2021

Chronic disease

Needs Assessment

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 Statistical Area Level three regions.
- Rate of potentially preventable hospitalisations in the Gold Coast Primary Health Network region is above the national rate, top conditions included:
  - urinary tract infections
  - iron deficiency anaemia
  - chronic obstructive pulmonary disease cellulitis
  - vaccine preventable
- Rate of people in the Gold Coast Primary Health Network region with chronic obstructive pulmonary disease and asthma above the national rate.

Key findings

- Rate of people in the Gold Coast Primary Health Network (GCPHN) region with diabetes mellitus, heart, stroke, and vascular disease is below the national rate in 2017-2018.
- Rate of people in the GCPHN region with chronic obstructive pulmonary disease and asthma is above the national rate in 2017-2018.
- One quarter of the total active patients (566,828) in general practices in the GCPHN region 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 while lower rates of obesity and people physically inactive.
- Number of MBS services claimed for General Practitioner Management plans among residents of the GCPHN region was above the national rate in 2018-2019.
- 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 disease, 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 for the population of 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 potentially preventable hospitalisations due to chronic disease compared to the national rate. The number of MBS-funded items claimed by general practitioners (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

Overall, 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 per cent, compared to the national average of 86.2 per cent.

The proportion of adults who reported having a long-term health condition in the GCPHN region in 2017-2018 was less than the national average at 43.1 per cent and 50.1 per cent respectively. The GCPHN region's rate has decreased from 45.6 per cent in 2015-2016. There was no marked difference in life expectancy at birth for either males or females in the GCPHN region compared to the national average for all people (82.6 vs 82.1), 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	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 this data:

- Higher numbers of people living with chronic diseases in the Statistical Area Level three (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 per cent 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 with asthma. People with asthma were less likely to describe themselves as having excellent health compared with people without asthma (11 per cent and 23 per cent, 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 per cent and 3.0 per cent, respectively).

Analysis data of GCPHN's PATCAT[1] system shows that as of March 2021, of the 566,828 active patients (three visits in the past two years) 8.9 per cent (n=50,547) had a coded asthma diagnosis. Table 2 highlights the active population with coded 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 2021.

	Number	Rate
Active population	566,828	
Active population with coded asthma diagnosis	50,547	8.9%
Active patients with asthma and GP management plan (GPMP) claimed in the last year	9,144	18%
Active patients with asthma and team care arrangements (TCA) claimed in the last year	7,918	16%
Active patients with asthma prescribed antiasthmatic	37,345	74%

Source. GCPHN PATCAT

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

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:** 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 per cent which was below the national rate of 5.9 per cent. From 2015-2016 to 2017-2018 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 2021, of the 566,828 active patients (three visits in the past two years) 4.9 per cent (n=27,529) had a coded diabetes diagnosis which mirrors national 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 2021.

	Number	Rate
Total Population	566,828	
Active population with coded diabetes diagnosis	27,529	4.9%
Active population with coded diabetes type 1	2,729	9.9%
Active population with coded diabetes type 1 who had a HbA1C result recorded in the last year	1,579	58%
Active population with coded diabetes type 2	21,431	78%
Active population with coded diabetes type 2 who had a HbA1C result recorded in the last year	15,498	72%
Active population with coded gestational diabetes	3,753	14%
Active patients with diabetes and a GPMP claimed in the last year	10,960	40%
Active patients with Diabetes and TCA claimed in the last year	10,070	37%
Active patients with diabetes prescribed oral or injectable antidiabetic medication	20,926	76%

Source. GPHN 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 2011-2012 was 10.5 per cent which was below the national proportion of 11.3 per cent. In 2017-2018, the proportion of people in the GCPHN region who were 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 deaths 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 2021, of the 566,828 active patients (three visits in the past two years) 1.2 per cent (n=7.045) had a coded CKD diagnosis. Table 4 highlights active population with coded CKD diagnoses and management recorded.

Table 4. Patients with coded CKD diagnosis and management in the last year, March 2021.

