Gold Coast Primary Health Network
Needs Assessment 2022

Chronic disease

phn GOLD COAST

An Australian Government Initiative

Chronic disease

Local health needs and service issues

- Limited systems to support care coordination for people with a chronic condition.
- Minimal focus on prevention, early identification, and self-management of chronic disease.
- High numbers of people with chronic disease in Ormeau-Oxenford and Gold Coast North SA3 regions.
- Rate of potentially preventable hospitalisations in the Gold Coast Primary Health Network region is above the national rate, with top conditions being:
    - urinary tract infections
    - iron deficiency anaemia
    - chronic obstructive pulmonary disease cellulitis
    - vaccine preventable conditions
- Rates of people in the Gold Coast Primary Health Network region with chronic obstructive pulmonary disease and asthma are above the national rate.

Key findings

- Rates of people in the GCPHN region with diabetes mellitus, heart, stroke, or vascular disease were below the national rate in 2017-18.
- Rates of people in the GCPHN region with chronic obstructive pulmonary disease and asthma were above the national rate in 2017-18.
- One quarter of the total active patients (n=152,683) in general practices have two diagnosed conditions (diabetes, respiratory, cardiovascular, renal impairment and mental health).
- Rate of people with chronic disease risk factors for people aged 18 and over in the GCPHN region was above the national rate for high blood pressure, current smoker, inadequate fruit intake, and harmful alcohol intake. Rates of people with obesity and being physically inactive were lower than national average.
- Number of MBS services claimed for General Practitioner Management plans among residents of the GCPHN region was above the national rate in 2018-19.
- Rate of potentially preventable hospitalisations for chronic conditions in the GCPHN region was above the national rate in 2017-2018 across all conditions except for congestive cardiac failure and rheumatic heart disease.

Chronic Disease

While certain non-modifiable factors such as age, genetics, gender, and ethnicity can contribute to chronic diseases, many conditions can be prevented or managed by addressing common modifiable risk factors. These include smoking, obesity, excessive alcohol intake, physical inactivity, poor nutrition, and high blood pressure.

Addressing modifiable risk factors and improving the coordination of care for people with a chronic condition may prevent them from being hospitalised. Reducing potentially preventable hospital (PPH) admissions is a national Primary Health Network (PHN) priority. Effective clinical management of the condition combined with health service coordination, patient health literacy, self-management and variations in healthcare can contribute to better chronic disease outcomes.

The population in the GCPHN region has a higher relative standard of health when compared to Australian averages. However, rates of cardiovascular disease across the GCPHN region are higher compared to national levels. Coronary heart disease and cerebrovascular disease were in the top three leading causes of death in the GCPHN region, both of which are related to modifiable risk factors and effective chronic disease management. The GCPHN region recorded a higher rate of PPH due to chronic disease compared to the national rate. The number of MBS-funded items claimed by GPs for chronic disease management in the GCPHN region has been increasing steadily in recent years and is above the national rate.

The community and stakeholders from the service system recognise that there are issues relating to community capacity and development, service access, health professional capacity and capability development, coordination and integration and system barriers that are required to be addressed through a variety of measures.

Health status

People with reported chronic disease

When compared to national averages, the population in the GCPHN region has a high relative standard of health. The proportion of adults who self-reported excellent, very good or good health in the GCPHN region in 2017-2018 was 88.4%, compared to the national average of 86.2%.

The proportion of adults who reported having a long-term health condition in the GCPHN region in 2017-18 was less than the national average at 43.1% and 50.1%, respectively. The GCPHN region's rate has decreased from 45.6% in 2015-16. There was no marked difference in life expectancy at birth for males or females in the GCPHN region compared to the national average for all people (82.6 vs 82.1 years), with life expectancy slightly higher for females mirroring national trends.

Table 1. Number and age-standardised rate (ASR) per 100 of people with reported chronic diseases, by type and SA3 region, 2017-2018

Region	Diabetes Mellitus		Heart, stroke and vascular disease		Chronic obstructive pulmonary disease		Asthma	
	Number	ASR	Number	ASR	Number	ASR	Number	ASR
National	1,182,600	4.9	1,156,500	4.8	598,800	2.5	2,705,100	11.2
Gold Coast	24,382	3.9	26,796	4.3	20,890	3.4	68,400	11.4
Broadbeach-Burleigh	2,630	3.6	3,120	4.1	2,597	3.6	6,816	10.5
Coolangatta	2,645	4.1	2,909	4.3	2,335	3.8	6,524	11.6
Gold Coast- North	3,707	4.2	3,890	4.3	2,618	3.3	8,201	11.7
Gold Coast Hinterland	757	3.2	877	3.8	743	3.4	2,182	11.1
Mudgeeraba-Tallebudgera	1,101	3.3	1,258	4	1,086	3.3	3,792	10.6
Nerang	2,938	4.3	3,127	4.5	2,532	3.7	8,558	12.1
Ormeau-Oxenford	4,222	4	4,651	4.7	3,827	3.3	15,203	11.5
Robina	1,874	3.7	2,232	4.4	1,668	3.2	5,719	11.4
Southport	2,538	4.1	2,862	4.5	2,259	3.7	7,073	11.7
Surfers Paradise	1,970	3.8	1,870	3.7	1,460	3.0	4,332	9.8

Source: PHIDU, social health atlases by primary health networks. This data set is a component of the minimum data set.

There are several findings from these data:

- Higher numbers of people living with chronic diseases in the SA3 areas of Ormeau-Oxenford, and Gold Coast North.
- The rate of diabetes mellitus was lower than the national rate in all SA3 regions in the GCPHN region.
- The rate of heart, stroke and vascular diseases was lower than the national average in all SA3 regions in the GCPHN region.
- The rate of chronic obstructive pulmonary diseases was higher in the GCPHN region compared to the national rate.
- The rate of asthma in the GCPHN region was comparable to the national rate.

