Darling Downs Health

Health Service Plan

2019/2029

Caring for our communities -
healthier together

Queensland Government

Darling Downs Health

Health Service Plan 2019/2029

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Acknowledgement of
TRADITIONAL OWNERS

Darling Downs Health respectfully acknowledges the Traditional Owners, both past and present, of the region we serve.

Darling Downs Health has a commitment to reducing inequalities in health outcomes for Aboriginal and Torres Strait Islander people in line with Australian and State Government policies including the Closing the Gap initiative.

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Abbreviations

AIHW	Australian Institute of Health and Welfare
AIM	Acute Inpatient Modelling
ALOS	Average Length of Stay
AMS	Aboriginal Medical Service
AODs	Alcohol and other drug services
COPD	Chronic obstructive pulmonary disease
CSCF	Clinical Services Capability Framework
DDH	Darling Downs Health
DDWMPHN	Darling Downs West Moreton Primary Health Network
DMOC	Diabetes Model of Care
DoH	Department of Health
ED	Emergency department
FTE	Full time equivalent
GP	General practitioner
HITH, HINH	Hospital in the home, Hospital in the nursing home
ICT	Information communications technology
ON	Overnight
SA2	Statistical area two
RU	Relative utilisation
SRG	Service Related Group
TH	Toowoomba Hospital

Foreword

As Chair of Darling Downs Health Board, I am delighted to endorse the 2019/2029 Health Service Plan. I am confident of this plan's potential to inform future health care investment to deliver the right care, at the right time, in the right place.

The plan articulates a vision for how we will meet the health needs of our communities over the next decade and how we will continue to deliver these services at a high standard.

Darling Downs Health consistently delivers world-class health care to our communities, but it is important that we continue to scan the horizon for where we should invest resources to future-proof our services. With the consistent increase in demand for our services, I am proud of what we have achieved across a large geographic region with an increasingly difficult caseload of patients presenting with chronic diseases.

This plan provides a roadmap for how Darling Downs Health will meet the challenges in the next ten years. It is based on a thorough investigation of our population's health needs and service gaps as well as the results of an extensive consultation and engagement process. I thank the many staff who have taken the time to contribute to the plan and community, residents and partners who shared their ideas about how we can work together to deliver better access, care and treatment for the communities we serve.

Charting a 10-year course for a complex and large organisation in a rapidly changing environment is an ambitious task. This plan is realistic about the challenges we face and the necessary strategies to meet the needs of patients and consumers including Aboriginal and Torres Strait Islander peoples, children, the elderly and people living with mental illness and chronic disease. Innovation and education will be pivotal in transforming and optimising our services to manage demand. Growing our capacity is crucial and this includes replacing and improving our ageing infrastructure and developing our workforce.

We will remain focused on providing timely, safe and compassionate care and continue to develop innovations that provide value and improved outcomes based on what is important to patients. These advances in providing care will only be possible through the involvement of our dedicated staff who consistently deliver high quality and safe care to the individuals, families and communities of our region.

Mr Mike Horan AM
Board Chair

The Darling Downs Health Service Plan 2019 - 2029 demonstrates how we are part of a large complex system of interdependent relationships including important linkages with the private health care sector, neighbouring hospital and health services and primary care.

The plan identifies the health needs of our communities and the service directions required to improve both equity of access and health status.

Good health is not shared equally across our communities. Aboriginal and Torres Strait Islander people, people who are socially and economically disadvantaged and many who live in rural communities have poorer health outcomes and lower health status than the rest of the population. Improving the health of our residents requires changes in lifestyle choices as well as improvements to primary health care access and social enablers including transport, housing and employment.

We are committed to positive change in the health and wellbeing of our communities and will continue to champion programs and partnerships that promote wellness and support our vision of 'Caring for our Communities - Healthier Together'. Programs supporting wellness will, in the long term, reduce the impact of chronic disease in our communities and improve the sustainability of our health service. We will achieve this through collaboration with partners and targeting those communities with the greatest needs.

Our patients and consumers continue to take an active role in the decision making and management of their health. This change is associated with health literacy improvements and a platform of new and emergent health and communication technologies. Increased consumer participation together with technology and communication advances provide an opportunity to improve evidence-based practice, education and research. This includes promoting a culture of safety by encouraging everyone to have the confidence to speak up and ask questions about the way health care is delivered.

I would like to join the Board Chair in thanking our staff, partners and community members who contributed their valuable insights and ideas to the plan. I would also like to acknowledge the support of the Darling Downs Health Board in the development of this plan and look forward to their ongoing support in implementing the identified planning priorities. Together with the ongoing dedication and commitment of all our staff and partners we will create a more equitable health care service that is safe, effective and inclusive.

Dr Peter Gillies
MBChB, MBA, FRACMA, GAICD
Health Service Chief Executive

1. Executive summary

The Darling Downs Health Hospital and Health Service (Darling Downs Health) Service Plan 2019-29 examines the impact of demand drivers such as population growth, morbidity trends and clinical treatment developments on existing capacity.

The plan is the product of comprehensive stakeholder consultation and data analysis culminating in a suite of initiatives providing direction on how the Darling Downs Health will provide safe and effective care over the next 10 years. The Darling Downs Health Health Service Plan 2019-29 aligns with the Darling Downs Health Strategic Plan 2016-20 focus areas and begins to provide answers to key strategic questions:

How do we meet the increase in demand for services to 2029?

What actions should be implemented to ensure we sustain investment and maximise health outcomes?

What models of care do we invest in?

The Health Service Plan will inform subsequent more detailed planning activities, including workforce planning, infrastructure planning, clinical stream service plans and operational plans. A summary of the key messages in Health Service Plan are listed below.

The Health Service Plan represents the information available to us at this point in time. We as a health service are conscious that technical and medical advances as well as legislative change may alter the priorities identified in this document.

1. HEALTH NEEDS

People who are socio-economically disadvantaged have poorer health than the rest of the population. The rate of disease burden is 1.5 times higher in the most disadvantaged areas of Australia compared to the least disadvantaged areas[61].

- 32 per cent of the Darling Downs Health population is in Socio-Economic Indexes for Areas (SEIFA) quintile 1 (most disadvantaged) compared to the Queensland rate of 21 per cent for this quintile. More than half of the South Burnett planning region residents (58 per cent) and a quarter of Western Downs planning region residents were listed as most disadvantaged.
- 27 per cent of children in the Darling Downs live in low income, welfare dependent families and therefore are more likely to experience poorer health issues due to stressors associated with disadvantage including poorer diet, isolation, homelessness and family disharmony[64].
- We have fewer hospitalisations per head of population compared to Queensland but we have higher rates of death suggesting there are access issues resulting in poorer outcomes for our population.
- 11 per cent of admissions in the Darling Downs in 2015-16 were attributed to high body mass and a further three per cent of admissions were attributed to physical inactivity[46]. In the Darling Downs Health region:
  - » **Adult obesity is 20 per cent higher than the Queensland average**
  - » **Inactivity is 45 per cent higher than the Queensland average.**
- 24 per cent of mothers are obese compared to 19 per cent in Queensland and 9.5 per cent of children are obese compared to 7 per cent of Queensland children.
- Cancer is a leading cause of death in the Darling Downs after ischaemic heart disease and stroke. Looking at specific cancer types, the incidence of melanoma and colorectal cancer in the Darling Downs is higher than Queensland.
- The hospitalisation rate for heart disease and stroke in the Darling Downs is lower than Queensland however the death rate due to coronary heart disease and stroke is higher.
- Both the hospitalisation rate and the death rate for diabetes is higher in the Darling Downs than Queensland.
- Almost half (48 per cent) of residents in residential aged care have dementia. There is a perceived lack of acute and community based services in the Darling Downs for people and their carers living with dementia[64].
- Rates of death from injury, poisoning and motor vehicle accidents are also higher in the Darling Downs than in Queensland.

2. HEALTH SERVICE GAPS

Lower hospitalisation rates and higher rates of death are indicators that Darling Downs Health residents are accessing health services below the average Queensland rate. This is corroborated by stakeholder feedback identifying health service gaps in the following areas:

ALLIED HEALTH SERVICES

Stakeholders consistently reported a shortfall in allied health resources leading to reduced capacity and health improvement outcomes. Proposed solutions to improve service gaps include:

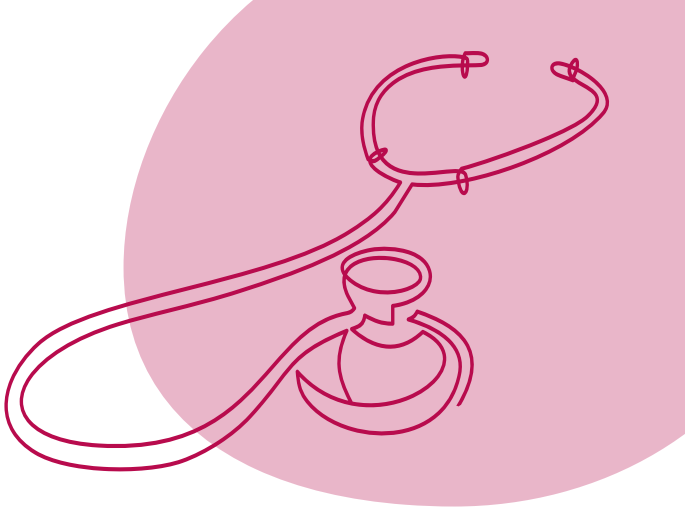
- Engage exercise physiologist resources to improve care in palliative, cardiac rehabilitation, mental health, chronic disease management, cancer survival services and bariatric services.
- Increase podiatry resources including foot care assistant to reduce admissions and length of stay associated with foot complications, reduce the number of non-traumatic lower limb amputations and promote good foot health practices.
- Increase allied health resources in rural hospitals to increase step down capacity particularly rural hub hospitals with possible extension to weekend work.
- Increase administrative support for rural allied health to increase patient contact time.
- Extend psychology services to support renal, child development, dementia (memory clinics and severe behavioural symptoms), palliative care, wellness and chronic pain services.
- Increase audiology resources (including audiology assistant resources) to introduce a diagnostic audiology service for children and adults identified with possible hearing loss.

PALLIATIVE SERVICES

About 70 per cent of Australians would prefer to be cared for and to die at home yet it is estimated that only about 10 per cent of people die at home[3]. Toowoomba Hospital currently provides a five-day nurse led community palliative care service and outpatient specialist consultant service. Extending the community service to seven days with 24-hour telephone support including access to medical staff will support patients to remain at home for the maximum time possible. An increase in palliative specialist resources is required to provide inpatient and outreach services for patients with complex symptoms.

CARDIAC MEDICINE

In 2016/17 there were 785 time critical interventional and cardiac treatment admissions for Darling Downs residents at metropolitan hospitals that potentially could have been provided locally. Building local capacity in cardiology will ensure that Darling Downs residents access cardiac services at an equivalent standard of care when compared to similar regional public and private health services.



PRIMARY HEALTH CARE

Precise FTE numbers for general practitioners (GP) working in the Darling Downs are difficult to obtain. However, studies based on population and socio-economic health determinants indicate there are medically underserved communities in the Darling Downs limiting resident's ability to access primary health care services particularly bulk billing services and after-hours services. This is compounded by a lack of afterhours medical imaging services. Access issues in primary health care results in poorer health due to delays seeking treatment as well as increased presentations to Emergency Departments (EDs) and increased potentially preventable hospital admissions.

The Darling Downs West Moreton Primary Health Network (DDWMPHN) identified GP requests for clinical education in chronic pain, alcohol and drug services (AODs), mental health and paediatrics and practice nurse clinical education in chronic obstructive pulmonary disease (COPD) and respiratory health. Building capacity in primary health care through education helps keep people healthy and reduces the need for unnecessary hospital presentations[90].

CHRONIC PAIN

Chronic pain services are only located at Townsville, Sunshine Coast, Gold Coast and metropolitan Queensland Health facilities. Stakeholders noted difficulties for Darling Downs Health residents accessing these services.

ALCOHOL AND OTHER DRUGS

Relative utilisation rates for drug and alcohol services indicates that Darling Downs Health residents access these services at a lower rate than Queensland. There is no detoxification service in the Darling Downs and generally improved access to addiction medicine specialist services is required.

MENTAL HEALTH

Stakeholder consultation identified a shortage of rural mental health services and Child Youth Mental Health Services. Similar reports were made during the DDWMPHN consultation in the development of their needs assessment 2019-21. Challenges with recruiting mental health nurses was also reported during consultation as well as appropriate psychosocial supports to facilitate discharge in rural areas.

ORAL HEALTH

Stakeholders reported a need for dental services. This was attributed to difficulties recruiting dentists to rural areas resulting in insufficient providers and a high demand for services driven by poor dental hygiene and diet.

3. CLOSING THE GAP – INDIGENOUS HEALTH

The rate of disease burden is 2.2 times higher in Indigenous Queenslanders compared to non-Indigenous[61].

Chronic disease accounts for 79 per cent of the gap in mortality between Indigenous and non-Indigenous Australians. The top four chronic diseases impacting Indigenous health are circulatory disease, endocrine nutritional disorders, respiratory diseases and cancer.

Between one third and one half of the life expectancy gap may be explained by differences in the social determinants of health[19]. Achieving improvements in Aboriginal and Torres Strait Islander people's health requires an integrated approach encompassing the strengthening of community functioning, reinforcing positive behaviours, improving education participation, regional economic development, housing and environmental health, and spiritual healing.

While Indigenous residents comprise five per cent of the total Darling Downs Health population, they represent nine percent of Darling Downs Health activity (excluding renal dialysis). Stakeholders reported a need to improve access to maternal, paediatric development and child hearing clinical services and an increase in telehealth, outreach and transport services.

4. HEALTH SERVICE ACTIVITY GROWTH

At a rate of 0.95 per cent per annum[1], Darling Downs Health is growing more slowly than Queensland at 1.7 per cent per annum. The Darling Downs Health population as at 2016 was 281,961 residents.

At the current growth rate, the Darling Downs Health population will be 340, 310 by 2036 constituting an increase of 58,349 people from 2016.

Population increase is only one contributor to the increasing demand for health services. An ageing population together with increased rates of chronic disease will result in more services being provided per person at a greater rate of complexity. The over 70 years of age population in the Darling Downs Health is growing at three per cent per annum. By 2036, people aged 70 and over, will make up more than 19 per cent of the total Darling Downs Health population (currently 12 per cent) and will account for approximately 51 per cent of all overnight bed days in Darling Downs Health hospitals. A decreasing private market share from 38.5 per cent in 2017 to 34.8 per cent by 2027 (Queensland average) will also contribute to increases in projected demand (Source: Department of Health System Planning Branch 2018).

In the 10-year period 2016/17 to 2026/27 Darling Downs Health will experience the following annual compound growth:

- hospital admissions 3.5 per cent or 42 per cent increase over 10 years
- bed days 3.2 per cent or 37 per cent increase over 10 years
- emergency presentations 3.6 per cent (4.2 per cent TH) or 42 per cent (50 per cent TH) increase over ten years
- emergency surgical separations 3.4 per cent or 40 per cent increase over 10 years
- outpatients 3.7 per cent or 44 per cent increase over 10 years
- 2.5 per cent growth in endoscopy and chemotherapy
- 3.2 per cent growth in renal dialysis.

DEMAND MANAGEMENT STRATEGIES – GROW, OPTIMISE AND TRANSFORM

Hospital in the Home (HITH) is a proven viable alternative to an acute hospital admission and growing evidence supports that this model of care has both patient and system benefits. Darling Downs Health will save the equivalent of 4 beds by increasing HITH separations from the current rate of 0.4 per cent per annum to 1.5 per cent per annum at TH.

TH Coordination Hub and associated discharge planning initiatives have the potential to reduce readmission rates and decrease length of stay for medical admissions. Reducing the current TH readmission rate from 6.4 to 5 per cent by 2036/37 will reduce total bed days by 3,169 per annum, the equivalent of 10 beds. The hub will also assist through improved visualisation of operational systems in achieving a relative stay index reduction for medical patients from 99 per cent to 92 per cent by 2036/37.

Cancer services: Increases in new cases of cancer are largely driven by population growth and ageing[22] and therefore the higher ageing rate in the Darling Downs will be associated with a corresponding increase in cancer incidence. Same day treatments (chemotherapy) are growing at 2.5 per cent per annum in Darling Downs Health and it is projected that there will be 7,000 chemotherapy treatments by 2021/22. The current facility at TH is at capacity and a planned increase in infrastructure and workforce is required to support demand for chemotherapy services.

Orthogeriatric: Demand for orthopaedic services for the over 70 cohort is projected to be one of the top five growth areas (in terms of bed days) in Darling Downs Health due to an ageing population and the consequences of falls in these patients as they become increasingly frail. Additionally, within this group will be a significant cohort with multiple co-morbidities. To meet demand the current service will need to be extended to a seven-day service with a shared care model by orthopaedic surgeons and geriatricians. This requires increased geriatrician FTE and nurses including a case manager role to coordinate care provided by a large multidisciplinary group[10].

TH ED: There are currently 28 treatment bays and 10 ultra-short stay beds at TH ED. This capacity is significantly less than the number of treatment spaces specified by Department of Health planning methodology for current activity. Based on activity for the base year 2016/17, 37 treatment bays and 11 short stay beds are required representing a current shortfall of nine treatment bays. ED presentations at TH are increasing at an average rate of 4.2 per cent per annum. Projections indicate that 49 treatment bays and 14 short stay beds are required by 2021/22 and 60 treatment bays and 18 short stay beds by 2026/27. This equates to a shortfall of 21 treatment bays and 4 short stay beds by 2021/22 and 32 treatment bays and 8 short stay beds by 2026/27.

TH Outpatients: Outpatient activity is projected to increase by over 43 per cent for the 10-year period 2016/17 to 2026/27 and meeting this demand will require additional consulting and waiting room space. There is no ability to expand the physical footprint in existing locations and therefore increased capacity can only be enabled through a combination of infrastructure, off site, outsourcing and extended operating hours solutions.

TH Inpatients: Projections based on the Department of Health (DoH) endorsed methodology (AIM) indicate an additional 100 overnight beds are required by 2026/27 based on 2018/19 bed numbers (including demountable beds). Strategies to manage demand such as HITH, the Coordination Hub and discharge planning initiatives will not reduce the projected bed requirements as the AIM methodology already allows for reduced rates in average length of stay over time. A further 21 same day beds will be required by 2026/27 including 12 renal dialysis chairs. The remaining 9 same day spaces are required across endoscopy, medical and surgical services.

TH Theatres: Projections based on AIM data (2016/17) indicate 8 theatres are required at Toowoomba Hospital by 2021/22 and 9 theatres by 2026/27. These projections exclude outsourced activity and projections for new services. Emergency surgery (theatre cases) comprises approximately 35 per cent of total surgery and has been growing at a rate of 2.4 per cent per annum (compound).

5. AGED INFRASTRUCTURE INCLUDING ICT

Ageing infrastructure in Darling Downs Health is a key impediment in the delivery of contemporary, efficient and safe services. Critical infrastructure deficiencies are experienced at major sites including Toowoomba, Warwick, Dalby and Stanthorpe Hospitals. The Darling Downs Health minor capital budget is $3.5 million per annum. This budget is inadequate for meeting the cost of urgently required infrastructure upgrades taking into consideration legislative compliance requirements that must be included when undertaking refurbishments in aged buildings.

6. THE PRIVATE HOSPITAL SECTOR

In Queensland while both public and private admissions have increased, the market share of privately funded activity has decreased and the share of publicly funded activity has increased from 56.2 per cent in 2009/10 to 61.5 per cent in 2016/17. There is an important relationship between the delivery of private and public health services that needs to be considered in health planning. AIM activity projections include modest adjustments for changes to public private market share.

7. THE DARLING DOWNS HEALTH VISION

The Darling Downs Health vision of 'caring for our communities, healthier together' is based on the values of compassion, integrity, dignity, innovation and courage. Darling Downs Health continuously seeks to promote the principles of health and wellness, education, sustainability and safety in partnership with a variety of agencies to extend our reach into our communities. The priorities outlined in the Darling Downs Health Health Service Plan 2019/2029 support the government's goal to ensure Queenslanders are among the healthiest people in the world by 2026 as committed to in Queensland Health's Advancing Health to 2026.

"Darling Downs Health continuously seeks to promote the principles of health and wellness, education, sustainability and safety in partnership with a variety of agencies."

2. Introduction and Overview

PLANNING PARAMETERS

PLANNING RATIONALE

The purpose of the Darling Downs Health 2019-29 Health Service Plan (the Plan) is to identify the key priorities over the next 10 years to support implementation of Darling Downs Health Strategic Plan organisational goals.

The Department of Health (DoH) DDHHS Service Agreement, Queensland Health (QH) and Commonwealth strategic plans inform the Darling Downs Health Strategic Plan and therefore this Plan will subsequently provide a road map to implement strategies from all the higher-level planning documents that underpin the Darling Downs Health Strategic Plan.

The aim of the Plan is to improve the health status of the Darling Downs population by aligning the services we provide to the changing patterns of health need in our communities. The Plan articulates a long-term vision for how clinical services will be delivered in the future and identifies priority actions to drive the changes needed to provide safe and sustainable service models to meet future demand.

SCOPE

While the main focus of the Plan is concerned with the health of our Darling Downs community, it also includes the needs of the neighbouring communities outside our health service who access Darling Downs Health services due to historical referral patterns and natural population movements. The Plan has a 10-year horizon to allow time to focus on priorities in the strategic plan that require a significant investment or will take time for the benefits to be fully realised. Through a process of analysis, the Plan provides a systematic approach for moving from the current status quo to the required future service delivery state.

DELIVERABLES

The Plan represents the outcome of a detailed and collaborative planning process undertaken over the course of 12 months underpinned by a comprehensive stakeholder consultation process to identify the gaps and opportunities in the delivery of future public health services in the Darling Downs. The Plan includes the results of comprehensive data analysis and scenario modelling using standard forecasting models to project future demand. The result is a suite of documents as follows:

1. Consultation Report for the Health Service Plan summarising the outcomes and themes of the consultation process.
2. Darling Downs Health 2019-29 Heath Service Plan Background Paper provides a detailed analysis of Darling Downs Health inpatient services and resident flows for services outside of the region.
3. Darling Downs Health 2019-29 Heath Service Plan Activity and Projections Paper provides projections using endorsed Department of Health methodology to forecast inpatient and outpatient service demand to 2036/37.
4. The Health Service Plan (this document) summarising the priority health service needs of the population and the requirements to meet these priorities.

HOW WILL THE PLAN BE USED?

The Plan provides the fundamental building blocks in terms of priorities arising from health need gaps and demand projections. The Plan is a road map for infrastructure, workforce and information and communication technology (ICT) planning by identifying key clinical service gaps and opportunities in the next 10 years. Additionally, projections to 2036/2037 are included to allow for the longer planning horizon required for capital planning and site master planning in a number of locations.

HEALTH SERVICE PLANNING FUNDAMENTALS:

- The Plan provides a 'Base Case' for future service demand based on historical trends and population changes using DoH methodology.
- In addition to the Base Case, the Plan also identifies key priorities for Darling Downs Health based on an assessment of community health needs.
- Gaps between the current and future service needs are quantified to enable prioritisation of those options that provide maximum benefit to the health of the Darling Downs community.

The Plan provides a road map for our health service into the future, as we **transform, optimise and grow** our services, including the development of new services and planned capital redevelopment.