Measure	Number	Rate %
Total Population	566,828	
Target Population	7,045	1.24%
Blood Pressure (last 12 months) - Recorded	5,499	78%
Blood Pressure (last 12 months) - Recorded - At Target	3,023	42.91%
Blood Pressure (last 12 months) - Recorded - Not At Target	2,476	35.15%
Blood Pressure (last 12 months) - Not Recorded	1,546	21.94%
BMI (last 12 months) - Recorded	3,905	55%
BMI (last 12 months) - Recorded - At Target	896	12.72%
BMI (last 12 months) - Recorded - Not At Target	3,009	42.71%
BMI (last 12 months) - Not Recorded	3,140	44.57%
HbA1c (for Diabetes) (last 12 months) - Recorded	1,565	22%
HbA1c (for Diabetes) (last 12 months) - Recorded - At Target	842	11.95%
HbA1c (for Diabetes) (last 12 months) - Recorded - Not At Target	723	10.26%
HbA1c (for Diabetes) (last 12 months) - Not Recorded	451	6.40%
LDL (last 12 months) - Recorded	3,171	45%
LDL (last 12 months) - Recorded - At Target	1,809	25.68%
LDL (last 12 months) - Recorded - Not At Target	1,362	19.33%
LDL (last 12 months) - Not Recorded	3,874	54.99%
T Cholesterol (last 12 months) - Recorded	5,676	81%
T Cholesterol (last 12 months) - Recorded - At Target	1,914	27.17%
T Cholesterol (last 12 months) - Recorded - Not At Target	3,762	53.40%
T Cholesterol (last 12 months) - Not Recorded	1,369	19.43%
Smoking - Recorded	6,773	96%
Smoking - Recorded - At Target	6,327	89.81%
Smoking - Recorded - Not At Target	446	6.33%
Smoking - Not Recorded	272	3.86%
ACE / ARB - Recorded	4,261	60%
ACE / ARB - Recorded - At Target	0	0.00%
ACE / ARB - Recorded - Not At Target	0	0.00%
ACE / ARB - Not Recorded	2,784	39.52%
Statin - Recorded	3,968	56%
Statin - Recorded - At Target	0	0.00%
Statin - Recorded - Not at Target	0	0.00%
Statin - Not Recorded	3,077	43.68%

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 2021, of the 566,828 active patients in general practices (three visits in the past two years), 40 per cent (n=244,463) had a coded risk factor recorded for CKD. Table 5 highlights active population with a coded risk factor recorded for CKD.

Table 5. Patients with a coded risk factor recorded for CKD, March 2021

Measure	Number	Rate %
Total Population	566,828	
Target Population	224,463	40%
Smoking - Has this Risk Factor	62,952	28%
Smoking - Risk factor not recorded	8,224	3.66%
Diabetes (Dx, HbA1c>=6.5%, BSL>11.1 or FBG>7) - Has this Risk Factor	28,747	13%
Diabetes (Dx, HbA1c>=6.5%, BSL>11.1 or FBG>7) - Risk factor not recorded	0	0.00%
Hypertension (Dx or BP>140/90) - Has this Risk Factor	128,261	57%
Hypertension (Dx or BP>140/90) - Risk factor not recorded	20,406	9.09%
Obesity (BMI>30) - Has this Risk Factor	81,410	36%
Obesity (BMI>30) - Risk factor not recorded	58,967	26%
CVD Dx - Has this Risk Factor	25,831	12%
CVD Dx - Risk factor not recorded	0	0.00%
Indigenous and Age>30 - Has this Risk Factor	4,502	2.01%
Indigenous and Age>30 - Risk factor not recorded	13,380	5.96%

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 2017-2018 aged 18 years and over was 5.5 percent of people in the GCPHN region which was below the national rate of 6.2 per cent. In 2017-2018, the rate of people who were hospitalised with CVD as the principal diagnosis among people in the GCPHN region 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 population health statistics extracted from PATCAT and is useful to gain a high-level view of patients who are at risk for surveillance. 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 extracted through GCPHN's PATCAT system. Of the 556,828 active patients (3 visits in the past two years), 41 per cent (n=229,962) were:

- non-Aboriginal and /or Torres Strait islander aged between 45+
- Aboriginal and/or Torres Strait Islander aged 35+
- not coded as having CVD
- of the 229,962, 35 per cent (n=81,382) were patients with incomplete data where no risk can be calculated.

