Health Research Needs Assessment

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Health Translation Queensland is a NHMRC accredited Research Translation Centre.

List of abbreviations

ABS	Australian Bureau of Statistics
CALD	Culturally and Linguistically Diverse
DALY	Disability-Adjusted Life Years
GP	General Practitioner
HALE	Health-Adjusted Life Expectancy
HHS	Hospital and Health Service
HTQ	Health Translation Queensland
ICD	International Classification of Diseases
LANA	Local Area Needs Assessment
MBS	Medical Benefits Schedule
MMR	Maternal Mortality Rate
MRFF	Medical Research Future Fund
NDIS	National Disability Scheme
NHMRC	National Health and Medical Research Council
NICU	Neonatal Intensive Care Unit
NSFCC	National Strategic Framework for Chronic Conditions
PBRN	Practice-Based Research Network
PHN	Primary Health Network
PPH	Potentially Preventable Hospitalisations
SA4	Statistical Area Level 4
SCN	Special Care Nursery
SEIFA	Socio-Economic Indexes for Areas

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Executive summary

The Health Research Needs Assessment was undertaken by Health Translation Queensland (HTQ) to assist in their identification of and response to health research translation needs, emerging priorities, and funding opportunities. In particular, the needs assessment will be used by HTQ to establish HTQ Collaborative Groups to address issues that could be solved through research translation.

To achieve this, the needs assessment sought to identify significant trends and issues in demographic data, health data, and stakeholder and consumer consultations. These factors were then compared to research capacity and capability throughout Queensland to determine where gaps or significant opportunities for collaboration existed. A set of potential priorities for HTQ was then established, and a decision-making group (consisting of HTQ partner representatives) was formed to assess and accept these priorities based on pre-determined criteria.

The following table highlights the final HTQ priority areas (in alphabetical order) and describes the evidence behind why they were chosen. Included under each priority is a list of potential focus areas that could be considered, should an accompanying HTQ Collaborative Group be established. Note that potential focus areas are based on the needs assessment data only and would need to be analysed further by HTQ Collaborative Group members before any interventions were implemented. Opportunities for collaboration have also been listed, with institutions that have identified the same research priority areas.

Priority areas	Description of evidence	Collaborative opportunities
Ageing and aged care	The Queensland population is ageing. This will have a substantial impact on the burden of disease and health service use. Aged care was identified by health professionals, researchers and consumers as a major need. Ageing and aged care is a Medical Research Future Fund (MRFF) priority area, thus presents a potential funding opportunity. Potential focus areas: • dementia • falls • frailty.	• Hospital and Health Services (HHSs) • Universities/ institutes
Chronic conditions	Leading causes of death are dominated by chronic conditions. Chronic conditions contribute substantially to potentially preventable hospitalisations. Chronic conditions is a MRFF priority area, thus presents a potential funding opportunity. Potential focus areas: • diabetes • chronic lower respiratory disease • arthritis (rheumatoid and osteoarthritis) • chronic pain.	• HHSs • Universities/ institutes
Health system improvement	Health research is often focused on treatment and care, rather than on health care systems. Improving systems and processes could have significant impact on care delivery and the subsequent health of communities and individuals. Potential focus areas: • system integration • service coordination • new models of care • workforce.	

Health system preparedness	The COVID-19 pandemic highlighted the need for improved health system preparedness. Potential focus area: • health system capacity and management.	
Maternal, child and adolescent health	Reproductive and maternal conditions experienced the highest increase in burden of disease between 2011 and 2018 (37.9%). Potential focus areas: • maternal health in the perinatal period • models of maternity care • child and adolescent mental health.	• High number of HHSs • Other hospitals • Universities/ institutes
Mental health	Mental health is a major cause of burden of disease in both children and adults. It is also a major cause of hospitalisations, a trend which is increasing. Mental health was identified by health professionals, researchers and consumers as a major need. Potential focus areas: • suicide and self-harm • alcohol and other drugs • children and adolescent mental health • rural and remote communities.	• HHSs • Universities/ institutes
Palliative and end-of-life care	The ageing population and increase in chronic disease means the way palliative and end-of-life care is currently delivered needs to evolve. Palliative and end-of-life care present a significant cost to the health care system. Potential focus areas: • advances in technology and treatment options • system change • improved data collection and data sharing.	
Primary health care, including community and preventative care	Quality primary health care is a key enabler for good health and effective health care systems. Improved access to primary health care (e.g. general practice and allied health) was identified by consumers, health professionals and researchers as a major need. The rate of potentially preventable hospitalisations increased by 23% from 2012-13 to 2017-18, suggesting greater support for primary health care is needed. Approximately 38% of the burden of disease could be prevented by reducing or avoiding exposure to modifiable risk factors. Health risk factors also contribute substantially to health care costs. Primary health care is a MRFF priority area, thus presents a potential funding opportunity. Potential focus areas: • overcoming research challenges in primary health care • obesity • nutrition • alcohol and other drugs.	• Existing Practice-based Research Networks (PBRNs)

| Rural and remote communities | Life expectancy, health-adjusted life years and burden of disease are all adversely impacted by rural and remoteness. This has a significant impact on health care costs and service delivery in rural and remote communities and major cities (due to many people having to travel to major cities to access services).

 Potential focus areas:
 • innovative service delivery models
 • aged care
 • mental health
 • other health needs impacting rural and remote communities
 • areas of lower socioeconomic status (e.g. Wide Bay, Queensland-Outback). | • Existing services, i.e., Southern Queensland Rural Health |

1. Introduction

1.1 Background

A needs assessment is a systematic and transparent process that identifies and prioritises needs in a community. It is most often undertaken to allocate or redistribute resources, design programs, policies or services, or to better understand the context for existing work. Typically, a needs assessment is the prelude to a needs analysis, with the assessment phase identifying and prioritising the issues to be actioned, and the analysis phase examining the cause of the issue and potential solutions.

A needs assessment is best undertaken as a systematic process. In practice, this doesn't always occur. In the absence of a planned approach to assessing need, including the use of multiple forms of evidence, the resulting allocation of resources and service provision is subject to personal preferences, external influences (e.g. political pressures) or the process of just repeating what has 'always been done'. Undertaking a systematic needs assessment is a transparent and defensible way of ensuring that resources are being used in the most effective way possible.

While health professionals and researchers are highly skilled and knowledgeable, practice wisdom is only one form of evidence. Defining and assessing need is value laden and subjective, as different people are likely to have different views on what is required. Therefore, multiple forms of evidence should be considered when conducting a needs assessment, including research evidence (data/literature), practice experience (key stakeholders, clinicians, researchers etc.) and lived experience (consumers).[1] This needs assessment has considered these three forms of evidence in establishing a set of health priority areas.

1.2 Health Translation Queensland

HTQ is a Research and Translation Centre accredited by the National Health and Medical Research Council (NHMRC) and works to mobilise research into clinical practice and support health system and business transformation.

HTQ is a collaboration between 13 hospital and health services (HHSs), research institutes and universities in Queensland. These include:

- Queensland Health
- Children's Health Queensland
- Metro North Health
- Metro South Health
- West Moreton Health
- Gold Coast Health
- Mater Health
- The University of Queensland
- Queensland University of Technology
- Griffith University
- QIMR Berghofer Medical Research Institute
- Translational Research Institute
- CSIRO Australian e-Health Research Centre.

1.2.1 HTQ vision

HTQ's vision is to achieve improved population health outcomes through collaborative partnerships that translate scientific discovery and knowledge into practice.

1.2.2 HTQ mission

HTQ's mission is to enable the translation and integration of innovative health research with education, policy, clinical care and consumer engagement.

1.3 Needs assessment approach

The HTQ Health Research Needs Assessment (needs assessment) was conducted by HTQ in consultation with the HTQ partner organisations listed above.

The aim of the needs assessment was to establish a set of health priority areas that could potentially be addressed by establishing HTQ Collaborative Groups.

HTQ Collaborative Groups would enable collaboration between health professionals, educators, researchers, academics, policy makers and health consumers, to identify and address issues that could be solved through research translation. HTQ Collaborative Groups aim to advance research translation projects united around a specific clinical problem or priority population group.

The primary objectives of the needs assessment were to:

- ensure that establishment of future HTQ Collaborative Groups is based on identified health priority areas
- provide background information for HTQ Collaborative Groups to successfully identify and respond to emerging priorities, common goals and joint funding opportunities.

The secondary objectives were to:

- provide background information for HTQ to successfully identify and respond to health and research translation needs, emerging priorities and funding opportunities
- inform future HTQ activities
- assist HTQ in determining if current programs and services are adequate and relevant, and if required, assist with the redistribution of resources and/or redesign of programs.

The needs assessment explored issues and gaps at a Queensland-wide level. Unlike other health needs assessments, it considered needs that could be addressed by both research translation and service provision (as opposed to just service provision).

The needs assessment process involved two phases.

Phase one: June – October 2022

Phase one involved the identification and prioritisation of needs as highlighted in the steps below.

1 Scope	**2** Determine assessment criteria	**3** Collect, analyse and present data	**4** Apply assessment criteria and accept need
• Determine purpose • Determine how stakeholders and community will be involved • Determine who has the final say on what needs are accepted (decision-making group)	• Develop a list of criteria that will be used to evaluate need	• Collect and analyse the data • Create a list of potential priorities based on the demographic data, health data, stakeholder consultations, and research capability and capacity	• Meet with the decision-making group and apply the criteria • Accept needs

Phase two

Phase two will involve an in-depth analysis of the prioritised needs and potential interventions. It will occur at a later date after the resulting HTQ Collaborative Groups have been established.

Analyse need	• Explore the evidence for effective interventions/approaches

2. Data collection

2.1 Policy environment

The identification of need is conducted within a policy context. Prevailing policy has the potential to nurture or restrict any subsequent research or interventions that are implemented to address identified need, by influencing opportunities for collaboration, funding, and sustainability. Consequently, the policy environment should be considered when prioritising needs.

Figures 1, 2 and 3 provide an overview of important considerations from a Queensland policy perspective.

Figure 1: Queensland Health depiction of health policy environment[2]
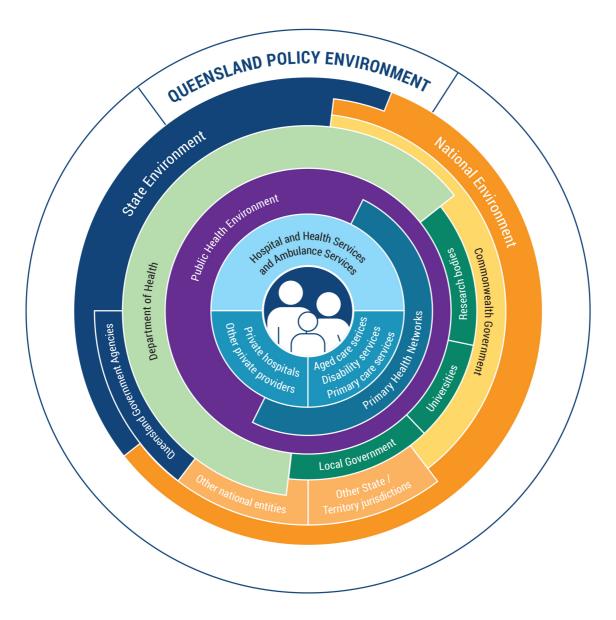
Figure 2: National health strategies and policies

Australia's Long Term National Health Plan

| The 2030 Mental Health Vision | Primary Health Care Plan | Continued improvement of private health insurance | National Preventative Health Strategy | Medical Research Future Fund Investment Plan |

Other national sector, disease,or population specific strategies and policies (eg. chronic conditions, men's and women's health, rural and remote health, children's mental health, rare diseases, people with a disability, general practice, digital health)

Figure 3: Queensland health strategies and policies

My Health, Queensland's Future: Advancing Health 2026

| Queensland Advancing Health Research 2026 | System Outlook to 2026: For a Sustainable Health Service | Making Tracks Together: Queensland Aboriginal and Torres Strait Islander Health Equity |

| Hospital and Health Service strategies | Hospital and Health Service health equity strategies |

Other state-based sector, disease or population specific strategies and policies (eg. mental health, suicide, older people, rural and remote health, prevention)

The consultation found overwhelming support of the focus areas and strategies and a consensus that there needed to be a greater focus on translation. It also acknowledged the important role that the Queensland Health Office of Research and Innovation (ORI) plays in connecting across the ecosystem.

The consultation input has been used to prepare the *Draft Queensland Health Research Strategy 2032* and the *Action Plan for 2023 to 2024*.

2.2 Queensland demographics

2.2.1 Queensland population[3]

The following graphics provide a snapshot of Queensland's population as of 2020.

