Self-Monitoring Blood Glucose Workshop I: promoting meaningful dialogue and action at the provincial level

M. J. Dunbar, MEd

Introduction

The Nova Scotia Department of Health and Wellness supports a number of provincial programs, including the Diabetes Care Program of Nova Scotia (DCPNS), that function in an advisory capacity to the health department. Committed to ongoing improvement of the health care system and to the promotion of uniform standards throughout the province, these programs bring together experts / working groups to advise the system, recommend service delivery models, establish and monitor approved standards, guide policy and facilitate knowledge transfer/translation and networking in support of best/promising practices. The aim is to improve care and outcomes at the local, district and provincial levels. The development of the DCPNS Self-Monitoring Blood Glucose (SMBG) Decision Tool and the SMBG Workshop and related follow-up work are a cogent example of how a provincial program can quickly mobilize a broad range of experts and front-line health care providers to address an important issue like SMBG.

Background

"Should all people with diabetes mellitus self-monitor their blood glucose?" This question has received increasing attention in recent years as individuals and the health care system struggle with costs related to testing, the limited evidence in support of testing for some populations, and the realities of using test results for persons with diabetes and their health care providers. This topic is not new. The American and Canadian Diabetes Associations hosted debates on SMBG during their national conferences, in 2005 and 2006 respectively. In November 2006, Alberta's Institute of Health Economics hosted the first Canadian Consensus Conference on Self-Monitoring in Diabetes. National and international speakers presented clinical evidence as well as economic, policy and consumer perspectives. An expert panel assimilated the information and formulated responses to predetermined questions into a consensus document intended for use by all sectors in decision-making around SMBG in Canada.[1]

This consensus work was followed by local, national and international work, including a qualitative study on health care professional views and practices related to SMBG in Nova Scotia;[2] recommendations and reports by the Canadian Agency for Drugs and Technologies in Health (CADTH);[3,4] costing reports from Ontario's Institute for Clinical Evaluative Sciences;[5] peer-reviewed publications;[6-8] workshop presentations[9] and the International Diabetes Federation's guidelines on *Self-Monitoring of Blood Glucose in Non-Insulin Treated Type 2 Diabetes,*[10] among others.

The DCPNS participated in some of this earlier work. More recently, the Program led discussions to help guide and inform policy and contribute to finding a sustainable, realistic solution to SMBG. Such a solution would help reduce the burden of unnecessary and sometimes wasteful testing in a specified population with diabetes. Details of the SMBG Workshop are presented below, and details of the follow-up work and the SMBG Decision Tool are presented elsewhere.[11]

Workshop audience and objectives

In January 2010, the DCPNS invited a multidisciplinary group of diabetes health care professionals to discuss the Canadian Optimal Medication Prescribing and Utilization Service (COMPUS) recommendations regarding SMBG for non-insulin-treated type 2 diabetes, specifically its use, frequency and application in Nova Scotia. Numerous local and national observers also attended the workshop to gain insight from the discussions (see Table 1).

Participants were tasked with the following:

- helping to formulate preliminary consensus recommendations, with the help of case-based discussions, on diagnostic strip usage for non-insulin-treated type 2 diabetes mellitus;
- identifying potential criteria for "exception status" in SMBG strip requirements for non-insulin-treated type 2 diabetes; and
- recommending next steps regarding patient and provider tools, supports and communications.

