

# Diabetes GP Audits to Improve Practice

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PRIMARY  
HEALTH  
NETWORK



**Health**  
Hunter New England  
Local Health District

# Diabetes Alliance 2014

- An Alliance of Hunter New England Health (HNE) Health District and HNE Central Coast Primary Health Network (HNECCPHN)
- 1million population, 130 000 sqkm, around 100,000 people with diabetes, 8000 type 1 diabetes, 4 FTE Staff specialists in Endocrinology
- 306 GP surgeries, 1092 individual GPs
- High incidence of avoidable admissions, long waitlist to see specialist teams, mixed quality referrals

## Our Vision

- Enable GP practices to deliver high quality clinical care for majority of patients with T2DM in a space patients are familiar with
- Improve timely access to those who would benefit the most from tertiary services

# Care Component of the Diabetes Alliance

## Diabetes Performance feedback

- GP Practice based Performance appraisal based on PENCAT, delivered by Endocrinologist in the practice
- Bench mark against local – regional and desired standards

## GP practice capacity building intervention

- Specialist teams in primary care
- ½ day/GP of intensive case conference style consultations with patients and GPs and practice nurses
- 1 day learning consolidation clinic 6 months after initial clinic

## Masterclasses

- Diabetes Masterclasses across the regions
- 3 part series, each 3hrs duration
- Practice Nurse Masterclasses

120 / 314 practices in aggregate registry

**95 / 306** practices  
*(Change in way practices upload to DOH via PHN)*

129 / 306 participated in case conferencing

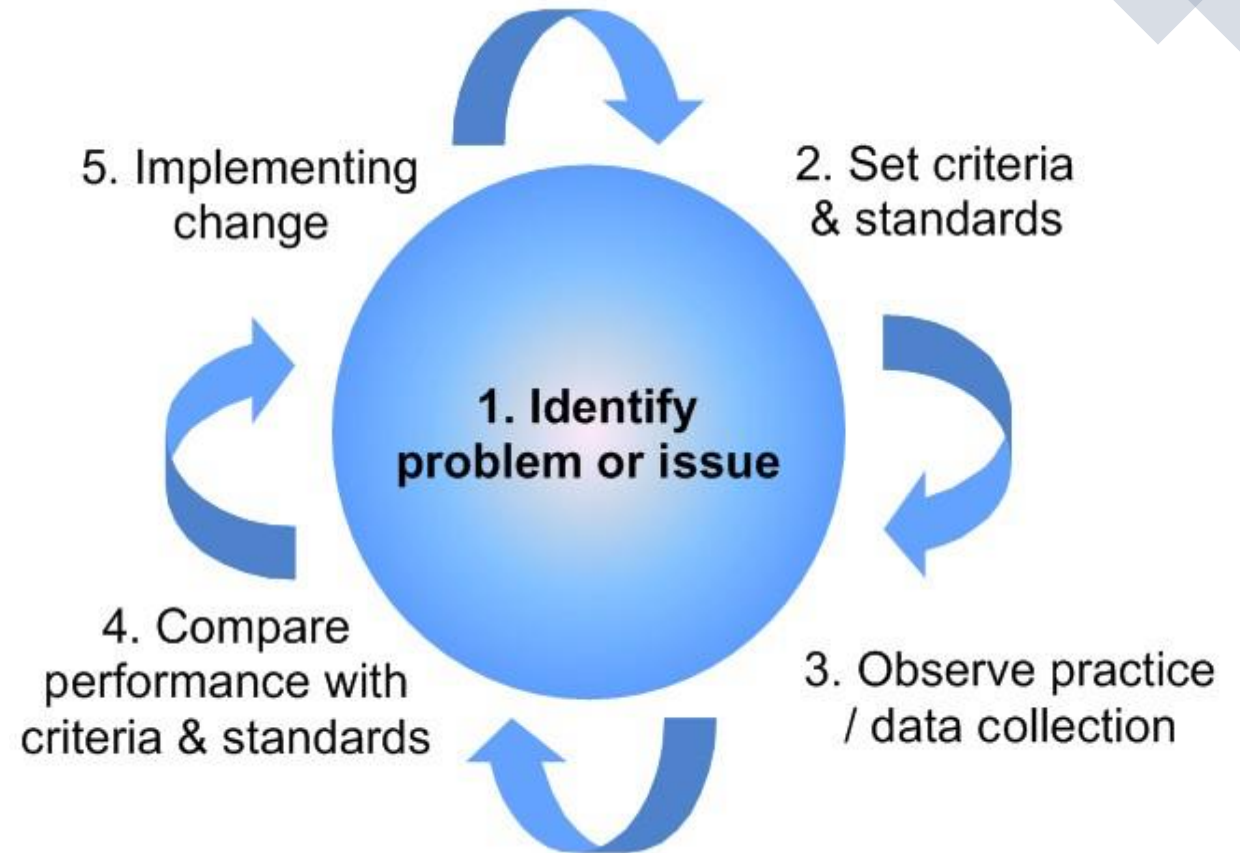
**474** GPs/1092, **120**/700 PNs and **2364** case-conferences