Asthma

Asthma is a common chronic condition that affects the airways. People with asthma experience episodes of wheezing, shortness of breath, coughing, chest tightness and fatigue due to widespread narrowing of the airways. Around 2.7 million Australians (11% of the total population) have asthma based on self-reported data.

In 2017-2018, self-assessed health status among people with asthma aged 15 and over was, on average, worse than among those without asthma. People with asthma were less likely to describe themselves as having excellent health compared with people without asthma (11% and 23%, respectively). In the same way, people with asthma were more likely to describe themselves as having poor health compared with people without asthma (7.4% and 3.0%, respectively).

Analysis data of GCPHN's PATCAT[1] system shows that as of March 2022, of the 587,244 active patients (three visits in the past two years) 9.3% (n=54,572) had a coded asthma diagnosis. Table 2 shows the active population with asthma diagnoses with management plans claimed or medications prescribed.

Table 2. Patients with coded asthma diagnosis and GPMP/TCA/COC claimed in the last year or asthma medication prescribed, March 2022

	Number	Rate
Active population	587,244	
People with coded asthma diagnosis	54,572	9.3%
People with asthma and GP management plan (GPMP) claimed in the last year	20,192	37.0%
People with asthma and team care arrangements (TCA) claimed in the last year	18,082	33.1%
People with asthma prescribed antiasthmatic	40,964	75.1%

Source: GCPHN PATCAT

Diabetes

Diabetes is a chronic condition marked by high levels of glucose in the blood. The main types of diabetes are Type 1, Type 2 and gestational. Type 2 diabetes is the most common form and is largely preventable by maintaining a healthy lifestyle.

- **Type 1 diabetes:** lifelong autoimmune disease that usually has onset in childhood or early adolescence. A person with Type 1 diabetes requires daily insulin replacement to survive.
- **Type 2 diabetes:** The most common form of diabetes. It involves a genetic component but is largely preventable and is often associated with lifestyle factors including physical inactivity, poor diet, being overweight or obese, and tobacco smoking.
- **Gestational diabetes:** is characterised by glucose intolerance of varying severity that develops or is first recognised during pregnancy, mostly in the second or third trimester. It usually resolves after the baby is born but can recur in later pregnancies and significantly increases the risk of developing Type 2 diabetes in later life, both for the mother and the baby.

The proportion of people in the GCPHN region aged 18 years and over registered in the National Disability Services with Type 2 diabetes in 2018 was 4.4% which was below the national rate of 5.9%. From 2015-16 to 2017-18 the proportion of people in the GCPHN region who were hospitalised with Type 2 diabetes as the principle and/or additional diagnoses was 3,766 per 100,000 people which was below the national rate of 4,208 per 100,000 people. The proportion of deaths from Type 2 diabetes as the underlying and/or an associated cause was 29 deaths per 100,000 people in the GCPHN region, which was below the national rate of 37 per 100,000 people.

Analysing data extracted from GCPHN's PATCAT system as of March 2022, of the 587,244 active patients (three visits in the past two years) 5.0% (n=29,166) had a coded diabetes diagnosis which mirrors national

[1] PAT CAT is a web-based interface that aggregates de-identified General Practice data for population health management and research programs.

rates. Table 3 highlights active population with coded diabetes diagnoses, management plans claimed, HbA1C results and medications prescribed.

Table 3. Patients with coded diabetes diagnosis and GPMP/TCA/SIP claimed in the last year and HbA1C results, March 2022

	Number	Rate
Total population	587,244	
People with coded diabetes diagnosis	29,166	5.0%
People with coded diabetes type 1	2,804	9.6%
People with coded diabetes type 1 who had a HbA1C result recorded in the last year	1,618	57.7%
People with coded diabetes type 2	22,771	78.1%
People with coded diabetes type 2 and HbA1C result recorded in the last year	16,229	71.3%
People with coded gestational diabetes	4,244	14.6%
People with diabetes and a GPMP claimed in the last year	19,432	66.6%
People with diabetes and TCA claimed in the last year	18,764	64.3%
People with diabetes prescribed oral or injectable antidiabetic medication	23,930	82.0%

Source. GCPHN PATCAT

Chronic kidney disease

Chronic kidney disease (CKD) is defined as the presence of impaired or reduced kidney function lasting at least three months. CKD is common, costly, and often detected too late to be reversible, but is largely preventable because many of its risk factors – high blood pressure, tobacco smoking, overweight and obesity and impaired glucose regulation – are modifiable.

The modelled prevalence of people in the GCPHN region aged 18 years and over with CKD in 2011-12 was 10.5% which was below the national proportion of 11.3%. In 2017-18, the proportion of people in the GCPHN region hospitalised with CKD as the principle and/or additional diagnoses was 1,517 per 100,000 people which was above the national rate of 1,480 per 100,000 people. The proportion of deaths from CKD as the underlying and/or an associated cause was 73 per 100,000 people in the GCPHN region, which was above the national rate of 71 per 100,000 people.

Based on GCPHN's PATCAT system which captures de-identified patient data submitted by registered general practices throughout the GCPHN region, as of March 2022, of the 587,244 active patients (three visits in the past two years), 1.3% (n=7,517) had a coded CKD diagnosis. Table 4 shows numbers of people with a CKD diagnosis and management recorded.