Figure 1: Transform, Optimise and Grow - roadmap for future health service delivery

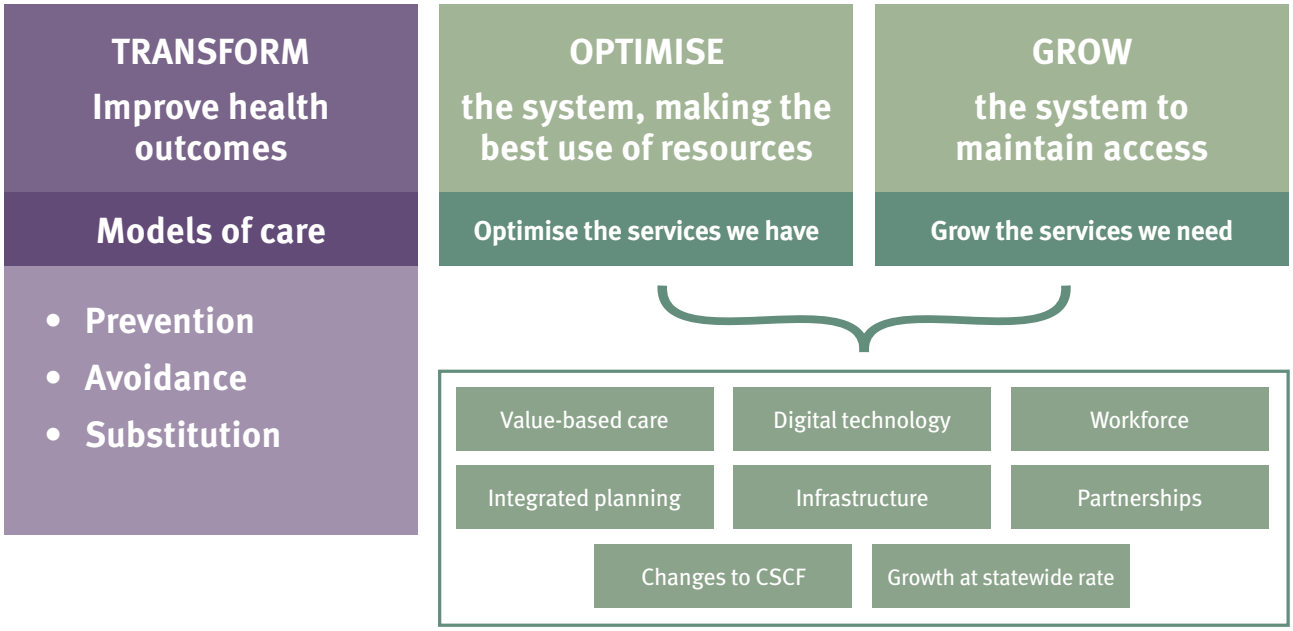
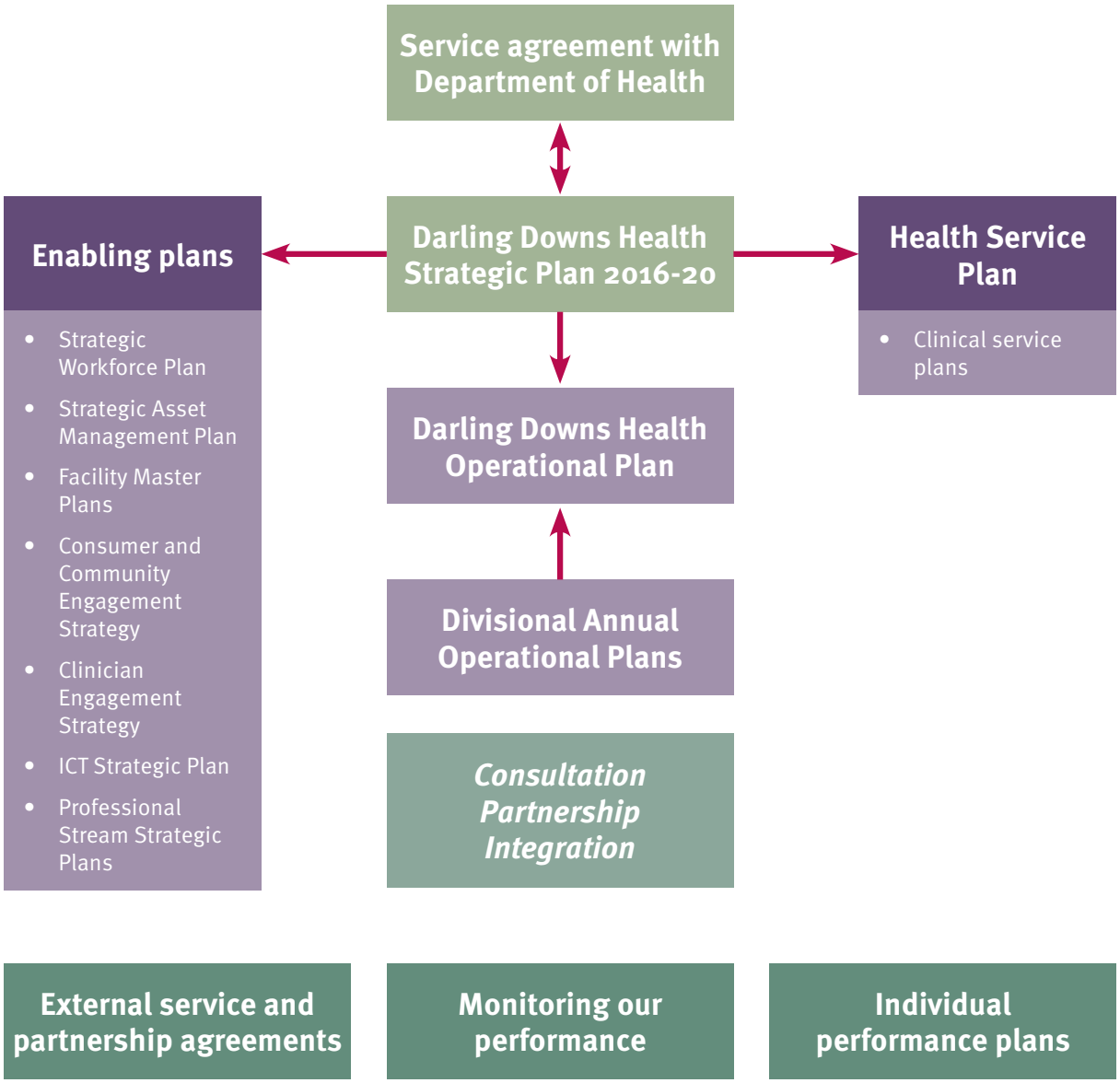


Figure 2: Health Service Plan Implementation



HEALTH POLICY PRIORITIES

NATIONAL HEALTH PRIORITY AREAS

There are currently nine National Health Priority Areas each selected for their high level of burden on the Australian population[47]:

1. **Cardiovascular disease**
2. **Cancer control**
3. **Injury prevention (including falls in people over 65 years of age)**
4. **Mental health**
5. **Diabetes mellitus**
6. **Asthma**
7. **Arthritis and musculoskeletal conditions**
8. **Dementia**
9. **Obesity**

QUEENSLAND HEALTH PRIORITY AREAS

In Queensland the leading cause of disease burden in 2011 was cancer followed by cardiovascular disease, musculoskeletal conditions and mental health disorders. The three largest specific causes of premature death were coronary heart disease, lung cancer and suicide and self-inflicted injuries (Chief Health Officer Report, 2018).

The four strategic directions for Queensland Health are to promote wellbeing, improve access to safe quality healthcare, integrate healthcare for consumers and pursue innovation (My health, Queensland's future: Advancing health 2026[76]).

The five priorities of Queensland Health Connecting Care to Recovery (Mental Health[77]) are:

- Access to appropriate services as close to home as practicable and at the optimal time
- Workforce development and optimisation of skills and scope
- Better use of ICT to enhance clinical practice, information sharing, data collection and performance reporting
- Early identification and intervention to suicide risk
- Strengthening patient's rights

DARLING DOWNS HEALTH PRIORITY AREAS

In addition to the Queensland Health directions listed above, the Darling Downs Health 2016-20 Strategic Plan[5] also prioritises developing the Darling Downs Health workforce, ensuring sustainability and maintaining effective corporate and clinical governance.

3. Darling Downs Health Profile

Darling Downs Health covers an area of 88,650 square kilometres or 4.9 per cent of total Queensland area. Darling Downs Health provides a comprehensive range of hospital services as well as community and primary health services to a population of almost 300,000 people and this is forecast to increase to over 340,000 by 2036.

Over 10 per cent of the population within Darling Downs Health were born overseas and 5.5 per cent speak a language other than English at home. Indigenous Australians make up 4.9 per cent of the population (which is 7.2 per cent of Queensland's total Indigenous population). Local Government Areas (LGAs) within the health service are Cherbourg Aboriginal Shire Council, Goondiwindi Regional Council, South Burnett Regional Council, Southern Downs Regional Council, Toowoomba Regional Council and Western Downs Regional Council plus part of the Banana Shire Council (community of Taroom).

GEOGRAPHY

The Darling Downs Health area contains 34 Statistical Areas (level 2) as per ASGS2011 and covers predominately the rural area extending from the New South Wales border to Glenmorgan in the west and Taroom in the north and includes the regional centre of Toowoomba. The Darling Downs Health geographical area is diverse with regional, large rural towns and small rural communities. The area has an average daily temperature range of 12.0°C to 26.0°C and an average annual rainfall of 665 mm. Toowoomba (LGA) and Western Downs (LGA) area falls under Surat Basin where development of coal seam gas and liquefied natural gas projects are active. Indigenous people represented an estimated 4.9 per cent of the population of Darling Downs Health compared with 4 per cent of the Queensland population in 2016. Within the region, Cherbourg is an Aboriginal and/or Torres Strait Islander community with 98.4 per cent of the population being of Aboriginal and/or Torres Strait Islander origin.

Darling Downs Health facilities consist of one large regional referral hospital, three medium sized regional hub hospitals, twelve rural hospitals, three multipurpose health services, one community outpatient clinic, six residential aged care facilities, one community care unit and an extended inpatient mental health service spread across the Darling Downs Health area. For planning purposes, Darling Downs Health is made up of six local planning regions including Darling Downs East, Goondiwindi, South Burnett, Southern Downs, Toowoomba and Western Downs. Approximately half (48 per cent) of the total Darling Downs Health population reside within Toowoomba region.

Figure 3: Planning regions and facility

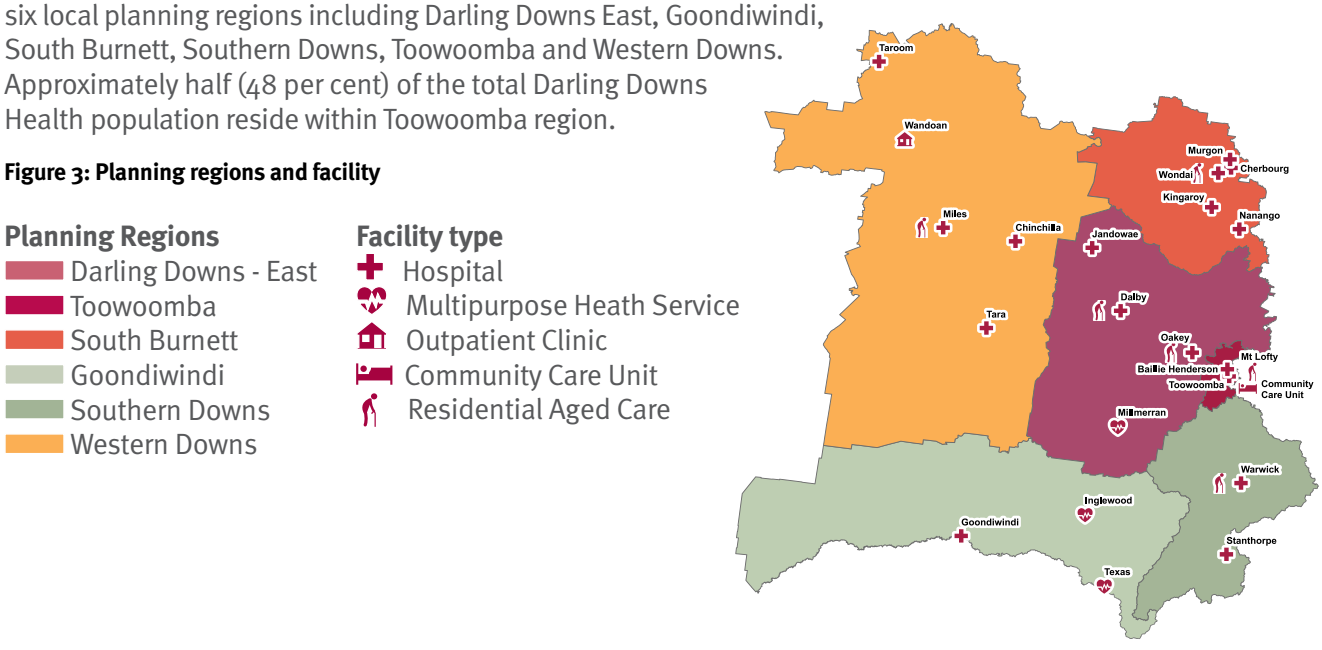


Figure 4: Population Density map

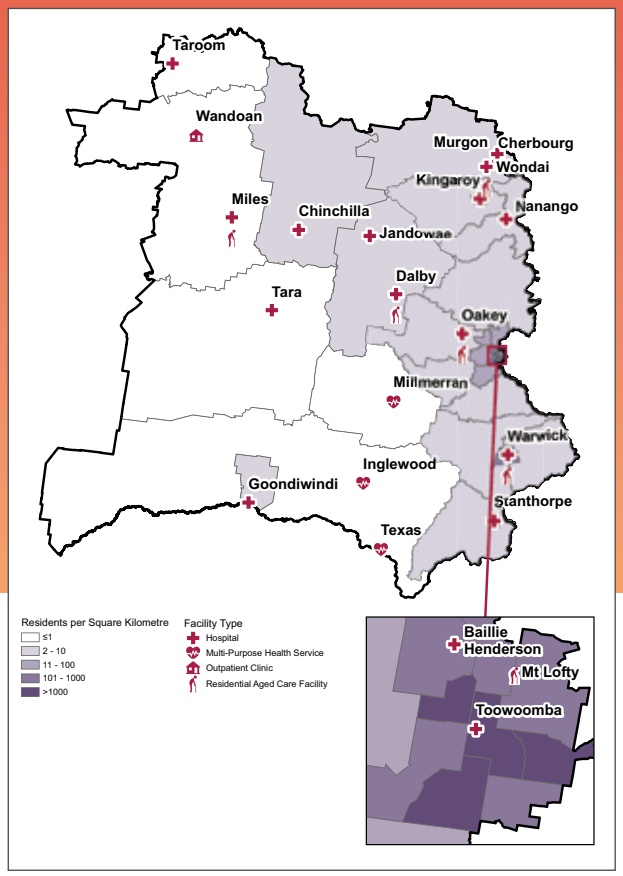
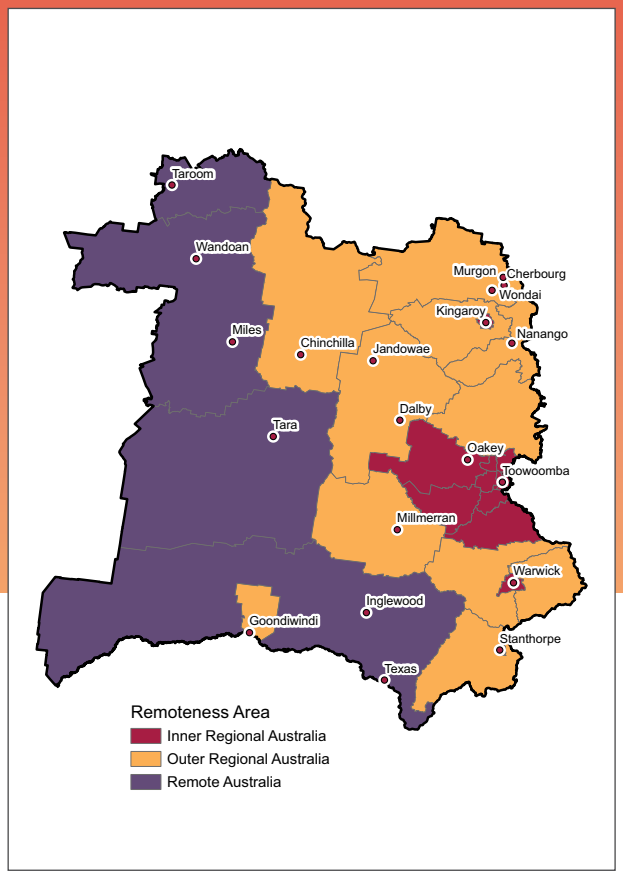


Figure 5: Remote Index Map

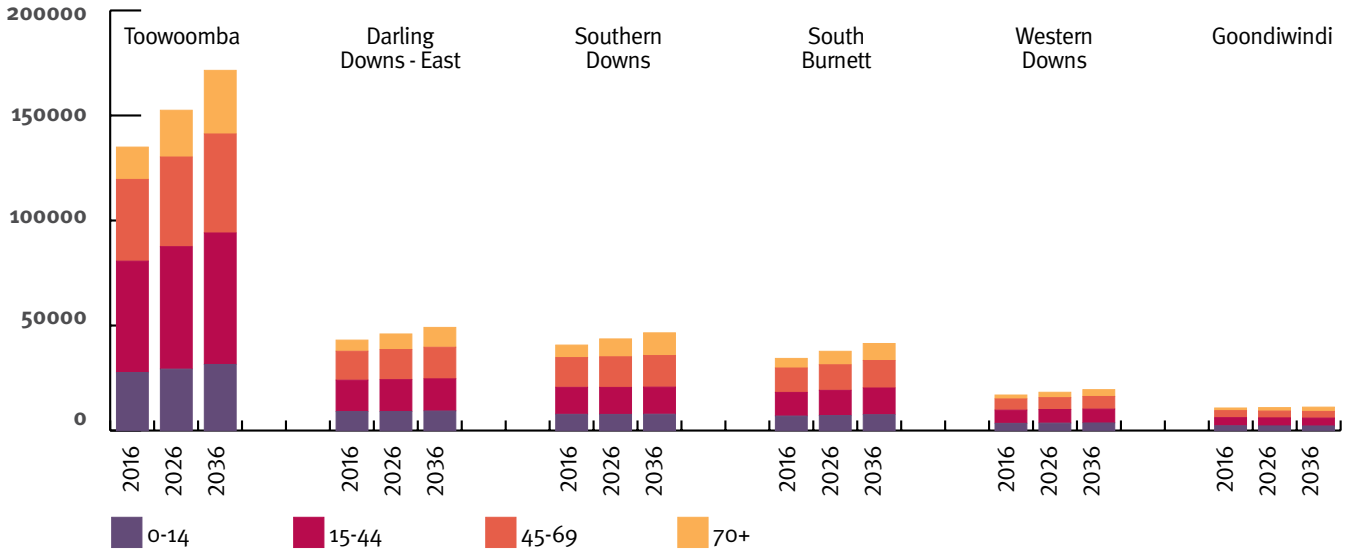


POPULATION

For the purpose of this plan the Darling Downs Health population is stated as 281,961 (ASGS Version 2011 Queensland Government population projections, 2015 edition). Detailed information on how this population total is derived is provided in Darling Downs Health 2019-29 Health Service Plan Background Paper. When considering Darling Downs Health population projections and demographics the following items are relevant:

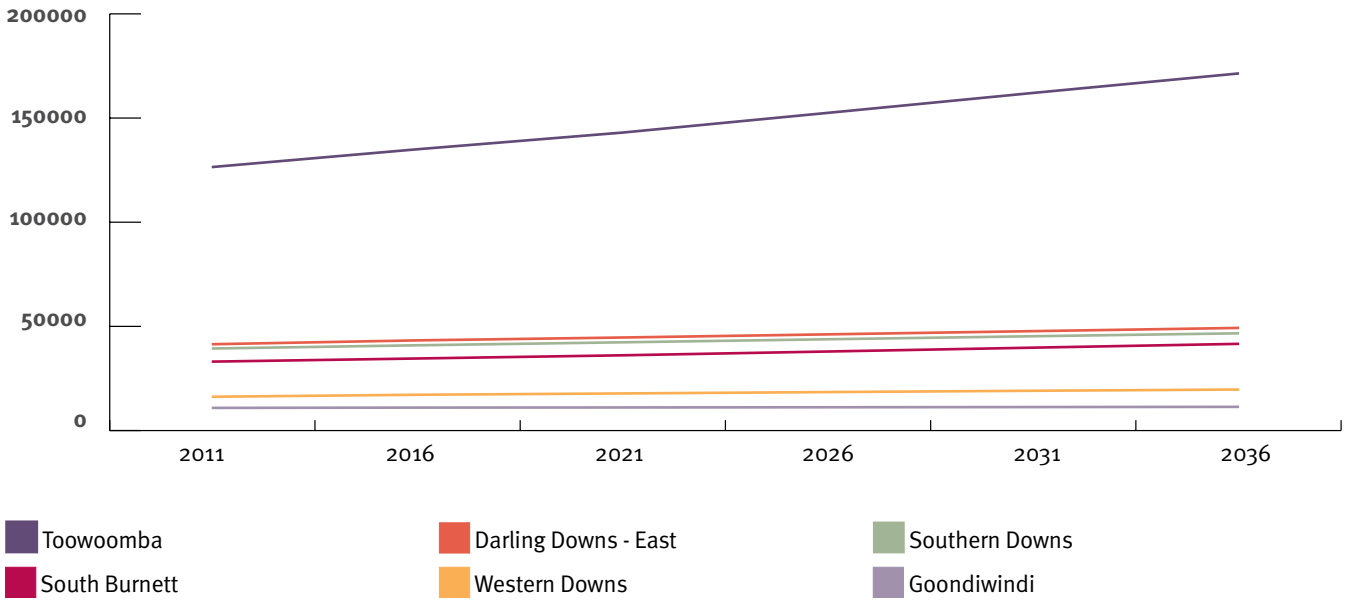
- The Darling Downs Health population increased between the 2011 census and the 2016 census in all the planning regions except Goondiwindi.
- The current population projections predict an increase of Darling Downs Health population from 281,961 in 2016 to 340, 310 residents by 2036.
- The projected Darling Downs Health population increase to 2036 represents an annual growth rate of 0.95 per cent. This constitutes a net population increase of 58,349 people by 2036.
- Toowoomba planning region will have the highest predicted annual growth rate at 1.2 per cent per annum and Goondiwindi planning region will have the lowest predicted annual growth rate at 0.18 per cent per annum between 2016 and 2036.
- When population projections are analysed by age group, the largest differences are noted for the 70 years and over age group (half of the total predicted population increase) with an annual growth rate of 3.15 per cent per annum for this cohort between 2016 and 2036.
- Aboriginal and Torres Strait Islander population people account for approximately five per cent of the population.
- The socio-economic status of Darling Downs Health residents varies significantly between Toowoomba and other planning areas. Large areas of Darling Downs Health are classified as relatively disadvantaged, including some parts of Toowoomba.

Figure 6: Population by age and region



Source: Australian Bureau of Statistics Catalogue No. 3235.0 - Population by Age and Sex, Regions of Australia; Hospital and Health Service data derived by Statistical Analysis Linkage Team, Health Statistics Unit, Department of Health, Queensland

Figure 7: Population projection by region



Source: Australian Bureau of Statistics Catalogue No. 3235.0 - Population by Age and Sex, Regions of Australia; Hospital and Health Service data derived by Statistical Analysis Linkage Team, Health Statistics Unit, Department of Health, Queensland.

Table 1: Darling Downs Health -wide Catchment - Population projection by local planning region, 2016-36

Local planning region	2016	2021	2026	2031	2036	Change (No.)	Change (%)	AGR
Darling Downs - East	43,280	44,668	46,194	47,752	49,309	6,029	14%	0.65%
Goondiwindi	11,020	11,095	11,200	11,313	11,431	411	4%	0.18%
South Burnett	34,579	36,125	37,960	39,824	41,664	7,084	20%	0.94%
Southern Downs	40,915	42,365	43,837	45,301	46,728	5,813	14%	0.67%
Toowoomba	134,983	143,014	152,495	162,087	171,444	36,461	27%	1.20%
Western Downs	17,184	17,824	18,495	19,138	19,735	2,551	15%	0.69%
TOTAL	**281,961**	**295,091**	**310,183**	**325,415**	**340,310**	**58,349**	**21%**	**0.94%**

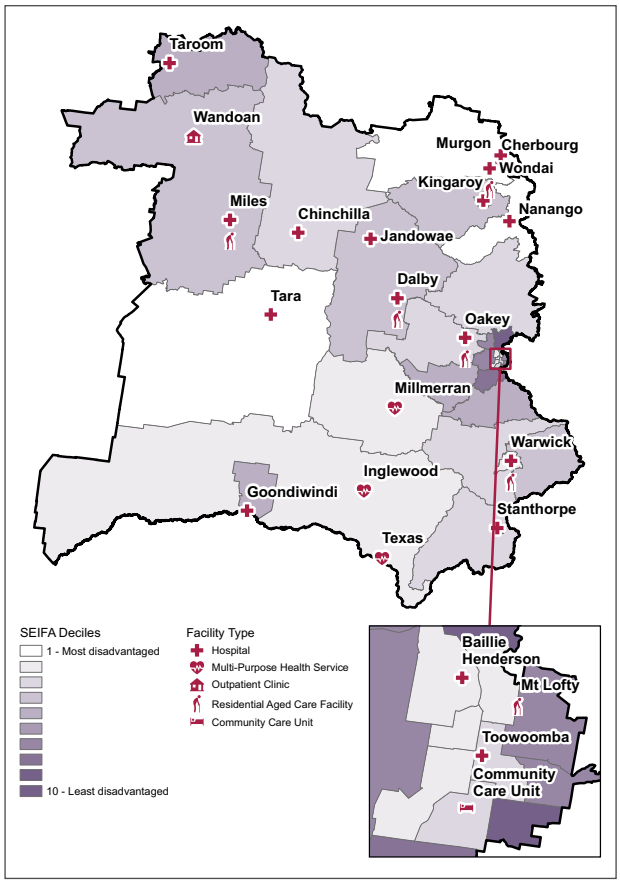
Source: Queensland Government population projections, 2015 edition; Australian Bureau of Statistics, Population by age and sex, regions of Australia, 2014 (Cat no. 3235.0).

