

Integrating Health Care Planning for Health and Prosperity in North Queensland

DATA SOURCES AND INFORMATION FOR THE NORTHERN QUEENSLAND HEALTH ATLAS

JULY 2022



Developed by the Integrating Health Care Planning for Health and Prosperity in North Queensland (IHCP-NQ) Project team

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Abbreviations

ACPR Aged Care Planning Region

ASR Age-Standardised Ratio

ASGS Australian Statistical Geography Standard

FTE Full-Time Equivalent

HHS Hospital and Health Service

IRSD Index of Relative Socio-economic Disadvantage

LGA Local Government Area

PHN Primary Health Network

PPH Potentially Preventable Hospitalisations

SA2 Statistical Area Level 2

SA3 Statistical Area Level 3



Introduction

This Integrating Health Care Planning for Health and Prosperity in North Queensland project brings together key public and private health system partners across northern Queensland, including Hospital and Health Services, Primary Health Networks and the Community Controlled Health Sector to take a regional approach to strengthening the integration of care and place-based planning of workforce and service implementation in northern Queensland. The project builds on findings and recommendations made in the Health Service Delivery Situational Analysis that was informed by widespread stakeholder engagement across northern Australia and a comprehensive review of existing knowledge (1).

The project addresses the question: How do we best develop and implement processes for prioritising integrated place-based planning to the unique contexts of NQ? There are four main project phases:

- (i) Development of an interactive map displaying various indicators of health and services across the project region using Geographic Information System (GIS) technology.
- (ii) Identify gaps in service provision and integration in collaboration with place-based stakeholders in different operational contexts to identify priority communities to trial place-based planning processes, where more effective models of care or redistribution/integration of services to best meet need may be particularly beneficial
- (iii) Design and pilot implementation of new, or modified models of care in collaboration with communities and partners.
- (iv) Monitoring and evaluation of process, outcome and impact of place-based planning processes.

Northern Queensland Health Atlas

The Northern Queensland Health Atlas is an online interactive platform presenting population, health status, hospital utilisation, workforce, health care provision and service location data in map form (https://arcg.is/5a4Xq). The map has been developed to inform early place-based planning processes aimed at identifying imbalances between health services and need across northern Queensland for the Integrating Health Care Planning for Health and Prosperity in North Queensland project.

The interactive map is based on, and is a derivative of, various, publicly available datasets. It was created by the IHCP-NQ Project team using Esri ArcGIS Pro (2) and has been presented using ArcGIS Web AppBuilder (3). In this companion document, data sources that have been used to build the Atlas are described along with appropriate attributions.

Suggested citation for the Northern Queensland Health Atlas

Johnston, K., Smith, D., with the IHCP-NQ Project Team. (2022, July). *James Cook University northern Queensland health atlas* [Map]. James Cook University. https://arcg.is/5a4Xq.

Suggested in-text citation

(IHCP-NQ Project Team, 2022)

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Geography

Indicators have been displayed in the Northern Queensland Health Atlas using various levels of geography. Publicly available datasets for each indicator were appended to geographic boundary spatial files using a unique identifying field shared by the boundary file and indicator dataset. This section describes the boundary spatial files, how they were modified for this project and where they were sourced.

Aged Care Planning Region (ACPR)

Aged care services in Australia are funded and delivered in regions called Aged Care Planning Regions (ACPRs). There are 73 ACPRs across Australia. The 2018 ACPRs are based on Statistical Area Level 2 (SA2) boundaries from the Australian Bureau of Statistics Australian Geographic Standard (ASGS) 2016. The ACPR boundary used in the map is a derivative of the Department of Health ACPR maps. This derivative shows five ACPRs in the northern Queensland region as defined for the CRCNA Integrating Health Care Planning for Health and Prosperity in North Queensland research project: Central West, Far North, Mackay, North West and Northern.

Source:

Based on "Aged Care Planning Region shapefiles 2018". Released January 2020. Department of Health. Available at Australian Institute of Health and Welfare GEN Aged Care Data: https://www.gen-agedcaredata.gov.au/Resources/Access-data/2020/January/Aged-Care-Planning-Region-Maps. CC-BY 4.0

Hospital and Health Services (HHS)

The Hospital and Health Service (HHS) spatial boundary file used is a derivative of the Department of Health HHS boundary file. This derivative shows five HHS in the northern Queensland region as defined for the CRCNA Integrating Health Care Planning for Health and Prosperity in North Queensland research project: Cairns and Hinterland HHS, Mackay HHS. North West HHS, Torres and Cape HHS and Townsville HHS.

Source:

Based on "Queensland boundaries". Published 6th January 2020. Queensland Spatial Catalogue. Department of Resources. Available at https://qldspatial.information.qld.gov.au/catalogue/custom/search.page?q=%22Hospital%20and%20health%20service%20boundaries%20-%20Queensland%22. CC-BY 4.0

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Local Government Area (LGA)

The Local Government Area (LGA) spatial boundary file is a derivative of the Australian Bureau of Statistics 2018 Local Government Area structure (ESRI shapefile). This dataset shows Local Government Areas (LGAs) in the northern Queensland region as defined for the CRCNA Integrating Health Care Planning for Health and Prosperity in North Queensland research project. There are a total of 39 LGAs in the project region. This file was used for all data relating to LGA meaning that there may very slight issues with concordance of data with LGA based on the year. This issue is very limited to negligible in the project region.

Source:

Based on "Australian Statistical Geography Standard (ASGS): Volume 3 - Non ABS Structures, July 2018 (Catalogue number 1270.0.55.003). Local Government Areas ASGS Ed 2018 Digital Boundaries in ESRI Shapefile Format". Australian Bureau of Statistics. Available at: https://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/1270.0.55.003Main+Features1July%202018?OpenDocument. CC BY 2.5 AU

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Modified Monash Model (MMM)

The Modified Monash Model (MMM) spatial boundary file is a derivative of the MMM 2019 shapefile created based on the Australian Bureau of Statistics Census 2016 data and geography information including remoteness classifications. This dataset shows MMMs in the northern Queensland region as defined for the CRCNA Integrating Health Care Planning for Health and Prosperity in North Queensland research project.

Source:

Based on Modified Monash Model 2019 shapefile. 30 September 2019. Department of Health. Available at: https://data.gov.au/data/dataset/modified-monash-model-mmm-2019. CC BY 2.5 AU



Primary Health Network (PHN)

The Primary Health Network (PHN) spatial boundary file is a derivative of the Department of Health ESRI Shapefile that originally defined the 31 Primary Health Network (PHN) boundaries (version May2017_V7). This dataset shows PHNs in the northern Queensland region as defined for the CRCNA Integrating Health Care Planning for Health and Prosperity in North Queensland research project: Western Queensland PHN and North Queensland PHN.

Source: Based on "PHN Boundaries used by the NBRA". Published 16th March 2021. National Recovery and Resilience Agency. Available at https://data.gov.au/data/dataset/phn-boundaries-used-by-the-nbra. CC BY 2.5 AU

Remoteness Area (RA)

The Remoteness Area (RA) spatial boundary file is a derivative of the Australian Bureau of Statistics 2016 Remoteness Area ESRI shapefile. This dataset shows RA categories in the northern Queensland region as defined for the CRCNA Integrating Health Care Planning for Health and Prosperity in North Queensland research project.

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Statistical Area Level 2 (SA2)

The Statistical Area Level 2 (SA2) spatial boundary file used is a derivative of the is a derivative of the Australian Bureau of Statistics 2016 edition ESRI shapefile. This dataset shows SA2 units in the northern Queensland region as defined for the CRCNA Integrating Health Care Planning for Health and Prosperity in North Queensland research project. There are a total of 104 SA2s in the project region. NOTE: The 2020 Edition 3 shapefile has been used for 2021 Census data. There are a total of 105 SA2s in the project region under Edition 3.

Source: Based on "Australian Statistical Geography Standard (ASGS) Volume 1 - Main Structure and Greater Capital City Statistical Areas, 2016 (cat no. 1270.0.55.001) edition of the SA2 ESRI shapefile". Australian Bureau of Statistics. Available at:

https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1270.0.55.001July%202016?OpenDocument. CC BY 2.5 AU

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Statistical Area Level 3 (SA3)

The Statistical Area Level 3 (SA3) spatial boundary file used is a derivative of the is a derivative of the Australian Bureau of Statistics 2016 edition ESRI shapefile. This dataset shows SA3 units in the northern Queensland region as defined for the CRCNA Integrating Health Care Planning for Health and Prosperity in North Queensland research project. There are a total of 13 SA3s in the project region.

Source: Based on "Australian Statistical Geography Standard (ASGS) Volume 1 - Main Structure and Greater Capital City Statistical Areas, 2016 (cat no. 1270.0.55.001) edition of the SA3 ESRI shapefile. Australian Bureau of Statistics. Available at:

https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1270.0.55.001July%202016?OpenDocument. CC BY 2.5 AU

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World Street Map

The Northern Queensland Health Atlas uses an Esri ArcGIS Online base map.

Credits: Esri, DeLorme, HERE, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, Tomtom https://services.arcgisonline.com/ArcGIS/rest/services/World Street Map/MapServer (April 2022)

Population centres

This layer is a derivative of a place names concordance dataset published by the Queensland Government Statistician's Office. Selected population centres are displayed as a layer in the Northern Queensland Health Atlas.

Source: Based on "Places names concordance [Excel dataset], 2021". Queensland Government Statistician's Office. Available at https://www.qgso.qld.gov.au/geographies-maps/concordances/place-names-concordance-2021. CC BY 4.0 Copyright The State of Queensland (Queensland Treasury) 2021



People and communities

Population

Estimated Resident	Estimated Resident Population 2020						
Indicator	Measures	Geography	Description	Source			
Total population	Count	SA1; SA2; LGA	Preliminary estimates of the resident population by age and sex as at 30 June 2020.	Collated by the IHCP-NQ Project team based on: Australian Bureau of Statistics (release 27 August 2021) Regional population by age and sex, 2020, ABS.			
Female population			The project team have calculated	- Estimated resident population by age, Statistical Areas Level 2, Persons – 30 June 2020.			
Male population			age groups and proportions of male/female directly from the	- Estimated resident population by age, Local Government Areas, Persons – 30 June 2020.			
0 to 14 years		SA2; LGA	datasets accessed.	Australian Bureau of Statistics (release 27 August 2021) Regional population by age and sex, 2020, ABS.			
15 to 24 years			Females of reproductive age consist of females aged between	- Population estimates by age and sex — summary statistics by Statistical Area Level 2 and above, 2020			
25 to 44 years	Count; Proportion		15 and 49 years. Notes:	- Population estimates by age and sex – summary statistics by Local Government Area, 2020			
45 to 64 years			Data are provided by LGA for the 2020 edition of the Australian	Available from https://www.abs.gov.au/statistics/people/population/regional-			
65 years and over			Statistical Geography Standard (ASGS) however are displayed on	population-age-and-sex/2020#key-statistics. CC BY 4.0			
Females of reproductive age			the map uses the 2018 edition. Data by SA1 are not validated and caution should be used as	Australian Bureau of Statistics, Estimated Resident Population by Statistical Area Level 1 (SA1), As at 30 June 2011 to 2020. Queensland Government Statistician's Office.			
Median age	Age (years)	SA2; LGA	they are not precise, and have been prepared to be built up to other levels. See explanatory notes at the source website.	Available from https://www.qgso.qld.gov.au/statistics/theme/population/population-estimates/regions CC BY 4.0			