Of the remaining 148,580 active patients they were calculated as having low, medium, high and automatic high risk as having low risk of a cardiovascular event in the next five years

- low risk: 42 per cent or 96,186 active patients.
- medium risk: 9 per cent or 21,518 active patients.
- high risk: 3.5 per cent or 7,933 active patients.
- automatic high risk: 10 per cent or 22,943 active patients.

2 Refer to Appendix 2 for definition

Table 6. Five-year risk of cardiovascular event, March 2021

Measure	Number	Rate %
Total Population	566,828	
Target Population	229,962	41%
High Risk > 15%	7,933	3.5%
35 - 39	0	0.00%
40 - 44	0	0.00%
45 - 49	48	0.61%
50 - 54	259	3.26%
55 - 59	704	8.87%
60 - 64	877	11%
65 - 69	1,254	16%
70 - 74+	4,791	60%
Medium Risk 10 - 15%	21,518	9%
35 - 39	0	0.00%
40 - 44	<10	0.01%
45 - 49	510	2.37%
50 - 54	1,263	5.87%
55 - 59	2,574	12%
60 - 64	3,163	15%
65 - 69	3,920	18%
70 - 74+	10,086	47%
Low Risk < 10%	96,186	42%
35 - 39	208	0.22%
40 - 44	217	0.23%
45 - 49	18,404	19%
50 - 54	18,629	19%
55 - 59	16,479	17%
60 - 64	13,612	14%
65 - 69	10,517	11%
70 - 74+	18,120	19%
Not Calculated	81,382	35%
35 - 39	467	0.57%
40 - 44	372	0.46%
45 - 49	18,282	22%
50 - 54	14,440	18%
55 - 59	12,380	15%
60 - 64	10,150	12%
65 - 69	8,247	10%
70 - 74+	17,044	21%
Automatic High Risk	22,943	10%
35 - 39	14	0.06%
40 - 44	24	0.10%
45 - 49	1,169	5.10%
50 - 54	1,366	5.95%
55 - 59	1,541	6.72%
60 - 64	3,246	14%
65 - 69	3,854	17%
70 - 74+	11,729	51%

Source. PATCAT

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 2021, of the 566,828 active patients in the region (three visits in the past two years) 3.4 per cent (n=19,263) had coded coronary heart disease. Table 7 highlights active population with coded coronary heart disease diagnoses, risk factors recorded, and management.

Table 7. Patients with coded coronary heart disease, risk factors and management recorded, March 2021

	Number	Rate
Total Population	566,828	
Active population with coded coronary heart disease diagnosis	19,263	3.4%
Active patients with CHD and smoking status recorded	18,550	96%
Active patients with CHD and blood pressure recorded	17,622	91%
Active patients with CHD and LDL recorded	15,746	82%
Active patients with coronary heart disease and a GPMP in the last year	6,477	34%
Active patients with coronary heart disease and a TCA in the last year	5,746	30%

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 2006–2007 to 2015–2016, the estimated rate of COPD management in general practice was around 0.9 per 100 encounters.

Data from GCPHN's PATCAT system. As of March 2021, of the 566,828 active patients in the region (three visits in the past two years) 2.3 per cent (n=13,220) had a coded COPD diagnosis. Table 8 highlights active population with coded COPD diagnoses, risk factors recorded and management.

Table 8. Patients with coded COPD diagnosis, risk factors and management recorded, March 2021.