AGR: Annual Growth Rate (Compound)

SEIFA INDEX

Socio-Economic Indexes for Areas (SEIFA) are a summary measure of the social and economic conditions of geographic areas across Australia measured at each census year. The indexes rank areas based on residents' socio-economic indicators and the scores are standardized to a distribution. In general, Darling Downs Health regions had a SEIFA score between 861 to 1098. More than half of the South Burnett planning region residents (58 per cent) and quarter of Western Downs planning region residents were listed as most disadvantaged (decile of 1). Toowoomba planning region had mixed SEIFA ratings with both a high proportion of disadvantaged residents as well as the most advantaged residents (decile score over six). The following figure represents SEIFA decile scores by SA2 across the Darling Downs Health catchment area.

Figure 8: SEIFA by Catchment area



DEMOGRAPHIC CHALLENGES

Darling Downs Health faces the combined challenges of age, remoteness, disadvantage and closing the gap:

- Darling Downs Health population is older: 12 per cent of Darling Downs Health residents are 70+ compared to 10 per cent of Queenslanders who are 70+ years of age.
- Distance: 15 facilities are over 100 kilometres from Toowoomba Hospital and all with small population catchments (under 10,000 people).
- Disadvantage: 32 per cent of the Darling Downs Health population is in SEIFA Quintile 1 (most disadvantaged) compared to the Queensland rate of 21 per cent for this quintile.
- Closing the gap: five per cent of the Darling Downs Health population is Indigenous compared to four per cent for Queensland.

Population growth: At a rate of 0.95 per cent per annum[1], Darling Downs Health is growing more slowly than Queensland at 1.7 per cent per annum although there are hotspots with growth › three per cent in SA2s Cambooya, Wyreema and Highfields.

1 Compound annual growth rate

4. Health needs in the Darling Downs

Over the past 10 years all cause death rates decreased across Queensland, however Darling Downs Health had one of the smallest gains and overall the relative burden in leading causes of death was eight percent higher than the average Queensland rate (CHO 2018).

The contributing conditions leading to the higher burden included chronic heart disease, diabetes, road transport accidents and stroke. Table 2 below shows the Darling Downs Health rank order for health status compared to other Hospital and Health Services (HHS).

Note all rates in brackets referred to in this section are based on ASR or age standardised rate. ASR is calculated to provide the equivalent proportion when compared to a rate per 100,000 persons taking into consideration the percentage of aged persons (standardised to Australian population 2001) and enables more accurate comparison across populations of different sizes and age profiles. They are a rate and not actual numbers. Source: The health of Queenslanders 2018, Report of the Chief Health Officer Queensland)

Table 2: Darling Downs Health rank order for health status

	Measure	Year	Cairns and Hinterland	Central Queensland	Central West	Darling Downs	Gold Coast	Mackay	Metro North	Metro South	North West	South West	Sunshine Coast	Torres and Cape	Townsville	West Moreton	Wide Bay
Demography																	
Population size	Number	2016	7	9	15	5	3	11	2	1	12	14	4	13	8	6	10
Children aged 0-14 years	Per cent of HHS	2016	9	4	11	7	13	6	12	10	2	5	14	1	8	3	15
Persons aged 65+ years	Per cent of HHS	2016	7	11	4	3	5	13	8	10	14	6	2	15	9	12	1
Indigenous Queenslanders	Per cent of HHS	2016	4	7	6	8	15	9	13	12	2	3	14	1	5	11	10
Hospitalisations																	
All causes	Crude rate	2016/17	11	2	8	9	10	1	6	5	14	4	13	12	7	3	15
Potentially preventable	Per cent	2016/17	6	10	15	8	1	7	2	3	12	14	4	13	5	9	11
Lifestyle related	Crude rate	2016/17	7	10	14	8	3	9	4	2	11	12	13	1	5	6	15
Indigenous Queenslands	Crude rate	2016/17	13	7	4	12	2	6	5	11	15	9	3	10	14	1	8
Deaths																	
All causes	ASR	2015	9	8	7	13	1	5	3	4	15	6	2	14	12	11	10
Premature	ASR	2015	9	6	11	10	1	5	3	4	14	12	2	15	13	8	7
Lifestyle related	ASR	2015	4	12	6	14	2	7	3	8	11	5	1	13	10	15	9
Indigenous Australians	ASR	2013-15	12	7	-	10	1	4	6	11	14	9	3	8	13	5	2
Suicide	ASR	2013-15	11	4	-	5	3	10	2	1	-	-	6	-	9	7	8
Median age at death	Years	2013-15	11	8	6	3	3	8	1	3	14	11	1	15	10	11	7
Infant and child risk factors																	
Smoked at anytime during pregnancy	Per cent	2016	11	9	5	8	1	6	3	2	14	12	4	15	7	10	13
Babies born with low birth weight <2500g	Per cent	2016	11	4	-	8	5	1	7	6	12	2	3	14	10	9	13
Children aged 5-6 years had decay experience	Per cent	2014-17*	7	5	-	9	2	6	1	10	-	12	4	13	8	3	11
Adult risk factors																	
Daily smokers	Per cent	2017/18	11	8	15	5	3	9	2	4	12	14	1	7	6	10	13
Obese (BMI 30 and higher)	Per cent	2017/18	5	12	15	8	2	7	4	3	13	11	1	9	6	14	10
Inactive in previous week (no physical activity)	Per cent	2017/18	6	12	15	14	3	8	4	2	10	11	5	1	7	9	13

Similar to Queensland Better than Queensland Worse than Queensland

*ASR Age standardised rate - Data for ranking not publishable due to small numbers/confidentiality * 2014-15 to 2016/17*
Source: The health of Queenslanders Report of the Chief Health Officer Queensland 2018 Hospital and Health Service Profiles

The health needs of a community can be measured by those factors contributing to a gap in the health of a local population due to illness, injury, disability and premature death when compared to the larger population groups such as regional, state or national populations. The priority health needs are listed below based on national priorities (Australian Institute of Health and Welfare), burden of disease for the Darling Downs population (Report of the Chief Health Officer 2018) and results of the Darling Downs and West Moreton Needs Assessment 2019-21.

MATERNAL AND INFANT HEALTH AND CHILD DEVELOPMENT

27 per cent of children in the Darling Downs live in low income, welfare dependent families and therefore are more likely to experience poorer health issues due to stressors associated with disadvantage including poorer diet, isolation, homelessness and family disharmony[64].

In 2016:

- 16 per cent of women smoked cigarettes during pregnancy compared to 12 per cent for Queensland, although this was a reduction from the 2014 rate of 17 per cent.
- 24 per cent of mothers in the Darling Downs were obese compared to 19 per cent in Queensland noting again the reduction from 2014 when 26 per cent of mothers were obese.
- Infant mortality rates were highest for residents of Stanthorpe, Newtown, North Toowoomba Harlaxton, Wilsonton, Goondiwindi, Inglewood, Tara, Kingaroy and Nanango regions.
- Teenage birth rates were higher in the Darling Downs compared to Queensland and the areas with the highest rates were Kingaroy, Miles-Wandoan and Chinchilla.
- 9.5 per cent of Darling Downs children were obese compared to 7 per cent of Queensland children.
- 63 per cent of Darling Downs children have experienced dental decay compared to 55 per cent of Queensland children.

The Australian Early Developmental Census 2015 found a higher percentage of children living in the following areas were vulnerable on two or more domains (physical, social, emotional, language, communication) when compared to the overall rate in Queensland (14 per cent).

- Tara 18 per cent, Chinchilla 28 per cent, Taroom 21 per cent
- Millmerran 24 per cent, Pittsworth 27 per cent
- Kingaroy 21 per cent, Murgon 26 per cent, Wondai 25 per cent

CHRONIC DISEASE

PREVALENCE OF OBESITY

Obesity is a recognised chronic disease and contributes to the risk of heart disease, hypertension, diabetes, sleep apnoea, cancer and joint disease. 70 per cent of older people are overweight or obese. 11 per cent of admissions in the Darling Downs in 2015-16 were attributed to high body mass and a further three per cent of admissions were attributed to physical inactivity (CHO 2018). **The rate of adult obesity in the Darling Downs is 20 per cent higher than the Queensland average and the rate of inactivity in the Darling Downs is 45 per cent higher than the Queensland average.**

CHRONIC DISEASE HOSPITALISATIONS AND DEATH RATES

Coronary heart disease – the rate of hospitalisations (age standardised) for heart disease in the Darling Downs was lower than Queensland from 2015-16 to 2016/17 (540 vs 650) however death rates due to coronary heart disease were higher (83 vs 72). Higher death rates were recorded in Kingaroy, Nanango, Warwick, Drayton, Harristown and Toowoomba Central.

Deaths attributed to cardiovascular disease were higher (177 vs 154). Higher death rates were recorded in Kingaroy, Nanango, Goondiwindi, Inglewood, Tara and Warwick.

Cerebrovascular disease (stroke) - the rate of hospitalisations (age standardised) for stroke in the Darling Downs was lower than Queensland from 2015/16 to 2016/17 (272 vs 377) however deaths were higher (45 vs 38). Higher rates were recorded in Newtown North Toowoomba, Harlaxton Wilsonton, Goondiwindi Inglewood, Tara and Stanthorpe.

Diabetes – the rate of hospitalisations (aged standardised) for diabetes was higher in the Darling Downs than Queensland from 2015/16 to 2016/17 (230 vs 206) and the rate of death was also higher (20 vs 16). Higher rates were recorded in Goondiwindi, Inglewood, Tara, Chinchilla and Miles and Darling Heights.

Chronic Obstructive Pulmonary Disease (COPD) admission rates were slightly lower than Queensland (300 vs 312) however death rates were similar (25). Admission rates for pneumonia/influenza and asthma were higher (505 vs 469 and 217 vs 175 respectively). Higher death rates were recorded in Kingaroy, Nanango, Goondiwindi, Inglewood, Tara, Chinchilla and Miles for respiratory system diseases.

DEMENTIA

Stanthorpe, Kingaroy, Nanango, Clifton, Warwick and Crows Nest have the highest proportion of older persons (over 20 percent over 65 years of age) in their community compared to other areas in Darling Downs.

Almost half (48 per cent) of residents in residential aged care have dementia.

There is a perceived lack of acute and community based services in the Darling Downs for people and their carers living with dementia (DDWMPHN)64. This includes acute hospital services for dementia patients with behavioural challenges.

The rate of residential care places per 1,000 people over 70 years old in the Darling Downs is 70 compared to 73 for Queensland. The rate per 1,000 people over 70 years old for government residential care places for people over 70 years of age is 8.7 compared to 2.5 for Queensland.

MENTAL HEALTH SERVICES

The rate of hospitalisations (age standardised) per 100,000 population for mental health in the Darling Downs was lower than Queensland from 2015/16 to 2016/17 (3,222 vs 3,410).

In 2017/18, 4.4 per cent of emergency department presentations (6,737) in the Darling Downs were for mental health issues and 66 per cent of these presentations arrived between 10.00 am and 8.00 pm[64]. Suicidal ideation was the most common of these presentations (17 per cent) followed by anxiety (12 per cent), depression (8 per cent) and reaction to extreme stress (7 per cent).

The DDWMPHN Needs Assessment 2019-21 reported 'difficulties with stepping down patients, especially rural patients due to a lack of appropriate psychosocial supports in the community to facilitate post-discharge care.

Persons over 65 years of age are not eligible for NDIS. People then transition for My Aged Care.

Stakeholder consultation for the DDWMPHN Needs Assessment 2019-21 identified 'a shortage of relevant mental health services for children and adolescents across the region as indicated by long wait lists, particularly in some areas such as Cherbourg and Tara which lack Child Youth Mental Health Service and are reliant on visiting specialists." The DDWMPHN also reported health services as having increasing incidence and complexity of child mental health presentations to Emergency Departments requiring intensive staff resources to manage, usually after hours. The vast majority of presentations were for suicidal ideation and most children were discharged home.

The rate of avoidable death from suicide and self-inflicted injuries was higher for Darling Downs compared to Queensland (15 vs 14). Within the Darling Downs there is a disproportionately high number of deaths by suicide[64] and the regions with the highest rates were:

- Kingaroy Nanango (27).
- Chinchilla Miles (22).
- Goondiwindi Inglewood (18).
- Stanthorpe (16).

44 per cent of people who committed suicide in the Darling Downs were under 36 years of age [64] Men are three times more likely to commit suicide than women (Queensland rate[71]).

DRUG AND ALCOHOL MISUSE

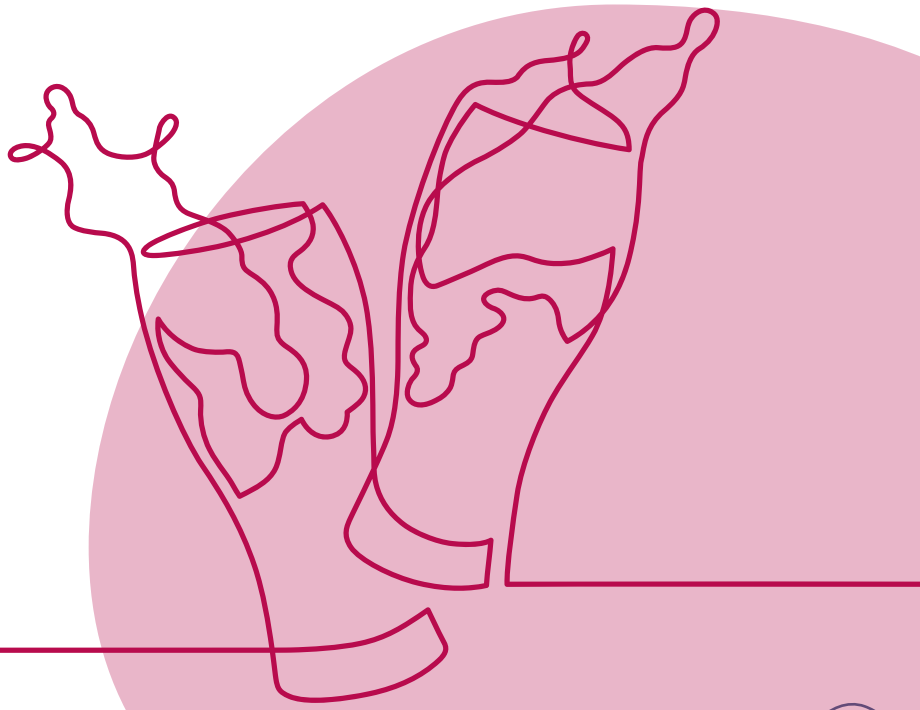
The Australian Institute of Health and Welfare provides the following statistics on general drug usage in Australia[12]:

- alcohol was the most common principal drug of concern for which clients sought treatment in 2016/17.
- the top four illegal drugs by usage in 2016 were cannabis, ecstasy, cocaine, and meth/amphetamines.
- use of amphetamines doubled in the five-year period 2011/12 to 2015/16.
- daily tobacco smoking has declined from 24 per cent to 12 per cent between 1991 and 2016.

In the Darling Downs Health in 2015/16:

- 3.2 per cent of admissions were attributed to alcohol use.
- 0.6 per cent of admissions were attributed to illicit drug use.

The Chief Health Officer Report uses morbidity fractions to assess risk factor attributable hospitalisations to enable comparisons. The attributable fraction of hospitalisations for risky drinking in the Darling Downs was lower than the Queensland rate (18 vs 22) in 2015-16 and also lower for illicit drugs (1.5 vs 2).



CANCER

Across Australia the rate of cancer burden increases with decreasing socioeconomic position, with people in the lowest socioeconomic group experiencing 1.4 times the cancer burden of people in the highest group. In particular, the rate of lung cancer burden in the lowest group is almost twice the rate in the highest group. Indigenous Australians experienced 1.7 times the cancer burden of non-Indigenous Australians[67].

Cancer is a leading cause of death in the Darling Downs after ischaemic heart disease and stroke.

Cancer death rates in the Darling Downs were similar to Queensland (167 vs 166) and incidence of cancer in the Darling Downs is slightly lower (527 vs 535).

Looking at specific cancer types, the incidence of melanoma in the Darling Downs is higher than Queensland (84 vs 73) and also for colorectal cancer (66 vs 60).

Death from malignant neoplasms in the Darling Downs was very similar to Queensland (167 vs 166).

INJURY PREVENTION

Death from injury and poisoning were higher in the Darling Downs (50 vs 40) and deaths from motor vehicle accidents (MVA) were also higher (12 vs 5) when compared to the Queensland average. 16 per cent of vehicles on major highways in the Darling Downs and South Burnett regions are heavy vehicles[85] compared to 8 per cent for Queensland. Heavy vehicles are disproportionately involved in casualty crashes as well as being associated with more severe injury outcomes[84].

The rate of hospitalisations in the Darling Downs compared to Queensland for the period 2015-16 to 2016/17 for injury including falls is as follows:

- Injury and poisoning – Darling Downs 3,222 vs Queensland 3,410
- Road transport injuries – Darling Downs 329 vs Queensland 304
- Falls in the population aged 65 years and older – Darling Downs 3,160 vs Queensland 4,313

PALLIATIVE CARE SERVICES

The Darling Downs population is growing and ageing. Demand is increasing for high quality care at the end of life that supports an increasingly common expectation that people die at home or in a home like setting[60].

77,369 hospitalisations in Australia were palliative care related in 2016/17, a 26 per cent increase in the four-year period from 2012/13 to 2016/17[59].

Palliative care accounted for 506 separations and 4,251 bed days in Darling Downs Health in 2016/17 or just under 1 per cent of admissions and 2 per cent of bed days.

A key recommendation from the Australian Productivity Commission's report *Introducing Competition and Informed User Choice into Human Services: Reforms to Human Services* (2018) recommended State Governments increase the availability of community based palliative care so that people with a preference to die at home can access support to do so. Specialist staff have expertise to support medical professionals as their patients transition from receiving treatment that aims for a cure, to care that seeks the best quality of life and symptom management.

DISPARITIES IN BURDEN OF DISEASE

Socioeconomic group – The rate of disease burden is 1.5 times higher in the most disadvantaged areas of Australia compared to the least disadvantaged areas[61]. Therefore, the Darling Downs region with a higher proportion of the population in the most disadvantaged group will have a corresponding higher rate of disease burden.

Indigenous health – The rate of disease burden is 2.2 times higher in Indigenous Queenslanders compared to non-indigenous[61]. Therefore, as 5 per cent of the total Darling Downs population is Indigenous compared to 4 per cent for Queensland, the Darling Downs will have a correspondingly higher rate of disease burden.

Vulnerable populations – while there is no data to quantify the rate of burden of disease for refugees, homeless, children in care, victims of domestic violence and socially isolated people, research indicates people living with disadvantage are impacted by access and equity barriers[55]. This in turn is likely to lead to delays seeking treatment and subsequent increased morbidity upon presentation to a health service.

SUMMARY

Key messages arising from the Australian Burden of Disease Study (which included estimates for Queensland) are:

Overall, health is improving.

Average life expectancy is improving, but we are also spending more time with disability.

Australia has undergone a disability transition whereby the majority of burden comes from disability rather than mortality.

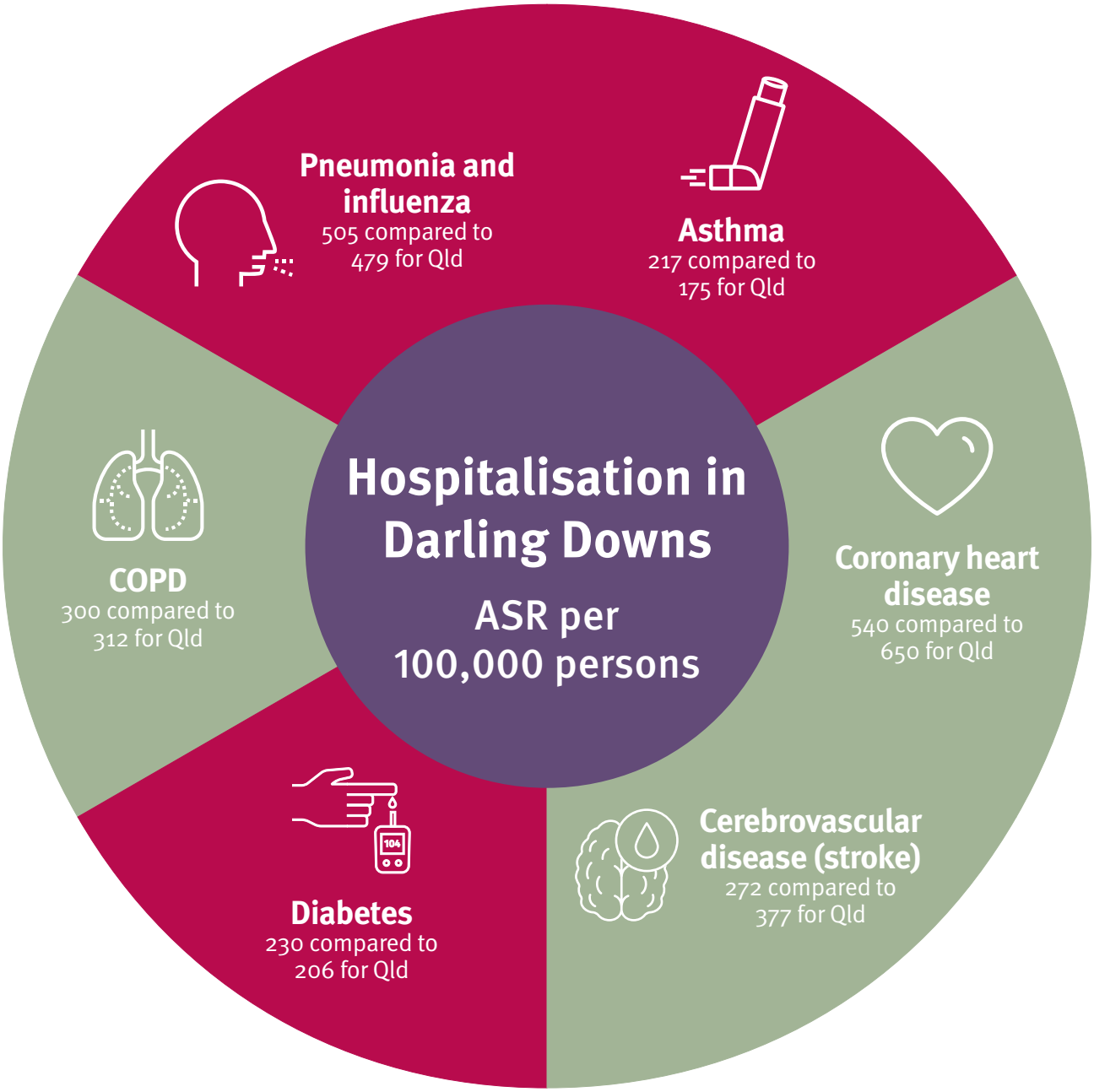
A growing proportion of burden is concentrated in older persons.

Chronic conditions continue to produce most health loss.

Disparities in health status by the remoteness of where one lives, by the socioeconomic status of an area, and by Indigenous status continue.

