have increased by 137%. In the future this is predicted to continue to grow in the northern growth corridor and central Gold Coast.

EDIS and trauma service data indicates an exponentially increasing trend in trauma admissions from northern New South Wales since 2013 and the development of a longitudinal trauma service is delivering improved outcomes for these patients.

Future Service Direction

A key future priority is to deliver a 24 hour seven day a week Children's emergency service within the GCUH. The service currently operates from 7:30am to 10pm and requires substantial investment in staff and training to provide enhanced emergency care for our most vulnerable patients. Approximately 20 children present to the ED each day outside these hours.

Further development of the Robina Hospital ED is in progress with the fast track refurbishment and the creation of an Early Assessment and Streaming Zone (EASZ) area where senior clinicians will conduct early decision-making on patients. Further investment is needed in the Paediatric areas of the ED as the paediatric presentations continue to rise.

Other priority areas include hospital avoidance strategies such as the Rehabilitation and Geriatric Evaluation Management rapid response teams and the development of early response of Respiratory and Cardiac teams to reduce the length of stay for specific patient groups. It is hoped that the increase of ESP physiotherapists will also assist patients to return home after ED treatment.

Access to improved theatre scheduling and services at both sites, particularly Robina, would improve outcomes for patients suffering emergent injury who may have to wait for surgery in hospital, thus delaying recovery.

Alternative workforce models are also under consideration for example, the use of technicians, scribes, and expanded nursing roles to enhance the flexibility of the model of care and to allow for greater surge capacity when required.

7.2.4 Aged Care

Future Activity Trends and Changes

The Intergenerational Report (2015) stated the number of people over 65 is projected to more than double by 2054-55. With this longer life expectancy there is an associated expectation for increases in *healthy* life expectancy.

The Australian Institute of Health and Welfare estimates a male born in 2012 could expect to live 79.9 years with an average of 62.4 years without disability and a female could expect to live 84.3 years with an average 64.5 years without a disability. This increase requires more innovative community and home focussed models of care for sub and post-acute care to respond to increasing demand.

Gold Coast Health will see an increase in older people with higher densities spread across the region. Flows from northern New South Wales and emerging northern corridor communities will see rising demands and services will need to be developed to reflect this growth.

Older Australians are most affected by chronic disease. Among people aged 65 or over, 78% of people reported having a chronic disease and around 50% of the people aged 65–74 had five or more chronic diseases, increasing to 70% of those aged 85 and over (Australian Institute of Health and Welfare 2012a).

Of concern is the rise in dementia and Alzheimer's disease in the last 10 years. Without a medical breakthrough, spending on dementia is set to outstrip any other health condition. Further, the increase in obesity in older Australians is predicated to increase the rates of dementia. An additional 14% than that expected from demographic ageing alone.

The most common chronic diseases/conditions among older Australians are vision or hearing loss, arthritis or other musculoskeletal problems, and elevated blood pressure or cholesterol levels. Yet despite the frequency of chronic disease in later life, two-thirds of older Australians aged 75 and over rate their health as good, very good or excellent (Australian Institute of Health and Welfare).

Treatment of Alzheimer's and dementia has been shown to have some effect however has not cured the disease. Future drugs which inhibit the enzymes which produce amyloid proteins and enhance nerve growth are needed.

Current medications such as cholinergic treatments are useful for some patients but do not cure the disease. Many of the medications used to manage behavioural disturbances of dementia are associated with adverse side effects and more research is needed in this area.

Hospital in the Home services will continue with expansion of diagnostic related groups in line with advances with pharmaceuticals, technology and treatments. Specific service targets include geriatric consultation and liaison services, frail care units, GEM in the home, enhanced transition care program, Aged Care Assessment Team (ACAT) and Hospital in the Home (HITH).

Research into Alzheimer's disease is focusing on Alzheimer's vaccine and immunotherapy, gene therapy, targeting beta-amyloid production and clinical trials on new drugs.

Another area of significant research is the neuro surgical advances in the treatment of Parkinson's disease such as deep brain stimulation, thalamotomy, pallidotomy and subthalamotomy.

Nano technology and 3D printing has the potential to grow organic matter to replace tissue, organ and bone. Bone and tissue stem cell research that has shown to regenerate both bone and cartilage in mice is in its infancy. Research concludes that further study may indeed pave the way for future treatments of osteoporosis, osteoarthritis and bone fractures. This will significantly reduce years with disability and quality of life as our population ages.

Further rapid advances in technology are required to maximise impact including:

- Personal safety monitoring systems to support staff and patients
- Use of robotics in health care, currently used as companions, potentially used as care providers
- Further development of mechanical aides to assist with the transfer of obese patients
- Improved connectivity within and across the system through eHealth systems
- Care management systems to help clinicians integrate care planning with carers, monitor medications and track the needs of older people across the care continuum

Future Service Direction

With the ageing of the population, particularly in the older age group, it is likely that the number of older frail people presenting for emergency care will continue to escalate. Current evidence based best practice involves a whole of system approach to modify urgent care use to align with primary and secondary care. Frail older people are challenging to emergency care because care is designed around disease or clinical pathways and frailty does not fit easily in this model. Patients often present with non-specific problems creating delays in care management.

Recommended improvements to the current model of care include:

1. Enhancing the current Homelink service to a Geriatric Consultation Liaison Team. This multidisciplinary team, led by a geriatrician, will deliver expertise in geriatric services in the Emergency Department. Patients will

flow directly to specialist frail aged care units from the Emergency Department bypassing the Medical Assessment Unit. The service will be available seven days per week at both Hospitals and provide proactive management of geriatric syndromes such as delirium, falls, continence and dementia.

2. Specialist geriatric inpatient units for frail care are recommended at both Hospitals to improve mortality, functional levels and reduce the risk of institutionalisation. Admission from the Emergency Department would prevent shifting of patients, clinical handover and patient confusion, and achieve benefits of early supported discharge.

3. A Geriatric Evaluation Management in the Home Service will support patient discharge from the specialty frail care units and avoid hospital admissions. This would be a significant enhancement to the existing Homelink community team providing services to patients with infections, fractures, trauma or elective surgery discharge and residential aged care facility patients.

4. Geriatric outpatient services will be defined and expanded with an increased range of options.

5. Hospital in the Home services will continue with the expansion of diagnostic related groups in line with advances in pharmaceuticals, technology and treatments.

Specific service targets include:

- Geriatric Consultation and Liaison Services
- Frail Care Units
- Geriatric Evaluation and Management in the home
- Enhanced Transition Care Program
- Aged Care Assessment Team
- Hospital in the Home

Service transition strategies

By 2018

- Queensland strategic plan for aged services developed
- Aged services two year post implementation research final and service review completed
- ACAT future known
- TCP extended service tender finalised

By 2021

- Preventative aged care services embedded

7.2.5 Medical Imaging (MID)

Future Activity Trends and Changes

The Gold Coast University Hospital provides tertiary level medical imaging services at Level 6 of the CSCF including 24/7 coverage, general radiography, ultrasound, computed tomography (CT), MRI, angiography and Tier B Interventional Radiology (IVR). Nuclear Medicine and PET services operate at Level five of the CSCF and are under continued development.

The Tier B Interventional Radiology service at the Gold Coast University Hospital is one of only three public sites within Queensland Health to offer Neuro-interventional Radiology procedures and has an extended catchment reaching deep into Northern and Central New South Wales. A nurse led Infusion Therapy Service for peripherally inserted central catheter (PICC) line insertion is also provided at Griffith University Hospital and may also have an oversight role in hospital and community Total Parenteral Nutrition (TPN) services.

Robina Hospital currently provides Level 4 CSCF medical imaging services including 24/7 coverage, general radiography, ultrasound, CT, MRI, digital fluoroscopy and Tier A IVR. An increase in capability to Level five at Robina Hospital by 2020/2021 will support increased capability across interdependent service lines.

Gold Coast Health is facing the same pressures experienced by medical imaging departments globally and will have a significant future role in mass population screening programs.

Applications and technologies are expanding rapidly as is the cost of procuring and providing advanced technologies. Advances in modalities are driving a change in referral patterns. Cross sectional modalities provide higher sensitivity but are delivered at an increased cost.

Medical Imaging recently underwent major reform which delivered immediate improvement, however the service remains heavily contingent on outsourcing support models. Robust demand management strategies will be implemented to cope with the expected growth in activity, for example:

- The RANZCR Radiology referral guidelines
- Service level agreements with the Emergency Department, Orthopaedics and Oncology
- Extend current duplicate request checking to include all modalities

Medium-term demand related financial risks include:

- A reduction to levels of reimbursement payed for private exams may increase demand for outpatient Radiology
- Gold Coast Health provides a range of bulk billed MRI services to private sector clients and holds two of only three fully rebatable MRI scanner licenses on the Gold Coast
- Unlinked activity revenue loss due to a number of variables was estimated at two million dollars in 2014/2015
- Equipment replacement costs in 2021 - 2023 could be up to five million dollars per annum requiring a strategic approach to asset replacement

Workforce shortages in key professional groups within Medical Imaging such as Radiologists and Sonographers are likely to continue for the next five years. A significant turnover of senior positions is anticipated to 2021 requiring succession planning.

Multiple clinical risks directly impact patient safety due to the Queensland Radiology Information System and Enterprise PACS systems managed by Health Support Queensland. Inter-agency information flows across the public and private healthcare continuum will be increasingly required to meet clinician and patient expectations. The Medical Imaging Informatics Solution project intends to use Co-Design Procurement Methodology to procure a world-class medical imaging solution.

Future Service Direction

The demand for Medical Imaging services is heavily influenced by new models of care implemented within other service lines. New models of care include:

- Post procedural care and cannulation
- Working with the Persistent Pain Service to supply interventional radiology procedural services on a cost recovery basis
- Role extension including Clinical Care Coordinators, Nurse Practitioners, Radiographers and Medical Imaging Assistants

Service development will expand research and education capability, for example:

- Develop a research focus with tertiary and commercial partners
- Engage a Professor of Radiology / Nuclear Medicine
- Explore opportunities presented as part of the Gold Coast Health and Knowledge Precinct
- Expand in-house education capability and resources including expanded coverage at Robina
- Enhance in-house training programs for Radiology, Nursing, Radiography, Sonography, Nuclear Medicine Technology, and Medical Physics
- Explore opportunities for cross discipline and inter-professional education programs
- Monitor emerging technologies and implement innovative approaches that support evidence based practice

Radiology

- Implement 24/7 on site coverage by Radiology Registrars and Consultant Radiologists across weekends and public holidays
- Improve report availability and turnaround times to assist with NEAT and hospital lengths of stay targets
- Reduce reliance on outsourcing and become 100% self-sufficient

Interventional & Neuro-Interventional Radiology

- Grow staff resources to enhance service sustainability of interventional and Neuro-Interventional Radiology
- Expand the number Interventional and Neuro-Interventional Radiology sessions to meet growing demand in both acute and chronic disease
- Selectively introduce new services such as Radio-Frequency Ablation that compliment service requirements

Trauma

- Implement emergency CT overflow pathways at both campuses, addressing wait times associated with ED Ultrasound and CT service provision
- Implement ED Imaging POD at Robina including 2nd CT scanner, 2nd General X-ray and Ultrasound at Robina, a second CT scanner will be required to manage overflow and equipment breakdown by 2017/18
- Growth in whole body imaging and PAN scans as thresholds for ordering will fall as litigation rises, radiation doses fall and MID gate keeping influences wain
- Increased uptake in use of Triple rule out CT studies for chest pain

Orthopaedics

- Expand peri-operative concurrent occasions to support NEAT targets
- Provide 3D modelling and possibly 3D printing to support orthopaedic and Facio-maxillary prosthetic planning
- Develop an overflow strategy to manage Orthopaedic fracture clinic demand, possibly provided in a satellite community hub with imaging support
- Explore cost effectiveness of providing a satellite imaging service on the orthopaedic floor

Neurology

- Substantial investment is required to expand Neuro-Interventional Radiology support at GCUH to accommodate growing demand for endovascular clot retrieval in stroke cases
- Monitor and implement evidence based procedures to assist in the diagnosis and treatment of diseases associated with the loss of cognitive function. New isotope development will see PET play a significant role and may drive the need for a second PET/(MRI)
- Restore ability to provide MRI under conscious sedation on site at GCUH