38 sessions

**758**/1092 GPs, **571**/700 PNs and **171** Allied health clinicians

# Clinical audit

- 'A quality improvement process that seeks to improve patient care and outcomes through systematic review of care against explicit criteria and the implementation of change'
- Florence Nightingale conducted systematic audit 1853-55 and improved mortality from 40 to 2% by improving hygiene in hospitals
- Regular audit helps us to reflect our own practices and provide an opportunity to improve clinical care
- Audit data should be used to improve quality in health care with appropriate changes and be reaudited



# PENCAT diabetes audit and performance appraisal

Whole practice data is extracted via PEN tool

Active patients (as per RACGP definitions) with Type 2 Diabetes are presented

Report is deidentified and confidentiality is strictly maintained

Performance appraisal delivered over lunch time in the GP practice by visiting Endocrinologist

GP staff agree on quality improvement aspects over the next 12 months

Primary Care Improvement Officer from PHN assists further in quality improvement

Practice has the ability to reidentify patients within the practice for clinical purpose

**This document contains confidential practice data**

**Please maintain data security**

## Welcome to the HNECC PHN report on managing Type 2 diabetes

### About this report

Data summarised in this report is based on information in PATCAT received from your practice.

The report presents a range of information about how your practice team delivers care to patients with type 2 diabetes. They are intended to help you identify:

- the profile of your patients with type 2 diabetes
- the prevalence of lifestyle factors contributing to morbidity in patients with type 2 diabetes
- how many of your patients are reaching treatment goals
- what treatments your patients with diabetes are using
- where data quality improvements can be made and the benefits of making them.
- the number of patients with Type 1 diabetes

We recognise that every practice is different, with different patient populations, teams and work processes. In order to ensure relevance to each participating practice, we have separated this report into key sections, so that your practice can focus on what is important to you. Your Hunter New England Primary Health Network (HNECCPHN) Primary Care Improvement Officer can help you understand your data and support you to achieve your chosen quality improvement goals.

#### Notes about this report

- o **Your practice** - indicates data from your practice's clinical information system
- o **12 months** - indicates data from your practice 12 months ago
- o **All patients of All HNE practices** - refers to aggregate data from over 220 practices in the HNE PHN region participating in PEN/PATCAT
- o When we refer to **patients in this report**, we are looking at patients who are 'active' in your practice as defined by the RACGP. An 'active patient' has visited the practice 3 or more times in the last 2 years and is not recorded as deceased or inactive in the clinical information system.
- o **Patients with type 2 diabetes** are defined as those with a code or entry indicating diabetes (excluding gestational diabetes or any diagnosis ever of type 1 diabetes) in any of the history, reason for visit or reason for prescription fields.
- o Aggregated data from over 220 PEN/PATCAT practices in the HNE region are included for comparison purposes.
- o Data are extracted from discrete fields within the software, not progress notes.
- o A '**coded**' **diagnosis** means the field was filled by clicking on a selection from a list or dropdown rather than only typing into a field.

#### Further information and feedback

Feedback on this report is always welcome. If you have any questions or feedback about this report, please contact PHN Primary Care Improvement Officer or the HNECCPHN at 1300 859 028

The prevalence of known diabetes in the Hunter New England and Central Coast Primary Health Network area is reported to be between 6-7% compared to the national rate of 5.4% (as per NDSS data), with 86% of those with diabetes having type 2 diabetes.[1] However the estimated prevalence as per Hunter New England population health is close to 12.3%.[6]

This section shows the demographics of people with Type 2 diabetes in your practice. A number of key characteristics of these patients are also displayed.

#### Active patients with diabetes at your practice

Period	All active patients	Type 2 (including type 2 and 'undefined')	%	% all practices*	Type 1 (coded)	%	% all practices*
June 2020	4,711	356	8.51	6.37	35	0.74	0.05
June 2019	4,688	321	7.62	6.35	28	0.60	0.04

#### Active Aboriginal and Torres Strait Islander patients at your practice

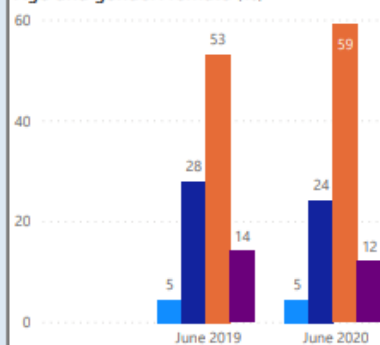
Period	All Aboriginal patients**	Type 2 (including type 2 and 'undefined')	% of Aboriginal patients***	% all practices
June 2020	882	104	11.79	6.41
June 2019	993	98	9.87	6.37

\* Aggregated rates within all participating practices sharing data with HNECC PHN

\*\* Includes Aboriginal and/or Torres Strait Islander patients

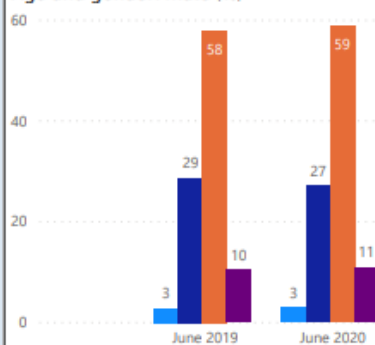
\*\*\* Rate of diabetes in Aboriginal and Torres Strait Islander patients