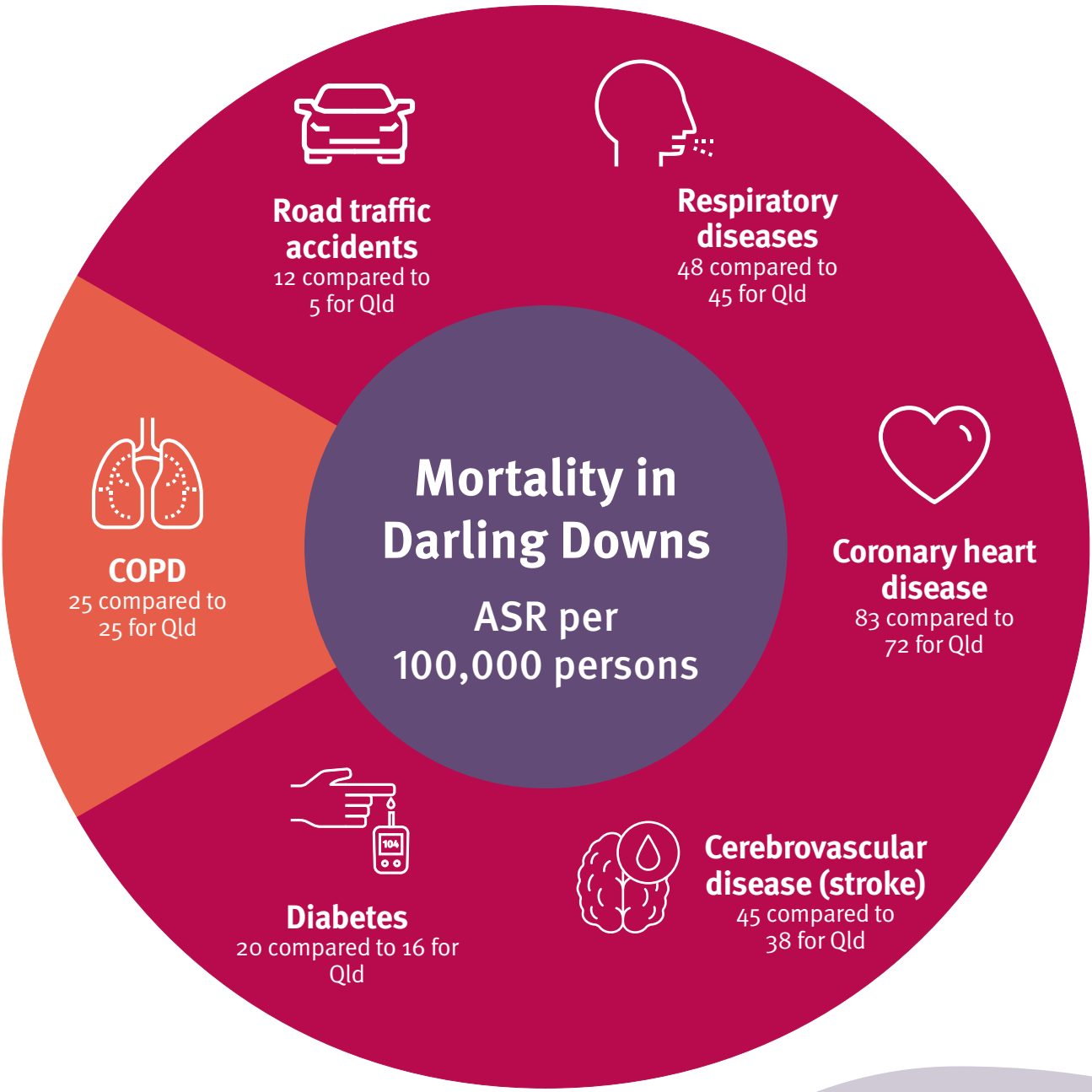
Reducing exposure to modifiable risk factors presents a great opportunity to reduce disease burden.

Figure 9: Burden of Disease ASR Incidence Hospitalisations and Mortality Darling Downs Health vs Qld



Data source: Queensland Health Admitted Patient Data Collection (QHAPDC). Accessed from Queensland Health. The health of Queenslanders 2018. Report of the Chief Health Officer Queensland. Queensland Government. Brisbane 2018

- Similar to Queensland
- Better than Queensland
- Worse than Queensland



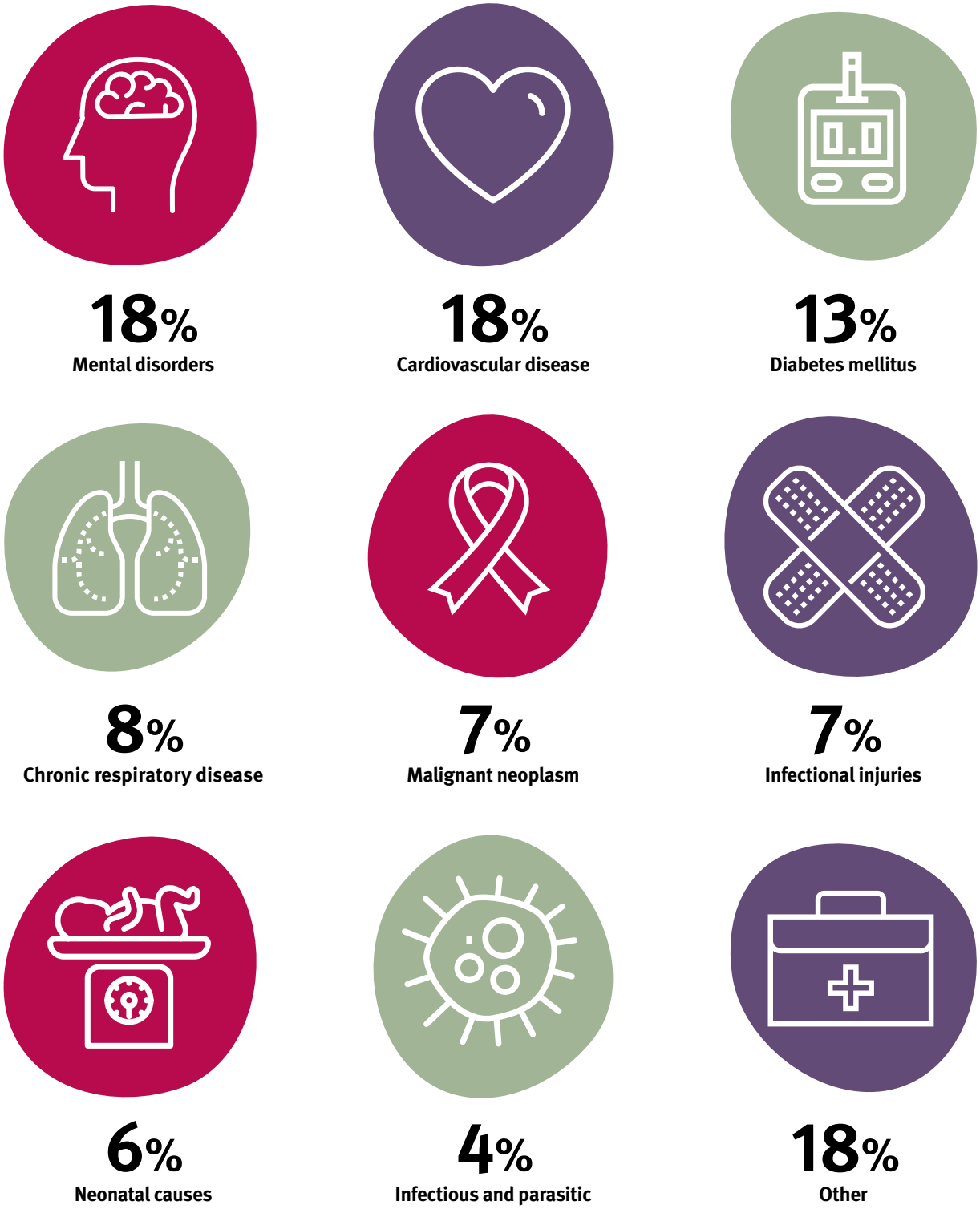
Source: Cause of Death Unit Record File, Australian Coordinating Registry, Accessed from Queensland Health. The health of Queenslanders 2018. Report of the Chief Health Officer Queensland. Queensland Government. Brisbane 2018

- Similar to Queensland
- Better than Queensland
- Worse than Queensland

INDIGENOUS HEALTH – CONTRIBUTORS TO THE HEALTH GAP

Chronic disease accounts for 79 per cent of the gap in mortality between Indigenous and non-Indigenous Australians. The top four chronic diseases impacting Indigenous health are circulatory disease, endocrine nutritional disorders, respiratory diseases and cancer.

Figure 10: Leading causes contributing to the health gap between Indigenous and non-indigenous people in Queensland



5. Services Activity

Darling Downs Health activity data demonstrates current service demand priorities based on the volume of admissions, bed days and outpatient occasions of service.

The data provides an opportunity to forecast future demand taking into account population changes, historical trends and rates of service utilisation. The Department of Health annually provides projections of future health service activity to Darling Downs Health. Activity is projected without reference to total funding or physical infrastructure. It is useful for planning future service configuration and allocation of resources based on historical growth and demand.

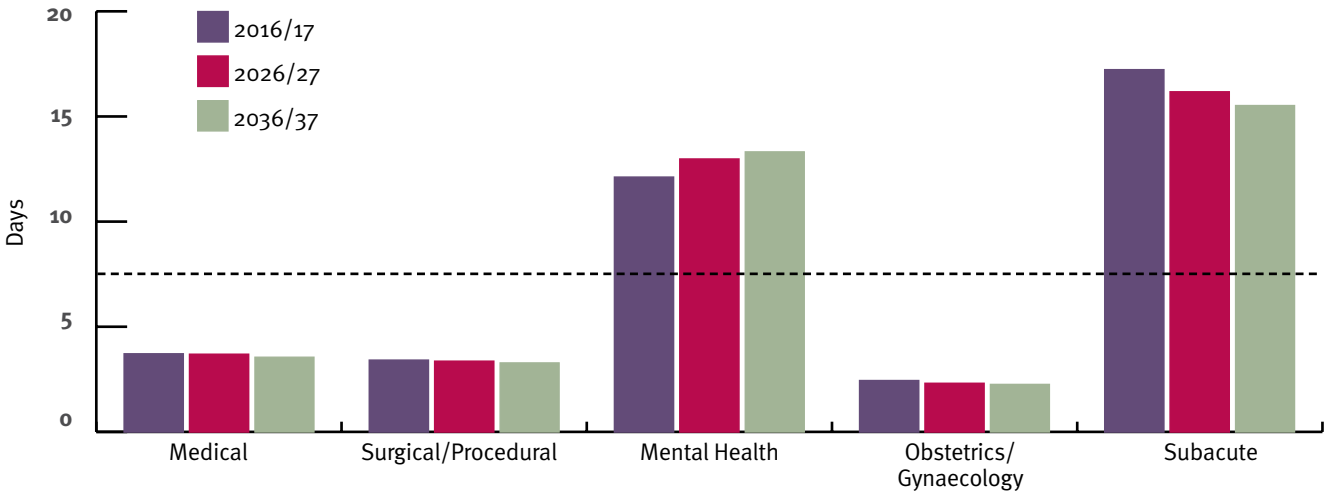
The Heath Service Plan Activity and Projections Paper provides a detailed analysis of the activity projections using endorsed Department of Health methodology to forecast inpatient and outpatient service demand to 2036/37. Below is a high-level summary of projected future activity demands.

INPATIENT ACTIVITY

The Acute Inpatient Modelling (AIM) methodology is the main tool for calculating projected activity for inpatient services. The AIM methodology assumes historical trends in reduced length of stay and increases in admission rates will continue irrespective of cause (for example changes to statistical recording from outpatient to day case or one-off funding to reduce waiting lists will skew results). The projections used to develop a 'Base Case' for future activity can be used when planning future infrastructure such as the number of new hospital beds required up to 2036/37. Note AIM is not the endorsed methodology for planning Mental Health services.

AIM methodology has an inbuilt decrease in overnight length of stay across almost all clinical specialties. For Darling Downs Health facilities, overnight average length of stay is projected to decrease over the next 18 years from 2.7 to 2.5 days for adults and from 2.5 to 2.2 days for children. (The average length of stay for all Queensland hospitals was 2.7 days in 2016/17). Despite this, the AIM tool projects large increases in the demand for overnight bed days from Darling Downs Health facilities for medical, surgical/procedural and subacute services driven by population growth and ageing.

Figure 11: Overnight Average Length of Stay (ALOS) by specialty: Darling Downs Health facilities, adults used in AIM projections



Inpatient activity is represented by service related groups or SRGs. The greatest number of separations in Darling Downs Health in 2016/17 after renal dialysis was for obstetric services including antenatal and postnatal admissions. Note there are separate SRGs for general medicine, respiratory medicine and cardiology. General surgery does not include sub specialities – see Appendix C for list of SRGs.

Figure 12: Top 10 SRGs (service streams) by percentage of total admissions in Darling Downs Health in 2016/17

- Renal dialysis - 20%
- Obstetrics - 13%
- General surgery - 11%
- Endoscopy - 9%
- Orthopaedics - 9%
- Cardiology - 9%
- Respiratory medicine - 8%
- Chemotherapy - 7%
- General medicine - 7%
- Neurology - 6%

Projections based on DoH's Admitted Inpatient Methodology (AIM) show that after renal dialysis, general surgery will have the greatest number of separations by 2036/37.

Figure 13: Top 10 SRGs (service stream) by percentage of admission projections for Darling Downs Health in 2036/37

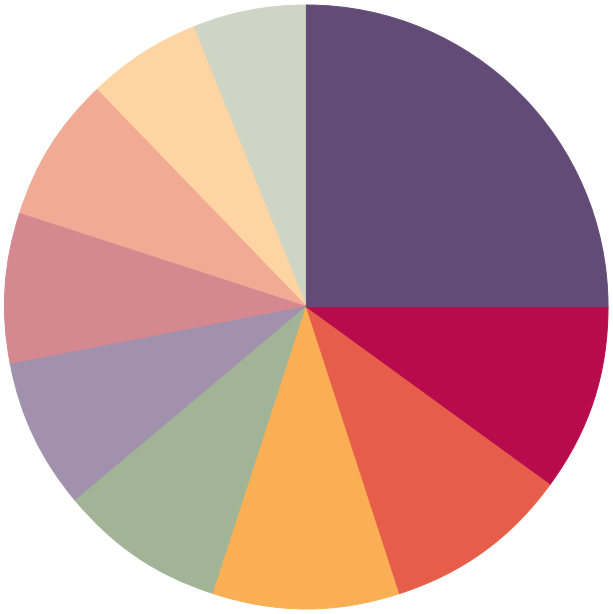
- Renal dialysis - 20%
- General surgery - 13%
- General medicine - 9%
- Orthopaedics - 9%
- Cardiology - 9%
- Respiratory medicine - 9%
- Neurology - 8%
- Endoscopy - 8%
- Obstetrics - 8%
- Chemotherapy - 7%

When considering inpatient bed days rather than the number of admissions, mental health accounted for the greatest percentage of inpatient bed days followed by 'other' non-acute patients (maintenance patients rather than palliative or rehabilitation patients) in 2016/17. By 2036/37 respiratory medicine, orthopaedic services and other non-acute patients will have the greatest number of inpatient bed days after mental health.

Figure 14: Top 10 SRGs (service streams) by percentage of total bed days in Darling Downs Health in 2016/17

- Mental health - 24%
- Other non-acute- 13%
- Orthopaedics - 9%
- Respiratory medicine - 9%
- General surgery - 9%
- Obstetrics - 9%
- Renal dialysis - 7%
- Cardiology - 7%
- General medicine - 7%
- Neurology - 6%

Figure 15: Top 10 SRGs (service streams) by percentage of total bed days projections for Darling Downs Health in 2036/37



- Mental health - 24%
- Respiratory medicine - 10%
- Other non-acute - 10%
- Orthopaedics - 10%
- General surgery - 9%
- General medicine - 8%
- Renal dialysis - 8%
- Neurology - 8%
- Immunology and infections - 6%
- Cardiology - 6%

Note – 'other non-acute' includes maintenance patients but excludes rehabilitation and palliative non-acute admissions.

Except for obstetric services, the service streams with the greatest activity in Darling Downs Health in terms of separations and bed days align with the National Health Priority Areas as a result of the significant burden of disease associated with these areas. It is therefore a priority for Darling Downs Health to partner with primary healthcare to prevent the underlying causes of chronic disease and better manage the increase in morbidity associated with a growing aged population.

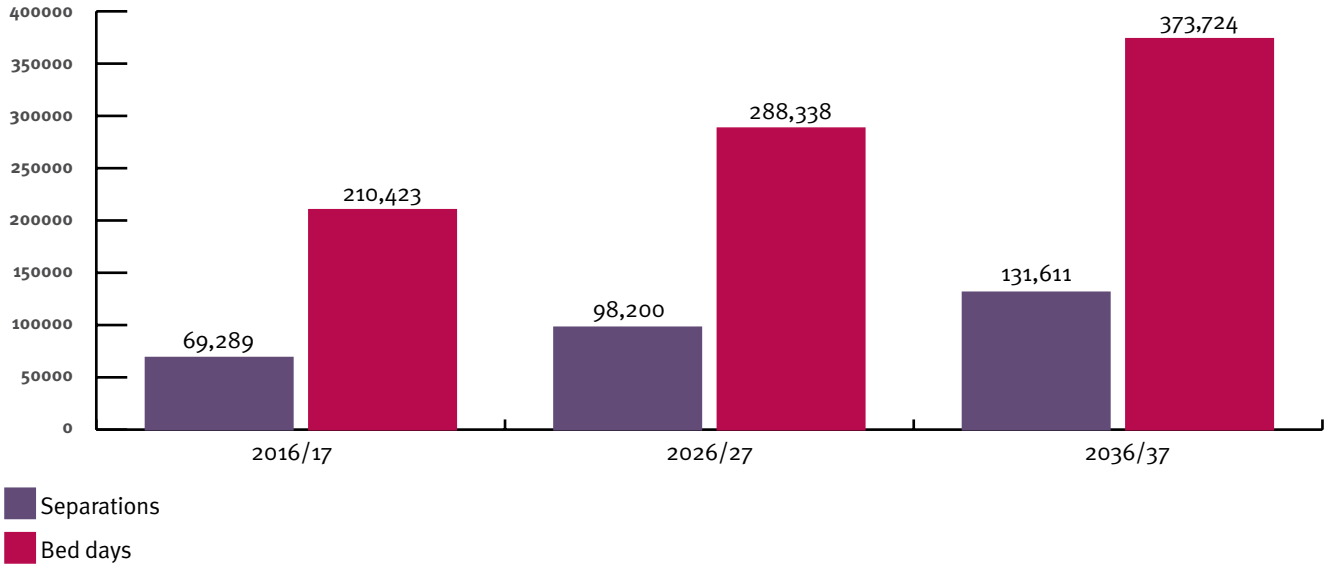
A detailed analysis of Darling Downs Health service activity and projections is provided in the accompanying documents Darling Downs Health 2019-29 Heath Service Plan Background Paper and Darling Downs Health 2019-29 Heath Service Plan Activity and Projections Paper.

INPATIENT SERVICES PROJECTED ANNUAL GROWTH RATE

(EXCLUDING UNQUALIFIED NEONATES AND RENAL DIALYSIS)

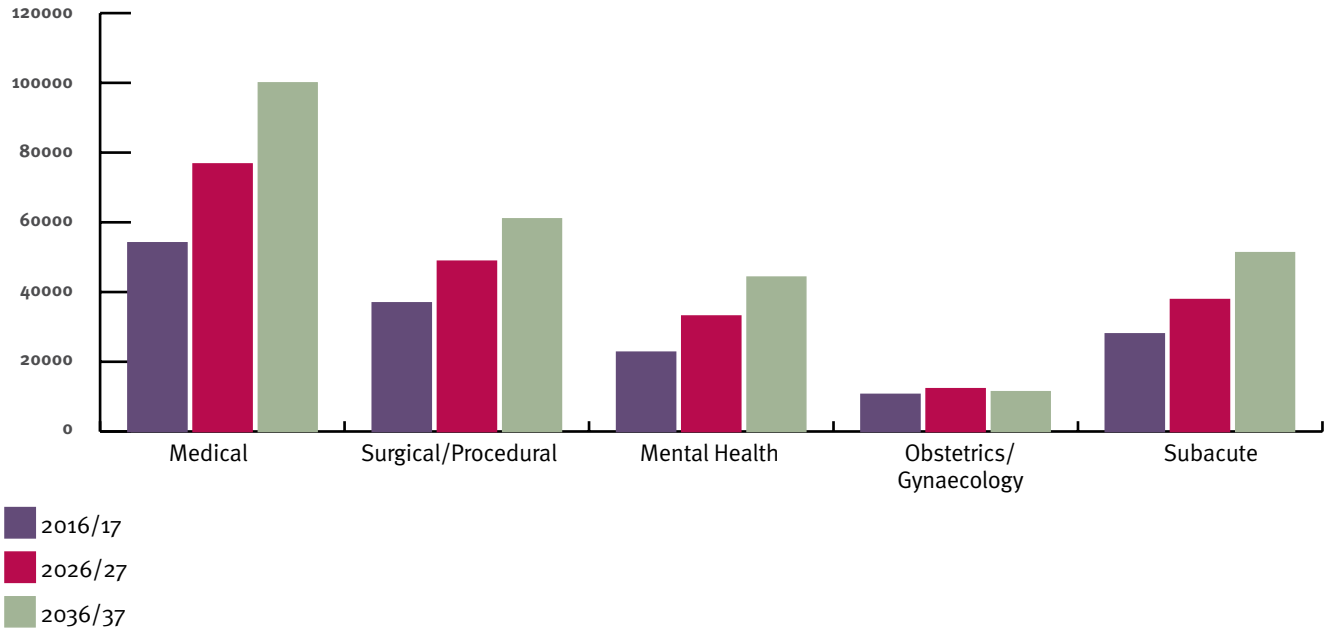
- 3.5 per cent for Darling Downs Health hospital admissions (over 10 years to 2026/27)
- 3.2 per cent for Darling Downs Health bed days (over 10 years to 2026/27)
- At this rate the number of admissions will almost double (90 per cent increase) and bed days will increase by approximately 80 per cent by 2036/37.

Figure 16: Projected increase in Admissions and Bed days Darling Downs Health



The translation of the above inpatient activity into physical bed requirements is presented in Table 7 of Appendix A.

Figure 17: Overnight bed days by specialty, Darling Downs Health facilities Adults



Note increases are based on AIM projections and AIM is not the DoH tool for projecting Mental Health inpatient activity

PROPORTION OF DEMAND DUE TO AGEING POPULATION

The Darling Downs Health population aged 70 and over is projected to grow by more than 3 per cent per annum over the next 18 years. By 2036, people aged 70 and over, will make up more than 19 per cent of the total Darling Downs Health population and will account for approximately 52 per cent of all overnight bed days in Darling Downs Health hospitals.

The percentage of overnight separations for people aged 70 and over will increase across all specialty groups with geriatric management (non-acute) and Other Non-Acute services expected to have the largest percentage of overnight separations of older people.