Table 4. Patients with coded CKD diagnosis and management in the last year, Gold Coast, March 2022

Measure	Number	Rate
Total Population	587,244	
Target Population	7,517	1.3%
Blood Pressure (last 12 months) - Recorded	5,819	77.4%
Blood Pressure (last 12 months) - Recorded - At Target	3,295	43.8%
Blood Pressure (last 12 months) - Recorded - Not at Target	2,524	33.6%
Blood Pressure (last 12 months) - Not Recorded	1,698	22.6%
BMI (last 12 months) - Recorded	4,001	53.2%
BMI (last 12 months) - Recorded - At Target	989	13.2%
BMI (last 12 months) - Recorded - Not at Target	3,012	40.1%
BMI (last 12 months) - Not Recorded	3,516	46.8%
HbA1c (for Diabetes) (last 12 months) - Recorded	1628	21.7%
HbA1c (for Diabetes) (last 12 months) - Recorded - At Target	889	11.8%
HbA1c (for Diabetes) (last 12 months) - Recorded - Not at Target	739	9.8%
HbA1c (for Diabetes) (last 12 months) - Not Recorded	550	7.3%
LDL (last 12 months) - Recorded	3,379	45.0%
LDL (last 12 months) - Recorded - At Target	2,011	26.8%
LDL (last 12 months) - Recorded - Not at Target	1,368	18.2%
LDL (last 12 months) - Not Recorded	4,138	55.0%
T Cholesterol (last 12 months) - Recorded	6,000	79.8%
T Cholesterol (last 12 months) - Recorded - At Target	2,098	27.9%
T Cholesterol (last 12 months) - Recorded - Not at Target	3,902	51.9%
T Cholesterol (last 12 months) - Not Recorded	1,517	20.2%
Smoking - Recorded	7,267	96.7%
Smoking - Recorded - At Target	6,817	90.7%
Smoking - Recorded - Not at Target	450	6.0%
Smoking - Not Recorded	250	3.3%

Source. PATCAT, Target population is patients >= 15 years with a CKD diagnosis and without a history of renal dialysis or kidney transplant

One in three Australians have an increased risk of CKD. Risk factors for developing CKD include people who:

- have diabetes
- have high blood pressure
- have established heart problems (heart failure or heart attack) or have had a stroke
- are obese with a body mass index (BMI) 30 or higher
- have smoked or is a current smoker
- are 60 years or older
- are of Aboriginal or Torres Strait Islanders origin

Analysis of GCPHN PATCAT data shows that as of March 2022, of the 587,244 active patients in general practices (three visits in the past two years), 39.5% (n=231,868) had a recorded risk factor for CKD (Table 5).

Table 5. Patients with a risk factor recorded for CKD, Gold Coast, March 2022

Measure	Number	Rate
Total population	587,244	
Target population	231,868	39.5%
Smoking	62,649	27.0%
Diabetes (Dx, HbA1c>=6.5%, BSL>11.1 or FBG>7)	30,295	13.1%
Hypertension (Dx or BP>140/90)	134,895	58.2%
Obesity (BMI>30)	83,345	35.9%
CVD diagnosis	26,912	11.6%
Indigenous and age>30	5,273	2.3%

Source: PATCAT, Target population is patients >= 15 years without a CKD diagnosis AND with one or more risk factors.

Cardiovascular disease

Cardiovascular disease (CVD) is a major cause of disease and death in Australia. CVD is preventable in many cases, as several its risk factors are modifiable:

- overweight and obesity
- tobacco smoking
- high blood pressure
- high blood cholesterol
- insufficient physical activity
- poor nutrition
- diabetes

Two most common forms of CVD are heart attack/angina and stroke. Other forms of CVD are heart failure, cardiomyopathy, peripheral vascular disease, hypertensive disease, acute rheumatic fever, and congenital heart disease.

The modelled prevalence of heart, stroke, and vascular disease among adults in 2017-18 aged 18 years and over was 5.5%of people in the GCPHN region which was below the national rate of 6.2%. In 2017-2018, the rate of people who were hospitalised with CVD as the principal diagnosis was 2,487 per 100,000 people, which was above the national rate of 2,342 per 100,000 people. The proportion of deaths from CVD as the underlying cause was 173 per 100,000 among people in the GCPHN region, which was below the national rate of 183 per 100,000 people.

The cardiovascular event risk table displays data as the percentage risk of cardiovascular event in five years' time. It is a guide only based on de-identified patient data submitted to registered general practices throughout the GCPHN region extracted from GCPHNs Primary Sense tool. The CVD risk is calculated based on the Framingham Risk Equation. The risk assessment[2] uses demographic information such as age, gender and ethnicity and lipid and blood pressure measures combined with smoking habits to calculate the likelihood of a cardiovascular event in the next five years.

Table 6 displays the five-year risk of cardiovascular event tool. As of August 2022, there were 191,872 active patients (three visits in the last two years) that were calculated as having either, low, medium, high and automatic high risk as having low risk of a cardiovascular event in the next five years.

[2] Refer to Appendix 2 for definition

- low risk: 64.7% or 124,136 active patients,
- medium risk: 11.5% or 22,209 active patients,
- high risk: 7.9% or 15,104 active patients,
- automatic high risk: 15.9% or 30,405 active patients.

Table 6. Five-year risk of cardiovascular event, 159 practices in Gold Coast, August 2022

Measure	Number	Percent
Total Population	653,578	
Target Population	191,872	29.4%
High Risk > 15%	15,104	7.9%
35 - 39	0	0.0%
40 - 44	13	0.1%
45 - 49	84	0.6%
50 - 54	443	2.9%
55 - 59	1047	6.9%
60 - 64	1073	7.1%
65 - 69	1,775	11.8%
70 - 74+	10,669	70.6%
Medium Risk 10 - 15%	22,209	11.6%
35 - 39	11	0.0%
40 - 44	104	0.5%
45 - 49	466	2.1%
50 - 54	1,243	5.6%
55 - 59	2,354	10.6%
60 - 64	3,132	14.1%
65 - 69	3,834	17.3%
70 - 74+	11,065	49.8%
Low Risk < 10%	124,136	64.7%
35 - 39	10903	8.8%
40 - 44	14143	11.4%
45 - 49	17,420	14.0%
50 - 54	19,999	16.1%
55 - 59	17,045	13.7%
60 - 64	14,723	11.9%
65 - 69	11,450	9.2%
70 - 74+	18,453	14.9%
Automatic High Risk	30,405	15.9%

35 - 39	551	1.8%
40 - 44	595	2.0%
45 - 49	709	2.3%
50 - 54	1,099	3.6%
55 - 59	1,206	4.0%
60 - 64	4,573	15.0%
65 - 69	5,007	16.5%
70 - 74+	16,665	54.8%

Source: Primary Sense (159 practices)

Coronary heart disease

Coronary heart disease is the most common form of CVD. There are two major clinical forms—heart attack and angina. Heart attack is a life-threatening event that occurs when a blood vessel supplying the heart itself is suddenly blocked, causing damage to the heart muscle and its functions. Angina is a chronic condition in which short episodes of chest pain can occur periodically when the heart has a temporary deficiency in its blood supply.

