DIABETES CARE ON THE CENTRAL COAST

2017-21

YERIN Aboriginal Health Services Inc.

phn HUNTER NEW ENGLAND AND CENTRAL COAST
An Australian Government Initiative

NSW GOVERNMENT Health
Central Coast
Local Health District

Acknowledgements

Diabetes Advisory Group

Diabetes Plan Steering Group

50 participants in diabetes planning day including staff from Central Coast Local Health District, Hunter New England and Central Coast Primary Health Network, Yerin – Eleanor Duncan Aboriginal Health Centre, Diabetes NSW, Wyong Shire, NSW Health and consumers

104 staff who completed surveys regarding diabetes care on the Central Coast

Six clients, some with carers for participating in interviews about their care experiences including how care could be improved.

Abbreviations

ABS	Australian Bureau of Statistics
ACI	Agency for Clinical Innovation
AIHW	Australian Institute of Health and Welfare
CDM	Chronic Disease Management
CHS	Central Coast Community Health Survey
CKD	Chronic Kidney Disease
Diabetes Ad Gp	Diabetes Advisory Group
ED	Emergency Department
HEAL	Healthy Eating Active Living
Int Care	Integrated Care
LHD	Central Coast Local Health District
MBS	Medicare Benefits Schedule
NRT	Nicotine Replacement Therapy
PHN	Hunter New England Central Coast Primary Health Network
PHU	Public Health Unit
RACGP	Royal Australian College of General Practitioners
SAPHaRI	Secure Analytics for Population Health Research and Intelligence
Yerin	Yerin – Eleanor Duncan Aboriginal Health Centre

Contents

Foreword

This is the first Diabetes Plan and Model of Care for the Central Coast created in partnership between the Central Coast Local Health District, the Hunter New England Central Coast Primary Health Network and Eleanor Duncan Aboriginal Health Services, with input from consumers.

The Central Coast Local Health District's previous Diabetes Plans have guided the development of services for people with diabetes on the Central Coast. These plans have set a strong foundation for this new population-based and collaborative approach to diabetes care.

The new Diabetes Plan and Model of Care are important to address the increasing rate of diabetes on the Central Coast – about 10 per cent of adults living in the region have diabetes, mostly type 2 diabetes.

Lifestyle related risk factors, including overweight and obesity, are major contributors to the prevalence of type 2 diabetes. The Central Coast Local Health District's Health Promotion Unit and Eleanor Duncan Aboriginal Health Services have a range of programs in place in the community to increase physical activity levels, increase fruit and vegetable consumption and ultimately, reduce levels of overweight and obesity in children and adults.

The Central Coast Regional Leadership Executive Implementation Plan to Reduce Childhood Obesity and Promote Healthy Eating and Active Living reinforces the role of sectors outside health to reduce the rates of overweight and obesity among Central Coast residents.

For people with diabetes, much of their care occurs in the community setting with their family doctor and a range of other health professionals. Work continues to ensure person-centred care, care coordination, and improved health literacy and self-management happens throughout the social and health care system. This approach requires strengthening of relationships at a local or regional level, with specialists supporting general practitioners and other generalist workers so all people with diabetes get the care they need, when they need it, in a place that feels safe to them. The Primary Health Network, Yerin – Eleanor Duncan Aboriginal Health Centre, the Local Health District, general practitioners and other community-based workers are all stakeholders in this work.

The specialist services provided by the Central Coast Local Health District are challenged by increasing demands for their services, implementing improvements in technology in diabetes care, and the strategic imperative to support generalists to work at the top of their scope of practice – in order to maximise health outcomes for all people with diabetes.

Our three organisations are committed to working together as one system to improve the health and wellbeing of the Central Coast community, and to provide person-centred care for people with diabetes on the Central Coast. We look forward to showing how this is achieved over the next five years.

Dr Andrew Montague
Chief Executive
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Executive Summary

Diabetes Care on the Central Coast 2017-21 outlines the Central Coast Diabetes Model of Care and Central Coast Diabetes Plan to be implemented over the next five years.

Diabetes has become one of the most challenging problems for public health. A global epidemic, the prevalence of diabetes is increasing and affecting on health care systems worldwide.

In Australia, the prevalence of types 1 and 2 diabetes has risen over the last three decades[1]. The number of people with type 2 diabetes is growing, most likely due to increases in overweight and obesity rates, poor nutrition, lack of physical activity and an ageing population – all risk factors for type 2 diabetes[2].

On the Central Coast, around 10% of adults live with either type 1 or 2 diabetes or high blood glucose[3]. This rise in prevalence coupled with complications arising from late detection and suboptimal management of diabetes are placing significant burdens on primary, secondary and tertiary care in the region. To address this concern, a Central Coast-wide, whole-of-population and whole-of-system approach is required. The Central Coast Local Health District, Hunter New England Central Coast Primary Health Network and Yerin – Eleanor Duncan Aboriginal Health Centre. in consultation with other service providers and consumers have developed a coordinated and integrated approach to diabetes care for the Central Coast.

The guiding principles behind this approach are:

- Prevention - health promotion programs to reduce incidence of risk factors of diabetes and proactive care to minimise the impact of diabetes and prevent complications.
- Person-centred care and supporting self-management throughout the life of a person with diabetes and their carer.
- Access - diabetes care to be provided as close to home as possible.
- Coordination and integration of diabetes care across services, settings, technology and sectors.
- Equity - with particular consideration for Aboriginal and Torres Strait Islander people and other marginalised people at higher risk.
- Effectiveness - evidence based care, best practice initiatives.
- Quality improvement – measurement of health behaviours, treatments and outcomes, and feedback to providers and the community.

The vision for diabetes care on the Central Coast is for the community, people with diabetes, their families and carers, and health professionals to work collaboratively to prevent diabetes and achieve better health outcomes for people with diabetes.

The Diabetes Model of Care identifies key responsibilities for people and workers in the community, primary care, and secondary and tertiary care settings. The Model of Care promotes person centred care with particular consideration for high risk groups including Aboriginal and Torres Strait Islander people(s).

The Diabetes Plan consists of 13 priority areas across the community, primary care, secondary and tertiary settings, including early detection of diabetes, specialist support for primary care, and reducing the impact of diabetes among children, older Australians, those with mental health issues, and Aboriginal and Torres Strait Islander people.

The Central Coast Local Health District, Hunter New England Central Coast Primary Health Network and Yerin – Eleanor Duncan Aboriginal Health Centre. (in consultation with the local community and key service providers) are committed to working collaboratively to implement the Central Coast Diabetes Plan and Model of Care.

The Central Coast Local Health District is committed to:

- providing specialist services aligned to community need,
- working collaboratively with primary care to support the provision of integrated and effective diabetes care, and
- developing health promotion strategies leading to a decline in new cases of diabetes.

The Hunter New England Central Coast Primary Health Network is committed to:

- supporting general practices to effectively manage diabetes,
- working collaboratively with secondary and tertiary care, and
- collecting and feeding back data to general practices to enhance the culture of demonstrable improvement in patient care.

Yerin – Eleanor Duncan Aboriginal Health Centre is committed to:

- ensuring community engagement to achieve best health outcomes for the Aboriginal and Torres Strait Islander community, and
- demonstrating high quality care for the Aboriginal and Torres Strait Islander community in the primary care setting.

These are key elements of diabetes care on the Central Coast that will help improve health outcomes for the Central Coast community as a whole, and for people with diabetes. There are more action areas, and more detailed activities to be found in the body of the plan. The partnership between the three organisations provides the forum for monitoring the progress of the plan, and tracking the health outcomes we see for the future.

1. Diabetes – A Case for Action

Diabetes represents one of the most challenging public health problems of the 21st century[4]. The disease and its associated complications contribute significantly to mortality, morbidity, poor quality of life of sufferers and carers, and the cost of health care[3].

In Australia, the prevalence of diabetes is rising, affecting around 1.2 million people in 2014-15[2]. In New South Wales in 2016, 8.9% of people aged 16+ were told they had diabetes or high blood glucose levels, up from 6.5% in 2002[3].

Although rises are seen in both types 1 and 2 diabetes, type 2 diabetes accounts for 85% of all cases. Cases like these are expected to rise; within 20 years, the number of people in Australia living with type 2 diabetes may increase from an estimated 870,000 in 2014 to over 2.5 million[2].

The prevalence of type 2 diabetes increases with age, and is higher in the Aboriginal and Torres Strait Islander community. According to the Australian Institute of Health and Welfare[5], in 2014-15 self-reported rates of diabetes among 65-74 year olds were three times as high than for 45-54 years olds. The ageing population in NSW is likely to influence these rates; the population of 65+ years old in the state has increased over the past 20 years from 12% in 1996 to an estimated 15.3% in 2016, and is projected to increase even more rapidly[6].

Appropriate management of diabetes is essential. If left undiagnosed or poorly managed, type 2 diabetes can lead to coronary artery disease, stroke, kidney failure, limb amputation and blindness[2]. There are more than 4,400 amputations every year as a result of diabetes, of which 85% are preventable if diabetes is detected early and managed appropriately[7].

Diabetes is a major cause of chronic kidney disease (CKD). People receiving dialysis treatment for CKD in Australia increased by 3% from 2013 to 2014[8]. If CKD is detected early and managed appropriately, the otherwise inevitable deterioration in kidney function can be reduced by as much as 50% and may even be reversible[8].

Risk of type 2 diabetes is greatly increased if people display a number of modifiable lifestyle factors. These include high blood pressure, overweight or obesity, insufficient physical activity, poor diet and extra weight carried around the waist[9]. In approximately 58% of cases of type 2 diabetes the condition can be delayed or prevented by reducing weight, increasing physical activity, improving diet and stopping smoking[10]. With this in mind, there is opportunity to promote healthy eating and active living across organisations on the Central Coast to help reduce prevalence of the disease. This is of particular relevance on the Central Coast, where around 60% of adults are currently overweight or obese[3].