Figure 18: Use of Darling Downs Health hospitals by age group: Overnight (ON) separations and bed days

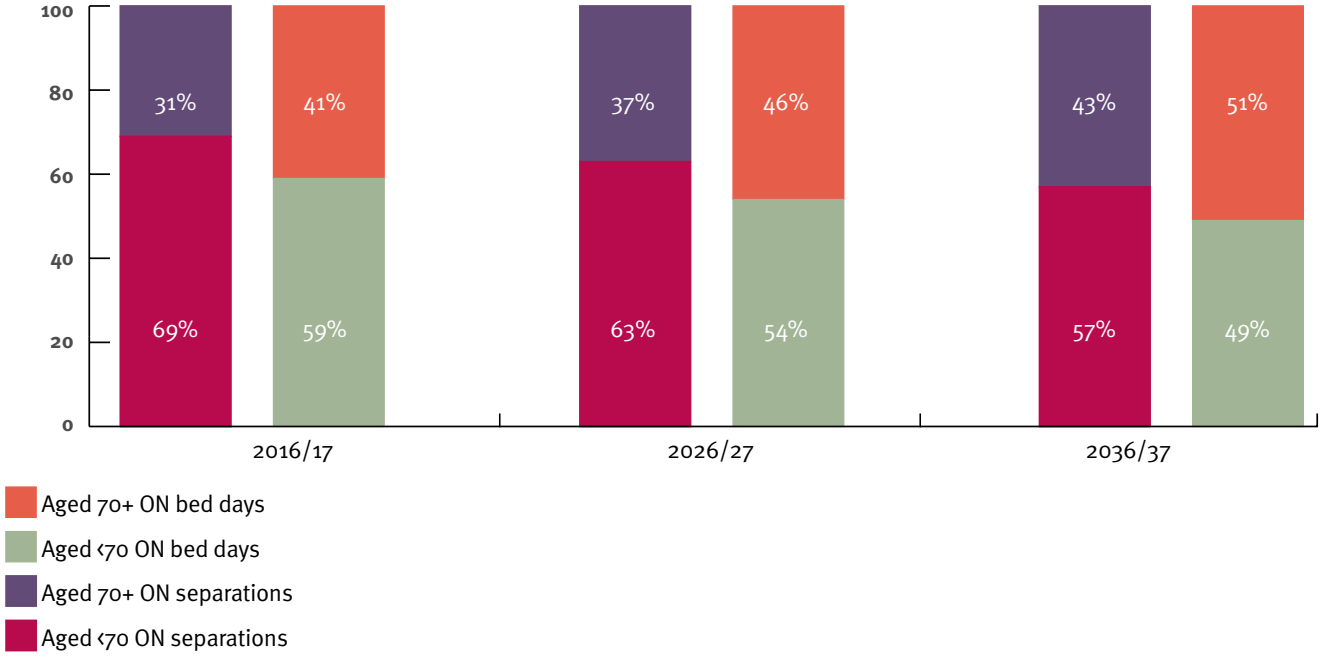
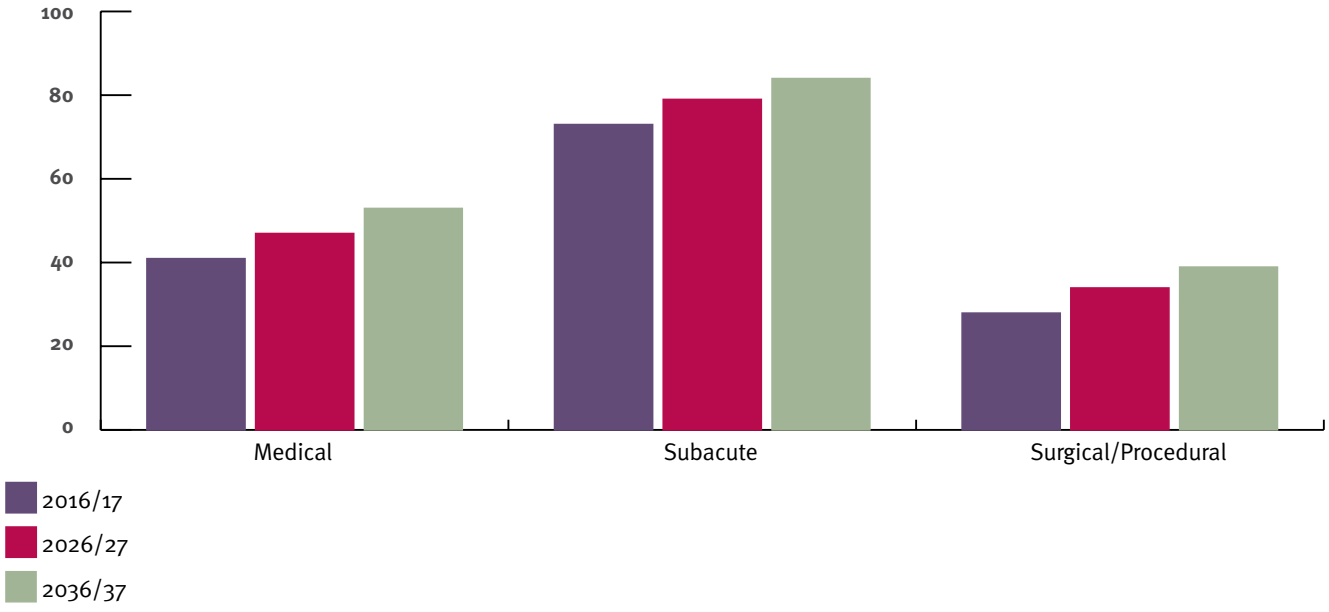


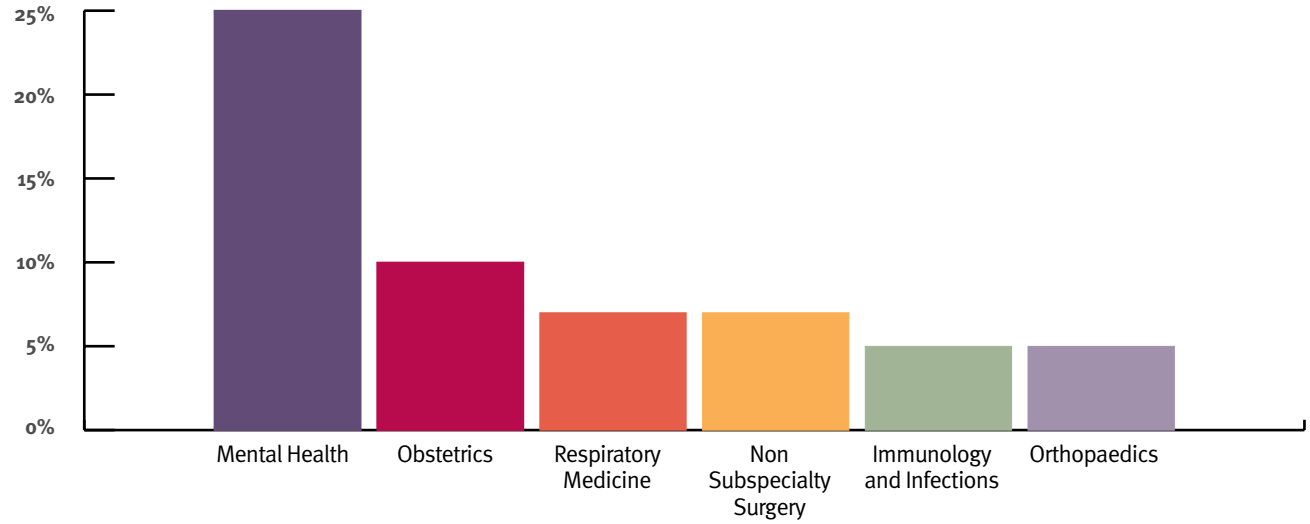
Figure 19: Percentage overnight separations aged 70+: Darling Downs Health hospitals by specialty



INDIGENOUS INPATIENT ACTIVITY

Indigenous inpatient activity accounted for 9 per cent of total public separations and bed days in 2016/17 (excluding SRGs for renal dialysis and unqualified neonates). The graph below shows the top six service related groups for admission in 2016/17 excluding renal dialysis.

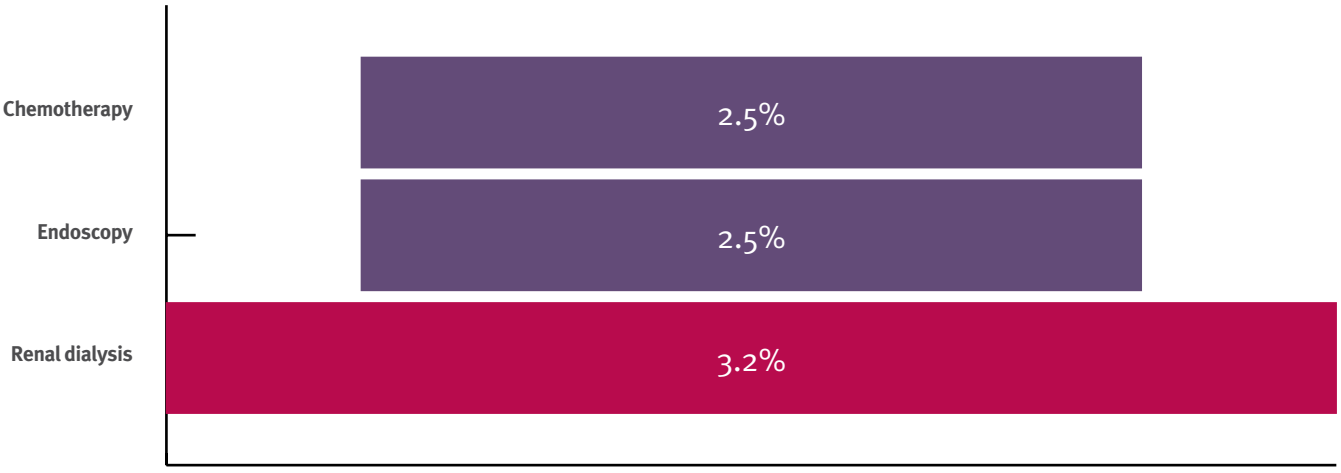
Figure 20: Top 6 SRGs (service streams) by bed days for Indigenous admissions in 2016/17 (excluding renal dialysis and unqualified neonates)



SAME DAY ADMISSIONS

The annual compounding growth rates for chemotherapy, endoscopy and renal dialysis below are based on DoH projections. The methodology includes projected incidence, treatment rates and patient flow.

Figure 21: Same Day activity projected Darling Downs Health Annual Growth rate 2021/22 - 2026/27



Source: Cancer Projections 2018 Final v1.1, Endoscopy Projections 2018 Final v1.0, Renal Dialysis Projections 2018 Final v1.0 supplied by System Planning Branch, Qld DoH, November 2018.

EMERGENCY SURGICAL ADMISSIONS

Annual compounding growth rates for emergency surgical admissions below are based on Department of Health projections for the Service Related Group (SRG) Surgery and not actual theatre cases.

Figure 22: Emergency Surgery Projected Annual Growth rate 2016/17 - 2026/27

3.4%
Darling Downs Health

3.7%
Toowoomba Hospital

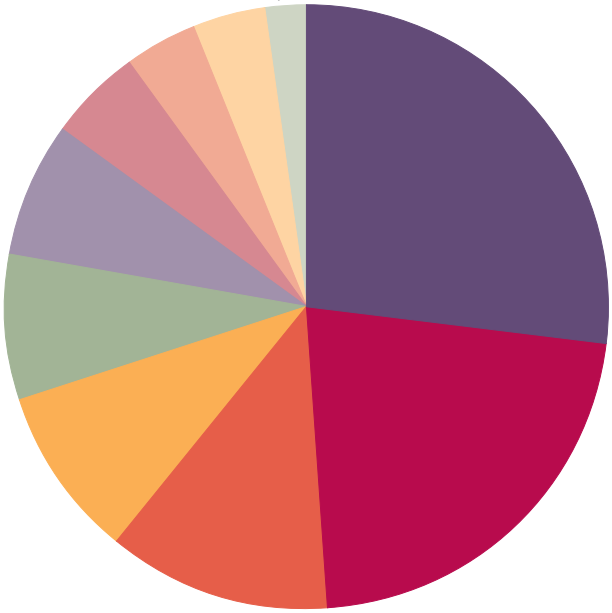
Emergency Surgery SRG includes: Breast Surgery, Cardiac Surgery, Colorectal Surgery, Dentistry, Ear, Nose and Throat, Extensive Burns, Gynaecology, Haematological Surgery, Head and Neck Surgery, Interventional Cardiology, Maxillo Surgery, Neurosurgery, Non- Subspecialty Surgery, Obstetrics, Ophthalmology, Orthopaedics, Plastic & Reconstructive Surgery, Prolonged Ventilation, Thoracic Surgery, Upper GIT Surgery, Urology, Vascular Surgery.

Source data: AIM Inpatient Projections Base Year 2016/17; ASGS 2011. Supplied by System Planning Branch, Qld DoH, November 2018.

Figure 23: Outpatient occasions of Service Darling Downs Health 2016/17 - Top 10

- Medical imaging - 19%
- Allied health - 18%
- Community - 15%
- Maternity - 15%
- Medical - 12%
- Orthopaedics - 6%
- Surgical - 5%
- Oncology - 4%
- Pre-admission - 4%
- ENT - 2%

Figure 24: Specialist Outpatient Occasions of Service Darling Downs Health 2016/17 - Top 10 excluding medical imaging, allied health and community

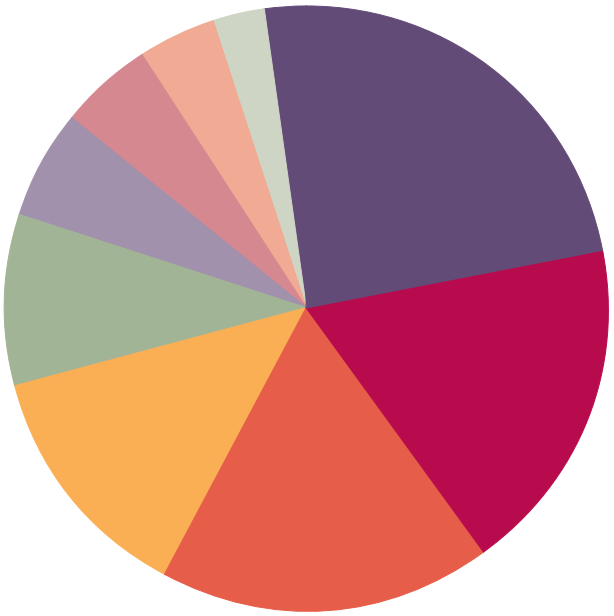


- Maternity - 27%
- Medical - 22%
- Orthopaedics - 12%
- Surgical - 9%
- Oncology - 8%
- Pre-admission - 7%
- ENT - 5%
- Sub-acute - 4%
- Paediatric - 4%
- ENT - 2%

OUTPATIENT ACTIVITY

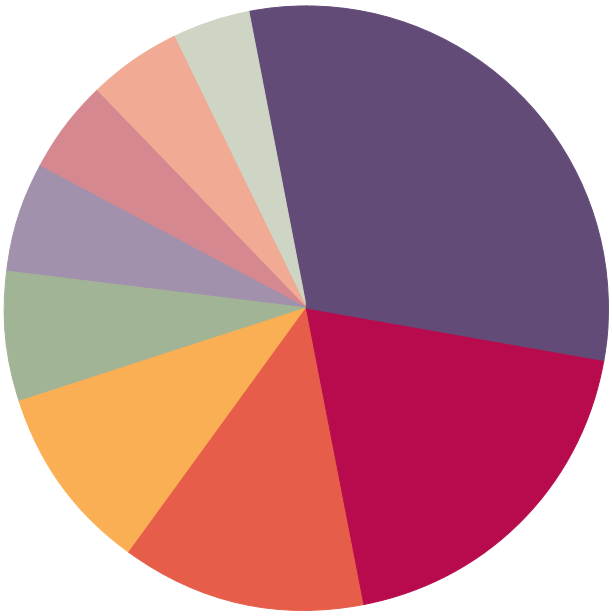
Medical Imaging, Allied Health and Community Health demonstrated the highest number of occasions of service in 2016/17. This is unlikely to change in the next 10 years and beyond. An analysis of specialist outpatient services (excludes medical imaging, allied health and community) shows that maternity services represent over one quarter of all outpatient activity but this is projected to decrease in the future. In the future, medicine will represent the service stream with the greatest occasions of service, followed by maternity, orthopaedics, surgery and oncology.

Figure 25: Outpatient Occasions of Service Darling Downs Health 2036/37 - Top 10



- Medical imaging - 22%
- Allied health - 18%
- Community - 18%
- Medical - 13%
- Maternity - 9%
- Orthopaedics - 6%
- Surgical - 5%
- Pre-admission - 4%
- Oncology - 3%
- Sub-acute - 2%

Figure 26: Specialist Outpatient Occasions of Service Darling Downs Health 2036/37 - Top 10 excluding medical imaging, allied health and community



- Medical - 28%
- Maternity - 19%
- Orthopaedics - 13%
- Surgical - 10%
- Pre-admission - 7%
- Oncology - 6%
- Sub-acute - 5%
- ENT - 5%
- Urology - 4%
- Paediatric - 3%

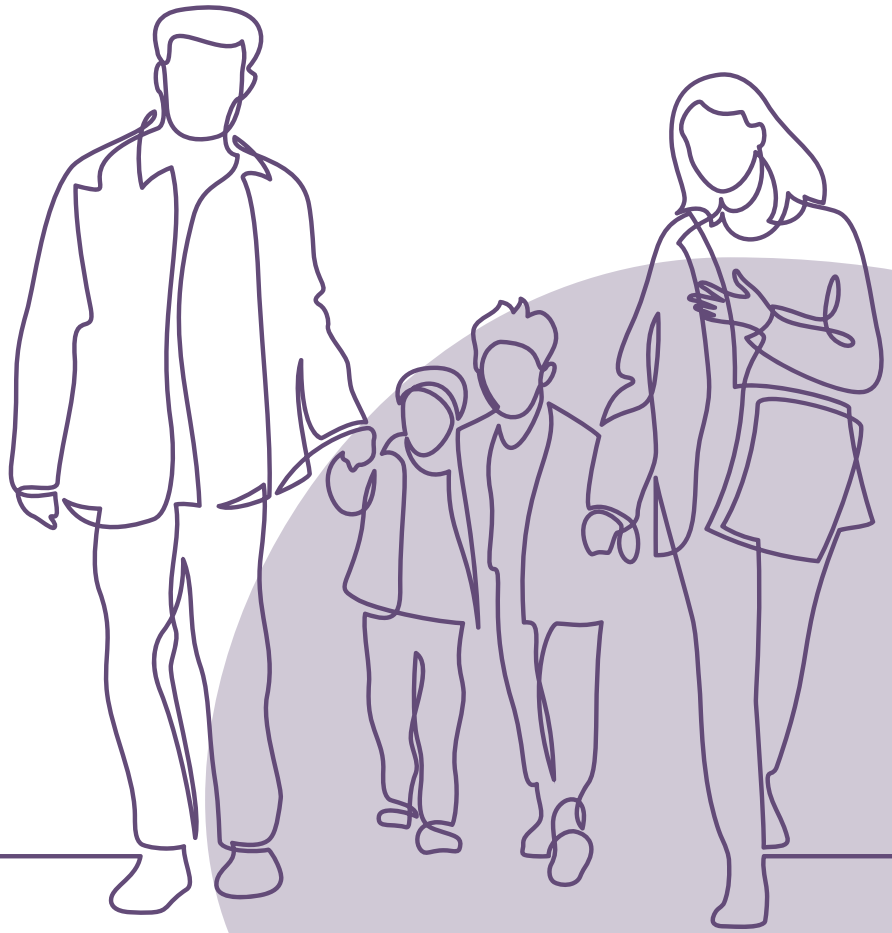


Figure 27: Projected Annual growth rate Darling Downs Health for Outpatient activity 2016/17-2026/27

3.7%
Darling Downs Health

3.7%
Toowoomba Hospital

4+%
Toowoomba hotspots:
Medical
Ophthalmology
Urology
Gastroenterology

Source: Outpatient Projections 2018 Final v1.2 supplied by System Planning Branch, Qld DoH, November 2018.

EMERGENCY DEPARTMENT GROWTH

Across the Darling Downs Health emergency presentations will increase at a rate of 3.6 per cent per annum equating to a 42 per cent increase in the 10 years from 2016/17 to 2026/27. Toowoomba Hospital emergency presentations are growing at 4.2 per cent per annum or a 50 per cent increase in the 10 years from 2016/17 to 2026/27.

Figure 28: Emergency presentation Projected Annual Compound Growth rate 2021/22-2026/27

3.6%
Darling Downs Health

4.2%
Toowoomba Hospital

Source: ED Projections 2018 Final v1.0 supplied by System Planning Branch, Qld DoH, November 2018.

ACTIVITY GROWTH SUMMARY

Darling Downs Health per annum growth rates (compound) and 10-year increase from 2016/17 to 2026/27:

hospital admissions 3.5 per cent or 42 per cent increase in 10 years

bed days 3.2 per cent or 37 per cent increase in 10 years

emergency presentations 3.6 per cent (4.2 per cent TH) or 42 per cent increase in 10 years (50 per cent TH)

emergency surgical separations 3.4 per cent or 40 per cent increase in 10 years

outpatients 3.7 per cent or 44 per cent increase in 10 years

growth of 70+ years population 3 per cent per annum

Activity growth is due to a combination of population growth and an increase in the average number of services provided per person particularly for older Darling Downs Health residents.

6. Health Service Gaps in the Darling Downs

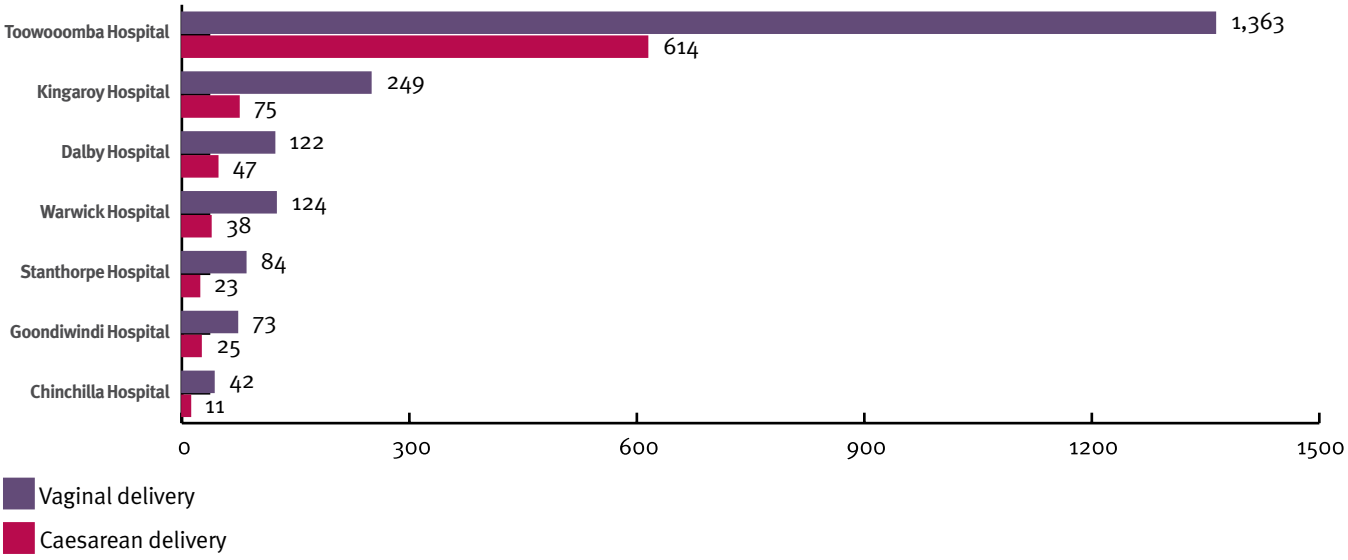
This section identifies the gap between services currently provided and services required in the future to improve the health status of our Darling Downs community given the health needs identified in the previous sections.

MATERNAL AND INFANT HEALTH AND CHILD SERVICES

Obstetrics and gynaecology admissions account for 14 per cent of admissions and 8 per cent of bed days. Admissions are projected to increase by 0.7 per cent per annum and bed days by 0.4 per cent per annum, lower than the growth rate for other services.

Vaginal and caesarean deliveries are projected to increase from 2,899 in 2016/17 to 3,481 by 2036/37 in Darling Downs Health. This represents an annual growth rate of 0.9 per cent per annum. After Toowoomba Hospital, Kingaroy Hospital has the highest number of deliveries. In 2016/17 there were 3,925 antenatal separations, 880 more separations than actual births for that year.

Figure 29: Births by Facility 2016/17



Of concern is the higher infant mortality rate for residents from Stanthorpe, Newtown, North Toowoomba, Harlaxton, Wilsonton, Goondiwindi, Inglewood, Tara, Kingaroy and Nanango. The mortality rate for Indigenous babies was more than two times the rate for non-Indigenous babies for the period 2011 to 2015. Contributing factors include teenage birth rates, smoking during pregnancy and maternal obesity.

FUTURE NEONATAL AND MATERNITY SERVICES – TOOWOOMBA HOSPITAL REDEVELOPMENT

In 2016/17 there were 206 separations for SRG Qualified Neonate treated at metropolitan facilities. To provide a level 5 service Neonatal Intensive Care Unit (NICU) offering care for neonates with a birthweight greater than 1000 grams and 29 weeks of age, Toowoomba Hospital will require 8 cots, a neonatologist and 24-hour access to cranial ultrasonography and preferably a nurse working towards post graduate neonatal qualifications (nurse practitioner). Maternity services will need to be capable of providing planned care for women at 29 weeks gestation or more with infants to have expected birthweight of 1000 grams or more. These services could be considered in the redevelopment scope noting a sustainable NICU requires a minimum of 10,000 total births per annum in a health service catchment area[83].