Neurosurgery

- Expand Neuro-Interventional Radiology support to meet growing demand for endovascular Neuro-interventional procedures (neuro-coiling)
- Expand coverage and service availability of iOT MRI
- Play a greater role in supplying tumour markers and imaging guidance as part of tumour resection. May need to interface to robotic surgery devices and provide more input into surgical navigation.
- Monitor developments in technology and consider Mobile CT / O-Arm image intensifier as part of future equipment programs

Women's Imaging

- Introduce an in-house interventional women's imaging service. Patients will no longer have to travel to other hospitals for the procedure prior to surgery. Onsite service will provide improved support for the Gold Coast Health Service Breast Surgery service and reduce outsourcing costs.
- Participate in ROLLIS research trial and implement preoperative breast lesion localisation
- Restore Mammography services at Robina

Paediatrics

- Continue the development of sub specialist Paediatric Radiology support services and expand in-house paediatric expertise across all disciplines

Oncology

- MID is expecting significant increase in volumes of imaging associated with cancer. The peak onset for cancer is expected in 2020. Higher survival rates means extended follow up imaging and more patients progressing to chronic diseases.
- Expanded support for cancer service through new Nuclear Medicine services such PSMA prostate imaging
- Introduce Radio-immunotherapy treatments for cancer e.g. Lymphoma, I131 ablation
- Theranostics – new receptor based therapies combining imaging and therapy
- Imaging regimes will become more patient and disease specific
- CT will be a major contributor to cancer population screening and surveillance programs
- Look at options to provide outpatient oncology imaging from within a satellite community hub
- Integrate Imaging into the patient care pathway so the patient's imaging can be synchronised with other planned hospital visits

Cardiology

- Introduce Cardiac MRI services at GCUH to support cardiology and cardiothoracic surgery as there is no Cardiac MRI currently offered on the Gold Coast
- Introduce fractional flow reserve estimation as part of CT Coronary Angiograms (functional cardiac imaging)

- CT Coronary Angiography will evolve and be used at a much higher rate in diagnostic testing and screening of coronary artery and cardiac disease
- Extend CTCA service to Robina
- Support Cardiology service expansion by increasing resources to ensure better utilisation of existing infrastructure within Cardiology
- Collaborate with Cardiology to jointly plan imaging requirements at the Radiology / Cardiology interface

Vascular

- Strengthen collaboration around resourcing in the cross over domains of Vascular Ultrasound and endo-vascular interventions
- Collaborate with Vascular Surgery and jointly plan imaging requirements at the Radiology / Vascular interface. Interface to include resource allocation to vascular ultrasound and interventional radiology lab sessions.

Respiratory

- Support lung cancer population screening and surveillance programs
- Interventional treatment of pulmonary embolism
- Increase capability at both campuses to provide a pandemic response

Gastro-enterology

- Support bowel cancer population screening and surveillance programs
- Expand provision of TIPS procedures and selective endovascular embolisation of abdominal vessels
- Provide pre and post imaging support for reduction surgeries on Bariatric patients

Obstetrics and Gynaecology

- Introduce 3D imaging of gynae pathology
- Collaborate with MFM and jointly plan imaging requirements at the Radiology / MFM interface

Persistent Pain

- Work collaboratively with the Persistent Pain Service and review opportunities to supply interventional radiology procedural services on a cost recovery basis
- Interventional procedures delivering chronic pain relief will be done primarily under CT guidance

Forensics

- Expand forensic CT service at GCUH to a 5 day a week service
- The CT scanner is now in the ownership of Pathology Queensland but will need replacement in the next 2-5 years

Oral Health

- Establish extra-oral imaging facilities in the community
- Decommission the OPG room at GCUH to create further opportunities for internal expansion

7.2.6 Neurology, Endocrine, Renal & Vascular Surgery

Future Activity Trends and Changes

The Neurology, Endocrine, Renal and Vascular (NERV) service line provides inpatient, outpatient and outreach services at both hospitals for adults over 17 and Endocrine services for children 0-16 years. Services provide support to Northern New South Wales including Brisbane Hospital overflow.

The Neurology service consists of a six bed stroke unit, CSCF level five and 14 bed neurology ward at the Gold Coast University Hospital and a four bed stroke unit, CSCF level four at RH. Over the last 12 months, Neurology services have seen a 12% growth in activity generated from outside regions potentially due to the absence of a tertiary neurology service between the Gold Coast University Hospital and Newcastle.

The Endocrine service provides acute treatment and care management throughout the continuum of care for endocrine related diseases. Services are primarily a consultative service for inpatient and outpatient care. The diabetes resources centre operates as a multidisciplinary team.

The Renal service consists of:

- Gold Coast University Hospital : 16 chair, CSCF level five unit operating six days per week providing acute and chronic haemodialysis and Plasmapheresis treatment.
- Robina Hospital: 20 chair, CSCF level four unit operating six days per week with 20 morning and 16 evening haemodialysis sessions, plus two self-care chairs also utilised six days per week.
- Southport Health Precinct: 12 chair training centre operating six days per week, mornings only providing haemodialysis and peritoneal dialysis at one session per chair per day.

Clinics in chronic kidney disease and general nephrology are conducted at the Gold Coast University Hospital and Robina Hospitals. Transplant and renal vascular clinics are held at the Gold Coast University Hospital. All kidney transplants are performed at the Princess Alexandra Hospital (PAH) in Brisbane with ongoing care provided by the Gold Coast University Hospital from two months post-transplant. Paediatric renal patients are also cared for at the PAH.

Vascular services provide acute care including treatment, surgery and interventional radiology for inpatient and OPD patient care for patients with chronic vascular wounds. The service provides an outreach OPD clinic at Toowoomba once per fortnight for renal vascular access and consists of a 10 bed vascular surgery and 18 general medicine beds

with telemetry availability at the Gold Coast University Hospital.

Future Service Direction

In the next 10 years, the flow on effects of what has been referred to as the "Chronic Disease Creep" will be experienced by the NERV service. Treatment commencement has historically been age 55 and over however, the future creep down to the younger 45+ bracket will increase demand. Notably, the top two common diseases (Type two diabetes and high cholesterol), can both be effectively managed at home with lifestyle change and regular medication.

Telehealth may assist with preventing patients being transferred to the tertiary facility and managed at the local facility with tertiary input. Another potential model of care is to provide an outreach service on site such as; day case procedures and OPD clinics to prevent bringing the patients to the tertiary facility for their procedure/s. managing chronic diseases within a community facility rather than a tertiary facility may be appropriate for Renal and Endocrine Services.

Discussions of the new MoC - centralising Out Patient Department (OPD) was discussed from all services areas and it was deemed an inefficient model due to the loss of team ownership and accountability within the OPD nursing and administration staff as they were not consistent with each clinic. The opportunity for co-locating clinics e.g. Endocrine and Vascular was also lost due to the new MoC which in the past streamlined patient care as they could get a second consult at the time if required.

A future priority is to develop 'Community Care Chronic Disease Centres' for adults, children and adolescents in the speciality area of diabetes and renal disease (subject to critical mass). The combination of endocrine OPD, renal satellite centres, diabetes education and walk in reviews in house, including research and education centre will also be needed.

Integrated medical and surgical Neurology Services would also be needed with a hub on one floor with a HDU and research and education. Similarly, a Gold Coast Vascular Centre consisting of SOPD, Vascular Lab, Admission Centre, Day care angio, Ward and offices, research and education centre all on one floor would be beneficial.

In addition, the looking forward it is important to focus on a Research and Education Vision with funding on an academic level and 24/7 access to emergency interventional radiology.

Neurology

Service Directions

- Formalise the Stroke model of care at Tertiary level at GCUH and stroke code at Robina at level 4
- Integration of medical and surgical neurology services including a HDU – Neurology Centre
- To provide a Deep Brain Stimulation Service
- Development of Epilepsy Service – Inpatient and Ambulatory EEG's – CNC
- Development of Neuromuscular & Movement Disorders Service – CNC
- Develop a research plan – Clinical trials and research network
- Expansion of In-patient stroke beds to 16 across the GCHHS
- Expansion OPD clinics
- Expansion of In-patient stroke beds to 20 across the GCHHS
- Expansion of OPD clinics
- CT Perfusion at Robina
- Telehealth - Nth NSW
- 24/7 Clot retrieval Service
- Rapid access clinic MoC
- Dedicated Beds in Rehab for Stroke patients
- Palliative care Integration – CNC Advanced Care Planning
- Research vision for Stroke service funded on academic level

Infrastructure

- Recommission rooms to refit Integration of medical and surgical neurology services including a HDU Neurology Centre.
- Day Facility
- Technology and equipment that will be needed in the future are:
  - EEG equipment – inpatient and ambulatory
  - Holter monitors
  - Additional Hard wired telemetry
  - Nerve Conduction Study equipment – Robina
  - CT Perfusion - Robina

Endocrine

Service Directions

- Establishment of an Multidisciplinary Obstetric Medicine Service
- Develop a research plan - Development of Research and education unit for Endocrine and Diabetes Services
- NHP Visits
- Develop a conception Clinic
- Obesity Clinic
- Day Facility – Dynamic Testing, Iron infusions, IVT, Methylprednisolone
- Specialised Paeds Service and Adolescents Service
- Hub renal services together within the community 'Endocrine and Diabetes Centre' – OPD, education Service and walking in review in house.
- Dedicated ward for endocrine patient

- Expansion of OPD clinics
- Orthotics Department

Infrastructure

- Endocrine and Diabetes Centre will need to be in a central location along the coast with public transport access with a hospital base at GCUH and Robina.
- Additional community centres and GP practices will also be needed and support services such as pharmacy and pathology and basic imaging would also need to be implemented.

Renal

Service Directions

- Develop a research plan
- Pilot trial of delivering Dialysis on the ward
- Implement Tele-health OPD clinics
- Implement a Nursing Home PD MoC with select Nursing home across the coast
- Implement RITH – Renal in the home service to provide clinical care for patients with acute illness that can be managed in the home. Cannulation services for those patient within home therapies that cannot cannulate themselves.
- Develop home therapies patient education and training to incorporate Tele-health.
- Dedicated Pharmacy and social worker in renal OPD clinics
- Design and work towards a delegation substitution model for all professions.
- Enrolled Nurse delivering dialysis
- Develop the Renal Supportive Care Service – ACP, Care of the dying on the ward, bereavement service
- Develop a multidisciplinary pre-workup – Social work, OT and psychologist before being referred to home therapies.
- Develop a Renal Database to assist with the management of the patients within the service.
- Develop Medicine MoC – Change practice to research portfolio and specialty consults within the network of Nephrologists.
- Expansion of OPD clinics to accommodate 10,000 OOS
- Home first for dialysis treatment

Infrastructure

- Renal Centre to be in a central location along the coast with public transport access
- New build to incorporate support services such as pharmacy and pathology and basic imaging.
- Hub renal services together within the community 'Renal Centre' – Combine the renal satellite centre, OPD and walking in review in house.
- Expansion of in-patient beds up to 28
- Develop a partnered renal vascular access service in Tweed Hospital

Vascular

Service Directions

- Develop and commission the Hybrid theatre
- Explore hub and spoke modelling with Tweed Hospital
- Assume responsibility for wound care
- Provide cost conscious high quality wound care for ALL inpatients and outpatients in a broad based network with capability urgent referral and telemedicine (all nurse led)
- Build comprehensive wound care network with two or three community based level two clinics
- Wound care CNC to support NP clinic
- Increase capacity of the podiatry service including preventative care for all Diabetic inpatients and podiatry network with community podiatry Vascular Web-site
- Varicose Vein Outpatient clinic
- Gold Coast Vascular Forum including
- Research collaborative
- Surveillance Clinic

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- A change to the current air-conditioning in the current interventional suite is required to meet the criteria of a hybrid theatre.
- Recommission rooms to Refit the Integrated Vascular Centre on one floor GCUH.
- Refit "Older GCUH Theatre for 2nd Hybrid Theatre
- Day Surgery – GCUH, Robina, Toowoomba and Tweed
- Varicose Vein Outpatient clinic
- Gold Coast Vascular Centre –SOPD/Vas Lab/ Adm Centre / Day care angio/ Ward and offices – all in one

7.2.7 Rehabilitation Services

Future Activity Trends and Changes

Gold Coast Health Rehabilitation Service provides a comprehensive array of rehabilitation pathways with 72 inpatient beds across the Gold Coast University Hospital and Robina Hospital plus community health centres and home based services.