Table 1: Projected population and population change (medium estimate), Queensland SA4 and Greater Brisbane, 2016-2041[4]

Region (SA4)	Population		Population growth		Population growth 0-14 years		Population growth 65+ years	
	2016	**2041**	**2016-2041**		**2041**		**2041**	
	#	#	#	% p/a	#	% p/a	#	% p/a
Cairns	247,762	339,547	91,785	1.3%	13,328	1.0%	37,081	2.9%
Townsville	235,037	324,317	89,280	1.3%	14,724	1.1%	30,822	2.8%
Mackay Isaac Whitsunday	173,893	229,260	55,368	1.1%	7,748	0.8%	22,095	2.9%
Central Queensland	226,314	279,470	53,156	0.8%	2,362	0.2%	35,419	3.3%
Queensland – Outback	82,452	81,348	-1,104	-0.1%	-3,058	-0.7%	4,827	1.9%
Wide Bay	292,364	359,520	67,156	0.8%	2,528	0.2%	47,762	2.2%
Sunshine Coast	357,422	583,002	225,580	2.0%	30,566	1.6%	83,025	3.1%
Greater Brisbane	2,360,241	3,667,302	1,307,061	1.8%	191,768	1.4%	391,275	3.4%
Toowoomba	153,201	196,825	43,624	1.0%	4,465	0.5%	19,563	2.3%
Darling Downs – Maranoa	128,622	139,994	11,372	0.3%	-987	-0.1%	12,789	1.7%
Gold Coast	591,570	961,076	369,506	2.0%	56,268	1.7%	105,862	3.1%
Queensland	4,848,877	7,161,661	2,312,784	1.6%	319,721	1.2%	790,520	3.0%

Table 1 above demonstrates the predicted population growth for Queensland per Statistical Area Level 4 (SA4) (noting that south-east Queensland SA4s have been combined to form 'greater Brisbane'). As highlighted, the majority of SA4s will experience a positive population growth apart from Queensland–Outback which is expected to experience a 0.1 per cent decrease in population
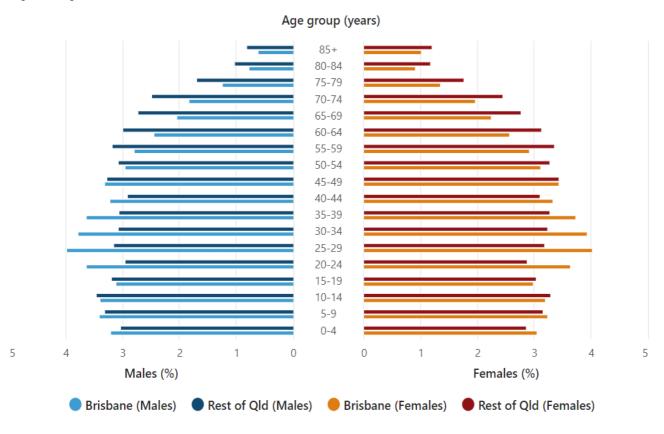
per annum. Both the Darling Downs–Maranoa and Queensland–Outback will likely experience a decrease in the number of persons aged 0-14 years, while all SA4s will likely experience an increase in the number of persons aged 65 years and older.

Figure 4 below depicts the current age and sex distribution of the Queensland population. Similar to other Australian states, it demonstrates a higher percentage of younger adults (20-45 years) living in the capital city compared to the rest of the state. It also depicts the gradual transition to an older population.

Both population growth and the age distribution of a population can have a major impact on the demand for health services. A positive population growth will result in increased service demand and, unless appropriate mitigation strategies are implemented, services and the greater health system could struggle to provide timely and accessible care. A decrease in population growth can negatively impact the feasibility and viability of local service delivery, particularly in regional and remote communities.

The age distribution of a population is an important consideration for health care provision due to the varied health needs of different age groups and a greater prevalence of certain conditions at particular ages. The ageing of the population is possibly the most important demographic change occurring in Queensland, with burden of disease due to chronic conditions and the health and wellbeing of older people now key considerations for health care provision.

Figure 4: Age and sex distribution, Queensland 2020[5]
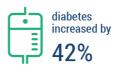

The following graphics provide a snapshot of the health of Queenslanders as of 2020.

Between 2010-2020

dementia increased by
91.8%

diabetes increased by
42%

intentional self-harm increased by
32%

2.2.2 Life expectancy

From 2008-2010 to 2018-2020, life expectancy for Queenslanders increased by 1.2 years for both males and females, equating to 80.6 years and 85.1 years respectively. The current life expectancy for Queenslanders differs only slightly from that of the Australian population (81.2 years for males and 85.3 years for females).[6]

Table 2: Life expectancy at birth, Queensland SA4 regions, 2020[6]

Region (SA4)	Males	Females	Persons
Cairns	78.7 years	84.2 years	81.4 years
Townsville	79.4 years	84.1 years	81.7 years
Mackay – Isaac – Whitsunday	80.7 years	84.6 years	82.6 years
Central Queensland	79.3 years	84.4 years	81.8 years
Queensland – Outback	76.1 years	80.4 years	78.2 years
Wide Bay	78.2 years	83.0 years	80.6 years
Sunshine Coast	81.9 years	86.7 years	84.2 years
Moreton Bay – North	79.9 years	84.0 years	81.9 years
Moreton Bay – South	82.8 years	86.3 years	84.5 years
Brisbane – North	81.8 years	85.6 years	83.6 years
Brisbane – East	81.4 years	85.4 years	83.3 years
Brisbane – South	83.2 years	86.8 years	84.9 years
Brisbane – West	84.4 years	88.1 years	86.2 years
Brisbane Inner City	82.6 years	87.5 years	85.0 years
Logan – Beaudesert	80.3 years	84.5 years	82.3 years
Ipswich	79.8 years	84.5 years	82.1 years
Toowoomba	80.1 years	85.2 years	82.6 years
Darling Downs – Maranoa	78.6 years	84.8 years	81.6 years
Gold Coast	81.8 years	86.2 years	83.9 years
Queensland	80.6 years	85.1 years	82.8 years

Health-adjusted life expectancy (HALE) extends the concept of life expectancy by considering the time spent living with ill health from disease and injury. It reflects the length of time an individual (at a specific age) could expect to live in full health without disease or injury.[7]

As demonstrated in Table 3, there is substantial variation in HALE based on socioeconomic status and geographic location, with those in the highest socioeconomic groups having the highest HALE

measures. Similarly, people living in major cities have higher HALE measures at birth and age 65 years than those living in rural or remote areas.[7]

Table 3: Life expectancy (LE), health-adjusted life expectancy (HALE) and HALE % (percentage of time living in full health), at birth and age 65, by sex, remoteness and socioeconomic group, Queensland, 2018[7]

| | At birth | | | | | | At age 65 | | | | | |
| | Males | | | Females | | | Males | | | Females | | |
	LE years	HALE years	HALE %	LE years	HALE years	HALE %	LE years	HALE years	HALE %	LE years	HALE years	HALE %
QLD	80.2	70.7	88.3	84.7	73.6	86.9	19.6	14.7	74.8	22.5	16.4	72.1
Remoteness												
Major cities	81.9	72.5	88.6	85.6	74.8	87.4	20.5	15.6	75.9	22.9	17.0	73.9
Inner regional	79.6	70.3	88.3	84.2	73.1	86.7	19.2	14.7	76.4	22.2	16.4	73.9
Outer regional	78.9	69.8	88.5	84.0	73.4	87.4	19.2	14.6	76.0	22.2	16.4	73.9
Remote and very remote	76.8	67.4	87.7	80.8	69.6	86.1	18.2	13.2	72.1	22.5	13.8	67.3
Socioeconomic group												
1 Lowest	78.2	69.6	87.7	83.2	71.4	85.9	18.5	13.7	74.2	21.6	15.3	71.1
2	79.5	70.18	88.2	84.9	73.5	86.5	19.0	14.5	76.1	22.6	16.7	74.0
3	81.0	1.8	88.6	84.9	74.2	87.4	20.1	15.5	77.0	22.6	16.8	74.4
4	82.8	73.2	88.5	86.3	75.5	87.5	21.1	15.9	75.3	23.5	17.5	74.7
5 Highest	84.1	75.4	88.7	87.1	77.3	88.8	21.1	17.0	77.5	24.0	18.2	76.0
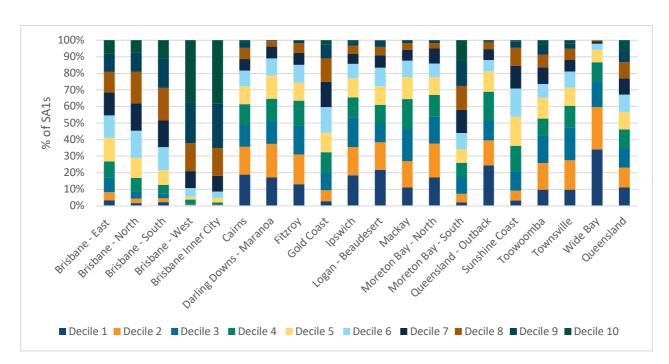
*Note: life expectancy values used in Table 3 are from 2018, as updated HALE data is not yet available.

2.2.3 Socioeconomic status

Socio-Economic Indexes for Areas (SEIFA) is a product developed by the Australian Bureau of Statistics (ABS) that ranks areas in Australia according to relative socioeconomic advantage and disadvantage. Figure 5 below depicts the percentage of SA1 level areas that fall into each decile of socioeconomic advantage/disadvantage, with Decile 1 representing the highest level of disadvantage and Decile 10 representing the highest level of advantage.[8]

As highlighted, the Wide Bay and Queensland-Outback regions have the highest percentage of areas in Decile 1 and 2 (most disadvantaged), while Brisbane-West and Brisbane Inner City have the highest percentage of areas in Decile 9 and 10 (most advantaged).

Figure 5: Index of relative socioeconomic advantage and disadvantage, distribution of SA1 deciles, Queensland, 2016[8]

Socioeconomic status is a key predictor of health. Generally, people in lower socioeconomic groups fare worse according to health risk factors (obesity etc.), rates of chronic conditions, burden of disease and injury, and premature death.

Therefore, when identifying need, it is important that a region's socioeconomic status is considered in conjunction with the other factors highlighted throughout this report.

2.2.4 Rural and remote communities

People living in rural and remote areas in Queensland experience a higher burden of disease and injury and greater barriers to achieving and maintaining a healthy lifestyle. Remoteness also has a significant impact on health service use in terms of reduced access to services, long distance travel to access services, telecommunication constraints, and difficulty in attracting and retaining the necessary health care staff to appropriately service the needs of the population.[9]

Environmental factors, such as drought, also have a substantial impact on rural and remote communities. While data suggests that the largest impacts of drought are economic, there are also negative impacts on physical and mental health and the availability of key community services.[10]

2.2.5 Aboriginal and Torres Strait Islander people

In Queensland, 237,000 people (4.6 per cent of the Queensland population) identified as Aboriginal and/or Torres Strait Islander in the 2021 Census of Population and Housing. This is an increase from 4.0 per cent of the Queensland population in 2016 and 3.6 per cent in 2011.[11] As demonstrated in Table 4, this increase in population is expected to continue across all Queensland Indigenous regions.

Table 4: Queensland Indigenous regions, projected increase and rate of growth 2016 to 2031 (medium estimate)[11]

Indigenous region	2016	2031	
		Persons	% of projected growth
Torres Strait	7,403	8,248	11.4
Cape York	10,579	13,613	28.7
Cairns-Atherton	30,050	39,466	31.3
Townsville-Mackay	31,496	45,290	43.8
Mount Isa	9,003	9,328	3.6
Rockhampton	26,941	35,870	33.1
Brisbane	84,454	127,846	51.4
Toowoomba-Roma	21,350	27,886	30.6
Queensland	221,276	307,547	39

Figure 6 depicts the age distribution of Aboriginal and Torres Strait Islander people in Queensland in 2021 compared to 2011, highlighting an increase in population for the older age ranges and decrease in population for the younger age ranges. This change is important, as it has potential to impact the demand for services and type of services required.
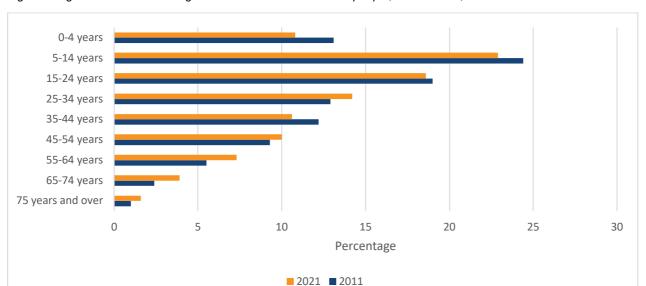
Figure 6: Age distribution of Aboriginal and Torres Strait Islander people, Queensland, 2011 and 2021[11]

In Queensland, life expectancy for an Aboriginal and Torres Strait Islander person born between 2015-2017 was 72.0 years for males and 76.4 years for females.[12] This was greater than the Australian life expectancy (at birth) for Aboriginal and Torres Strait Islander males (71.6 years) and females (75.6 years).[13]

2.2.6 Other priority groups [14][15]

22.7% of Queenslanders were **born overseas**

Wide Bay has the highest percentage of **people living with a disability** (10%) and Brisbane Inner City has the lowest (3%)

46.1 **homeless persons** per 10,000 persons across the state

Queensland Outback has the highest rate of homelessness (206.6 persons per 10,000 persons)

Top 5 English and non-English speaking backgrounds within Queensland:

English speaking
1. New Zealand 2. England 3. South Africa
4. Scotland 5. United States of America

Non-English speaking
1. India 2. China 3. Phillipines
4. Vietnam 5. Germany

2.3 Health needs

2.3.1 Leading cause of death

Table 5: Top ten underlying causes of death in Queensland, 2020 and 2010[16]

Cause of death	2020			2010			% increase or decrease
	Males	**Females**	**Persons**	**Males**	**Females**	**Persons**	
Ischemic heart disease	2,006	1,362	3,368	2,302	1,970	4,272	21.2% ↓
Dementia, including Alzheimer's disease	1,051	1,736	2,787	493	960	1,453	91.8% ↑
Malignant neoplasm of trachea, bronchus and lung	1,077	831	1,908	1,006	609	1,615	18.1% ↑
Cerebrovascular diseases	802	1,047	1,849	856	1,299	2,155	14.2% ↓
Chronic lower respiratory diseases	756	720	1,476	669	559	1,228	20.2% ↑
Malignant neoplasm of colon, sigmoid, rectum and anus	612	534	1,146	555	488	1,043	9.9% ↑
Diabetes	608	390	998	359	344	703	42% ↑
Malignant neoplasms of lymphoid, haematopoietic and related tissue	516	382	898	440	284	724	24% ↑
Malignant neoplasm of prostate	855	0	855	675	0	675	26.7% ↑
Intentional self-harm	598	161	759	435	140	575	32% ↑

As demonstrated in Table 5 (above) and Table 6 (below),[16][2] the leading causes of death in Queensland are dominated by chronic conditions that become apparent in adulthood and continue

to rise in number as people age. In contrast, younger people are more likely to experience accidental deaths.

Table 5 compares causes of death in 2020 compared to 2010. As per national trends, it demonstrates a decrease in the number of deaths caused by ischemic heart disease and cerebrovascular disease (predominantly due to improvements in risk factors such as a decrease in smoking rates), and a substantial increase in deaths caused by dementia (contributed to by the ageing population).

However, while the primary cause of death is useful when monitoring trends, it does not address the complexity of causal pathways that lead to death from specific conditions within and between population groups. As described in other sections of this report, multi-morbidities, sociodemographic factors, and our environments are also important contributors to mortality.[2]

It is important to note that with the death rate from COVID-19 in Queensland sitting at 1,442[17] (as of 24 July 2022), there is potential for it to surpass many of the causes of death listed in Table 5.

