Self-Monitoring Blood Glucose Workshop II: development and dissemination of the DCPNS decision tool for self-monitoring blood glucose in non-insulin-using type 2 diabetes

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Introduction

An earlier article described the role of the Nova Scotia Department of Health and Wellness and the work of the Diabetes Care Program of Nova Scotia (DCPNS) and its partners in approaching the controversial topic of self-monitoring of blood glucose (SMBG) in persons with non-insulin-using type 2 diabetes mellitus.[1] This preliminary work included the early steps taken to inform, engage and gain consensus on the need for SMBG and frequency of its use in this population and to introduce a draft tool for providers to assist in making decisions around SMBG.

Background

The question of whether all people with diabetes should self-monitor their blood glucose has received increasing attention in recent years. Individuals and/or the health care system struggle with costs related to testing, the limited evidence in support of testing for some populations and the utility of SMBG test results in helping individuals manage their disease. In January 2010, the DCPNS invited a multi-disciplinary group of diabetes health care professionals to discuss recommendations regarding SMBG for non-insulin-treated type 2 diabetes, specifically its use, frequency and application in Nova Scotia. The proceedings of that workshop were presented in an earlier article.[1] Here we discuss the follow-up work, including the refinement and dissemination of the *DCPNS Non-Insulin Using Type 2 Diabetes: Decision Tool for Self-Monitoring of Blood Glucose*[*], and demonstrate the value and the partnerships necessary to support change and promote consistency in approach across provider groups and practice settings.

TABLE 1
Responses to consensus questions from the Diabetes Care Program of Nova Scotia (DCPNS) Self-monitoring Blood Glucose (SMBG) Workshop

1. Do all people with non-insulin-using type 2 DM need to test their blood glucose?
• 87% – no • 13% – yes, but not routinely
2. Should testing frequency be reduced in non-insulin-using type 2 DM?
• 100% – yes, purposefully, on a case-by-case basis
3. For education (self-management purposes), should all people test at diagnosis?
• 33% – no • 40% – yes • 27% – should be an option based on individual interest and willingness, blood glucose values, and planned use of results
4. Is a maximum allowance for strips feasible in the non-insulin-using type 2 DM population?
• 7% – no • 93% – yes, provided additional qualifiers are considered such as during times of illness
5. Initial self-management education, if appropriate, should focus on staggered, limited SMBG for a specified period of time. Provide your views (what would this look like—how many for how long).
• No consensus, responses included ° Not possible to standardize ° 1–2 weeks with SMBG (at variable times and frequencies within) ° 1–4 months

Abbreviations: DM, diabetes mellitus; SMBG, self-monitoring blood glucose.

Post-workshop feedback

Following the January 2010 SMBG Workshop, participants responded to a series of consensus questions. This activity highlighted the power of evidence and thoughtful dialogue in coming to consensus on broad issues and the much more difficult task of reaching agreement on standardized approaches (specifics) due to individual patient and provider differences. The refinement of the decision tool (considerations, examples for testing) and the example of supporting cases (ranging from simple to more complex) is as a result of this feedback (see Table 1).

[*] The Decision Tool is available in Appendix A (online only) from: http://www.phac-aspc.gc.ca/publicat/cdic-mcbc/32-1/ar-09-eng.php#ar0907.

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A "Needs and Wants" exercise was also used to ask participants, "What do you need to help make the changes as discussed [in the SMBG Workshop] a reality in your practice setting?" The participants were to consider this question in the context of each of three categories: individuals with diabetes, health care providers, and other organizations and agencies. These responses were used to support and plan a Nova Scotia–centred approach to SMBG that included partnerships, interdisciplinary sessions, newsletter articles, presentations to key stakeholder groups, the development of educational videos to support self-paced provider learning and patient handouts (see Table 2).

TABLE 2
Responses to Needs and Wants exercise from the Diabetes Care Program of Nova Scotia (DCPNS) Self-Monitoring Blood Glucose (SMBG) Workshop

Individuals with diabetes
• Education about why and when to test, including rationale and recommendations • Point-of-sale handouts with consistent messaging about when and for how long to test • For those newly diagnosed with diabetes mellitus, emphasize other aspects of self-management such as diet and exercise • A multi-dimensional campaign for promotion through major stakeholders – CDA, Diabetes Centres, pharmacies, physician offices, etc.
Health care providers
• Consistent guidelines with clear recommendations on when and how to test • An edited, improved decision tool • Inter-professional education through variety of media, including academic detailing • Handout for patients explaining the reason for the change in SMBG practice • Information on prevention – how to approach, encourage and support necessary changes • Policies and education for variety of diabetes care providers (e.g. VON, long-term care managers) and health care educators (e.g. community college and university programs) • Articles in DCPNS newsletter, Pharmacare newsletter, etc.
Other agencies and organizations (e.g. CDA, DHW, Medavie BlueCross, etc.)
• New evidence-based guidelines – CDA should play key role in supporting/disseminating message about change in SMBG through its patient and provider publications, website, etc. • Collaboration between agencies • Mailings to clients who use the provincial government Pharmacare services, private insurers such as Medavie Blue Cross, etc. • Distribute "best practice" information to relevant agencies • Education about SMBG and how to access programs and services

Abbreviations: CDA, Canadian Diabetes Association; DCPNS, Diabetes Care Program of Nova Scotia; DHW, Department of Health and Wellness; VON, Victorian Order of Nurses.