Plenary sessions

Four plenary sessions, focusing on the Nova Scotian context, contributed to understanding the evidence underlying the following COMPUS recommendation: "For most adults with type 2 diabetes using oral antidiabetes drugs (without insulin) or no antidiabetes drugs, the routine use of blood glucose test strips for SMBG is not recommended."[3,p5]

Author references:

Diabetes Care Program of Nova Scotia, Halifax, Nova Scotia, Canada
Correspondence: Margaret (Peggy) J. Dunbar, Suite 548 Bethune Building, 1276 South Park Street, Halifax, NS B3H 2Y9; Tel.: (902) 473-3209; Fax: (902) 473-3911; Email: peggydunbar@diabetescareprogram.ns.ca

TABLE 1
Invited participants and observers at the Diabetes Care Program of Nova Scotia (DCPNS) Self-Monitoring Blood Glucose (SMBG) Workshop

Invited participants	Observers

• Diabetes Centre educators from each of Nova Scotia's nine district health authorities
  ◦ Registered nurses
  ◦ Professional dietitians
• Pharmacists
• Physicians
  ◦ Family physicians
  ◦ Specialist physicians
  ▪ Internists
  ▪ Endocrinologists
• Nurse practitioners
	• Canadian Agency for Drugs and Technologies in Health (CADTH)
	• Nova Scotia division of Canadian Diabetes Association (CDA)
	• Pharmaceutical Services, Nova Scotia Department of Health and Wellness
	• Drug Evaluation Unit, Capital District Health Authority (CDHA)
	• Behaviour Change Institute, CDHA
	• College of Pharmacy, Dalhousie University
	• Academic Detailing, Dalhousie University
	• Pharmacist, First Nations and Inuit Health, Atlantic Region, Health Canada

The plenary sessions (see Table 2) were followed by an exercise that required participants to consider the following:

- "What did you hear... what hit home with you?"
- "What were the main take-away messages for you?"

Six theme areas emerged; these are shown below with brief summary points and/or illustrative quotes.

1. Costs/Wastage
   - Awareness of escalating costs and the need for fiscal responsibility: "The potential savings are huge."
2. Research
   - Acknowledgment and better understanding of the lack of evidence supporting SMBG and improved outcomes.
   - Need for more research: "Who benefits from SMBG and in what ways?"
3. Variations in practice
   - Appreciation of variations in practice among and between diabetes practitioners.
   - Need for education and programming on how to use, interpret and act on SMBG results.

TABLE 2
Plenary sessions at the Diabetes Care Program of Nova Scotia (DCPNS) Self-Monitoring Blood Glucose (SMBG) Workshop

Title	Presenter	Content
Self-Monitoring of Blood Glucose (SMBG): Highlights from CADTH's Recommendations	Denis Bélanger, BSc(Pharm), ACPR, Acting Senior Director, CADTH	The first session provided insights into the COMPUS recommendation and the approach used to adopt optimal practice of SMBG. The presentation included an overview of available evidence about the clinical effectiveness and cost effectiveness of SMBG, potential opportunity costs and the key issues that were addressed in the recommendation deliberations.
Self-Monitoring of Blood Glucose: The Health Care Professional Perspective	Wayne Putnam, MD, Associate Professor, Department of Family Medicine, Dalhousie University	This session provided preliminary findings from a qualitative study[2] conducted in Nova Scotia "to gain insight into health professionals' recommendations for, and perceived value of, SMBG in adults with type 2 diabetes who are not using insulin and are in good control (A1C ≤ 7%)." Interviews conducted with diabetes educators, community-based pharmacists and practising clinicians demonstrated variations between and within practice disciplines with regards to the frequency of recommended monitoring, reasons for monitoring, use of results and in the trusted sources of information related to SMBG.
Patient and Provider Perspectives on Self-Monitoring of Blood Glucose: Highlights from CADTH's Focus Groups	Denis Bélanger, BSc(Pharm), ACPR, Acting Senior Director, CADTH	This session provided an overview of patient and health care professional perspectives as derived from focus groups (Halifax and Ottawa) regarding CADTH's key messages on the practice of self-monitoring. The presenter shared observations highlighting variations between patients, physicians / nurse practitioners, diabetes educators and pharmacists around why to test, the value of testing and use of results. Individuals with diabetes provided additional perspectives on the advantages and disadvantages of SMBG.
Utilization of Blood Glucose Monitoring Strips: Nova Scotia Pharmacare Programs	Natalie Borden, BSc(Pharm), Manager, Drug Utilization Review, NS Department of Health and Wellness	The final presentation showed the current NS costs for diabetes medications and test strips as well as the number of test strips (and range) being used by the different diabetes treatment types (insulin, oral agents, insulin and oral agents, diet only). Findings from the most recent studies related to this topic[5,8,12] were presented, including proposed scenarios for reducing costs of test strips.