#### Age and gender: female (%)



Age range ● 20-39 ● 40-59 ● 60-79 ● 80+

#### Age and gender: male (%)



Age range ● 20-39 ● 40-59 ● 60-79 ● 80+

#### Age and gender profile of patients with type 2 diabetes (no.)

Period	Gender	20-39	40-59	60-79	80+
June 2020	Male	6	55	119	22
June 2020	Female	9	48	117	24
June 2019	Male	5	52	105	19
June 2019	Female	8	49	93	25

#### Age and gender: all practices (%)

Period	Gender	20-39	40-59	60-79	80+
June 2019	Female	3.3	22.8	53.6	20.2
June 2020	Female	3.5	22.5	53.7	20.2
June 2019	Male	2.5	23.3	59.2	14.9
June 2020	Male	2.5	22.9	59.1	15.4

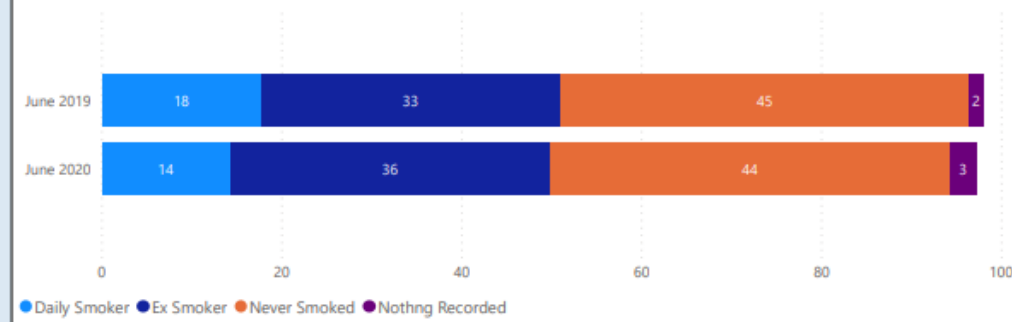
## Reflection and discussion

- Our diabetes prevalence is 12%, practice diabetes prevalence range from 4 to 13.6%
- How do you screen for type 2 diabetes in your practice? Annual HbA1c, fasting BGL, OGTT?
- Indigenous and high risk population screening
- Demographics: women with child bearing age and role of contraception, pre pregnancy optimisation



## What modifiable lifestyle risk factors may be contributing to morbidity and mortality?

### Current smoking status of your patients (%)



### Current smoking status of your patients (no.)

Period	Daily Smoker	Ex Smoker	Never Smoked	Nothing Recorded
June 2019	63	119	162	6
June 2020	57	143	178	12

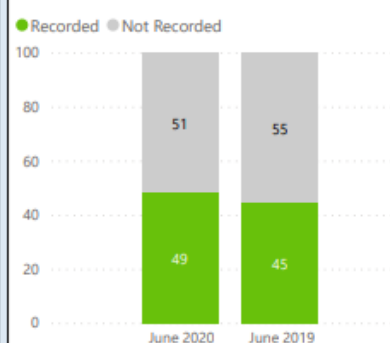
### Smoking status: all practices (%)

Period	Daily smoker	Ex Smoker	Never Smoked	NR*
June 2019	11.2	35.5	45.4	7.3
June 2020	11.0	35.0	46.4	7.3

### BMI (in kg/m2) of your patients with type 2 diabetes (%)



### Waist Circumference Recorded (%)



### BMI (in kg/m2) of your patients (no.)

Period	<18.5	18.5-24.9	25-29.9	30-39.9	40+	Not recorded
June 2019	4	25	92	150	50	36
June 2020	2	23	94	160	60	62

### Waist circumference: your patients (no.)

Period	Recorded	Not Recorded
June 2019	160	197
June 2020	195	206

REFLECTION - Managing type 2 diabetes requires regular assessment and timely treatment of microvascular and cardiovascular risk factors

## Reflection and discussion

- Importance of accurate data recording
- Most places record weight but not height which means BMI not recorded
- Waist circumference
- Consider obese patients management (GLP1-1 analogues, bariatric intervention, VLED, dietitian referrals)
- Consider slim patients with type 2 diabetes, is this really type 2 diabetes? What about LADA (slow type 1), pancreatitis related diabetes, atypical forms of DM

### General recommendations for monitoring

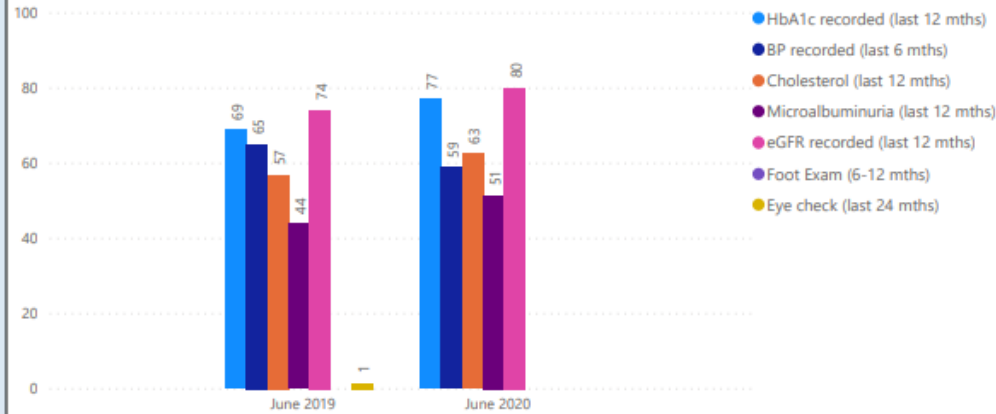
#### 3- 6 Monthly

HbA1c  
Weight  
Blood pressure  
Feet (if at risk or symptomatic, otherwise annually)