Leading cause of death by age

Under one year:
certain conditions originating in the perinatal period
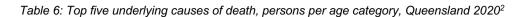
1-14 years:
land traffic accidents

15-44 years:
intentional self-harm

45-84 years:
ischemic heart disease

85 years and over:
dementia, including Alzheimer's

Table 6: Top five underlying causes of death, persons per age category, Queensland 2020[2]

Under 1 year	
All causes	229
Certain conditions originating in the perinatal period	117
Congenital malformations, deformations and chromosomal abnormalities	67
Symptoms, signs and ill-defined conditions	31

1- 14 years	
All causes	95
Land transport accidents	13
Congenital malformations, deformations and chromosomal abnormalities	10
Malignant neoplasm of brain	7
Assault	7
Accidental drowning and submersion	6

15-24 years	
All causes	281
Intentional self-harm	126
Land transport accidents	57
Accidental poisoning	14
Congenital malformations, deformations and chromosomal abnormalities	8
Epilepsy and status epilepticus	6

25-34 years	
All causes	439
Intentional self-harm	133
Land transport accidents	51
Accidental poisoning	45
Cerebrovascular diseases	11
Congenital malformations, deformations and chromosomal abnormalities	11

35-44 years	
All causes	742
Intentional self-harm	154
Accidental poisoning	64
Land transport accidents	40
Ischaemic heart disease	38
Cirrhosis and other diseases of liver	34

45-54 years	
All causes	1,432
Ischaemic heart disease	179
Intentional self-harm	124
Malignant neoplasm of trachea, bronchus and lung	80
Cirrhosis and other diseases of liver	75
Malignant neoplasms of breast	72

55-64 years	
All causes	2,913
Malignant neoplasm of trachea, bronchus and lung	319
Ischaemic heart disease	313
Malignant neoplasm of colon, sigmoid, rectum and anus	132
Chronic lower respiratory disease	125
Cirrhosis and other diseases of liver	121

65-74 years	
All causes	5,416
Malignant neoplasm of trachea, bronchus and lung	614
Ischaemic heart disease	526
Chronic lower respiratory disease	332
Malignant neoplasm of colon, sigmoid, rectum and anus	272
Cerebrovascular disease	230

75-84 years	
All causes	8,459
Ischaemic heart disease	841
Dementia, including Alzheimer's disease	740
Malignant neoplasm of trachea, bronchus and lung	615
Chronic lower respiratory disease	516
Cerebrovascular disease	503

85-94 years	
All causes	9,101
Dementia, including Alzheimer's disease	1,439
Ischaemic heart disease	1,105
Cerebrovascular disease	750
Chronic lower respiratory disease	394
Diseases of the urinary system	277

95 years and over	
All causes	2,260
Dementia, including Alzheimer's disease	424
Ischaemic heart disease	360
Cerebrovascular disease	214
Diseases of the urinary system	81
Heart failure and complications and ill-defined heart disease	70

*Note that the 'Under 1 year' category does not include complications of pregnancy and delivery.

Table 7: Leading cause of death for Aboriginal and Torres Strait Islander people, Queensland, 2014-18[18]

Cause of death	Age-standardised rate (per 100,000)
Neoplasms	250.2
Circulatory disease	232.1
Endocrine, metabolic, and nutritional disorders	96.1
Respiratory disease	95.7
External causes	67
Digestive diseases	43.3
Nervous system disease	21.1
Infectious and parasitic disease	20.2
Kidney disease	13.7

2.3.2 Burden of disease

Burden of disease measures the impact of living with illness and injury and dying prematurely. The summary measure 'disability-adjusted life years' (DALY) measures the years of healthy life lost from death and illness. In 2018, the total burden of disease in Queensland (age-standardised DALY) decreased 3.6 per cent from 2011.[19]

Tables 8 and 9 below demonstrate the top 20 conditions associated with burden of disease in Queensland for children and people over 15 years of age. Notable changes in burden of disease (age-standardised DALY) per disease group in 2018 compared to 2011 include:

Increase in burden:

- Reproductive and maternal conditions (37.9 per cent increase)
- Neurological conditions (12 per cent increase).

Decrease in burden:

- Infant and congenital conditions (24.1 per cent decrease)
- Cardiovascular disease (19 per cent decrease)
- Cancer and other neoplasms (8.8 per cent decrease).[19]

Strong associations also exist between burden of disease and rural and remoteness, and burden of disease and socioeconomic status. At a national level in 2018, burden of disease increased according to the level of remoteness for most disease groups. The main exceptions were mental health and substance use disorders (where the disease burden was highest in major cities), neurological conditions (where the disease burden was lowest in remote and very remote communities and highest in major cities – potentially due to people having to relocate due to lack of appropriate services and amenities in these communities), and reproductive and maternal conditions (where the disease burden was highest in inner regional locations).

Burden of disease also increased/decreased according to socioeconomic status, with those in the lowest SEIFA quintiles (quintile one and two) experiencing the highest burden of disease. This occurred in all disease categories except skin disorders (where the lowest disease burden was in

the third quintile) and mental health and substance use disorders (where the highest disease burden was in the second and third quintiles).[19]

Table 8: Top 20 conditions associated with burden of disease, under 15 years, Queensland, 2018[19]

Under 15 years	
Condition	**Crude DALY rate (per 1,000 population)**
Pre-term birth and low birth weight complications	5.473
Asthma	4.295
Anxiety disorders	3.051
Birth trauma and asphyxia	3.026
Cardiovascular defects	2.029
Depressive disorders	1.911
Conduct disorder	1.876
Autism spectrum disorders	1.795
Sudden infant death syndrome	1.704
Epilepsy	1.686
Other disorders of infancy	1.685
Dental	1.519
Other congenital conditions	1.48
Other gastrointestinal infections	1.279
Dermatitis and eczema	1.243
Other neurological conditions	1.1
Other unintentional injuries	1.09
Acne	1.039
Drowning	0.968
Falls	0.897

Table 9: Top 20 conditions associated with burden of disease, over 15 years, Queensland, 2018[19]

Over 15 years	
Condition	**Crude DALY rate (per 1,000 population)**
Coronary heart disease	15.937
Back pain and problems	11.028
Other musculoskeletal	10.117
Dementia	9.34
COPD	9.18
Suicide and self-inflicted injuries	8.83
Lung cancer	8.631
Anxiety disorders	6.448
Stroke	6.138
Asthma	5.858
Depressive disorders	5.831
Rheumatoid arthritis	5.672
Type 2 diabetes mellitus	5.548
Osteoarthritis	5.287
Bowel cancer	5.114
Hearing loss	4.195
Alcohol use disorders	4.055
Falls	3.614
Breast cancer	3.522
Atrial fibrillation and flutter	3.255

2.3.3 Chronic conditions

Chronic conditions are diseases and disabilities that have lasted, or are expected to last, more than six months. Most illnesses and deaths at a state and national level are caused by chronic conditions. At a national level, 78.6 per cent of Australians report having at least one long-term health condition.[20]

In Queensland, the top three chronic conditions for both males and females are eye, respiratory, and musculoskeletal/connective tissue conditions. When compared with Australia, Queensland has significantly higher prevalence of chronic obstructive pulmonary disease (3.4 per cent compared to 2.5 per cent) and mental and behavioural conditions (23 per cent compared to 20 per cent).[2]

Many Queenslanders with chronic conditions experience multi-morbidity. Multi-morbidity can make treatment more complex and requires ongoing coordinated care across multiple parts of the health care system. This places a heavy demand on the health care system and requires substantial economic investment.

Multi-morbidity can also have physical, emotional, social, financial, and lifestyle impacts for the individual. Compared with adults with no chronic conditions and after adjusting for age, adults with multi-morbidity are less likely to be working, more likely to live in the lowest two socioeconomic areas, have a restriction or limitation in everyday activities, have poor self-assessed health, and experience high or very high psychological distress.[21]

Some populations are disproportionally affected by chronic conditions due to a complex interaction between the physical environment, social and cultural determinants, and biomedical and behavioural risk factors. This includes, but is not limited to, Aboriginal and Torres Strait Islander people, people from culturally and linguistically diverse backgrounds, older Australians, people experiencing socioeconomic disadvantage, people living in rural and remote areas, and people living with a disability.[22]

Spotlight on cancer

Cancer is a major contributor to cause of death and burden of disease through years of life lost. In Queensland in 2017, there were 30,121 new cases of cancer reported. Cancer incidence varied by socioeconomic status and rural and remoteness, with the highest incidence for all cancers combined being in the most disadvantaged areas and the Central West Hospital and Health Service.[i]

For many cancers, improvements in early diagnosis and treatment have resulted in more people surviving cancer and having improved quality of life while they have a cancer diagnosis. Table 10 below highlights mortality rates for select cancer types in 2016 compared to 1996.[ii]

Between 30 to 50 per cent of cancers are considered preventable. Smoking, poor diet, physical inactivity, alcohol use, infections (particularly helicobacter pylori, hepatitis B and C, human papillomavirus and Epstein-Barr virus), environmental pollution, radiation and occupational carcinogens are important preventable causes.[iii]

Table 10: Selected cancer mortality rates (age-standardised per 100,000 population), 1996 and 2016[16]

Cancer type	1996	2016
Lung	42.1	31.3
Colorectal	28.5	18.7
Breast	27.6	19.3
Leukaemia	22.4	18.0
Prostate	16.9	12.5
Pancreas	9.7	9.9
Lymphoma	7.8	5.3
Melanoma	5.9	4.5
Brain	5.8	5.4
Cervical	2	1.0

i. Queensland Cancer Control Analysis Team (QCCAT). *Cancer incidence, Queensland*. Brisbane: Queensland Health, 2020
ii. Australian Institute of Health and Welfare. *Cancer data in Australia*. AIHW: Canberra, 2020
iii. World Health Organization. *Cancer prevention*. https://www.who.int/cancer/prevention. Accessed 11 Sept 2020

2.3.4 Hospitalisations

Figures 7 and 8 below show the number of hospitalisations and change in hospitalisation rates per International Classification of Diseases (ICD) disease group, highlighting that hospitalisation for diseases of the blood and mental health and behavioural disorders experienced the greatest percentage increase in 2018-19 compared to 2008-09.

Figure 9 shows the leading cause of hospitalisations for Aboriginal and Torres Strait Islanders compared to non-Indigenous Queenslanders.

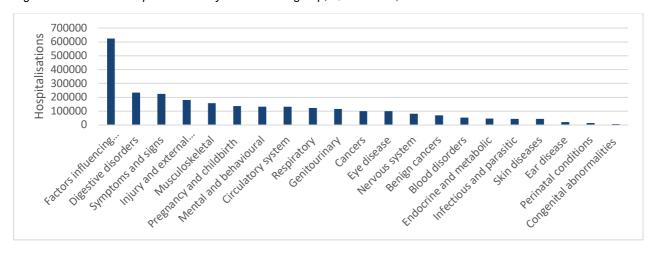*Figure 7: Number of hospitalisations by ICD disease group, Queensland, 2018-19[23]*

Figure 8: Change (%) in hospitalisations (ICD chapter), Queensland, 2008-09 to 2018-19[23]
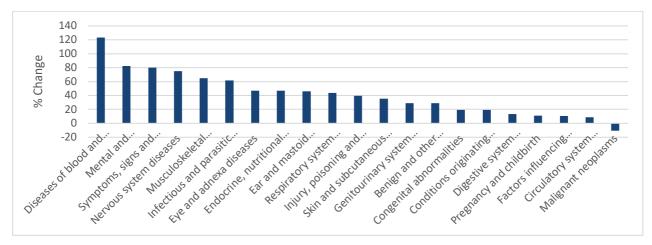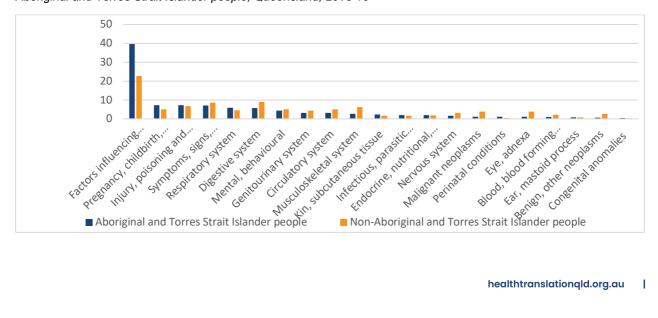

Figure 9: Leading cause of hospital admission for Aboriginal and Torres Strait Islander people compared to non-Aboriginal and Torres Strait Islander people, Queensland, 2018-19[23]

Spotlight on palliative and end-of-life care

With the ageing Queensland population, demand for palliative care is increasing. Conservative estimates suggest that around 16,000 Queenslanders may benefit from palliative care each year.[i] This has significant impact on the health care system, with Queensland hospital and health services spending approximately $153 million on palliative care services in 2020-21.[ii]

State and territory governments have made significant investments in the development and expansion of palliative care services in recent years. This includes the Queensland Government, which in addition to its ongoing investment to palliative care, has committed additional funding of $171 million from 2021/22 to 2025/26 to expand and strengthen palliative care services for Queenslanders.[ii]

Increases in the number of people living with dementia and other chronic diseases mean the way palliative care and end-of-life care is currently delivered needs to evolve. Palliative Care Australia[iii] suggests that to achieve this, the following needs to occur:

- advances in technology and treatment options
- system change through collaborative population-based planning
- improved data collection and data sharing.

i. Department of Health. National palliative care strategy 2018. DoH: Canberra, 2018.
ii. Queensland Health. Palliative care investment and reform. https://www.health.qld.gov.au/system-governance/strategic-direction/improving-service/palliative-care-investment. Accessed 1 Sep 2022
iii. Palliative Care Australia. Palliative Care 2030. Palliative Care Australia: Canberra, 2019

2.3.5 Potentially preventable hospitalisations

Potentially preventable hospitalisations (PPH) are certain hospital admissions that could have been prevented by timely and adequate health care in the community. As a result, PPH are a proxy measure of primary care effectiveness.