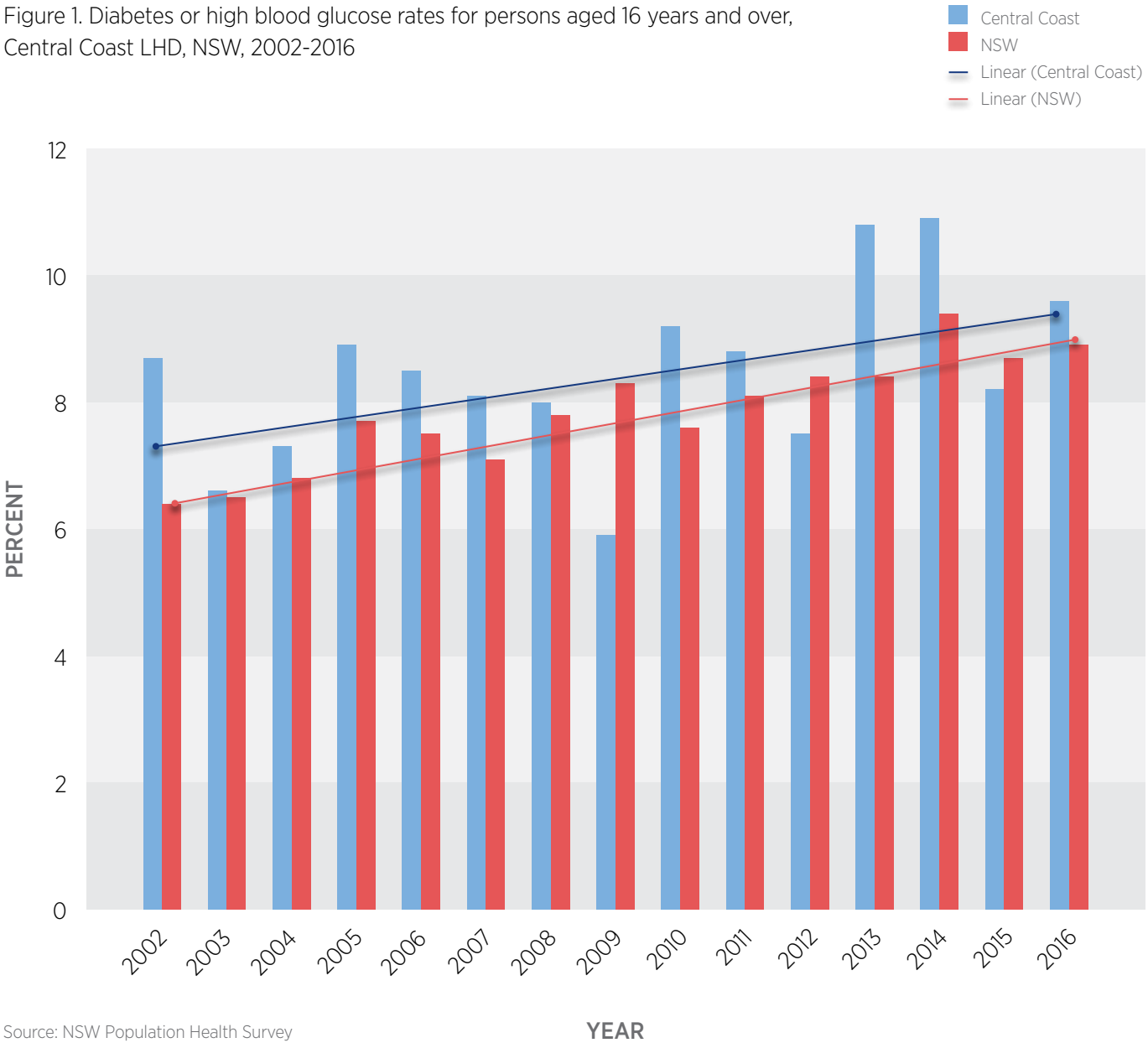
To help reduce diabetes prevalence and its consequent impact on Australian public health services and systems, health promotion is important. The Diabetes Model of Care and Diabetes Plan aim to address health promoting environments and education among communities and health professionals.

2. Diabetes on the Central Coast

2.1 Diabetes and diabetes risk factors in the Central Coast Community

The NSW Population Health Survey (SAPHaRI) found, in the past seven years, the percentage of persons on the Central Coast aged 16+ who were told by a doctor or at hospital that they had diabetes or high blood glucose levels to fluctuate around 9 to 10%[3]. In 2014, the estimated prevalence of diabetes was 10.9% (7-14.7, 95% CI) and in 2016, it was 9.6% (6.9-12.3, 95% CI). Trend lines from 2002-2016 show an overall increase in diabetes rates on the Central Coast and in NSW, with rates on the Central Coast higher than in NSW. (Figure 1).

Figure 1. Diabetes or high blood glucose rates for persons aged 16 years and over, Central Coast LHD, NSW, 2002-2016



Source: NSW Population Health Survey (SAPHaRI). Centre for Epidemiology and Evidence, NSW Ministry of Health

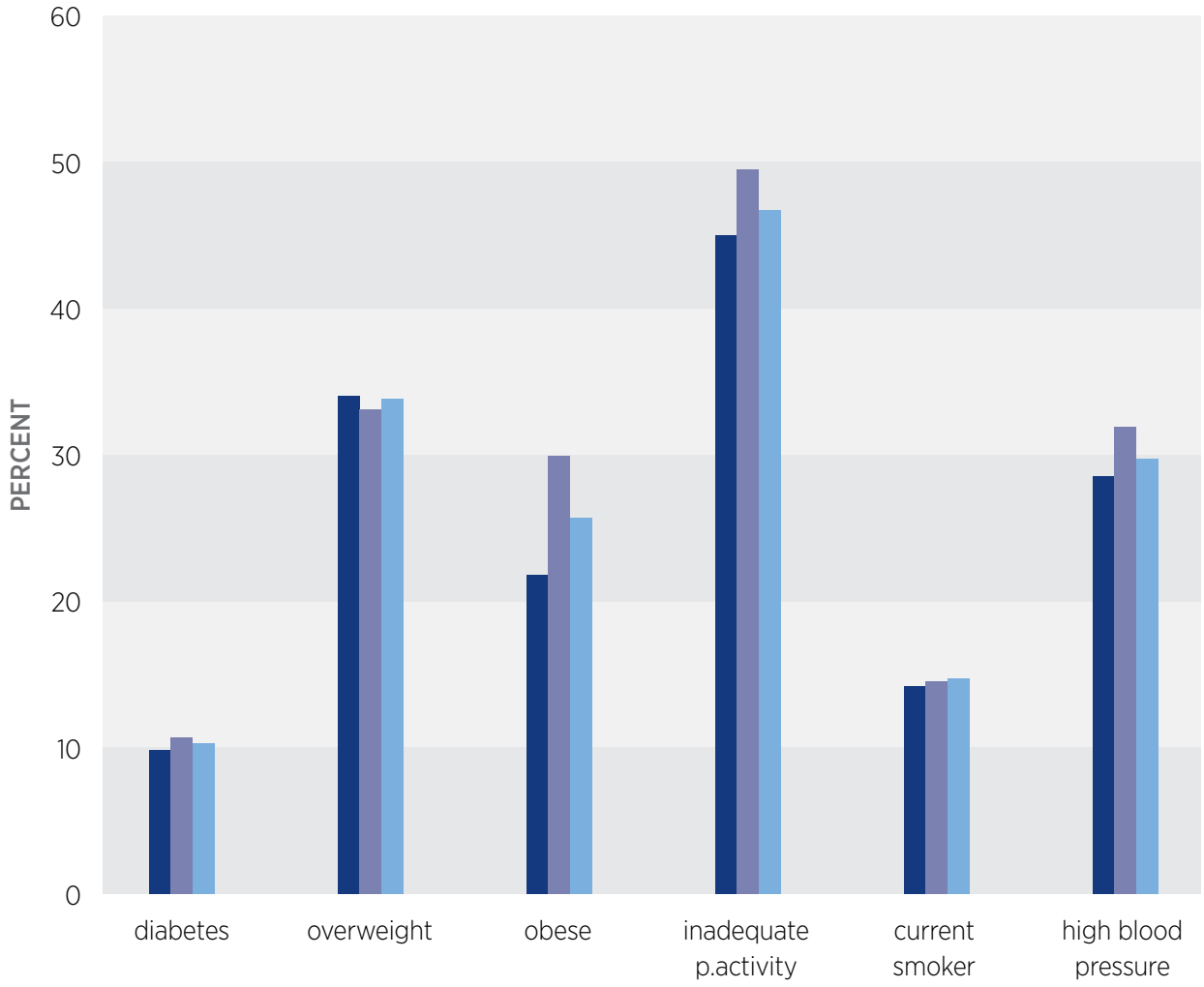
The Central Coast population has a high estimated population proportion of 16+ year olds with diabetes lifestyle risk factors. In 2016, 30.8% of 16+ year olds on the Central Coast were overweight, 26.5% were obese, 60.2% did not do the recommended amount of physical activity, and 20.1% smoked[3]. Over the last 10 years, overweight and obesity rates have increased, inadequate physical activity rates have levelled and current smoker rates have decreased.

The Central Coast Community Health Survey (CHS) (Miles et al) allows us to compare diabetes rates in Gosford and Wyong. The CHS (2014) estimated that 10.3% of Central Coast adults (18+ years) had reported being told by a doctor or at hospital that they had diabetes (approximately 26,000 people), with a slightly higher proportion of adults estimated with diabetes in Wyong (10.7%) than in Gosford (9.8%). This has increased from 7.9% in 2006. The study also found diabetes lifestyle risk factors higher in Wyong than Gosford (Figure 2).

For this report, we refer to the prevalence of diabetes in Central Coast adults as being 10%.

The prevalence of type 2 diabetes increases with age, and the number of people aged 65+ on the Central Coast is increasing. The ABS (2016) estimated 20% of the Central Coast population was 65+ years old in 2015, an increase from 18% in 2010[6].

Figure 2. Diabetes and risk factors, persons aged 18 years and over, Gosford, Wyong and Central Coast, 2014



Source: Central Coast Local Health District. Central Coast Community Health Survey: Analysis of Telephone Survey 2014.

Community Health Survey smoking data inconsistences due to rounding

	diabetes	overweight	obese	inadequate p.activity	current smoker	high blood pressure
Gosford	9.8	34	21.8	45	14.2	28.5
Wyong	10.7	33.1	29.9	49.5	14.5	31.9
Central Coast	10.3	33.8	25.7	46.7	14.7	29.7

2.2 Diabetes in Primary Care

The Hunter New England Central Coast Primary Health Network (PHN) offers practice support and development to general practices on the Central Coast. This includes use of the practice data extraction and analysis tool PEN/PATCAT. In 2016, 61 (57%) Central Coast practices had data agreements with the PHN to use this tool. For those practices who provide aggregated de-identified clinical data using PEN/PATCAT, quarterly reports are produced and provided to general practices, benchmarking where possible - activity with peer group-comprising general practices in the same remoteness area (as identified by ABS – RA1, 2 etc). The tool also allows for the analysis of data to assist with population health and services planning.

The data following is based on aggregate data from 51 (48%) practices on the Central Coast that provided data extracted from PEN/PATCAT in the 6-month period to the end of February 2017 (for more data see Appendix 1). More than 95% of the data summarised was provided in the January-February 2017 period. The data is for active patients 18 years and over only. Active patients are defined by The Royal Australian College of General Practitioners (RACGP) and includes those patients who have visited a general practice three or more times within the last two years.

This cohort of patients includes those coded as having diabetes and those indicated by the PEN/PATCAT tool who are likely to have diabetes. Those likely to have diabetes have glycated haemoglobin (HbA1c) >=6.5 or, HbA1c recorded AND on an anti-diabetic medication or, fasting blood glucose (FBG) >7.