Aboriginal and Torres St	rait Islander	Population		
Indicator	Measures	Geography	Description	Source
Australian Indigenous population 0 to 4 years Australian Indigenous population 0 to 14 years Australian Indigenous population 15 to 24 years Australian Indigenous population 25 to 44 years Australian Indigenous population 45 to 64 years Australian Indigenous population 45 to 64 years Australian Indigenous population 65 years and over Australian Indigenous population Females of reproductive age	Count; %	LGA	Modelled estimates by PHIDU for resident Aboriginal and Torres Strait Islander population, based on SA2, IARE and IREG Estimated Resident Population and the ABS Census of Population and Housing, 2016. The dataset includes the estimated count of Aboriginal and Torres Strait Islander population for each indicator and the proportion of the total Aboriginal and Torres Strait Islander population. The project team have calculated broader age groups and females of reproductive age directly from the datasets accessed. Females of reproductive age consist of females aged between 15 and 49 years.	Based on Public Health Information Development Unit (PHIDU), Torrens University Australia material from: Social Health Atlas of Australia: Data by Local Government Area (online) 2021. Accessed 16th August 2021 [https://phidu.torrens.edu.au/social-health-atlases/data#social-health-atlases-of-australia-local-government-areas]. CC BY-NC-SA 3.0 AU



Aboriginal and Torres Strait Islander population status	Count; %	LGA; SA2	The estimated proportion of population who identified as Aboriginal, Torres Strait	Collated by the IHCP-NQ Project team based on:
			Islander or Aboriginal and Torres Strait Islander in the 2016 Census is represented on the map.	Australian Bureau of Statistics, Estimates of Aboriginal and Torres Strait Islander Australians, June 2016, Released 13 September 2018. Table 1. Estimated resident Aboriginal and Torres Strait Islander and Non-Indigenous populations, Local Government Areas, Australia. Table 3. Estimated Resident Aboriginal and Torres Strait Islander and Non-Indigenous populations, Statistical Areas Level 2, Queensland
				Available from:



Estimated popula	Estimated population change							
Indicator	Measures	Geography	Description	Source				
2021 to 2026 Total population 2021 to 2026 0 to 4 years 2021 to 2026 65 years and over 2021 to 2026 Females of reproductive age 2021 to 2031 Total population 2021 to 2031 0 to 4 years 2021 to 2031 65 years and over	Percent change	SA2; LGA	The projected percentage change in estimated resident population, as at 30 June 2018, is displayed on the map. The project team have calculated the population change in SA2 and LGA geographic units in the project region directly from the datasets accessed using the formula: % change = 100 x Population _{future} - Population _{current} Population _{current} Females of reproductive age consist of females aged between 15 and 49	Collated by the IHCP-NQ Project team based on: Queensland Government population projections, 2018 edition; Australian Bureau of Statistics. Population by age and sex, regions of Australia, 2016 (Cat no. 3235.0). - Projected population (medium series), by five—year age group (males, females and persons), by Statistical Area Level 2 (SA2), SA3 and SA4, Queensland, 2016 to 2041 - Projected population (medium series), by five-year age group, persons, by Local Government Area, Queensland, 2016 to 2041. Available from https://www.qgso.qld.gov.au/statistics/theme/population-projections-region-reports-2018-edn .				
2021 to 2031 Females of reproductive age			years. Note: Data are based on geographical boundaries in the 2016 edition of the ASGS and 2016 Queensland LGAs. The map uses the 2018 edition for LGA. Use caution interpreting data where low numbers of people have contributed to the population change.	Copyright The State of Queensland 2018. CC BY 4.0				



Fertility rate	Fertility rate								
Indicator	Measures	Geography	Description	Source					
Fertility rate	Count;	SA2; LGA	The fertility rate is presented on the	Collated by the IHCP-NQ Project team based on:					
	Fertility		map.	Australian Bureau of Statistics, Births Australia 2020. Released 8 th					
	rate			December 2021.					
			Selected notes from the ABS: Births are	Table 2.3. Births, Summary, Statistical Areas Level 2, Queensland					
			by the mother's usual place of	2010-2020.					
			residence and year of registration of	Table 3.3. Births, Summary, Local Government Area, Queensland					
			birth. Fertility rate is the number of	2010-2020.					
			births per woman. Fertility rates are						
			averaged using data for the three years	Available from					
			ending in the reference year. They are	https://www.abs.gov.au/statistics/people/population/births-					
			calculated for each calendar year and	australia/latest-release#data-download. CC BY 4.0					
			then averaged.						

Socio-economic characteristics

Highest level of school completed							
Indicator	Measures	Geography	Description	Source			
Year 8 or below	Count; %	SA2; LGA	The highest level of school completed is represented on the map as the proportion of all those aged over 15	Collated by the IHCP-NQ Project team based on: Australian Bureau of Statistics 2016 & 2021 Census of			
Year 10	-		years who are no longer attending primary or secondary school; Census of Population and Housing 2016.	Population and Housing: General Community Profile (Catalogue number 2001.0). G16. Highest year of school completed by age by sex.			
real 10	-		Note: Persons who did not go to school or did not	Accessed via Census DataPacks at			
Year 12			complete this question have been excluded from the total population denominator.	https://datapacks.censusdata.abs.gov.au/datapacks/			



Homelessness				
Indicator	Measures	Geography	Description	Source
Homeless persons	Count	SA2; LGA	The numbers of homeless people on Census night 2016 are displayed on the map. Note: Count is by place of enumeration. The ABS defines a person as homeless if they do not have suitable accommodation alternatives and their current living arrangement: -is in a dwelling that is inadequate; -has no tenure, or if their initial tenure is short and not extendable; or -does not allow them to have control of, and access to space for social relations. For information about interpretation of these data, see the ABS Census of Population and Housing: Estimating Homelessness report accessible at the source link.	Collated by the IHCP-NQ Project team based on: Australian Bureau of Statistics. Census of Population and Housing: Estimating homelessness, 2016. Released 14 March 2018. (20490D0006_2016) - All homeless persons by place enumeration, Statistical Area Level 2, 2016. - Estimating homelessness, 2016. All homeless persons by place enumeration, LGA, 2016. Available from https://www.abs.gov.au/statistics/people/housing/census-population-and-housing-estimating-homelessness/2016#key-findings. CC BY 4.0



Socio-economic Index for Areas								
Indicator	Measures	Geography	Description	Source				
Index of Relative	Score;	SA2; LGA	The IRSD scores are displayed on the	Collated by the IHCP-NQ Project team based on:				
Socio-economic Disadvantage (IRSD)	Percentiles		map. The IRSD indicates geographic areas of relative disadvantage on a scale of most disadvantaged (lower score) to least disadvantaged (higher score). Note: Information about interpretation of these data are available in the ABS SEIFA 2016 Technical Paper accessible at the source link.	Australian Bureau of Statistics, Socio-economic Indexes for Australia (SEIFA), 2016. Released 27 March 2018. (Cat no. 2033.0.55.001) - Statistical Area Level 2 Index of Relative Socio-economic Disadvantage, 2016. - Local Government Area Index of Relative Socio-economic Disadvantage, 2016. Available from https://www.abs.gov.au/ausstats/abs@.nsf/mf/2033.0.55.001. CC BY 4.0				

Culturally and Linguistically Diverse Population							
Indicator	Measures	Geography	Description	Source			
Born overseas and report poor proficiency in English	Count; %	LGA	People aged 5 years and over who were born overseas and report poor proficiency in English are represented on the map as a proportion of the total population.	Based on Public Health Information Development Unit (PHIDU), Torrens University Australia material from: Social Health Atlas of Australia: Data by Local Government Area (online) 2021. Accessed 16th August 2021 at https://phidu.torrens.edu.au/social-health-atlases/data#social-health-atlases-of-australia-local-government-areas . CC BY-NC-SA 3.0 AU			
			Note: Poor proficiency is defined as speaking English 'not well' or 'not at all'. Based on the Census of Housing and Population 2016				



Health behaviours

Prevalence of specific health behaviours

Data on the prevalence of specific health behaviours, published by Queensland Health Queensland Survey Analytic System, are displayed on the map. This dataset is based on self-reported data through the Queensland Health Preventive Health Surveys. Each year, Queensland Health conducts telephone surveys with 12,500 adults and the parents of 2,500 children aged 5 through 17 years. Surveys focus on key preventive health indicators such as obesity, adult smoking, physical activity, nutrition, sunburn and sun protection, and adult alcohol consumption. Modelled prevalence estimates for 2019 and 2020 pooled, or 2018 and 2019 pooled, are displayed unmodified in these layers of the map.

Note: Further details about the survey and methods used are available at https://www.health.qld.gov.au/research-reports/population-health/preventive-health-surveys/about#documentation. In some areas, contiguous LGAs were combined to achieve sufficient numbers of participants for reporting. An aggregated area in the project region is labelled as *Combined LGAs in North West HHS* and consists of Burke (S), Carpentaria (S), Cloncurry (S), Doomadgee (S), McKinlay (S), Mornington (S) LGAs.

Indicator	Measures	Geography	Description	Source
Daily smoking	Count; %	LGA	Smoking, daily smoker, persons aged 18+	Collated by the IHCP-NQ Project team based on: Queensland Health. Queensland survey analytic system (QSAS),
Sufficient fruit intake	Count; %	LGA	Nutrition, sufficient daily fruit intake, persons aged 18+	Detailed regional LGA data, accessed 3rd August 2021. Available from: www.health.qld.gov.au/phsurvey.cc CC BY 3.0 AU
Sufficient vegetable intake	Count; %	LGA	Nutrition, Sufficient daily vegetable intake, persons aged 18+	Note: "Results from the Queensland adult child preventive health survey were sourced from the Queensland survey
Sufficient physical activity	Count; %	LGA	Physical Activity, Sufficient weekly activity, persons aged 18+	analytic system (www.health.qld.gov.au/phsurvey). Reproduction and interpretation of these results was solely the
Risky lifetime drinking	Count; %	LGA	Alcohol, risky lifetime drinking, persons aged 18+	responsibility of the authors and may not reflect the views of the Queensland Department of Health. Official Queensland
Overweight and obesity	Count; %	LGA	BMI, Overweight/Obese, persons aged 18+	statistics are based on annual data whereas regional statistics are based on two combined (pooled) annual surveys. For regional comparisons, comparable state level pooled results
Poor to fair self-rated health	Count; %	LGA	Health and wellbeing, Fair/poor self-rated health, persons aged 18+	were used - these will differ from current official Queensland statistics (available from www.health.qld.gov.au/phsurvey)." Copyright State of Queensland (Queensland Health) 2021