Analysing data extracted from GCPHN's PATCAT system shows that as of March 2022, of the 587,244 active patients in the region (three visits in the past two years), 3.4% (n=20,015) had coded coronary heart disease. Table 7 highlights people with coded coronary heart disease diagnoses, risk factors recorded, and management.

Table 7. Patients with coded coronary heart disease, risk factors and management recorded, Gold Coast, March 2022

	Number	Rate
Total Population	587,244	
People with coded coronary heart disease diagnosis	20,015	3.4%
People with CHD and smoking status recorded	19,338	96.6%
People with CHD and blood pressure recorded	18,106	90.5%
People with CHD and LDL recorded	16,161	80.7%
People with coronary heart disease and a GPMP in the last year	12,168	60.8%
People with coronary heart disease and a TCA in the last year	11,408	57.0%

Source: PATCAT

Chronic obstructive pulmonary disease

Chronic obstructive pulmonary disease (COPD) is a preventable and treatable lung disease characterised by chronic obstruction of lung airflow that interferes with normal breathing and is not fully reversible. GPs are often the first point of contact for people who develop COPD. According to Bettering the Evaluation and Care of health (BEACH) survey, in the ten-year period from 2006–07 to 2015–16, the estimated rate of COPD management in general practice was around 0.9 per 100 encounters.

As of March 2022, of the 587,244 active patients in the region (three visits in the past two years), 2.3% (n=13,401) had a coded COPD diagnosis. Table 8 highlights people with coded COPD diagnoses, risk factors recorded and management.

Table 8. Patients with coded COPD diagnosis, risk factors and management recorded, Gold Coast, March 2022

	Number	Rate
Total population	587,244	
People with coded chronic obstructive pulmonary disease diagnosis	13,401	2.3%
People with COPD and smoking status recorded	13,095	97.7%
People with COPD and blood pressure recorded	12,049	89.9%
People with COPD and a GPMP in the last year	8,287	61.8%
People with COPD and TCA in the last year	7,845	58.5%

Source: PATCAT

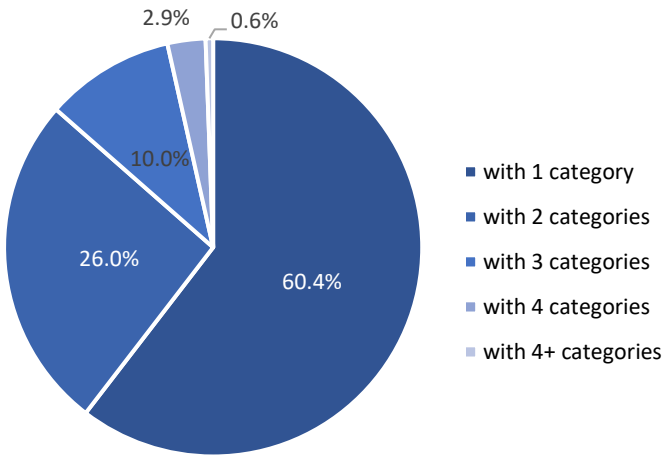
Comorbidities

Comorbidity refers to the occurrence of two or more diseases at one time. While the existence of these multiple health conditions may be unrelated, in many instances—and particularly in relation to chronic diseases—there is often some association between them. Further, a range of chronic diseases share common risk factors. Understanding more about comorbidities can provide vital information for prevention, management and treatment of chronic diseases.

Based on GCPHN's PATCAT system, as of March 2022, of the 587,244 active patients in the region (three visits in the past two years) 49% (n=287,634) had at least one condition. The five conditions that are included in this report are:

- diabetes
- respiratory
- cardiovascular
- renal impairment
- mental health

Figure 1. Comorbidities among active patients at Gold Coast general practices, March 2022



Source: GCPHN PATCAT

Chronic disease and mortality

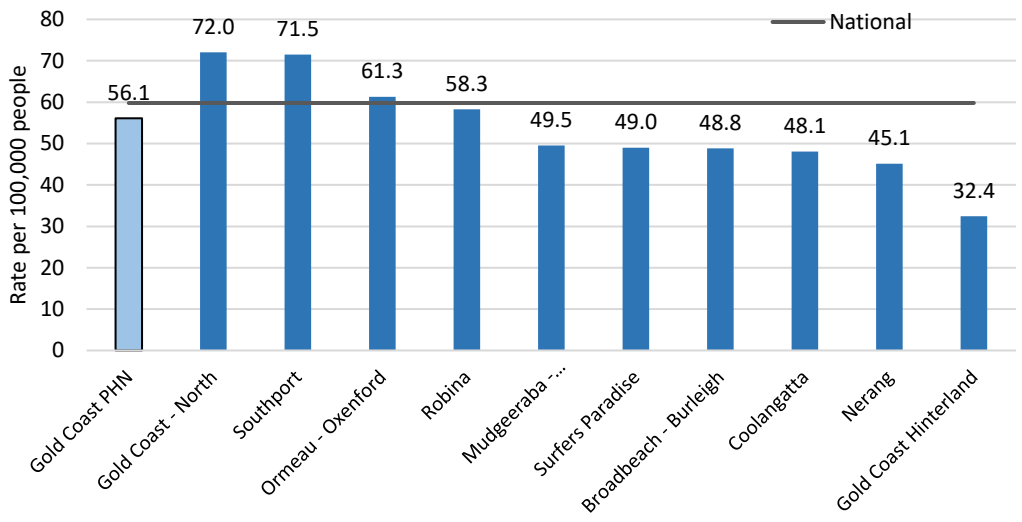
Among the leading five causes of death in the GCPHN region from 2015-2019, four were chronic diseases.