Key observations

- From this population, 11% of people have diabetes, which is similar to that estimated for the Central Coast population
- For people with diabetes, the measure of blood sugar control over the last 3 months, HbA1c, was 7% or less for 56% of people, >7% for 29% of people, and was not recorded for 15% of people
- For people with diabetes, 31% had high blood pressure. Blood pressure was not recorded for 7% of people
- For people with diabetes, 65% were overweight or obese and for 25% of people BMI was not available

Table 1: Summary data provided by General Practices in the Central Coast relating to diabetes, PEN/PATCAT extracts, 6 months to Feb 2017

	Gosford	Wyong	Central Coast
Number of general practices	57	50	107
Practices who have provided data	23	28	51
Total active patients	99394	108721	208115
Total patients with diabetes*	10482	12352	22834
Total patients with diabetes (%)	10.5	11.4	11.0
Total patients with Diabetes Type 1 (%) **	8.4	7.3	7.7
Total patients with Diabetes Type 2 (%)	71.0	76.1	74.4
Total patients with Diabetes Other (%)	20.6	16.5	17.9
Total patients with diabetes, HbA1c > 7 (%)	28.7	29.8	29.3
Total patients with diabetes, HbA1c > 8 (%)	14.0	15.3	14.7
Total patients with diabetes, HbA1c not recorded in last 12 months (%)	16.9	13.1	14.8
Total patients with diabetes, with high blood pressure (>140 over 90) (%)	29.1	32.7	31.1
Total patients with diabetes, blood pressure not recorded (%)	7.0	7.1	7.1
Total patients with diabetes, overweight (%)	21.6	22.1	21.8
Total patients with diabetes, obese (includes morbidly obese) (%)	39.6	46.8	43.5
Total patients with diabetes, BMI not available (%)	27.2	22.7	24.7
Total ATSI patients (%)	2.1	6.1	4.2
Total ATSI patients with diabetes (%)	9.5	7.6	8.5

* Unless otherwise specified, the term 'patients with diabetes' in this table refers to the combined group of patients coded as having diabetes and indicated as likely to have diabetes

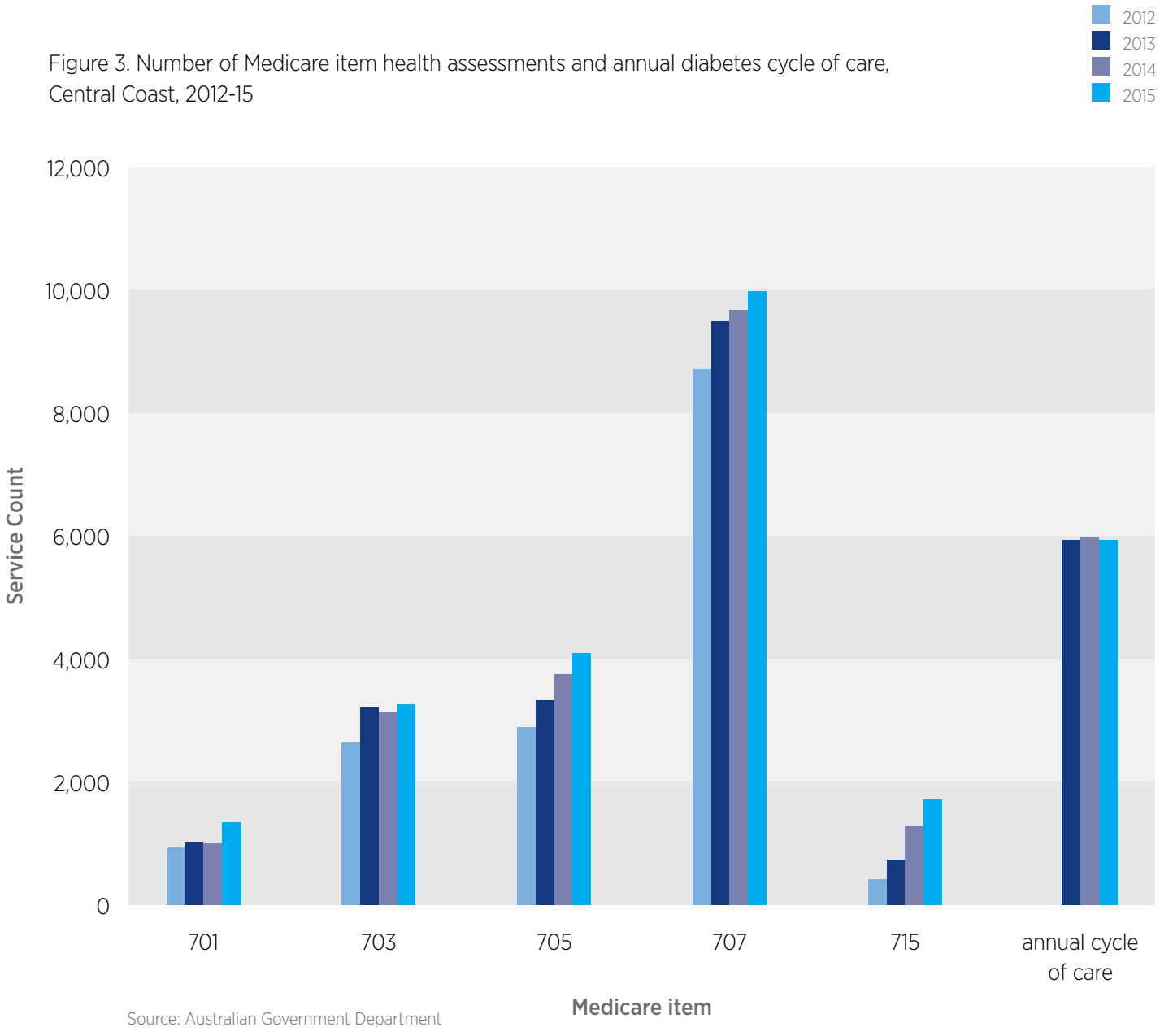
** Denominator for rates of diabetes types includes patients with both Type 1 and Type 2 diabetes

Medicare data

Medicare data gives limited knowledge of activity due to a limited number of diabetes-specific Medicare Benefits Schedule (MBS) item numbers (see Appendix 2 for MBS item details). MBS items 701-707 can be claimed for health assessments for seven specified target groups, including patients aged 40-49 years who are at risk of developing diabetes as assessed by the Type 2 Diabetes Risk Assessment Tool. MBS item 715 can be claimed for health assessments for Aboriginal people. The diabetes annual cycle includes ten activities completed over a 12 month period and a full eye check every 24 months for diabetic patients which can be claimed every 12 months.

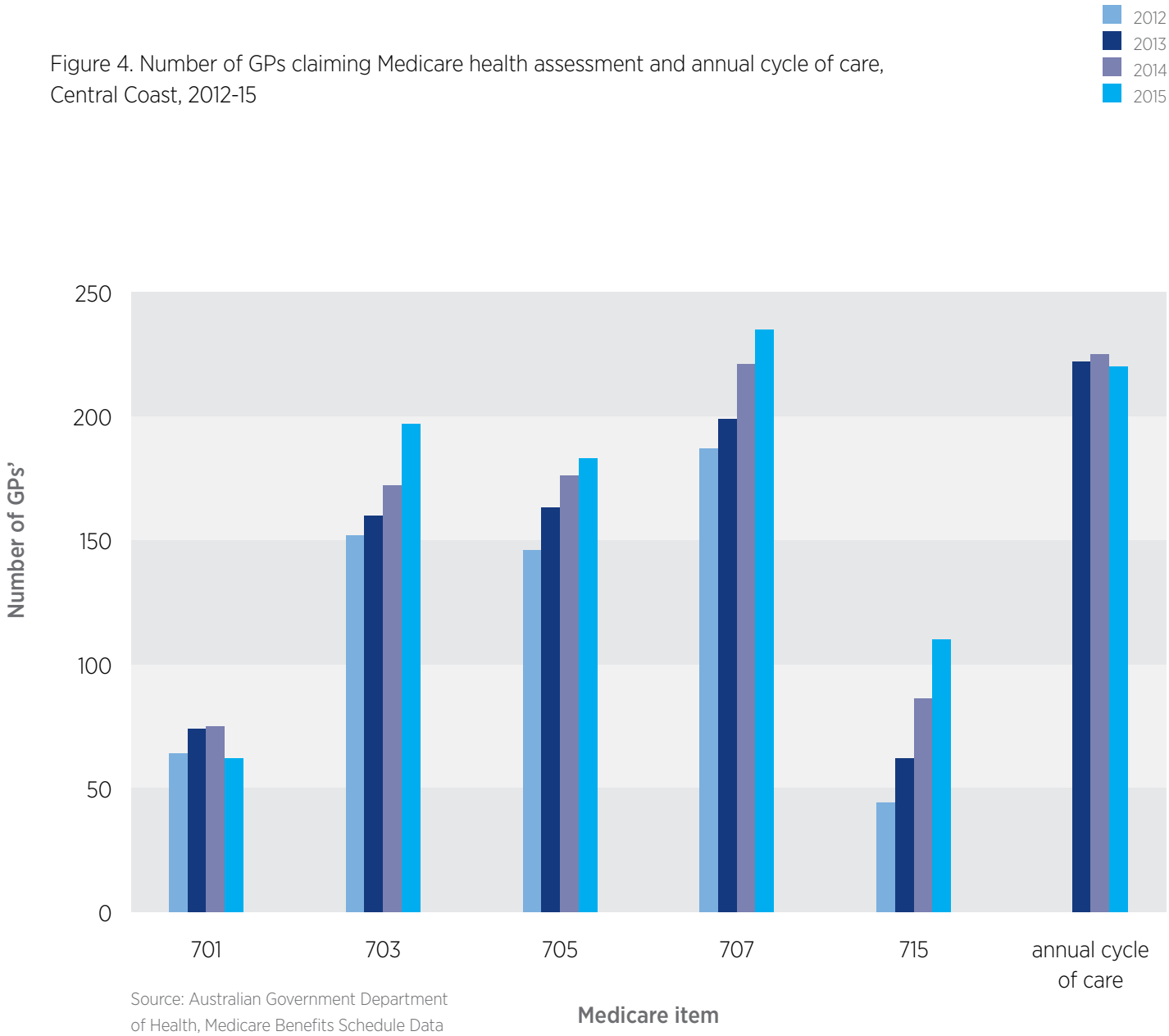
Data in Figure 3 and 4 may indicate an increase in service counts and practitioners performing health assessments. It may also indicate no increase in the number of annual cycles of care being performed and no increase in the numbers of practitioners performing an annual cycle of care.