Participation in	n cancer scree	ning		AUSTRALIA
Indicator	Measures	Geography	Description	Source
Bowel cancer	Count; %	SA2	The participation rates of people aged 50 to 74 years in	Collated by the IHCP-NQ Project team based on:
screening			the National Bowel Cancer Screening Program are	AIHW analysis of National Cancer Screening Register
participation			displayed in the map. Data are for 2017-2018.	data (NCSR RDE 23/02/2021).
				Australian Institute of Health and Welfare. Cancer
			Notes:	screening programs: quarterly data. Table 6:
			This indicator measures a 2-year invitation period and	Participation in the National Bowel Cancer Screening
			excludes those who opted off or suspended	Program by SA2, people aged 50–74, 2015–2016 to
			participation. Excluded SA2s: Lamb Range,	2017–2018. Released June 2021. Available from
			Wooroonooran, Mackay Harbour, Cape Conway,	https://www.aihw.gov.au/reports/cancer-
			Aurukun, Palm Island. Further information is available	screening/national-cancer-screening-programs-
			at https://www.aihw.gov.au/reports/cancer-	participation/contents/national-bowel-cancer-
			screening/national-cancer-screening-programs-	screening-program. CC BY 4.0
Dunnat annan	County 0/	SA3	participation/contents/about	Callated by the HICD NO Disject tooks based and
Breast cancer	Count; %	SAS	The participation rates of people aged 50 to 74 years in	Collated by the IHCP-NQ Project team based on:
screening participation			the BreastScreen Australia program are displayed on the map. Data are for the two period 2018/2019.	AIHW analysis of state and territory BreastScreen register data.
participation			Participation rate refers to the proportion of women	Australian Institute of Health and Welfare. Cancer
			aged 50–74 who are screened in a 2-year period.	screening programs: quarterly data. Table 12a.
			aged 30 74 who are screened in a 2 year period.	Participation in the BreastScreen Australia by SA3
			Notes:	and age group, 2016-17 to 2018-19. Released June
			Cairns-North not published because of small numbers,	2021. Available from
			confidentiality or other concerns about the quality of	https://www.aihw.gov.au/reports/cancer-
			the data. Data for 2018–2019 are preliminary and	screening/national-cancer-screening-programs-
			subject to change. Further information is available at	participation/contents/breastscreen-australia. CC BY
			https://www.aihw.gov.au/reports/cancer-	4.0
			screening/national-cancer-screening-programs-	
			participation/contents/about	



Participation in cancer screening					
Indicator Cervical cancer screening participation	Measures Count; %	Geography SA3	Description The participation rates of females aged 25 to 74 years in the National Cervical Screening Program are displayed on the map. Data are for 2018-2019. Notes: Cairns-North not published because of small numbers, confidentiality or other concerns about the quality of the data. These data are considered preliminary and	Source Collated by the IHCP-NQ Project team based on: AIHW analysis of National Cancer Screening Register data (NCSR RDE 25/09/2020). Australian Institute of Health and Welfare. Cancer screening programs: quarterly data. Table 16a: Participation in the National Cervical Screening Program by SA3 and age group, 2018–2019. Released June 2021. Available from	
			subject to change. Further information is available at https://www.aihw.gov.au/reports/cancer-screening-programs-participation/contents/about	https://www.aihw.gov.au/reports/cancer- screening/national-cancer-screening-programs- participation/contents/national-cervical-screening- program. CC BY 4.0	

Childhood immunisation coverage					
Indicator	Measures	Geography	Description	Source	
Children who have had all vaccines recommended	%	SA3	Quarterly data on childhood immunisation coverage, available from the Australian Department of Health, are displayed on	Collated by the IHCP-NQ Project team based on:	
for their age (12 to 15 months)			the map. The data shows annualised data on the percentage of children fully immunised, according to the National	Australian Department of Health. Australian Immunisation Register -	
Children who have had all			Immunisation Program Schedule, at age 12 months, 24	Coverage Report, QLD childhood	
vaccines recommended for their age (24 - 27 months)			months and 60 months.	immunisation coverage data by SA3 September 2021 annualised data – all children. Downloaded 19th	



Childhood immunisation coverage					
Indicator	Measures	Geography	Description	Source	
Children who have had all vaccines recommended for their age (60 to 63 months)			Immunisation coverage is the percentage of children who have had all the recommended vaccines for their age. In Australia, the national aspirational target is 95% coverage. Notes: Rolling four quarters of coverage data: December 2020, March 2021, June 2021 and September 2021 (01 October 2020 - 30 September 2021).	January 2022. Available from https://www.health.gov.au/resources/publications/qld-childhood-immunisation-coverage-data-by-sa3	

Smoking during pregnancy						
Indicator Smoking during pregnancy	Measures Count; %	Geography HHS	Description The proportion of pregnant females who report tobacco smoking at any time during pregnancy is displayed on the map. Notes: Smoking during pregnancy refers to self-reported smoking at any point in the pregnancy. Pregnant females with unknown smoking status (average n=21 per year for all HHS combined) were excluded in the denominator. HHS relates to the HHS of usual residence.	Source Collated by the IHCP-NQ Project team based on: Statistical Reporting and Coordination, Statistical Services Branch, Queensland Health. Table 9) Total mothers by calendar year, HHS of mother's usual residence and mother's smoking status (at any time during pregnancy), for mothers who are usual residents in Torres & Cape, Cairns and Hinterland, North West, Townsville or Mackay HHSs, 2010-2020 p. Unpublished data provided at request. Created 3rd November 2021. Data are sourced from the Queensland Perinatal Data Collection (QPDC).		



Antenatal visits	Antenatal visits						
Indicator	Measures	Geography	Description	Source			
8 or more antenatal visits	Count; %	HHS	The proportion of pregnant females who attended 8 or more antenatal care visits is displayed on the map. Notes: Pregnant females with unknown antenatal visits (average n=9 per year for all HHS combined) were excluded in the denominator. HHS relates to the HHS of usual residence.	Collated by the IHCP-NQ Project team based on: Statistical Reporting and Coordination, Statistical Services Branch, Queensland Health. Table 10) Total mothers by calendar year, HHS of mother's usual residence and total antenatal visits, for mothers who are usual residents in Torres & Cape, Cairns and Hinterland, North West, Townsville or Mackay HHSs, 2010-2020 p. Unpublished data provided at request. Created 3rd November 2021. Data are sourced from the Queensland Perinatal Data Collection (QPDC).			

Health status

Incidence of cancer						
Indicator	Measures	Geography	Description	Source		
All cancers	Count; Crude	HHS	The incidence of specific cancers is	Collated by the IHCP-NQ Project team based on: Queensland Health. The Health of Queenslanders 2020.		
Breast cancer	rate; Age- standardised		represented on the map as an agestandardised rate.	Report of the Chief Health Officer Queensland. Queensland		
Prostate cancer	rate		<i>Notes:</i> The incidence of cancer cases is the average number of incident cases per year	Government. Brisbane 2020. Released November 2020. Available from https://www.health.qld.gov.au/research-		
Melanoma	-		(2015-2017). The ASR is the age	reports/reports/public-health/cho-report/current/data. CC BY 3.0 AU		
Colorectal cancer			standardised rate (per 100,000 persons) standardised to Australian population 2001.	Copyright State of Queensland (Queensland Health) 2020		
Lung cancer						
Cervical cancer						



Indicator	Measures	Geography	Description	Source	
Diabetes mellitus	Count; %	SA2	Modelled small area estimates published by the Australian Bureau of Statistics on the prevalence of diabetes mellitus, asthma and three or more chronic conditions are displayed on the map. Estimates of the prevalence are based on self-reported data in the National Health Survey (2017/2018). For more information, see https://www.abs.gov.au/statistics/health/health-conditions-and-	Collated by the IHCP-NQ Project team based on: Australian Bureau of Statistics. National Health Survey: Small Area Estimates, 2017–18 — Australia: Table 33.2 Diabetes	
Asthma			risks/national-health-survey-first-results/latest-release#about-the-national-health-survey. Selected notes from the Australian Bureau of Statistics: SA2s with the following criteria were excluded from the modelled estimates:	tional-health-survey. **Released 17th April 20 Downloaded 29th Aug Available from https://www.abs.gov.as/health/health-condit	mellitus by selected age groups. Released 17th April 2020. Downloaded 29th August 2021. Available from https://www.abs.gov.au/statistis/health/health-conditions-and-
Three or more chronic conditions			 - SA2s with more than 20% of their population classified as very remote or discrete Aboriginal and Torres Strait Islander communities; - SA2s with an adjusted ERP of zero residents; - SA2s with zero usual residents in the 2016 Census 	risks/national-health-survey-firs results/latest-release CC BY 4.0	



Prevalence of certa	ain conditio	ns		
All types of diabetes (NDSS)	Count; %	LGA	The estimated prevalence of diabetes (all types aggregated) available from Diabetes Australia is displayed on the map. The data displayed show the proportion of people (in an LGA) with diabetes registered on the NDSS as at 31st December 2021. Type 1, Type 2, Gestational and other types of diabetes are included in the count. This data gives an indication of the prevalence of diabetes in the region. The data are derived from the Registrant database of the Australian Government initiative - the National Diabetes Services Scheme (NDSS) initiated in 1987. The NDSS subsidises the supply of diabetes-related services and products to people who are registered with the scheme. Registration with the scheme requires certification of a diagnosis of diabetes from a doctor, nurse or credentialed diabetes educator.	Collated by the IHCP-NQ Project team based on: Diabetes Australia. Australian Diabetes Map. Accessed on 2nd February 2022. Available from https://www.ndss.com.au/about-the-ndss/diabetes-facts-and-figures/australian-diabetes-map/
			Selected notes from Diabetes Australia: Data suppression rules have been applied to manage the risk of identifying an individual person with diabetes by using the Diabetes Map. The count/percentage of NDSS registrants are not available if: The count of registrants for the selected data view and area is 20 or less, OR; The population of the selected area is less than 100. Additionally, all counts of registrants are rounded to the nearest 10 to prevent the derivation of small counts from remaining counts. The map reflects diabetes prevalence rates at the national, federal, state electorate, local government, primary health network, and postcode levels based on NDSS data and ABS 2016 Census population projections.	



Indicator	Measures	Geography	Description	Source
Selected long-term health conditions	Count; %	LGA; SA2	Data about selected long term health conditions in a population (total population and broad age groups) have been displayed on the map as a proportion of each age group with one or more long term health condition. The proportion of a population with long term health conditions has been calculated by the project team based on the Census dataset. Population denominator uses the total population (i.e. includes persons who did not state an answer to the Census question). Notes: (a) Measures the number of people who reported that they have been told by a doctor or nurse that they have one or more of the following selected long-term health conditions: arthritis, asthma, cancer (including remission), dementia (including Alzheimer's), diabetes (excluding gestational diabetes), heart disease (including heart attack or angina), kidney disease, lung condition (including COPD or emphysema), mental health condition (including depression or anxiety) and stroke. Please note that the ABS makes small random adjustments to all cell values to protect the confidentiality of data. These adjustments also affect totals. Interpret with caution for indicators with small numbers.	Collated by the IHCP-NQ Project team based on: Australian Bureau of Statistics, 2021 Census General Community Profile, Table G20 Count of selected long-term health conditions by age by sex, Available from https://www.abs.gov.au/census/find-census-data/community-profiles/2021/3 CC BY 4.0



Mortality				
Indicator	Measures	Geography	Description	Source
All cause mortality	Count; Crude rate; Age-standardised rate; Median age	LGA	The crude rate of all causes mortality for the year 2019 (year of registration of death), published by the Australian Institute of Health Welfare, are displayed on the map. Selected notes from AIHW: LGA relates to area of usual residence. Death data are not presented for LGAs with less than 20 deaths in a single year. Age-standardised rate (per 100,000): Age-standardised rates are directly standardised to the Australian estimated resident population at 30 June 2001. Rates are expressed as deaths per 100,000 persons for each geographic area. Crude rate (per 100,000): Number of deaths due to all causes per 100,000 population. Rates are calculated using the estimated resident population at 30 June for each year. Rates are expressed as deaths per 100,000 persons for each geographic area. Median age at death (years): The age at which exactly half the deaths are deaths of people above that age and half are deaths below that age. Median age at death is calculated based on the age at death in single years. Infants (aged under 1) are treated as aged 0 years. For more information see https://www.aihw.gov.au/reports/life-expectancy-death/mort-books/contents/about	Collated by the IHCP-NQ Project team based on: AIHW (Australian Institute of Health and Welfare) 2021. MORT (Mortality Over Regions and Time) books: Local Government Area (LGA), 2015–2019. Table 1: All cause deaths by sex and year, 2015-2019. Canberra: AIHW. Available from https://www.aihw.gov.au/reports/life-expectancy-death/mort-books/contents/mort-books CC BY 4.0



