

CLINICAL AUDIT

# The role of SMBG for People with Diabetes



# Background

## Focus of this audit

This audit focuses on the appropriate use of SMBG for people with diabetes.

In the past self monitoring of blood glucose (SMBG) was considered an essential part of the management of both insulin and non-insulin dependent diabetes. SMBG remains an important component of management for people receiving insulin to guide insulin doses and to detect and avoid hypoglycaemia but for people with type 2 diabetes who do not take insulin, the situation is less clear. There is an increasing body of evidence showing lack of benefit for SMBG for these people. Recent studies show:

- For people with non-insulin treated type 2 diabetes, SMBG appears to have little or no effect on glycaemic control.<sup>1</sup>
- SMBG is associated with higher costs and lower quality of life.<sup>2</sup>

HbA<sub>1c</sub> remains the most useful tool for assessing glycaemic control in people with non-insulin treated type 2 diabetes.

Patients may worry about the potential of hypoglycemia when taking diabetic tablets. Metformin does not cause hypoglycemia, and when introducing a sulphonurea a discussion on how to recognise a hypoglycemic episode is more valuable than routine SMBG.

## Issues identified

Data from the pharmaceutical dispensing warehouse reveals that approximately 90% of people receiving insulin are performing SMBG, therefore this means 10% of those on insulin are not performing SMBG.

The data also reveals that for people receiving oral hypoglycaemics (but not insulin), approximately 60% receiving blood monitoring strips. Patients in this group should be re-educated about the changing role of SMBG as part of their diabetes management.

## Key recommendations

- All people on insulin perform SMBG
- People with type 2 diabetes, but not on insulin, should not be performing SMBG routinely.
- People with type 2 diabetes, but not on insulin, who are currently performing SMBG should be re-educated about the lack of benefit of SMBG

## References

1. O'Kane MJ, Bunting B, Copeland M, Coates VE. Efficacy of self monitoring of blood glucose in patients with newly diagnosed type 2 diabetes (ESMON study): randomised controlled trial. *BMJ* 2008;336(7654):1174-77.
2. Simon J, Gray A, Clarke P et al. Cost effectiveness of self monitoring of blood glucose in patients with non-insulin treated type 2 diabetes: economic evaluation of data from the DiGEM trial. *BMJ* 2008; 336(7654):1177-80.



# Plan

## Indicators

1. People with diabetes who receive insulin are performing SMBG
2. People with diabetes who are not receiving insulin do not perform SMBG
3. People with diabetes who are not receiving insulin but currently performing SMBG are offered re-education about the lack of benefit of SMBG in the management of their diabetes.

## Criteria

1. People with diabetes who receive insulin are performing SMBG as recorded in the patient notes
2. People with diabetes who are not receiving insulin do not perform SMBG as recorded in the patient notes
3. It is recorded in the patient notes that people with diabetes who are not receiving insulin but currently performing SMBG are offered re-education about the lack of benefit of SMBG in the management of their diabetes.

## Standards

1. 100% of all people with diabetes who receive insulin are performing SMBG as recorded in the patient notes
2. 80% people with diabetes who are not receiving insulin do not perform SMBG as recorded in the patient notes
3. It is recorded in 80% of patient notes that people with diabetes who are not receiving insulin but currently performing SMBG are offered re-education of the lack of benefit of SMBG in the management of their diabetes.



# Data

## Eligible people

All people with diabetes are eligible for this audit

## Identifying patients

You will need to have a system in place that allows you to identify patients who have been identified as having diabetes. You may be able to run a 'query' through the PMS system or use the diabetes register for the annual diabetes check to help identify patients.

## Sample size

Number of eligible patients will vary according to your practice demographic. 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 and calculate percentages.

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. Discussion amongst peers may be useful in establishing standards.

## Data sheet – cycle 1

	For patients on insulin, are they performing SMBG?	For patients not on insulin, are they performing SMBG?	Are patients not on insulin, but performing SMBG, offered re-education?
	YES/NO	YES/NO	YES/NO
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
<b>Total</b>			
%			

## Data sheet – cycle 2

	For patients on insulin, are they performing SMBG?	For patients not on insulin, are they performing SMBG?	Are patients not on insulin, but performing SMBG, offered re-education?
	YES/NO	YES/NO	YES/NO
1			
2			
3			
4			
5			
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11			
12			
13			
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17			
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19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
<b>Total</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.

The plan should assign responsibility for various tasks to specific members of the practice team and should include a timeline.

It is important to include the whole practice team in the decision-making and planning process.

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

### **1. 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?

### **2. 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.

### **3. 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.

# 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 practices complete the remainder of the clinical audit 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 September 2011.

To claim MOPS points, you can indicate completion of the audit on the annual claim sheet, or alternatively you can go to the RNZCGP website, and claim your points at “MOPS online” at [www.rnzcgp.org.nz](http://www.rnzcgp.org.nz)

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 Activity summary sheet (included as Appendix 1).
3. A certificate of participation, if this is an organisational activity. This is available from bpac if required.

## 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**

**Role of SMBG for people with diabetes**

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

### FIRST CYCLE (10 credits)

**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 (10 credits)

<b>1. DATA</b>	<b>Information collected</b>
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.
<b>COMMENTS</b>	



**bpac<sup>nz</sup>**

10 George Street

PO Box 6032, Dunedin

phone 03 477 5418

free fax 0800 bpac nz

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