

Enhancing diabetes care in family practice

A flow sheet

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According to statistics 87% of care for type 2 diabetes in Canada is provided by primary care practitioners.¹⁻⁴ Research has shown, however, that this care does not meet the standards achieved by specialists. In an attempt to close the gap, we have designed a Diabetes Flow Sheet (using Canadian Diabetes Association [CDA] clinical practice guidelines [CPGs]) to assist primary care practitioners in treating their patients with diabetes and to provide ongoing feedback, helping primary care practitioners to attain and maintain compliance with evolving CPGs.⁵

Gap in treatment

Various studies in Canada have shown that there is a substantial gap between CDA guidelines and the actual standards of practice in family medicine in Canada.^{2,6} In Canada, only 51% of patients with diabetes achieve the target glycosylated hemoglobin A_{1c} (HbA_{1c}) levels of less than 7%.⁶ Failure to achieve guideline values leads to increased morbidity and mortality in patients with diabetes.^{4,7-15} There are challenges in maintaining optimal diabetes care in rural and isolated practice settings, where opportunities for medical education and support are limited.

Diabetes flow sheet

The Canadian Centre for Research on Diabetes is a not-for-profit organization committed to improving outcomes in patients with diabetes by providing education and support for patients and their health care providers. As such, we have designed a flow sheet that is easy to use, gives family practitioners a structured care approach, and includes CDA-CPG goals and intervals (Figure 1).*

Our intention is to support and help primary care practitioners in small, rural, or isolated practices who are without sophisticated electronic support. It is a fairly simple process: The flow sheet, after being filled out after each visit, is faxed to the Canadian Centre for Research on Diabetes (with the patient's consent). The physician's details and the patient's demographic data are coded into the record form, as well as family history, smoking history, year of diagnosis, and dates of last eye and foot examinations. A diagnostic template reminds the physician of commonly occurring comorbidities (such as type 2 diabetes, obesity, hypertension, dyslipidemia, nephropathy, neuropathy, retinopathy, depression, erectile dysfunction, coronary artery disease); the patient's medications (including dosage and start date) and investigations or

laboratory results are then entered or checked off in the appropriate places. Staff members enter the data into a computer system, which is reviewed by a physician. All values that fall outside of the target levels of the CDA guidelines are printed in red. If there are any CDA recommendations that might be applicable to a particular patient, they are printed on the bottom of the form in a contrasting colour. A new, updated, and coloured form is reprinted and mailed back to the attending physician; the new form is placed in the patient's chart and the old form can then be destroyed. The flow sheet is cumulative and allows ongoing assessment of progress toward achieving guideline-compliant care of patients with diabetes. The back of the flow sheet can be used for objective guideline-directed educational initiatives and can be geared toward individual physicians.

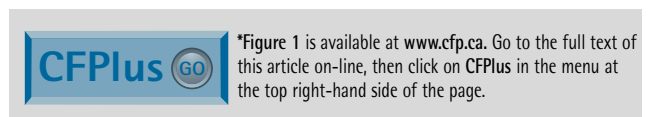
Multiple benefits

Use of this tool results in a win-win situation:

- Primary care practitioners win because they have access to care guidelines and directed assistance to achieve guideline targets. Physicians have a tool that is practical and easy to use.
- Periodic analyses of practice standards for individual physicians allows for directed physician education.
- Patients' treatment plans are continuously audited and suggestions are frequently made to help achieve targets, improving outcome and reducing morbidity and mortality.
- The Canadian Centre for Research on Diabetes is allowed to keep a live database of current treatment standards in Canada and can design educational programs based on need. The data on physicians and individual patients are strictly confidential but the aggregate data can be periodically published.

Assessment

The project was tested by 25 physicians in northern Ontario, all who were in solo or small group community practices. Up to 330 patients with diabetes were enrolled, with an average age of 43.6 years and a patient split of 46% male to 54% female. The average duration of diabetes to date was 8 years.



Upon entry—ie, first visit—the average fasting glucose level was 11.3 mmol/L; average HbA_{1c} level was 7.9%; average low-density lipoprotein cholesterol level was 2.6 mmol/L; 62% of subjects were using angiotensin-converting enzyme inhibitors; 11% were using angiotensin II receptor blockers; 48% were using statins; and 76% were using acetylsalicylic acid.

At last visit, average fasting blood sugar level was 7.7 mmol/L; average HbA_{1c} level was 5.6%; average low-density lipoprotein cholesterol level was 1.7 mmol/L; 95% of subjects were using angiotensin-converting enzyme inhibitors; 32% were using angiotensin II receptor blockers; 75% were using statins; and 95% were using acetylsalicylic acid.

Overall, these participating physicians did improve standards of care and guideline compliance in their respective practices as a result of this project.


Confidentiality

Individual patient data are used only on the flow sheets, which are returned to the attending physicians. Physician data are only used to generate confidential reports to the individual physicians.

Confidential reports can be generated for individual physicians that show their degree of compliance with important CPG recommendations and compare their results with those of other participating physicians. All patient and physician information is confidential, but reports on national and regional standards might be published to assist in the provision of targeted educational initiatives and to demonstrate standards of care.

Conclusion

This program is offered nationwide. If you think the flow sheet would be beneficial to you, your practice, or your patients, simply download a copy of the form and begin. Fax the first form to the number provided; when we return the reprinted form, we will enclose extra blank forms for future use.

The form is available for download (**Figure 1**)* or can be found on our website at www.diabetesclinic.ca in the “Tools and Forms” section. We also encourage your feedback; call 800 717-0145 should you have any questions, concerns, or commentary. 

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Competing interests

None declared

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