Potentially avoidable	Count; %;	LGA	Potentially avoidable deaths are represented on the map	Collated by the IHCP-NQ Project team
deaths	Age-	25/1	as a proportion of all premature deaths. Data are for all	based on:
	standardised rate		causes mortality for the year 2019 (year of registration of death).	AIHW (Australian Institute of Health and Welfare) 2021. MORT (Mortality Over
			Selected notes from the data source (AIHW): LGA relates to area of usual residence. Death data are not presented for LGA with less than 20 deaths in a single year.	Regions and Time) books: Local Government Area (LGA), 2015–2019. Table 1: All cause deaths by sex and year, 2015-
			Potentially avoidable deaths (PAD): Measure of health system performance. Deaths among people aged under 75 that are avoidable in the context of the present health care system. PADs include deaths from conditions that are potentially preventable through individualised care and/or treatable through existing primary or hospital care. PADs are classified using nationally agreed definitions (AIHW 2021. National Healthcare Agreement: PI 16–Potentially avoidable deaths, 2021. Viewed 1 April 2021, https://meteor.aihw.gov.au/content/index.phtml/itemId/725797).	2019. Canberra: AIHW. Available from https://www.aihw.gov.au/reports/life-expectancy-death/mort-books/contents/mort-books CC BY 4.0
			PAD (% of premature deaths): Potentially avoidable deaths as a proportion of all premature deaths.	
			PAD age-standardised rate (per 100,000): Number of potentially avoidable deaths due to all causes per 100,000 population aged under 75. Age-standardised rates are directly standardised to the Australian estimated resident population at 30 June 2001. Rates are expressed as deaths per 100,000 persons aged under 75 for each geographic area.	
			For more information see https://www.aihw.gov.au/reports/life-expectancy-death/mort-books/contents/	



Mortality					
Potential Years of Life Lost (Under 75 rate)	Person- Years; Crude rate	LGA	Potential Years of Life Lost (PYLL) are represented on the map as a rate in person-years per 1,000 people. Data are for all causes mortality for the year 2019 (year of registration of death). Selected notes from the data source (AIHW): Summary measure of premature deaths. PYLL represents the total number of years not lived by an individual before an arbitrary upper limit to life, in this workbook age 75. For example, if dying before the age of 75 is considered premature then a person dying at age 40 would have lost 35 person-years of potential life lost.	Collated by the IHCP-NQ Project team based on: AIHW (Australian Institute of Health and Welfare) 2021. MORT (Mortality Over Regions and Time) books: Local Government Area (LGA), 2015–2019. Table 1: All cause deaths by sex and year, 2015-2019. Canberra: AIHW. Available from https://www.aihw.gov.au/reports/life-expectancy-death/mort-books/contents/mort-books CC BY 4.0	
			PYLL under 75 rate (per 1,000): Rates are calculated using the sum of estimated resident populations at 30 June for 2019. Rates are expressed as person-years per 1,000 persons for each geographic area.		
Suicide	Count; Age- standardised rate	SA3	Suicide rates for the period 2016-2020, available from the Australian Institute of Health and Welfare, are represented on the map as age-standardised rates. Selected notes from AIHW: Age-standardised rates are per 100,000 population. Statistical Area Level 3 data relate to place of usual residence. Deaths are counted according to year of registration of death, not necessarily the year in which the death occurred and have been summed for the 5 year period; 2016 to 2020. For more information see https://www.aihw.gov.au/suicide-self-harm-monitoring	Collated by the IHCP-NQ Project team based on: Australian Institute of Health and Welfare. Suicide and self-harm monitoring. National mortality database - Suicide (ICD-10 X60-X64, Y87.0). Table NMD S11: Agestandardised suicide rate by year of registration of death, Statistical Area 3, 2016-2020. Available from https://www.aihw.gov.au/suicide-self-harm-monitoring/data/suicide-self-harm-monitoring-data . CC BY 4.0	



Self-harm	Self-harm					
Indicator	Measures	Geography	Description	Source		
Intentional self-harm hospitalisations - females Intentional self-harm hospitalisations - males	Count; Crude rate	SA3	Crude rates of hospitalisation of males and females for intentional self-harm, available from the Australian Institute of Health and Welfare, are displayed on the map. Selected notes from AIHW: Statistical Area Level 3 data relate to place of usual residence. All data for an area were suppressed (marked n.p.) if the number of hospitalisations was less than 5, percentages where n<5, crude rate where the numerator was <10 or denominator was less than 100, or where the numerator was <20 or denominator of any age group was <30 when reporting age-standardised rates. Consequential suppression was applied to manage confidentiality, which is the process of suppressing information which, whilst not necessarily confidential, may be used to derive confidential data. Rates based on low numbers of events and/or very small populations are more susceptible to random fluctuations and therefore may not provide a reliable representation of activity in that area. For this reason, results for some areas were suppressed. Rates (hospitalisations per 100,000 population) were not reported if the number of hospitalisations in an area was less than 2,500. For more information see https://www.aihw.gov.au/suicide-self-harm-monitoring	Collated by the IHCP-NQ Project team based on: Australian Institute of Health and Welfare. Suicide and self-harm monitoring. National Hospital mortality database. Table NHMD S9: Intentional self-harm hospitalisations, by Statistical Area 3 (SA3) and sex, 2019–20. Available from https://www.aihw.gov.au/suicide-self-harm-monitoring/data/suicide-self-harm-monitoring-data CC BY 4.0		



Perinatal						
Indicator	Measures	Geography	Description	Source		
Pre-term births	Count; %	HHS	The proportion of pre-term births (less than 37 weeks gestation) is displayed on the map.	Collated by the IHCP-NQ Project team based on: Statistical Reporting and Coordination, Statistical Services Branch, Queensland Health. Unpublished data provided at		
High birthweight		b o N (i w b n N (i w b m k b m k b m k b m	The proportion of births with a high birthweight (4,500g or more) is displayed on the map. NOTES: Births with unknown weight (average n=2 per year for all HHS combined) were excluded in the denominator (total births). HHS relates to the HHS of mother's usual residence.	request. Created 3rd November 2021. - Table 11) Total births by calendar year, HHS of mother's usual residence and gestation, for mothers who are usual residents in Torres & Cape, Cairns and Hinterland, North West, Townsville or Mackay HHSs, 2010-2020 p. - Table 12) Total births by calendar year, HHS of mother's usual residence and birthweight, for mothers		
Low birthweight			The proportion of births with a low birthweight (<2,500g) is displayed on the map. NOTES: Births with unknown weight (average n=2 per year for all HHS combined) were excluded in the denominator (total births). HHS relates to the HHS of mother's usual residence.	who are usual residents in Torres & Cape, Cairns and Hinterland, North West, Townsville or Mackay HHSs, 2010-2020 p. Data are sourced from the Queensland Perinatal Data Collection (QPDC).		



Health Workforce

Aboriginal and	Aboriginal and Torres Strait Islander Workforce					
Indicator	Measures	Geography	Description	Source		
Aboriginal and Torres Strait Islander Practitioners	Count; FTE	LGA; SA3	Aboriginal and Torres Strait Islander Practitioners, who were employed in Australia and working in their registered profession as clinicians in 2020, are represented on the map as Count and FTE. Notes: Aboriginal and Torres Strait Islander Health Practitioners are registered healthcare practitioners who provide clinical services and patient care with a focus on culturally safe practice for Aboriginal and Torres Strait Islander people. They work collaboratively within multidisciplinary healthcare teams to achieve better health outcomes for Aboriginal and Torres Strait Islander people and communities, and play a key role in facilitating relationships between Aboriginal and Torres Strait Islander patients and other health practitioners. To gain registration, practitioners must complete a minimum 12-month Certificate IV program of study approved by the Aboriginal and Torres Strait Islander Health Practice Board of Australia. (Department of Health https://hwd.health.gov.au/resources/publications/factsheet -alld-atsi-health-practitioners-2019.pdf) Data for Mapoon (S) is not available in the National Health Workforce Dataset. Additionally, data have been suppressed (in the original dataset) for counts or FTE equivalent to 3 or less.	Collated by the IHCP-NQ Project team based on: Workforce data: National Health Workforce Dataset, Aboriginal and Torres Strait Islander Practitioner (employed in Australia and working in registered profession; Clinician); 2013-2020, downloaded on 17 November 2021 at https://hwd.health.gov.au/datatool/ . - LGA 2018 by year, Count and FTE - ASGS 2016 SA3 by year, Count and FTE		



Aboriginal and	Aboriginal and Torres Strait Islander Workforce				
Clinicians identifying as Aboriginal and Torres Strait Islander	Count; FTE	LGA; SA3	Health professionals who identified as Aboriginal and Torres Strait Islander, who were employed in Australia and working in their registered profession as clinicians in 2020, are represented on the map as Count. Health professionals include: Aboriginal and Torres Strait Islander Health Practitioners, Dental Practitioners, Medical Practitioners, Medical Radiation Practitioners, Nurses and Midwives, Occupational Therapists, Optometrists, Pharmacists, Physiotherapists, Podiatrists, Paramedicine Practitioners and Psychologists. Notes: Data for Mapoon (S) is not available in the National Health Workforce Dataset.	Collated by the IHCP-NQ Project team based on: Workforce data: National Health Workforce Dataset, Practitioners who identified as Aboriginal and Torres Strait Islander as defined by 'Indigenous and Australian born' (employed in Australia and working in registered profession; Clinician); 2013-2020, downloaded on 17 November 2021 at https://hwd.health.gov.au/datatool/ . - LGA 2018 by year, Count and FTE - ASGS 2016 SA3 by year, Count and FTE	



Dentists

Definition as per Australian Government Department of Health Fact Sheet (https://hwd.health.gov.au/resources/publications/factsheet-alld-dentists-2019.pdf)
Dentists are registered healthcare practitioners who may practise all parts of dentistry within their competency and training. They provide assessment, diagnosis, treatment, management and preventive services to patients of all ages. To gain registration as a dentist, a practitioner must complete a minimum four year undergraduate, or four year postgraduate master program of study approved by the Dental Board of Australia. Further training is required for specialisation.

Indicator	Measures	Geography	Description	Source
Dentists	Count; FTE; FTE/10,000	LGA; SA3	Dentists, who were employed in Australia and working in their registered profession as clinicians in 2020, are represented on the map by Count and FTE/10,000 population.	Collated by the IHCP-NQ Project team based on: Workforce data: National Health Workforce Dataset, Dentists (employed in Australia and working in registered profession; Clinician); 2013-2020, downloaded on 17 November 2021 at https://hwd.health.gov.au/datatool/ .
			Notes: Data for Mapoon (S) is not available in the National Health Workforce Dataset. Additionally, data have been suppressed (in the original dataset) for counts or FTE equivalent to 3 or less.	 LGA 2018 by year, Count and FTE ASGS 2016 SA3 by year, Count and FTE Estimated resident population: Australian Bureau of Statistics. Population estimates, 2001 to 2020, in GeoPackage. Available from https://www.abs.gov.au/statistics/people/population/regional-population/latest-release#data-download



General practitioners							
Indicator	Measures	Geography	Description	Source			
General practitioners	Count; FTE; FTE/10,000	LGA; SA3	General Practitioners, who were employed in Australia and working in their registered profession as clinicians in 2020, are represented on the map by Count and FTE/10,000 population. The data include Vocational and Non-Vocational General Practitioners. Notes: Data for Mapoon (S) is not available in the National Health Workforce Dataset. Additionally, data have been suppressed (in the original dataset) for counts or FTE equivalent to 3 or less.	Collated by the IHCP-NQ Project team based on: Workforce data: National Health Workforce Dataset, General practitioner (employed in Australia and working in registered profession; Clinician) Vocational and Non Vocational as defined by "Job Area"; 2013-2020, downloaded on 17 November 2021 at https://hwd.health.gov.au/datatool/ . - LGA 2018 by year, Count and FTE - ASGS 2016 SA3 by year, Count and FTE Estimated resident population: Australian Bureau of Statistics. Population estimates, 2001 to 2020, in GeoPackage. Available from https://www.abs.gov.au/statistics/people/population/regional-population/latest-release#data-download			



Medical Radiation Practitioners

Definition as per Australian Government Department of Health Fact Sheet (https://hwd.health.gov.au/resources/publications/factsheet-alld-medical-radiation-2019.pdf):

Medical radiation practitioners are registered healthcare practitioners who perform diagnostic imaging studies on patients, plan and administer radiation treatments, or prepare and administer nuclear medicine.