The ageing population has resulted in a rise in demand for aged care and frailty services impacted by obesity, Type 2 Diabetes, High Cholesterol, injuries and falls. Presentations seen in the Community Health setting are increasingly complex comprising of chronic disease comorbities, lifestyle choices (smoking, obesity, poor diet, nil activity), mood disorders and adjustment to condition/disability. Mental health dual diagnosis, chronic mental health conditions, drug and alcohol addiction and pain are corresponding population risk factors.

Strengths of the current inpatient rehabilitation service includes achieving Length of Stay Targets and minimising length of stay by using a multidisciplinary team approach. Further service capacity and improvements will maximise effectiveness of early supported discharge to community services.

Community rehabilitation is utilised where it is available and appropriate. Rehabilitation within a client's own environment enhances return to personally identified meaningful goals and activities, facilitates self-management, helps to implement adaptive, sustainable strategies and supports that already exist or are accessible within the clients home, community and networks.

Future Service Direction

Improvements to rehabilitation services include:

- Coordinated community and hospital service integration and early intervention including rehabilitation in Emergency Departments
- Early intervention in wards, Clinical Nurse Consultant rehabilitation, Nurse Practitioner rehabilitation and use of other rehab services e.g. cardiac, private hospitals
- Check in with patients every 12 months to increase GP and NGO rehabilitation capacity and meet needs of patient groups
- Improved service transitions – coordinated exit and re-entry (Aged Care Assessment Team)
- Access to technology and research
- Responsive access solutions reducing isolation
- Support families to be carers and explore volunteer incentives
- Achieve shared care models with mental health attributed by funding silos
- Increase community capacity through links with Rotary, Stroke Support groups, Health hubs and wellbeing clinics
- Advocate for the specialty of rehabilitation
- Improve the profile of rehabilitation through marketing, communications and rebranding
- Utilise advancements in technology and drugs for example, changes to anti coagulation therapies
- Provide patient and family goal orientated care

By 2018

- Partnerships with Integrated Care Program
- Seamless service transitions
- NDIS working for our patients
- Removal of paper referrals (responsive mobile team/MOC change)
- Care starts anywhere, Continuum starts any time/anywhere
- Advanced community models including Telehealth and virtual reality technology

By 2021

- Increase community care delivery
- Range of community models
- Dedicated researchers
- Funded e.g. 3D printer and using new medicines and other medical advances

By 2026

- Leaders in rehabilitation – we are developing the technology and our intellectual property funds other innovations, for example, Google cars and other advances integrated into rehabilitation, education in-reach to community and schools achieving a wellness model.

7.2.8 Internal Medicine

The Internal Medicine service line services three in-patient units across the two campuses, and also supplies the Staff specialist led medical teams for the MAUs at both sites.

The service has seen a rapid growth inpatient admissions in the last two years and is proactive in managing length of stay. The internal medicine service is an exemplar in a number of Health Round Table data areas and delivers excellent care.

Future Activity Trends and Changes

Trend data suggests that the growth peaks in population changes are in the very young and those over 65 years of age. Therefore the service needs to work on hospital avoidance, outreach services, and short effective interventions to promote independence and reduce hospital related interventions. The ability to offer Geriatric management options/opinions to other services e.g. surgery; as an integral part of the service is highly desirable.

As the service operates 24/7 with flow to the in-patient units every day, the need for a seven day allied health service has become increasingly visible at both sites especially through the winter months when respiratory and exacerbations of chronic diseases impact the internal Medicine patient cohort. Patients admitted on a Thursday and a Friday have a measurably longer LOS due to the delay in assessment and/or treatment from Allied Health staff particularly in the areas of occupational therapy, physiotherapy, and social work.

Discharge planning for the complex patient and/or family is an area that impacts the Internal Medicine service and LOS. The introduction of Nurse Navigators for these patients will improve the patient journey for those who are admitted under internal Medicine for what are social conditions e.g. Carer stress; and facilitate the handover and movement of patients with their carers through the system.

The development of rapid response Behaviour Management teams in the RACF community may significantly reduce social and behavioural admissions under the Internal Medicine teams when no acute physical disorder is present.

Future Service Direction

The patient population is living longer and with significantly more co-morbidities. Improved communication with primary care providers and accurate handovers between the acute and chronic phases of disease are crucial to improving patient outcomes. Working with integrated care teams and establishing admission pathways for acute care in chronic disease would reduce ED presentations and reduce LOS by early intervention.

Research albeit limited so far, has shown that patients with illness induced delirium recover more quickly in their own homes; a future direction for this service is to be able to deliver accurate assessment, timely treatment and an early return home with HITH models of care, reducing sarcopenia, confusion and the dislocation of the patient from 'normal' life.

Another area of concern is the number of patients who require de-prescribing e.g. patients who are taking multiple and often conflicting medications from different prescribers and also those available over the counter or as herbal remedies. Additionally alcohol and substance abuse is now entrenched in older populations; also seen in this group are those with chronic pain syndromes, both are areas that needs investment for the acute phase of detoxification and management.

7.2.9 Occupational Therapy

Future Activity Trends and Changes

Major changes and trends that affect the Gold Coast Health Service are likely to impact on Occupational Therapy (OT) as the service is responsive to referrals from the health service wards and clinics.

Trends such as:

- Increasing population and service demand, particularly in the younger and older age groups
- Increasing survival of a larger number of younger neonates
- A fast-growing increase in population in the north of our health service
- Increasing rates of obesity
- Dementia and chronic disease
- An increasing use of the public health system by previously privately insured people

Proportionally higher costs of health care in a proportionally decreasing working population will also affect resourcing of services including OT. Demand on the service is expected to correspondingly increase.

An increased range of tertiary and specialised services will be provided that will impact acute and follow-up services from Allied Health.

Changing models of service delivery offered by our interdependent and associated services will affect our scope of service provision. Implementation of the Integrated Care Programme, change of focus of the Service Agreement or changes to models of care of current operations Service Lines are all likely within this timeframe.

Future Service Direction

Future OT services will see increased collaboration with Integrated Care Programme and increased use of technology to deliver and manage care.

With the increase in Mental Health issues and Drug and Alcohol use, complications and co-morbidities of the client groups seen are likely to increase complexity. This is likely to additionally affect carers of our patients with an increase in difficult discharge planning for the Health Service. There is likely to be an increased need for OT to contribute to patient management in this area.

With an increased demand and a finite funding base, there is likely to be an increased development of new models of care that will include:

- Expanded Scope of OT practice
- Increased delegation models to assistants
- Creative models of student placement
- Increased use of technology
- Better care co-ordination at the clinical level
- More efficient interdisciplinary and trans-disciplinary team services

As our health service becomes increasingly tertiary focused and hospital stays increase in complexity and acuity, OT will need to increase the skill and specialisation at the hospital level, and increase preventative and post-discharge support provided in targeted, multi-disciplinary teams that will be more community-based.

OT strategies to address the trends and changes will include:

- Development of dedicated service and specialties in areas of burns and plastics, community-based MDT management of premature babies, community-based MDT management of continence problems in children, paediatric rehabilitation, dementia and cognitive disorders, frail elderly, stroke, trauma, cancer and cardiothoracic and cardiac intervention.
- Dedicated clinics to support planned admissions.
- Full implementation of Family-Centred Developmental Model of Care.
- Targeted development of the Occupational Engagement in areas such as expectant mothers on bed rest, long stay patients and patients at high risk of deconditioning.
- Input to increased consumer engagement and support of patient self-managed care.
- Re-organise clinical governance and streams of care to target the high risk demographics and our above-benchmark length of stays.

Occupational Therapy Workforce strategies to support future anticipated change include:

- Building an education and governance framework to support Expanded Scope roles of Full Scope, Advanced Scope, Extended Scope and Delegation Models.
- Developing a sustainable Clinical Education programme.
- Developing long-term strategies to provide a service based on a high number of new graduates requiring significant orientation, clinical support and career development.
- Develop, imbed and support a research culture.
- Address succession planning in an environment of increasing specialisation and high staff turn-over.

Investment is required in model development, workforce resourcing and redirection of resources, workforce education and support, community-based development (vehicles, facilities).

This service would be an important component of a Development of a Health Service in our northern area.

Service Transition Strategies

By 2018

- Primary Contact roles in Hand Therapy, Premature follow-up clinics and lymphoedema
- Non-medical consultancy models in cancer care, cognitive disorders, palliative care, rehabilitation, neurology and frail aged and dementia.
- Community-based discharge support services enabling a reduced hospital LOS
- Use of electronic tablets for patient care and service management
- Interdisciplinary services in Hand Therapy and Lymphoedema
- Research framework and support systems in place.

By 2021

- Interdisciplinary services in Paediatrics and acute wards
- Innovative models of under-graduate clinical education and student-led services.
- Integration of services pre-admission, hospital stay and post discharge that have a consistency of treating therapist and are patient-led.

By 2026

- Focus on preventative health care, life-style focused health care and healthy aging strategies
- Community-based specialty health teams that maintain their patients out of hospital except for high acuity interventions that are managed in and out by the community service – led by the patient.
- Specialised hospital-based services

7.3 Specialty and Procedural Services

7.3.1 Perioperative & Critical Care

Future Activity Trends and Changes

There is additional facility capacity at the Gold Coast University Hospital to expand to a 40 bed ICU (with Children's Critical care occupying one pod of 10 beds). For the Gold Coast Health Service ICU service, a gradual increase in admissions commensurate with population growth, an ageing population, and the expected growth of surgical services at both the Robina and the Gold Coast University Hospital campuses will drive the need for an expanded service.

An additional factor at Robina is the implementation of additional surgical capacity, and the introduction of more complex surgery requiring post-operative ICU beds. Robina has capacity, in its current geographical location, to expand to a 10 bed platform. Using a 10% annual growth in service demand at the Gold Coast University Hospital and 8% for Robina as a guide, and 85% occupancy, this would suggest the following patient day and bed platform requirements:

Year	Facility	Bed-days	Required Bed Platform
2015	GCUH	5668	18.2
	Robina	1639	5.2
2018	GCUH	7370	23.7
	Robina	2044	6.5
2021	GCUH	9070	29.2
	Robina	2449	7.9
2026	GCUH	11,905	38.4
	Robina	3124	10.1

Patient day and bed platform requirements

It should be noted that these projections are based on historical increases and do not take account of the large percentage increases in the 65-85 year old population, known to consume proportionally more health services than other age cohorts.

The population most at risk in terms of trauma, according to the Qld Trauma Registry, are males aged between 20-24 and females over 60. Expected growth of these cohorts is 35% for young males and 39% for elder females. It would be expected that the current bed base of 8 -10 (8 ward based trauma beds and 2 ICU based trauma beds) would need to expand by 2026 to at least 14 beds. The expansion of this service also needs to take into account population growth in the North NSW areas, and expected increase in traffic between Brisbane and the Gold Coast in the coming years.

In terms of major advances in technology and innovation, the following ideas should be taken into account:

- Wider dissemination of ECMO technology (Extracorporeal membrane oxygenation) for use in critical care.
- Improvements in ventilator technology, monitoring, and drug administration devices may lead to earlier extubation, shorter length of ICU stay and improved patient outcomes.
- Improvements in respiratory and renal dialysis equipment.
- Technical advances, such as robotic surgery, intra-operative image guided surgery, expansion of laser surgery should decrease surgery times and improve patient safety outcomes. 3D printing will become more commonplace with various patient prostheses being individually tailored to suit a particular patient.
- Improvements in vehicle safety may reduce the burden of trauma in the community.
- Point of care pathology and Rotational Thromboelastometry (ROTEM) guided transfusion can improve patient outcomes and reduce the amount of blood products required for Trauma patients.
- Expansion in the use of endoscopy and interventional endoscopy as a driver for increased anaesthetic services.
- Improvements in the effectiveness of anaesthetic drugs, improved monitoring, and ultrasound assisted regional blockade and video-assisted intubation devices. An improvement in early haemorrhage control through the use of newer haemostatic drugs has the potential to improve trauma patient outcomes.
- Introduction of web-based Anaesthetic screening questionnaires for pre-operative assessment of patients. The wider dissemination of personal physiological monitoring devices via "smart phones" may add additional information to these "home based" assessments which patients would find very convenient.
- Improved information systems that can assist in theatre scheduling and provide live feedback on theatre utilisation. Applications that can predict the need for additional surgical time based on analysis of the surgical waiting list will be useful.

