Pharmacists play an important role in diabetes care and can improve patient outcomes

Diabetes has become an increased burden for many Canadians and society as a whole. Optimizing the use of medications can improve care of patients with diabetes and reduce the economic impact of the disease. The four studies included in this issue explore the role of the pharmacist in the care of patients with diabetes and demonstrate that pharmacists can improve clinical indicators of diabetes.

- Pharmacists can improve clinical outcomes of patients with diabetes
- Enhanced pharmacist care improves cholesterol management of patients with diabetes
- Pharmacists identify drug-related problems in a multidisciplinary diabetes team
- Community pharmacists have a role in diabetes management

Issue: Pharmacists can cooperate with patients and other health professionals in designing, implementing and monitoring therapeutic plans that assist patients with diabetes in making critical behavioural changes. Research has demonstrated that interventions by pharmacists have had a positive impact on patient outcomes. A meta analysis is required to identify which specific patient outcomes are sensitive to pharmacists' interventions.

A solution: This systematic review and analysis is the first to be published regarding pharmacists' interventions in patients with diabetes. The Annals of Pharmacotherapy. 2007; 41(10):1569-82.

This systematic review and analysis is the first to be published regarding pharmacists' interventions in patients with diabetes.

Pharmacists can improve clinical outcomes of patients with diabetes


Seven outcomes were classified into one of four sensitivity categories. Hemoglobin A1C value decreases were “definitely sensitive” (both clinically and statistically significant). Systolic blood pressure and fasting plasma glucose were “possibly sensitive” (findings were clinically significant, but due to a small sample no statistical conclusions were drawn). Cholesterol levels, medication adherence, diabetes knowledge and patient quality of life were “possibly not sensitive” (in most cases there was insufficient evidence of a significant impact on patient outcomes). None of the outcome were classified as “definitely not sensitive”.

The findings also suggested that pharmacists had a greater impact on patients who were at higher risk, had more complex cases, and may have little other contact with other health professionals.

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**Enhanced pharmacist care improves cholesterol management of patients with diabetes**


**Issue:** Patients with diabetes are at greater risk of cardiovascular events than patients without diabetes. Therefore, aggressive cholesterol treatment is recommended in patients with diabetes to help reduce the risk for cardiovascular events. Recent studies have observed that many patients with diabetes do not have adequate cholesterol management and a gap exists between current practice and the recommended best practices. Effective interventions in cholesterol management in patients with diabetes need to be identified and tested.

**A solution:** Community pharmacists are accessible and ideally placed to proactively identify patients with diabetes who are at risk of cardiovascular events. In this randomized trial, community pharmacists provided patients with an enhanced care program that included: an interview to identify cardiovascular risk factors; a measurement of total cholesterol level and blood pressure; education regarding heart disease risk factors; recommendation to visit the family physician specifically for risk factor assessment; and five in-person or telephone follow-up visits during the subsequent 4-month period.

Overall, patients receiving enhanced care from their pharmacist showed improvements in cholesterol risk management (i.e., a cholesterol blood test, or a new or an increase in cholesterol lowering drugs). Patients with diabetes benefited even more (five times more) from enhanced pharmacist care compared to those without diabetes. Patients with diabetes saw a significant reduction in their total cholesterol levels over the 4-month follow-up period. They also experienced a decrease in blood pressure and cardiovascular risk factors.

**Implications:** Pharmacists’ provision of enhanced care improves the management of patients at high risk for cardiovascular disease, especially in patients with diabetes. Pharmacists are more easily accessible than most other health professionals in the community and are thus ideally placed to identify and follow patients at high risk for cardiovascular events. The incremental cost of an enhanced pharmacist care program is economically feasible for governments, and minimal, especially compared to the costs of the complications of cardiovascular disease. These costs essentially cover the blood test and extra cholesterol lowering drugs.

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**Studies cited by the authors of this study:**

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**Background or research methods:**

| 54 community pharmacies in Alberta and Saskatchewan recruited 675 patients, of which 294 had diabetes. Patients were eligible for inclusion if they had existing cardiovascular disease or diabetes with one or more other cardiovascular risk factors. Patients were randomized to either usual care or enhanced pharmacist care. A primary end point was defined as: a cholesterol blood test as ordered by the family physician, or adding a cholesterol-lowering drug, or increasing the dosage of a cholesterol-lowering drug. Patients were only included once despite reaching multiple end points. Patients receiving enhanced pharmacist care were evaluated for a reduction in the risk of cardiovascular events. |

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The Diabetes Strategy for Pharmacists is helping to direct the future of pharmacist involvement in diabetes patient care.


(Aussi disponible en français : www.pharmacists.ca/diabete)

For more information on the Diabetes Strategy for Pharmacists, visit us online at www.pharmacists.ca/diabetes or www.pharmacists.ca/diabete
Community pharmacists have a role in diabetes management


**Issue:** In Nova Scotia, diabetes is responsible for a total economic burden of $79.4 million. Patients with newly diagnosed diabetes are typically referred to a Diabetes Centre (DC) by their family physician. Some patients with diabetes may wait six to eight months for an appointment at a DC.

**A solution:** Pharmacists are easily accessible in the community and have an important role to play in diabetes care. They can provide timely education to diabetes patients, helping to mitigate the clinical and economic burden of diabetes care in their communities. What are the perceptions of health care professionals on the role of community pharmacists in the provision of diabetes care to patients?

This study sought to uncover these perceptions by interviewing eight primary health care physicians, six community pharmacists, and four health professionals from the Diabetes Care Centres (nurses or dietitians). Seventeen of the eighteen health care professionals who participated responded positively to the collaborative involvement of community pharmacists in the provision of diabetes care. Data obtained in the interviews were analyzed for common themes.

Education about drug therapy was the role most frequently mentioned by participants (83%). The second most frequent role (67%) was providing information about blood glucose monitors, glucose self-testing and maintaining a healthy lifestyle. Other roles, in order from most frequent to least frequent, included reinforcement of the health messages of other health care professionals, monitoring of medication and regular testing, providing feedback to physicians and counselling patients on over-the-counter medications.

**Implications:** This study demonstrates some of the roles that community pharmacists may play in helping patients with diabetes. Pharmacists can help patients with diabetes receive timely and accessible education and information. Potential limitations to this study were: a small sample size, low response rate, and self selection. Further research is required to validate these findings and to determine which community pharmacy-based diabetes management programs are feasible for national implementation. Continued education and research is needed to determine the effectiveness of interprofessional collaboration in providing care to patients with diabetes.

In Nova Scotia, diabetes is responsible for a total economic burden of $79.4 million.

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**Background or research methods:** A total of 330 primary care physicians, 280 community pharmacists and 13 nurses or dietitians from DCs from the Capital District Health Authority, Halifax, NS were identified as eligible. Physicians for the study were identified from the “Physician Listing” published by the College of Physicians and Surgeons of Nova Scotia; and community pharmacists were identified from a directory of Nova Scotia pharmacies provided by the Pharmacy Association of Nova Scotia. Health care professionals from the DCs were identified from resources available through the Diabetes Care Program of Nova Scotia. Of these primary health care physicians and community pharmacists, 310 were randomly selected to receive an invitation to participate in the study. All nurses and dietitians employed by the DCs were also invited to participate. Eighteen (n=18) respondents participated in a 20-minute semi-structured telephone interview. Interviews were conducted over an eight-week period from September to October 2003. The interview data were analyzed for common themes.

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