In 2017-18, the total rate of PPH per 100,000 people (age standardised) in Queensland was 3,409. This represents a 23 per cent increase from 2012-13.[24]

Table 11 shows the rate of PPH and impact on the hospital system per condition during 2018.

Socioeconomic status, remoteness and Indigenous status also have an impact on PPH, with Aboriginal and Torres Strait Islander people, people living in very remote areas and the most disadvantaged experiencing the highest rates of PPH.[24]

Table 11: Potentially preventable hospitalisations (PPH), Queensland, 2017-18[24]

PPH condition	PPH per 100,000 people (age-standardised)	Percentage of PPH that are same day (%)	Total PPH bed days	Average length of stay (days)
Acute PPH				
Urinary tract infections, including pyelonephritis	390	29.4	64,818	3.1
Cellulitis	372	21.3	66,318	3.4
Dental conditions	301	84.9	17,427	1.2
Ear, nose and throat infections	251	50.2	17,114	1.4
Convulsions and epilepsy	193	37.6	21,756	2.3
Epilepsy	105	35.7	13,194	2.6
Convulsions	88	39.9	8,562	2
Gangrene	58	10.2	39,726	12.9
Pelvic inflammatory disease	26	41.9	2,402	1.9
Perforated/bleeding ulcer	21	12.3	6,532	5.8
Pneumonia (not vaccine-preventable)	11	2.4	4,130	7.7
Eclampsia	1	24	70	2.8
Chronic PPH				
COPD	333	16.7	83,578	4.4
Iron deficiency anaemia	242	84.2	17,212	1.4
Congestive cardiac failure	225	11.5	77,890	6.1
Diabetes complications	222	30.8	55,837	4.8
Asthma	166	43.8	16,567	2
Angina	153	38.5	16,095	1.9
Hypertension	61	30	8,540	2.5
Bronchiectasis	42	20.2	14,159	6.2
Rheumatic heart disease	23	38.4	8,150	6.6
Nutritional deficiencies	4	5.7	2,134	9.4
Vaccine preventable PPH				
Pneumonia and influenza (vaccine-preventable)	262	10.7	93,626	6.7
Other vaccine-preventable conditions	105	40.5	28,026	5
Other vaccine-preventable conditions (excluding Hepatitis B)	21	10.3	9,490	9

*Note that some PPH (influenza etc.) are influenced by severity of flu season that year.

2.3.6 Risk factor prevalence

Health risk factors are attributes or exposures that increase the likelihood of a person developing a disease or health disorder. At a national level, it is estimated that 38 per cent of the burden of disease could be prevented by reducing or avoiding exposure to modifiable risk factors.[25] Health risk factors also contribute substantially to health care costs, with a recent study estimating that modifiable risk factors contribute between $0.4 to 13.7 billion per year in costs nationally (depending on the risk factor).[26]

Table 12 highlights the prevalence of select risk factors among the Queensland population, along with the prevalence of a number of preventative practices over a ten-year period.

Table 12: Risk factor and preventative practice prevalence, Queensland 2011-2020[2] [27]

Risk factor	2011	2015	2020 (or most recent data)
	%	%	%
Low birthweight	6.9	7.1	6.8
Aboriginal and Torres Strait Islander babies	12	11.4	12.1
Other babies	6.6	6.8	
Five or more antenatal visits	94.6	95.1	95.3 (2018)
Aboriginal and Torres Strait Islander women	83.4	85.9	89.5
Other women	95.4	95.7	95.7
Breastfed at discharge	92	92.8	
Smoking at any time during pregnancy	16	12.4	11.5
Aboriginal and Torres Strait Islander women	49.7	43.3	42.8 (2019)
Other women	13.9	10.3	9.1 (2019)
Smoke daily – adults	14.8	12.3	10.3
Alcohol consumption lifetime risk – adults	22.7	22.4	22.5
Alcohol consumption single occasion risk – weekly	15.9	15	15.5
Alcohol consumption single occasion risk – at least monthly	34.8	31.9	30.6
Illicit drug use in previous 12 months		15.5 (2013)	16.9 (2019)
Underweight in adults		1.2	
Overweight – adults	34.5	33.4	
Obese – adults	30.4	30.2	
Underweight – children		8	
Overweight – children	18.2	19.2	
Obese- children	9.3	7.2	
Inadequate fruit intake – adults		43.2	47.5 (2019)
Inadequate vegetable intake – adults		92.4	92 (2019)
Inadequate fruit intake – children		32.3	31.6
Inadequate vegetable intake – children		96.3	95.4
Inactive in previous week – adults	9.7	10	11.5
Insufficient physical activity – adults	34.2	32.5	29.7
Sunburnt in previous 12 month – adults	52.4	51.6	49.4
Sunburnt in previous 12 month – children		64 (2014)	52.9 (2019)
Preventative practice	**2011**	**2015**	**2020**
Breast cancer screening participation (% of target group)	57.8 (50-69 years)	56.5 (50-74 years)	
Cervical cancer screening participation (% of target group)	55.5	53.2	
Bowel cancer screening participation (% of target group)		40.4	
Childhood immunisation (1 year)	91.6	92.4	93.6 (2022)
Childhood immunisation (2 years)	92.8	90.2	92.6 (2022)
Childhood immunisation (5 years)	89.9	92.4	94 (2022)

Table 13 shows the proportion of the total burden of disease in Australia attributed to each risk factor. It is anticipated that similar rates would be experienced in Queensland.

Table 13: Proportion (%) of total burden of disease attributable to select risk factors, Australia, 2018[28]

Risk factor	Proportion (%)
Behavioural	
Tobacco use	8.6
Dietary risks	5.4
Alcohol use	4.5
Illicit drug use	3
Physical inactivity	2.5
Child abuse and neglect	2.2
Partner violence	1.4
Unsafe sex	0.2
Bullying and victimisation	0.1
Environmental	
Occupational exposure and hazards	1.8
Air pollution	1.3
High sun exposure	0.7
Metabolic/biomedical	
Overweight/obesity	8.4
High blood pressure	5.1
High blood plasma glucose	4.3
High cholesterol	2.7
Impaired kidney function	1.9
Low birthweight/short gestation	0.7
Low bone mineral density	0.4
Iron deficiency	0.3

2.3.7 Costs

A total of $38.9 billion from all sources, including federal and state governments, was spent on health in Queensland in 2017-18, with recurrent spending on health increasing annually by an average of 2.4 per cent in the ten-year period leading up to 2017-18.[29]

Nationally, admitted episodes of care to public and private hospitals are among the largest cost drivers in public and private health expenditure. In Queensland, the hospitalisation rate increased from 39,000 per 100,000 population in 2008-09 to 55,400 per 100,000 in 2018-19. This rise in hospitalisation rates is expected to continue, and with it will come increased expenditure needs and additional pressure on the health care system.[29]

In 2015-16, approximately three-quarters of national recurrent expenditure on health could be attributed to specific disease groups and conditions. Cardiovascular disease was the leading cause of public hospital admitted patient expenditure in 2015-16 (11 per cent of total), followed by injuries (9.3 per cent), gastrointestinal diseases (8.6 per cent), and reproductive and maternal conditions (7.9 per cent).[30]

2.4 Emerging issues

2.4.1 The evolving COVID-19 pandemic

Due to the increased incidence of COVID-19 infections, hospitalisations and deaths in Queensland during 2022, the true impact of COVID-19 is yet to be captured in the health data.

Throughout 2022, the Queensland response to COVID-19 has evolved from containment to 'transition to the new normal'. As a result, the main needs have also evolved, moving from issues such as vaccine development to treatment for long-COVID and overcoming health system pressures.

2.5 Research capability

2.5.1 Research areas and priorities

The following section highlights current research capability in Queensland by listing research areas and priorities at a national, state and local level. These were considered as part of the need prioritisation process when examining whether issues are being overlooked by researchers and research organisations, or where the potential for collaboration exists.

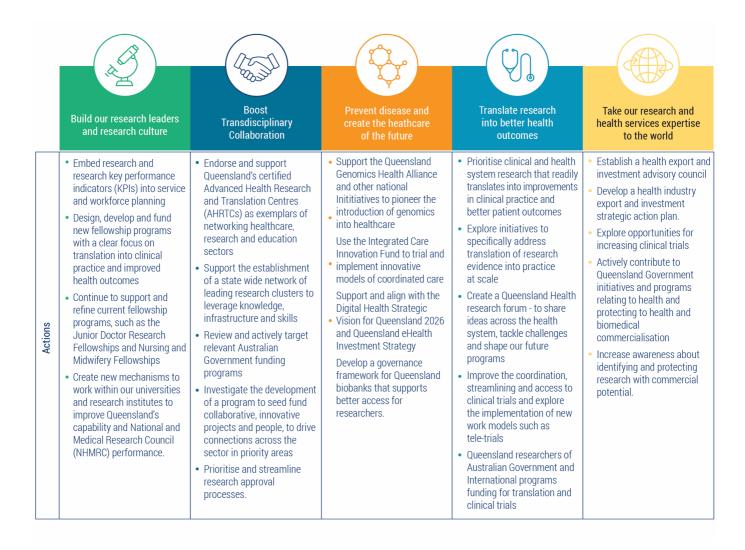*2.5.1.1 Medical Research Future Fund priorities*
Following a national consultation process, every two years the Australian Medical Research Advisory Board sets the Australian Medical Research and Innovation Priorities.

Priority areas for 2022-2024:

- consumer-driven research
- research infrastructure and capability
- translation and commercialisation
- comparative effectiveness research
- preventive and public health research
- primary care research
- health and medical researcher capacity and capability
- Aboriginal and Torres Strait Islander health

- priority populations
- antimicrobial resistance
- global health and health security
- health impacts from environmental factors
- data, digital health and artificial intelligence.

2.5.1.2 Queensland Health research objectives and actions[31]

Build our research leaders and research culture	Boost Transdisciplinary Collaboration	Prevent disease and create the heathcare of the future	Translate research into better health outcomes	Take our research and health services expertise to the world
Actions				
• Embed research and research key performance indicators (KPIs) into service and workforce planning • Design, develop and fund new fellowship programs with a clear focus on translation into clinical practice and improved health outcomes • Continue to support and refine current fellowship programs, such as the Junior Doctor Research Fellowships and Nursing and Midwifery Fellowships • Create new mechanisms to work within our universities and research institutes to improve Queensland's capability and National and Medical Research Council (NHMRC) performance.	• Endorse and support Queensland's certified Advanced Health Research and Translation Centres (AHRTCs) as exemplars of networking healthcare, research and education sectors • Support the establishment of a state wide network of leading research clusters to leverage knowledge, infrastructure and skills • Review and actively target relevant Australian Government funding programs • Investigate the development of a program to seed fund collaborative, innovative projects and people, to drive connections across the sector in priority areas • Prioritise and streamline research approval processes.	• Support the Queensland Genomics Health Alliance and other national Inititiatives to pioneer the introduction of genomics into healthcare • Use the Integrated Care Innovation Fund to trial and implement innovative models of coordinated care • Support and align with the Digital Health Strategic Vision for Queensland 2026 and Queensland eHealth Investment Strategy • Develop a governance framework for Queensland biobanks that supports better access for researchers.	• Prioritise clinical and health system research that readily translates into improvements in clinical practice and better patient outcomes • Explore initiatives to specifically address translation of research evidence into practice at scale • Create a Queensland Health research forum - to share ideas across the health system, tackle challenges and shape our future programs • Improve the coordination, streamlining and access to clinical trials and explore the implementation of new work models such as tele-trials • Queensland researchers of Australian Government and International programs funding for translation and clinical trials	• Establish a health export and investment advisory council • Develop a health industry export and investment strategic action plan. • Explore opportunities for increasing clinical trials • Actively contribute to Queensland Government initiatives and programs relating to health and protecting to health and biomedical commercialisation • Increase awareness about identifying and protecting research with commercial potential.

2.5.1.3 Hospital and Health Service research capacity

Figure 10 depicts the main research areas for eight Queensland HHSs and one private hospital according to their research strategies.[32] [33] [34] [35] [36] [37] [38] [39] [40] A list of research areas per HHS or private hospital can be found in Appendix 1 (noting that the excluded HHSs did not have a public-facing research strategy).

Figure 10: Current HHS and private hospital research areas, Queensland

*n = number of hospitals that have identified the health area as a research priority

2.5.1.4 University research capability

Figure 11 describes the main health research areas for all Queensland universities and health research institutes (total of seven universities and four research centres/institutes) identified on their website.[41] [42] [43] [44] [45] [46] [47] [48] [49] [50] [51] A list of research areas per university or institute can be found in Appendix 1.

Figure 11: Current university and institute health research areas, Queensland

*n = number of universities/institutes that have identified the health need as a research priority

2.5.2 Networks and collaborations

Listed below are Queensland's Clinical Excellence Queensland (CEQ) Networks. These networks are highlighted as having the potential to overlap with new and existing HTQ Collaborative Groups. They were considered as part of the need prioritisation process to avoid duplication or identify where collaboration between HTQ Collaborative Groups and other networks could be beneficial. Prior to the establishment of any specific priority area into a HTQ Collaborative Group, thorough discussion will be held with the corresponding CEQ Network to determine their current focus areas and ensure that any HTQ Collaborative Group established with the same health priority focus avoids duplication and captures that research translation is at the core of this work.