	Number	Rate
Total Population	566,828	
Active patients with coded chronic obstructive pulmonary disease diagnosis	13,220	2.3%
Active patients with COPD and smoking status recorded	12,937	98%
Active patients with COPD and blood pressure recorded	12,042	91%
Active patients with COPD and a GPMP in the last year	4,471	34%
Active patients with COPD and TCA in the last year	3,996	30%

Source, PATCAT

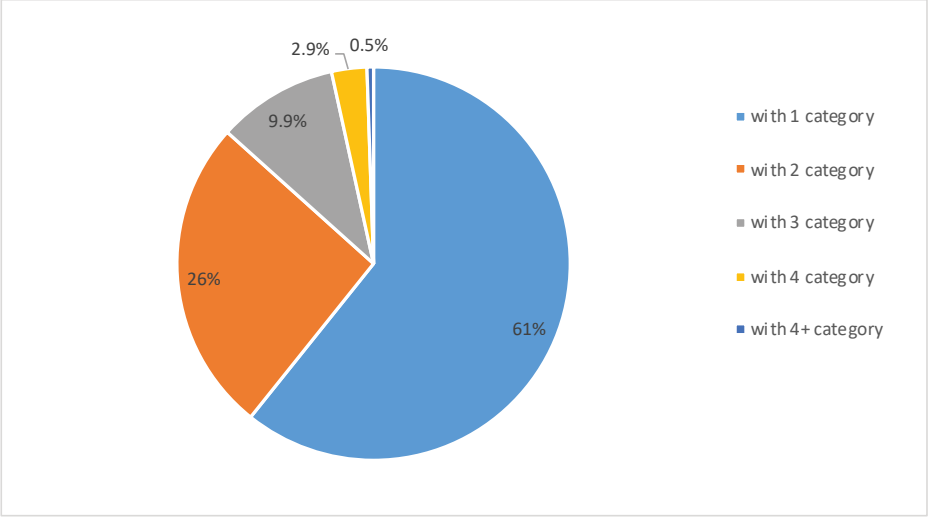
Comorbidities

Comorbidity refers to the occurrence of two or more diseases in a person 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 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 2021, of the 566,828 active patients in the region (three visits in the past two years) 44 per cent (n=247,604) had at least one condition. The five conditions that are included in this report are:

- diabetes
- respiratory
- cardiovascular
- renal Impairment
- mental health - mental Health is included in this report and patients with a mental health diagnosis and no other chronic condition will be counted in the report.

Figure 1. Comorbidities among active patients at Gold Coast general practices, March 2021



Source. GCPHN PATCAT

Chronic disease and mortality

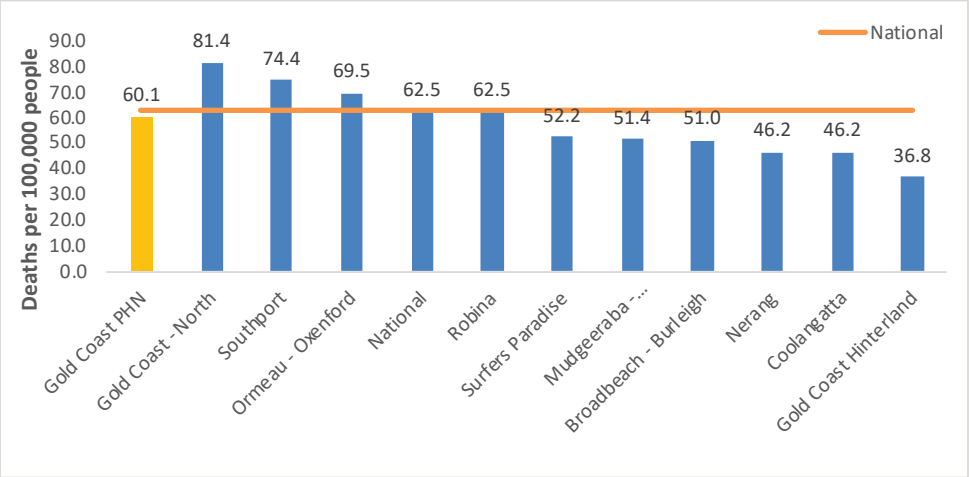
Among the leading five causes on death in the GCPHN region from 2014-2018, four were chronic diseases.

The leading five causes of death in the GCPHN region during 2014-2018 mirrored the national trend:

1. Coronary heart disease (n=2,280 or 12.4 per cent of all deaths).
2. Dementia and Alzheimer disease (n=1,551 or 8.5 per cent of all deaths).
3. Cerebrovascular disease (n=1,221 or 6.6 per cent of all deaths).
4. Lung cancer (n=1,062 or 5.8 per cent per cent of all deaths).
5. Chronic obstructive pulmonary disease (n=784 or 4.3 per cent of all deaths).