The leading five causes of death in the GCPHN region during 2015-2019 mirrored the national trend:

1. Coronary heart disease (n=2,203 or 11.8% of all deaths),
2. Dementia and Alzheimer disease (n=1,697 or 9.1% of all deaths),
3. Cerebrovascular disease (n=1,208 or 6.5% of all deaths),
4. Lung cancer (n=1,088 or 5.8% of all deaths),
5. Chronic obstructive pulmonary disease (n=788 or 4.2% of all deaths).

Coronary heart disease was the leading cause of death for all Australians including residents of the GCPHN region, between 2015 and 2019 with 2,203 deaths. In the GCPHN region the age-standardised rate of deaths due to coronary heart disease was 56.1 per 100,000 persons which was slightly below the national rate of 59.8. Gold Coast-North had the highest rate (72.0 per 100,000 people) while Gold Coast Hinterland had the lowest (32.4 per 100,000).

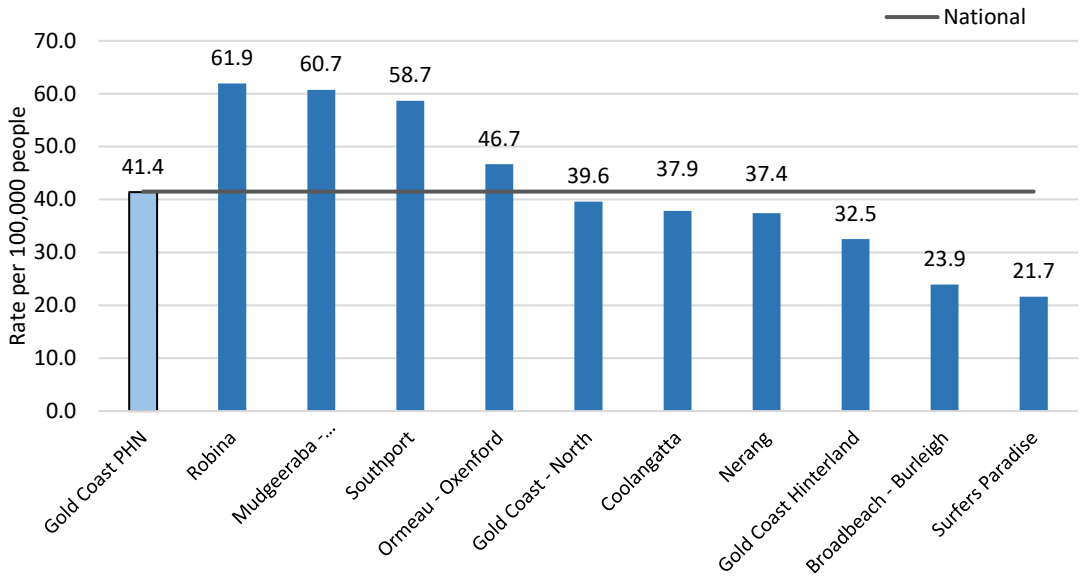
Figure 2. Age-standardised rate for deaths by coronary heart disease, Gold Coast SA3 regions, 2015-19



Source: AIHW (Australian Institute of Health and Welfare) 2021. MORT (Mortality Over Regions and Time) books: Statistical Area Level 3 (SA3), 2015–2019.

The second leading cause of death in the GCPHN region was dementia including Alzheimer's disease, which accounted for 1,697 deaths between 2015 and 2019.

Figure 3. Age-standardised rate of deaths by dementia including Alzheimer disease, Gold Coast SA3 regions, 2015-19



Source: AIHW (Australian Institute of Health and Welfare) 2021. MORT (Mortality Over Regions and Time) books: Statistical Area Level 3 (SA3), 2015–2019.

Lifestyle-related risk factors

Several lifestyle-related risk factors can increase the likelihood of developing chronic diseases. Understanding the levels of these risk factors within the population can provide an indication of future chronic disease burden and the level of need for health interventions focused on prevention, early identification, and management. Chronic disease risk factors include:

- tobacco smoking
- obesity
- excessive alcohol consumption
- physical inactivity
- poor nutrition
- high blood pressure

The rate at which several modifiable risk factors for chronic disease are present across each sub-region of the GCPHN region is shown in Table 9.

Table 9. Age-standardised rates of chronic disease risk factors per 100 people aged 18 years and over, Gold Coast SA3 region, 2017-2018

Region	High blood pressure	Obesity	Current smoker	Harmful alcohol intake	Physically inactive	Inadequate fruit intake
Australia	22.8	31.3	15.1	16.1	66.1	51.3
Gold Coast SA4	23.5	30.4	16.3	18.8	62.2	52
Broadbeach-Burleigh	23	27.8	15.7	21.2	57.7	52.7
Coolangatta	23.2	29.5	16.7	22.6	58.0	51.0
Gold Coast - North	23.3	27.6	17.4	17.0	62.7	52.5
Gold Coast Hinterland	23.0	33.9	12.9	21.4	63.9	51.0
Mudgeeraba-Tallebudgera	23.4	30.1	12.6	19.0	61.2	53.0
Nerang	23.7	32.3	17.4	18.2	65.2	50.8
Ormeau-Oxenford	23.9	35.9	15.7	18.3	65.1	51.0
Robina	23.7	29.3	15.6	17.7	62.3	53.0
Southport	23.6	27.8	17.1	16.1	65.1	51.6
Surfers Paradise	23.2	24.9	15.2	18.9	56.3	55.1

Source: PHIDU based on National Health Survey 2017-18

This data above shows that rates of obesity, smoking and harmful alcohol intake are comparable or higher for the GCPHN region than national levels, but lower on physical inactivity. Rates of high blood pressure and obesity are particularly high in Ormeau-Oxenford.