Figure 3. Number of Medicare item health assessments and annual diabetes cycle of care, Central Coast, 2012-15



Source: Australian Government Department of Health, Medicare Benefits Schedule Data

Figure 4. Number of GPs claiming Medicare health assessment and annual cycle of care, Central Coast, 2012-15



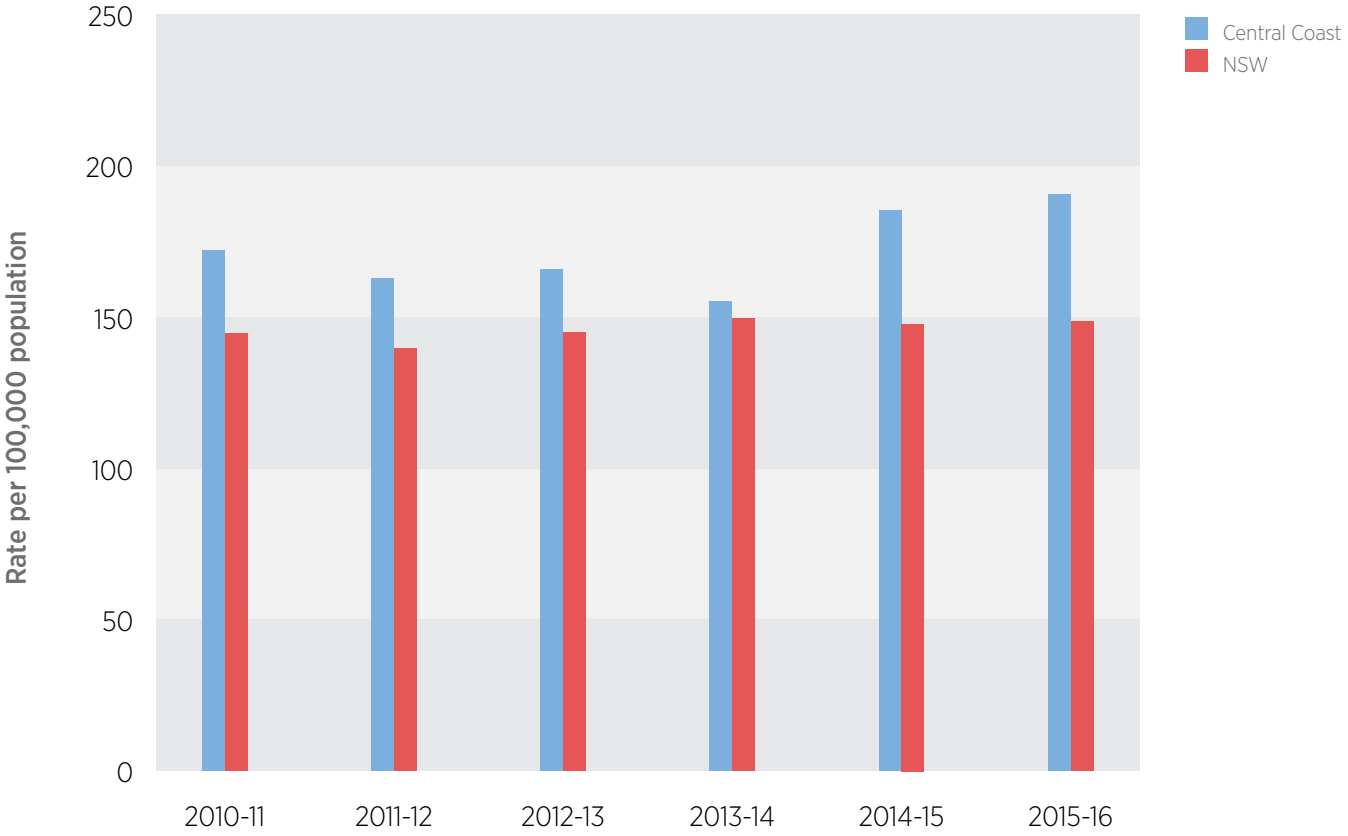
Source: Australian Government Department of Health, Medicare Benefits Schedule Data

2.3 Diabetes in Secondary and Tertiary care

Hospitalisations where diabetes is the main cause

There were 742 hospitalisations due to diabetes (main reason for admission) among Central Coast residents in 2015-16[3]. This represents a rate of hospitalisation per 100,000 population per year of 225 for males (432 admissions) and 162 for females (310 admissions). The same rates for NSW in 2015-16 were 168 per 100,000 for males and 133 per 100,000 for females. Figure 5 shows the Central Coast rates for persons with diabetes as a principal diagnosis were above the state average.

Figure 5. Diabetes as a principal diagnosis, hospitalisations, Central Coast LHD, NSW 2010-11 to 2015-16



Source: NSW Combined Admitted Patient Epidemiology Data and ABS population estimates (SAPHaRI). Centre for Epidemiology and Evidence, NSW Ministry of Health. Accessed 4.9.17

Amputations due to diabetes

From 2012 to 2016, among Central Coast residents and due to diabetes, there were on average, per year:

- 11 below knee amputations
- 62 toe/foot/ankle amputations, and
- 6 above knee amputations.

The rates of amputations were about 16%, 16%, and 37% higher than the state average for below knee, toe/foot/ankle, and above knee amputations respectively (though not statistically significantly different, as some of these numbers are relatively small).

Figure 6. Amputations due to diabetes, hospitalisations by site of amputation: Below the knee, Comparison by LHD, NSW, 2013-16

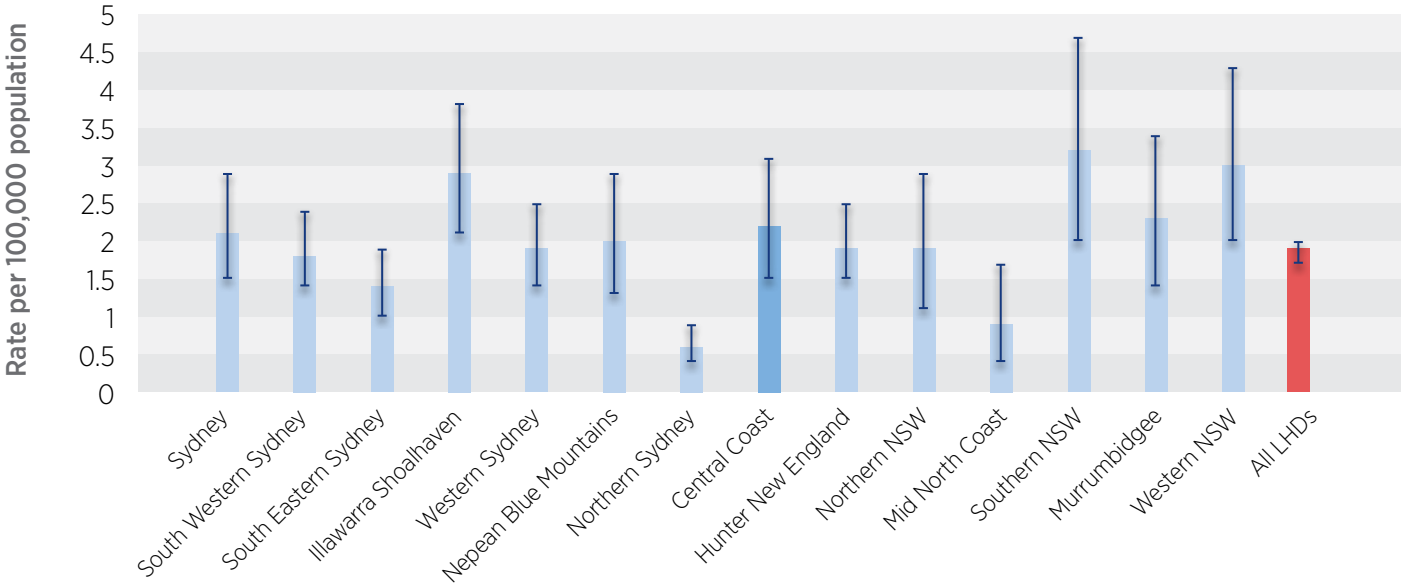
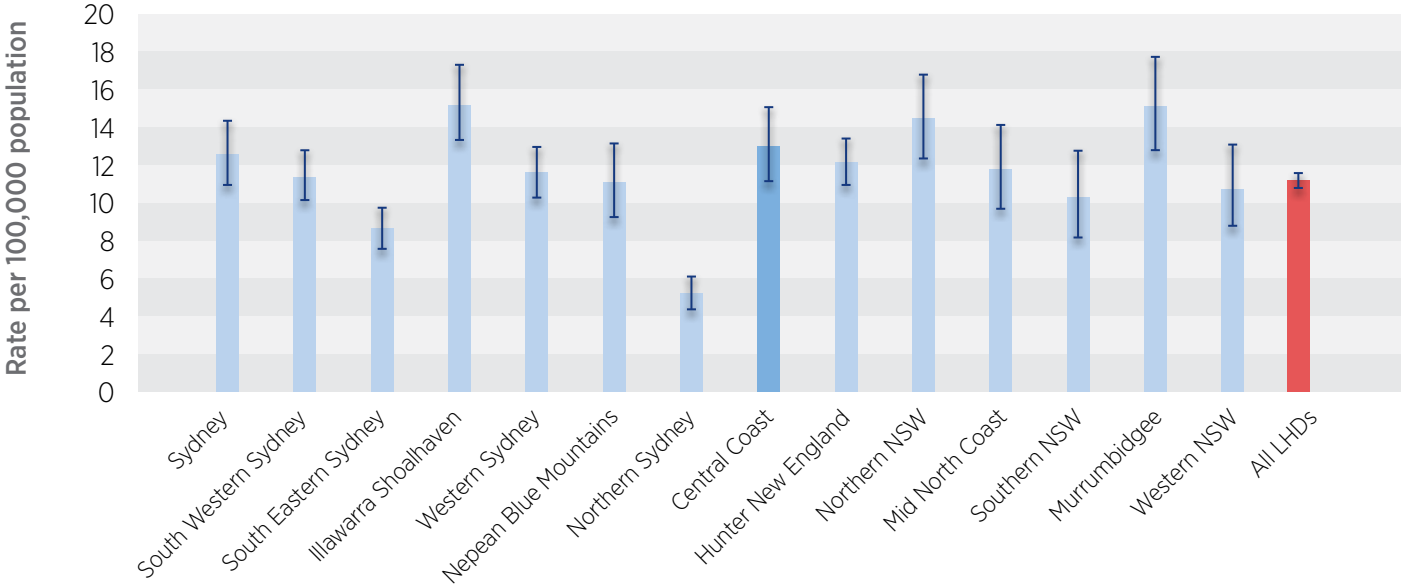


Figure 7. Amputations due to diabetes, hospitalisations by site of amputation: Toe/foot/ankle, Comparison by LHD, NSW 2013-2016



Source: NSW Combined Admitted Patient Epidemiology Data and ABS population estimates (SAPHaRI). Centre for Epidemiology and Evidence, NSW Ministry of Health. Accessed 4.9.17

3. Diabetes Service Profile on the Central Coast

3.1 Prevention services

There are many organisations on the Central Coast that implement strategies to address the lifestyle risk factors for diabetes and other chronic diseases. Examples include implementing health promotion policies and practices in the workplace (no smoking worksite and Nicotine Replacement Therapy (NRT) for those attempting to quit, healthy food at staff cafeteria), providing structural support for good health (Council shared pathways) and running programs that encourage good health (exercise classes for older adults).

The Central Coast Local Health District (LHD) Health Promotion Service is a key service using a population health approach and working in partnership with others to improve the health of the Central Coast community.

Work led by the Health Promotion Service to address chronic disease risk factors includes:

Healthy Eating Active Living: the health promotion service has a strong commitment to promoting healthy eating and active living across the Central Coast community. There is enhanced focus on achieving the NSW Premier's Priority (2015) of reducing overweight and obesity rates in children by 5% over 10 years. The Central Coast Healthy Eating & Active Living (HEAL) Delivery Plan also addresses adult overweight and obesity at a local level and supports the NSW HEAL Strategy 2013-2018. Key actions include:

- Develop, implement and evaluate a Central Coast HEAL Delivery Plan that engages and mobilises relevant stakeholders across sectors.
- Continue the tailored local delivery of state-wide programs and supporting strategies that promote healthy eating and active living for children and adults, such as Munch and Move, Live Life Well at School, Go4Fun and referral to the Get Healthy Service.
- Continue advocacy for health promoting environments by working with planning agencies to ensure population health is prioritised.
- Integrate and emphasise physical activity in all appropriate projects.