2.5.2.1 CEQ Networks

- Qld Clinical Senate (QCS)
- Queensland Clinical Networks Executive (QCNE)
- Aboriginal and Torres Strait Islander
- Anaesthesia & Perioperative Care (SWAPNET)
- Cancer
- Cardiac
- Child & Youth Health
- Dementia, Ageing and Frailty
- Diabetes
- Digital Healthcare Improvement Network
- Emergency Department (QEDSAP)
- Gastroenterology
- General Medicine
- Infection
- Intensive Care
- Maternity & Neonatal
- Mental Health Alcohol and Other Drugs
- Palliative Care
- Persistent Pain Management
- Rehabilitation
- Renal
- Respiratory
- Rural & Remote
- Sexual Health
- Stroke
- Surgical Advisory Committee
- Trauma

2.5.2.2 Other relevant networks

- Queensland Cardiovascular Research Network (The Heart Foundation)
- Queensland Critical Care Research Network
- Queensland Research Support Network in Emergency Medicine
- Darling Downs HHS Health Innovation and Research Collaborative
- Sunshine Coast HHS Infection Research Network
- Townsville HHS Research Groups (allied health, audiology, cancer clinical trials, cancer research, cardiac and cardiothoracic, critical care dermatology, diving and hyperbaric medicine, emergency medicine, endocrinology and diabetes, head and neck cancer, infectious disease, mental health, microbiology, nephrology, neurosurgery, foregut surgery, nursing and midwifery, orthopaedic, palliative care, perinatal maternal, perinatal neonatal, peripheral vascular disease, pharmacy, psychology, respiratory and sleep, and telehealth)
- The University of Queensland Digital Health Research Group
- The University of Queensland Collaborative Research Initiatives (one health approach to anti-microbial resistance and healthy trajectories for children)
- The University of Queensland, Bond University and James Cook University practice-based research networks (PBRNs)
- Tropical Australian Academic Health Centre Women's Health Research Translation Network

- HTQ themes (ageing, children's health, chronic disease, women's health, skin and skin cancer, trauma/critical care and recovery, cancer, immunity/inflammation and infection).
- Gold Coast HHS Emergency Medicine Collaborative
- Gold Coast HHS Nursing and Midwifery Collaborative
- The Refugee Health Network Queensland

2.6 Research capacity

Research capacity can greatly influence the ability of individuals and institutions to generate robust, innovative and locally appropriate research. Therefore, current factors influencing research capacity in Queensland were considered by the decision-making group when prioritising need.

2.6.1 Issues impacting research capacity

HTQ regularly conducts formal and informal consultations with researchers and other stakeholders regarding issues impacting on research capacity. Key issues highlighted during these consultations include access to data, engaging communities and consumers in research, workforce recruitment and retention, and how to assess and evaluate impact.

This is mirrored in a Queensland Government report into medical research in Queensland[52] which identified the following key issues:

- lack of research leadership (predominantly in the clinical setting)
- poor coordination (predominantly in the clinical setting)
- ill-defined mechanisms to facilitate collaboration
- weak links between fundamental and clinical research
- institutional barriers to collaboration
- disincentives for clinical researchers (lack of mentorship, career paths, renumeration, clinical demands and infrastructure support)
- workforce recruitment and retention
- administration burdens.

While this report is old (published 2007), no other Queensland data is available at this in-depth level. Consequently, even though it is anticipated that many of these issues still exist, they will be tested at stakeholder consultations conducted as part of phase two.

2.6.2 HTQ health and medical research funding analysis

Investment in health and medical research directly impacts access to technology, infrastructure and clinical trials and ultimately affects the quality of the state's health care. A 2022 research funding analysis conducted by HTQ highlighted that despite being 20 per cent of the Australian population and contributing 19 per cent to Australia's gross domestic product, Queensland receives less than 14 per cent of NHMRC funding and 12.9 per cent of MRFF funding.[53]

2.7 Community voice

The following sections provide an overview of both the HTQ stakeholder consultation conducted specifically for the needs assessment and secondary qualitative data obtained by other organisations.

2.7.1 HTQ health professional, researcher and consumer surveys

In August 2022, HTQ surveyed consumers, health professionals and researchers to better understand the health needs of Queenslanders, and where research translation could be strengthened to better support these needs (surveys can be read in Appendix 2).

126 people responded to the health professional and researcher survey and 50 people responded to the consumer survey.

2.7.2 Health professional and researcher survey

37.8 per cent of people who completed the survey identified as a researcher, 27.6 per cent as a health professional, 20 per cent as an academic, 11.4 per cent as health or research manager and 3.2 per cent as other.

Health professionals and researchers were asked to identify the three biggest health issues affecting the Queensland population. As highlighted in Table 14 below, the top three responses were mental health (20.1 per cent), ageing and aged care (14.4 per cent) and cancer (11.7 per cent).

Table 14: Health issues affecting Queenslanders as ranked by health professionals and researchers

Condition	Percentage of responses (%)
Mental health	20.1
Ageing and aged care	14.4
Cancer	11.7
Cardiovascular disease	8.4
Health of rural and remote communities	7.6
Aboriginal and Torres Strait Islander health	5.1
COVID-19	5.1
Diabetes	4.9
Alcohol and other drugs	3.5
Child health and development	2.7
Maternal and neonatal health	2.2
End-of-life care	2.2
Infectious disease (excluding COVID-19)	1.6
Injury	1.6
Suicide	1.4
Dementia	1.1
Dental health	1.1
Chronic lung disease	0.8
Renal disease	0.5

Sexual and reproductive health	0.5
Musculoskeletal	0.5
Lifestyle and prevention	0.5
Obesity	0.5
Cerebrovascular disease	0.2
Metabolic	0.2
Burns	0.2
Disability services and systems	0.2
System issues	0.2
Multimorbidity	0.2
Housing	0.2

When asked to specify the main risk factors impacting the health and wellbeing of Queenslanders, health professionals and researchers identified obesity, lack of access to primary health care and lack of access to hospital and specialist services as the top three risk factors.

Table 15: Health and wellbeing risk factors, as ranked by health professionals and researchers

Risk factor	Percentage of responses (%)
Obesity	17.9
Lack of access to primary health care	17.3
Lack of access to hospital and specialist services	15.6
Inactivity	14.2
Poor diet	12.6
Alcohol consumption	8.7
Smoking	5
Illicit drug use	3.6
Climate change and environmental factors	1.1
Socioeconomic inequality	0.8
Health literacy	0.6
Social factors (e.g. loneliness, isolation)	0.6
Time to prioritise health	0.6
Lack of access to culturally safe care	0.3
Gambling	0.3

Housing	0.3
Poor sleep	0.3
Fragmented health care system	0.3

"There is a lack of sufficient clinician-researcher workforce"
(health professional/researcher)

Health professionals and researchers were also asked which areas of research should be better supported to improve local health care provision and the overall health and wellbeing of the Queensland population. The responses received were grouped into themes as highlighted in Table 16.

Table 16: Areas of research that should be better supported, as ranked by health professionals and researchers

Theme (area of research)	Percentage of responses (%)
Prevention and health promotion	22
Specific health conditions: Cancer, cardiovascular disease, maternal and neonatal health, chronic wounds, inflammation, infectious disease, renal disease, sexual and reproductive health, burns, spinal cord injuries and neuroimmunology	15
Research methods and initiatives	14
Research support and capacity building	11
Health system reform	10
Mental health	8
Access to care	6
Rural and remote communities	4
Other vulnerable communities: Adolescents, people living with a disability, and Aboriginal and Torres Strait Islander people	4
Primary health care	4
Health data access and reform	3
Research funding	1

*Note that some health professionals/researchers provided more than one response.

A number of themes emerged when health professionals and researchers were asked to identify the main barriers to translating research into practice:

- funding issues (30 per cent of responses)
- research translation issues (23 per cent of responses)
- workforce issues (21 per cent of responses)
- health system issues (8 per cent of responses)
- political and policy issues (15 per cent of responses)
- resourcing issues (10 per cent of responses)
- access to services and care (3 per cent of responses)
- other (3 per cent of responses).

*Note that some health professionals/researchers provided more than one response.

"The reduced funding going into basic research is reducing the ideas that can be translated.

There is poor integration between health professionals and researchers."

(researcher)

2.7.3 Consumer survey

Consumers were asked to identify the three biggest health issues affecting the Queensland population. As per health professionals and researchers, they identified mental health (23.2 per cent), ageing and aged care (21.9 per cent) and cancer (8.6 per cent) as the top three health issues.

Table 17: Health issues affecting Queenslanders as ranked by consumers

Condition	Percentage of responses (%)
Mental health	23.2
Ageing and aged care	21.9
Cancer	8.6
Health of rural and remote communities	6.6
Aboriginal and Torres Strait Islander health	6
Dental health	4
Suicide	4
Cardiovascular disease	4
Dementia	2.6
End-of-life care	2.6
Child health and development	2
Maternal and neonatal health	2
Alcohol and other drugs	2
Chronic lung disease	2
Diabetes	2
COVID-19	2
Cerebrovascular disease	1.3
Brain	1.3

Infectious disease	0.7
Injury	0.7
Post viral complications	0.7

As highlighted in Table 18, lack of access to primary health care and hospital and specialist services were identified by consumers as the biggest risk factors impacting on the health and wellbeing of Queenslanders.

Table 18: Health and wellbeing risk factors, as identified by consumers

Risk factor	Percentage of responses (%)
Lack of access to primary health care	21
Lack of access to hospital and specialist services	18.6
Inactivity	15.5
Obesity	10
Poor diet	10
Alcohol and other drugs	8.5
Smoking	7.8
Illicit drug use	3.1
Health literacy	0.8
Access to right treatment	0.8
Cost of living	0.8
Affordability of care	0.8
Sleep issues	0.8
Lack of access to genomics and precision medicine	0.8
Poor sleep	0.8

*"Accessibility to GP care at reasonable
cost is an issue. We need solutions to barriers to accessing health services."*

(consumer)

Consumers were also asked to identify the health research areas that might improve local health care provision and the overall health and wellbeing of their community. The key themes that emerged are highlighted in Table 19 below.

Table 19: Areas of research that should be better supported, as ranked by consumers

Theme (area of research)	Percentage
Health system improvement and sustainability	28
Mental health	26
Prevention	17
Ageing, including dementia	11
Primary health care	9
Consumer and community participation	7
End-of-life care	2
Other	13

*Note that some consumers provided more than one response.

> *"Health care fragmentation – having to go to different clinicians at different locations and poor communication between each of them." (consumer)*

A large number of health professionals, researchers and consumers took the opportunity to inform HTQ of additional research opportunities and health or service issues. The survey responses received were grouped into the below key themes.

Health professional and researcher survey:

- **funding issues**, e.g. lack of funding and Queensland receiving disproportionally lower levels of funding (25 per cent of responses)
- **workforce issues**, e.g. lack of clinician researchers, the need for clinicians to have dedicated research time, and short-term and precarious researcher employment (14 per cent of responses)
- **research translation issues**, e.g. evidence-based research not being translated into practice (11 per cent of responses)
- **governance issues**, e.g. overcoming 'red tape', poor ethics administration, and the need for more proactive strategies to support research in health (11 per cent of responses)
- **other** (10 per cent of responses)
- **improved collaboration** between the research and health sectors (6 per cent of responses)
- **increased research and research** funding for rural and remote communities (6 per cent of responses)
- **improved systems** that support better health research (6 per cent of responses)
- **research initiatives**, e.g. novel potential drugs and bio-banking (5 per cent of responses)
- **data access issues**, e.g. the need for integrated electronic medical records (5 per cent of responses)
- **capacity building**, e.g. increased training for health professionals in how to conduct research (3 per cent of responses)
- **improved consumer engagement** (2 per cent of responses).

*Note that some health professionals and researchers provided more than one response.

> *"Research needs to be a key performance indicator in health – front and centre for CEOs, hospital directors and department heads."*
>
> *(health professional/researcher)*

Consumer survey:

- **health system improvement**, e.g. improved service integration, continuity of care, service navigation and better use of Nurse Practitioners (25 per cent of responses)
- **specific health conditions**, e.g. maternal and neonatal health, cancer, rare diseases, oral health and neurodiversity (25 per cent of responses)
- **other** (13 per cent of responses)
- **increased funding** for health care and research (9 per cent of responses)
- **primary healthcare**, e.g. lack of access and workforce shortages (9 per cent of responses)
- **prevention** (9 per cent of responses)
- **improved health care and research** in rural and remote communities (6 per cent of responses)
- **ageing and aged care** (3 per cent of responses)
- **mental health** (3 per cent of resources)
- **research translation issues**, e.g. evidence-based research not being translated into practice (3 per cent of responses)
- **improved consumer engagement** (3 per cent of responses).

*Note that some consumers provided more than one response.

In addition, responses to all survey questions were compared according to participant location. Results demonstrated that consumers living in regional locations were more likely to identify mental health, ageing and aged care, and the health of rural and remote communities as issues when compared to consumers living in metropolitan areas. Consumers living in regional communities were also more likely to identify smoking, alcohol and other drugs, access to hospital and specialist services, and access to primary health care as the biggest factors impacting health.

> *"While there is a lot of research being done around health and wellbeing, I think the biggest impediment is access to money for researchers. People also need to be made aware of the research being done and of new advances in health care and how to access it."*
>
> *(consumer)*

Health professionals and researchers working in regional communities were more likely to identify the health of rural and remote communities, Aboriginal and Torres Strait Islander health, diabetes, cardiovascular disease, mental health, and ageing and aged care as issues when compared to health professionals and researchers working in metropolitan areas. Health professionals working in regional areas were also more likely to identify access to primary care, access to hospital and specialist services, alcohol and other drug use, and obesity as the biggest factors impacting health.

2.7.4 Other consumer consultations

The HTQ health professional, researcher and consumer surveys produced similar results to recent consumer consultations conducted by a number of external organisations.

Primary Health Network and HHS local area needs assessment

As part of their local area needs assessment (LANA) process, several Queensland Primary Health Networks (PHNs) and HHSs (North Queensland PHN, Central Queensland, Wide Bay and Sunshine Coast PHN, and Brisbane North PHN) conducted consumer and stakeholder consultations.[54] [55] [56] This involved the collection of information from over 2,200 consumers and stakeholders, including those from vulnerable population groups such as Aboriginal and Torres Strait Islander people, people from culturally and linguistically diverse backgrounds, and people living in rural and remote communities.

The main issues identified during these consultations were aged care, after hours care, mental health, and alcohol and other drugs; closely followed by end-of-life care, access to primary care, access to allied health services, prevention, and suicide. It should be noted that at the time, PHNs received government funding to commission initiatives concerned with after hours care, alcohol and other drugs and mental health, so a bias could exist.