Coronary heart disease was the leading cause of death for all Australians including residents of the GCPHN region, between 2014 and 2018 with 2,280 deaths. In the GCPHN region the age-standardised rate (per 100,000) for persons whose cause of death was coronary heart disease was 60.1 which was slightly below the national rate of 62.5. Gold Coast-North (81.4) had the highest rate per 100,000 people while Gold Coast Hinterland had the lowest (36.8).

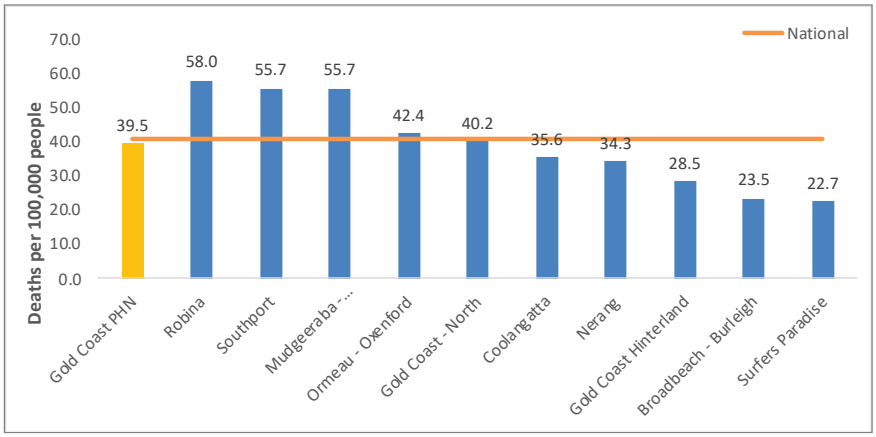
Figure 2. Age-standardised rate per 100,000 people who died by coronary heart disease, National, Gold Coast including SA3 regions, 2014-18



Source. Australian Institute of Health and Welfare 2020. Deaths in Australia. Cat. no. PHE 229. Canberra: AIHW. Viewed 07 August 2020

The second leading cause of death in the GCPHN region was dementia including Alzheimer's disease. Between 2014 and 2018 dementia including Alzheimer disease accounted for 1,551 deaths in the region.

Figure 3. Age-standardised rate per 100,000 people who died by Dementia including Alzheimer disease, National, Gold Coast including SA3 regions, 2014-18



Source. Australian Institute of Health and Welfare 2020. Deaths in Australia. Cat. no. PHE 229. Canberra: AIHW. Viewed 07 August 2020

Lifestyle-related risk factors

It is well established that several lifestyle-related risk factors 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 nine.

Table 9. Age-standardised rates of chronic disease risk factors per 100 people aged 18 years and over, by 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	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	51
Gold Coast - North	23.3	27.6	17.4	17	62.7	52.5
Gold Coast Hinterland	23	33.9	12.9	21.4	63.9	51
Mudgeeraba-Tallebudgera	23.4	30.1	12.6	19	61.2	53
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
Robina	23.7	29.3	15.6	17.7	62.3	53
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. Rates of high blood pressure and obesity are particularly high in Ormeau-Oxenford. The GCPHN region fares significantly better than the national average on physical inactivity.

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 per cent which is quite different to the levels in Table 9, which come 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 per cent, lower than the national average of 27.9 per cent. The 2018 Health of Queenslanders Report estimated the obesity rate for the GCPHN region as 16.4 per cent lower than the state average of 30.2 per cent 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 2015-2016 to 2018-2019.

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 2018-2019. The GCPHN region's rate in 2018-2019 was 44.1 services per 100 people which was above the national rate of 37.6. This rate has increased from 34.7 services per 100 people in 2015-2016 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 2015-2016 to 2018-2019.