There are three divisions of practice for medical radiation practitioners: nuclear medicine technology, radiation therapy and diagnostic radiography.

To gain registration, medical radiation practitioners must complete a minimum three-year undergraduate, or two-year postgraduate Master program of study approved by the Medical Radiation Practice Board of Australia.

Indicator	Measures	Geography	Description	Source
Medical radiation practitioners	Count; FTE; FTE/10,000	LGA; SA3	Medical Radiation Practitioners, who were employed in Australia and working in their registered profession as clinicians in 2020, are represented on the map by Count and FTE/10,000 population. Notes: Data for Mapoon (S) is not available in the National Health Workforce Dataset. Additionally, data have been suppressed (in the original dataset) for counts or FTE equivalent to 3 or less.	Collated by the IHCP-NQ Project team based on: Workforce data: National Health Workforce Dataset, Medical Radiation Practitioner (employed in Australia and working in registered profession; Clinician); 2013-2020, downloaded on 17 November 2021 at https://hwd.health.gov.au/datatool/ . - LGA 2018 by year, Count and FTE - ASGS 2016 SA3 by year, Count and FTE Estimated resident population: Australian Bureau of Statistics. Population estimates, 2001 to 2020, in GeoPackage. Available from https://www.abs.gov.au/statistics/people/population/regional-population/latest-release#data-download



Nurses

Definition as per Australian Government Department of Health Fact Sheet (https://hwd.health.gov.au/resources/publications/factsheet-nrmw-2019.html)
All nurses and midwives must be registered with the Nursing and Midwifery Board of Australia (NMBA) and meet the NMBA's registration standards in order to practise in Australia. There are three divisions of registration: Registered Nurse (RN), Midwife and Enrolled Nurse (EN).

Eligible practitioners may register in one or multiple divisions. Those who are registered as both a nurse and midwife are considered to hold dual registration.

Indicator	Measures	Geography	Description	Source
Nurses and midwives	Count; FTE; FTE/10,000	LGA; SA3	Nurses and midwives, who were employed in Australia and working in their registered profession as clinicians in 2020, are represented on the map by Count and FTE/10,000 population. Notes: Data for Mapoon (S) is not available in the National Health Workforce Dataset. Additionally, data have been suppressed (in the original dataset) for counts or FTE equivalent to 3 or less.	Collated by the IHCP-NQ Project team based on: Workforce data: National Health Workforce Dataset, Nurses and midwives (employed in Australia and working in registered profession; Clinician); 2013-2020, downloaded on 17 November 2021 at https://hwd.health.gov.au/datatool/ . - LGA 2018 by year, Count and FTE - ASGS 2016 SA3 by year, Count and FTE Estimated resident population: Australian Bureau of Statistics. Population estimates, 2001 to 2020, in GeoPackage. Available from https://www.abs.gov.au/statistics/people/population/regional-population/latest-release#data-download
Midwifery workforce	Count; FTE; FTE/10,000	LGA; SA3	Midwifery workforce, who were employed in Australia and working in their registered profession as clinicians in 2020, are represented on the map by Count and FTE/10,000 population. Notes: Midwifery workforce consists of data for 'Registered Nurse and Midwife' plus 'Midwife only'. Data for Mapoon (S) is not available in the National Health Workforce Dataset. Additionally, data have been suppressed (in the original dataset) for counts or FTE equivalent to 3 or less.	Collated by the IHCP-NQ Project team based on: Workforce data: National Health Workforce Dataset, Midwifery workforce (employed in Australia and working in registered profession; 'Registered Nurse and Midwife' plus 'Midwife only'; Clinician); 2013-2020, downloaded on 17 November 2021 at https://hwd.health.gov.au/datatool/ . - LGA 2018 by year, Count and FTE - ASGS 2016 SA3 by year, Count and FTE Estimated resident population: Australian Bureau of Statistics. Population estimates, 2001 to 2020, in GeoPackage. Available from https://www.abs.gov.au/statistics/people/population/regional-population/latest-release#data-download



Occupational Therapists

Definition as per Australian Government Department of Health Fact Sheet (https://hwd.health.gov.au/resources/publications/factsheet-alld-occupational-therapists-2019.pdf)

Occupational therapists are registered health practitioners who work with people to improve their health and wellbeing, with a focus on physical and mental health that may be related to a person's injury or illness, or to an accident or developmental impairment. The primary goal of occupational therapy is to enable people to participate in everyday life. To gain registration as an occupational therapist, practitioners must complete a minimum four-year undergraduate, or two-year postgraduate Master program of study approved by the Occupational Therapy Board of Australia

Indicator	Measures	Geography	Description	Source
Occupational therapists	Count; FTE; FTE/10,000	LGA; SA3	Occupational Therapists, who were employed in Australia and working in their registered profession as clinicians in 2020, are represented on the map by Count and FTE/10,000 population. Notes: Data for Mapoon (S) is not available in the National Health Workforce Dataset. Additionally, data have been suppressed (in the original dataset) for counts or FTE equivalent to 3 or less.	Collated by the IHCP-NQ Project team based on: Workforce data: National Health Workforce Dataset, Occupational Therapists (employed in Australia and working in registered profession; Clinician); 2013-2020, downloaded on 17 November 2021 at https://hwd.health.gov.au/datatool/ . - LGA 2018 by year, Count and FTE - ASGS 2016 SA3 by year, Count and FTE Estimated resident population: Australian Bureau of Statistics. Population estimates, 2001 to 2020, in GeoPackage. Available from https://www.abs.gov.au/statistics/people/population/regional-population/latest-release#data-download



Optometrists

Definition as per Australian Government Department of Health Fact Sheet (https://hwd.health.gov.au/resources/publications/factsheet-alld-optometrists-2019.pdf)

Optometrists are registered healthcare practitioners trained to diagnose vision problems, prescribe optical appliances, and treat a range of eye conditions. To gain registration as an optometrist, practitioners must complete a five year undergraduate, a five year combined undergraduate/Masters (or 3.5 year accelerated program), or a four-year Master program of study approved by the Optometry Board of Australia.

Indicator	Measures	Geography	Description	Source
Optometrists	Count; FTE; FTE/10,000	LGA; SA3	Optometrists, who were employed in Australia and working in their registered profession as clinicians in 2020, are represented on the map by Count and FTE/10,000 population. Notes: Data for Mapoon (S) is not available in the National Health Workforce Dataset. Additionally, data have been suppressed (in the original dataset) for counts or FTE equivalent to 3 or less.	Collated by the IHCP-NQ Project team based on: Workforce data: National Health Workforce Dataset, Optometrists (employed in Australia and working in registered profession; Clinician); 2013-2020, downloaded on 17 November 2021 at https://hwd.health.gov.au/datatool/ . - LGA 2018 by year, Count and FTE - ASGS 2016 SA3 by year, Count and FTE Estimated resident population: Australian Bureau of Statistics. Population estimates, 2001 to 2020, in GeoPackage. Available from https://www.abs.gov.au/statistics/people/population/regional-population/latest-release#data-download



Paramedicine Practitioners

Definition as per Australian Government Department of Health Fact Sheet (https://hwd.health.gov.au/resources/publications/factsheet-alld-paramedical-2019.pdf)

Paramedics are registered health practitioners who provide emergency or unscheduled care to acutely ill or injured persons, predominantly in an out of hospital or primary care environment. This may involve autonomous practice, complex patient assessments and delivery of treatment which may include the administration of scheduled medicines.

To gain registration as paramedic, practitioners must either:

- 1. complete a minimum three year bachelor degree or 1 year graduate diploma approved by the Board;
- 2. hold a qualification issued by the Ambulance Service of New South Wales and accepted by the Board;
- 3. hold a qualification the Board considered to be substantially equivalent to those it has approved; or
- 4. satisfy one of the following three time-limited 'grandparenting' pathways described in the National Law and assessed by the Board:
- a. hold a qualification or have completed training that the Board considers adequate;
- b. hold a qualification or have completed training in paramedicine and have also completed further study, training or supervised practice required by the Board;
- c. have completed five years of practice over the past 10 years and satisfy the Board that you are competent to practise paramedicine

Indicator	Measures	Geography	Description	Source
Paramedicine practitioners	Count; FTE; FTE/10,000	LGA; SA3	Paramedicine Practitioners, who were employed in Australia and working in their registered profession as clinicians in 2020, are represented on the map by Count and FTE/10,000 population. Notes: Data for Mapoon (S) is not available in the National Health Workforce Dataset. Additionally, data have been suppressed (in the original dataset) for counts or FTE equivalent to 3 or less.	Collated by the IHCP-NQ Project team based on: Workforce data: National Health Workforce Dataset, Paramedicine Practitioners (employed in Australia and working in registered profession; Clinician); 2013-2020, downloaded on 17 November 2021 at https://hwd.health.gov.au/datatool/ . - LGA 2018 by year, Count and FTE - ASGS 2016 SA3 by year, Count and FTE Estimated resident population: Australian Bureau of Statistics. Population estimates, 2001 to 2020, in GeoPackage. Available from https://www.abs.gov.au/statistics/people/population/regional-population/latest-release#data-download



Pharmacists

Definition as per Australian Government Department of Health Fact Sheet (https://hwd.health.gov.au/resources/publications/factsheet-alld-pharmacists-2019.pdf)

Pharmacists are registered healthcare practitioners who prepare and dispense medicines, consult with patients and other practitioners on drug selection and administration, and work in the research, development and manufacture of medicines. In a community setting, pharmacists also advise patients on over the counter medicines and medical aids (such as blood glucose monitoring equipment). To gain registration as a pharmacist, practitioners must complete must complete a minimum four-year undergraduate, or two-year postgraduate Master program of study approved by the Pharmacy Board of Australia.

Indicator	Measures	Geography	Description	Source
Pharmacists	Count; FTE; FTE/10,000	LGA; SA3	Pharmacists, who were employed in Australia and working in their registered profession as clinicians in 2020, are represented on the map by Count and FTE/10,000 population. Notes: Data for Mapoon (S) is not available in the National Health Workforce Dataset. Additionally, data have been suppressed (in the original dataset) for counts or FTE equivalent to 3 or less.	Collated by the IHCP-NQ Project team based on: Workforce data: National Health Workforce Dataset, Pharmacists (employed in Australia and working in registered profession; Clinician); 2013-2020, downloaded on 17 November 2021 at https://hwd.health.gov.au/datatool/ . - LGA 2018 by year, Count and FTE - ASGS 2016 SA3 by year, Count and FTE Estimated resident population: Australian Bureau of Statistics. Population estimates, 2001 to 2020, in GeoPackage. Available from https://www.abs.gov.au/statistics/people/population/regional-population/latest-release#data-download



Physiotherapists

Definition as per Australian Government Department of Health Fact Sheet (https://hwd.health.gov.au/resources/publications/factsheet-alld-physiotherapists-2019.pdf)

Physiotherapists are registered healthcare practitioners whose focus is on structure and movement of the human body. They work with people of all ages to improve physical mobility and movement related to sports injuries, general musculoskeletal conditions neurological and respiratory conditions. They work across the spectrum from health prevention, acute and rehabilitation. To gain registration as a physiotherapist, practitioners must complete a minimum four-year undergraduate or two-year postgraduate Master program of study approved by the Physiotherapy Board of Australia.