Voices of hope: Growing up in Queensland 2020

Of the 8,000 youth who participated in the *Growing up in Queensland* report, 27 per cent stated that mental health was the most important issue for people their age.[57]

3. Decision-making group

3.1 Need identification

Following the analysis of the data contained in the needs assessment, an initial list of needs was established (see Appendix 3). This list was based on significant trends and issues identified in the demographic data, health data, and stakeholder and consumer consultations. These were then compared to Queensland research capacity and capability to determine where gaps or significant opportunities for collaboration existed. As highlighted in Appendix 3, a simple triangulation process was then used to prioritise the needs.

The resulting list of nine priority needs is presented in Table 20, with each 'priority area' representing potential HTQ Collaborative Groups and each 'focus area' representing potential topic areas that could be explored further by the HTQ Collaborative Groups.

Table 20: Initial list of needs

Priority areas	Focus areas
Mental health	- Suicide and self-harm - Alcohol and other drugs - Children's mental health - Rural and remote communities
Ageing and aged care	- Dementia - Falls - Frailty
Rural and remote communities	- Innovative service delivery models - Aged care - Mental health - Areas of lower socioeconomic status (e.g. Wide Bay, Queensland-Outback)
Primary health care	Overcoming research challenges in primary care
Chronic conditions	- Diabetes - Chronic lower respiratory disease - Arthritis (rheumatoid and osteoarthritis) - Chronic pain
Prevention	- Obesity - Nutrition - Alcohol and other drugs
COVID-19	- Long COVID - Health system capacity and management
End-of-life care	- Advances in technology and treatment options - System change - Improved data collection and data sharing.
Maternal and child health	- Maternal health in the perinatal period - Models of maternity care

It is important to note that Aboriginal and Torres Strait Islander health, while recognised as a high need throughout the needs assessment, was not included in the list of priority areas. This was because a Queensland Aboriginal and Torres Strait Islander health research network had recently been established and is looking to conduct a more detailed needs assessment concerned specifically with Aboriginal and Torres Strait Islander health research. This, and any ongoing work of the network, is supported by HTQ.

3.2 Establishment of decision-making group

Following the initial identification of priority areas, a decision-making group was formed to systematically evaluate each area and determine if it could be suitably addressed by HTQ.

In establishing the decision-making group, each HTQ partner organisation was given the opportunity to nominate at least one person to represent their organisation in the group. It was anticipated that this would result in broad representation of both the health and research sectors. Additional consumer representation was also sought.

Membership criteria for the decision-making group included:

- members must be one of the following:
    - front-line clinician or health professional with a research background
    - researcher with a broad research interest (i.e. more than one speciality area)
    - an executive manager, manager, or researcher engaged in health service improvement, management and/or planning.
- members must have sufficient knowledge and professional experience to effectively identify and analyse health and research need.

The decision-making group was provided with the needs assessment data and additional information on each of the priority areas (see Appendix 4). The group was then asked to analyse each priority area by measuring them against the criteria contained in Table 21 using a five-point scoring system.

Given the uniqueness of HTQ as an organisation, a suitable set of criteria could not be identified in the peer-reviewed literature. Therefore, the criteria listed below were developed internally and will be validated during the evaluation of this needs assessment and any successive assessments.

Table 21: Need prioritisation criteria

Criteria	Description
	Rate your level of agreement with the following, with 1 being strongly disagree and 5 being strongly agree
Severity and frequency	A large number of people are impacted by this issue a lot of the time
Equity	Vulnerable population groups are greatly impacted by this issue
Long-term impact (consumer)	This issue causes significant long-term impacts for the consumer and negatively affects their quality of life
Long-term impact (health system)	This issue causes significant long-term impacts for the health system
Contribution	This issue contributes significantly to other problems both at a consumer and health system level (e.g. obesity contributing to chronic disease and increased health care costs)
Risk of unmet need	Potential consequences for consumers (disability, death etc) and the health system (health expenditure, hospital admissions etc.) are significant if this issue is not addressed
Validation	There is a strong evidence base for this being an identified HTQ priority
Feasibility of affecting the issue	A solution to this issue could be easily implemented within current health system, political and social conditions

Collaboration	There are ample opportunities to collaborate with other agencies on this issue
Resources	There are currently adequate resources to address this issue (both in the health and research sectors)
Public and political support	This issue is of significant interest politically
	This issue is of significant interest publicly
Alignment	This issue aligns with Queensland Health, Department of Health, MRFF, and HTQ strategic priorities
Funding attractiveness	This issue aligns well with MRFF and NHMRC funding priorities

3.3 Identification of priority areas by decision-making group

Following analysis of the priority areas using the criteria, the decision-making group was given the opportunity to collectively explore the results in greater detail and make further recommendations as required. The below list of priority areas as agreed by the decision-making group is highlighted in Table 22 (noting that the 'potential focus areas' are derived from the data only and will be explored further during phase two).

Table 22: Final priority areas

Priority areas	Potential focus areas
Chronic conditions	• Diabetes • Chronic lower respiratory disease • Arthritis (rheumatoid and osteoarthritis) • Chronic pain
Mental health	• Suicide and self-harm • Alcohol and other drugs • Children and adolescent mental health • Rural and remote communities
Ageing and aged care	• Dementia • Falls • Frailty
Maternal, child and adolescent health	• Maternal health in the perinatal period • Models of maternity care • Child and adolescent mental health
Primary health care, including community and preventative care	• Overcoming research challenges in primary health care • Obesity • Nutrition • Alcohol and other drugs
Rural and remote communities	• Innovative service delivery models • Aged care • Mental health • Other health needs impacting rural and remote communities • Areas of lower socioeconomic status (e.g., Wide Bay and Queensland-Outback)
Palliative and end-of-life care	• Advances in technology and treatment options • System change • Improved data collection and data sharing
Health system preparedness	• Health system capacity and management
Health system improvement	• System integration • Service coordination • New models of care • Workforce

Appendix 1: Identified research areas throughout Queensland

Gold Coast Hospital and Health Service major research areas[33]

- Allied health
- Cancer
- Complementary medicines
- Emergency medicine
- Intensive care
- Medical specialties and medical imaging
- Nursing and midwifery
- Psychiatry
- Surgery
- Trauma
- Women, children and newborns

Metro South Hospital and Health Service major research areas[34]

- Allied health
- Dementia
- Emergency
- Geriatric and rehabilitation
- Intensive care medical nursing
- Renal/nephrology
- Physiotherapy
- Rehabilitation
- Sleep disorders
- Urology

A number of additional research areas have been identified and can be accessed at
https://metrosouth.health.qld.gov.au/research/about-us/our-research-profile/research-areas

Metro North Hospital and Health Service research areas of focus[35]

- Intensive care
- Thoracic medicine
- Haematology and medical oncology
- Infectious diseases
- Gastroenterology
- Internal medicine
- Perinatal and obstetric medicine
- Anaesthetics
- Orthopaedics
- Cardiology
- Renal medicine
- Mental health
- Emergency medicine
- Neurology
- Nursing research
- Allied health research

West Moreton Hospital and Health Service focus areas[36]

- Health services innovation
- Mental health
- Chronic disease
- Improving clinical care

Sunshine Coast Hospital and Health Service research themes[37]

- Maternal and child health (optimal care in peri-partum period and the first 1,000 days of a child's life)
- Optimising health service efficiency (end-of-life shared decision-making, state-wide evaluation of the Geriatric Emergency Department Intervention (GEDI) program, building and supporting a productive collaborative health research culture, and telehealth)
- Practice education in health (interprofessional education and collaborative practice, workforce and career development pathways, education technology)
- Healthy ageing
- Infectious diseases and antimicrobial resistance

Cairns Hospital and Health Service main research areas[38]

- Aboriginal and Torres Strait Islander health
- Tropical health and medicine
- Health care data linkage and health service research
- Equity of access to health care

Torres and the Cape Hospital and Health Service research priority areas[39]

- Chronic disease
- Diabetes
- Aboriginal and Torres Strait Islander health
- Oral health
- Child and maternal health
- Rural and remote health
- Workforce design/information sharing technologies

Children's Health Queensland Hospital and Health Service research areas[40]

- **Prevention and early detection**
  (audiology and ear health, brain injury and rehabilitation, burns and trauma, child development, dietetics and nutrition, immunisation, infectious diseases, neurodevelopmental medicine, ophthalmology and eye health, and speech pathology)
- **Critical care, medicine and surgery**
  (anaesthesia, autoimmune diseases, burns and trauma, cardiology and cardiac surgery, dermatology, diabetes and endocrinology, ear nose and throat, emergency medicine, gastroenterology, hepatology and liver transplant, general paediatrics, haematology, immunology and allergy, infectious diseases, intensive care, metabolic medicine, nephrology and kidney disease, neurology, neurosurgery, occupational therapy, oncology, ophthalmology, orthopaedics, paediatric surgery and urology, palliative care, pharmacy, physiotherapy, plastics, reconstructive and oral maxillofacial surgery, radiology and medical imaging, rehabilitation medicine, respiratory, rheumatology, sleep medicine, speech pathology)
- **Mental health and wellbeing**
  (child development, child, youth and adolescent mental health, perinatal and infant mental health)
- **Health services innovation**
  (family centred and out-of-home care, health promotion, health care administration and service delivery, integrated care, public health, service improvement, telehealth).

*Note that other Queensland HHSs conduct research in their facilities, however they haven't listed specific research areas in any external documents.

Mater Health research priorities and centres[41]

- Mother and baby
- Chronic and integrated care
- Cancer
- Neuroscience
- Health care delivery and innovation
- Centre of Research Excellence in Stillbirth
- Centre for Health System Reform and Integration

Queensland University of Technology, Centre for Healthcare Transformation research programs and institutes/centres[42]

- Clinical outcomes, safety and implementation
- Australian Centre for Health Service Innovation
- Cancer and Palliative Care Outcomes Centre
- Australian Translational Genomics Centre
- Institute of Health and Biomedical Innovation
- Australian Prostate Cancer Research Centre Queensland

The University of Queensland research strengths and institutes[43]

- Health, wellbeing and ageing
- Healthy start to life
- Families and communities
- Disease prevention
- Health systems and professional skills
- Disability and rehabilitation
- Neurological and musculoskeletal function
- Environmental health
- Centre for Clinical Research
- Child Health Research Centre
- Diamantina Institute
- Queensland Brain Institute
- Australian Infectious Disease Research Institute
- Mater Research Institute – The University of Queensland
- Centre for Health Services Research

Bond University research institutes and centres[44]

- Institute for Evidence-Based Healthcare
  - antibiotic resistance
  - overdiagnosis
  - non-pharmaceutical treatments
  - waste in medical research
- Centre for Urology Research
- Clem Jones Centre for Regenerative Medicine

University of Southern Queensland research areas and centres[45]

- Health economics and technology
- Health promotion
  - Health and social justice
  - Mental health
  - Occupational health
  - Physical activity and sport
- Centre for Health Research
  - Ageing
  - Cancer
  - Clinical education
  - Communicable and non-communicable diseases
  - Molecular biomarkers

University of the Sunshine Coast research institutes and centres[46]

- Thompson Institute (mental health)
- Centre for Bio-Innovation

Griffith University areas of research, centres and institutes[47]

- Australian Centre for Complex Integrated Surgical Solutions
- Centre for Mental Health
- Externally funded research centres
  - Australian Institute for Suicide Research and Prevention
  - Centre for Applied Health Economics
  - Clem Jones Centre for Neurobiology and Stem Cell Research
  - The Hopkins Centre (rehabilitation and severe disability)
  - National Centre for Neuroimmunology and Emerging Diseases
  - Recover Injury Research Centre

- Menzies Health Institute Queensland
  - Disability and rehabilitation
  - Health care practice and survivorship
  - Infectious diseases and immunology
- Institute for Glycomics
- Institute for Drug Discovery
  - Cancer
  - Infectious disease
  - Neurological disorders
  - Drug resilience
  - Spinal cord injury repair

James Cook University centres and institutes[48]

- Australian Institute of Tropical Health and Medicine
- Anton Breinl Research Centre for Health Systems Strengthening
- Centre for Nursing and Midwifery Research

- Centre for Rural and Remote Health
- Queensland Research Centre for Peripheral Vascular Disease
- [World Health Organisation](#) Collaborating Centre for Nursing and Midwifery Education and Research

Translational Research Institute areas of research (*denotes research themes)[49]

- Cancer* (blood, breast, cervical, head and neck, kidney, lung, ovarian, prostate, skin)
- Immunology
- Trauma* (blast trauma, bone health and fracture repair, post-traumatic stress disorder)
- Liver and kidney disease
- Dermatology*
- Gastroenterology and hepatology*
- Genomics* (cancer genomics, osteoporosis and bone disease)

- Metabolomics* (autoimmune and autoinflammatory diseases, bone and joint diseases, immunotherapies, inflammatory bowel disease)
- Diabetes
- Addiction
- Obesity

Translation Innovation Programs

- Immunotherapy
- Diagnostic imaging
- Microbiome

QIMR Berghofer research areas[50]

- **Cancer research** (blood cancers, brain cancers, breast cancer, colorectal cancer, endometrial cancer, graft-versus-host-disease, head and neck cancer, liver cancer, lung cancer, skin cancer, oesophageal cancer, ovarian cancer, pancreatic cancer, prostate cancer, and stomach cancer)

- **Infection and inflammation**
  (cytomegalovirus, dengue fever, Epstein–Barr virus, HIV/AIDS, echinococcosis, intestinal worms, leishmaniasis, malaria, other mosquito-borne viruses, scabies and associated bacterial infections, schistosomiasis, asthma and other lung diseases, biliary atresia, cardiovascular disease, cystic fibrosis liver disease, endometriosis, eye disease, haemochromatosis, hepatic fibrosis and cirrhosis, inflammatory bowel diseases, iron deficiency, and perinatal biology)

- **Mental health and neuroscience**
  (attention deficit hyperactivity disorder, bipolar disorder, dementia, depression and anxiety, early neurodevelopmental disorders, eating disorders, epilepsy, obsessive compulsive disorder, Parkinson's disease, psychosis and schizophrenia, substance use disorders and addictive behaviours, and Tourette syndrome)

- **Population health**

- **Aboriginal and Torres Strait Islander health**

- **COVID-19 research**

CSIRO Australian e-health Research Centre research[51]

- Data and interoperability
- Cloud native genomics
- Precision medicine
- Digital health care services
- Digital productivity of health systems

Southern Queensland Rural Health areas of research[52]

- Rural health workforce development
- Rural training strategies
- Research into innovative rural health service delivery models
- Health issues directly impacting on rural communities
- Improving Aboriginal and Torres Strait Islander health

Other

- Orthopaedic Research Institute of Queensland
- Viertel Cancer Research Centre – Cancer Council Queensland

Appendix 2: HTQ stakeholder surveys

Community survey

The following survey has been generated to assist Health Translation Queensland (HTQ) develop a health research needs assessment. The needs assessment will be used by HTQ to better understand the health needs of Queenslanders, and where research translation could be strengthened to better support these needs.