Future Service Direction

The key drivers of population growth and population ageing will mean that critical care, preoperative and trauma services will need to expand. A key challenge will be investing in and finding the appropriate geographical space to expand these services. This is less of a challenge for ICU services at the Gold Coast University Hospital, with an available platform of 50 beds (currently shared with Children's Critical care). While Robina has 10 ICU bed spaces, storage space is at saturation point currently. Gold Coast Health has plans for the expansion of the Robina theatre complex, and this must include an expansion of the sterilising capacity of Robina as well. These are substantial investments to be made. There is capacity for the expansion of the Gold Coast University Hospital theatres from the 14 currently in use to the full complement of 20 theatres.

Expansion of anaesthetic services in order to support ECT services for Mental Health patients at the Gold Coast University Hospital is currently being progressed.

Consideration must be given to the value of an additional public hospital facility in the Gold Coast region, and the likely services to be accommodated in such a facility. Level 4 day surgery may be a consideration. However, in the Critical Care arena, there does need to be a concentration of expertise within the existing hospitals. This is to assure adequate patient volumes which translates to maintenance of professional expertise thereby ensuring patient safety and optimal patient outcomes.

Expanded services require an expanded human resource base. The professionals involved in Critical Care, Trauma and Perioperative care are highly specialised and require extensive professional preparation and ongoing education and professional development. Careful attention must be paid to developing career pathways for junior staff and training placements must be rewarding for participants in order to encourage retention following graduation. Ongoing relationships with the various professional colleges and local universities will be key to recruiting, retaining and developing staff.

The expansion of services will also require changes in the current models of delivery, and this includes:

- All multi-disciplinary professionals working at 'top of scope".
- Expansion of nurse-led and Allied Health-led interventions with appropriate education and supervision arrangements.
- Sub-specialising of Anaesthetic, Perioperative and Critical Care staff as the range of specialised surgical services expands (e.g. cardio-thoracic and neonates / paediatrics), befitting the increasing complexity of a tertiary facility like the Gold Coast University Hospital.

Future State

Critical Care, Trauma and Perioperative care will undergo several initiatives in the next ten years as follows:

By 2018

- Increase research to further develop new therapies and technologies, more efficient and effective service organisation, and to improve patient and family experience and outcomes.
- Improved family zone with amenities such as toilet / shower Robina ICU
- Greater use of well-timed nutritional and hormonal interventions to improve immunological and neuromuscular responses so as to aid healing and prevent debility.
- Model of perioperative care with focus on a patient-centred and physician-led multidisciplinary and team-based system of coordinated care that guides the patient throughout the entire surgical experience.

By 2021

- Intensivists present 24/7 to provide care exclusively in the ICU to improve care processes and patient outcomes
- Develop Robina as a high throughput day surgery/ambulatory care centre

Interdependencies

Critical Care, Trauma and Perioperative care are dependent on the following services:

- Medical Imaging
- Allied Health
- Pharmacy
- Biomedical
- Procurement
- Information Technology

An expansion in critical care and trauma services has a direct impact in the amount of Allied Health, Pharmacy and Medical imaging resources required. As these services are expanded, careful attention to expanded Allied Health services needs to be paid. Consideration also needs to be given to the "knock-on" effect of increased patient discharge to ward areas following expansion of theatre and critical care services.

Increasing complexity of theatre equipment will mean additional biomedical engineering services to ensure maintenance is attended. Consideration may need to be given to agile contract arrangements with equipment companies. Agile procurement strategies will enable

cost-effective purchasing of theatre and critical care consumables and prostheses.

Improvements in information technology, particularly around integration of various imaging, monitoring, pathology and medical chart applications will be key to improving patient outcomes. Opportunities for research around “big data” derived from the multiple and extensive monitoring that is undertaken in the perioperative and critical care arena will also provide avenues for improved patient care.

7.3.2 Head, Neck, Oral & Neurosurgical

Current capacity does not meet demand, and as a result there are increasing backlogs that cannot be serviced, in the following services.

- ENT (gap of circ 30-90 new patients slots per week)
- Ophthalmology (gap of circ 15-70 new patients slots per week)
- Plastics (gap of circ 4-27 new patients slots per week)
- Neurosurgical screening clinic (gap of circ 5-22 new patients slots per week)
- Neurosurgery
- Head and Neck services have recently increased OPD clinic capacity to ensure safe clinical services
- Oral Health demand among adult and aged care services

Future Activity Trends and Changes

It is expected that current growth trends will continue, relating to:

1. Growth based on the patients starting to attend a local hospital (rather than attending Brisbane) for either adult or paediatric services.
2. Growth of the Gold Coast population base will also facilitate the continued growth and increases in demand for the HNON services.

In parallel, there will be growth in trauma, as we are recognised as a trauma centre, and the impact on HNON services are likely to be greater for:

- Maxillofacial
- Plastics
- Neurosurgery

As a result of increasing prevalence and presentation of cancers, Head and Neck services, as well as Oral Health services will likely increase, coupled with population based growth and patients attending a more local hospital.

Neurosurgery

It is also expected that there will be increases to trauma element for Neurosurgery. The significant 'back pain' element of the current neurosurgery service will develop closer links with allied health models of care, and as a result the AHP services are likely to grow as there is wider recognition of theses skill sets amongst other professionals e.g. general medical practitioners. Robotics also presents an opportunity in neurosurgery with this already impacting in some Australian services and improving safety. This technology also comes at a cost.

ENT

It is expected that ENT will likely increase. This should be considered alongside population based growth and patients attending a more local hospital. There are also opportunities to expand the service to include cochlear implants at some point in the future. There are staff with expertise, and a local unmet demand from this specialty knowledge.

Ophthalmology

It is expected that ophthalmology will continue to increase, as a result of population growth and changes that will increase prevalence of the common ophthalmic conditions (diabetes, macular degeneration and glaucoma). One of the significant challenges for ophthalmology is that patients are not simply receiving a procedure and being discharged, but need ongoing review and monitoring, so the likely increases are not a single measurable increase, but a cumulative growth. This is particularly for glaucoma, macular degeneration and diabetes. While the current new to return ratio is 1:6, it can be expected to increase significantly before plateauing. There is no clear evidence to determine the specific level of growth; however, given evidence provided stating that those with private health insurance are opting out, downgrading, choosing higher excess, or switching providers for less expensive premiums, and with those over 60 with the greatest impact, the resultant impact on ophthalmology services will be significant.

Oral Health

The demand on oral health services will be maintained and likely increase as population growth continues and the population ages. The positive impact of new models of care coupled with technology [CAD Cam (3D printer)] has real potential to have a significant impact on efficiencies for the service.

The technology [CADCAM] also presents opportunities for extending its use into other areas e.g. Maxillo-facial services.

Future Service Direction

In short, the future is more of the same, but with greater volumes of patients passing through the service.

Trauma will have impact on:

- Maxillofacial
- Plastics
- Neurosurgery

Services are integrated with the multi-trauma services (helipad, critical care teams, trauma wards, theatre

requirement etc.). Any service expansion must therefore be within available Gold Coast University Hospital bed, ward, and theatre base.

With an increased staff platform for neurosurgery and plastics, the staff resource will be better placed to meet future demand. The consideration should be for the need for additional emergency trauma theatres and the associated resources and capital / equipment requirements for this.

Equipment requirements may include mobile CT, thus also servicing more than one theatre, but also potentially the needs of the commonwealth games. The opportunities with a CT also include improvements to the accuracy, efficiency and effectiveness of neurosurgical clinics. Other equipment to consider includes the robotic developments for neurosurgery. Funding has been secured for CAD CAM (3D printing technology) for oral health. The opportunities for this technology are likely to provide further opportunities across other services (beyond HNON) and this may be an area of growth.

There may be opportunities to explore:

- integrated models of care for neurosurgery (back pain) and
- telehealth for plastics thus offering alternative models of care, and potentially creating efficiencies / capacity in the system.

Given the significant deficiencies in capacity versus demand for ENT and ophthalmology, there will be a need for increasing OPD and theatre capacity for Ophthalmology/ENT services in the more immediate future. Physical space in OPD and OT will likely become a problem for both these services.

ENT Services

There may be opportunities to explore Allied Health models of care for ENT services (audiology, physiotherapy and speech pathology) which may address a significant capacity gap. Given the current facilities at the Gold Coast University Hospital it is prudent to use the purpose built audiology rooms, and ensure the services are collocated at the Gold Coast University Hospital. There is also potential to increase services offered, e.g. cochlear implants and there may be a need to invest in the associated technology, though most of the costs tend to be associated with monitoring and maintenance (e.g. through audiology). Changes will also likely increase the need for further consultant to facilitate surgical intervention (additional OT sessions required) and to support new models of care.

Ophthalmology Services

There are some opportunities to explore Allied Health models of care for ophthalmology services, though changes to the ophthalmology model of care will be more limited as this is business as usual with the regular use of orthoptists in clinics and recent recruitment process for an optometrist.

If the appointment of an optometrist is successful, then this may expand. There will be a need for further consultant FTE to match growth and this needs to be monitored relative to the demand. As a result, it is clear that there will be an increase in the requirements for clinic rooms.

Consideration of a 'Day Surgery Unit' for Appropriate Specialties

As a result of this, it is plausible to consider a separate 'day surgery' from the more complex overnight stays, however, if they are to be separated it is important that the following is noted:

- Potential for day surgery services – these could be done in partnership with the private sector facilities or a building for separate day surgery facilities.
- Services must remain on the Gold Coast University Hospital site, thus minimising transport time of staffing resource between campuses'. Given ENT and ophthalmology are small teams, the impact of travel will significantly have an impact on the ability of the teams to function efficiently and effectively, hence any planning for day surgery must be considered in this context.

Oral Health

Oral health is less likely to change dramatically and have recently received investment for the Southport Health Precinct (SHP), however further discussion could consider the ability to service the current fleet of mobile units and either up-grading the fleet or consider changes to future service delivery and identify fixed locations as an alternative. Units of 8 chairs or more would be optimum to provide opportunities for student placements and the supervision ratios. Demand for further paediatric theatre treatments is increasing and thus further investment in theatre digital imaging technology is essential.

Sterilisation of Oral Health instruments has been an ongoing concern and future planning of service expansion at Southport Health Precinct requires investment in CSD staffing, equipment and oral health instruments.

An ageing population will see a dramatic increase in demand for aged care services, particularly residence based care and associated investment in mobile dental

units and medical imaging technology. Investment in a much improved dental management software that better integrates with eMR and/or HBCIS would see considerable increases in service efficiencies and activity recording

Future State

The following represent the initiatives over the next ten years that would highlight the transition strategies:

By 2018

- Development of a day centre allowing elective day case surgery to progress uninterrupted.
- Changes to any mobile units should be in place by 2018, but would require greater evidence based on the specific locations, service demands and community expectations.
- Develop oral health's technology to service aged care facilities.
- Redesign of Oral Health service to meet demand and expansion. Recruit Oral Health to expand services

By 2021

- Develop Oral Cancer Prevention program to monitor and treat patients with precancerous lesions of the oral cavity
- Build capability to treat the full-spectrum of oral, dental, and jaw-related problems from simple tooth decay to complex maxillofacial defects secondary to surgery, trauma, and congenital deformities.

By 2026

- Develop use of three-dimensional radiographic anatomical displays in theatre
- Temporalis tendon transfers or gracilis free flap procedures to regain facial movement
- Image guided neurosurgery with the aid of a neuroradiologist

7.3.3 Surgical & Musculoskeletal Services

Future Activity Trends and Changes

There is a consistent increase in the activity for the Orthopaedic Service across both campuses and this is expected to grow in line with population increase.