Indicator	Measures	Geography	Description	Source
Physiotherapists	Count; FTE; FTE/10,000	LGA; SA3	Physiotherapists, who were employed in Australia and working in their registered profession as clinicians in 2020, are represented on the map by Count and FTE/10,000 population. Notes: Data for Mapoon (S) is not available in the National Health Workforce Dataset. Additionally, data have been suppressed (in the original dataset) for counts or FTE equivalent to 3 or less.	Collated by the IHCP-NQ Project team based on: Workforce data: National Health Workforce Dataset, Physiotherapists (employed in Australia and working in registered profession; Clinician); 2013-2020, downloaded on 17 November 2021 at https://hwd.health.gov.au/datatool/. - LGA 2018 by year, Count and FTE - ASGS 2016 SA3 by year, Count and FTE Estimated resident population: Australian Bureau of Statistics. Population estimates, 2001 to 2020, in GeoPackage. Available from https://www.abs.gov.au/statistics/people/population/regional-population/latest-release#data-download



Podiatrists

Definition as per Australian Government Department of Health Fact Sheet (https://hwd.health.gov.au/resources/publications/factsheet-alld-podiatrists-2019.pdf)

Podiatrists are registered healthcare practitioners trained to assess, diagnose and treat foot, ankle, and lower limb problems. Podiatrists treat biomechanical, pain related, and skin conditions as well as assisting in the management of chronic conditions such as poor circulation, and conditions affecting toenails. To gain registration as a podiatrist, practitioners must complete a minimum three year undergraduate or two-year postgraduate Master program of study approved by the Podiatry Board of Australia. Further training is required for the registration in the specialty of podiatric surgery.

Indicator	Measures	Geography	Description	Source
Podiatrists	Count; FTE; FTE/10,000	LGA; SA3	Podiatrists, who were employed in Australia and working in their registered profession as clinicians in 2020, are represented on the map by Count and FTE/10,000 population. Notes: Data for Mapoon (S) is not available in the National Health Workforce Dataset. Additionally, data have been suppressed (in the original dataset) for counts or FTE equivalent to 3 or less.	Collated by the IHCP-NQ Project team based on: Workforce data: National Health Workforce Dataset, Podiatrists (employed in Australia and working in registered profession; Clinician); 2013-2020, downloaded on 17 November 2021 at https://hwd.health.gov.au/datatool/. - LGA 2018 by year, Count and FTE - ASGS 2016 SA3 by year, Count and FTE Estimated resident population: Australian Bureau of Statistics. Population estimates, 2001 to 2020, in GeoPackage. Available from https://www.abs.gov.au/statistics/people/population/regional-population/latest-release#data-download



Psychologists

Definition as per Australian Government Department of Health Fact Sheet (https://hwd.health.gov.au/resources/publications/factsheet-alld-psychologists-2019.pdf)

Psychologists are registered healthcare practitioners trained in human behaviour and study the brain, memory, learning and processes around human development. Psychological treatments can be used to help individuals, families, groups and organisations.

To gain general registration as a psychologist, practitioners must complete a minimum four year program of study approved by the Psychology Board of Australia, followed by two years of further Board approved postgraduate study, supervised practice program and/or internship. Generally registered psychologists can then choose to complete a registrar program leading to an area of practice endorsement.

Indicator	Measures	Geography	Description	Source
Psychologists	Count; FTE; FTE/10,000	LGA; SA3	Psychologists, who were employed in Australia and working in their registered profession as clinicians in 2020, are represented on the map by Count and FTE/10,000 population. Notes: Data for Mapoon (S) is not available in the National Health Workforce Dataset. Additionally, data have been suppressed (in the original dataset) for counts or FTE equivalent to 3 or less.	Collated by the IHCP-NQ Project team based on: Workforce data: National Health Workforce Dataset, Psychologists (employed in Australia and working in registered profession; Clinician); 2013-2020, downloaded on 17 November 2021 at https://hwd.health.gov.au/datatool/ . - LGA 2018 by year, Count and FTE - ASGS 2016 SA3 by year, Count and FTE Estimated resident population: Australian Bureau of Statistics. Population estimates, 2001 to 2020, in GeoPackage. Available from https://www.abs.gov.au/statistics/people/population/regional-population/latest-release#data-download



Health Service Delivery and Utilisation

Facilities		
Indicator	Description	Source
Public health facilities and private hospitals	This dataset was compiled by the JCU IHCP-NQ Project team. The dataset shows public health services classified using the rural and remote health service framework. Urban based public health facilities are not included in the framework but are included with this dataset using terminology deemed appropriate by the project team. Private hospitals are also included with the dataset. Notes: Information about each facility has been appended to the location data. This data is current as of 22nd December 2021. Clinical Services Capability Framework level for the maternity module has been extracted from the most recent self-assessment summaries available for each Hospital and Health Service. For information about Hospital Performance data variables, refer to the Queensland Health Hospital Performance website at http://www.performance.health.qld.g ov.au/.	Collated by the IHCP-NQ Project team based on multiple sources. Location data: Australian Institute of Health and Welfare. MyHospitals mapping details. Data as of: August 17, 2021, version: 2021081701. Available at https://www.aihw.gov.au/reports-data/myhospitals/content/data-downloads Queensland Health. National Health Services DirectoryMap of rural and remote health facilities. Accessed 22nd December 2021. Available at https://www.aihw.gov.au/reports-data/myhospitals/content/data-downloads Healthmap. National Health Services Directory - General Dental Practice. Accessed between 10th and 22nd December 2021. Available at https://healthmap.com.au/ Hospital and Health Service websites in the project region Cairns and Hinterland Hospital and Health Service. Hospitals and health centres. Accessed 22 December 2022. Available at https://cairns-hinterland.health.qld.gov.au/hospitals-and-health-centres Mackay Hospital and Health Service. Your Hospitals. Accessed 22 December 2022. Available at https://www.mackay.health.qld.gov.au/your-hospitals/ North West Hospital and Health Service. Our Facilities Accessed 22 December 2022. Available at https://www.northwest.health.qld.gov.au/our-facilities/ Torres and Cape Hospital and Health Service. Home Page. Accessed 22 December 2022. Available at https://www.health.qld.gov.au/torres-cape Townsville Hospital and Health Service. Townsville Health Services. Accessed 22 December 2022. Available at https://www.townsville.health.qld.gov.au/facilities/townsville/ Central West Health. Locations and Services. Accessed 22 December 2022. Available at https://www.health.qld.gov.au/centralwest/menu/locations-and-services/boulia Clinical and specialised services:



Facilities	Facilities					
Indicator	Description	Source				
Primary health care services	This dataset was compiled by the IHCP-NQ Project team. The	Queensland Government. Inform my care. Accessed between 10th and 22nd December 2021. Available at https://www.informmycare.health.qld.gov.au/hospital				
	dataset includes the location of	Numbers of staff:				
	services providing general primary health care services in the project	Queensland Health (2021). Hospital Performance: Hospitals - Staffing information for end of September 2021. Queensland Government. Accessed 22nd December. Available at http://www.performance.health.qld.gov.au/.				
	region. Private, ACCHO and public	Source for Maternity CSCF level:				
	general practice services are included.	Queensland Health. CSCF public hospitals. Cairns and Hinterland Hospital and Health Service Self-assessment summary. July 2019. Accessed 1st January 2022. Available at https://www.health.qld.gov.au/clinical-practice/guidelines-procedures/service-delivery/cscf/hospitals/public				
		Queensland Health. CSCF public hospitals. Mackay Hospital and Health Service Self-assessment summary. July 2017. Accessed 1st January 2022. Available at https://www.health.qld.gov.au/clinical-practice/guidelines-procedures/service-delivery/cscf/hospitals/public				
		Queensland Health. CSCF public hospitals. North West Hospital and Health Service Self-assessment summary. September 2015. Accessed 1st January 2022. Available at https://www.health.qld.gov.au/clinical-practice/guidelines-procedures/service-delivery/cscf/hospitals/public				
		Queensland Health. CSCF public hospitals. Torres and Cape Hospital and Health Service Self-assessment summary. April 2018. Accessed 1st January 2022. Available at https://www.health.qld.gov.au/clinical-practice/guidelines-procedures/service-delivery/cscf/hospitals/public				
		Queensland Health. CSCF public hospitals. Townsville Hospital and Health Service Self-assessment summary. August 2017. Accessed 1st January 2022. Available at https://www.health.qld.gov.au/clinical-practice/guidelines-procedures/service-delivery/cscf/hospitals/public				
		Central West Health. Locations and Services. Accessed 22 December 2022. Available at https://www.health.qld.gov.au/centralwest/menu/locations-and-services/boulia				



Facilities	Facilities					
Indicator	Description	Source				
Private general practice	This dataset was compiled by the IHCP-NQ Project team. The dataset includes the location of private general practice services in the project region.	Collated by the IHCP-NQ Project team based on multiple sources. Healthmap. National Health Services Directory - General Dental Practice. Accessed between 10th and 22nd December 2021. Available at https://healthmap.com.au/ An internal dataset and the Yellow Pages were used to supplement the Healthmap dataset.				
Aboriginal and Torres Strait Islander Health Services	This dataset was compiled by the IHCP-NQ Project team. The dataset shows the locations for Aboriginal Community Controlled Health Organisations (ACCHO) in the project region.	Location data were also sourced from the websites of ACCHOs in the project regions: Apunipima Cape York Health Council https://www.apunipima.org.au/community-controlled-health-service/ ATSICHS Mackay https://www.atsichsmackay.org/ Gidgee Healing https://gidgeehealing.com/ Girudala Community Cooperative Society Ltd http://girudala.com.au/ Gurriny Yealamucka Health Services https://girudala.com.au/ Mamu Health Service Limited https://www.gyhsac.org.au/ Mudth-Niyleta Aboriginal and Torres Strait Islander Corporation https://www.mudth-niyleta.com/ Mulungu Aboriginal Corporation Primary Health Care Service https://www.mudth-niyleta.com/ NPA Family and Community Services https://www.npaws.com.au/ Wuchopperen Health Service https://www.npaws.com.au/ Townsville Aboriginal and Islander Health Service https://www.taihs.net.au/				



Facilities		AUSTRALIA
Indicator	Description	Source
Dental services	This dataset was compiled by the Collated by the IHCP-NQ Project team based on multiple sources.	
	region.	Torres and Cape Hospital and Health Service. Home Page. Accessed 22 December 2022. Available at https://www.health.qld.gov.au/torres-cape Townsville Hospital and Health Service. Oral Health Services. Accessed 22 December 2022. Available at https://www.townsville.health.qld.gov.au/services/oral-health-services/ Location data were sourced from the websites of ACCHO in the project regions as outlined in the ACCHO source section.
Aged care services	The locations of residential aged care facilities and organisations providing care under the Home Care Package initiative are displayed on the map (and are current as at 30 June 2021).	Collated by the IHCP-NQ Project team based on: Australian Institute of Health and Welfare. GEN Aged Care Data. Aged care service list: 30 June 2021. Available at https://www.gen-agedcaredata.gov.au/Resources/Access-data/2021/October/Aged-care-service-list-30-June-2021 The point layer has been restricted to services in the project region. Aged Care Service Information remains at all times the property of the Commonwealth.