Other organisations involved in and supporting health promotion initiatives include PHN, Yerin – Eleanor Duncan Aboriginal Health Centre, CC Council, NSW Department of Education and Communities, Broken Bay Diocese Catholic Education Commission, Association of Independent Schools, NSW Ministry of Health, Office of Preventive Health, Healthy Kids Association, CC Primary School Principals and teachers, Central Coast School Education Region, early childhood education and care services, TAFE NSW, Early Childhood Training and Resource Centre, WorkCover (Gosford), NSW Business Chamber (CC), Local Chambers of Commerce, private gyms and pools, walking groups, Cancer Council NSW, Heart Foundation NSW, Diabetes NSW.

3.2 Primary Care services

General Practices

In 2016 the Central Coast had an estimated population of 333,119[12]. There were approximately 447 GPs, with a total full service equivalent (37.5 working hours per week) of 281 across 106 general practices (PHN). In 2015, the rate of supply of general practitioners in Australia was 114 per 100,000[13] based on full-time equivalent defined as working 40 hours per week. Central Coast has less than the national average of GPs per 100,000 population.

In 2016 there were approximately 228 Practice Nurses on the Central Coast working in 73 general practices (PHN).

Table 2. General Practice's in Gosford, Wyong and Central Coast, 2016

	Gosford	Wyong	Central Coast
General Practices	54	52	106
GP total	237	210	447
GP full service equivalent	163.5	117.5	281
GP FSE per 100,000 population	94	73.8	
Registrar	29	12	41

Source: Estimates from HNECC PHN ChilliDB workforce data, Nov 2016

Note: GP hours are missing from two practices in Gosford and seven in Wyong so number FSE hours and FSE per 100,000 would be higher, provided by HNECC PHN

Preliminary GP and Registrar numbers only. Headcounts only, does not account for GPs or Registrars who may work in more than one general practice

Allied Health Services

Allied Health information was most recently collated by Central Coast Medicare Local in mid-2015 and should be used with caution. Allied Health professionals employed at LHD and Gosford Private Hospital are not included here. Data gives an indication of relative workforces in 2015.

Table 3: Allied Health professionals in private practice and service in Gosford, Wyong and Central Coast, 2015

Health Professionals /Services	Gosford	Wyong	Central Coast
Podiatrists	41	38	79
Pharmacies	36	37	73
Pharmacists	63	58	121
Diabetes Educators			3
Dietitians			26
Exercise physiologists			29

Source: Information from CC Medicare Local collected in mid-2015 and no longer updated

Yerin – Eleanor Duncan Aboriginal Health Centre

Yerin – Eleanor Duncan Aboriginal Health Centre. (Yerin) is a community controlled integrated primary health care service located at Wyong and Gosford on the NSW Central Coast, Darkinyung country. Yerin – Eleanor Duncan Aboriginal Health Centre is the only community controlled Aboriginal Health Service on the Central Coast. Services provided in relation to diabetes include:

- clinical services by GPs, practice nurses and Aboriginal health practitioners,
- a Medical Outreach Indigenous Chronic Disease Program which comprises of monthly services including a visiting endocrinologist, diabetes educator, podiatrist and dietitian,
- an optometrist visiting one other day a fortnight,
- an Integrated Team Care service that assists clients with chronic health issues to receive the health care they need, such as organising doctors' appointments, transport to and from appointments, following up with clients on their health plan, etc.

Hunter New England Central Coast Primary Health Network

The PHN is a not-for-profit organisation funded by the Commonwealth Government to improve the efficiency and effectiveness of the primary health care system.

The PHN works in collaboration with its partners and stakeholders to deliver better health outcomes. Diabetes management forms part of this vision. Key initiatives currently in place that support diabetes management and care coordination include:

- HealthPathways; an online health information portal for GPs and other primary health clinicians
- Patient Info; a website with trusted health information likely to be helpful for patients with diagnosed conditions
- Practice Support and Development; this team provides direct support to general practices in areas such as Practice Management, Education/Professional Development, Digital Health, Quality Improvement/ Accreditation, Chronic Disease Management, Preventative Health, Workforce Support, Immunisation, Practice data extraction and analysis
- Better health care planning for our region
- Practice data analysis; collective de-identified practice data analysed to assist with identifying area needs, service gaps and enhance service provision
- PENCAT feedback to practices; summary of practice activity and patient outcomes provided to practices to assist with identifying areas of need
- Hunter Alliance Diabetes Integration Project; high risk diabetes patients attend a case conference at the GP practice with at least a GP, practice nurse, endocrinologist and diabetes educator in attendance. Education for GPs and practice nurses also takes place. Six and 12 month outcomes are favourable and a similar project is being considered for piloting on the Central Coast.

3.3 Secondary and Tertiary Care services

Members of the LHD diabetes specialist team include:

- 1.5 FTE LHD endocrinologists, approximately 50% of time diabetes related
- 7 FTE LHD diabetes educators
- 2.2 FTE LHD dieticians diabetes related
- 8.2 FTE LHD podiatrists, approximately 90% of time diabetes-related

In total there are seven endocrinologists working publicly and/or privately on the Central Coast.

Private allied health professionals have been included under Primary Care Services.

A summary of LHD services available for diabetes clients is presented in Table 4.

Table 4. Diabetes services available for diabetes clients

Diabetes services	Endo	D Ed	Diet	SW	Pod
Inpatient services	x	x	x	X	x
Paediatric Outpatient Appointments	Paed Endo	x	x	x	
Paediatric Diabetes Clinic	Paed Endo	X	X	x	
Team T1 Adolescent Insulin Adj and CHO Count		x	x		
Paediatric School visits		x			
Antenatal Endocrine Clinic	x	x	x		
GDM Group		X	x		
Antenatal Insulin Stabilisation Program		x			
Young Persons Transition Clinic	X	X	X	x	
Insulin Stabilisation Program		x			
Type 1 Group		x	x		
Type 2 Group		x	x		
Adult Outpatients Appointments	x	x	x	x	
DM Outpatient Clinic; DEd and Diet		x	x		
DM Outpatient Clinic; Diet only			x		
T1 Insulin Pump Clinic	x	x	x	x	
Continuous Glucose Monitoring Service Clinic	x	x			
Complications Clinic	x	x	x		x
Foot Wound Clinic					x
Diabetes Foot Assessment Clinic					x
High Risk Foot Clinic					x
48 hr follow up		x			
Home Visits		x			
External Education		x			
Staff Diabetes Education		x			
National Aborigines and Islanders Day Observance Committee (NAIDOC)	x	x	x	x	x

Additional diabetes related LHD services

Nunyara Aboriginal Health Unit provides a range of health services for Aboriginal and Torres Strait Islander people. The Chronic Care Manager and CNS Chronic Care for Aboriginal People implement the Chronic Care program which includes but is not limited to following up patients who have been admitted to hospital and identified as having one or more chronic disease/s, and coordinating an annual NAIDOC celebration including an extensive health check.

The Chronic Care self-management program consists of community voluntary leaders running the Stanford Better Health Management Program at various Central Coast locations for community members with chronic disease/s.

Ongoing and Complex Care supports a CNS2 within Diabetes for Chronic Disease Management (CDM). Diabetes is one of five of the targeted diagnostic areas for the selection of CDM patients. These complex patients may be offered case management or coaching within the work of care coordination and complex care.

4. The Central Coast Approach to Diabetes Care

The vision for diabetes care on the Central Coast is for the community, consumers and health professionals to work collaboratively to prevent diabetes and achieve better health outcomes for those with diabetes.

The incidence of diabetes and diabetes risk factors is high and increasing. A Central Coast wide, whole-of-population and whole-of-care approach is required to address this concern.

The LHD, PHN and Yerin – Eleanor Duncan Aboriginal Health Centre in consultation with other service providers and consumers have worked collaboratively to develop a coordinated and integrated approach to diabetes care. The planning process identified service gaps and opportunities, and consumer and community needs. The Australian National Diabetes Strategy 2016-2020[14] was used as a framework to develop this local plan. Other regional, state and international approaches have also been considered[15-20].

A proposed Diabetes Model of Care to be adopted and a Diabetes Plan to be implemented over the next five years have been developed. Both the model and plan range from diabetes prevention through to management of complications in the community through to the tertiary setting.

4.1 Central Coast Diabetes Model of Care

The proposed Central Coast Diabetes Model of Care (graphic follows) provides a framework for a coordinated and integrated approach to diabetes prevention and management to achieve better health outcomes for our community. The model includes key elements of care in the community, primary care, and secondary and tertiary care settings and acknowledges that care overlaps between settings.

The model promotes:

- Consumer centred care with particular consideration for Aboriginal and Torres Strait and other marginalised people to reduce inequalities in care.
- Community setting; prevention and health promotion to improve the health of the whole community and may focus on identified target groups.
- Primary care setting; general practice has the central role in diabetes identification and management. Specialists assist with complex diabetes and provide health professional education updates. Primary Health Network provide regional and practice specific data analysis and support practice development.
- Secondary and tertiary setting; diabetes specialists provide care for complex diabetes and support to primay care providers.
- Further development and implementation of this Model of Care falls within the scope of this plan.
- This model acknowledges that there is variability among practitioners and a need for some flexibility; some GPs may wish to extend their role into more complex care, others may need greater support for their patients.

Diabetes Model of Care

Community Setting

1. **Prevention and Health Promotion**
   a. Building healthy public policy
   b. Supportive environments
   c. Promoting healthy lifestyle
   d. Partnership and planning with services, organisations, consumers and communities

2. **Consumer and community engagement:** Across all settings

3. **Reduction of health inequalities:** Target Aboriginal & Torres Strait Islander people and other marginalised people

Primary Care Setting

4. **Primary Care**: General health and wellbeing

5. **Primary Care relating specifically to diabetes: "The Necessary Nine"**
   a. Screening
   b. Prevention
   c. Regular reviews / surveillance
   d. Prescribing
   e. Insulin
   f. Patient & carer self-management education
   g. Cardiovascular
   h. Housebound / care homes
   i. Outcomes / audit

6. **Specialist support for Primary Care**

Secondary & Tertiary Care Setting

7. **Complex Care: "The Super Seven"**
   a. In-patient care
   b. Insulin pumps
   c. End stage renal
   d. High risk foot
   e. Children/ adolescents
   f. Pregnancy
   g. Type 1 / rare / complex / unstable

Adapted from: Leicestershire Clinical Commissioning Groups

5. Central Coast Diabetes Plan

The Central Coast Diabetes Plan (pp 23-40) identifies 13 priority areas across the community, primary care, secondary and tertiary settings.

Priority areas across all settings include enhanced consumer involvement, aligning workforce capacity with community need, and use of information and communication technology. These are essential for coordinated, integrated and best practice diabetes care.

Prevention and health promotion priority areas include promoting healthy living and active living in the community.