Health Trends

Health trends demonstrate that the population is seeing an increase in Type 2 Diabetes and high cholesterol, both of which are having a negative impact on the increasing acuity of patients now attending the Gold Coast Health Service. In addition, other health indicators are also having an impact upon the current service provision since there has been an increase in each aspect as a percentage of the population. These health indicators are:

- Alcohol
- Smoking
- High blood pressure
- Obesity
- Sun exposure
- Disability rates

Of the disadvantaged in Queensland the disease burden is particularly high in the following areas:

- Lung cancer
- Colorectal cancer
- Obesity (adults and children)

When planning for future services, the above indicators suggest that patients are likely to have a higher acuity than in the past and will have multiple co-morbidities which may adversely affect positive patient outcomes, length of stay and cost of resources.

Future Service Direction

The future 'World Class' state should provide a full continuum of care anchored around capable and trusted primary care and a healthcare system delivering the highest quality through diagnostics and treatment.

A patient's journey through the healthcare system should begin at primary care as the first point of contact to access care. It should involve smooth transfer between different components of the healthcare system, and should entail significant provision of care in the community setting.

The ideal model of care must be integrated with different healthcare providers working cohesively to deliver an effective whole. This will require national and local programs and plans that deal with disease management and care pathways across the different entities and levels within the sector.

The strategic objectives articulate the priority outcomes which will ensure success. These are:

- Provide access to safe high quality health care
- Provide integrated healthcare
- Engage our community
- Value and empower staff
- Increase transparency
- Use resources wisely
- Develop a health and knowledge precinct

The service line recognises that it needs to both strengthen operational delivery to ensure delivery of existing key performance indicators whilst transforming the service to achieve the organisation's ambitious Vision.

Future State

Due to the predicted and continued increase in demands on the services, the changes in demographics and the geography of Queensland, the following future model of care attributes and initiatives are suggested:

Future Model of Care

- Robust referral systems and e-health.
- Preventative orientation: screening programs and prevention guidelines.
- World class primary care – first point of contact for patients.
- Standardisation of quality and care pathways.
- Targeted provisioning of tertiary care.
- Enhanced provision of continuing care
- Quality management system.

By 2018

- Dedicated day care facilities at Robina.
- A dedicated Orthopaedic Coder/increase in existing trained coders: ensure accurate payment is received.
- Further collaboration with Trauma and Plastics.
- Appointment of an ADON to support Orthopaedic Services across both hospital sites; opportunity to oversee outpatient, inpatient and plaster tech services.
- Dedicated Orthopaedic medical typist/increase in existing resources to ensure timely turnaround of clinical correspondence.

By 2021

- Development of a spinal trauma service in collaboration with Neurosurgery.
- Plaster Technology to sit with Orthopaedics: Up skill and certify nurses and other allied health professionals.
- Development of a Prosthetic/Orthotic Service in collaboration with Vascular Services: diabetic feet, amputee clinic, congenital abnormalities of babies.

- Further develop the Paediatric Orthopaedic Service in collaboration with Lady Cilento Children's Hospital: Lady Cilento capacity is currently being exceeded.
- Host cadaver workshops in conjunction with the University (revenue generator): currently cadaver workshops are held in Brisbane at the Medical Engineering Research Facility. Places for these workshops are oversubscribed with a 6 month waiting list. Opportunity to use the Common Wealth Games facilities to accommodate workshops and students.

By 2026

- Development of a further healthcare facility servicing the northern areas of the Gold Coast (Coomera region).
- The Gold Coast University Hospital to be the main hospital with Robina and a second healthcare facility being the feeder hospitals.
- Need a facility to support patients with chronic diseases who no longer need acute care (step down facility).

The shift will require enhancement of primary healthcare but must also ensure that acute care services meet evidence-based standards and adequately address the needs of the population.

7.3.4 Women's Newborn & Children's Services

Future Activity Trends and Changes

Children's Critical Care (CCC)

The CCC Service is currently co-located with the adult Intensive Care Unit at Gold Coast University Hospital, consists of 4 beds and admits approximately 500 patients each year with an average length of stay of 1.6 days. Approximately 80% of patients are unplanned with occupancy fluctuating between 1-5 patients in a 12 hour period.

The current model of care is easily scalable to match the needs of the expanding population and address increasing complexity in the children and families which is not unique to the Gold Coast. Families are presenting with a number of comorbidities influencing their care, the comorbidity can be related directly to the child or within their family, for example areas of growth are:

- Complex multi-specialty medical conditions
- Complex developmental disabilities, with and without medical comorbidities
- Surgical conditions including trauma, intra-uterine therapies and neonatal surgeries
- Mental health
- Domestic violence
- Drug and alcohol
- Ex-premature babies
- Refugees and cultural influences on clinical outcomes.

The projected top conditions by volume or cost are respiratory conditions at the top diagnostic group with bronchiolitis, asthma and pneumonia being the most common. These are followed by acute injury including trauma and ingestions. Elective post-operative admissions will increase with increased surgical activity locally and also the need to meet surgical targets in the South East Queensland region.

The projected top conditions by growth are:

1. Complex paediatric conditions due to syndromes or complex neonatal periods. These will also be long stay admission and will therefore have an impact beyond their numbers.
2. Development of subspecialty services will increase the capacity to manage patients and will therefore also place an increased demand on CCC beds as families choose to stay closer to home for the provision of complex medical care.
3. As Adult services also progress and their numbers and throughout increase there will be a move to raise the admission age to the CCC so that 15- 18 years olds will be managed in the Gold Coast University Hospital CCC rather than in the Adult Intensive Care Unit.
4. There will be limited capacity for the current level six Paediatric Intensive Care Unit (PICU) to manage the workload projected through to 2026. The Lady Cilento Children's Hospital PICU has been at physical capacity on occasions, less than one year after opening. Therefore the Gold Coast University Hospital CCC will need to manage more patients with a higher complexity. The opening of the Sunshine Coast University Public Hospital will reduce some of this pressure to 2021.

Increased elective surgical services with an increased bed base will decrease the instability and fluctuations in staffing requirements. Fluctuations currently between one and five patients are challenging to manage, but projected numbers to 2026 of 9-12 patients will pose less of a challenge.

There will be a need to provide local retrieval support requiring medical and nursing staff with significant critical care experience with a 24 hour a day availability.

Developments in accessible monitoring and well developed broadband services will allow for a more developed Hospital in the Home capacity. This will allow less unwell patients to remain out of hospital, but will effectively lead to an increased acuity of patients admitted to the paediatric ward.

Developments in gene mapping and identification of individual vulnerabilities to infection may lead to an earlier detection of potential severe diseases and a resulting reduction in the need for invasive management of sepsis. However, some of the patients may present to the hospital only for the first time (neonates, severe DKA etc.) and known vulnerable children can still become acutely unwell unexpected. The increasing safety in car design and development of self-driving/driving assisted vehicles may potentially reduce motor vehicle accidents, reducing paediatric trauma or any trauma in general.

The increased availability of devices for delivering hi-flow oxygen and other non-invasive therapies will lead to increased support of children with respiratory compromise, both in absolute numbers and also in complexity.

Tele-operating services (remote surgery) will lead to increased capacity to offer complex surgery in regional centres with adequate post-operative support also required.

Telehealth-rounding will allow large centres to support smaller centres in the management of acutely unwell

paediatric patients in situ, rather than transporting to a larger centre.

By 2018

- Full Children's Health Queensland Network (CHQN) program in place.
- Development of in-situ subspecialists listed above in the GCUH as part of the CHQN with joint appointments.
- GCUH CCCU moved to separate 10 bed Pod with full parent facilities.
- SMO staff in GCUH CCCS now paediatric intensive care specialist trained.

By 2021

- Initial planning for GCUH paediatric care block as part of CHQN
- The Development of a secondary children's service in one of the growth corridors.

By 2026

- Opening of the GCUH paediatric care block as part of CHQN with 3 pods of 12 beds PICU and a complex care/technology dependant ward for transition to home care and respite care service. Separate to Psychiatric Intensive Care Unit.

Paediatric Service

The under 14 year old population will increase by 42% and will be larger than the over 65 year population group in 2026. There will also be a 33% increase in the 15-24 year old young people's population by 2026.

The disease groups being treated in children have changed over the last 20 years due to changes in public health measures and a reduction in vaccine preventable disease. It is expected that the disease profile will continue to change over the next 20 years. We will see more survivors of newborn care, more complex and chronic diseases, increased rates of childhood obesity and increasing adolescent disorders. Transition will therefore become a larger issue as these young children become older driving the need for adolescent services up to 25 years. The boundary between child and adult services needs to be addressed through the provision of transition services many of which do not currently exist.

The increase complexity of cases will result in more prolonged and possible frequent admissions to hospital and more visits to ambulatory services. These will need to be catered with more pressure on bed capacity, outpatients, nurses, admin, allied health support, specialist doctors include sub-specialties (such as but not limited to neurology, gastroenterology, respiratory, endocrinology, cardiology, rehabilitation and CP health).

According to Australian Bureau of Statistics, the rates of asthma have plateau and remain fairly stable over the preceding decade. The infectious disease profile will change with further immunisation strategies. AIHW states that the rates of hospitalised cases in Australia rose by 1% per year in the age standardised rates. However, due to the population base we will continue to have chronic conditions such as Cystic Fibrosis. As we are screening for multiple endocrine and metabolic conditions after birth these children will be detected early avoiding major complications but will need long term care. Increasing birth population will lead to more cases.

Better antenatal care has resulted in less conditions such as Spina Bifida will continue to have a large population of children with Cystic Fibrosis. There will also be increasing numbers of children with type 1 diabetes, type 2 diabetes, oncology and haematology conditions. The current focus on acute care provision within GCUH will inevitably shift to acute care within ambulatory settings closer to home and in the home as well as a pivot to anticipatory and preventative services.

The Gold Coast is developing Service Level Agreements with Children's Health Queensland to ensure children receive the same standard of care across south-east Queensland. The SLA's will drive integration and shared staffing, training and research across the children's sector. Similarly, consideration should be given to the logical integration of local services within Children's Health e.g. Child & Youth Mental Health, parts of Alcohol & Other Drugs and service agreements with Headspace, the Benevolent Society, Cerebral Palsy League, Act for Kids, Montrose Access, Primary Health Networks and the National Disability Insurance Scheme.

The Gold Coast has the highest rate of Child Safety notifications in the state and the second largest population of children in statutory care in the state. The need for child protection resources will continue in proportion to population growth but will also be influenced by socioeconomic, political and legislative factors.

The expanding Paediatric Surgical unit will impact on the case load of theatres, CCCU, nursery, children ward, outpatients and all relevant interdependencies. Now with 3 Paediatric surgeons the workload will increase and more complicated surgeries will be performed at the GCUH. The Paediatric Surgical cover will cater for a larger population base beyond the Gold Coast Health District and will include northern NSW.

Mental health diseases remains prevalent in the adolescent age group and its associated morbidity such as malnutrition will impact on the acute paediatric settings. Admission for these children are usually

prolonged and ultimately with require specialised mental health nurses, psychologists and psychiatrists.

The Gold Coast has the highest rate of Child Safety notifications in the state and the second largest population of children in statutory care in the state. The need for child protection resources will continue in proportion to population growth but will also be influenced by socioeconomic, political and legislative factors.

Paediatric Service Directions:

Children's Emergency Department - Currently there are limited hours for children presenting to the Emergency Department resulting in adverse clinical incidents and a non-child friendly environment for care. The Children's Emergency Department needs to be fully functional.

Enhancing Allied Health Services - There is currently not a full suite of funded allied health services. Audiology services need to be planned and implemented. Music Therapy needs to become a sustainable resourced service and with the increased number of children requiring surgery in all specialities a Play Therapy service for the operating suite needs to be planned and resourced. A full allied health service to support Children's Rehabilitation services needs to be planned and funded.

Intensive Care Unit - As clinical need and population increases the number of critical care beds will be required to increase, this will mean the development of a full PICU service once 8 beds are operational. This will result in increased educational opportunities for all levels of staff.