Indicator	Measures	Geography	Description	Source
Total PPH	Count; Crude rate; Age- standardised rate	SA3	Potentially Preventable Hospitalisations (PPH) are represented on the map as age-standardised rates (per 100,000 population). Selected notes from AIHW: Definition of PPH: Data for this measure are defined in accordance with the National Healthcare Agreement (NHA) indicator PI 18-Selected potentially preventable hospitalisations.	Collated by the IHCP-NQ Project team based on: Australian Institute of Health and Welfare, Disparities in potentially preventable hospitalisations across Australia, 2012-13 to 2017-18, Age-standardised rate of potentially preventable hospitalisations per 100,000 people, by Statistical Area Level 3 (SA3), AIHW (2020). Available from
Chronic conditions PPH			PPH per 100,000 people (age-standardised): Age-standardised rates are directly standardised to the Australian estimated resident population as at 30 June 2001. Age-standardised rates are suppressed where crude rates are suppressed OR if the population in any 5-year age group in an area is less than 30.	
Acute conditions PPH			The counting unit for this publication was an episode of stay, measured by financial year of separation. This may be a complete hospital stay (to discharge, transfer or death), or a part of the stay if there was a change of care type (for example from acute to rehabilitation). As a record is included for each hospitalisation, not for each patient, patients hospitalised more than once or transferred between hospitals in the financial year will have more than one record.	https://www.aihw.gov.au/report s/primary-health- care/disparities-in-potentially- preventable-hospitalisations- exploring-the-data/data CC BY 4.0
Vaccine preventable PPH			Geography is based on area of usual residence For further information about the dataset, see https://www.aihw.gov.au/reports/primary-health-care/disparities- in-potentially-preventable-hospitalisations-exploring-the- data/contents/introduction	



				→ AUSTRALIA
PPH of total	Count; %	HHS	The proportion of total PPH of total admissions (as calculated by the	Collated by the IHCP-NQ Project
hospitalisations			project team, based on the original dataset) are displayed on the	team based on:
			map.	Statistical Reporting and
			Notes: a. Excludes episodes of admitted patient care for newborns	Coordination, Statistical Services
			without qualified days, posthumous organ procurement and	Branch, Queensland Health.
			boarders.	Table 9) Episodes of admitted
			b. An episode of care for an admitted patient may be a total hospital	patient care for potentially
			stay or a portion of a stay that begins or ends in a change of care	preventable hospitalisations by
			type.	financial year and HHS of usual
				residence, for usual residents of
			c. Restricted to usual residents of Torres & Cape, Cairns and	Torres & Cape, Cairns and
			Hinterland, North West, Townsville and Mackay HHSs	Hinterland, North West,
			d. Potentially preventable hospitalisation criteria are as per AIHW	Townsville and Mackay HHSs,
			Australian Hospital Statistics publication.	2010/2011 to 2020/2021 p.
			e. PPH Definitions: For information on PPH categories and	Unpublished data provided at request. Created 11th November
			definitions please refer to National Health Agreement: potentially	2021. Data are sourced from the
			preventable hospitalisations, 2021.	Queensland Hospital Admitted
			https://meteor.aihw.gov.au/content/index.phtml/itemId/725793	Patient Data Collection
			f. PPH definition exception: The Qld definition retained the previous	(QHAPDC).
			Qld PPH diabetes complication definition, which expands the	(2.7.4.26).
			selection to the recording of diabetes as a secondary diagnoses for	
			selected principal diagnoses. The current National Health Agreement	
			defines potentially preventable hospitalisations for diabetes	
			complications only where it is recorded as a principal diagnosis.	
			g. The sum of PPH categories 'Vaccine Total', 'Chronic Total' and	
			'Acute Total' does not necessarily add to 'Total PPH', as a single	
			episode can be counted in multiple sub-categories.	
			, ,	



Hospital performa	Hospital performance					
Indicator	Measures	Description	Source			
Hospital admissions per year	Count	The number of hospital admissions for public health services with available yearly data (2019/2020 and 2020/2021) are displayed on the map.	Collated by the IHCP-NQ Project team based on: Australian Institute of Health and			
Also included in the dataset:		Information and performance data (AIHW) about each facility have been appended to the location data. Selected AIHW notes on performance data:	Welfare. MyHospitals. Individual hospital datasets. 2019/2020			
Number of elective surgeries		-A stay in hospital, termed patient admission, represents a new episode of care.	data as of August 17 2021. 2020/2021 data as of June 1 2022. Available from			
Elective surgery waiting times Number of emergency department presentations		-Elective surgery is planned surgery that can be booked in advance as a result of a specialist clinical assessment resulting in placement on an elective surgery waiting list. The treating doctor determines how urgently surgery is needed, then assigns the patient to one of three elective surgery urgency categories – Category 1 (surgery is recommended within 30 days), Category 2 (surgery is recommended within 90 days), or Category 3 (surgery is recommended within 365 days). Data are presented for the median time until surgery is received, and the percentage of patients who received their surgery within the recommended time.	https://www.aihw.gov.au/report s- data/myhospitals/content/data- downloads/hospital-downloads CC BY 4.0			
Emergency department waiting times		-The percentage of patients arriving at the hospital's emergency department (ED) who commenced treatment within the maximum recommended time. Recommended maximum waiting times vary depending on the urgency of the patient's need for care (their triage category) as assessed by a healthcare professional in the emergency department. The five triage categories are: Category 1(Resuscitation), Category 2 (Emergency), Category 3(Urgent), Category 4 (Semiurgent) and Category 5 (Non-urgent).				
		-This measure is the rate of S. aureus bloodstream infections associated with care provided at this hospital. The rate is calculated as the number of healthcare-associated cases of S. aureus divided by the total number of patient days under surveillance (x 10,000).				
		For more information, see the appropriate sources referenced in the Credits section.				



Indicator	Measures	Description	Source
Emergency department Category 1 patients seen within recommended times (Quarter to Sept 2021 & Quarter to March 2022)	Count; %	The proportion of Category 1 emergency department patients seen within the clinically recommended time of 2 mins is displayed. Notes: Category 1: Immediately life-threatening. Patient should be seen by a treating doctor or nurse within 2 minutes of arriving. Category 2: Imminently life-threatening. Patient should be seen by a treating doctor or nurse within 10 minutes of arriving. Category 3: Potentially life-threatening. Patient should be seen by a treating doctor or nurse within 30 minutes of arriving. Category 4: Potentially serious. Patient should be seen by a treating doctor or nurse within 60 minutes of arriving. Category 5: Less urgent. Patient should be seen by a treating doctor or nurse within 120 minutes of arriving. Data were retrieved from the Queensland Health Performance website. For information about Hospital Performance data variables, refer to the Queensland Health Hospital Performance website at http://www.performance.health.qld.gov.au/ .	Collated by the IHCP-NQ Project team based on: Open Data Portal. Emergency departments - quarterly data. Queensland Government. Available at https://www.data.qld.gov.au/da aset/emergency-departments-quarterly-data CC BY 4.0



Hospital performance					
Indicator	Measures	Description	Source		
Category 4 and Category 5 emergency department attendances (Quarter to Sept 2021 & Quarter to March 2022)	Count; %	Emergency department attendances triaged as Category 4 and 5 (combined) are displayed as a proportion of total emergency department attendances. Notes: Category 1: Immediately life-threatening. Patient should be seen by a treating doctor or nurse within 2 minutes of arriving. Category 2: Imminently life-threatening. Patient should be seen by a treating doctor or nurse within 10 minutes of arriving. Category 3: Potentially life-threatening. Patient should be seen by a treating doctor or nurse within 30 minutes of arriving. Category 4: Potentially serious. Patient should be seen by a treating doctor or nurse within 60 minutes of arriving. Category 5: Less urgent. Patient should be seen by a treating doctor or nurse within 120 minutes of arriving. For information about Hospital Performance data variables, refer to the Queensland Health Hospital Performance website at http://www.performance.health.qld.gov.au/ .	Collated by the IHCP-NQ Project team based on: Open Data Portal. Emergency departments - quarterly data. Queensland Government. Available at https://www.data.qld.gov.au/dataset/emergency-departments-quarterly-data CC BY 4.0		



Indicator	Measures	Description	Source
Elective surgery: patients treated within recommended time (Quarter to Sept 2021 & Quarter to March 2022)	Count; %	The proportion of patients receiving elective surgery within clinically recommended times is displayed. Notes: Category 1: A condition that could get worse quickly to the point that it may become an emergency. Patient should have surgery within 30 days of being added to the waiting list. Category 2: A condition causing some pain, dysfunction or disability, but is not likely to get worse quickly or become an emergency. patient should have surgery within 90 days of being added to the waiting list. Category 3: A condition causing minimal or no pain, dysfunction or disability, which is unlikely to get worse quickly and which does not have the potential to become an emergency. Patient should have surgery within 365 days of being added to the waiting list. For information about Hospital Performance data variables, refer to the Queensland Health Hospital Performance website at http://www.performance.health.qld.gov.au/.	Collated by the IHCP-NQ Project team based on: Open Data Portal. Elective surgery. Queensland Government. Available at https://www.data.qld.gov.au/daaset/elective-surgery CC BY 4.0



Hospital performa	nce		→ AUSTRALIA
Indicator	Measures	Description	Source
Hospital admissions (2020/2021)	Count	Episodes of admitted patient care in 2020/2021 financial year are displayed on the map. Admissions per 1,000 population for SA2 (patients' usual residence) was calculated by the project team using the Estimated Resident Population for 2020 (ABS). Notes: Data from 2020/2021 are preliminary and subject to change. Data includes public and private hospitals. a. Excludes episodes of admitted patient care for newborns without qualified days, posthumous organ procurement and boarders. b. An episode of care for an admitted patient may be a total hospital stay or a portion of a stay that begins or ends in a change of care type. c. Restricted to usual residents of Torres & Cape, Cairns and Hinterland, North West, Townsville and Mackay HHSs	Collated by the IHCP-NQ Project team based on: Admissions data: Coordination, Queensland Statistical Services Branch, Queensland Health, Episodes of admitted patient care by financial year and Statistical Aea 2 (SA2) of usual residence, 2010/2011 to 2020/2021. Dated 11th November 2021 and obtained via request. Data are sourced from the Queensland Hospital Admitted Patient Data
		d. Based on ASGS 2016 from July 2017 to December 2020 e. The following SA2s has been aggregated due to low population counts: 1148 [Gordonvale-Trinity] includes 1150 [Lamb Range] 1351 [Pioneer Valley] includes 1345 [Eungella Reservoir] 1355 [Slade Point] includes 1347 [Mackay Harbour] 1359 [Airlie-Whitsundays] includes 1360 [Cape Conway]	Collection (QHAPDC). Estimated resident population: Australian Bureau of Statistics (release 27 August 2021) Regional population by age and sex, 2020, ABS. The original dataset can be accessed from https://www.abs.gov.au/statistics/people/population/regional-population-age-and-sex/2020#key-statistics.