#### Annually (if stable)

Visual acuity (2-yearly retinal screening in the absence of retinopathy)  
Renal function (eGFR and urine ACR)  
Lipid profile  
Psychological wellbeing  
Modifiable lifestyle factors

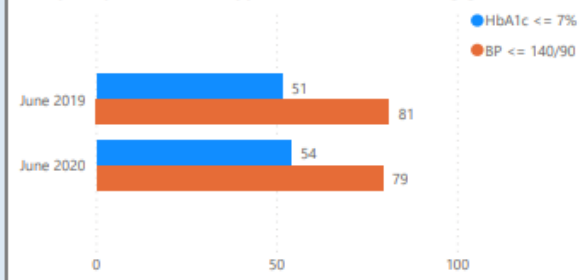
### General monitoring for your patients with type 2 diabetes: process measures (%)



### Process measures: all practices (%)

Period	HbA1c (<12 mths)	BP (<6 mths)	Cholesterol (<12 mths)	Microalbuminuria (<12 mths)	eGFR (<12 mths)	Foot exam (6-12 mths)	Eye check (<24 mths)
June 2019	73.8	68.2	68.4	51.0	76.5	15.0	23.8
June 2020	74.7	64.9	68.3	49.5	76.8	13.0	20.5

### % of your patients with type 2 diabetes achieving goals



#### REFLECTION

Managing type 2 diabetes requires regular assessment and timely treatment of microvascular and cardiovascular risk factors.

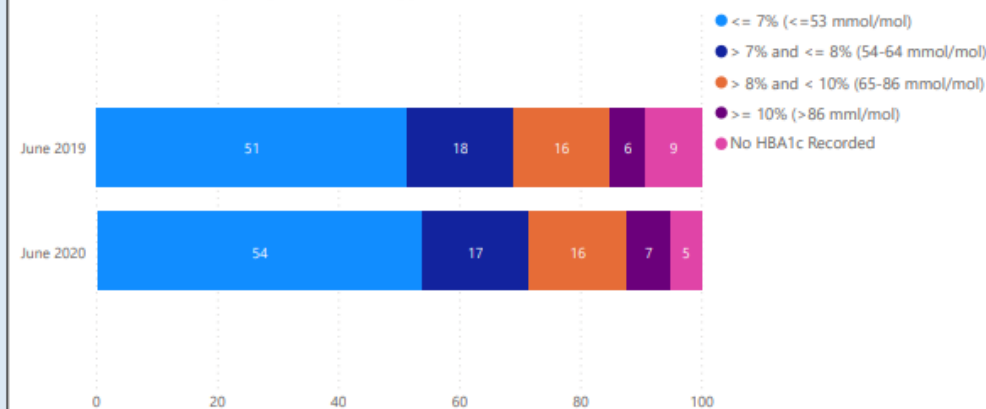
## Reflection and discussion

- Consider process measures
- Contrary to perception HbA1c is under tested in our diabetes population, HbA1c should be tested at least 2 times a year
- 20- 30% of patients do not get even a single HbA1c in a year
- Urine ACR is vital for kidney health, data shows only 50% are getting tested annually
- Do not insist on fasting blood tests for monitoring; patients are likely to keep postponing, if they haven't had any test, walk them to lab! Get it done then and there!!!
- Eye and foot exams are poorly recorded are tested
- Do not suffer from clinical inertia – Test and Act promptly

### Individualised targets

Use the general HbA1c target of 53 mmol/mol (7%) for most people with type 2 diabetes. An HbA1c target greater than 53 mmol/mol (7%) may be appropriate in people with type 2 diabetes who have a history of severe hypoglycaemia, a limited life expectancy, or who are elderly.[2]

### Most recent HbA1c for your patients with type 2 diabetes (%)



### Most recent HbA1c results: your practice (no.)

Period	≤ 7% (53 mmol/mol)	> 7% and ≤ 8% (54-64 mmol/mol)	> 8% and < 10% (65-86 mmol/mol)	≥ 10% (>86 mmol/mol)	No HbA1c Recorded
June 2019	183	63	57	21	33
June 2020	216	70	66	28	21

### Most recent HbA1c results: all practices (%)

Period	≤ 7% (53 mmol/mol)	> 7% and ≤ 8% (54-64 mmol/mol)	> 8% and < 10% (65-86 mmol/mol)	≥ 10% (>86 mmol/mol)	No HbA1c Recorded
June 2019	62.8	15.7	11.1	3.5	7.0
June 2020	58.2	17.8	13.1	4.2	7.2