Table 10. Number of MBS services per 100 people claimed for GP chronic disease management plan, 2014-15 to 2018-19

	2018-19	2017-18	2016-17	2015-16
Gold Coast	44.1	41.7	38.8	34.7
National	37.6	36.4	33.4	30.3
Broadbeach - Burleigh	41.0	38.0	36.6	33.4
Coolangatta	43.9	43.6	41.7	36.6
Gold Coast - North	60.2	57.3	52.1	47.5
Gold Coast Hinterland	47.0	45.8	41.3	39.9
Mudgeeraba - Tallebudgera	38.1	34.5	34.4	30.1
Nerang	38.7	36.1	34.6	29.3
Ormeau - Oxenford	43.2	41.6	38.9	33.7
Robina	41.3	37.3	34.3	31.1
Southport	45.8	42.5	38.9	36.0
Surfers Paradise	39.8	36.8	31.3	29.0

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 mapped to patients Medicare Residential address.

Potentially Preventable Hospitalisations

Potentially preventable hospitalisations (PPH) are certain 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 (1,439 vs. 1,233 per 100,000 people).

Table 11. Rate of potentially preventable hospitalisations for selected chronic conditions per 100,000 people, age-standardised, 2017-18

Condition	Gold Coast	National
All chronic conditions	1,439	1,233
Angina	124	110
Asthma	140	134
Bronchiectasis	41	28
Congestive cardiac failure	183	206
Chronic obstructive pulmonary disease	296	267
Diabetes complications	201	187
Hypertension	72	40
Iron deficiency anaemia	363	241
Nutritional deficiencies	4	3
Rheumatic heart disease	15	17

Source: Potentially preventable hospitalisations in Australia by small geographic areas

Data on PPHs at the sub-regional level identifies that Southport has the highest overall rate of PPHs for chronic conditions. Mudgeeraba-Tallebudgera has high rates of PPHs for COPD and Nerang has high rates for diabetes complications.

Many presentations to Gold Coast Health emergency departments (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).

Chronic disease and COVID-19

Chronic diseases account for a high proportion of consultations in general practice. There is increasing evidence that care of patients with chronic illness requires a structured multidisciplinary approach across services, involving systems for patient recall, auditing and monitoring, as well as educating and supporting patients in the self-management of their condition.

Data from the MBS, analysed by the Heart Foundation, revealed a 10 per cent decrease in GP visits for the management of chronic disease in March 2020, equating to 96,000 fewer visits compared to the same time last year. Data showed GPs had claimed more than one million telehealth items in March 2020, yet only a small proportion of GP visits for the management of chronic disease were delivered via telehealth.

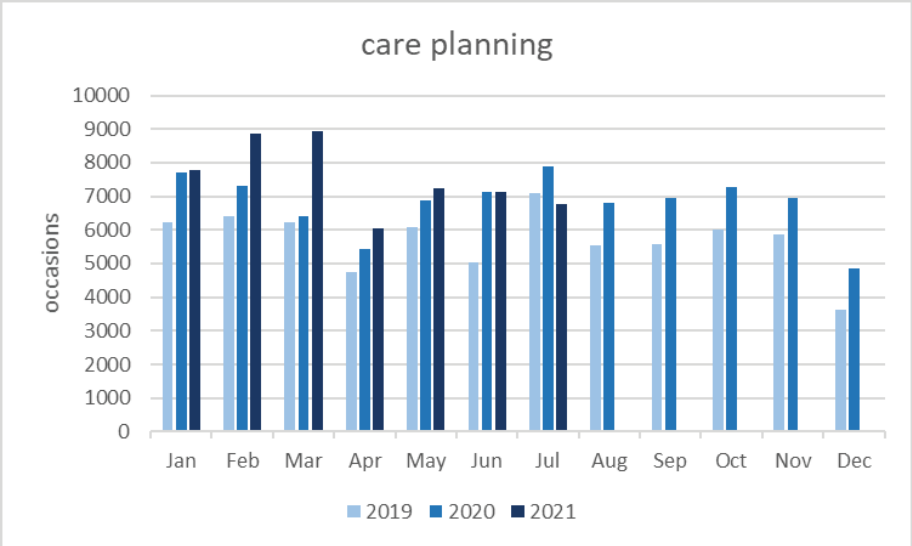
An 18 per cent decrease in Aboriginal and Torres Strait Islander health checks compared to the same time last year was also identified in the MBS data while New South Wales Pathology data revealed a 28 per cent decrease in cholesterol test being processed in March compared with February 2020.