The survey will take approximately five minutes to complete. All answers are confidential and will remain anonymous.

1) Please identify the three biggest health issues in your community

☐ Ageing and aged care

☐ Mental health

☐ Suicide

☐ Diabetes

☐ Dementia

☐ Kidney disease

☐ Heart disease

☐ Chronic lung disease (e.g. asthma, chronic obstructive pulmonary disease)

☐ Stroke

☐ Maternal and newborn health

☐ Child health and development

☐ Alcohol and other drugs

☐ End-of-life care

☐ Injury

☐ Infectious diseases (excluding COVID-19)

☐ COVID-19

☐ Cancer

☐ Sexual and reproductive health

☐ Dental health

☐ The health of rural and remote communities

☐ Aboriginal and Torres Strait Islander health

☐ Other, please specify

2) In your community, what are the three biggest things that stop people from getting better, or make it difficult to stay healthy?

☐ Smoking

☐ Alcohol consumption

☐ Illicit drug use

☐ Obesity

☐ Poor diet

☐ Inactivity

☐ Access to General Practitioners and other health services in the community (e.g. allied health)

☐ Access to hospital and specialist services

☐ Other, please specify

3) What research should researchers focus on to improve local health care provision and the overall health and wellbeing of your community?

4) Is there anything else you would like to tell us about research opportunities or health issues or services in your community?

5) What is your age category

☐ 15 years or under

☐ 16-25 years

☐ 26-45 years

☐ 46-65 years

☐ 66-85 years

☐ 86 years or older

6) What is your gender

☐ Female

☐ Male

☐ Other

☐ I'd rather not say

7) What is your postcode

8) Do you identify as any of the following? Please tick all that apply

☐ An Aboriginal and/or Torres Strait Islander person

☐ A LGBTQIA+ person

☐ A person from a culturally or linguistically diverse background

☐ A person living with a disability

Thank you

We appreciate the time you have taken to complete the survey. Your contributions are highly valued.

Health professional and researcher survey

The following survey has been generated to assist Health Translation Queensland (HTQ) develop a health research needs assessment. The needs assessment will be used by HTQ to better understand the health needs of Queenslanders, and where research translation could be strengthened to better support these needs.

The survey will take approximately five minutes to complete. All answers are confidential and will remain anonymous.

1) Please identify the three biggest health issues affecting the Queensland population

☐ Ageing and aged care

☐ Mental health

☐ Suicide

☐ Diabetes

☐ Dementia

☐ Renal disease

☐ Cardiovascular disease

☐ Chronic lung disease

☐ Cerebrovascular disease

☐ Maternal and neonatal health

☐ Child health and development

☐ Alcohol and other drugs

☐ End-of-life care

☐ Injury

☐ Infectious diseases (excluding COVID-19)

☐ COVID-19

☐ Cancer

☐ Sexual and reproductive health

☐ Dental health

☐ The health of rural and remote communities

☐ Aboriginal and Torres Strait Islander health

☐ Other, please specify

2) What are the three main factors impacting the health and wellbeing of Queenslanders?

☐ Smoking

☐ Alcohol consumption

☐ Illicit drug use

☐ Obesity

☐ Poor diet

☐ Inactivity

☐ Access to primary health care

☐ Access to hospital and specialist services

☐ Other, please specify

3) What areas of research should be better supported in order to improve local health care provision and the overall health and wellbeing of the Queensland population?

4) In Queensland, what are the main barriers to translating research into practice?

5) Is there anything else you would like to tell us about research opportunities or health issues or services in Queensland?

6) What is your occupation? (tick all that apply)

☐ Health professional

☐ Policy maker

☐ Researcher

☐ Academic

☐ Health manager/executive manger

☐ Research manager/executive manager

☐ Other, please specify

7) What type of organisation are you employed by? (tick all that apply)

☐ Hospital and health service

☐ University

☐ Research institute

☐ Primary health care

☐ Other, please specify

8) What is the postcode for your predominant employer?

Thank you

We appreciate the time you have taken to complete the survey. Your contributions are highly valued.

Appendix 3: Triangulation process used to identify priorities

Key

1-2 low, 3-4 medium, 5-6 high

0 stars = Not raised as an issue/not evident in data/no evidenced research capacity or capability

1 star (*) = Raised as an issue/somewhat evident in data/some research capacity and capability

2 stars (**) = Raised frequently as an important issue/concern evident in data/medium research capacity and capability

3 stars (***) = Raised frequently as a high concern needing action/significant concern evident from data/high research capacity and capability

Need	Consumer and stakeholder feedback	Health data	Research capacity and capability	Triangulation result	Comments
Ageing and aged care	***	***	***	High need High research capacity/capability	
Mental health	***	***	***	High need High research capacity/capability	
Chronic conditions	**	***	***	High need High research capacity/capability	
Maternal health	*	***	***	Medium need High research capacity/capability	
Child health and development	*	***	***	Medium need High research capacity/capability	Combined with maternal health in list of priorities
Health system improvement	***		***	Medium need High research capacity/capability	
Rural and remote communities		***	**	Medium need Medium research capacity/capability	
Prevention	*	**	**	Medium need Medium research capacity/capability	
Primary care	*	**		Medium need	

				Limited to no research capacity/capability	
Alcohol and other drugs	**	*	*	Medium need Low research capacity/capability	Grouped under prevention as a potential focus area
End-of-life care	**	*	*	Medium need Low research capacity/capability	
Trauma and injury		***	*	Medium need Low research capacity/capability	Discussion to be held with decision-making group to determine if this should be included as a priority area
Infectious disease (excluding COVID-19)		**	***	Low need High research capacity/capability	
Cancer		*	***	Low need High research capacity/capability	
Aboriginal and Torres Strait Islander health		**	**	Low need Medium research capacity/capability	HTQ has already established a specific Aboriginal and Torres Strait Islander health research translation network Therefore, it will not be listed as a priority area
Sexual and reproductive health	*			Low need Limited to no research capacity/capability	
Oral health		**	*	Low need Low research capacity/capability	
Disability		*	*	Low need Low research capacity/capability	
Addiction			*	Limited to no need Low research capacity/capability	
COVID-19	-	-	-	-	As 2022 COVID-19 data has not been included in the datasets used in this needs assessment, it

					can't be ranked. However, it will be included in the priority list due to its emerging status.
Vaccinations and immunology			***		These research areas have the potential to overlap and strengthen many of the needs identified above and could be considered as potential focus areas by HTQ Collaborative Groups
Digital health			**		
Genomics			**		
Biomarkers			**		
Precision medicine			*		
Regenerative medicine			*		

Appendix 4: Background information – priority areas

The following provides additional information on some of the potential priority areas identified in the needs assessment. It was designed to assist decision-making group members in the prioritisation process and should be read in conjunction with the demographic, research capability, stakeholder and consumer data contained in the needs assessment.

Priority area: Ageing and aged care

Queenslanders are living longer than ever before. While population ageing is largely a positive reflection on improved life expectancy (from 2008-2010 to 2018-2020, life expectancy for Queenslanders increased by 1.2 years for both males and females[6]), older people are more likely to experience more complex conditions, comorbidity, cognitive decline, frailty and reduced social function. This has the potential to impact significantly on burden of disease, and the demand and provision of health and aged care services in Queensland.

During 2020-21 the Australian government spent over $23.6 billion on aged care, with the largest proportion (60 per cent, $14.3 billion) spent on residential aged care. The remaining funds were spent on home care and support (33 per cent, $7.8 billion) and on other care, including flexible care, workforce and service improvement, and assessment and information services (7.7 per cent, $1.9 billion).[71] The Parliamentary Budget Office has projected that, over the next decade, Australian Government spending on aged care will increase by 4.0 per cent a year, after correcting for inflation. This increase will mean that aged care spending will be growing significantly faster than the rate of all Australian Government spending (2.7 per cent). By 2030-31, aged care will account for 5.0 per cent of all Australian Government expenditure compared to 4.2 per cent in 2018-19.[58]

Similar to the broader Queensland population, older people have a diverse range of backgrounds and needs, many of which are not being met by the current health and aged care systems. People living in rural and remote areas experience multiple disadvantages (see priority area three: rural and remote), which can magnify the need for support in older age. However, the availability of aged care in rural and remote areas is significantly lower than in major cities and has declined in recent years.[59]

Significant population ageing is projected across Queensland's Aboriginal and Torres Strait Islander population. However, due to underlying causes such as socioeconomic disadvantage and a lack of culturally safe care, Aboriginal and Torres Strait Islander people do not access aged care at a rate commensurate with their level of need. Access issues are further compounded by higher rates of disability, comorbidities, homelessness and dementia experienced by Aboriginal and Torres Strait Islander people.[60]

In addition, older persons from culturally and linguistically diverse (CALD) backgrounds are more likely to experience poorer health, wellbeing and social inclusion when compared to people from non-CALD backgrounds, primarily due to delayed presentation and poor system navigation.[73]

In March 2021, the final report of the Royal Commission into Aged Care Quality and Safety (the Royal Commission)[73] was released. The report described a sector that is behind the research, innovation and technological curves. It highlighted many missed opportunities, including receipt of limited research funding when compared to overall health and medical research funding, and the absence of strategy to support the translation of research outputs into evidence-based best practice. These issues are amplified by current aged care funding and service models that do not support providers who wish to try new practices, technologies and models of care and the historical absence of quality data collection.

The Royal Commission identified many key issues that need to be addressed to ensure that older people receive the highest quality care. This presents an opportunity for relevant HTQ

Collaborative Groups to explore these issues further as potential focus areas. Issues highlighted by the Royal Commission include:

- supporting older people to age well
- complex care including palliative care, dementia care and mental health
- models of care, including but not limited to, diet and nutrition, oral health and skin care
- infection control, including antimicrobial resistance
- access to services (including the provision of health services in residential aged care) and service navigation
- workforce
- quality measurement and reporting
- formation of a new aged care system, including system governance and financing.[73]

Aged care as a HTQ priority area would align strategically with the following:

- [Healthy ageing: A strategy for older Queenslanders]

Optional further reading:

- [Royal commission into aged care quality and safety final report - executive summary]

Priority area: Chronic conditions

Most illnesses and deaths in Australia are caused by chronic conditions. At a national level, 78.6 per cent of Australians report having at least one long-term health condition, and 46.7 per cent report having more than one.[20] For example, data from the National Strategic Framework for Chronic Conditions (NSFCC) Reporting Framework[22] demonstrates that almost one in three (29 per cent) Australians have a musculoskeletal condition, almost one in three (31 per cent) have a chronic respiratory condition, one in five (20 per cent) have experienced a mental illness, one in 16 (6.2 per cent) have heart, stroke or vascular disease, and almost one in 19 (5.4 per cent) have type 2 diabetes.

Many Australians with chronic conditions experience multi-morbidity. Multi-morbidity can make treatment more complex and require ongoing coordinated care across multiple parts of the health care system. This places a heavy demand on the health care system and requires substantial economic investment.

Living with multi-morbidity can have physical, emotional, social, financial, and lifestyle impacts for the individual. Compared with adults with no chronic conditions and after adjusting for age, adults with multi-morbidity were less likely to be working, more likely to live in the lowest two socioeconomic areas, have a restriction or limitation in everyday activities, have poor self-assessed health, and experience high or very high psychological distress.[21]

As described in the NSFCC, chronic conditions impact all Australians, but some populations are disproportionally affected due to a complex interaction between the physical environment, social and cultural determinants, and biomedical and behavioural risk factors. This includes, but is not limited to, Aboriginal and Torres Strait Islander people, people from culturally and linguistically diverse backgrounds, older Australians, people experiencing socioeconomic disadvantage, people living in rural and remote areas, and people living with a disability.[22]

Clinically appropriate, evidence-based and accessible health care for people with chronic conditions can slow disease progression, help to prevent and delay the onset of additional chronic conditions, complications, and associated disabilities, improve health and wellbeing, and enhance quality of life. Strong research translation can contribute greatly to this.

Chronic conditions as a HTQ priority area would align strategically with the following:

National Strategic Framework for Chronic Conditions

Priority area: COVID-19

The COVID-19 pandemic has affected the health of Queenslanders in several ways, including:

- the acute effects of the disease and, for some, the longer-term impacts (e.g. long COVID)
- potential effects on health (e.g. mental health and social health)
- changes in health system utilisation due to factors such as suspension of services, strain on the hospital system, etc.[61]

Throughout 2022, the COVID-19 pandemic in Queensland has transitioned from 'containment' to 'new normal'. With this has come an increase in case numbers and deaths (see COVID-19 in Queensland for the latest incidence data).

Given the relative recency of this increase, and the continued fluctuation in case numbers, it is difficult to obtain quantifiable COVID-19 burden of disease data. However, the impact of COVID-19 on Queenslanders has been considerable, touching nearly all people and aspects of life.

There is strong evidence that people from some population groups are at greater risk of contracting and dying from COVID-19 than the general population. While younger adults are more likely to contract COVID-19, the mortality rate increases with age, with the highest rate in people aged 80 years and over.[78]

The disparities in COVID-19 morbidity and mortality interact with and exacerbate existing health and social inequalities encountered by minority ethnic groups, people experiencing socioeconomic disadvantage, and marginalised population groups such as people experiencing homelessness.[78]

In Australia, COVID-19 vaccination status also varies by population group. Coverage is high for residential aged care residents where 97 per cent of residents have received three or more vaccine doses. However, only 74 per cent of National Disability Insurance Scheme (NDIS) participants and 53 per cent of Aboriginal and Torres Strait Islander people over the age of 16 had received three or more doses by 30 April 2022.[62]

The prevalence of persistent symptoms following a COVID-19 diagnosis is currently unclear. One study found that up to one in three Australian COVID-19 patients experience symptoms up to four months after infection.[63] A similar prevalence has been reported among patients in the United States six months after COVID-19 infection.[64] A large survey in the United Kingdom found that 22 per cent of people experienced at least one symptom five weeks after COVID-19 infection, with 9.8 per cent experiencing symptoms after 12 weeks.[65]

Priority area: Maternal, child and adolescent health

The health of mothers and babies can have significant ongoing implications through the life cycle. The following provides a summary of maternal and perinatal health at a Queensland and national level.