Early detection and optimal diabetes management takes place predominantly in general practice with support from diabetes specialists. Priority actions focus on early detection, self-management, marginalised and priority groups, and best practice diabetes management.

Enhanced services are provided by the diabetes specialist team to manage complex diabetes, support general practices to manage complex patients and to provide education updates to health professionals.

Priority Areas

All Settings	
1	Enhance consumer involvement
2	Align workforce capacity with community need
3	Further develop and enhance utility of information and communication technology
Community Setting	
4	Promote healthy eating and active living across the Central Coast
Primary Care Setting	
5	Maximise the early detection of diabetes
6	Strengthen primary care management of diabetes and local care pathways
7	Implement a consistent approach to patients diabetes education and self-management
8	Strengthen and expand specialist support for Primary Care
9	Reduce the impact of diabetes among Aboriginal and Torres Strait Islander people
Secondary and Tertiary Care Setting	
10	Further develop and enhance diabetes services to better outcomes for people with newly diagnosed or complex diabetes
11	Reduce the impact of diabetes among Aboriginal and Torres Strait Islander people
12	Reduce the impact of pre-existing and gestational diabetes in pregnancy
13	Reduce the impact of diabetes among children with diabetes, older Australians, and those with mental health and wellbeing issues

5.2 Actions

All Settings

LHD, PHN and Yerin – Eleanor Duncan Aboriginal Health Centre will work collaboratively to provide evidence-based, comprehensive, accessible, efficient and coordinated diabetes prevention and management services for all people on the Central Coast reflective of community need.

Key Priority Area 1: Enhance consumer involvement

Actions	Performance Indicators	Service Responsible	Timeframe
1.1 Engage existing avenues for consumer involvement in identifying gaps, health planning and service delivery including PHN and LHD Clinical Councils, PHN Central Coast Community Advisory Committee, LHD Consumer and Community Engagement Committee, PHN and LHD Collaboration Unit GP Panel, Yerin – Eleanor Duncan Aboriginal Health Centre's men's and women's groups.	Meetings with: CCLHD Community Engagement Committee CCLHD Clinical Council HNECCPHN Clinical Council HNECCPHN Community Engagement Committee CC GP Collaboration Unit – GP Panel Yerin – Eleanor Duncan Aboriginal Health Centre's men's and women's groups	Diabetes Advisory Group	Mar 2017, ongoing Jul 2017 Oct 2017 Aug 2017 Ongoing Ongoing
1.2 Identify and implement best consumer feedback mechanisms for diabetes services and programs including but not limited to: (a) consumers on Diabetes Advisory Group (b) feedback from people attending diabetes services (c) survey LHD employees with diabetes and those with family / friends with diabetes	(a) Consumer(s) on Diabetes Advisory Group (b) ACI Patient Journey – Diabetes Education Centre (b) Existing service evaluation/ feedback (c) CCLHD survey and report, with recommendations	Diabetes Advisory Group LHD Public Health/Int Care Service managers in each organisation LHD Public Health/Int Care/ Yerin – Eleanor Duncan Aboriginal Health Centre	Jun 2017, ongoing Oct 2017 Ongoing Oct 2017

Key Priority Area 2: Align workforce capacity with community need

Actions	Performance Indicators	Service Responsible	Timeframe
2.1 Analysis of service use data, population health data, best practice guidelines to define/ estimate community need.	Population need identified and reported	LHD Planning/ Public Health/ Performance, PHN, Yerin – Eleanor Duncan Aboriginal Health Centre	2017-18
2.2 Determine workforce capacity, and how they relate to the Central Coast population's needs – across LHD, PHN, General Practice and Yerin – Eleanor Duncan Aboriginal Health Centre's range of health workers	Workforce capacity report	LHD Workforce/ Planning/Public Health, Diabetes Services, Yerin – Eleanor Duncan Aboriginal Health Centre, PHN	2017-18
2.3 Identify areas of need and actions required for the Central Coast health workforce, including but not limited to diabetes education for health workers in hospital and community settings; clinical care options for people with type 1 and type 2 diabetes, and higher risk populations. Identify the types of skills, and workforce required to deliver the Diabetes Model of Care for the Central Coast population.	Workforce analysis report and recommendations	Workforce/ Planning/Public Health/Diabetes Services, PHN, Yerin – Eleanor Duncan Aboriginal Health Centre	2018
2.4 Explore options to increase access to diabetes services in the community, e.g. community health, community pharmacies, private allied health providers.	(a) private providers included in HealthPathways (b) roles of private providers identified and supported	(a) PHN, LHD (b) PHN	2018

Key Priority Area 3: Further develop and enhance utility of information and communication technology

Actions	Performance Indicators	Service Responsible	Timeframe
3.1 Fully utilise existing information and communication systems such as eMR, CHOC, ComCare, Argus, MHR and PENCAT to deliver better clinical and operational performance and support improved patient outcomes and experience	Strategies implemented and activity monitored		
(a) Develop ComCare to receive and send messages directly from and to primary care via secure messaging (Argus)	(a) ComCare receives electronic faxes. Receiving and sending out Argus messages in development.	(a) External provider/LHD ComCare	TBA
(b) ComCare to use patient demographic data from eMR	(b) Exists for new patients. Else manual updates	(b)	Ongoing
(c) Enable patients notes to be shared between CHOC, ComCare and eMR	(c) Functionality now in place	(c) LHD ComCare/ eMR support teams	July 2017
(d) Investigate the possibility to enable interface between Audit 4 and CHOC, ComCare and eMR	(d) Assess functionality of Audit 4, connectivity	(d) LHD Diabetes services	2018
(e) eMR referral to Diabetes Educator (via ComCare)	(e) Feasible. For consideration.	(e) LHD ComCare/ eMR teams	Dec 2017
(f) Pilot GPs sending health summaries directly to ED	(f) Feasible. In progress.	(f) LHD Int Care	2018
(g) Investigate the possibility for the Citrix platform to enable software changes rather than making changes to individual computers.	(g) Functional requirements to be determined.	(g) LHD Diabetes services, NSW Health State wide service desk	2018/19
(h) Discharge summaries from maternity to GPs	(h) Update from Obstetrix	(h) LHD eMaternity	Dec 2017
(i) Discharge summaries from hospital to residential aged care facilities	(i) Update from relevant working group	(i) LHD eMR team	2019
(j) Promote use of My Health Records	(j) Request update from PHN	(j) PHN	2018
(k) SMS to patients for (i) appointment reminders and (ii) capacity to respond	(k) (i) Feasible. For implementation. (k) (ii) Assess feasibility	(k) LHD ComCare/ eMR teams	k.i) 2018 k.ii) 2019

Actions	Performance Indicators	Service Responsible	Timeframe
3.2 Investigation and investment into emerging technologies including but not limited to (a) 3D scanning and printing for diabetes wound orthoses, (b) electronic appointment system for patients, (c) e-referrals (Argus), (d) telehealth (e) use of apps (f) social media. Modifications also required to better support Model of Care.	Emerging technologies identified and implemented	LHD IT, PHN	
	(a) For review	(a) LHD Podiatry	2020
	(b) patient portal – not yet available	(b) LHD ComCare	2020/21
	(c) feasible – review business model	(c) LHD	2018
	(d) feasibility on Central Coast, MBS item nos	(d) PHN	2018/19
	(e) assess functionality of apps	(e) LHD Diabetes Services	2019

Community Setting

A population approach is used to prevent people developing type 2 diabetes. Programs are aimed at targeted populations rather than individuals and are delivered in partnership with other services, organisations and communities. Working in partnership ensures that health promotion practices are embedded into other settings, other professionals are up skilled in health promotion and programs are subsequently more sustainable. There is enhanced focus on achieving the NSW Premier's Priority (2015) of reducing overweight and obesity rates in children by 5% over 10 years.

Key Priority Area 4: Promote healthy eating and active living

Actions	Performance Indicators	Service Responsible	Timeframe
4.1 With Dept. Premier and Cabinet, lead on the development of a whole-of-government regional approach to address childhood overweight and obesity on the Central Coast. Establish Central Coast Regional Leadership Executive Sub-committee for cross-agency collaboration on reducing obesity and promoting healthy eating and active living. Develop cross-agency action plan to address childhood overweight and obesity in the region	Sub-committee had first meeting June 2017. Cross-agency action plan completed and agreed upon at June 2017 meeting. For annual progress report to NSW Health.	LHD Health Promotion, Dept. Premier and Cabinet	2017 - 2025
4.2 Enhanced focus on tailored local delivery of state-wide programs promoting healthy eating and active living in early childcare settings, schools, community sports, workplaces and community settings		LHD Health Promotion reports on each of these programs quarterly to NSW Health	Ongoing
(a) foster healthy habits in children and young people at school	(a) Support provided to, and 'uptake measures' for 79 primary schools, 29 high schools		
(b) provide a supportive environment for healthy eating, physical activity and reducing small screen recreation for children in early childcare settings	(b) Measures of capacity for 127 early childhood education and care services		
(c) increase referrals to Get Healthy Service and Go4Fun	(c) Annual report provided to LHD for Get Healthy Service (including tailored Type 2 Diabetes Prevention program and Get Healthy in Pregnancy) including number of referrals, weight loss and waist circumference. Target for 2017-18, 383 referrals by Health Professionals; target for 2017-18 Go4Fun to deliver 12 programs		

Actions	Performance Indicators	Service Responsible	Timeframe
4.3 Advocate for health promoting environments and provide submissions to planning agencies and development processes to ensure population health is prioritised. Promote environments that support healthy eating and active living.	Develop planning strategies for safe walking, cycling, public transport and chilled water stations	LHD Health Promotion/Public Health Unit	Ongoing
	Implement healthier food and drink policy initiative for staff and visitors in NSW Health facilities.	LHD	2017, ongoing

Primary Care Setting

Around one in five adults with diabetes do not know they have the condition[21]. If left undiagnosed or poorly managed, diabetes can lead to coronary artery disease, stroke, kidney failure, limb amputations and blindness. Early detection and optimal management of diabetes can improve access to necessary care and reduce complications, improving quality of life among people with diabetes and reduce the escalating burden on health resources. General practice has the central role in type 2 diabetes management across the spectrum, from identifying those at risk right through to caring for patients at the end of life[2], and is supported by specialty services.