It should be noted that most data on chronic disease risk factors comes from self-report surveys which have inherent limitations. There is some inconsistency across different population measures. For example, the Queensland Chief Health Officer (CHO) prepares a 'Health of Queenslanders' report every two years based on survey data. The estimate of the smoking rate for the GCPHN region in the 2018 CHO report was 9.8% which is quite different to the levels in Table 9 obtained from the National Health Survey by the Australian Bureau of Statistics.

These discrepancies are likely due to several factors such as different data items (i.e., 'daily' smoker versus 'current' smoker), different samples and possible changes over different survey periods. In addition, it should be noted that the obesity rate on the Australian Institute of Health and Welfare's My Healthy Communities website is also based on the National Health Survey which is 22.8%, lower than the national average of 27.9%. The 2018 Health of Queenslanders Report estimated the obesity rate for the GCPHN region as 16.4% lower than the state average of 30.2% and the lowest in the state.

Medicare Benefits Schedule

There are several chronic disease management items listed on the Medicare Benefits Schedule (MBS) that enable GPs to plan and coordinate the healthcare of patients with chronic or terminal medical conditions, including patients with these conditions who require multidisciplinary, team-based care from a GP and at least two other health or care providers. Table 10 provides statistics from Medicare Australia on the number of chronic disease management items claimed by GPs in the GCPHN region between 2015-16 to 2020-21.

This data shows services relating to the preparation, coordination, and review of a GP Management Plan for patients with a chronic or terminal medical condition. Services also include the coordination and review of Team Care Arrangements and contribution to Multidisciplinary Care Plans.

Table 10 identifies the number of MBS services per 100 people claimed for GP chronic disease management plans from 2015-2016 to 2020-2021. The GCPHN region's rate in 2020-21 was 47.7 services per 100 people which was above the national rate of 40.4. This rate has increased from 34.7 services per 100 people in 2015-16 which mirrors national trends.

Gold Coast-North SA3 region has had the highest rate of MBS services for GP chronic disease management plan per 100 people from 2015-16 to 2019-20.

Table 10. Number of MBS services per 100 people for GP chronic disease management plan, 2014-15 to 2020-21

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
National	30.3	33.4	36.4	37.6	37.7	40.4
Gold Coast SA4	34.7	38.8	41.7	44.1	45.5	47.7
Broadbeach - Burleigh	33.4	36.6	38	41	47.1	51.0
Coolangatta	36.6	41.7	43.6	43.9	45.9	49.1
Gold Coast - North	47.5	52.1	57.3	60.2	58.6	59.5
Gold Coast Hinterland	39.9	41.3	45.8	47	47.6	51.3
Mudgeeraba - Tallebudgera	30.1	34.4	34.5	38.1	41.0	42.7
Nerang	29.3	34.6	36.1	38.7	40.7	42.5
Ormeau - Oxenford	33.7	38.9	41.6	43.2	42.4	43.5
Robina	31.1	34.3	37.3	41.3	44.2	48.3
Southport	36	38.9	42.5	45.8	47.1	49.0
Surfers Paradise	29	31.3	36.8	39.8	42.1	44.5

Source: Australian Institute of Health and Welfare (AIHW) analysis of Department of Health, Medicare Benefits claims data 2014–15, 2015–16, 2016–17, 2017–18 and 2018-19. Data are mapped to patients Medicare residential address.

Potentially Preventable Hospitalisations

Potentially preventable hospitalisations (PPH) are hospital admissions that potentially could have been prevented by timely and adequate healthcare in the community. The term PPH does not mean that a patient admitted for that condition did not need to be hospitalised at the time of admission. Reducing hospitalisations for these conditions might involve vaccination, early diagnosis, and treatment, and/or good ongoing management of risk factors and conditions in community settings. There are 22 conditions for which hospitalisations is considered potentially preventable across three broad categories:

- chronic
- acute
- vaccine-preventable

Table 11 shows that the GCPHN region had a higher rate of PPHs for chronic conditions when compared to Australia (1,209 vs. 1,130 per 100,000 people).

Table 11. Rate of potentially preventable hospitalisations for selected chronic conditions per 100,000 people, national and Gold Coast, 2019-2020

Condition	Gold Coast	National
All chronic conditions	1,209	1,130
Angina	92	89
Asthma	103	114
Bronchiectasis	37	24
Congestive cardiac failure	223	225
Chronic obstructive pulmonary disease	161	195
Diabetes complications	185	195
Hypertension	80	43
Iron deficiency anaemia	309	227
Nutritional deficiencies	4	3
Rheumatic heart disease	14	15

Source: Australian Institute of Health and Welfare 2022. Potentially preventable hospitalisations in Australia by age groups and small geographic areas, 2015–16 to 2019–20.

Many presentations to Gold Coast EDs for iron deficiency are referred by general practice. There is cause for further investigation to determine if iron deficiency is the reason for referral, or if people are being referred to determine the underlying cause of iron deficiency (i.e., gut bleeding)[3].

Care coordination

Care coordination is a term used to describe working with patients to develop a comprehensive plan that helps patients take more control of their health and achieve their goals. Care coordination is for patients with a chronic condition or multiple conditions, at risk of admission to hospital, or with complex needs (which includes the social determinants of health). It is a patient centered approach that involves a timely coordination of health, community and social services to meet the patient's needs. It is a partnership between the patient, carers and providers.

A survey found that patients in five developed countries, including Australia, were "at risk for deficiencies in care coordination, communication failures and medical errors"[4]. Although most patients get their chronic disease care from a single general practice, the lack of a formal relationship leaves GPs uncertain about the extent of their responsibility for ongoing care and care coordination, particularly in the area of psychosocial care[5].

Care coordination is further hindered by gaps between general practice, hospital, community health and non-government organisations in different sectors of the healthcare system, often with conflicting boundaries and without shared lines of accountability.

[3] *AIHW (Australian Institute of Health and Welfare) 2022. Potentially preventable hospitalisations in Australia by age groups and small geographic areas, 2015–16 to 2017-2018*

[4] Blendon R, Schoen C, DesRoches C, et al. Common concerns amid diverse systems: health care experiences in five countries. *Health Aff (Millwood)* 2003; 22: 106-121.