PAEDIATRIC SHORT STAY UNIT TOOWOOMBA HOSPITAL

Paediatric inpatient activity (separations and bed days) is projected to increase at two per cent per annum across Darling Downs Health. Paediatric activity at Toowoomba Hospital will increase at a similar rate. Paediatric emergency presentations across Darling Downs Health are projected to increase at 2.7 per cent per annum and 3.3 per cent per annum at Toowoomba Hospital

The paediatric ED service is staffed by generalist medical and nursing staff and does not have a dedicated paediatric short stay unit. Shortening length of stay for children in an acute hospital environment is highly desirable both for the child and to reduce disruption for the family who are providing support. Implementation of a short stay unit model is known to further assist in reducing length of stay for children. A paediatric short stay unit is also required for a level 5 children's emergency service together with providing a separate waiting area.

OBJECTIVES

- Improve maternal health particularly for our teenage and Indigenous mothers.
- Improve the health of our most vulnerable children in the Darling Downs.
- Improve access to paediatric emergency services and reduce paediatric length of stay.

SERVICE ACTIONS: SHORT TERM (1–3 YEARS)

1. Review current programs (Boomagam Caring, parent support services, maternal child and youth workforce) against latest evidenced based care.

2. Partner with DDWMPHN to promote wellness programs improving maternal health during pregnancy including mental health and wellbeing including the First 1000 Days Australia.

3. Build on the Health and Wellness program (see Chronic Disease section) to target behaviours to reduce smoking and obesity during pregnancy. Use social media including potentially the concept of positive 'influencers' in program design and delivery.

4. School-based Youth Health Services to promote services offering education and support.

5. Ensure the health of Indigenous teenage mothers is a priority for Indigenous Health Workers in areas not included in the Boomagam Caring program working in partnership with Aboriginal Medical Services (AMS).

6. Develop the caseload midwifery model especially for communities with a high Indigenous population as there is some evidence that the caseload midwifery model lowers the rate of perinatal mortality for specific population groups[73].

7. Improve quality and accessibility for routine antenatal care ensuring services are culturally appropriate and sensitive to the needs of young first-time mothers. This includes use of digital modes and group sessions.

8. Pursue research opportunities and grants aimed at measuring improvements in maternal and infant health.

9. Partner with DDWMPHN and AMSs to improve the quality and accessibility of Child Health services including use of digital communication modes and group sessions and implementation of the First 1000 Days Australia.

10. Increase paediatric outreach services including allied health support commencing in regional areas identified as having a higher percentage of children vulnerable on two or more domains (Tara, Chinchilla, Taroom, Millmerran, Pittsworth, Kingaroy, Murgon and Wondai).

11. Include a paediatric short stay unit in planning requirements for the Toowoomba Hospital redevelopment or sooner if possible.

Alignment with higher level planning or policy: *Queensland Health Making Tracks Closing the Gap in Health Outcomes for Indigenous Queenslanders by 2033*

MENTAL HEALTH SERVICES

The Department of Health released the Regional Planning for Mental Health and Suicide Prevention – a Guide for Primary Health Networks in 2017. The importance of a Regional Plan to support service integration and clarity of responsibilities at a regional level is a priority area in the Fifth National Mental Health and Suicide Prevention Plan.

The Darling Downs Health will work collaboratively with the DDMWPHN to develop a joint Regional Mental Health and Suicide Prevention Plan to inform future service priorities[54]. The Regional Plan is a comprehensive evidence based document to support future service delivery pathways which are integrated, targeted to need across the spectrum of stepped care and address local priorities. Resourcing is required to undertake this planning activity. The plan will include

- Working with the DDWMPHN to improve level of psychosocial supports in the community to facilitate post-discharge care.
- Collaborating with community organisations to support streamline services for prevention of acute mental health episodes.
- Working with the DDWMPHN to collaborate with multiple agencies to maximise opportunities to integrate evidence based care for children and adolescents in Cherbourg and Tara including outreach services for paediatrics and child health.

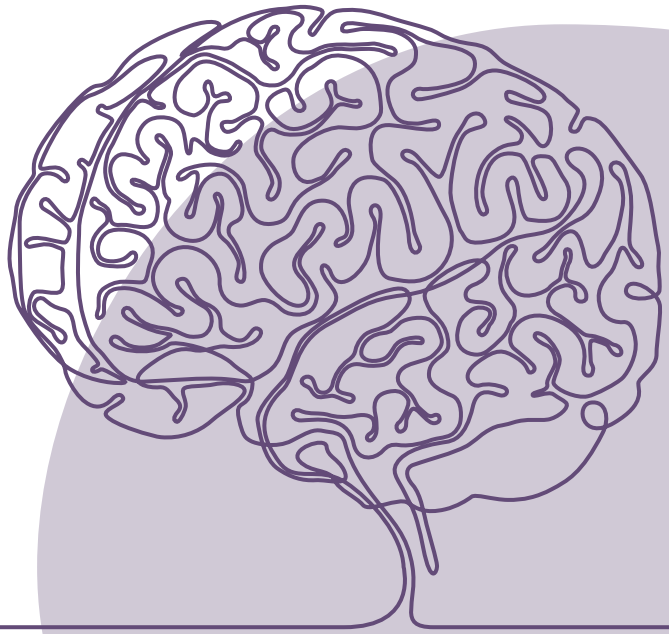
OBJECTIVE

- Support development of an integrated Regional Mental Health and Suicide Prevention plan in collaboration with the DDWMPHN.

SERVICE ACTIONS: SHORT TERM (1-3 YEARS)

1. Identify resourcing to undertake planning activity in collaboration with the DDWMPHN to develop a Regional Mental Health and Suicide Prevention plan.

Alignment with higher level planning or policy: *Queensland Health My health, Queensland's future: Advancing health 2026*



DRUG AND ALCOHOL SERVICES

Relative utilisation for drug and alcohol services for Darling Downs residents was 86 per cent in 2016/17 indicating that the Darling Downs uses alcohol and drug services less than the average for Queensland (100 per cent). This is possibly due to gaps in service provision given consistent requests from stakeholders during consultation for expanded alcohol and other drug (AOD) services.

The Queensland Mental Health, Drug and Alcohol Strategic Plan 2014-2019[27] identifies 'actions to prevent and reduce the adverse impacts of alcohol and drugs on the health and wellbeing of Queenslanders' as a stage one priority although current funding models limit any increase in service provision.

Future service provision – funding permitting – will include expanding AOD services including a detoxification service to assist with overall ED and inpatient demand, access to an addiction medicine specialist at Toowoomba Hospital and service requirements as specified in the Clinical Services Capability Framework (CSCF v3.2) Alcohol and Other Drug services. To be sustainable services need to be based on integrated recovery plans reflecting evidence-based cultural, age and gender appropriate care and the ability to refer to dedicated services for homeless people.

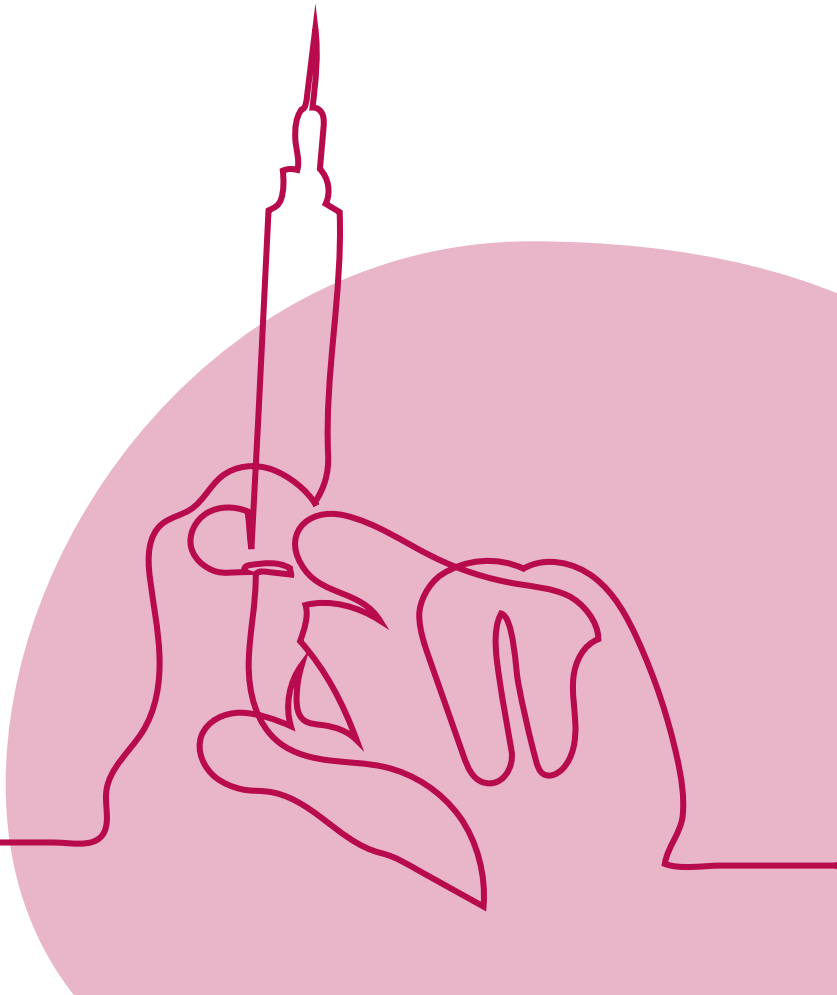
OBJECTIVE

- Improve access to AOD services including withdrawal management (detoxification) services in the Darling Downs.

SERVICE ACTIONS: MEDIUM TERM (4-7 YEARS)

1. Explore options to develop withdrawal management (detoxification) services including access to an addiction medicine specialist to support management of ED presentations and inpatient admissions.

Alignment with higher level planning or policy: *Queensland Health Connecting care to recovery 2016-21*



CHRONIC DISEASE

Chronic diseases affect some population groups more than others. They occur more often among Indigenous Australians. Chronic diseases also occur more often and with greater effect among socioeconomically disadvantaged people. People who live in areas of lowest socioeconomic status are also more likely to take part in risky health behaviour, or combinations of behaviours, which can lead to poorer chronic disease outcomes. Older Australians are most affected by chronic disease[62].

As the Darling Downs Health population profile is older, has a higher proportion of Indigenous residents and has more disadvantage than the Queensland average, the prevalence of chronic diseases is also higher. Death rates for coronary heart disease, cardiovascular, cerebrovascular disease and diabetes are higher in Darling Downs Health than Queensland. While the rate of death from COPD for the period 2015/16 to 2016/17 was similar to Queensland, certain rural regions in Darling Downs Health had higher death rates for COPD (CHO 2018).

Many chronic diseases share common risk factors that are preventable. Chronic diseases are closely associated with modifiable risk factors such as smoking, physical inactivity, poor nutrition and the harmful use of alcohol. These behaviours contribute to the development of biomedical risk factors, including overweight and obesity, high blood pressure, and high cholesterol levels, which in turn lead to chronic disease. A key focus of the national and state policy is the prevention and better management of chronic disease to improve health outcomes[62].

Patients with chronic illnesses are often seen by a range of health care professionals, each responsible for part of the patient's care. Patients receive conflicting information from different doctors and important information is not shared appropriately. In theory GPs are meant to coordinate care but often do not have the tools, incentives and authority to do so[63].

A patient focused model of care recognising the personal challenges patients face when confronted with lifestyle changes and sharing of knowledge and information between secondary and primary care is required to reduce potentially preventable hospitalisations. Further a model focussed on promoting health behaviours in the 'rising risk' groups to prevent or delay the onset of chronic disease conditions is also required.

The Darling Downs Health Diabetes Model of Care Project (DMOC) provided a trial incorporating diabetes education, Queensland Ambulance partnership and GP engagement, upskilling and AMS partnership. The trial demonstrated a reduction in people admitted to hospital after presenting to ED with diabetes-related concerns and a reduction in diabetes related hospital costs per patient per year[64]. The Darling Downs Health is committed to implementing the model as business as usual.

Given the detrimental health impacts of chronic disease in the Darling Downs, there is a significant need to implement the successful elements of DMOC across all services treating chronic disease (respiratory, cardiology and renal). Changes to models of care particularly for the frail aged and people with chronic disease have the largest potential impact on length of stay. It is increasingly recognised that traditional hospital based models of care may not provide optimal health outcomes particularly for older people and those with multiple chronic disease. Robust evidence exists to support providing acute care outside the acute hospital setting.

CHRONIC DISEASE CENTRE

Patients with chronic disease may have more than one condition. Under a chronic disease centre model, specialists for the management of different chronic diseases will be co-located at the time of the patient's visit integrated with General Practice to provide a patient focused service supported by allied health, pharmacy and nursing services. A nurse navigator position (or similar) will assist with coordinating services. Potentially the centre could be based in the community. Education and upskilling of GPs and practice staff is part of this model.

HEALTH AND WELLNESS PROGRAM

Darling Downs Health is currently trialling a Health and Wellness Centre at Baillie Henderson Hospital in partnership with the Southern Queensland Rural Health (SQRH). The centre will incorporate exercise, diet, mental health and chronic disease (including obesity) management programs to improve the health of participants. Admission to the wellness programs will be via GP or internal referral and will include patients in the rising risk category. Students in the fields of psychology, dietetics, exercise physiology and nursing will assist with program delivery.

The effectiveness of the program in terms of reducing the incidence of chronic disease will take some time to be realised. Shorter term benefits such as reducing isolation, improving mental wellbeing and reducing falls by improving mobility can be measured through patient survey.

WORKING ACROSS COMMUNITY, PRIMARY AND SECONDARY SERVICES TO REDUCE COPD HOSPITAL ADMISSIONS

In 2016/17 there were 12,156 potentially preventable hospital (PPH) admissions across the Darling Downs Health. Diabetes complications, dental conditions and COPD contributed to 46 per cent of PPH admissions[46]. To effectively reduce hospital admissions for COPD Darling Downs Health will need to work with community and primary healthcare sectors. Examples of successful innovations include the Canterbury District Health Board's Integrated Respiratory Service[4] reducing bed days for management of COPD by moving hospital standard services such as spirometry and pulmonary rehabilitation to general practice. The DDWMPHN has established relationships with primary care providers and is therefore a vital partner in this initiative. Nurse Navigation with multidisciplinary support will assist by connecting primary and secondary care providers to provide integrated patient care.

OBJECTIVES

- Improve management of chronic disease to reduce ED presentations and hospital admissions.
- Promote health and wellbeing to reduce incidence of chronic disease.
- Improve Darling Downs Health death rates for coronary heart disease, cardiovascular, cerebrovascular disease and diabetes.

SERVICE ACTIONS: MEDIUM TERM (4–7 YEARS)

1

Explore and implement the following options pending funding allocation to expand models of care to manage chronic disease across primary and secondary services:

- Development of a chronic disease centre
- Continued development of health and wellness programs
- Embed DMOC model of care as business as usual and develop models of care to better support management of other chronic diseases in the primary care setting.

Alignment with higher level planning or policy: *Queensland Health My health, Queensland's future: Advancing health 2026*

ORAL HEALTH IN VULNERABLE POPULATIONS

Poor oral health is associated with a number of chronic diseases, including stroke and cardiovascular disease[88] and while not specifically a chronic disease, oral health is a contributor to potentially preventable hospitalisations. A comprehensive study on the social determinants of oral health in 2007 found an inverse linear gradient between income and oral morbidity. There exists a twofold difference in prevalence of average, poor or very poor self-rated oral health, ranging from 35 per cent of adults with income up to $20,000 to 15.2 per cent of adults with income of $80,000 or more[69].

Oral Health activity data is not included in the DoH standard activity data sets and therefore future projections on activity is not available for planning purposes. Future actions based on stakeholder feedback are listed below:

OBJECTIVE

- Improve access to oral health services in Darling Downs Health.

SERVICE ACTIONS: MEDIUM TERM (4-7 YEARS)

1. Implement integrated primary health initiatives in partnerships with the DDWMPHN and councils to promote evidence based healthy behaviours to promote dental health in young children and thereby establish a foundation for later life. This includes reducing sugary drink intake, good oral hygiene and fluoridation of water.
2. Investigate feasibility of moving Toowoomba Oral Health services to Baillie Henderson Hospital increasing dental chairs from 8 to 16 as an early stage of the redevelopment.
3. Investigate opportunities to use dental vans during school holiday periods to provide walk in services.
4. Investigate potential to collaborate with a University to establish a dental student program at Dalby Hospital and future Baillie Henderson Hospital site.
5. Collaborate with DDWMPHN and AMS to provide visiting adult oral health services at Cherbourg.
6. Explore feasibility (including funding) of engaging a dentist to provide services at Chinchilla Hospital and leave cover for Dalby Hospital.

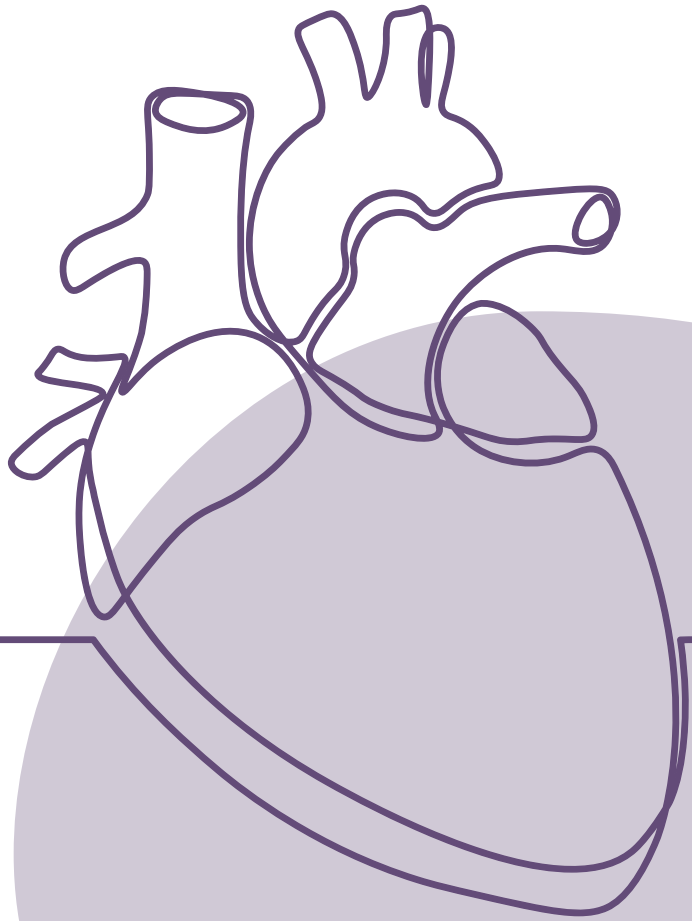
Alignment with higher level planning or policy: *Commonwealth Government Healthy Mouths, Healthy Lives Australia's National Oral Health Plan 2015-2024.*

CARDIAC MEDICINE

Cardiovascular disease is a major cause of death in Australia with one in six Australians affected[24]. Nationally, cardiovascular disease was the leading cause of admitted patient expenditure in 2012-13 (11 per cent of total)[46]. The relative burden of coronary heart disease as a leading cause of death in the Darling Downs Health region is 15 per cent higher than the Queensland average[46]. Indigenous Australians represent 7.4 per cent of all public Darling Downs Health admissions for cardiovascular disease (cardiology and interventional cardiology).

With 2,420 cardiology admissions to Toowoomba Hospital in 2016/17, cardiac medicine is the fourth largest service stream after obstetrics, general surgery and orthopaedics (excluding high-volume treatment services: renal dialysis, chemotherapy and diagnostic endoscopy). Toowoomba Hospital currently provides a Level 4 service for cardiac medicine and a level 3 service for cardiac diagnostic and interventional services. In 2016/17 there were 785 time critical interventional and cardiac treatment admissions for Darling Downs residents at Metropolitan Hospitals that potentially could have been provided locally.

Building local capacity in cardiology will ensure that Darling Downs residents access cardiac services at an equivalent standard of care when compared to similar regional public health services and private services in the Darling Downs. Implementing a three to five-year plan for strategic investment in cardiology to develop the current cardiac medicine service including interventional cardiology will provide improved care and better outcomes for Darling Downs residents with or at risk of heart disease. Planning actions are listed in detail in section 11 (Strengthening the role of Toowoomba Hospital) of this report.

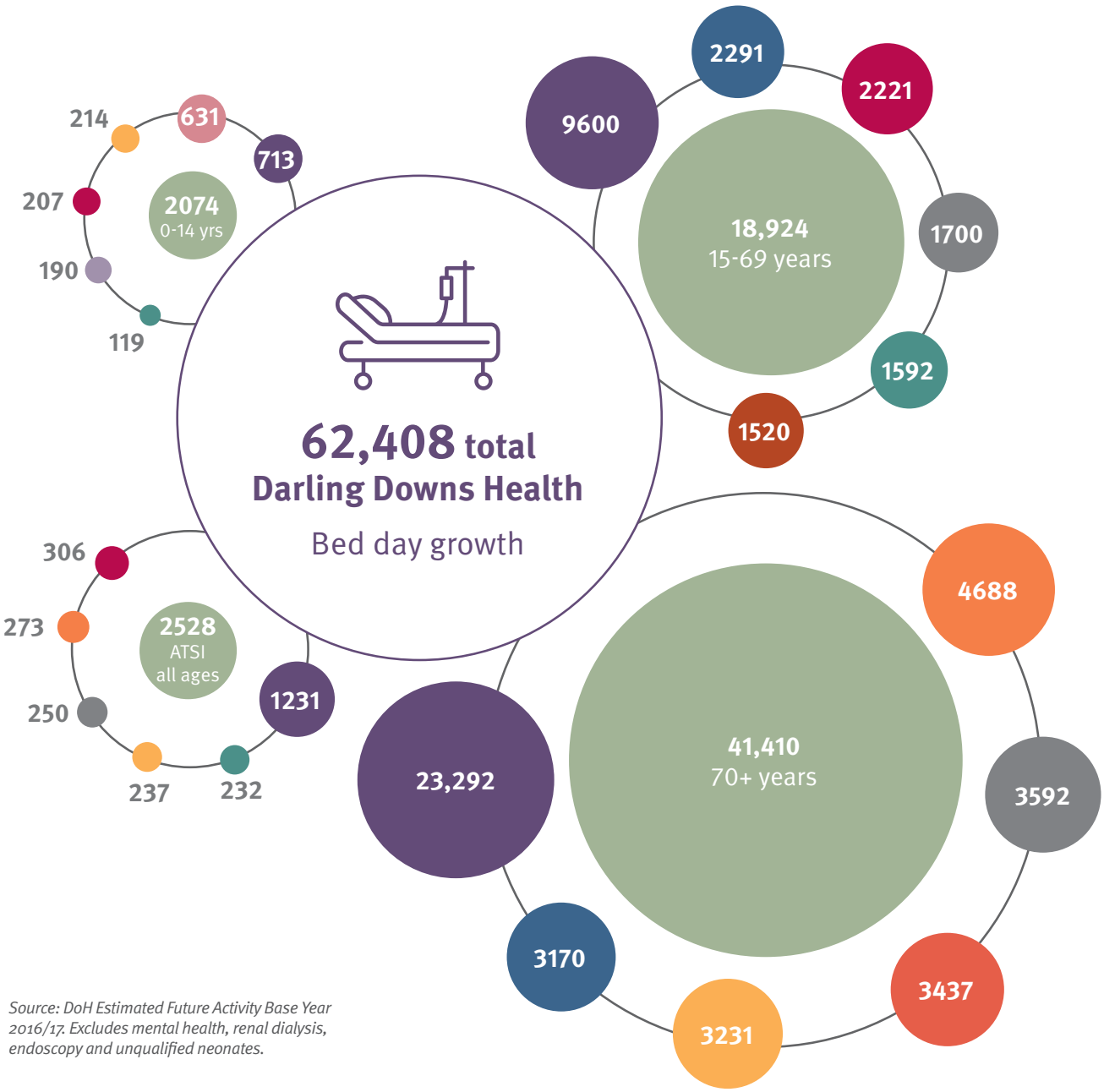


GERIATRIC SERVICES

Geriatric services are a specialist area of medicine concerned with the health care, social aspects, preventative and rehabilitation needs of older persons both in health and illness. Geriatric services include assessment, treatment, rehabilitation and clinical advice for older people with physical, cognitive impairment or dementia, mental health and functional support needs.