Key Priority Area 5: Maximise the early detection of diabetes

Actions	Performance Indicators	Service Responsible	Timeframe
5.1 Address risk factors for disease, in the whole population and for people with diabetes by extended promotion of Get Healthy Service utilisation to health professionals	(c) Annual report provided to LHD for Get Healthy Service including referrals and weight loss and waist circumference. Target for 2017-18, 383 referrals by Health Professionals	LHD Health Promotion	2017, ongoing
5.2 Promote strategies aimed at screening and early detection of people at risk of developing diabetes			
(a) implementation, evaluation and review the diabetes prevention campaign, 'Over 40? Check Your Risk!' (a program that includes education about diabetes risk factors and the promotion of diabetes screening by GPs)	(a) 'Over 40? Check Your Risk!' implemented # hits on Health Promotion Check Your Risk site # Health Assessments (MBS) via PENCAT/MBS Review with recommendations	LHD Health Promotion/Public Health, PHN, Yerin – Eleanor Duncan Aboriginal Health Centre	2017-18 2018
(b) Assess feasibility of trial to undertake BSL on every patient to ED or admitted to hospital, including impact for services providing follow-up and benefits	(b) Brief report on feasibility, expected outcomes and recommendations	LHD Public Health/Health Promotion LHD Diabetes Advisory Group	2018-19

Key Priority Area 6: Strengthen primary care management and local care pathways

Actions	Performance Indicators	Service Responsible	Timeframe
6.1 Build on the Diabetes Model of Care (from this plan) to consolidate roles and responsibilities of primary care providers, and implement strategies to support primary care providers. Including education for general practitioners and practice nurses, use of care guidelines (HealthPathways), referral pathways and options to access diabetes specialist advice and transition services.	GP and practice nurse education – annual forum	Diabetes Advisory Group, PHN	May18 ongoing
	Range of HealthPathways exist for diabetes care Number of times accessed, unique users	PHN	Ongoing
	Review of pathways every 2 years	PHN	Ongoing
	Develop mechanisms to monitor referrals, specialist feedback and GP feedback, appropriateness	PHN/Diabetes Advisory Group	2019-20
6.2 Support quality improvement processes in general practice, including mechanisms for primary care providers to use their clinical data to compare with peers and care guidelines.			
(a) PHN practice support team to provide clinical data feedback to GPs	(a) Number of practices receiving clinical feedback report	PHN	Annually
	% of GPs/patients achieving care guidelines	PHN	Annually
(b) PHN assisting/ training GPs to use clinical software to generate recalls and reminders, pro-actively manage people with complex issues	(b) Number of practices using recall/reminders	PHN	Annually
	Number of practices prioritising complex cases	PHN	Annually

Key Priority Area 7: Implement a consistent approach to diabetes education and self-management

Actions	Performance Indicators	Service Responsible	Timeframe
7.1 Continue to implement and promote the various health self-management and support programs offered on the Central Coast including but not limited to the Stanford Better Health Management program offered by LHD and run by community volunteers, Get Healthy Service Diabetes offered by NSW Health, peer support programs run by Diabetes NSW volunteers, Aunty Jean's Chronic Disease Outreach Program run by CCPC, Integrated Team Care program run by Yerin – Eleanor Duncan Aboriginal Health Centre, and web-based patient education and self-management programs, e.g. *patientinfo*	Number of Stanford program attendees with diabetes	LHD Chronic Care Self Management	Annually
	Get Healthy Service Diabetes – activity report	LHD Health Promotion	Annually
	LHD Diabetes and Nutrition education	LHD Diabetes Services/Nutrition Services	Annually
	Other peer support programs, including Diabetes NSW volunteers and community led groups	LHD,PHN,Yerin – Eleanor Duncan Aboriginal Health Centre, Diabetes NSW, CC Primary Care Diabetes Advisory Group	Annually
7.2 Ensure education is provided to patients and their carer (where applicable) in a form that is accessible and relevant to individual goals. Review the capacity of community nurses, practice nurses, Aboriginal Health workers/ Practitioners and GPs and what roles they have in providing and reinforcing diabetes education and key messages, including people newly diagnosed and after hours services. Consider redistributing some aspects of diabetes education to different roles. This may assist credentialed diabetes educators taking on expanded roles in diabetes management, e.g. insulin stabilisation.	(a) Survey general practices and private allied health providers re roles, perceived needs	PHN	2017
	(b) Survey community nurses as above	LHD, PHN	2017
	(c) Incorporate these findings into delivery of diabetes education on Central Coast	Diabetes Services, PHN	2018

Key Priority Area 8: Strengthen and expand specialist support for Primary Care

Actions	Performance Indicators	Service Responsible	Timeframe
8.1 Provide education and support for general practice to deliver the Model of Care.	(a) Needs assessment of general practice in relation to 'Necessary Nine' functions within the Model of Care	PHN	2018
	(b) Content and locality targeted education and specialist support (diabetes educators, endocrinologists)	PHN, LHD, Yerin – Eleanor Duncan Aboriginal Health Centre	2017-18 and ongoing
8.2 Develop mechanisms for GPs to access specialist support for their patients and carers			
(a) telephone advice for immediate issues	(a) Implementation/promotion of telephone advice	LHD, PHN	Oct 2017
(b) review GP needs for outpatient clinic support in terms of timeliness and nature of consultations as part of needs assessment (10.3)	(b,c) LHD Outpatient clinic options to be informed by GP needs assessment (10.3)	LHD	2018
(c) incorporate GP needs into types and timing of outpatient clinics			
(d) GP, endocrinologist, diabetes educator shared consultation in general practice setting (Hunter model) (10.1)	(d) Trial with 3 practices on the Central Coast (10.1)	LHD, PHN, Yerin – Eleanor Duncan Aboriginal Health Centre	2018/19
	(e) Monitor appropriateness of referrals		2018
		LHD, PHN	
8.3 Develop strategies to support GPs caring for young people with Type 1 diabetes. Involves GP, paediatric endocrinologist, paediatrician, endocrinologist, diabetes educator, practice nurse. Consider shared care arrangements, telehealth, case conferencing, integrated care model (13.1)	Business case for case conferencing/telehealth	PHN	2018
	Service model developed and trialled	PHN, LHD	2018-19
	Monitor person, carer, health worker experience of care	PHN	2018-19

Key Priority Area 9: Reduce the impact of diabetes among Aboriginal and Torres Strait Islander people

Actions	Performance Indicators	Service Responsible	Timeframe
9.1 Continue to develop and implement a range of service options for Aboriginal people on the Central Coast, including access to culturally sensitive mainstream services, in addition to services provided through Nunyara (CCLHD), Yerin – Eleanor Duncan Aboriginal Health Centre and other organisations			
(a) diabetes education initiative - resources development and distribution	(a) diabetes education resources available	(a) LHD, Nunyara, Yerin – Eleanor Duncan Aboriginal Health Centre	2018
(b) health screening at NAIDOC Central Coast event, with follow up after NAIDOC, and reporting on health outcomes, future resources needed	(b) health screening offered at NAIDOC, with subsequent report and recommendations	(b) LHD, Nunyara	Annually
(c) develop strategies to support and assist Aboriginal people to access mainstream services, through Aboriginal Health Impact Assessments (LHD), Indigenous Health Access Team (PHN), Integrated Team Care (Yerin – Eleanor Duncan Aboriginal Health Centre)	(c) Number of Assessments for service planning and development, PHN and Yerin – Eleanor Duncan Aboriginal Health Centre teams' activities	(c) LHD, Nunyara, Yerin – Eleanor Duncan Aboriginal Health Centre, PHN	2017 ongoing
(d) Review Yerin – Eleanor Duncan Aboriginal Health Centre's Medical Outreach Indigenous Chronic Disease program with the view to increasing appointment availability with diabetes specialist	(d) Number appointments attended Patient experience of care and outcomes	(d) Yerin – Eleanor Duncan Aboriginal Health Centre	2017-18 2019
(e) Trial Yerin – Eleanor Duncan Aboriginal Health Centre clinic. Clinic to review and provide advice on management and link people back to their primary care provider	(e) Clinic trialled. Monitor activity and outcomes	(e) Yerin – Eleanor Duncan Aboriginal Health Centre	

Actions	Performance Indicators	Service Responsible	Timeframe
9.2 Promote Aboriginal diabetes services to GPs such as health checks and care planning, MBS Item 715 and MBS PIP Indigenous Health Incentive and provide cultural competency education (a) monitor routine MBS data for Central Coast reported quarterly (b) PHN to feedback to GPs re number of 715 checks and care plans completed, number of Aboriginal clients, number of Aboriginal clients with diabetes (c) Deliver GP Cultural Competency training	(a) Number of 715s, GPs doing 715s (MBS) (b) Number of GPs receiving feedback by PHN Number of MBS PIP Indigenous Health Incentive (c) Number of GPs attending Cultural Competency training	(a) PHN (b) PHN, Yerin – Eleanor Duncan Aboriginal Health Centre (c) PHN	Ongoing Jun 2018 & annually 2018, ongoing
9.3 Continue to develop and implement health promotion and diabetes prevention programs for Aboriginal people, e.g. Men's Group, Sistafit, cooking classes	(a) Number attending sessions (b) Group feedback	Yerin – Eleanor Duncan Aboriginal Health Centre	Ongoing

Secondary and Tertiary Care

Secondary and tertiary care refers to diabetes services for those patients with complex diabetes requiring a diabetes specialist team member. Services may be provided in the hospital, primary care or community setting, or via telehealth. Services are generally for complex patients individually or in a group, or as additional support to primary health care providers. It is the intent to transfer ongoing non-specialist management to GPs wherever possible.

Key Priority Area 10: Further develop and enhance specialist diabetes services to achieve better outcomes for people with newly diagnosed or complex diabetes

Actions	Performance Indicators	Service Responsible	Timeframe
10.1 Integrate CCLHD services with GPs and primary care providers to support the management of people with diabetes and carers in the primary care setting. This will include:			
(a) timely access to specialist advice and review	a) promote GP access to LHDEndocrinologist on call for immediate telephone advice – monitor number and nature of calls taken (a) specialist review – see 10.3	(a), (b) LHD Diabetes Service, PHN	(a) immediate
(b) diabetes education for people newly diagnosed, and support for GPs and primary care workers to provide and reinforce with consistent information	(b) identify opportunities for patient education in primary care setting – program commenced		(b) 2018
(c) insulin stabilisation – education, training, support for general practice	(c) program commenced – monitor insulin stabilisation in general practice, and in Diabetes service	PHN lead for monitoring general practice activity in (c), and for (d)	(c) 2019
(d) GP, endocrinologist, diabetes educator shared consultation in general practice setting (Hunter model) (8.2)	(d) Trial with 3 practices on the Central Coast		(d) 2018/19

Actions	Performance Indicators	Service Responsible	Timeframe
10.2 Develop and enhance Gosford and Wyong Hospitals' inpatient services.			
(a) Active education program for other specialist in-hospital teams (medical, surgical, mental health) to improve patient identification, provision of optimal diabetes care including pre- and peri-operative management, and timely referral to inpatient services or primary care services on discharge	(a) education program for hospital teams commenced. Monitor: number of team sessions, referrals to Diabetes Service, timeliness and appropriateness of referrals	(a) LHD Diabetes Service	(a) initiated 2017/18
(b) Increase the capacity to undertake inpatient and ED review of people with newly diagnosed diabetes, people admitted with hyper- or hypo-glycaemia, diabetes related complications and people with diabetes at the preadmission clinics.	(b) expand services (especially at Wyong) with recruitment to multidisciplinary inpatient diabetes team. Monitor: inpatient and ED reviews (and outcomes), service demand (and types), staff recruitment	(b) LHD Diabetes Service	(b) 2017/18
(c) Implement high risk foot management service for inpatients at both hospitals	(c) service implemented. Monitor: service activity and outcomes (including amputations)	(c) LHD Podiatry Service	(c) 2018
10.3 Enhance the specialist programs predominantly delivered in the outpatient or community setting.			
(a) Strategic review and development of diabetes clinics to meet the community and primary care sector needs, including complications clinic, outpatient clinics, review clinics and clinics in general practice. (8.2)	(a) Survey of GP needs, review with recommendations. (8.2)	(a) PHN, LHD Diabetes Service	(a) 2017/18
	(b) Service established. Monitor: activity, outcomes, appropriateness of referrals	(b) LHD Podiatry Service	(b) 2019
(b) Establish a High Risk Foot Service at Gosford Hospital	(c) Service meeting demand	(c), (d) and (e) LHD Diabetes Service	(c) 2018
(c) Expand the insulin stabilisation program to accommodate additional demand	Identify measures of service impact		(d) 2018
(d) Develop insulin pump reviews for children	(d) Numbers of children having insulin pump reviews, identify measures of service impact		(e) 2019
(e) Develop a 'starting insulin pump service' for children and adults and establish an equipment pool to facilitate access to high cost equipment	(e) Numbers attending 'starting insulin pump service' for children and adults		
	Numbers utilising equipment pool		
	Monitor experience of care		
	Number traveling out of area to receive pump		