Non-Insulin Using Type 2 Diabetes: Decision Tool for Self-Monitoring of Blood Glucose

After many iterations and valued feedback from working group members and many others, the DCPNS finalized the one-page decision tool. The intent of the *Non-Insulin Using Type 2 Diabetes: Decision Tool for Self-Monitoring of Blood Glucose* is to address the need for a more consistent approach to the prescribing and practice of SMBG among and between different health care provider groups (physicians, pharmacists, diabetes educators and others). This colour-coded tool guides and focuses group discussion and individual decisions on issues of greatest concern when considering SMBG[†]. Four key areas of consideration include:

- safety (e.g. risk of hyper- or hypoglycemia);
- appropriate and timely action by health care providers based on results of SMBG;
- individual's knowledge, skills and willingness to test and record as well as ability to interpret and act on SMBG results; and
- self-management education.

The decision tool reinforces critical concepts, prompts yes/no responses to key questions, ensures consideration is given to additional issues that may impact the decision to self-monitor (including age, frailty, cognition and finances), provides examples of high- and low-intensity testing, and reinforces the need for time-limited testing in those who do test.

Mindful of the need for information and education through a variety of media, two short educational videos support the dissemination and uptake of the decision tool. Video 1 (*SMBG Decision Tool for Health Care Providers*) provides the rationale for the decision tool in light of the evidence and local considerations. Key opinion leaders provide their insights on SMBG in the non-insulin-using type 2 diabetes mellitus population, the rationale for the change in practice, the opportunities that this change creates for both patients and providers, and the value of the decision tool to reduce subjectivity and promote a more thoughtful approach to SMBG. Video 2 (*Use of the SMBG Decision Tool and Case Studies*) introduces the tool and illustrates how to use it. The video highlights the features of the tool, works through a sample case, summarizes principles and caveats to guide future application, and presents three additional case studies (from those newly diagnosed to those with long-standing diabetes) for providers to work through on their own.[‡]

Although the official launch was to be in September 2010, the tool (without the videos) was first introduced to physicians, pharmacists and diabetes educators in May 2010 through academic detailing sessions conducted by the Office of Continuing Medical Education at Dalhousie University. The tool and the videos became the focus of inter-professional workshops held across Nova Scotia as of February 2011. These community-based sessions continue to be offered free of charge to physicians, diabetes educators and community pharmacists as well as interested inpatient, ambulatory care and community health care professionals. Supported by a local clinical expert, representatives from Dalhousie University's Departments of Continuing Medical and Pharmacy Education, Capital Health's Drug

[†] The Decision Tool is available in Appendix A (online only) from: http://www.phac-aspc.gc.ca/publicat/cdic-mcbc/32-1/ar-09-eng.php#ar0907.

[‡] The decision tool and videos are available from http://www.diabetescareprogram.ns.ca.

Evaluation Unit and the DCPNS lead the sessions. Each 90-minute session includes role-playing, overview of the evidence (with a focus on the local context), use of the SMBG Video 2 to introduce the decision tool and its various features followed by case-based, small group work led by the clinical expert.

Next steps

Opportunities to promote the tool and the need for consistency in approaches to SMBG continue to present themselves in the form of abstract submissions, conference presentations, speaking engagements, and sharing across provinces and agencies that have an interest in this topic. An evaluation plan is currently under development; it will include monitoring prescribing practices though the Nova Scotia Department of Health and Wellness Pharmacare Program and a review of diabetes educator practices related to use of the tool and approach to counselling.

Currently, DCPNS is leading the development of a parallel decision tool aimed at individuals with diabetes. This tool will explain why the recommended SMBG practices have changed and will include a simple self-test to assist individuals in determining if they need SMBG. For those needing to test, simple guidelines will explain when and how often to do so.

This continued work will benefit from the insight of many partners who have provided support, encouragement and perspective. SMBG is not just a diabetes educator issue; it affects all providers across multiple settings who interact with people who have diabetes as well as individuals living with diabetes and their family members. A measured approach to SMBG will benefit individuals with diabetes: less testing means happier fingers and more effective use of personal health care dollars without compromising care or health outcomes. The health system will also benefit from more appropriate use of SMBG by reducing the burden of unnecessary and wasteful testing.

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References

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