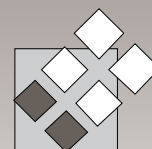


CLINICAL AUDIT

# Laboratory Testing in Diabetes in Primary Care



Valid to November 2013



**bpac**<sup>nz</sup>  
better medicine

## Background

Regular health checks are essential for people with diabetes to reduce the frequency of complications and to minimise their impact. Monitoring of diabetes is supported by the “Get Checked” programme, a national initiative offering free annual health reviews to people with diabetes. The annual check is also a PHO Performance Programme (PPP) indicator. The PPP goal is for at least 80% of all people with diabetes enrolled in a practice to have had a full annual “Get Checked” review each year.

## Recommendations

### Glycaemic control

HbA<sub>1c</sub> is the best test of glycaemic control in people with diabetes. People with stable diabetes should be tested

Six monthly. If the patient has unstable glycaemic control or there are changes in treatment, testing should be more frequent, but no more often than three monthly.

- For most people with type 2 diabetes the goal is to achieve a HbA<sub>1c</sub> as close to 53mmol/mol (7.0%) as possible without causing unacceptable hypoglycaemia.
- HbA<sub>1c</sub> > 64 mmol/mol (8%) is a sign of inadequate control for most people.
- HbA<sub>1c</sub> targets need to be individualised, taking into consideration the patient’s age and co-morbidities. No one level will suit all people
- Occasionally interpretation of HbA<sub>1c</sub> is unreliable in conditions that decrease erythrocyte survival, such as ongoing blood loss or frequent venesections e.g. in patients with haemochromatosis.

The “Get Checked” annual health review includes:

- Glycaemic control (HbA<sub>1c</sub>)
- Cardiovascular risk assessment, including blood pressure, lipid profile, height and weight
- Kidney function (albumin/creatinine ratio)
- Foot check, including sensation and circulation
- Retinal check (at least every two years)
- Follow-up plan for care

More frequent monitoring is recommended when results are abnormal or if there are signs of complications.

## Preventing macrovascular complications

People with diabetes usually die from macrovascular complications; namely cardiovascular disease. This is influenced by the commonly recognised risk factors for cardiovascular disease, including hyperlipidaemia and glycaemic control.

Management of hyperlipidaemia should be individualised and a less aggressive approach is more appropriate for some people, e.g. older people. Otherwise fasting lipid levels are measured three monthly aiming for optimal levels and once stable six to 12 monthly thereafter.

### Optimal lipid values

Total cholesterol < 4 mmol/L

LDL cholesterol < 2.0 mmol/L

HDL cholesterol  $\geq$  1 mmol/L

TC:HDL ratio < 4.0

Triglycerides < 1.7 mmol/L

## Tests for diabetic renal disease

Urinary albumin:creatinine ratio (ACR) and a serum creatinine, with estimated glomerular filtration rate (eGFR), are the best tests for assessing diabetic renal disease.

- These tests should be performed on everyone with diabetes at diagnosis and repeated at least annually.
- ACR greater than or equal to 2.5 mg/mmol in men or greater than or equal to 3.5 mg/mmol in women indicates microalbuminuria.
- If the eGFR is greater than 90 mL/min/1.73m<sup>2</sup>, no further action is required unless there is suspicion of kidney disease.
- The tests are requested more frequently if they demonstrate microalbuminuria or reduced eGFR.

## Focus of this audit

The laboratory tests selected for this audit are those with recommendations for appropriate testing frequency when monitoring people with diabetes, and include:

- HbA<sub>1c</sub>
- Lipid profile
- Albumin:creatinine ratio
- Serum creatinine (eGFR)

# Plan

## Indicators

1. People with diabetes have had appropriate HbA<sub>1c</sub> testing.
2. People with diabetes have had appropriate fasting lipid testing.
3. People with diabetes have had appropriate urinary albumin:creatinine ratio testing.
4. People with diabetes have had appropriate serum creatinine testing.

## Criteria

1. The notes of people with diabetes record two to four HbA<sub>1c</sub> tests performed in the last 12 months.
2. The notes of people with diabetes record one to four fasting lipid tests performed in the last 12 months.
3. The notes of people with diabetes record at least one urinary albumin:creatinine ratio test performed in the last 12 months.
4. The notes of people with diabetes record at least one serum creatinine test performed in the last 12 months.

## Standards

1. The notes of 80% of people with diabetes record two to four HbA<sub>1c</sub> tests performed in the last 12 months.
2. The notes of 80% of people with diabetes record one to four fasting lipid tests performed in the last 12 months.
3. The notes of 80% of people with diabetes record at least one urinary albumin:creatinine ratio test performed in the last 12 months.
4. The notes of 80% of people with diabetes record at least one serum creatinine test performed in the last 12 months.

# Data

## Which patients are included?

This audit includes all patients with diabetes.

## Identifying patients

You will need to have a system in place that allows you to identify eligible patients. Many practices will be able to identify patients by running a 'query' through their PMS system

## Sample size and type

The number of eligible patients will vary according to your practice demographics. It would be optimal to identify 20 – 30 patients. If you identify more, take a random sample of 20 – 30 patients whose notes you will audit.

## Data analysis

Use the data sheet to record your data: The number of tests performed over the preceding year and whether this is in the appropriate range:

- Two to four HbA<sub>1c</sub> tests
- One to four fasting lipid tests
- At least one albumin creatinine ratio
- At least one serum creatinine (eGFR)

From your findings calculate the percentage of cases where these parameters are met. Compare these percentages to the standards set in advance by the practice team.