Adolescent Health Service including an Eating Disorder Service - Current models of care for adolescents and young people are fragmented and delivered in a Children's environment. Better transition to adult care services needs to be explored and implemented. The paediatric team currently provides care to a large eating disorder population and a formal service should be developed. Ongoing pressure on limited inpatient beds may require the consideration of adolescent inpatient beds collocated in an adult inpatient ward.

Growth of Paediatric Surgical Service - This will involve growth of support services for Paediatric surgery. This will include a Child focussed delivery of operative services including a Neonatal/Paediatric anaesthetic service and a child focused recovery environment and PACU service including play therapy. Outreach to Northern NSW to ensure appropriate surgery is being performed closer to a child's home where appropriate. The service will aim for training status to have rotational Paediatric Surgical trainees. There may be a role to develop the coordinated statewide bariatric service for children as we are collocated with an adult surgical service.

Satellite Oncology Service from LCCH - Development of a full Level 5 Children's Oncology Service as per the CSCF to enable local children to have more services provided locally.

Children's Rehabilitation Services - Establishment of a hub rehabilitation service is required to support the CCCU/PICU services and to provide care for complex children with cerebral palsy and other complex needs locally. This needs to include a Botox service in cooperation with the State-wide Children's Rehabilitation Service.

Expansion Children's Surgical Services including anaesthetic support services - There will be increasing surgical activity with the development of surgical services. A full neonatal/paediatric anaesthetic service is required to support this activity.

Ronald McDonald House - As services increase accommodation options for families is required. A site has been allocated to build a Ronald McDonald house on the site. This needs to become operational.

Expansion of Ambulatory Services - Ongoing growth to meet current and projected demand is required. Expansion and changes to models of care for acute ambulatory services needs to be explored. Use of technology such as telehealth into the home needs to be considered and barriers such as activity funding need to be removed. Increased use of case management models for complex and high acuity regular users of the system need to be planned, resourced and implemented. Where this is happening in a limited manner it is proving effective. Use of Integrated Care for children needs to be urgently considered to provide equitable services to children.

Planning of inpatient beds - If current demand continues there will be significant pressure on the limited inpatient beds. Increased use of HITH and telehealth models may provide some buffer. If a further hospital is planned Paediatric Short Stay beds needs to be included in the planning.

Palliative and bereavement services for children and families - Due to the population size a coordinated and resourced bereavement service is required, the needs of families with dying children are different to families of dying adults and this needs to be a separate service. Current inequities exist in children and young people acing these services compared to adults.

Expansion of child protection services - Ongoing growth to meet current unmet need and projected demand is required.

Community Child Health

The significant increase in the under 14 age group in addition to the top DRG's reported which include domestic violence, developmental & learning problems, maternal mental health, mental health, sexual health, drug & alcohol use and genetic conditions lead to increased presentations of complex families to Community Child Health.

The demand for child development services currently outstrips capacity and will continue to increase with population pressure, increasingly complex families, especially children with diffuse brain injury exposed to drugs and alcohol antenatal. Resourcing for CDS is approximately 30% of Queensland Health benchmarks.

Urgent

- Dedicated fetal alcohol service
- Dedicated prenatal exposures service
- Child development resources to meet minimum requirements
- Dedicated ex-premature baby service
- Child protection resources to meet minimum requirements
- Integration of nurse navigator position within CCH
- Integration of child development services with subspecialty paediatric services
- Access to EMR including mobile e-health systems for home visiting staff

By 2018

- A national and international class leading prenatal exposures and fetal alcohol service including training and research centres in the proposed GCUH Research Centre within the Health Knowledge Precinct
- A state-wide service model for fetal alcohol and fetal exposures coordinated and lead by and from Gold Coast
- Child Development teams at Coomera and Palm Beach
- Integrated data systems across all nine CCH sites.
- Dedicated medical typist/increase in existing resources to ensure timely turnaround of clinical correspondence.
- Development of a youth at risk collaboration with Queensland Police, Juvenile Justice, AODS and Child & Youth Mental Health leading to a statewide model coordinated from the Gold Coast

By 2021

- Further develop CCH services in collaboration with Children's Health Queensland.
- Host a national fetal alcohol & fetal exposures conference

By 2026

- Development of a full CCH centre in Coomera
- Virtual facilities to support parents of children with chronic developmental disorders
- Host an international fetal alcohol & fetal exposures conference
- Be the preferred CCH service, research and training institution for fetal alcohol and fetal exposure disorders in the Southern hemisphere.

Gynaecology Service

Data trends demonstrate a rise in activity within Gynaecological Services and it expected that this trend would continue.

As the population increases it is predicted that the technologies will develop and more procedures will be managed as day cases or though outpatient services. The beds required for overnight complex women in a stable population would decease however, with an increase in population and increase in elderly each would like balance the other out to maintain a stable requirement for the number of gynaecology beds required for the acute setting, assuming the new technologies are embraced either through funding or the appropriately skilled staff.

Our women are becoming more complex with the ageing population, comorbidities and obesity all adding to the complexity of clinical care. Increase in outpatient gynaecological procedures such as Hysteroscopy; Urgynaecology; Colposcopy; PMB (Pipelle); Menorrhagia; Pelvic Pain; Vulval Skins; Endometriosis.

Gynaecology Service Directions

Attract more skilled clinicians who can bring cutting edge procedures and work with GCHHS towards a world class service in Gynaecology. It is proposed that Robina ceases doing complex general gynaecology where there is no specialised medical night cover backup for practitioners doing major surgery on this site. Robina could then become a high volume centre for day case gynaecology in addition to and providing outpatient services to the community. Other community centres could develop as the numbers increase but this does take the clinician away from the main centres and decreases backup for complex clinical events.

The development of a day cancer centre on the Gold Coast to provide practical, emotional and social support to patients and their families experiencing cancer. This

would be a co-joint project with community services, local government and CASS. Total revision of the Colposcopy Service with the introduction of nurse colposcopist's nurses trained in this procedure that can increase throughput and improve clinical outcomes as highly trained specialists. Once moved into the tertiary arena the GCHHS can become a leader in gynaecological research, clinical audit and standard setting.

Service Transition Strategies

By 2018

- A total review and change in priorities across gynaecological services to ensure the provision of right service, right place and right clinician working towards a world class service at the GCHHS.
- Develop a Gynaecology hub for multidisciplinary teams.
- Work towards a research focus.
- Develop an outpatient services for direct access bypassing the Emergency Department Monday to Friday during the day. Also develop a colposcopy service at GCUH with nurse colposcopist and outpatient urology & hysteroscopy services

By 2021

- Developing towards a world class leader in specialist gynaecological services such as urogynaecology and gynae/oncology
- A plan or development of a Cancer Care drop in centre with other service lines and local community/government services
- Implement PEHCR medical record which is owned by the patient and can be accessed from General Practitioners, private specialists, diagnostic centres and the HHS.

By 2026

- Cancer Care drop in centre up and running.
- Increased services across all streams.

Maternity Service

Maternity activity has increase since the opening of the Gold Coast University Hospital. This is due to the hospital being new as well as a population increase to the region. The Maternity Service is evolving and the community of the Gold Coast are asking for models of care that provide continuity throughout the journey of pregnancy, birth and postnatally.

The Midwifery Group Practice model provides continuity of care for women and is very popular with the community. Evidence demonstrates that this model improves outcomes for mother and baby in RCTs across both normal and all risk models (Cosmo and M@ngo). There are publically funded Home Birth Programs in most states and Gold Coast Health could support the expansion of continuity models together with the development of publically funded home birthing program and or a birth centre model in the community.

Women prefer continuity of care models and the Maternity Service will work on developing this further to en ideal model of all women receiving midwifery continuity through public and private midwifery models both working in collaboration with Obstetrics.

There is also a trend in increasing acuity of our women, not unique to the Gold Coast. Women having babies are presenting with a number of comorbidities influencing their care. Areas of growth are:

- Mental Health
- Drug & alcohol services
- Gestational diabetes
- Foetal anomalies
- Multicultural aspects
- Refugee women
- Vulnerable families

As the complexity increase there will be the development of a Obstetric Medicine Unit with specialised physicians to support the complex women.

The service will have many points of entry into antenatal care which will be provided in community-based maternity centres and at outreach locations by a mix of public and private providers. Continuity of care will be ensured by use of a primary carer who remains with the female throughout her pregnancy, birth and postnatal care. The full range of clinical care, from primary to tertiary, will be provided by Gold Coast Health using integrated care processes. The patient care environment will be healing, home-like and family-friendly. A high quality of service will be supported by access to the latest clinical technology and by access to any social or community services that the family may need.

Services will be provided by a number of multidisciplinary teams that support a particular community within the Gold Coast Region and work across the community and the hospital. The expansion of maternity group practice and the exploration of maternity aides to meet staff requirements without interfering with the model, will be carefully planned and implemented.

Facilities for the delivery of maternity services will be de-centralised, as far as possible. With a cluster of services in place to meet the range of local needs. New maternity care centres and home birth support services will offer non-hospital options for birthing which will integrate Gold Coast Health services with GPs, maternal and child health nurses and other community care providers. This will be supported by enhanced acute

tertiary services within Gold Coast Health, based at the Gold Coast University Hospital, supported by the neonatal intensive care unit, and enhanced paediatric emergency department capability.

This Maternity Model of Care will offer more variety for birthing locations, enabling women to choose the service that fits their needs and a capability to receive maternity care locally.

To support the Maternity Services the Maternal Fetal Medicine Unit will continue to grow and develop services for the complex women. As clinicians skills develop procedures will become more complex to support the service at a Tertiary Level.

The Maternity Services should be supported by a fully functioning Tertiary Neonatal Unit.

Maternity Service Directions
Major changes to Maternity Services Include:

- The development of an obstetric medical unit to support high risk births
- Increase in midwifery based continuity models, Mother and Baby unit
- Neonatal survival and supports required
- Mental health and drug and alcohol programs
- Development of multidisciplinary models for neonates in the community with complex needs due to gestational age
- CALD specific care models
- Aboriginal health programs and continuity care model

Service Improvements
Individualised Care - Care delivery will be responsive to personal preferences and tailored to the mother and baby. This will be enabled by a care team with the wide range of skills required to address the different individual needs of women, babies and their families.

Informed Choices - Women will be linked to information about the care process and the range of local services available to them. They will also be supported to understand their options and fully participate in the decisions related to their care.

Continuity of Care - Mechanisms will continue to be in place to ensure continuity in the providers of care across the various service elements and over the time period from pre-natal care to delivery, and on to post-natal care (the primary midwife model). Depending on the needs of the woman and baby, a broad range of staff clinical skills and services will be available across the care continuum including social and psychological support as well as specialist physical care.

Quality & Safety - GCUH is committed to ensuring the best clinical outcomes for mothers and babies. Maternity services will continue to focus on the delivery of safe, high quality services. Clinical governance arrangements will ensure that appropriate professional standards, reporting, and accountability measures are in place.

A Family Focus - Maternity services will ensure that families are involved and supported. New facilities will be designed to ensure that they are family-friendly.

Accessibility - The development of a new range of local community and home based services and increased service capacity aims to improve access to maternity care for women living in Gold Coast catchment area. More flexible referral and scheduling systems and locally based services will enable women to have more convenient access to maternity services. Effective linkages with rural and other metropolitan service will continue to develop.

By 2018

- A defined model of care for Maternity Services based on community input and increased continuity of care models by 30% supported in local community centres. Additionally, Community Neonatal Support Centres within community multidisciplinary setting.
- Partnerships with local government to develop infrastructure for ambulatory and birthing services in the community
- Review of Maternity and Triage Unit model of care
- Develop Units: Pregnancy Day Stay Unit (Possibly co-locate this service with inpatient units for antenatal and gynaecology), Obstetric Medical Unit, and Gynaecology Antenatal Unit as service grows
- Neonatal Intensive Care Unit providing care for all appropriate infants.

By 2021

- Development of ambulatory and birthing centres within local community services
- Development of a secondary maternity service in one of the growth corridors.

7.3.5 General Surgery & Digestive Health Services

Future Activity Trends and Changes

Since the opening of the new hospital at the Gold Coast University Hospital, General and Acute Surgical activity has seen an increase in activity across most of its areas and the acuity of patients coming in to the service are becoming more complex. The activity at Robina Hospital has remained relatively stable.