Abbreviations: CADTH, Canadian Agency for Drugs and Technologies in Health; COMPUS, Canadian Optimal Medication Prescribing and Utilization Service; NS, Nova Scotia; SMBG, self-monitoring blood glucose.

4. Messaging
   - Information needs to be relayed to persons with diabetes and care providers about the impact of SMBG on outcomes as well as current perceptions and practices.
   - There is a need for consistent messaging and to refocus patient monitoring on those things that will make a difference in day-to-day management and patient outcomes—food intake, activity/exercise, weight, medication persistence, etc.
   - Everyone needs to agree on recommendations about who should test and, for those who should test, the frequency of testing.

5. Changes in practice
   - There is no evidence to support the belief that SMBG is a motivator and results in better outcomes in this population: "We need to rethink SMBG for those that really need it and will benefit. This rethinking will result in a huge shift in practice and how we interact with patients."

6. Opportunity
   - Need to change current SMBG guidelines and better understand how SMBG fits within the concept of self-care.

Case-based discussions

The second half of the workshop focused on case-based discussions and small group work facilitated by clinical experts, Drs. Lynne Harrigan (Internist) and Dale Clayton (Endocrinologist). Cases moved from simple to complex and explored SMBG considerations related to diagnosis, degree of hyperglycemia, type of diabetes treatment, risk of hypoglycemia, and the influences of age, occupation, interest, cognition and motivation.

Participants were introduced to a draft SMBG Decision Tool developed by the DCPNS. The draft tool had three focal areas:

1. instructions for how to use and interpret the tool;
2. indications and considerations for SMBG (e.g. safety, planned use of the results by the individual and his/her health care team, and self-management education); and
3. SMBG recommendations (e.g. specific examples of low and high intensity testing with a focus on "time-limited" testing).

Participants used the tool as they worked through seven cases studies, as they would be expected to do in practice. According to the participants, "the tool allowed for a more objective look at each individual case and removed emotion and subjectivity from the equation." It allowed for a focus on patient safety, available evidence, an individual's interest and capability, and the health care provider's use of results. In cases for which testing is recommended, the tool also helped participants to determine the intensity of testing required (e.g. low-intensity versus time-limited, high intensity).

Following the case studies, participants committed to continuing the dialogue and refining the SMBG Decision Tool by responding to consensus questions and a "Needs and Wants" exercise via email. This feedback will help guide DCPNS and other partners in the development and delivery of resources and programs to move forward a more standardized approach to SMBG in Nova Scotia.

Conclusion and next steps

Through leadership and partnership, the DCPNS demonstrated the value of addressing the SMBG issue through local dialogue, decision, and provider and patient supports as well as planned, thoughtful dissemination strategies to increase reach into a variety of provider groups.

The DCPNS refined the SMBG Decision Tool and worked with its partners and other stakeholders to reach across provider groups to attain consistency in approach and messaging for SMBG in the non-insulin-treated type 2 diabetes population. The results of this continued work are reported in Part II of this article.[11]

Acknowledgements

The Diabetes Care Program of Nova Scotia would like to thank all the participants of the Self-Monitoring Blood Glucose Workshop for helping to guide this important work and the observers for their encouragement and support. In particular, we would like to acknowledge Bev Harpell, Brenda Cooke, and Dr. Lynne Harrigan for helping to shape the draft SMBG Decision Tool and the agenda for the SMBG Workshop. Last, but not least, we would like to thank Pam Talbot for her contributions toward the preparation of this manuscript.

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