Standards are suggested in this protocol but may also be set at a practice/practitioner level, dependent upon the practice population. Discussion amongst peers may be useful in establishing standards.

# Data sheet – cycle 1

## Audit: Laboratory testing in diabetes

	Two to four HbA <sub>1c</sub> tests	One to four fasting lipid tests	At least one ACR tests	At least one serum creatinine (eGFR)
Pt	YES/NO	YES/NO	YES/NO	YES/NO
1				
2				
3				
4				
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26				
27				
28				
29				
30				
<b>Total</b>				
<b>%</b>				

# Data sheet – cycle 2

## Audit: Laboratory testing in diabetes

	Two to four HbA <sub>1c</sub> tests	One to four fasting lipid tests	At least one ACR tests	At least one serum creatinine (eGFR)
Pt	YES/NO	YES/NO	YES/NO	YES/NO
1				
2				
3				
4				
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26				
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29				
30				
<b>Total</b>				
<b>%</b>				

# Identifying opportunities for CQI

## Taking action

The first step in taking action is to identify the criteria where gaps exist between expected and actual performance and decide on priorities for change.

Once priority areas for change have been decided on, an action plan should be developed to implement any changes.

If possible include the whole practice team in the decision-making and planning process. And where appropriate the plan should assign responsibility for various tasks to specific members of the practice team and should include a timeline.

It may be useful to consider the following points when developing a plan for action (RNZCGP 2002).

### Problem solving process

- What is the problem or underlying problem(s)?
- Change it to an aim.
- What are the solutions or options?
- What are the barriers?
- How can you overcome them?

### Overcoming barriers

- Identifying barriers can provide a basis for change.
- What is achievable – find out what the external pressures on the practice are and discuss ways of dealing with them in the practice setting.
- Identify the barriers.
- Develop a priority list.
- Choose one or two achievable goals.

### Effective interventions

- No single strategy or intervention is more effective than another, and sometimes a variety of methods are needed to bring about lasting change.
- Interventions should be directed at existing barriers or problems, knowledge, skills and attitudes, as well as performance and behaviour.
- How can you overcome them?

# Review

## Monitoring change and progress

It is important to review the action plan against the timeline at regular intervals with the practice team. It may be helpful to discuss the following questions:

- Is the process working?
- Are the goals for improvement being achieved?
- Are the goals still appropriate?
- Do you need to develop new tools to achieve the goals you have set?

Following the completion of the first cycle, it is recommended that practices complete the first part of the CQI activity summary sheet (Appendix 1).

## Undertaking a second cycle

In addition to regular reviews of progress with the practice team, a second audit cycle should be completed in order to quantify progress on closing the gaps in performance.

It is recommended that the second cycle be completed within 12 months of completing the first cycle. The second cycle should begin at the data collection stage. Following the completion of the second cycle it is recommended that practices complete the remainder of the CQI activity summary sheet.

### Claiming MOPS credits

This audit has been endorsed by the RNZCGP as a CQI Activity for allocation of MOPS credits. General practitioners taking part in this audit can claim credits in accordance with the current MOPS programme. This status will remain in place until **11 November 2013**.

To claim points for MOPS or CPD online please enter your credits on your web records. Go to the RNZCGP website <http://www.rnzcgp.org.nz/> and login to the members only area to access your CPD or MOPS online records. Alternatively MOPS participants can indicate completion of the audit on the annual credit summary sheet that is available from the College on request.

As the RNZCGP frequently audit claims you should retain the following documentation, in order to provide adequate evidence of participation in this audit:

1. A summary of the data collected
2. A Continuous Quality Improvement (CQI) Activity summary sheet (included as Appendix 1).

## Appendix 1: RNZCGP Summary Sheet – CQI Activity

**DOCTORS NAME**

The activity was designed by (please tick appropriate box):

RNZCGP

Organisation e.g. IPA/PHO/BPAC (name of organisation)

bpac<sup>nz</sup>

Individual (self)

**TOPIC**

**Laboratory testing in diabetes in primary care**

Describe why you chose this topic (relevance, needs assessment etc):

### FIRST CYCLE

**1. DATA**

Information collected

Date of data collection:

Please attach:

- A summary of data collected **or**
- If this is an organisation activity, attach a certificate of participation.

**2. CHECK**

Describe any areas targeted for improvement as a result of the data collected.

**3. ACTION**

Describe how these improvements will be implemented.

**4. MONITOR**

Describe how well the change process is working. When will you undertake a second cycle?

## SECOND CYCLE

<b>1. DATA</b>	Information collected
Date of data collection:	
Please attach:	
<ul style="list-style-type: none"><li>▪ A summary of data collected <b>or</b></li><li>▪ If this is an organisation activity, attach a certificate of participation.</li></ul>	
<b>2. CHECK</b>	Describe any areas targeted for improvement as a result of the data collected.
<b>3. ACTION</b>	Describe how these improvements will be implemented.
<b>4. MONITOR</b>	Describe how well the change process is working. Will you undertake another cycle?
<b>COMMENTS</b>	

## AUDIT CHECKLIST

Date:

1  Audit Planning

### FIRST CYCLE

2  Data collected

3  RNZCGP Summary Sheet completed

4  MOPS Credits claimed

### SECOND CYCLE

5  Data collected

6  RNZCGP Summary Sheet completed

7  MOPS Credits claimed

See page 9 for details on claiming MOPS credits

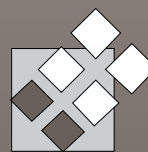
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