Given the percentage of patients aged over 70 will increase from 31 per cent (2016/17) to 37 per cent (2026-27) in ten years and 43 percent by 2036-37, there will be a corresponding demand for specialist services for older persons and a significant increase in bed days for this cohort (see Figure 30 below).

Figure 30: Darling Downs Health Projected inpatient bed day growth to 2026-27



Source: DoH Estimated Future Activity Base Year 2016/17. Excludes mental health, renal dialysis, endoscopy and unqualified neonates.

IMPLEMENTING A VALUE BASED HEALTH CARE PROGRAM FOR OLDER PERSONS

Dementia is one of the nine national health priority areas. People with dementia are major users of hospital services due to the fact older people with dementia are more likely to have other chronic conditions. Patients with dementia stay in hospital almost twice as long as those without dementia[13]. Common reasons for hospitalisations of people with dementia include hip fractures, respiratory tract infections, urinary tract infections and delirium. They often experience adverse outcomes including physical and cognitive functional decline, under-nutrition, skin tears and fall related injuries.

A review of clinical and behaviour specials at Toowoomba Hospital between February and April 2018 reported the cost for behaviour specialling is approximately between $1 to $2 million per annum[15].

On average there was a total of 164 hours nominated as 'behaviour' specialling at TH per day equivalent to 21.6 shifts per day provided to a total of 363 patients. The top three principal diagnoses for this cohort were respiratory illness (26 per cent), neurological or neurovascular incident (16 per cent) and UTI (12 per cent).

OBJECTIVE

- Improve outcomes for patients with dementia admitted to Darling Downs Health facilities.

SERVICE ACTIONS: MEDIUM TERM (4-7 YEARS)

1. Implement a value based health care program (such as Care of Confused Hospitalised Older Persons)[48] to support existing interdisciplinary practice. This will allow for routine cognitive screening of older people during admission in conjunction with a delirium risk assessment to identify dementia and assistance with planning for discharge. Suitable programs will:
   - Involve family carers in the care and support of patients.
   - Train staff to better understand dementia and communicate more effectively with people with dementia.
   - Use psychosocial interventions as alternatives to antipsychotic medication and sedatives.
   - Adapt the hospital physical environment to reduce distractions and help orientate patient with dementia.
   - Formal training for acute staff in the hospital and use of cognitive impairment identifier graphic to alert staff of patient's cognitive impairment[48].
2. Incorporate 'grey bays' in our emergency departments to help staff understand the specific needs for this group of patients and the need to recognise carer burnout early to initiate discussions and support carers through inevitable transitions to achieve earlier placements in alternative accommodation.
3. Extend capacity of current memory clinics with the addition of neuropsychology services (required for Clinical Service Capability Framework (CSCF) Level 5).
4. Build capacity in rural facilities to enable step down and transfer of patients from Toowoomba Hospital who require continuing rehabilitation services. Requires increased allied health resources at Kingaroy, Warwick and Dalby hospitals and installation of CT scanner at Dalby Hospital.
5. Build capacity for additional outpatient clinics to accommodate dedicated services for Parkinson's disease.

Measures: Reduced hours for specialling, reduced avoidable hospital admissions, reduced falls and increased step downs to rural facilities

Alignment with higher level planning or policy: *Commonwealth Government Healthy Mouths, Healthy Lives Australia's National Oral Health Plan 2015-2024.*

EXTEND SCOPE OF ACUTE GERIATRIC EVALUATION SERVICE (AGES)

The Darling Downs Health population is ageing and has an increased life expectancy. This demographic trend is particularly important for the health system given the higher per capita use of health services by older people. For example, people aged 70 and over represent 12 per cent of the population but account for 41 per cent of total public hospital utilisation (overnight bed days) in Darling Downs Health. Older people requiring health services often have complex needs relating to a cluster of medical conditions, disabilities and psychosocial issues. Preventing ED presentations and hospital admissions is a high priority for this cohort.

AGES provides Nurse Navigator led education and support and commenced in 2016/17 initially providing services to residential aged care facilities (RACF) in the Toowoomba region. In 2017/18 the service expanded to include all aged care facilities in the Darling Downs Health region. The AGES model includes a registrar in the team who provides services to residents at an RACF in response to an RACF or GP referral. Conditions treated under the AGES model of care include pneumonia, pain, congestive cardiac failure, wounds and delirium. The AGES program aims to demonstrate success in preventing ED presentations and hospitalisations.

In 2016/17 there were 1,358 ED presentations from RACF residents at Toowoomba Hospital. 950 patients who presented at ED were admitted or transferred. Expanding AGES to a 7-day service with access to a mobile x-ray is projected to reduce ED presentations from RACF by 5 per cent or 68 presentations per annum and admissions by 20 per cent or 190 per annum. This equates to a reduction of 2 beds based on an average length of stay of 4.2 days for 2016/17.

Potentially AGES could also be extended to services in the patient's home as an extension of the HITH program similar to the Gold Coast Hospital's Geriatric Evaluation Management In The Home (GEMITH). This will require a dedicated community focused geriatrician to support the expansion of the AGES program into the community including education of GPs and practitioner nurses. Multidisciplinary support from dietician, psychology and occupational therapy is also required.

OBJECTIVES

- Reduce projected Toowoomba RACF resident ED presentations by 5 per cent and hospital admissions 20 percent.
- Extend HITH model to reduce projected geriatric bed days.

SERVICE ACTIONS: IMMEDIATE (1-3 YEARS)

1. Extend AGES to a seven-day service with mobile x-ray.
2. Explore feasibility of extending AGES to HITH model (patient's home). Requires geriatrician resources to support extension of service and GP education and practitioner nurses and dietician, psychology and occupational therapy resources.

Alignment with higher level planning or policy: *Queensland Health System Outlook to 2026 (draft)*

CREATION OF AN ORTHOGERIATRIC UNIT[6]

Demand for orthopaedic services for the over 70 cohort is projected to be one of the top five growth areas (in terms of bed days) in Darling Downs Health due to an ageing population and the consequences of falls in these patients as they become increasingly frail. Additionally, within this group will be a significant cohort with multiple co-morbidities.

Older people have increased risks for medical complications. An orthogeriatric model of care reduces medical complications by 21 per cent, mortality by 3 per cent and readmission within 6 months by 20 per cent[65]. Orthogeriatric care requires interdisciplinary integration of orthopaedic surgeons, geriatricians, anaesthetists, nurses, physiotherapists, occupational therapists, social workers and dieticians working together in a coordinated approach.

A rudimentary orthogeriatric service is currently in place for inpatients at Toowoomba Hospital. Ideally the service includes an orthogeriatric clinic with orthopaedic surgeons and geriatricians jointly providing comprehensive medical assessment and treatment supported by specialist nursing and allied health staff.

Co-located ward facilities will promote a seamless transition in the patient's care plan from the orthopaedic surgical team to the orthogeriatric team for patients who require further medical management or assistance transitioning to a suitable placement prior to discharge.

OBJECTIVE

- Increase capacity at Toowoomba Hospital to meet growing demand for orthogeriatric services.

SERVICE ACTIONS: MEDIUM TERM (4 -7 YEARS)

1. Extend current service to a 7-day service with a shared care model by orthopaedic surgeon and geriatrician. Requires increase in geriatrician FTE and nurses.
2. Inclusion of a case manager role to effectively coordinate care provided by a large multidisciplinary group[10].
3. Co-locate orthopaedic and orthogeriatric wards in future infrastructure planning.

Alignment with higher level planning or policy: *Darling Downs Health Strategic Plan 2016-2020 HC1 Deliver core health services and HC2 Improve access to services.*

THE SOCIAL ASSESSMENT AND PLANNING UNIT CONCEPT (SAPU)

There is consistently a cohort of patients in hospital who are deemed medically fit for discharge who remain admitted due to complex social needs. A unit dedicated to supporting this group of patients potentially away from the Toowoomba Hospital campus will provide additional physical capacity.

In 2018, a snap shot survey of Toowoomba Hospital admissions identified 35 per cent of patients were medically fit for discharge but awaiting assessment and social support interventions to enable hospital departure.

Medically fit patients who remain admitted due to outstanding psychosocial, allied health or other needs will meet the criteria for admission to SAPU.

SAPU will provide specialised multidisciplinary care in a dedicated unit for low acuity patients to manage the high numbers of patients who remain in hospital for reasons of complexity unrelated to medical need.

SAPU will accommodate non-acute patients, waiting transfer to residential care and no longer requiring the level of acute care provided in a hospital environment. Ensuring that SAPU length of stay is minimal will be reliant on the availability of out-of-hospital services. Potential partnerships with local aged care providers, or utilising other existing HHS facilities in new ways will be considered in the development of the SAPU concept. As an adjunct to this option ongoing opportunities to increase the availability of the Australian Government-subsidised Transition Care Program for older people who have been in hospital is required. Transition care may be provided in their own home, in a 'live-in' setting such as part of an existing aged care home or a health facility such as the separate wing of a hospital.

NDIS

The National Disability Insurance Scheme (NDIS) is a major reform, changing the way disability services are funded and delivered across Australia. This significant reform of disability support services interfaces with mainstream service providers including health, bringing change to established roles, responsibilities and internal and external clinical practices and pathways.

Engaging and collaborating with the NDIA (National Disability Insurance Agency) and external NDIS providers is key to ensuring access to timely supports for people with disability and their families, to maintain their wellbeing in the community.

DHH was a registered NDIS provider of limited NDIS services when the NDIS rolled out in this region in January 2017. As the service provider market grew, Darling Downs Health transitioned out of this market to enable disability specific services the opportunity to grow. DHH continues to be a registered NDIS provider for a minimal number of services where specific gaps in the community were identified. There are no identified plans to increase the number or type of services provided within this sector.

Residents of our Residential Aged Care Facilities who are under 65 years of age have been supported to access the NDIS. This provides the residents with opportunities to access disability specific supports in addition to the supports provided through the aged care system.

OBJECTIVE

- Establish a SAPU to accommodate Toowoomba Hospital non-acute patients.

SERVICE ACTIONS: IMMEDIATE (1-3 YEARS)

1. Establish a social assessment and planning unit with up to 26 beds physically separate from the Toowoomba Hospital campus.
2. As a priority provide additional social worker support to work with families to assist with access to My Aged Care and NDIS packages and securing alternative accommodation.

Alignment with higher level planning or policy: *Darling Downs Health Strategic Plan 2016-2020 HC1 Deliver core health services and HC2 Improve access to services.*

DEMENTIA WITH SEVERE BEHAVIOURAL DISTURBANCE UNIT

The Commonwealth Government has recognized the gap in services for the 1 per cent of people living with dementia in Australia who exhibit very severe behavioural and psychological symptoms. The Commonwealth is on track to fund one specialist dementia unit per Primary Health Network by 2022 within the aged care sector. Each unit will have between 8 to 12 beds and it is assumed residents will stay for approximately 12 months. Given the current and projected high proportion of aged persons in the Darling Downs this number of beds shared across both West Moreton and the Darling Downs is likely to be insufficient.

Until the Commonwealth program is established, there remains a service gap for a person-centred, multidisciplinary approach to care for people exhibiting very severe behavioural and psychological symptoms of dementia, who are unable to be appropriately cared for by mainstream aged care services. Patients in this cohort may be difficult to discharge back into the community due to the unavailability of suitable accommodation options.

RESIDENTIAL AGED CARE SERVICES

Darling Downs Health has six residential aged care (RAC) facilities with 291 beds and three multipurpose health services (MPHS) with 35 beds making a total of 326 aged care beds. The location of these facilities are as follows:

- South Burnett region – Wondai
- Southern region – Toowoomba and Warwick (MPHS in Texas, Inglewood, and Millmerran)
- Western region – Oakey, Dalby, and Miles

Darling Downs Health residential care provides care to frail aged residents on a permanent basis although there are several beds within the health service available for short-term respite care. Five of the six RAC facilities are co-located with a Darling Downs Health rural hospital. The Darling Downs Health promotes consumer and carer engagement and community connections.

It is anticipated that the Royal Commission into Aged Care Quality and Safety, as well as ongoing federal reforms will change the way aged care services are provided. Changes are likely to be aimed at enhancing safety and increasing the quality of care delivered on a national level, to better meet the needs and goals of older people. From an operational perspective, the Darling Downs Health will need to review and evaluate the current care and financial models against the Royal Commission recommendations to assess future ability to operate safe and sustainable services.

OBJECTIVES

- Improve access to services for people with severe psychological and behavioural disturbance.
- Determine impact of Royal Commission recommendations on Darling Downs Health residential aged care services including financial considerations.

SERVICE ACTIONS: IMMEDIATE (1-3 YEARS)

1. Establish a dementia unit providing specialised, transitional residential support with a focus on reducing or stabilising symptoms over time to enable patients to be discharged to a less intensive long-term care setting. Funding arrangements permitting - the multidisciplinary dementia care unit would be led by a mental health specialist modelled on the Hammond Care experience[66]. Requirements for this service to be reviewed post the implementation of the Commonwealth Government funded special dementia units.

2. Review and evaluate current care and financial models for Darling Downs Health residential aged care services against the future recommendations from the Royal Commission into Aged Care Quality and Safety.

Alignment with higher level planning or policy: *Commonwealth Government National Framework for Action on Dementia 2015 – 2019*

PALLIATIVE CARE SERVICES

Palliative care is multidisciplinary care delivered by coordinated medical, nursing, allied heath, pastoral care and social services. Palliative care integrates the physical, psychological, social, spiritual and cultural aspects of care. The right of each patient to make informed choices in their own time about the care they receive, and the environment in which they receive that care, is integral to effective palliative care services.

While palliative care admissions account for only two percent of bed days at Toowoomba Hospital, demand is projected to increase at 3.5 per cent per annum. Palliative patients are currently managed within acute wards in Toowoomba Hospital (no dedicated area or team). The existing Toowoomba Hospital palliative care service consists of a specialist outpatient service for complex symptom management and a five-day nurse led community palliative care service providing a maximum of one hour of care per day to patients.

Extending existing palliative care services will provide more people with the opportunity to die in their own home or residential care facility and reduce potentially avoidable ED presentations and hospital admissions. Increased resources will enable the palliative care team to provide more intensive direct community care and also provide a stronger consultative role supporting other health professionals both in the community and hospital setting. An appropriately resourced multi-disciplinary team will provide for management of more complex symptoms and education and counselling on disease progression and symptom management.

EXTEND COMMUNITY PALLIATIVE CARE

It is known that hospital admissions increase in the last year of life, with an average of nearly 8 admissions per person, for an average total of 44 care days, in the final year of life[2] (Rosenwax et al. 2011). About 70 per cent of Australians would prefer to be cared for and to die at home yet it is estimated that only about 10 per cent of people die at home, 55 per cent die in hospitals and 35 per cent in residential care in Australia[3].

There is an opportunity to increase the use of home-based services to reduce admissions to hospital. To achieve this, an increase in the availability of community-based palliative care is required operated under a HITH model. The service needs to provide access to care and support on a 24 hour, 7 days a week basis. Providing assistance to nursing homes to plan and deliver palliative care will be included in HINH models. Investment in home-based palliative care services would have a direct impact on reducing the number of patients receiving such care in hospital.It is estimated that reducing the percentage of hospital-based non-acute palliative care separations in TH by 10 per cent would result in 1 bed less than the projected base case requirements by 2036 - 2037.

SPECIALIST INPATIENT PALLIATIVE SERVICES

A non-government organisation in Toowoomba provides a six-bed hospice for patients admitted under their general practitioners. Despite this service being well used by the community, there were 1502 bed days for palliative care at Toowoomba Hospital in 2016/17. This is equivalent to five beds and projected demand indicates seven beds will be required by 2026/27 and nine beds by 2036/37 although the number of beds required would be offset by extending community palliative care (see above). Providing a dedicated inpatient palliative unit will improve the capacity for Darling Downs Health to treat dying patients in an appropriate environment away from acute patients who have different care needs. Potentially this could be considered in an early stage of the new hospital build at Baillie Henderson Campus as part of the master planning redevelopment process. The model of care will support the patient's general practitioner maintaining a high-level responsibility for the patient's care enabling the patient to remain at home wherever possible with inpatient care occurring only for acute symptom management.

Palliative Care Australia (PCA) provides guidelines on the required workforce numbers. Required resources to implement requirements for palliative care include an in increase in specialist consultant resources from 1 to 3 full time equivalents in accordance with PCA benchmark[92].

ADVANCE CARE PLANS

Increasing the uptake of high-quality advance care plans (ACPs) is essential for ensuring patient's needs and choices at end-of-life are reflected in their care. Preparing an ACP should be routine for people with life-limiting illness. ACPs support the provision of community-based palliative care services. The Australian Productivity Commission recommended that ACPs be promoted in the primary care setting by inclusion in the '75 plus' health check and introducing a new Medicare item number to enable practice nurses to facilitate advance care planning. The Commission also recommended that the aged care Quality of Care Principles require residential aged care facilities to ensure clinically trained staff help residents or carers to develop an ACP.

The Queensland Parliamentary Health, Communities, Disability Services and Domestic and Family Violence Prevention Committee is seeking views on aged care, end-of-life and palliative care and voluntary assisted dying. Darling Downs clinicians have been identified as key stakeholders and have been invited to make a submission. The Committee will report to the Legislative Assembly on the community response to support voluntary assisted dying and provisions for it to be legalised in Queensland. Public submissions closed 15 April 2019 and the reporting deadline is 30 November 2019, after which the Legislative Assembly will review the findings and recommendations.

OBJECTIVES

- Increase access to services that enable people to remain at home and die at home (including residential facilities) during end of life.
- Provide access to specialist palliative inpatient services for patients with complex symptoms who cannot be managed in the community.

SERVICE ACTIONS: IMMEDIATE (1-3 YEARS) AND MEDIUM (4-7 YEARS)

1. Extend community care services to seven days with 24-hour telephone support including access to medical staff credentialed in palliative medicine.
2. Increase allied health from 0.5 FTE social worker and 0.5 FTE occupational therapist to include 0.8 Social Worker FTE, 0.4 psychologist FTE, 0.4 FTE bereavement support, 0.4 FTE pastoral care and 0.7 FTE occupational therapist.
3. Increase specialist consultant FTE from 1 to 3 FTE and allocation of an advanced trainee registrar position.
4. Allocate a nurse navigation position to support establishing a Darling Downs Health wide service model incorporating palliative care CNCs in South Burnett and Dalby (1.5FTE). Increase CN FTE from 1.5 to 3 FTE.
5. Provide specialist palliative care case management support and education for rural facilities and general practitioners using telehealth or outreach services.
6. Partner with the DDWMPHN to promote uptake of ACPs in RACFs and general practitioner practices.
7. Following any legislative changes arising from the report on voluntary assisted dying to the Legislative Assembly review impact on current clinical practices in conjunction with QH directions and clinician consultation and engagement.

Alignment with higher level planning or policy:
Queensland Government Statewide strategy for end of life care 2015.

CANCER SERVICES

Cancer care is complex and requires a range of diagnostic, specialist and community based services to meet the health needs of people affected by cancer. Cancer care is truly multidisciplinary. Services include screening, specialised diagnostics (endoscopy, imaging, genetics and pathology), surgery, chemotherapy, radiation therapy and support for survivorship and palliative care.

Darling Downs Health has consistently met targets for outpatient, endoscopy and surgical waiting times for a number of years across all clinical streams. Timely access to specialist services including diagnostics for the early diagnosis and treatment of cancer will continue to be a priority.

Services need to be provided at a level that sustains the capability, efficiency and capacity of surgery, radiation and chemotherapy services to ensure patient waiting times are within evidence based guidelines or better. Clinical streams also need access to training and peer support to improve patient safety and quality of care[68].

Increases in new cases of cancer are largely driven by population growth and ageing[22] and therefore the higher ageing rate in the Darling Downs will be associated with a corresponding increase in cancer incidence. Same day treatments (chemotherapy) are growing at 2.24 per cent per annum in Darling Downs Health and it is projected that there will be 7,000 chemotherapy treatments by 2021-22. This may be an underestimate given new treatments are becoming increasingly available and patients are now surviving longer from time of diagnosis.

The Cancer Care Unit currently includes specialist consulting rooms, day unit (chemotherapy) and inpatient unit. The capacity provided by the existing specialist consulting rooms is exhausted. Given the specialist nature of the treatment and high clinical risks, the Unit requires access to ICU and emergency response services on site and therefore this service is not suited to an early move to Baillie Henderson Campus.

While there are very real challenges providing cancer services remotely in rural facilities using teleoncology due the highly specialist nature of the care provided and the potential need to access ICU and emergency services, teleoncology services using oral medications are currently established in Dalby and can potentially be expanded to Goondiwindi, Roma and Warwick.

The introduction of clinical prioritisation criteria will assist GPs in ensuring that referrals for oncology specialist services have the right information and test results improving the outpatient experience and outcomes for patients.

RADIATION ONCOLOGY — NEW SERVICE TOOWOOMBA HOSPITAL REDEVELOPMENT

All public radiation oncology in Toowoomba is performed at St Andrews (Radiation Oncology Centres - ROC) via an agreed contract between ROC and Darling Downs Health. Patients still have their specialist consultations and other treatments at Toowoomba Hospital. This requires significant coordination especially when radiation treatment must be undertaken in conjunction with tight timeframes for chemotherapy. A dedicated cancer centre incorporating radiation oncology will greatly improve clinical care and flow. Current site limitations at Toowoomba Hospital and costs involved with installing radiation oncology equipment make it difficult to develop this service prior to the new hospital redevelopment irrespective of the growth in demand for services projected in the next 10 years. This service needs to be included in the redevelopment scope with consideration to public private partnership opportunities.

Medical imaging for Nuclear Medicine (NMT) and positron emission tomography (PET) is currently undertaken offsite. Consideration is required as to when these services will be provided onsite by Toowoomba Hospital.

OBJECTIVE

- Increase capacity to maintain waiting time for cancer services.

SERVICE ACTIONS: IMMEDIATE (1–3 YEARS)

1. Appoint a clinical booking coordinator (new position) to build capacity by improving patient scheduling and flow.
2. Appoint nursing staff to open more treatment chairs (up to 15 chairs).
3. Allocate pharmacist resources for outpatient consultations.
4. Create additional consulting rooms including space for patient and family support when discussing a limited life prognosis by making alterations to the day unit.
5. Increase medical capacity to enable trials for new treatments to be made available to patients at Toowoomba Hospital (includes time for participation in research activities).
6. Increase allied health support for survivorship programs commencing with allocating resources for an exercise physiologist.
7. Expand tele oncology to Goondiwindi, Roma and Warwick.

OBJECTIVE

- Ensure the new Toowoomba Hospital planning process includes requirements for a contemporary cancer treatment centre with sufficient capacity to meet demand for future oncology services.

SERVICE ACTIONS: LONG TERM (8+ YEARS)

8. Establish dedicated cancer service in new Toowoomba Hospital integrated with all diagnostics and therapeutics including radiation oncology and nuclear medicine.
9. Plan sufficient space to accommodate specialist and allied health consultation rooms.
10. Include in plans space for education and MDT meetings with state of art technology for presentations and videoconferencing. This will support improved integration with GPs.

Alignment with higher level planning or policy:
Queensland Health Cancer care statewide health service strategy 2014.

SERVICES WITH LOW RELATIVE UTILISATION

Relative utilisation (RU) is the ratio of services used by residents of a region, irrespective of where services are accessed to the expected number of admissions. The expected number of admissions is calculated based on the State average (notionally 100 per cent). RU is a measure of inpatient services only. A low relative utilisation is an indicator of a service gap influenced by burden of disease, remoteness and socioeconomic profile.

The services described in the following paragraphs had a low RU (for public services). The ability to recruit specialist staff and the physical constraints of the current Toowoomba Hospital campus will delay implementation of the following new services, however the services should be included in the Toowoomba Hospital redevelopment planning process noting regional health planning requirements and service agreement negotiations with Department of Health for any new service.

VASCULAR SURGERY

In 2016/17 there were 217 separations for SRG Vascular Surgery treated at metropolitan facilities. The RU was 76. Establishing a regular and sustainable vascular service will provide local care for patients requiring a range of care including treatment for carotid and abdominal vascular disorders. Establishing the service will be dependent upon local surgeon availability at that time. Note there is a very limited supply of vascular specialists currently qualified in Australia and this is unlikely to change in the short term based on projections for specialist trainee numbers[25].