In Queensland:

- the infant mortality rate was 3.7 deaths per 1,000 live births[66]
- the leading causes of death for children under 12 months were conditions originating in the perinatal period, congenital conditions and chromosomal abnormalities.[2]

At a national level:[27]

- most mothers (79 per cent) have accessed antenatal care in the first trimester and 95 per cent have attended five or more visits
- fewer mothers are smoking during pregnancy (9.2 per cent in 2020 compared to 14 per cent in 2010)
- fewer Aboriginal and Torres Strait Islander mothers are smoking (43 per cent in 2020, compared to 51 per cent in 2010) and more are accessing antenatal care (71 per cent in 2020 compared to 50 per cent in 2010)
- between 2010 and 2019, the maternal mortality rate (MMR) remained relatively stable, ranging from between 5.0 to 8.4 per 100,000 women giving birth. The most frequent causes of maternal death reported in Australia were complications of pre-existing cardiovascular disease and non-obstetric haemorrhage
- between 2012 and 2019, the MMR for Aboriginal and Torres Strait Islander women was 17.5 per 100,000 women giving birth
- women who live in remote and very remote areas have an increased MMR (10.8 per 100,000 women giving birth)
- the perinatal mortality rate is 9.6 per 1,000 births. Although perinatal mortality rates have remained relatively unchanged since 2000, two categories have decreased over the period:
  - neonatal deaths of babies born at 23 weeks' gestation or more
  - stillbirths occurring at 28 weeks' gestation or more.
- perinatal mortality rates were highest among babies born to:
  - women aged under 20 years and women aged 40 years and over (18.4 and 15.1 deaths per 1,000 births)
  - Aboriginal and Torres Strait Islander women (14.8 deaths per 1,000 births)
  - women who live in very remote areas (19.6 deaths per 1,000 births)
  - women living in the most disadvantaged areas (11.1 deaths per 1,000 births).
- perinatal deaths have far-reaching consequences for families, such as mental illness and economic participation. This is compounded by factors impacting access to services, such as rural and remoteness.
- the most common classified causes for all perinatal deaths were congenital anomaly (31.7 per cent) and spontaneous preterm birth (13.6 per cent)
- almost 1 in 5 (18 per cent) of babies required admission to the special care nursery (SCN) or neonatal intensive care unit (NICU). Babies were more likely to require admission if they were born pre-term (79 per cent), Aboriginal or Torres Strait Islander (27 per cent), of low birthweight (77 per cent) or born as a twin (63 per cent).
- Mothers were more likely to have a baby admitted to SCN or NICU if they were aged under 20 years (25 per cent) or 40 years or older (22 per cent), were Aboriginal or Torres Strait Islander (29 per cent), smoked during pregnancy (27 per cent) or gave birth by caesarean section (25 per cent). The admission rate was also slightly higher among babies whose mothers lived in the most disadvantaged areas (21 per cent) compared with those whose mothers lived in the least disadvantaged areas (15 per cent).
- in 2019, 2.3 per cent of women who gave birth lived in remote areas. Women who live remotely have less access to health care, including maternity care, which can be detrimental to their health and the health of their babies. Compared with women who lived in regional areas and major cities, mothers who lived in remote areas in 2019 were more likely to be aged under 20, identify as Aboriginal and Torres Strait Islander, live in the lowest socioeconomic areas and have higher rates of behavioural risk factors.

The early years of a child's life provide the foundation for future health, development and wellbeing. Many challenges faced by adults, such as mental health issues, obesity, heart disease, criminality, and poor literacy and numeracy, can be traced back to pathways that originated in early childhood.[67]

Most Queensland children have a healthy start in life, but not all. Aboriginal and Torres Strait Islander children, children from socioeconomically disadvantaged backgrounds, or children born to teenage mothers are more likely to experience health and development issues.

Maternal and child health as a HTQ priority area would align strategically with the following:

- [Children's Health and Wellbeing Services Plan 2018-2028](#)
- [National Stillbirth Action and Implementation Plan](#)
- [A great start for our children: Statewide plan for children and young people's health services to 2026](#)
- [National Action Plan for the Health of Children and Young People 2020–2030](#)

Optional further reading:

- [Australia's mothers and babies](#)
- [National core maternity indicators](#)
- [Woman-centred care: Strategic directions for Australian maternity services](#)

Priority area: Mental health

In any year, one in five Queenslanders will experience mental illness.[68] While most will have mild or moderate symptoms, approximately 3.1 per cent will experience severe mental illness.[69] At a national level, over two in five (or 8.6 million) Australians aged 16 to 85 years are estimated to have experienced a mental disorder at some point in their life. In addition, 14 per cent of children and adolescents aged 4 to 17 years are estimated to have experienced a mental illness in the previous 12 months.[70]

In 2020, Queensland had the third highest suicide rate in Australia, trailing only the Northern Territory and Tasmania.[71] Suicide remains the leading cause of death in Queenslanders aged 15 to 44 years.[16] The age-specific rates of suicide in Queensland's Aboriginal and Torres Strait Islander younger age groups is more than double that of the general population (0 to 24 years: 20.8 per 100,000 compared to 6.3 per 100,000; 25 to 35 years: 47.1 per 100,000 compared to 17.8 per 100,000; 35 to 45 years: 52 per 100,000 compared to 22 per 100,000).[62]

While it is difficult to quantify, the COVID-19 pandemic appears to have increased the prevalence and severity of mental illness. This is reflected in national indicators that are likely to be similar for Queensland, including a 33 per cent increase in calls to Lifeline, a 22 per cent increase in Medicare Benefits Schedule (MBS) mental health-related services, and a 19 per cent increase in the number of mental health-related prescriptions dispensed in 2021 compared to 2019.[72]

According to the Productivity Commission review of the economic impact of mental illness in Australia,[73] the annual cost to the Australian economy of mental ill-health and suicide could be as high as $70 billion (an expenditure of $15.5 billion on mental health care, $39 billion on lost productivity and absenteeism, and $15 billion on lost economic participation by carers).

Living with a mental illness also has a significant social impact. For example, approximately 37 per cent of people with lived experience of mental illness and 67 per cent with severe mental illness are not employed, compared to 22 per cent of people without mental health conditions.[74] People with a lived experience are also more likely to experience housing instability and are over-represented in the criminal justice system.[65]

People with a mental illness continue to have poorer health than other Queenslanders, with higher rates of heart disease, diabetes, cancer and other chronic conditions. In terms of the non-fatal burden of disease, mental and substance use disorders were the second largest contributor (24

per cent) of the non-fatal burden of disease in Australia, behind musculoskeletal conditions (25 per cent).[19]

A number of priority population groups experience higher rates of mental illness, including:

- Aboriginal and Torres Strait Islander people, where an estimated 24 per cent of the population reported having a mental health condition[75]
- LGBTIQA+ Australians, where according to the LGBTIQA+ Private Lives survey,[76] 61 per cent of people reported being diagnosed with depression, 47 per cent with an anxiety disorder, and 57.2 per cent report experiencing high or very high levels of psychological distress within the past four weeks
- people living with a disability, where 31.7 per cent of adults with a disability experienced high or very high psychological distress in the previous week, compared to 8 per cent of the population without a disability.[77]

In addition, more young Australians are experiencing higher levels of psychological distress than people in older age groups. According to the ABS 2017-18 National Health Survey,[78] more than one-quarter (26 per cent) of Australians aged 15 to 24 were experiencing a mental or behavioural condition at that time. In 2019-20, Australians aged 18 to 24 had the highest rate of mental health-related presentations to hospital emergency departments of any age group, at 209.3 per 10,000 population, compared with 121.6 per 10,000 for all ages. The rate of admissions to specialised psychiatric care for females aged 12 to 24 years has almost doubled from 54.0 per 10,000 population in 2006–07 to 101.2 in 2019-20.[79]

Mental health as a HTQ priority area would align strategically with the following:

- [Shifting Minds: Queensland Mental Health, Alcohol and Other Drugs Strategic Plan 2018-2023](#)
- [Every Life: The Queensland Suicide Prevention Plan 2019-2029](#)
- [Connecting Care to Recovery 2016–2021: A plan for Queensland's State-funded Mental Health, Alcohol and Other Drug Services](#)

Priority area: Palliative and end-of-life care

With the ageing Queensland population, demand for palliative care is increasing. Conservative estimates suggest that around 16,000 Queenslanders may benefit from palliative care each year.[80] This has significant impact on the health care system, with Queensland Hospital and Health Services spending approximately $153 million on palliative care services in 2020-21.[83]

State and territory governments have made significant investments in the development and expansion of palliative care services in recent years. This includes the Queensland Government, which in addition to its ongoing investment to palliative care, has committed additional funding of $171 million from 2021/22 to 2025/26 to expand and strengthen palliative care services for Queenslanders.[83]

Increases in the number of people living with dementia and other chronic diseases mean how palliative care is currently delivered needs to evolve. Palliative Care Australia[81] suggests that to achieve this, the following needs to occur:

- advances in technology and treatment options
- system change through collaborative population-based planning
- improved data collection and data sharing.

This presents significant opportunity for research translation.

Palliative care as a HTQ priority area would align strategically with the following:

- [2022-2023 Palliative care in Queensland Priorities](#)
- [Palliative Care 2030](#)
- Queensland Health: Palliative and End-of-Life Care Strategy (yet to be developed)

Optional further reading:

- [Implementation Plan for the National Palliative Care Strategy 2018](#)

Priority area: Prevention

Approximately one-third of Australia's entire burden of disease can be attributed to risk factors that can be prevented, including environmental, behavioural and metabolic risk factors.[25]

Sustained risk factor prevention reduces the number and severity of chronic diseases and associated health care costs and improves the overall health and wellbeing of the population.

The financial benefits to the Australian economy of realistic reductions in chronic disease risk factors have been conservatively estimated to be $23 billion.[82] Similarly, a 2017 international systematic review of the return on investment from prevention interventions showed that for every $1 invested, there was a medium return of $14 plus the original investment back to the wider health and social care economy.[83]

Section 2.3.6 Risk factor prevalence demonstrates the risk behaviours of Queenslanders over time. Data suggests that overweight and obesity, tobacco use, unhealthy diet and physical inactivity cause a large proportion of the burden of disease. These risk factors also have the potential to compound each other and contribute to other major risk factors for disease, such as high blood pressure and high blood plasma glucose.

The impact of preventable risk factors is spread inequitably across the Queensland population. Some groups, such as people experiencing socio-economic disadvantage, people living in rural and remote areas, Aboriginal and Torres Strait Islander people, and people living with a disability experience a much higher burden of risk factors and chronic disease.

Prevention as a HTQ priority area would align strategically with the following:

- [Queensland Health: Prevention Strategic Framework 2017 to 2026](#)
- [National Preventive Health Strategy 2021-2030](#)

Priority area: Primary health care

Health systems with strong primary health care at their core have lower health care costs, better population health, higher patient satisfaction, fewer PPHs and greater socioeconomic equality. Currently however, primary health care research in Queensland is limited, resulting in a mismatch between where research is conducted and where most people access health care.

Strengthening primary health care through research would support the continued provision of high-quality and innovative clinical practice and improved health service planning. Strengthening primary health care would also increase access to health services particularly for disadvantaged population groups.

Primary care as an HTQ priority area would align strategically with the following:

- [Australia's Primary Health Care 10 Year Plan 2022-2032](#)
- [Royal Australian College of General Practitioners Research Strategy](#)

Priority area: Rural and remote communities

Queenslanders living in rural and remote areas face unique challenges and potentially poorer health outcomes due to their geographic location. As highlighted throughout the needs assessment, people living in rural and remote areas experience:

- increased burden of disease with increasing remoteness[19]
- increased number of PPH in very remote areas (nationally the rate of PPHs was 1.8 times higher for people living in remote areas and 2.6 times higher for people living in very remote areas)[24]
- lower HALE measures at birth and 65 years.[7]

National data[84] also demonstrates:

- increased age-standardised mortality rates with increasing remoteness for males and females
- increased preventable deaths with increasing remoteness (3.0 times as high for females and 2.1 times as high for males in very remote areas compared to major cities (age-adjusted)
- people living in very remote areas are hospitalised at almost twice the rate as people living in major cities.

In terms of prevention, people living in remote areas are more likely than those in major cities to engage in risky behaviours such as smoking and the consumption of alcohol at levels that put them at risk.[7]

While Aboriginal and Torres Strait Islander people are more likely to live in urban and regional areas, the proportion of the Aboriginal and Torres Strait Islander people per population increases with remoteness (1.8 per cent in major cities compared to 32 per cent in remote and very remote areas).[11] This has the potential to impact significantly on the overall health and wellbeing of rural and remote communities as Aboriginal and Torres Strait Islander people are more likely to experience lower life expectancies, higher burden of disease, poorer self-reported health and a higher likelihood of being hospitalised than non-Indigenous Australians.

People living in rural and remote areas face barriers to accessing health care due to challenges of geographic spread, workforce shortages, limited infrastructure, and the higher costs of delivering rural and remote health care. This is highlighted by Medicare claims data from 2020-21 which demonstrates that the number of non-hospital non-referred attendances per person, such as GP visits, were lower in remote and very remote areas (4.7 and 3.4 per person respectively) compared to major cities (6.8 per person for each area).[85]

Rural and remote communities as a HTQ priority area would align strategically with the following:

- [Queensland Health Rural and Remote Health & Wellbeing Strategy 2022-2027](#)

Optional further reading:

- [Australian Institute of Health and Welfare: Rural and Remote Health](#)
- [Queensland Health Digital Strategy for Rural and Remote Healthcare](#)

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