### REFLECTION

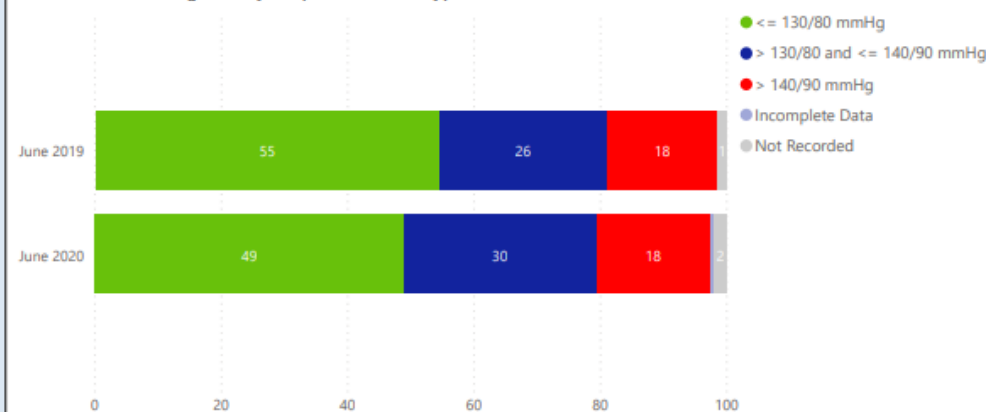
Does your practice have an agreed approach to review patients with type 2 diabetes at your practice? (consider the time since last HbA1c, HbA1c > 86 mmol/mol, patients factors)?

## Reflection and discussion

- Consider recalling those who haven't had HbA1c done
- Consider recalling those with HbA1c>8% and escalate treatment where appropriate
- Did you know 5yrs survival after diabetes amputation is worse than metastatic breast cancer?
- All the data shows early and optimal therapy for diabetes saves lives and complications

2 Monitoring and Targets (cont)

Most recent BP ranges for your patients with type 2 diabetes (%)



Most recent BP ranges: your practice (no.)

Period	≤ 130/80 mmHg	> 130/80 and ≤ 140/90 mmHg	> 140/90 mmHg	Incomplete Data	Not Recorded
June 2019	195	94	63	0	5
June 2020	196	122	73	2	8

Most recent BP ranges: all practices (%)

Period	≤ 130/80 mmHg	> 130/80 and ≤ 140/90 mmHg	> 140/90 mmHg	Incomplete Data	Not Recorded
June 2019	35.4	28.0	32.8	0.1	3.6
June 2020	34.7	28.4	33.8	0.2	3.5

REFLECTIONS

For most patients with Type 2 diabetes, an ACE inhibitor or ARB class of medication should be considered as first line agents to lower blood pressure.

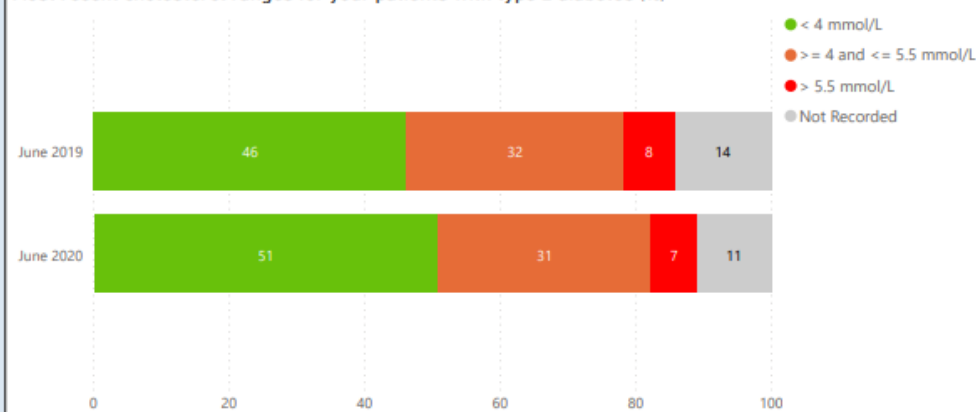
Anyone with diabetes and microalbuminuria, consider commencing ACE inhibitors or ARB to slow down progression of diabetes renal disease, even if they are normotensive.

Recent evidence suggests BP lowering medication should be taken at night to reduce cardiovascular outcomes including mortality.

## Reflection and discussion

- Typically <30% of our type 2 diabetes population achieve target BP
- Patients and clinicians tend to ignore high BP reading stating it is the white coat!
- If you are in doubt, organise 24hr amb BP recording
- ACEi/ARB should be used as first line in Diabetes population
- Taking all BP medications at night seem to save more lives (reference Hygia Chronotherapy trial)
- Microalbuminuria even mild is an indicator of CKD, commence ACEi/ARB and SGLT2i, GLP1 to slow down the progress

Most recent cholesterol ranges for your patients with type 2 diabetes (%)



Most recent cholesterol ranges: your practice (no.)

Period	< 4 mmol/L	>= 4 and <= 5.5 mmol/L	> 5.5 mmol/L	Not Recorded
June 2020	204	126	27	44
June 2019	165	114	27	51

Most recent cholesterol ranges: all practices (%)

Period	< 4 mmol/L	>= 4 and <= 5.5 mmol/L	> 5.5 mmol/L	Not Recorded
June 2020	38.8	40.8	12.9	8.1
June 2019	38.7	40.7	13.2	7.5