PLASTIC SURGERY

The RU for plastic surgery in 2016/17 was 74 despite 742 admissions for plastic surgery in Darling Downs Health in 2016/17. Currently there is no specialist plastic surgery service and current services are provided as part of ENT and general surgery services. In addition to the work undertaken by ENT and General Surgery, there were a further 256 adult admissions to metropolitan hospitals in 2016/17 for plastic surgery by Darling Downs residents. Given the low RU, it is anticipated that if plastic surgery was available locally as a public service more residents requiring plastic surgery would seek treatment and there would be fewer transfers to metropolitan hospitals.

OPHTHALMOLOGY (NOT A NEW SERVICE)

While ophthalmology services are provided by Toowoomba Hospital (45 admissions in 2016/17) there is a low rate of self-sufficiency with a large number of Darling Downs residents travelling to locations outside Darling Downs Health for treatment. In 2016/17 Darling Downs adult residents accounted for 725 ophthalmology admissions and 1,239 outpatient occasions of service at public metropolitan hospitals. There were also 237 ophthalmology admissions to a South West Hospital and Health Service (HHS) facility and 62 admissions to a West Moreton HHS facility by Darling Downs residents in 2016/17.

By 2026/27 it is projected that Darling Downs adult residents will account for 1,295 ophthalmology admissions and 2,870 occasions of service at public metropolitan facilities.

Despite the significant number of ophthalmology services provided by metropolitan facilities to Darling Downs residents the RU for ophthalmology is 70 (2016/17) indicating that residents in the Darling Downs are accessing ophthalmology services well below the average rate for Queensland.

Additionally, a large number of patients are directly outsourced from outpatients to private providers that may not be reflected in the above numbers.

The proposed new day surgery unit at Baillie Henderson Hospital will provide physical capacity for ophthalmology lists when completed but will require recruitment of additional specialist ophthalmologist hours and theatre staff.

NEUROSURGERY SERVICE

In 2016/17 there were less than 250 public separations for SRG Neurosurgery treated at metropolitan facilities. Private separations at metropolitan facilities for the SRG Neurosurgery were approximately double the number of public separations for the same period. The RU for public SRG Neurosurgery separations is 95 indicating Darling Downs residents are accessing neurosurgery services at a level close to the State average.

SRG Neurosurgery is included in this section to provide information for future planning activities for the Toowoomba Hospital redevelopment even though the RU is only marginally lower than the State average.

The Neurosurgical Society of Australasia Inc recommends a population catchment size of 425,000 and a minimum of three full time equivalent consultant neurosurgeons is optimal for a sustainable service[75]. The population for the Darling Downs Health catchment including the South West Queensland will be just over 370,000 people by 2036/37 according to Australian Bureau of Statistic population projections.

The new hospital redevelopment is an opportunity to consider providing capacity for dedicated outpatient and theatre time to support a neurosurgery service to deliver local timely care for patients requiring a range of care including treatment for aneurysms, brain tumours and cranial trauma. Careful consideration will need to be given as to when such a service could be started given the small size of the Darling Downs Health population catchment and the ability to recruit specialists to the area. Note there is a very limited supply of neurosurgeons currently qualified in Australia and this is unlikely to change in the short term based on projections for specialist trainee numbers[25].

OBJECTIVE

- Ensure the new Toowoomba Hospital planning process considers future requirements for additional or expanded services for vascular surgery, plastic surgery, ophthalmology and neurosurgery.

SERVICE ACTIONS: LONG TERM (8+ YEARS)

1 Adjust activity projections when planning the new Toowoomba Hospital service requirements for the impact of low relative utilisation and potential reverse flows from metropolitan hospitals noting sustainability challenges listed above.

Alignment with higher level planning or policy: *Alignment with higher level planning or policy: Queensland Health, health service endorsed planning guidelines.*

ADEQUACY OF PRIMARY AND CLINICAL SUPPORT SERVICES

The DDWMPHN Needs Assessment 2019-21 found that 'while primary health services are available in centres across the region, many people do not have appropriate services available locally and others cannot afford to access non-bulk billed services'. A lack of access to GPs, specifically bulk billing GPs and after-hours services for pathology, pharmacy, dentistry and medical imaging, results in presentations to acute hospital EDs[55].

Several themes from the DDWMPHN Needs Assessment 2019-21 report aligned with issues raised during the stakeholder sessions for the Darling Downs Health Consultation Report for the Health Service Plan:

- the proportion of workforce engaged in general practice decreases with increasing remoteness.
- service gaps are present in mental health, AODs services, child health, health promotion, disability and aged care.
- general lack of allied health professionals to provide multidisciplinary, non-acute interventions in rural areas.
- allied health is an underutilised resource with significant potential to address clinical service gaps.
- Difficulties and delays navigating the process to access NDIS and My Aged Care services as well as inadequate packages for patients under NDIS. 'Reported delays in waiting for assessments by the Aged Care Assessment Team (ACAT) resulting in prolonged and unnecessary hospitalisations of elderly patients with dementia'[55].

7. Managing Hospital Demand

The AIM Base Case projects 591 beds are required at Toowoomba Hospital by 2036/37 (excludes Mental Health) based on a decrease in current ALOS. If the built-in decrease in ALOS in AIM is not realised a further 56 beds will be required. The following section outlines changes to service delivery to reduce length of stay and hospital admissions.

CHANGES TO MODELS OF CARE OUTSIDE THE HOSPITAL SETTING

There are existing models of care that focus on ways to avoid or substitute for acute or sub-acute hospital inpatient stays by providing services outside the physical hospital campus setting or by improving patient flow in the hospital setting. In addition to improved patient outcomes and lower costs, alternative models of care aim to increase overall hospital service capacity by reducing the length of time spent in hospital[1]. It is both relevant and feasible to expand these models of care in Darling Downs Health.

REFORM COMMUNITY BASED CARE – FOCUS ON FUTURE PRIORITIES

Improving access to community-based and home-based services via a model that creates a measurable and safe reduction in hospital-based services is a key strategy. There are opportunities to integrate and grow existing community health services to provide alternatives to inpatient treatment for a wide range of health conditions, particularly for management of chronic illnesses and rehabilitation services.

A model that increases direct access to community-based services will require a significant growth in both nursing and allied health services in community settings, streamlined referral pathways and heightened consumer awareness of the services available. At the same time, it is important to expand diversion programs from the Emergency Department (ED) for example by supporting initiatives such as an Acute Geriatric Evaluation Service (AGES) model[50] and increasing the role of allied health within the ED. A close working relationship with hospital discharge planners and strong support from private and non-government community health services and General Practitioners is also essential. The Nurse Navigators have a significant role in leading the transformation.

COMMUNITY HEALTH PARTNERING WITH SECONDARY CARE

Community Health services offer 'a way to increase community involvement in health promotion and disease prevention efforts and to reach traditionally underserved populations'. Historically there have been high expectations about the ability of community health services to provide effective primary health care leading to reduced secondary care demand. However due to a lack of documentation on specific outcomes from activities undertaken by community health workers current knowledge of the ability of community health services to reduce hospital demand is limited [11].

In 2018 a review of Darling Downs Health Community Health Services led to a restructure (incorporating Community, Oral Health, Public Medicine and Mobile Women's Health), providing a more central management model with a post 12-month implementation review scheduled for 2019. The review provides an opportunity to incorporate future Darling Downs Health planning priorities into future models of care for community services. Evidence based practices to prevent potential hospital admissions and working with identified high need patient populations will be key opportunities to align community and hospital services in the next 10 years.

To achieve improved partnerships with secondary care services the review will need to consider:

- Hours of operation: to assist with potentially preventable hospital admissions (PPH), hospital substitution, reduced ED presentations and to provide follow up patient support to reduce long stay admissions.
- Integrated care planning including treatment as well as education as part of a discharge plan.
- Admission and discharge criteria for community-based services. Consider 'packages of care' model.
- Standardise intake systems, measuring of outputs and development of KPI reporting across Darling Downs Health to promote visibility of services provided and outcomes achieved.
- Role of Nurse Navigation working to full scope of practice.
- Bridging to primary care to support frail patients at high risk of readmission.

EXPANDING HOSPITAL IN THE HOME (HITH) / HOSPITAL IN THE NURSING HOME (HINH)

A 2012 meta-analysis found that hospital in the home (HITH) services resulted in reduced mortality, a reduction in hospital readmission and greater patient satisfaction as well as lower costs[1]. *The Australian Council of Health Care Standards 2011* identifies that within Australia and internationally, HITH is a proven viable alternative to an acute hospital admission. Growing evidence supports that this model of care has both patient and system benefits. These benefits include improved patient flow with minimal capital expenditure required, increased patient satisfaction, equal or better health outcomes compared to traditional hospital care, reduced patient complications and reduced service provision cost.

There is the potential to grow the adult HITH service and to establish a service for paediatrics in the future. The preferred model for HITH services would be a single point of entry for referral coordination and triage operating under a strong medical governance structure.

There would be a focus on care within the person's own home wherever possible with additional support from telehealth and remote monitoring technology. An alternative would be presentation to a community health campus if the patient's place of residence is unsafe or out of range. Service provision could be by Darling Downs Health or by a contracted partner.

HITH separations currently account for approximately 0.4 per cent of total separations from TH (165 episodes in 2017-18). Increasing this progressively to one per cent by 2027 - 2028 would have the potential to reduce the need for additional overnight beds at TH by at least 2 beds (based on each HITH service reducing the patient episode LOS by 1.5 bed days). Further increases in the rate of HITH separations to 1.5 per cent by 2036/2037 would decrease the need for additional overnight beds at TH by 4 beds. (Note: Department of Health recommended KPI target of 1.5 per cent of total hospital separations[9])

COORDINATION HUB AND DISCHARGE PLANNING

Improving discharge planning processes reduces length of stay and readmission rates[40]. Recent findings from the 2018 Toowoomba Hospital Discharge Planning project identified a gap in the overall view of the patient journey from admission to discharge. The formation of a Coordination Hub will assist co-located stakeholders to view and coordinate the flow of patients from admission through to discharge from one central location enabling

- Centralised visibility of bed platform.
- Centralised visibility of Emergency Department.
- Centralised visibility of all Hospital in the Home programs.
- Centralised visibility of all QAS work, community activity and active jobs .
- Early identification of potential bed block.
- Forecast demand to improve patient flow in real time.
- Improved communication across the HHS on capacity due to centralised model.

The creation of a Coordination Hub (co-located with the Transport and Logistics Hub) will manage surges in demand, identify existing capacity, facilitate sharing of hospital service demand and allow better tracking of frequent presenters and possible preventable hospitalisations. The hub is ideal for supporting and monitoring specific initiatives to improve discharge planning including the introduction of a low-acuity standard discharge date in admission documentation, the 'ticket home' (communicate early to patients and their carers the patient's intended stay time) and the hospital discharge telephone intervention for identified patient cohorts. A CSIRO study found that the latter initiative decreased the 28-day readmission rate by 29 per cent [41]. Queensland Ambulance Service will be an integral part of the hub team and will provide timely communication on pending arrivals increasing the potential for proactive intervention by the Nurse Navigation teams to facilitate or prevent admissions.Health workers from Aboriginal Medical Services will provide in reach services in partnership with Darling Downs Health to provide continuity of service across primary and secondary care.

Reducing the current TH readmission rate from 6.4 per cent (source: Activity Costs and Evaluation Service Inpatient Activity Dashboard) to 5 per cent will reduce total bed days by 2,355 equating to 8 less beds required by 2036/37. Currently Queensland Health only has a 28-day readmission rate benchmark for mental health and is in the process of developing a benchmark for general admissions. Achieving a 22 per cent reduction in 28-day readmissions equates to a reduction of 6 beds by 2026/27 and 8 beds by 2036/37. A study of 20,575 admissions in Victoria in 2015 found the 28-day readmission was 7.4 per cent[42] indicating that TH is already performing better than average, making 5 per cent an ambitious target.

The integrated electronic medical record (ieMR) has the potential to decrease ALOS (see section below) and contribute to meeting ALOS reductions built into projected demand modelling to 2031/32. Achieving built in reductions in ALOS beyond this will require a reduction in relative stay index (RSI) for medical patients from 99 per cent to 92 per cent and this is achievable through improved clinical leadership enabled by visualisations of operational systems and processes and better understanding of capacity and demand in the whole health service.

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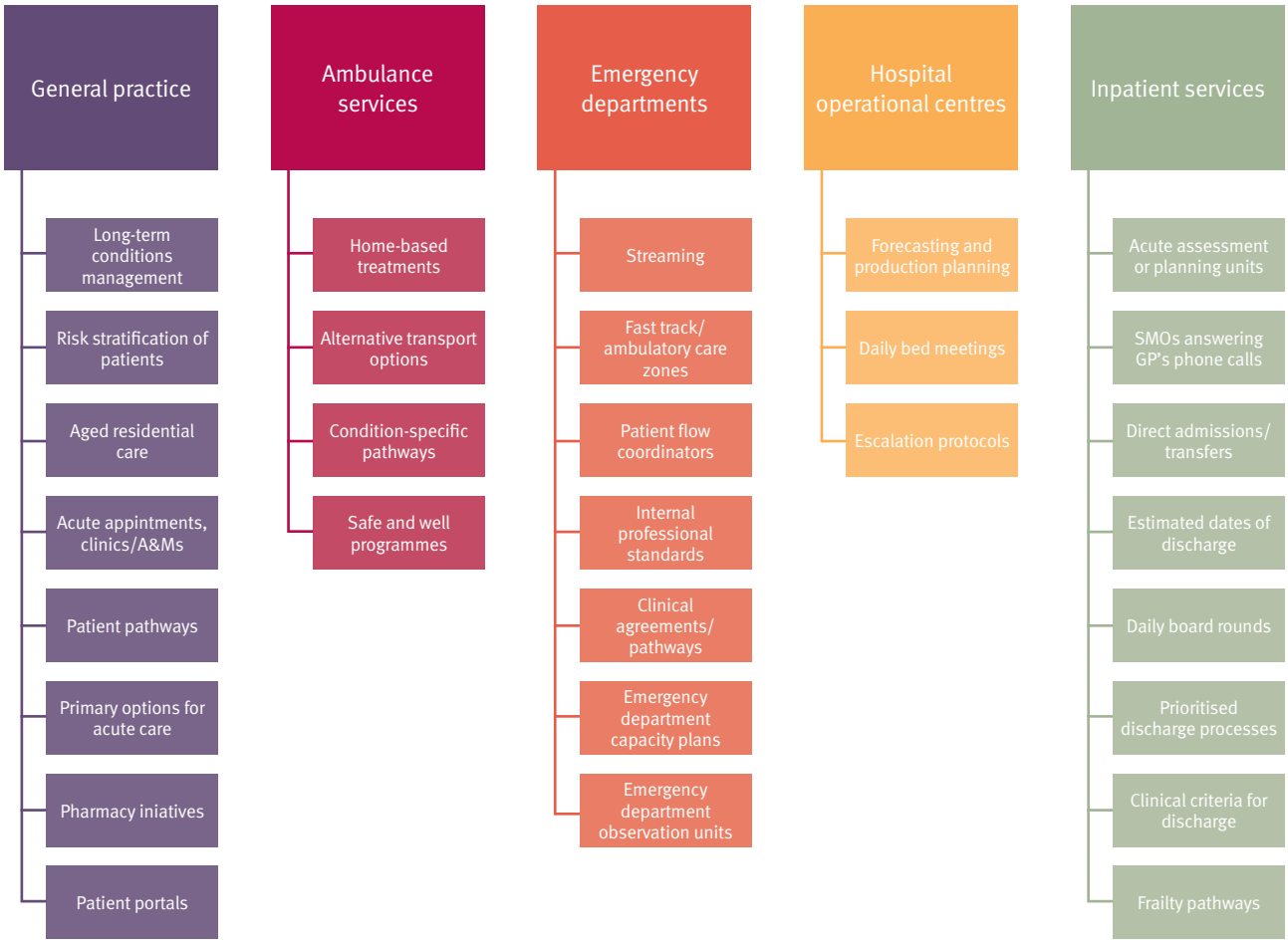
Figure 31: Overview of programmes and models currently supporting acute demand



Source: Ministry of Health. 2018. Top Tips for Improving Your Acute Demand Management. Wellington: Ministry of Health
Notes: A&Ms = accident and medical centres; GPs = general practitioners; SMOs = senior medical officers.

TRANSPORT AND LOGISTICS SERVICES

Transport was consistently identified by staff and consumers as a challenge. Given the low socio-economic status of many patients and the limited transport options available in rural areas, transport to and from hospital can be difficult to arrange in a timely manner potentially leading to longer lengths of stay. Transport and logistics services will be co-located and integrated with the TH Coordination Hub to improve support to patients returning home.

The co-location of the proposed Coordination Hub with Transport and Logistics Hub provides an opportunity to centralise the Patient Travel Subsidy Scheme (PTSS) functions and integrate the patient flow and travel functions. This integration will improve the organisation's ability to identify priority areas for Telehealth initiatives especially with the improved reporting capability currently under development through the Patient Travel Information Management System.

DIGITAL TECHNOLOGY TRANSFORMATION

Embracing digital technology advances is a key strategy in delivering contemporary healthcare from both operational and patient care perspectives. Queensland Health's Digital Health Strategic Vision for Queensland 2026[81] outlines the organisational aims for advancing health care for consumers, clinicians and the community through digital innovation.

Efficient health organisations require analytical data on resource usage to drive increased cost efficiency. Real-time, automated health systems rapidly access and use situational and operation intelligence to determine the need for intervention, eliminate waste and latency, improve workflows and business processes and balance resources with demand to improve care quality as well as open new possibilities for models of care[73].

In addition to the rollout of ieMR, the Queensland Health digital hospital program also includes future developments in artificial intelligence, genomics, data analytics, clinical data repositories (population health), digital wearable devices, apps, robotics, virtual reality, drone technology and 3D printing[32]. Digital hospital innovations will transform business culture from the current provider focused models to consumer centric models. Predictive analytics in healthcare delivery has the potential to revolutionise treatment by providing personalised medicine in conjunction with future developments in genomic medicine.

'Digital transformation is much more than just swapping paper charts for computer screens. We have a fantastic opportunity to engage with consumers and clinicians and embrace digital technologies to find ways to do things differently to do things better'

David Rosengren Chair, Queensland Clinical Senate[81]

DIGITAL HOSPITALS

A culture of continual improvement and innovation is required to improve access, sharing, analysis and synthesis of information from community, consumers, researchers, the healthcare system and global sources. Secure shared viewing of healthcare information is central to improving healthcare outcomes and providing integrated care for patients. The use of My Health Record will continue to grow as a portal for viewing time critical clinical information with relevant healthcare partners including patients, GPs and Queensland Ambulance Services.

Contemporary ICT infrastructure and equipment is an essential element of the digital hospital transformation. ICT fundamentals for digital hospitals include a data centre, wired and wireless network, unified communications including audio-visual systems and digital signage, real-time location system, mobile duress, sterilising and instrument tracking systems and clinical navigation systems.

Aged ICT infrastructure in Darling Downs Health facilities is identified as a risk in the Darling Downs Health Strategic Plan 2016-20. The ability of Darling Downs Health to continue delivery of efficient and contemporary services is vulnerable due to a lack of long term investment in ICT infrastructure, equipment and support services. A 10 year Darling Downs Health Digital strategy is required to guide investment for the Darling Downs Health digital hospital transformation. The strategy will include allocation of an application developer position within Darling Downs Health ICT to build solutions to create an interconnected healthcare environment.

IEMR OPPORTUNITIES

Faster clinician access to accurate medical information through electronic medical records accessed at the point of care across the continuum of care will potentially streamline patient care and allow for a more mobile workforce. Wifi connectivity will provide enhanced observation and monitoring capacity, improved decision support tools, automated requests for patient support services, as well as automated controlled medication systems. Integrated scheduling and eReferrals will streamline the patient pathway with options for patient input and the transfer of patients. These developments will progress treatments more efficiently so patients can get home sooner.

While it will require several years to realise the full benefits of the ieMR, listed below are the average benefits measured from early adopter hospitals (Princess Alexandra, Cairns, Townsville, Mackay and Queensland Children's Hospital)[16]:

- 4 per cent reduction in average length of stay.
- 9 per cent reduction in unplanned emergency readmissions.
- 18 per cent reduction in hospital standardised mortality rate.
- 56 per cent reduction in time to record vital signs.
- 46 per cent reduction in medical record maintenance and 56 per cent reduction in time required to retrieve records.
- 9 per cent reduction in diagnostic imaging.

Based on the ALOS benefits reported above, the implementation of ieMR will reduce Darling Downs Health ALOS to the extent that the built-in reduction in ALOS in AIM will be achieved up to 2031/32.

Post implementation of ieMR (including scanning of medical records), the current medical records area will need to be prioritised as clinical space in Toowoomba Hospital to support future demands. The current duties of Health Information Services staff will change and provide potential opportunities for alternate administrative activities as delivery of charts and filing of records are phased out.

TELEHEALTH

During the health service planning consultation rural stakeholders consistently requested provision of local services wherever possible, especially for outpatient services. Telehealth service models (inpatient and outpatient) greatly enable local service provision where clinically appropriate.

The number of non-admitted (outpatient) telehealth occasions of service increased 69 per cent from 2015/16 to 2017/18 with a total of 8,659 occasions of service provided across Darling Downs Health in 2017/18. The highest volumes of non-admitted telehealth services provided were for orthopaedic services. Despite the growth in telehealth, on average almost 1,400 patients from rural areas still travel to Toowoomba Hospital for outpatient appointments every month indicating there remains significant potential for further telehealth expansion.

Telehealth is currently used for specialist consultations in a variety of disciplines. A recent study in the treatment of chronic kidney disease, telenephrology clinics demonstrated this mode of treatment to be safe, economical and efficient for the delivery of specialist care to patients who live a distance from Toowoomba Hospital[34].

Resourcing telehealth to be the first choice for providing both new and review appointments where clinically safe to do so is a priority. Funding payments for telehealth and patient travel savings are sufficient to cover staffing costs at recipient sites. Additionally, there is evidence that telehealth reduces fail to attend rates by approximately 40 per cent[35].

With appropriate support and clinical criteria, the number of telehealth appointments could continue safely to increase at a rate of 20 percent per annum.

Other uses for telehealth include multi-disciplinary team case conferencing and upskilling of general practitioners and rural hospital practitioners by providing remote specialist support. A study in Victoria (2017) found that specialists were more likely to consider telehealth for the patient's first appointment if requested by the referring GP. Scheduling telehealth appointments at the start of a clinic ensured better results with keeping GP and specialists on time for the appointment (avoid delays either end)[35].

SERVICE ACTIONS: MEDIUM TERM (4–7 YEARS)

13 Work in partnership with the Cherbourg Aboriginal Shire Council, Queensland Police Service, DDWMPHN and Barambah to implement the Cherbourg Health Action Group's agreed priorities in the Ten Point Plan.

14 Investigate potential for Darling Downs Health to offer scholarships in partnership with universities to support Indigenous Darling Downs Health residents or staff complete nursing qualifications. Supporting Indigenous nursing students will improve the ability of Darling Downs Health to employ a greater number of Indigenous nurses and increase overall progression to the Indigenous employment target.

15 Develop partnerships with Aboriginal Medical Services (AMSs) and promote the concept of Indigenous health hubs or co-located community services including collaboration in developing funding submissions for shared projects.

16 Incorporate the successful elements of Birthing on Country programs into Darling Downs Health maternity practices commencing in areas with a high percentage of Indigenous residents (SA2 Kingaroy North).

SERVICE ACTIONS: LONG TERM (> 7 YEARS)

17 Implement the continuous quality improvement framework to drive change in acute care through quality improvement activities for Aboriginal and Torres Strait Islander people using the tools available from The Lighthouse Hospital Project. Lighthouse initiatives include implementation of a discharge 'pack' by Indigenous Health Workers incorporating discharge letter, discharge care plan, follow up phone call following discharge and phone call reminder of first outpatient appointment post discharge and assistance with coordinating multiple appointments to reduce travel.

18 Work with Universities to provide direct experience of Indigenous health issues by facilitating workshops and placements for clinical students.

19 Work collaboratively with the primary sector to promote resilience, empowerment and positive mental health.

20 Implement strategies to prevent and address the harms caused by violence, self-harm and abuse and promote access to training to support earlier identification and referral of individuals.

MEASURE

Increase percentage of Indigenous staff employed within Darling Downs Health to 3 per cent or higher (2.16 per cent as at October 2018) by 2022.

Alignment with higher level planning or policy: *Queensland Health Making Tracks towards closing the gap in health outcomes for Indigenous Queenslanders by 2033.*