

Disease Monitoring and Management: An Analysis of Pharmacy Services for Diabetes in Alberta

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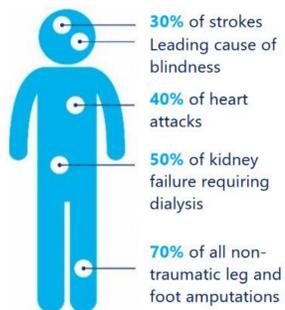
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DIABETES IN ALBERTA

Diabetes is defined as a disease in which the body cannot produce its own insulin or unable to properly use the insulin it produces (Diabetes Canada, n.d.).

Pharmacies offer various primary health care services to support patients. Alongside with offering services like smoke cessation management, vaccine administration, renewing a prescription, Alberta pharmacies play an important role in the management of chronic diseases such as diabetes through blood glucose monitoring, medication management and assessment, and patient education. (Government of Alberta, n.d.).

Figure 1
Complications that Diabetes Contributes to.



Note. Source: (Diabetes Canada, 2021).

- According to Alberta Diabetes Link (n.d.), there are about **nine million** Canadians who are **diabetic or prediabetic**.
- As of 2022, about 8% of Albertans have type 1 or type 2 diabetes which is equivalent to over 403,000 people (Alberta Diabetes Link, n.d.).

“Alberta had the largest increase in diabetes prevalence during the last 10 years among the provinces and is projected to also experience the largest increase over the next 10 years” (Diabetes Canada, 2021). Given the significant number of the chronic diseases such as diabetes, managing these effectively is crucial for improving patient health outcomes and their quality of life. (Husted et al., 2022).

DIABETES MANAGEMENT SERVICES OFFERED IN ALBERTA PHARMACIES

Blood Glucose Monitoring

Some pharmacies offer services in assessing blood sugar levels in diabetic patients by utilizing CANRISK (Canadian Diabetes Risk Questionnaire) tool and by offering screenings such as the **HbA1c screening** which is measuring blood sugar levels for the past 3 months (Soutar, 2023). When the pharmacist determines that a HbA1c test is necessary during a Comprehensive Annual Care Plan or Standard Medication Management Assessment, the test would be offered at **no charge** to the patient as part of the pharmacy service (Alberta Blue Cross, 2012). However, if a patient requests a HbA1c test done as a standalone service, a charge may apply.

Patient Education of Diabetes

Some pharmacists are eligible to become a **Certified Diabetes Educator (CDE)** which plays an important role in patient education for diabetes care and management. CDEs are health professionals with expertise in diabetes management who can teach patients about diabetes and how to live well with it (Alberta Diabetes Link, 2023). Diabetic patients can consult pharmacists who are CDEs to receive education on lifestyle changes, the use of glucose monitoring devices, setting health goals etc. as part of their care plans (Soutar, 2023).

Medication Management and Assessment

CACP and SMMA Diabetes

In Alberta, patients with diabetes mellitus are eligible to access **Standard Medication Management Assessment Diabetes (SMMA Diabetes)** or **Comprehensive Annual Care Plan (CACP)** if they have two or more chronic conditions as part of pharmacy services. The criteria for eligibility for SMMA Diabetes include having “**diabetes mellitus and is taking at least one schedule 1 drug or insulin**” (Alberta Blue Cross Pharmaceutical Services, n.d.).

The associated fees for the initial and follow-up assessments are covered by Alberta Health under the Compensation Plan for pharmacy services (Alberta Blue Cross, 2012). The payments are facilitated through Alberta Blue Cross for reimbursement to Alberta pharmacies, so there is **no cost for the patients** if meet the eligibility for the services (Alberta Blue Cross, 2012). The following figure shows the reimbursement that pharmacists can receive for providing CACPs and SMMA, and the limit of follow-up assessments per patient under the Alberta pharmacy funding framework.

Figure 2
CACP and SMMA Activities and Fees.

Comprehensive annual care plan	\$100
Standard medication management assessment	\$60
Comprehensive annual care plan follow-up or a standard medication management assessment follow-up	\$20
Comprehensive annual care plan follow-up and standard medication management assessment follow-up limits	12 follow-ups annually per patient

Note. Source: (Government of Alberta, n.d.).