Health trends demonstrate that the population is seeing an increase in Type 2 Diabetes and high cholesterol, both of which are having a negative impact on the increasing acuity of patients now attending Gold Coast Health. In addition, other health indicators are also having an impact upon the current service provision since there has been an increase in each aspect as a percentage of the population. For example:

- Alcohol
- Smoking
- High blood pressure
- Obesity
- Sun exposure
- Disability rates

Of the disadvantaged in Queensland the disease burden is particularly high in the following areas:

- Lung cancer
- Colorectal cancer
- Obesity (adults and children)

When planning for future services, the above indicators suggest that patients are likely to have a higher acuity than in the past and will have multiple co-morbidities which may adversely affect positive patient outcomes, length of stay and cost of resources, for example.

Future Service Direction

The future 'World Class' state should provide a full continuum of care anchored around capable and trusted primary care and a healthcare system delivering the highest quality through diagnostics and treatment.

A patient's journey through the healthcare system should begin at primary care as the first point of contact to access care, should involve smooth transfer between different components of the healthcare system, and should entail significant provision of care in the community setting.

The ideal model of care must be integrated with different healthcare providers working cohesively to deliver an effective whole. This will require national and local programs and plans that deal with disease management and care pathways across the different entities and levels within the sector.

The ambitions of a world class health system will require General and Acute Surgical Services to undergo significant redesign reform. The current system is weighted more toward an acute, curative, hospital-based approach, and the current infrastructure is centred on a hospital-focused model of care. The existing primary care system does not play a sufficiently strong role in preventing, monitoring, and treating diseases.

It is well recognised that healthcare needs to shift to a more preventive and community-based model, with better coordination and improved quality at all levels of care.

The service line recognises that it needs to both strengthen operational delivery to ensure delivery of existing key performance indicators whilst transforming the service to achieve the organisation's ambitious Vision.

Due to the predicted and continued increase in demands on the services, the changes in demographics and the geography of Queensland, the following future model of care attributes and initiatives are suggested:

Future Model of Care Attributes:

- Robust referral systems and e-health
- Preventative orientation: screening programs and prevention guidelines
- World class primary care – first point of contact for patients
- Standardisation of quality and care pathways
- Targeted provisioning of tertiary care
- Enhanced provision of continuing care
- Quality management system

7.3.6 Physiotherapy

Future Activity Trends and Changes

Physiotherapy service demand has grown in line with acute service growth with a trend toward higher usage in the community. Factors increasing the need for Physiotherapy services include:

- Growth in age groups 0-14 years and over 65 years.
- Growth in chronic disease risk factors.
- Increased acuity of patients being treated at Gold Coast University Hospital for example trauma, oncology and neonates.
- Higher through-put within Acute Based services (GCUH and Robina) with increased need to discharge patients with more complex needs.
- Increased consumer expectation for services closer to home.
- Increased referral volumes to specialist services outstripping capacity and new models of care such as Primary Contact Specialist Allied Health clinics being utilised.

Future Service Direction

Broad strategies to address the above issues that Physiotherapy will be involved in:

1. Invest in expanded/full scope of practice primary contact Physiotherapy services to increase the capacity of the health service to provide specialised advice and treatment for:
   - Orthopaedic
   - Neurosurgical
   - Paediatrics
   - Pelvic Floor Dysfunction
   - Vestibular services.
   - Emergency Department

   a. Major changes in service direction required:
   - Increased investment in workforce and training for these positions.
   - Legislative changes to allow scope of practise to maximise the roles impact.
   - Model of care changes to facilitate patient flow into these services.
   - Resourcing of Administration support and accommodation for these services.

   b. Major investment:
   - Workforce:
   - Advanced Physiotherapists and Administration support.
   - Accommodation: space within Specialist OPD/ Community Centres/Primary Care.
   - Co-location with Specialist Medical Officers is beneficial.
   - Information sharing technology linking primary health Care with Specialist services.

2. Interventions provided close to patients homes:

Major investment required:

- Multipurpose Therapy areas (gyms)/treatment rooms for children and adults to support management of life-style related conditions, developmental conditions, rehabilitation from trauma and vascular related conditions.
- Expansion of Robina Health Precinct, development of a Precinct in the North.

7.4 Mental Health and Specialist Services

Future Activity Trends and Changes

Gold Coast Health Mental Health and Specialist Services are currently delivered via an integrated system of assessment, intervention and management across the full care continuum providing services to all age groups in inpatient and outpatient settings.

In line with the National Mental Health Plan, services are focused on the paradigm of recovery emphasizing the need for a comprehensive community based service system in which all sectors take responsibility for the health of their community by providing collaborative mental health and support mechanisms.

Community Mental Health currently utilizes 27% of total mental health expenditure and there is growing demand to deliver family-focused, person-centered interventions for complex mental health situations. This requires the implementation of innovative models of care supported by commitment to creating opportunities for stakeholders to design, conduct and evaluate research transferring new knowledge and skills into practice.

Early identification and intervention in preventing or minimizing the risk of chronic and enduring illness and disability in the mental health population is a consistent theme, predominantly in the youth age range.

Suicide prevention and risk management is a challenge, particularly in the area of managing chronic risk or episodic risk associated with intoxication. Research in contemporary best practice models of care in this area is currently underway.

State and Federal Legislative and policy changes including the establishment of the National Disability Insurance Scheme on 1 July 2016, the *Queensland Mental Health Bill 2015*, and the National Mental Health Commission Review of Australian Mental Health Services in 2014 will have a significant impact on the planning and delivery of all mental health and specialist services. The impact and application of these significant reforms for Gold Coast Health will become clearer by 2018.

Key social and environmental considerations in planning to meet future mental health demand include:

- An ageing workforce, limited research capacity, advancing scope of practice and finite financial resources.
- Access barriers including infrastructure gaps in public transport and service availability in the Northern catchment area.
- Rise in homelessness and decrease in housing affordability.
- Transient and tourist populations.
- Changing trends in the type and complexity of substance abuse
- Clusters of communities with high need for example, the northern corridor region with high numbers of young families.
- Cross border complexities due to population movement and differences in legislation and treatment models.

Advancements in business and treatment technology have the potential to transform service delivery. There is an immediate need for improvement in patient information systems with fully accessible, integrated electronic records. This will enable expectation to be met regarding increased shared decision making and self-management capacity.

There are significant advances in treatment technology in particular treatment resistant depressive illness with emerging surgical interventions as a viable treatment alternative to existing modalities. Clinical trials by the Black Dog Institute in Australia have found improvement in all areas of functioning with the use of Deep Brain Stimulation and Transcranial Magnetic Stimulation to alleviate depression that has been unresponsive to all interventions. Research continues to explore the potential benefits of these treatments on other conditions such as schizophrenia, autism and obsessive-compulsive disorder.

The increased use of illicit substances such as methamphetamine (Ice) and the associated impact on demand for mental health services on the Gold Coast requires immediate attention without diluting services available for other substance use issues. From 2013 to 2015 admissions to the Gold Coast Health Acute Mental Health Inpatient Unit related to Drug Induced Psychosis increased by 74%.

There are a growing number of individuals from all age groups with prescription medicine misuse, particularly opioids and there is an increase in evidence of the negative impacts of synthetic cannabinoids. It is increasingly likely that there will be a move to legalizing cannabis for the treatment of some medical conditions which may

have an impact on persistent pain management requiring further exploration.

Nationally, it is estimated that in the next 10 years the number of people living with persistent pain will grow by approximately 16%. Clients of the Gold Coast Interdisciplinary Persistent Pain Centre often have co-morbidities with a new group of consumers falling within a tri-diagnosis category of persistent pain, substance misuse and mental health issues. Treatment planning and provision for this group is challenging and requires a multi-disciplinary approach to ensure treatment and care is not solely reliant upon procedural intervention. There is an immediate need for engagement with tertiary education providers in the area of pain specialisation to ensure this area does not become a boutique and exclusionary profession.

There are currently approximately 8 adult mental health patients under 65 years who have a cognitive disability requiring ongoing care, who are presently in inpatient beds. There are no nursing homes in the Gold Coast designed to manage the needs of younger people with disability. Such individuals tend to be placed in aged care residential facilities (ACRFs) which are not appropriate to their needs with minimal ongoing outreach support. Other patients remain in acute hospital beds as no appropriate discharge placement opportunities are available. This is a significant cost to Gold Coast Health and causes bed blocking. Future provisions are required to better accommodate the needs of this patient cohort in an out of hospital setting.

Offender Health Services provides primary health care and exit liaison to inmates at Numinbah Correctional Centre; a women's low security prison supporting women who are generally serving short sentences or who are in latter stages of their incarceration period. The capacity of Numinbah Correctional Centre has risen by 134% from 2012 to 2015 presenting a need to monitor resourcing and the risk associated with the higher health needs of the prisoner population.

Future Service Direction

Over the next 10 years Mental Health and Specialist services will focus on enhanced value, enhanced patient experience and improved population health outcomes. This will be achieved through demand targeted location of services enabling geographical self-sufficiency.

Services will be delivered initially in Northern, Central and Southern catchment regions, growing to include a Northern-Western catchment beyond 2019.

Improvement priorities by 2026 include:

- Expansion of Mental Health ambulatory services with emphasis on dual diagnosis, early intervention and maximising access to National Disability Insurance Scheme.
- Commissioning of the *Orchid* female friendly, older person's acute mental health beds and mother and baby beds.
- Increase primary healthcare engagement as an extension of the Acute Care to respond to community suicide.
- Ongoing improvement and sustainability of cultural capability of staff.
- Improve access to allied health services for community mental health with dedicated clinical pharmacists.
- Commission a Secure Mental Health Rehabilitation Unit at the Gold Coast University Hospital.
- Establish a Youth Community Care Team with rapid response capacity.
- Establish a drug and alcohol detoxification unit.
- Develop a specialist Forensic mental health service.
- Expand partnerships with primary care and other community service providers with a focus on:
    - Physical health clinics and older person clinics
    - Residential crisis and respite services (step up/step down models)
    - Day programs/Group based work
    - Rehabilitation and support services
- Workforce sustainability initiatives including:
    - Staff training in resilience.
    - Enhanced career pathways.
    - Ensuring clinical staff are working to full scope of practice and supporting advanced practice roles.
    - Expanded scope of role for the peer and carer workforce models.

Targeted geographic location of Mental Health services in a hub and spoke model by 2026:

	Northern Catchment Area	Central Catchment Area	Southern Catchment Area	North-Western Catchment Area Community Programs
Services	▪ Adult Mobile Intensive Rehabilitation team ▪ Adult Community Care team ▪ Child & Youth Community Clinic with peri-natal and infant mental health services ▪ Older Persons Community Mental Health team ▪ Alcohol and Other Drug Service ▪ General Practice Clinic ▪ Non-Government Organisation drop in centre	▪ Acute Care Team • Emergency Psychiatric Service • GCHHS Mental Health 1300 number ▪ Community Care team ▪ Adult Mobile Intensive Rehabilitation Team ▪ Homeless Health Outreach Team ▪ Needle and Syringe Program ▪ Alcohol and Other Drug Service ▪ Child & Youth Community Clinic ▪ EVOLVE team ▪ Mother and Baby Unit ▪ Older Persons Acute Mental Health ▪ Mental Health Rehabilitation Service ▪ Community Care Unit - Central ▪ Electroconvulsive Therapy treatment for inpatients and outpatients for Northern and Central ▪ Detoxification Unit	▪ Child & Youth Community Clinic with infant mental health program ▪ Child & Youth Access team ▪ Older Persons Community Mental Health team ▪ Alcohol and Other Drug Service ▪ Adult Community Care Team ▪ Adult Mental Health Recovery Team ▪ Early Psychosis Treatment Team ▪ Acute Young Adult MH Unit providing Psychiatric Intensive Care ▪ Acute Adult Unit ▪ Child & Youth Unit ▪ Older Persons Unit providing sub-acute and extended treatment ▪ Extended Treatment Unit ▪ Extended Rehabilitation Unit ▪ Electroconvulsive Therapy Treatment for inpatients and outpatients. ▪ Community Care Unit - South	▪ Adult Mobile Intensive Rehabilitation team ▪ Adult Community Care team ▪ Child & Youth Community Clinic, peri-natal and infant mental health ▪ Older Persons Community Mental Health team ▪ General Practice Clinic ▪ Non-Government Organisation drop in centre
Facility	Community Services co-located at a purpose built Mental Health facility at Coomera.	Community Services co-located in a purpose built Mental Health facility located less than 5 kilometres from Gold Coast University Hospital.	Community programs are currently co-located in a Palm Beach clinic. Future modifications may be required beyond 2018 to ensure alignment with Northern services.	Community Services co-located at a purpose built Mental Health facility at Upper-Coomera.
Workforce	50FTE to 70FTE by 2026 plus capacity to accommodate up to 10 additional FTE from General Practice and Non-Government Organisation Programs.	130 FTE plus capacity to accommodate up to 10 additional FTE from General Practice and Non-Government Organisation Programs.	Current plus growth	80FTE by 2026 plus capacity to accommodate an additional 10 FTE from General Practice and Non-Government Organisation programs.