REFLECTIONS

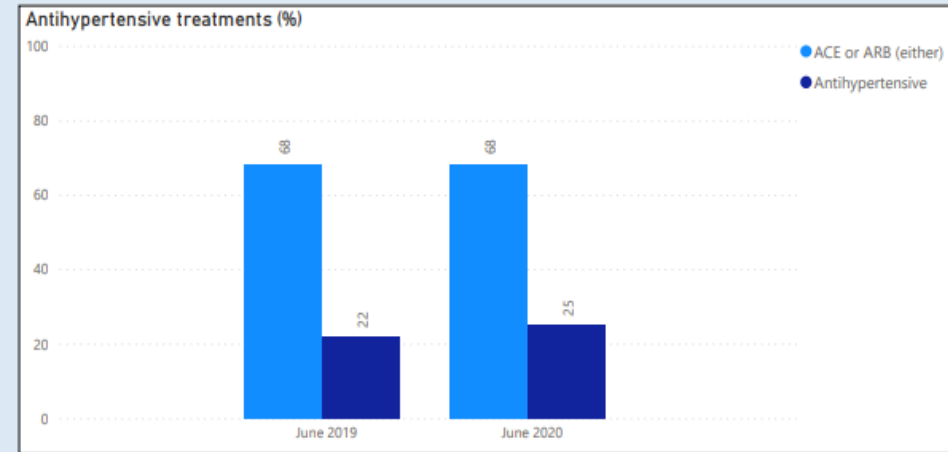
For most patients with diabetes a general goal is to achieve LDL < 2, and total cholesterol < 4 mmol/L

## Reflection and discussion

- Most patients with type 2 Diabetes benefit from statin therapy
- Despite overwhelming evidence statins are underused in diabetes
- Often sub therapeutic dose such as rosuvastatin 5mg used which fails to achieve the desired outcomes

What antihypertensive treatment are your patients with type 2 diabetes using?

All antihypertensive classes have a similar effect on blood pressure. Guidelines recommend that blood pressure-lowering therapy in people with diabetes should preferably include an ACE-inhibitor or angiotensin II receptor antagonist.[5]



Antihypertensive treatment: your practice (no.)

Period	ACE or ARB (either)	Antihypertensive
June 2019	244	78
June 2020	274	100

Antihypertensive treatment: all practices (%)

Period	ACE or ARB (either)	Antihypertensive
June 2019	65.0	24.2
June 2020	64.7	24.3

REFLECTION

Statins are the most effective lipid-lowering medicines and should be used as first-line therapy.[2][3]

Reflection and discussion

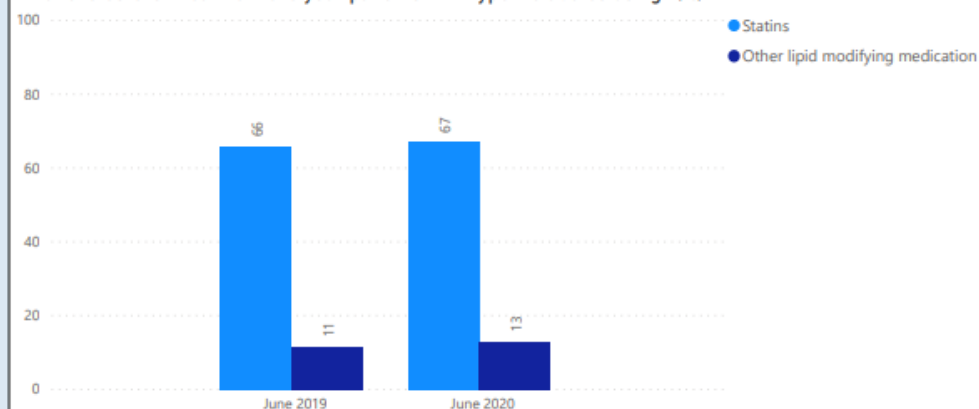
- ACEi/ARB to be used as first line
- Do not combine ACEi and ARB
- If patients are on monotherapy with diuretic/ Ca channel blocker consider switching to ACEi/ARB or add on

### Cardiovascular prevention

People with type 2 diabetes are twice as likely to die from cardiovascular disease as people without diabetes (over a five year period).[2]

Controlling blood pressure and lipid levels appears to be more effective in reducing adverse cardiovascular disease outcomes than tightening blood glucose levels alone.[4]

### What cholesterol treatment are your patients with type 2 diabetes using? (%)



### Cholesterol treatment: your practice (no.)

Period	Statins	Other lipid modifying medication
June 2019	235	41
June 2020	269	52

### Cholesterol treatment: all practices (%)

Period	Statins	Other lipid modifying medication
June 2019	64.5	14.3
June 2020	64.6	14.5

### REFLECTION

Statins are the most effective lipid-lowering medicines and should be used as first-line therapy.[2][3]

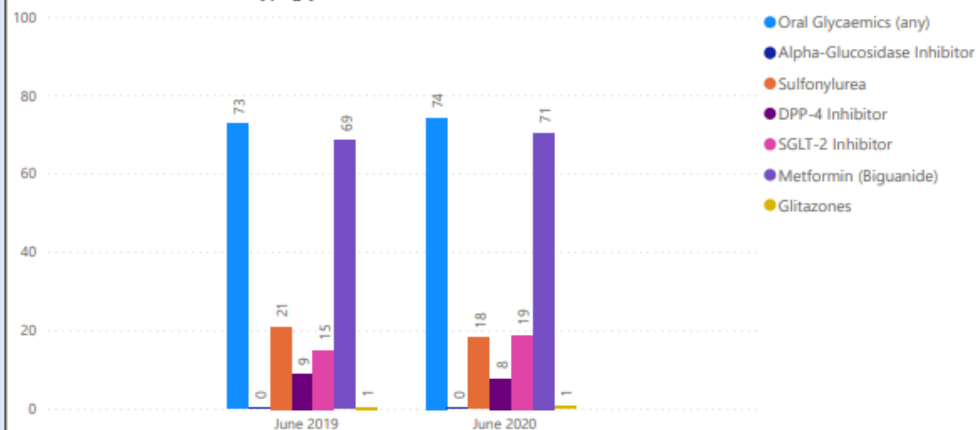
## Reflection and discussion

- Do you use absolute CV risk engine?
- It is a great educational tool to demonstrate how to reduce CV risk