[5] Oldroyd J, Proudfoot J, Infante FA, et al. Providing healthcare for people with chronic illness: the views of Australian GPs. *Med J Aust* 2003; 179: 30-33.

Service system

Services	Number in the GCPHN region	Distribution	Capacity discussion
General practices	212	Clinics are generally well spread across the GCPHN region; majority in coastal and central areas	• GP services include preparation of chronic disease management plans, team care arrangements, medication prescribing and management, health checks and plan review.
Special interest general practices	24	Peppered throughout the GCPHN region	These practices offer a limited range of services such as skin cancer checks, cosmetic clinics and other specific health areas.
My Heath for Life	State-wide programs	Currently 6 providers (may expand) and telephone option	• Evidence-based lifestyle modification program provided by trained facilitators including dietitians and exercise physiologists, who have a keen interest in preventive health.
COACH and Get Healthy services, Queensland Health	State-wide programs	Free phone services	• Both programs focus on reducing avoidable admissions through prevention and self-management. • Get Healthy service provides advice and coaching on leading a healthy lifestyle by qualified health coaches • COACH Program involves qualified health coaches discussing treatment with patients with a diagnosed chronic condition (e.g. medication compliance, risk factor management, follow-up appointments with physicians). • Reported referrals into COACH are very low on the Gold Coast. However,

			limited capacity to accept new referrals.
Quitline	Region-wide	Phone service	• Focus on promoting self-management skills. • Provides care, education and support for people with diabetes and their carers as well as community education (e.g. schools, community groups). • Multidisciplinary service for inpatients and outpatients. • No information online regarding eligibility or access.
Diabetes resource centre, Gold Coast Health	4	Palm Beach, Southport, Robina and Helensvale	• Focus on promoting self-management skills. • Provides care, education and support for people with diabetes and their carers as well as community education (e.g. schools, community groups). • Multidisciplinary service for inpatients and outpatients. • No information online regarding eligibility or access.
Community programs, City of Gold Coast	Region-wide	Varied locations (parks, sports centres, community centres)	• Range of free and low-cost physical activity and healthy eating programs. • There is low referral to these programs from healthcare providers.
National Prescribing Service (NPS)	National	Phone or online	• Free clinical e-audits to help GPs review prescribing for patients with certain conditions compared with best practice guidelines. • NPS Medicinewise have produced a free application to assist

			consumers with managing their medications. (MedicineList+) • NPS also operate a help line to answer consumer questions about medicines.
VIP Diabetes	1	Runaway Bay	• Targeted allied health and coordination for people with diabetes. • Referral required from GP, self-referrals will be directed to involve GP. • Home medicine review is free for people with a Medicare card and who are referred by their GP for a review. • GP case conference Medicare funded. • Insulin support programs are fully funded.
Diabetes Queensland	2	Helensvale and Robina	• Self-referral • Targets newly diagnosed—new registration on national diabetes patient register will trigger an invite. • Free to those with a Medicare card.
Other private and NGO services	Various	Various	• There are a number of services offering support for people with chronic disease. • Service types include medication management and review, care coordination, care planning, self-management, allied health, nursing, respite, peer support, social and community activities. • Access is varied with many fee-for-service, some claimable through Medicare or other avenues

			(e.g. DVA, aged care, disability services). • Limited information available on the demand for and outcomes of these services.
Community Health Services Gold Coast Health	3	Robina Health Precinct Southport Health Precinct Helensvale Community Centre	

Consultation

This information has been collated from various sources including: 2017 GCPHN Primary Care Opinion Survey, GCPHN Primary Health Care Improvement Committee, direct liaison with general practice staff, GCPHN Community Advisory Council.

Community capacity and development

Many factors complicate one's capacity to self-manage their chronic condition, including cultural barriers, homelessness, alcohol and drug use, obesity, socio-economic status, health literacy and knowledge of available support.

Stakeholders suggest that improvements in community capacity could enhance chronic disease early identification, self-management and medication management, specifically:

- More support from health professionals is required for people to manage their own health, navigate the current system and empower them to share ownership of personal health outcomes.
- Patients want support from GPs and health teams to make management decisions and goals that are realistic for their individual circumstances, moving from a medical model of care planning to a patient focused model.
- Gold Coast Health held a community jury in June 2017 specifically focused on the topic of obesity. The jury determined that obesity should be a priority for all key agencies, citing stigma as a key issue. In addition, collaboration was across agencies was recommended.
- Early education is required to ensure that patients fully understand the long-term nature of chronic disease and are not waiting to access services until their condition is acute.
- Clearly communicating the benefit of prevention and engaging in your healthcare. Many GPs use health assessments (particularly 75+) as opportunity to raise issues such as advanced care planning, some patients may be reluctant to have health assessments because they don't see the immediate value. For people who work, they may be unwilling to prioritise a health assessment, when they don't feel unwell or have concerns, over work and other family commitments.

Service access

Stakeholders suggested that improved service access is required to ensure effective management of chronic disease, including:

- Enhanced access to chronic disease screening and early identification via age-appropriate health checks, particularly health checks for those at risk of developing *cardiovascular* disease and type 2 diabetes for those aged 40-49 years old. A barrier to this has been participation because individuals may not prioritise proactive health checks.
- Simplified criteria and referral pathways to enable access to chronic disease self-management courses and programs.
- Engagement with pharmacies to enhance the role they play in supporting chronic disease management.
- Eliminating cost barriers to enable patients to access care in general practice or the community, for example:
    - Some wound care clients are not able to afford treatment in the community setting and are returning back to the hospital for further follow up.

- Limited fully subsidised chronic pain programs exist to manage pain in the community setting and prevent hospitalisations.
- The cost of the wound management products (consumables such as particular bandages and dressings) that are used to treat the patient is a barrier to delivery of these services by general practice.