The decline in GP visits for the management of chronic disease and cholesterol test being processed adds to a growing narrative about care delays during the COVID-19 pandemic, as well as cancer screening.

While it is unlikely that numbers of patients will suddenly require urgent care as a result of delaying or cancelling their GP visits for the management of chronic disease, a number of patients who might have otherwise been detected and treated earlier may ultimately present to the ED. However, the real concern is the longer-term population-based consequences of failure to detect, prevent, and treat chronic conditions.

The data extracted from Primary Sense in the figure below shows there was some reduction in routine care for chronic disease management due to COVID-19 in February through May 2020. Care planning did not reduce to the same extent as cancer screening items as these were more readily available by telehealth. Despite reduced services due to COVID-19 in early 2020, since this time, there have been catch-up periods where general practices have seen increased attendances for these interventions, particularly in 2021. Overall, there are more visits to general practice in 2021 (YTD) than pre pandemic in 2019, reinforcing and supporting the anecdotal higher utilisation of general practice. Early in the pandemic there were concerns of reduced visits for ongoing chronic disease issues. Overall, the data does not suggest that there are emerging concerns of longer-term health issues due to people avoiding routine and preventative care in general practices.

Figure 2. Care planning in 80 Gold Coast General Practices, 2019 to 2021



Source. Primary Sense

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 may have complex needs (which includes the social determinants of health). It is a patient centered approach that involves the timey coordination of health, community and social services to meet a 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"[3]. 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[4].

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 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.
4 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	206	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 only 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 government 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 75plus) 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 suggest 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 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 Osteoarthritis.

Coordination and integration

Stakeholders report that:

- Poor mental health means people are more likely to be smoking and abusing drug and alcohol so include as part of screening.
- Link into existing programs like Active and Healthy.
- 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, there is limited emphasis on review to ensure goals and actions are addressed by patients.
    - Plans 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).

Diabetes Queensland

The below barriers to diabetes education in the community was provided by Diabetes Queensland:

- Varying levels of education provided to people with type 2 diabetes. This can greatly impact their health and risks of life-threatening complications/hospitalisation.
- There aren't any guidelines to indicate how many visits are required by each health professionals via the Enhanced Primary Care, and quite often the five subsidised visits have been already utilised for other chronic illness. This restricts access to diabetes health professionals, and therefore education received to self-manage the condition.
- There's inconstancies with the levels of education provided by the diabetes health professional. This may depend on the level of diabetes experience acquired by the health professional/GP and/or the time and resources provided during the consult.
- Many GPs (and therefore their patients) are not aware of the role of a Credentialed Diabetes Educator (CDE) and aren't referring patients to receive crucial education.
- There are currently 1580 CDEs in Australia to educate over two million people with diabetes or prediabetes. The number of CDEs is declining and diabetes is on the rise.
- Managing diabetes requires a multi-disciplinary, patient centered approach; however, there's a disconnect between health professionals due to limited-service providers under 'one roof' which can result in patient confusion and frustration with the current health system.

Community Advisory Council

In 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 include:

- 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

Appendices 1

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

Appendices 2

The CD event risk reports derived from the publication "National Vascular Disease Prevention Alliance. Guidelines for the management of absolute cardiovascular disease risk. 2012" 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) The FRE predicts the risk of a cardiovascular event over the next 5 years. The calculation can be found in the Absolute CVD Risk Resources provided at the www.cvdcheck.org.au website. 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 outcome of this test is 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 per cent 5 Year Risk of a Cardiovascular Event: >=30 per cent 25-29 per cent, 20-24 per cent , 16-19 per cent, 10-15 per cent, and 5-9 per cent and <5 per cent.

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Level 1, 14 Edgewater Court, Robina 4226 | PO Box 3576 Robina Town Centre QLD 4230

P: 07 5635 2455 | F: 07 5635 2466 | E: info@gcphn.com.au | www.gcphn.org.au

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