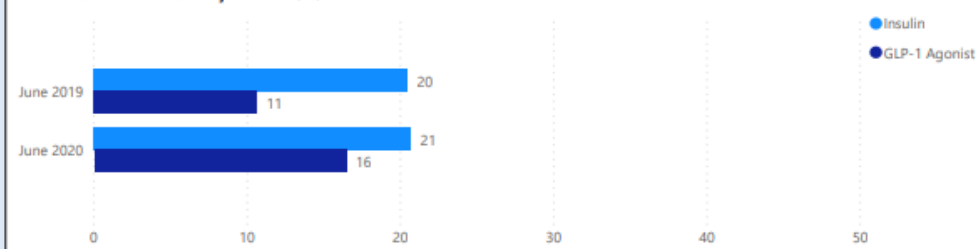
## Reflection and discussion

- Statins are the first line therapy
- Fibrate are not used for CV risk reduction
- Fibrate may reduce severe retinopathy
- Fibrates are effective in lowering triglycerides and the risk of acute pancreatitis (typically when triglyceride > 10mmol/l)
- If combining statin and fibrate, monitor CK, GFR and LFT

#### Diabetes medication: Oral Hypoglycaemics (%)



#### Diabetes medication: Injectable (%)



#### Diabetes medication: all practices (%)

Period	Oral Glycaemics (any)	Alpha-Glucosidase Inhibitor	Sulfonylurea	DPP-4 Inhibitor	SGLT-2 Inhibitor	Metformin (Biguanide)	Glitazones	Insulin	GLP-1 Agonist
June 2020	73.3	1.0	17.5	19.2	16.5	67.4	0.4	16.8	5.4
June 2019	72.4	1.0	18.7	17.6	13.7	66.6	0.5	17.7	4.4

## Reflection and discussion

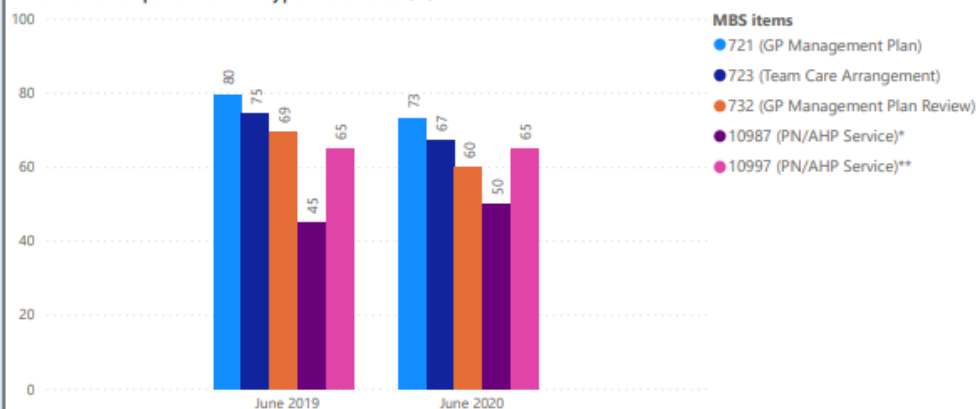
- Refer to ADS/RACGP guideline
- Use SGLT2i and or GLP1 analogue where possible
- Insulin therapy may still be needed in progressive diabetes despite the use of newer medications



Optimal management and regular monitoring of people with type 2 diabetes can be supported by a range of mechanisms such as GP management plans and practice incentive payments.

This section describes some information on how care is provided for patients with type 2 diabetes in your practice. It may assist you to identify opportunities in your practice to further utilise existing Medicare chronic disease management arrangements.

#### MBS items for patients with type 2 diabetes (%)



\* % of Indigenous patients only. MBS Item 10987 is available for a service provided by a practice nurse or Aboriginal and Torres Strait Islander health practitioner, on behalf of a medical practitioner, for an Indigenous person who has received a health assessment.

\*\* MBS Item 10997 is available for a service provided to a person with a chronic disease by a practice nurse or an Aboriginal and Torres Strait Islander health practitioner.

#### MBS items for patients with type 2 diabetes: your practice (no.)

Period	721	723	732	10987	10997
June 2020	294	269	240	52	260
June 2019	284	266	248	44	232

#### MBS items for patients with type 2 diabetes: all practices (%)

Period	721	723	732	10987 (% of all patients)	10987 (% of Aboriginal patients)	10997
June 2019	73.4	70.1	59.9	1.7	32.2	47.8
June 2020	72.6	68.9	59.6	1.8	33.1	48.2

#### OPPORTUNITIES FOR CARE

Check patients who have not had an annual cycle of care completed or reviewed, or a management plan developed or reviewed within the last 12 months.

#### POINTS FOR REFLECTION

Are there clear roles for the provision of care for patients with type 2 diabetes at your practice? Do you feel you are optimally using the management plans for your patients with type 2 diabetes?