Health professional capacity and capability development

Stakeholders consistently report the need for capacity and capability development amongst health professionals in the GCPHN region relating to multidisciplinary team care approaches, collaborative planning and case conferencing.

- Chronic disease management including holistic and lifestyle approaches (as opposed to prescribing medication).
- Awareness-raising about the kinds of services already available to support people with chronic conditions.
- Chronic pain and pain management (e.g., integrated care systems in primary care, referral pathways, back pain, and role specific evidence-based treatment practices).
- Each professional needs to own their own gaps in service delivery, by identifying where there are gaps in their service delivery based on evidence and guidelines available and addressing the issues.
- There have been many improvements in recent years in pharmacological treatments for iron deficiency administered through general practice, education and upskilling for general practice could be required.
- The cost for the consumables for iron deficiency is a problem for general practice which can limit delivery of these services.
- In the 2017 GCPHN Primary Care Opinion Survey the following were identified most frequently for future education:
  - GPs – wound management, emergency medicine women's health.
  - General practice nurses - wound management, diabetes, chronic disease, and COPD.
- Funding for Allied Health professionals is inadequate for long term management.
- Need for greater focus on managing and preventing chronic disease using exercise. In both the hospital system and in private practice, utilising Exercise Physiology to decrease the health burden that comes with progression of chronic health conditions. Not limited to cardiovascular disease, diabetes, neurological conditions and musculoskeletal issues including back pain and 0steoarthritis.

Coordination and integration

Stakeholders report that:

- Care coordination does not always effectively engage the person and their family. A full briefing will help to ensure information understood and actions required known.
- Service access and coordination is being hindered by suboptimal information sharing between hospital and primary care including lack of timeliness of discharge summaries and outpatients.
- Fragmentation between services at primary and tertiary levels of the health system creates difficulties for communication and information sharing between providers and also with patients. This is particularly evident in discharge planning and procedures.

- Further developments and enhancements for digital health, including data integration may improve care coordination.
- Wound care services lack clearly defined pathways, formalised linkages and information sharing between different providers.
- Chronic disease risk stratification processes could be better implemented to:
    - target and identify patients with increasing risk of hospitalisation, particularly for diabetes complications, pyelonephritis and COPD.
    - ensure engagement and effective treatment with patients at a stage before their condition becomes acute.
    - Pulmonary rehabilitation is an effective evidence-based treatment for COPD, and it is currently quite readily accessible.

System barriers

Common barriers reported by stakeholders at a system level include:

- GPs are currently not remunerated adequately for non-contact time spent planning and supporting care for patients with chronic conditions.
- Difficult to identify at risk patients through current software systems making practice care difficult.
- Case conferencing MBS items are not well utilised.
- Similarly, the current Practice Nurse Incentive Payment does not sufficiently support practice nurses to invest time in care-coordination for patients with chronic disease.
- GP management plans have limitations, such as:
    - plans requested for access to team care arrangement have limited emphasis on review to ensure goals and actions are addressed by patients.
    - plans are not always individualised or patient-centred meaning that goals and actions set are not achievable or meaningful to patients.
- GPs are less engaged to lead or participate in quality improvement activities than general practice nurses or practice managers. For example, feedback from general practice is that preparing for healthcare homes is challenging as non-clinical contact is not funded (for staff doing the work).

Community Advisory Council (July 2021)

Gold Coast PHN utilised the Community Advisory Council as an engagement mechanism to discuss emerging issues relating to chronic disease in the GCPHN region. Key issues and themes raised included:

- Lack of preventative healthcare and early intervention initiatives.
- Programs addressing physical health and healthy lifestyle changes, such as My Health for Life are difficult to access.
- Some preventative healthcare programs aren't widely known and would be great to hear about from doctors as suggestions to improve lifestyle factors.
- Should be more free services offered when the person needs lifestyle changes prior to after the condition has escalated.
- Transition from hospital to primary care can be confusing, leaving the consumer lost in the system.
- A focus on a holistic team approach to managing chronic illness.
- Value of peer mentors or advocates to walk alongside chronically ill people.

Appendices

Appendix 1 – MBS item numbers for types of chronic disease plan / care

Description	MBS items
Chronic Disease Management (CDM) – GP management plan	721, 229, 92024, 92068, 92055, 92099
CDM - Team Care Arrangement	723, 230, 92025, 92069, 92056, 92100
Asthma Cycle of Care	2546, 2547, 2552, 2553, 2558, 2559, 2664, 2666, 2668, 2673, 2675, 2677, 265, 266, 268, 269, 270, 271

Appendix 2 – Calculation of CVD risk

The information on CVD event risk is derived from the 2012 publication *National Vascular Disease Prevention Alliance. Guidelines for the management of absolute cardiovascular disease risk* which is available from the websites of the members of the National Vascular Disease Prevention Alliance (Heart Foundation, National Stroke Foundation, Diabetes Australia and Kidney Health Australia).

The Framingham Risk Equation (FRE) predicts the risk of a cardiovascular event over the next 5 years. The calculation can be found in the Absolute CVD Risk Resources at www.cvdcheck.org.au. The calculation excludes patients who have:

- Age: Non ATSI 74*, ATSI 74 (Risk for patients who have age>74 is calculated using age=74)
- Condition: CVD

The data items used in the calculation are:

- age
- gender
- systolic BP (mm Hg)
- total cholesterol (Mg/dL) HDL (Mg/dL)
- smoking status (Smoker/Non-smoker)
- diabetes ECG-LVH (always set to 0)
- ECG-LVH: ECG (Echocardiogram) is a test and LVH (Left Ventricular Hypertrophy) is a condition that is detected by this test. If LVH is detected as definite this value in the FRE is set to 1, otherwise it is set to 0.

Currently the outcomes of this test are not recorded as a coded value in the clinical software packages and therefore cannot be extracted. Hence, this value is always set to 0. CV Event Risk displays data as a breakdown of the % 5 Year Risk of a Cardiovascular Event: >=30%, 25-29%, 20-24%, 16-19%, 10-15%, 5-9% and <5%.

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