8 Clinical Services Capability Framework 2016-2026

The Clinical Services Capability Framework (CSCF) for public and licensed private health facilities outlines the minimum support services, staffing, safety standards required in both public and private health facilities to ensure safe and appropriately supported clinical services. Gold Coast Health is required by legislation to undertake a CSCF self-assessment each year which is reported to Queensland Health and in some areas is linked to funding through the Service Agreement with Queensland Health. Consultation has identified projected increases in capability for Gold Coast Health facilities to 2026.

	Gold Coast University Hospital and Southport Precinct				Robina Hospital and Robina Precinct				Future Northern Corridor Services			
	Current	2017/18	2020/21	2025/26	Current	2017/18	2020/21	2025/26	Current	2017/18	2020/21	2025/26
Cancer												
Haematological Malignancy	6	6	6	6	-	-	-	-	-	-	-	-
Medical Oncology	6	6	6	6	-	-	-	-	-	-	-	-
Radiation Oncology	6	6	6	6	-	-	-	-	-	-	-	-
Cardiac												
Cardiac (coronary) Care Unit	6	6	6	6	4	4	4	4	-	-	-	-
Cardiac Diagnostic and Interventional	6	6	6	6	3	3	3	3	-	-	-	-
Cardiac Medicine	6	6	6	6	4	4	4	4	-	-	-	-
Cardiac Rehabilitation	6	6	6	6	6	6	6	6	-	-	-	-
Cardiac Surgery	6	6	6	6	-	-	-	-	-	-	-	-
Critical Care												
Emergency	6	6	6	6	4	4	4	4	-	-	2#	2#
Intensive Care (1)	6	6	6	6	4	5	5	5	-	-	-	-
Medical and Sub-acute												
Medical (2)	6	6	6	6	4	4	4	4	-	-	-	-
Palliative care	4	4	4	4	5	5	6	6	-	-	1	1
Rehabilitation	5	6	6	6	5	5	5	5	-	-	-	-
Renal	5	5	5	5	4	4	4	4	-	-	2	2
Support Services												
Anaesthetic	6	6	6	6	4	5	5	5	-	-	-	-
Medical Imaging	6	6	6	6	4	4	5	5	-	-	1#	1#
Nuclear Medicine	5	5	5	5	-	-	4 ^	4	-	-	-	-
Pathology (3)	6	6	6	6	4	4	4	4	-	-	2#	2#
Pharmacy (medication services) (4)	6	6	6	6	5	5	5	5	-	-	2#	3#
Surgical												
Surgical	6	6	6	6	4	5	5	5	-	-	-	-
Surgical Oncology	6	6	6	6	4	5	5	5	-	-	-	-
Perioperative												
Acute Pain	5	6	6	6	5	5	5	5	-	-	-	-
Day Surgery (5)	4	4	4	4	4	4	4	4	-	-	-	-
Endoscopy	6	6	6	6	4	5	5	5	-	-	-	-
Operating Suite and CSD	6	6	6	6	4	5	5	5	-	-	-	-
Post anaesthetic care	6	6	6	6	4	5	5	5	-	-	-	-
Women's, Newborn and Children's												
Children's Anaesthetic	4/5	5	5	5	3	3	3	3	-	-	-	-
Children's Cancer	5	5	5	5	-	-	-	-	-	-	-	-

Children's Radiation Oncology	5	5	5	5	-	-	-	-	-	-	-	-
Children's Emergency	5	5	5	5	4	4	4	4	-	-	-	-
Children's Intensive Care (6)	4/5	5	6	6	-	-	-	-	-	-	-	-
Children's Medical	4	5	5	5	3	3	3	3	-	-	1	1
Children's Post anaesthetic care	5	5	5	6	4	4	4	4	-	-	-	-
Children's Surgical (6)	4/5	5	6	6	3	3	3	3	-	-	-	-
Maternity	6	6	6	6	-	-	-	-	-	-	1	1
Neonatal	6	6	6	6	-	-	-	-	-	-	1	1

Mental Health Services	Gold Coast University Hospital and Southport Precinct				Robina Hospital and Robina Precinct				Future Northern Corridor Services			
	Current	2017/18	2020/21	2025/26	Current	2017/18	2020/21	2025/26	Current	2017/18	2020/21	2025/26
Adult Services												
Ambulatory	4	5	5	5	4	4	5	5	-	-	4	4
Acute inpatient	5	5	5	5	5	5	5	5	-	-	-	-
Non-acute inpatient (7)	-	-	5	5	4	4	4	4	-	-	-	4#
Child and Youth Services												
Ambulatory	4	5	6	6	4	5	6	6	-	-	4	4
Acute Inpatient	-	-	-	-	5	6	6	6	-	-	-	-
Non-acute inpatient	-	-	-	-	-	-	-	-	-	-	-	-
Older Persons Services												
Ambulatory	-	-	-	-	4	4	5	5	-	-	4	4
Acute inpatient (8)	-	4	4	4	4	4	4	4	-	-	-	-
Statewide and Other Targeted Services												
Adult Forensic Services	-	-	-	-	-	-	-	-	-	-	-	-
Child and Youth Forensic Services	-	-	-	-	-	-	-	-	-	-	-	-
Deafness and MH Services	-	-	-	-	-	-	-	-	-	-	-	-
Eating Disorders Services	-	-	-	-	-	-	-	-	-	-	-	-
Emergency Services	5	5	5	5	4	4	4	4	-	-	-	-
Evolve Therapeutic Services	5	5	5	5	-	-	-	-	-	-	-	-
Homeless Health Outreach Services	5	5	5	5	-	-	-	-	-	-	-	-
Perinatal and Infant Services (9)	4	5	5	5	4	4	4	4	-	-	-	-
Transcultural Services	-	-	-	-	-	-	-	-	-	-	-	-

Notes: (1) For Intensive Care to become a Level 5 service at Robina it will require an increase in Medical, Cardiac Care Unit, Cardiac Diagnostic and Interventional and Cardiac Medicine services that has not been included in the HSP. Cardiac Diagnostic and Interventional will require capital investment for appropriate space and equipment

(2) Investment in services such as Dermatology, Rheumatology, Infectious Diseases and Immunology is required to enhance medical capability and increase the self-sufficiency of GCHHS

(3) Some Level 6 pathology services are currently provided from Brisbane laboratories, plan is to provide these on-site in the future

(4)Pharmacy service for cancer and blood disorders is currently at Level 6, all others are delivered at Level 5

^ Will require capital investment at Robina for appropriate space and equipment

These developments could potentially be delivered in partnership with third party providers

(5) May be provided on site within the health facility or adjacent campus including third party providers and co-located with a Level 3 or 4 Endoscopy service

(6) Provision of Children's Surgical and Intensive Care at Level 6 will require an increase in Children's Anaesthetics and Post Anaesthetic Care (not planned to increase until 2025/26) that has not been included in the HSP. Children's Surgical would also require a range of children's surgical sub-specialities and consideration within the state-wide plan for Children's Health.

(7) Build and commissioning of a Mental Health Medium Secure Unit (Level 5) at GCUH

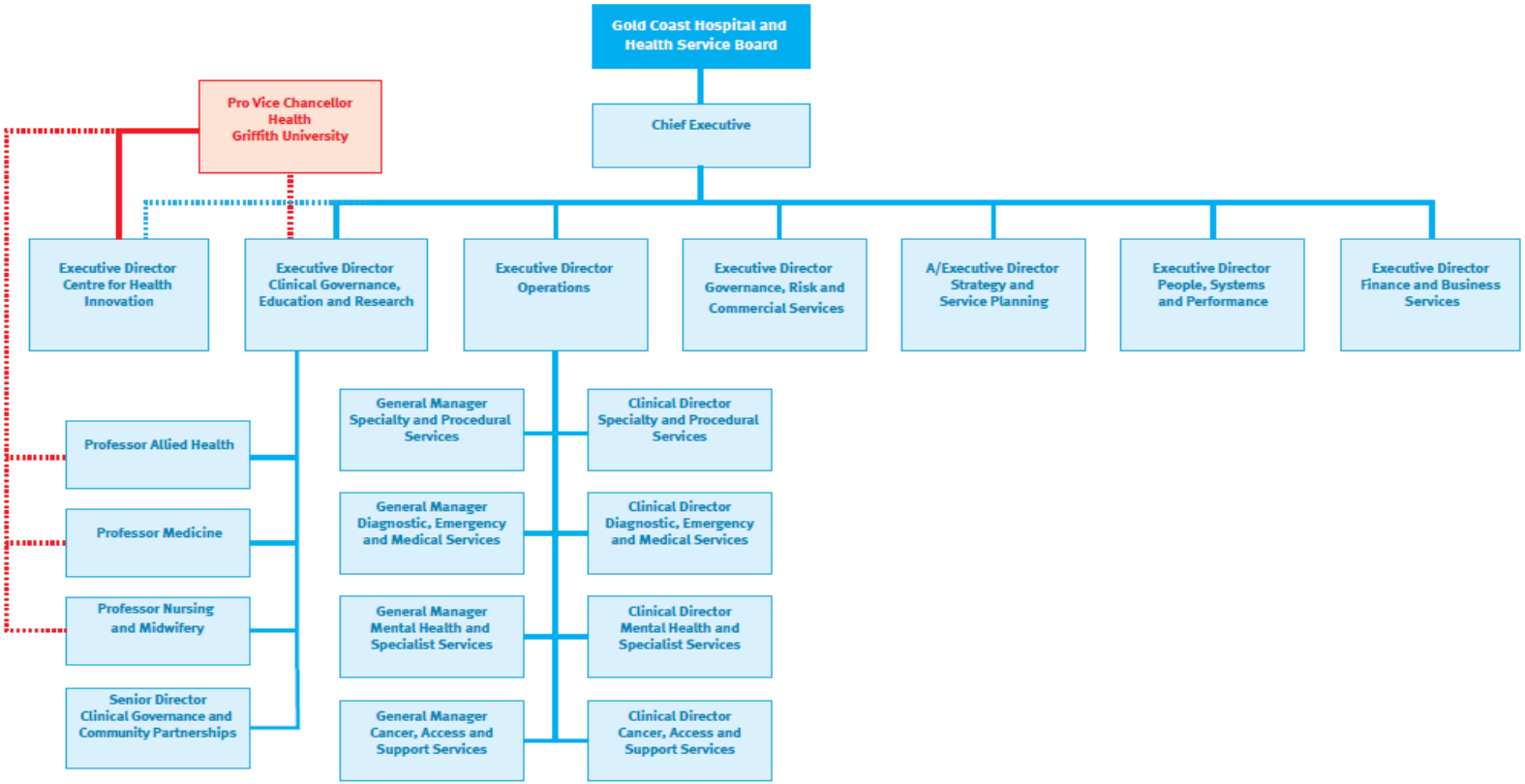
(8) Commissioning of older persons beds in the Orchid Unit at GCUH

(9) Commissioning of purpose-designed Mother and Baby beds in the Orchid Unit at GCUH

Community Care Unit (Level 4) will require on site Level 3 medication. These developments could potentially be delivered in partnership with third party providers.

9 Appendix

9.1 Organisational Structure 2016



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