## Reflection and discussion

- MBS items
- Assist in initiating discussions with the team about utilising MBS and maximising billings for the business support outcomes and best clinical practice according to RACGP guidelines
- Diabetes SIP has been removed but not the item number to bill for cycle of care eg.2518, 2522, 2526
- MBS Item numbers support patient assessment, goals, implementation, review and monitoring all vital to supporting our patients with diabetes.
- The PHN PCIOs are able to support the teams in practice with education and data extraction

Item	Action	Notes	Agreed
1	To improve screening and diagnosis of type 2 diabetes	1.1 Use AUSDIAB risk engine and selectively screen 1.2 Consider annual HbA1c testing with fasting BGL 1.3 OGTT though useful, for practical reasons uptake may be limited 1.4 Consider regular screening for Aboriginal and Torres Strait Islander people	
2	Consider identifying women of child bearing age and advise them of the importance of pre-conception planning and contraception	2.1 Do not use teratogenic medications prior to conceptions (most antihypertensive therapy except methyldopa, statins, oral hypoglycaemic agents except metformin should be stopped) 2.2 HbA1c should be <6-6.5% before conception and use folic acid 5mg daily from preconception till 12 weeks of gestation 2.3 Insulin therapy is strongly recommended to keep BGL in target (fasting BGL 4-5.5, 2HR post prandial <6.7mmol/l)	
3	Improve BMI recording and waist circumference measurement	3.1 Most practices enter weight but not height which means BMI is not calculated 3.2 Waist measurement helps to monitor overall metabolic profile	
4	Improve smoking status recording	4.1 Use your QI PIP measure to track your progress (Quality Improvement Measure 2 - Proportion (%) of patients aged 15 years and over whose smoking status has been recorded)	
5	Improve HbA1c testing by reidentifying patients who have not had HbA1c tested	5.1 Most patients require 2-4 HbA1c per year 5.2 If HbA1c >7% patients should be tested 3 monthly until in target 5.3 Use your QI PIP measure to track your progress (Quality Improvement Measure 1 - Proportion (%) of patients with Type 1 or Type 2 who have had an HbA1c measurement result recorded within the previous 12 months)	
6	Identify those patients with high HbA1c (>8%) and initiate appropriate intervention	6.1 Clinical inertia is more common than you think!	
7	Improve BP recording and treat those with hypertension to target BP <130/80	7.1 ACE or ARB have protective benefits for people with diabetes 7.2 Use your QI PIP measure to track your progress (Quality Improvement Measure 10 - Proportion (%) of patients with diabetes who have had a blood pressure measurement result recorded within the previous 6 months)	

Item	Action	Notes	Agreed
8	Improve lipids testing and use appropriate lipid lowering therapy when indicated	8.1 Fasting lipids is recommended for initial screening and for ongoing monitoring non fasting lipids (Cholesterol, HDL, LDL, Triglyceride and non-HDL) can be requested for convenience 8.2 Most patients would benefit from statin therapy, use statin for CV risk reduction rather than fenofibrate 8.3 Fenofibrate may be beneficial in hypertriglyceridemia and retinopathy but less beneficial for CV risk reduction compared with statin therapy 8.4 Suboptimal dosage and non-compliance are common reasons for not achieving target lipid levels	
9	Improve urine microalbuminuria screening by identifying those who have not had ACR tested and those who have urine ACR >2.5 for men and >3.5mg/mmol for women. Initiate and titrate ACEI or ARB but not both.	9.1 Urine ACR >30mg/mmol considered macroalbuminuria - consider nephrology referral 9.2 Urine ACR>100mg indicates 1g proteinuria, >3gm proteinuria urgent indication for nephrology referral 9.3 SGLT2 inhibitors or GLP-1 analogue such as dulaglutide have added renal benefits 9.4 Annual microalbuminuria testing for all patients with diabetes is highly recommended 9.5 If GFR is below < 30 mL/min/1.73sqm consider nephrology referral	
10	Improve retinal screening and foot screening		
11	Improve diabetes care plans		
12	Consider annual flu vaccination for all patients with diabetes and pneumococcal vaccination	12.1 Use your QI PIP measure to track your progress (Quality Improvement Measure 5 - Proportion (%) of patients with diabetes who were immunised against influenza in the previous 15 months)	
13	Consider specialist team engagement for all patients with Type 1 diabetes		
14	Any other suggestions/comments		

Visiting Endocrinologist

Principal General Practitioner or equivalent

1. National Diabetes Service Scheme Diabetes Map, Last updated 30-3-2020 available at: <https://map.ndss.com.au>
2. The Royal Australian College of General Practitioners and Diabetes Australia. General Practice management of type 2 diabetes. 2016-15
3. Australian Diabetes Society. Australian Diabetes Society Position Statement: Individualisation of HbA1c Targets for adults with diabetes mellitus: ADS 2009
4. Yidkin JS et al, Diabetologia 2010;35: 1364-79
5. National Vascular Disease Prevention Alliance: Guidelines for the management of absolute cardiovascular disease risk, 2012
6. Statewide Initiative for Diabetes Management. Case for Change Snapshot for Hunter New England LHD, NSW Health, January 2020
7. Hunter New England Community HealthPathways, available at <https://hne.communityhealthpathways.org/>



# Thank you