Indicator	Geography	Description	Source
Hospital service standards performance data (annual reports)	HHS	Hospital and Health Service Performance against the Service Delivery Statement targets are available in this layer.	Collated by the IHCP-NQ Project team based on: Annual report data Cairns and Hinterland Hospital and Health Service, State of Queensland. 2021. Cairns and Hinterland Hospital and Health Service Annual Report 2020-2021. Accessed 22nd December 2021. Available at https://www.mackay.health.qld.gov.au/about-us/publications/
		Notes: Data for the HHS Annual report 2020/2021 have been used for all HHS with the exception of North West HHS which uses the 2019/2020 annual report. It is important to refer to the data notes for	Mackay Hospital and Health Service, State of Queensland. 2021. Mackay Hospital and Health Service Annual Report 2020-2021. Accessed 22nd December 2021. Available at https://cairns-hinterland.health.qld.gov.au/about-us/corporate-publications-and-reporting/annual-reports/ North West Hospital and Health Service, State of Queensland. 2020. North West Hospital and Health Service Annual Report 2019–2020. Accessed 21 January 2022. Available at https://www.northwest.health.qld.gov.au/about-us/corporate-documents-and-publications/
		the annual reports that are available at the publications webpage for each HHS.	Torres and Cape Hospital and Health Service, State of Queensland. 2021. Torres and Cape Hospital and Health Service Annual Report 2020-2021. Accessed 22nd December 2021. Available at https://www.health.qld.gov.au/torres-cape/html/publication-scheme Townsville Hospital and Health Service, State of Queensland. 2021. Townsville Hospital and Health Service Annual Report 2020-2021. Accessed 22nd December 2021. Available a https://www.townsville.health.qld.gov.au/about-us/strategies-and-publications/



Indicator	Measures	Geography	Description	Source
Total General Practitioner attendances	Services per 100 people	SA3	Data about attendances for primary health care services (sourced from the Medicare Benefits Schedule and published by the Australian Institute of Health and Welfare) are displayed on the map. General Practitioner attendances are represented on the map as number of services per 100 people in 2020/2021. This is the sum of Medicaresubsidised services (as described in the notes below) from eligible claims. This does not include any bulk billed incentive items or other top-up items. Selected notes from AIHW: GP attendances data include Enhanced Primary Care, After-hours GP attendances, Practice Incentive Program (PIP) services, and Other GP services. These services are Medicare-subsidised patient/doctor encounters, such as visits and consultations, for which the patient has not been referred by another doctor. These services can be provided by a GP or other medical practitioner. Excludes services provided by practice nurses and Aboriginal and Torres Strait Islander health practitioners on a GP's behalf. BTOS 101, 102 (c), 103 (GP subtotals: Enhanced Primary Care, After-hours GP attendances, PIP services, and Other). A list of BTOS item numbers is available at http://medicarestatistics.humanservices.gov.au/statistics/do.jsp? PRO GRAM=/statistics/std btos map&start dt=0&end dt=0 For more information see https://www.aihw.gov.au/reports/primary-health-care/medicare-subsidised-health-local-areas-2020-21/contents/about	Collated by the IHCP-NQ Project team based on: Australian Institute of Health and Welfare. Medicare-subsidised GP, allied health and specialist health care across local areas health care: 2019-20 to 2020-21. Report edition released 27 October 2021. Accessed 11th December 2021. Available at https://www.aihw.gov.au/reports/primary-health-care/medicare-subsidised-health-local-areas-2020-21/contents/about CC BY 4.0



Medicare-subsidised primary health care services					
Indicator	Measures	Geography	Description	Source	
After-hours General Practitioner attendances	Services per 100 people	SA3	Data about attendances for primary health care services (sourced from the Medicare Benefits Schedule and published by the Australian Institute of Health and Welfare) are displayed on the map. Afterhours General Practitioner attendances are represented on the map as number of services per 100 people in 2020/2021. This is the sum of Medicare-subsidised services (as described in the notes below) from eligible claims. This does not include any bulk billed incentive items or other top-up items. Selected notes from AIHW: After-hours GP attendances include urgent and non-urgent after-hours GP care. GP and non-specialist medical practitioner attendances provided on a public holiday, a Sunday, and during specified periods between Monday and Saturday. Note that times vary depending on type of after-hours care, whether urgent or non-urgent, and for services provided at a place other than a consulting room. Groups A11, A22, A23; Subgroups A7.10,A40.29, A40.30 For more information see https://www.aihw.gov.au/reports/primary-health-care/medicare-subsidised-health-local-areas-2020-21/contents/about	Collated by the IHCP-NQ Project team based on: Australian Institute of Health and Welfare. Medicare-subsidised GP, allied health and specialist health care across local areas health care: 2019-20 to 2020-21. Report edition released 27 October 2021. Accessed 11th December 2021. Available at https://www.aihw.gov.au/reports/primary-health-care/medicare-subsidised-health-local-areas-2020-21/contents/about CC BY 4.0	



Medicare-subsidise	ed primary l	nealth care s	ervices	
Indicator	Measures	Geography	Description	Source
General Practitioner telehealth (patient- end support)	Services per 100 people	SA3	Data about attendances for primary health care services (sourced from the Medicare Benefits Schedule and published by the Australian Institute of Health and Welfare) are displayed on the map. General Practitioner telehealth support (patient-end support) are represented on the map as number of services per 100 people in 2020/2021. This is the sum of Medicare-subsidised services (as described in the notes below) from eligible claims. This does not include any bulk billed incentive items or other top-up items. Selected notes from AIHW: Provision of clinical support by a medical practitioner to a patient (in a telehealth eligible area) who is participating in a video conferencing consultation with a specialist or consultant physician. Does not include telephone or email consultations. From 1 July 2018, new items were introduced to enable non-specialist medical practitioners to provide general attendance services. Subgroups A30.1, A30.2; Items812, 827, 829, 867, 868, 869,873, 876, 881, 885, 891, 892 For more information see https://www.aihw.gov.au/reports/primary-health-care/medicare-subsidised-health-local-areas-2020-21/contents/about	Collated by the IHCP-NQ Project team based on: Australian Institute of Health and Welfare. Medicare-subsidised GP, allied health and specialist health care across local areas health care: 2019-20 to 2020-21. Report edition released 27 October 2021. Accessed 11th December 2021. Available at https://www.aihw.gov.au/reports/primary-health-care/medicare-subsidised-health-local-areas-2020-21/contents/about CC BY 4.0



Indigenous-specifi				6	
Indicator	Measures	Geography	-	Source	
Follow up service of Indigenous-specific health check patients	Count; %	SA3	The proportion of Indigenous-specific health check patients who received a follow-up service in the 12 months following their health check(s) in 2018/2019 financial year is displayed on the map. Selected notes from the data source (AIHW):	Collated by the IHCP-NQ Project team based on: Australian Institute of Health and Welfare. Indigenous health	
			Indigenous-specific health check follow-up services include Medicare Benefits Schedule (MBS) items:	checks and follow-ups. Published 2 July 2021. Table FS09: Indigenous health check	
			- 10987 (Aboriginal Health Practitioner or Practice Nurse, face-to-face)	patients who received follow- up services by Statistical Area Level 3 (SA3), 2018–19. Available at https://www.aihw.gov.au/reports/indigenous-health-welfare-	
			- 81300–81360 (Allied Health, face-to-face)		
			- 93200, 93202 (Aboriginal Health Practitioner or Practice Nurse, telehealth)		
			- 93048, 93061 (Allied Health, telehealth)		
			The MBS items above are intended for people of Aboriginal or Torres Strait Islander descent, so all recipients are assumed to be Indigenous.	services/indigenous-health- checks-follow-	
				Data are reported by date of service of Indigenous-specific health checks. Only MBS claims processed on or before 30 April 2021 have been analysed.	ups/contents/overview CC BY 4.0
			In some cases, the same follow-up service may occur in the 12 months following separate Indigenous-specific health checks in consecutive financial years.		
			Patients may not sum to total due to rounding.		
			For further details, refer to Technical notes at https://www.aihw.gov.au/reports/indigenous-australians/indigenous-health-checks-follow-ups/contents/data-sources-and-notes		



Aged care				→ AUSTRALIA
Indicator	Measures	Geography	Description	Source
People in permanent residential aged care aged 65 years and over (as a proportion of total population aged 65 years and over)	Count; %	SA3	The proportion of people aged 65 years and over in permanent residential aged care (of the total population aged 65 years and over) for the year 1st July 2020 to 30th June 2021 is displayed on the map. Data by sex and age have been included in the dataset and have been calculated by the project team using the original dataset. Notes: SA3 is based on residential aged care facility location using the Australian Statistical Geography Standard 2016	Collated by the IHCP-NQ Project team based on: Australian Institute of Health and Welfare National Aged Care Data Clearinghouse, by request Table 1. Number of people in permanent residential aged care in Queensland, by SA3, by sex, by age group, as at 30 June 2010-2021 Population data: Australian Bureau of Statistics, Regional population by age and sex, 2020, Released 27 August 2021 Table 1. Summary statistics – 30 June 2020 Available at https://www.abs.gov.au/statistics/people/population/regional-population-age-and-sex/2020#data-download



Aged care				→ AUSTRALIA
People in permanent residential aged care who are aged 65 years and over	Count; %	SA3	The proportion of people in permanent residential aged care who are aged 65 years and over (for the year 1 st July 2020 to 30 th June 2021 is displayed on the map. Data by sex and age have been included in the dataset and have been calculated by the project team using the original dataset. Notes: SA3 is based on residential aged care facility location using the Australian Statistical Geography Standard 2016	Collated by the IHCP-NQ Project team based on: Australian Institute of Health and Welfare National Aged Care Data Clearinghouse, by request Table 1. Number of people in permanent residential aged care in Queensland, by SA3, by sex, by age group, as at 30 June 2010-2021
				Population data: Australian Bureau of Statistics, Regional population by age and sex, 2020, Released 27 August 2021 Table 1. Summary statistics – 30 June 2020 Available at https://www.abs.gov.au/statistics/people/population/regional-population-age-and-sex/2020#data-download



Aged care				
People aged 65 years and over with Home Care Packages (as a proportion of total population aged over 65 years)	Count; %	SA3	The proportion of people aged 65 years and over (of the total population aged 65 years and over) with Home Care Packages for the year 1st July 2020 to 30th June 2021 is displayed on the map. Data by age and sex are included in the dataset and have been calculated by the project team using the original dataset. *Notes: SA3 is based on the residence of the person receiving Home Care using the Australian Statistical Geography Standard 2016. Estimated Resident Population for 2020 has been used to calculate the proportion of people aged 65 years and over with Home Care Packages.	Collated by the IHCP-NQ Project team based on: Aged care data: Australian Institute of Health and Welfare National Aged Care Data Clearinghouse, by request Table 2. Number of people with Home Care Packages in Queensland, by SA3, by sex, by age group, as at 30 June 2010-2021 Population data: Australian Bureau of Statistics, Regional population by age and sex, 2020, Released 27 August 2021 Table 1. Summary statistics – 30 June 2020 Available at https://www.abs.gov.au/statistics/people/population/regional-population-age-and-sex/2020#data-download



Aged care				AUSTRALIA
People with Home Care Packages who are aged 65 years and over	Count; %	SA3	The proportion of people aged 65 years and over with Home Care Packages for the year 1st July 2020 to 30th June 2021 is displayed on the map. Data by age and sex are included in the dataset and have been calculated by the project team using the original dataset. *Notes: SA3 is based on the residence of the person receiving Home Care using the Australian Statistical Geography Standard 2016. Estimated Resident Population for 2020 has been used to calculate the proportion of people aged 65 years and over with Home Care Packages.	Collated by the IHCP-NQ Project team based on: Aged care data: Australian Institute of Health and Welfare National Aged Care Data Clearinghouse, by request Table 2. Number of people with Home Care Packages in Queensland, by SA3, by sex, by age group, as at 30 June 2010-2021 Population data: Australian Bureau of Statistics, Regional population by age and sex, 2020, Released 27 August 2021 Table 1. Summary statistics – 30 June 2020 Available at https://www.abs.gov.au/statistics/people/population/regional-population-age-and-sex/2020#data-download

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