Key Priority Area 11: Reduce the impact of diabetes on Aboriginal and Torres Strait Islander people

Actions	Performance Indicators	Service Responsible	Timeframe
11.1 Education and support for Aboriginal Health workers to include prevention of, screening for and management of people with diabetes. Identify how these areas of care can be incorporated into NAIDOC activities, hospital liaison and 48 hour follow up services.	a) Diabetes education provided for Aboriginal Health workers (b) Prevention, screening, diabetes care factored into hospital liaison role. Monitor prevalence of diabetes among people seen in hospital. (c) Review with recommendations re diabetes for 48 hour follow up services	(a) LHD Diabetes Service, Nunyara (b) and (c) LHD Nunyara	2017/18 2017/18
11.2 Continue to develop strategies to support and assist Aboriginal people to access Aboriginal Community Controlled Health Services and mainstream services;			
(a) through Aboriginal Health Impact Assessments for service planning	(a) Number of Aboriginal Health Impact Assessments completed	LHD Nunyara for both (a) and (b)	(a) annually
(b) Nunyara liaising with specialist diabetes services re cultural sensitivity	(b) Specialist services – culturally safe. Monitor service activity by Aboriginality.		(b) 2018
11.3 Establish diabetes clinic for Aboriginal people with diabetes who have complex care needs.			
(a) Follow up to NAIDOC held annually, as required	(a) Clinic established. Monitor activity and outcomes.	LHD Nunyara, Yerin – Eleanor Duncan Aboriginal Health Centre, LHD Diabetes Service	2017 ongoing
(b) Trial Nunyara clinic. Clinic to review and provide advice on management, and link people back to their primary care provider	(b) Clinic trialled. Monitor activity and outcomes.		2018
(c) Trial Yerin – Eleanor Duncan Aboriginal Health Centre clinic. Clinic to review and provide advice on management, and link people back to their primary care provider	(c) Clinic trialled. Monitor activity and outcomes.	LHD Nunyara Yerin – Eleanor Duncan Aboriginal Health Centre	2019

Key Priority Area 12: Reduce the impact of pre-existing and gestational diabetes in pregnancy

Actions	Performance Indicators	Service Responsible	Timeframe
12.1 Increase the capacity of diabetes maternity clinics at Gosford and provide Endocrine/ Diabetes maternity clinics at Wyong.	(a) increase capacity at Gosford (b) establish clinics at Wyong Clinic frequency and attendance at both sites	LHD Diabetes Service/ Endocrinology	(a) 2018/19 (b) 2020/21
12.2 Enhanced Endocrine/Diabetes maternity services, including:			
(a) pre-conception counselling for women with pre-existing diabetes	(a) pre-conception counselling established	(a) LHD Diabetes Service	(a) 2019
(b) GP shared care	(b) GP shared care for women with controlled gestational diabetes. Number of confinements and outcomes.	(b) LHD Maternity Diabetes Services	(b) 2018
(c) expanded educator services to improve health literacy for pregnant women, referral to Get Healthy in Pregnancy	(c) increased educational sessions held, monitor referrals to Get Healthy in Pregnancy	(c) Diabetes Service, Health Promotion	(c) 2018
(d) develop & maintain gestational diabetes HealthPathways	(d) monitor use of HealthPathways	(d) PHN	(d) 2018/19
(e) develop a program for post-pregnancy follow-up	(e) program trialled/implemented	(e) and (f) LHD Diabetes Service, PHN	(e), (f) 2019
(f) seeking consumer and GP perspectives to inform service directions, especially in relation to post-pregnancy follow-up	(f) community engagement processes in place		
(g) collaborating with Nunyara, Yerin – Eleanor Duncan Aboriginal Health Centre and others to develop strategies for Aboriginal and Torres Strait Islander women with GDM	(g) collaborative strategies developed, implemented	(g) LHD Nunyara, Diabetes Service, Yerin – Eleanor Duncan Aboriginal Health Centre	(g) 2019

Key Priority Area 13: Reduce the impact of diabetes among children with diabetes, older Australians, and those with mental health and wellbeing needs

Actions	Performance Indicators	Service Responsible	Timeframe
13.1 Further develop and expand paediatric and adolescent (transition care) diabetes services, in consultation with young people, paediatricians and general practitioners, i.e. shared care options.			
(a) increase capacity of paediatric multidisciplinary clinic	(a) clinic activity – first visit, follow ups, no shows	(a) LHD Diabetes Service	(a) 2018
(b) develop strategies to support GPs to manage young people with T1 diabetes, including GP shared care (8.3)	(b) strategies implemented	(b) LHD Diabetes Service, PHN	(b) 2019
(c) implement an ongoing consultation process with young people to advise service delivery	(c) consultation mechanism implemented	(c) and (d) LHD Diabetes Service	(c) 2018
(d) review Transition Clinic, including hours of operation, youth friendly strategies, engaging with Aboriginal youth, need for a psychologist	(d) clinic review with recommendations		(d) 2019
13.2 Expansion of diabetes services for older people - including home-based program for people commencing insulin, and needs assessment and support for aged care facilities.	(a) home based program implemented (b) identify support required by aged care facilities (c) pilot diabetes care training in aged care	LHD Diabetes Services	2019

Actions	Performance Indicators	Service Responsible	Timeframe
13.3 Education and support for Mental Health workers (hospital and community) to include screening for and management of people with diabetes.	Education program for mental health teams commenced. Monitor: number of team sessions & staff trained, referrals to Diabetes Service, timeliness and appropriateness of referrals	LHD Diabetes Service	2018
13.4 Develop psychological care pathways for people with diabetes. Pilot psychological screening for diabetes outpatients, inpatients and youth (with care pathways and resources in place).	(a) Psychological care pathways for people with diabetes included in HealthPathways (b) Pilot psychological screening, with outcomes and referrals monitored	(a) PHN, LHD services	2018
13.5 Develop a diabetes care pathway for Mental Health clients with or at high risk of diabetes, e.g. treated with clozapine. Mental Health service liaison nurse to support clients and general practice in provision of primary care for these clients.	(a) Metabolic screening and care in HealthPathways (b) Numbers and percentage of LHD Mental Health patients having metabolic screening with their GP.	(a) PHN, LHD Mental Health (b) LHD Mental Health	2017-18 2018

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Appendices

Appendix 1 - Diabetes in Primary Care

Table x: Data provided by General Practices in the Central Coast relating to diabetes, PEN/PATCAT extracts, 6 months to Feb 2017

	Gosford	Wyong	Central Coast
Number of general practices	57	50	107
Practices with data agreements	28	32	60
Practices who have provided data	23	28	51
Total active patients	99394	108721	208115
Total patients with diabetes (coded and indicated) *	10482	12352	22834
Total patients with diabetes (coded and indicated, %)	10.5	11.4	11.0
(Total coded with Diabetes)	6123	9837	15960
(Total Indicated/undiagnosed)	4359	2515	6874
Total patients with Diabetes Type 1 (%) **	8.4	7.3	7.7
Total patients with Diabetes Type 2 (%)	71.0	76.1	74.4
Total patients with Diabetes Other (%)	20.6	16.5	17.9
Total patients with diabetes aged 18-44 years (%)	12.8	11.2	11.9
Total patients with diabetes aged 45-64 years (%)	32.9	31.5	32.1
Total patients with diabetes aged 65-84 years (%)	45.0	49.4	47.4
Total patients with diabetes aged 85 years and older (%)	9.2	8.0	8.6
Total patients with diabetes, HbA1c > 7 (%)	28.7	29.8	29.3
Total patients with diabetes, HbA1c > 8 (%)	14.0	15.3	14.7
Total patients with diabetes, HbA1c not recorded in last 12 months (%)	16.9	13.1	14.8
Total patients with diabetes, with high blood pressure (>140 over 90) (%)	29.1	32.7	31.1
Total patients with diabetes, blood pressure not recorded (%)	7.0	7.1	7.1
Total patients with diabetes, overweight (%)	21.6	22.1	21.8
Total patients with diabetes, obese (includes morbidly obese) (%)	39.6	46.8	43.5
Total patients with diabetes, BMI not available (%)	27.2	22.7	24.7
Total ATSI patients	2065	6610	8675
Total ATSI patients (%)	2.1	6.1	4.2
Total ATSI patients with diabetes (%)	9.5	7.6	8.5
Total patients with diabetes, Indigenous Status Not Recorded	3469	1762	5231
Total ATSI patients with diabetes, with MBS 715 (%)	39.8	48.7	46.2
Total patients, Health assessment (MBS Items) (%) ***	9.1	8.2	8.7
Total patients with Diabetes, Health assessment (%)	18.6	14.8	16.5
Total patients with Diabetes, Diabetes Cycles of care (SIP) (%) ****	32.8	29.5	31
Total patients coded with Diabetes, Diabetes Cycles of care (SIP) (%)	50.1	35.6	41.2

* Unless otherwise specified, the term 'patients with diabetes' in this table refers to the combined group of patients coded as having diabetes and indicated as likely to have diabetes

** Denominator for rates of diabetes types includes patients with both Type 1 and Type 2 diabetes

*** includes MBS item numbers: 710,703, 705,707

**** includes MBS item numbers: 2517, 2518, 2521, 2522, 2525, 2526, 2620, 2622, 2624, 2631, 2633, 2635

Appendix 2

MBS Health Assessment 701-707 includes:

- Healthy Kids Check
- 45-49 years at risk of developing chronic disease
- 40-49 at risk of developing diabetes as per Type 2 Diabetes Risk Assessment Tool
- 75 years+
- those in residential aged care
- those with intellectual disability
- refugees and other humanitarian entrants

MBS 701 Brief, 703 Standard, 705 Long, 707 Prolonged

MBS Aboriginal Health Assessment 715

MBS Diabetes Cycle of Care – activities which must be completed:

Every 6 months:	• measure BMI • measure BP • examine feet
Every 12 months:	• measure HbAIc • test for micro-albuminuria • check kidney health - eGFR • TG, total & HDL cholesterol • provide self-care education • review medication • check "SNAP", ie. smoking, nutrition, alcohol & physical activity
Every 24 months:	• Full eye check

DIABETES CARE ON THE CENTRAL COAST

2017-21

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