BENEFITS TO PATIENT WELLNESS

Diabetes Education Programs Motivate Patients to be Active Participants

Providing patients with information about diabetes enables them to understand the potential risk factors and gain greater understanding related to diabetes, which in turn motivates them to actively participate in the management of their disease (Machen et al., 2019).

Increased Medication Adherence

According to Orabon et al. (2022), active interventions by the pharmacist which includes “medication education, glucose meter education, and adherence support strategy implementation” contributed to **increased medications adherence** when compared to the standard of care (p. 1920).

Improved Quality of Life

Patients who experienced pharmacist-managed diabetes care showed improved quality of life, patient-provider relationship, and tend to worry less about their disease (Orabon et al, 2022). Interventions such as providing diabetes education can **decrease diabetes distress** (Machen, 2019).

POTENTIAL FOR PUBLIC HEALTH IMPROVEMENTS

Prevention of Diabetes-Related Health Complications

Providing education on diabetes can enhance patients’ understanding of the condition and enable them to actively take steps towards adopting healthier daily habits. This has the potential to substantially **decrease the incidences of health complications** related to diabetes (Machen, 2019).

Reducing Healthcare Costs

According to data from Diabetes Canada (2021, p. 1), the estimated “direct cost to the health care system” due to diabetes is projected to significantly increase from \$475 million in 2021 to \$672 million in 2031. Intervention program led by pharmacists have demonstrated to be effective in reducing emergency department visits and hospitalizations due to diabetes-related complications for diabetic patients (Orabon et al., 2022). This shows that diabetes management offered as part of community pharmacy services has the potential to **improve public healthcare expenditure**.

Figure 3
Estimated Prevalence and Cost of Diabetes.

Prevalence (1)	2021	2031
Diabetes (type 1 and type 2 diagnosed)	386,000 / 8%	556,000 / 10%
Diabetes (type 1)	5-10% of diabetes prevalence	
Diabetes (type 1 + type 2 diagnosed + type 2 undiagnosed) and prediabetes combined	1,207,000 / 25%	1,580,000 / 29%
Increase in diabetes (type 1 and type 2 diagnosed), 2021-2031	44%	
Direct cost to the health care system	\$475 million	\$672 million
Out-of-pocket cost per year (2)		
Type 1 diabetes on multiple daily insulin injections	\$2,200–\$2,400	
Type 1 diabetes on insulin pump therapy	\$600–\$900	
Type 2 diabetes on oral medication	\$500–\$2,000	

Note. Source: (Diabetes Canada, 2021).

ISSUES AND BARRIERS TO CONSIDER

Lack of Information and Promotion

- According to Husted et al. (2022), diabetic patients might not always be aware or may have trouble selecting options of the pharmacy services available for them due to a **lack of awareness** of the type of pharmacy services that are offered and who they can go to for more information. This barrier to access may be compounded by additional challenges such as language barriers in diabetic patients who are ethnic minorities and /or from marginalized populations.
- Pharmacies are often so busy that patients are hesitant to ask questions and feel discouraged to have long conversations with the pharmacist (Husted et al., 2022).

Figure 3
Walmart pharmacist and certified diabetes educator in Ottawa



Note. Source: (The Globe and Mail, 2023).

- It is suggested that pharmacies should provide promotion of available services so that it is readily visible and improve staff training to allow for more dialogue opportunities regarding diabetes management (Husted et al., 2022).

Limitation on Accessibility to CACP and SMMA Plans

- A patient must have “two or more chronic diseases or one or more risk factors” to be eligible for CACP which means that patients who only have one chronic disease are not able to get coverage for accessing the CACP (Alberta Blue Cross Pharmaceutical Services, n.d.). While diabetic patients may be able to receive coverage for assessments under the SMMA Diabetes plan, patients who have other chronic conditions such as hypertension as the only condition would not meet the eligibility criteria for coverage.

CONCLUSION

Community pharmacies play a significant role in contributing to the success of diabetes management and improving health outcomes for diabetic patients. With pharmacy services such as blood glucose monitoring, the Comprehensive Annual Care Plan and Standard Medication Management Assessment offered in pharmacies, pharmacy personnels are well positioned to provide and promote diabetes patient education programs.

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