Chapter 19
Health—Preventing Diabetes-Related Health Complications

1.0 Main Points

At March 2023, there were about 101,000 Saskatchewan residents with diabetes.[1]

By September 2024, the Ministry of Health implemented the three remaining recommendations we first made in 2012 about preventing diabetes-related health complications.

The Ministry collected and analyzed care information related to diabetes and diabetes-related complications. For example, it continues to increase physician use of its Chronic Disease Management—Quality Improvement Program IT system. This system collects data from participating physicians about key healthcare services and programs provided to people with diabetes. Using this data, the Ministry began producing monthly chronic disease reports, as well as clinic reports for Saskatchewan Health Authority-operated clinics. These reports help inform priorities for service improvement.

The Ministry also collects and tracks data on diabetes-related complications and uses this information to assist with program planning (e.g., changes in demand and delivery for dialysis and chronic disease programs).

Preventative measures and better disease management can reduce the prevalence of diabetes-related complications and the impact of the disease on quality of life, and lead to lower healthcare costs.

2.0 Introduction

2.1 Background

The Ministry of Health is responsible for ensuring people with chronic diseases, such as diabetes, receive appropriate care. Diabetes is a chronic condition that occurs when the body does not produce enough insulin or when it cannot use it effectively, resulting in high blood glucose (sugar) levels.

The Ministry works in partnership with various agencies (e.g., Saskatchewan Health Authority, eHealth Saskatchewan) to deliver diabetes-related programs and monitor the incidence and prevalence of the disease in the province.

[1] March 2023 was the latest available information from the Ministry of Health as of September 2024.

2.2 Focus of Follow-Up Audit

This chapter describes our fourth follow-up audit of management's actions on the three outstanding recommendations we first made in 2012.

We concluded, for the year ended March 31, 2012, the Ministry of Health did not have effective strategies for preventing diabetes-related health complications.[2] We made 12 recommendations. By August 2020, the Ministry implemented nine recommendations.[3]

To conduct this audit engagement, we followed the standards for assurance engagements published in the *CPA Canada Handbook—Assurance* (CSAE 3001). To evaluate the Ministry's progress toward meeting our recommendations, we used the relevant criteria from the original audit. Ministry management agreed with the criteria in the original audit.

To carry out our follow-up audit, we interviewed Ministry staff and examined IT systems and relevant documentation such as monthly chronic disease reports and clinic reports.

3.0 STATUS OF RECOMMENDATIONS

This section sets out each recommendation including the date on which the Standing Committee on Public Accounts agreed to the recommendation, the status of the recommendation at September 13, 2024, and the Ministry of Health's actions up to that date.

3.1 Information Collected and Analyzed to Help Adjust Programs

We recommended the Ministry of Health collect and analyze information to assess whether services delivered by physicians and care providers are effective and if they provide needed services to people with diabetes to prevent diabetes-related health complications. *(2012 Report – Volume 2;* p. 269, Recommendation 10*;* Public Accounts Committee agreement September 9, 2014)

Status—Implemented

We recommended the Ministry of Health work with the Saskatchewan Health Authority to ensure resources on a regional basis are effectively deployed to manage diabetes and diabetes-related health complications. *(2012 Report – Volume 2;* p. 267, Recommendation 7*;* Public Accounts Committee agreement September 9, 2014)

Status—Implemented

[2] *2012 Report – Volume 2,* Chapter 32, pp. 256–278.
[3] *2015 Report – Volume 1,* Chapter 23, pp. 257–264; *2017 Report – Volume 2,* Chapter 33, pp. 239–244; and *2020 – Volume 2,* Chapter 32, pp. 241–247.

We recommended the Ministry of Health collect and analyze information to assess the effectiveness of the Saskatchewan Health Authority's programs to manage diabetes and the prevention of diabetes-related health complications. *(2012 Report – Volume 2;* p. 270, Recommendation 11*;* Public Accounts Committee agreement September 9, 2014)

Status—Implemented

The Ministry of Health collects and analyzes information related to diabetes and diabetes-related complications and uses this information to assess and modify programs to help people with diabetes.

Advancing Data Collection

The Ministry of Health primarily collects data about individuals with chronic health conditions from physicians through an IT system—CDM-QIP. This system tracks key healthcare services (e.g., whether physicians test A1C blood levels twice a year) provided to people with chronic conditions such as diabetes.

CDM-QIP enables physicians actively using the system to monitor the services they provide and identify improvements in patient outcomes. Physicians can also use this information to help ensure they deliver consistent service across their practice. Early detection and appropriate management of potential issues reduce the risk of developing serious health complications from a chronic disease.

In January 2024, the Ministry's Primary Care team began providing monthly chronic disease reports (from CDM-QIP) to other branches of the Ministry (e.g., Medical Services Branch) to assist with their understanding of program utilization by physicians and nurses. The reports include information such as the number of active patients by condition (e.g., diabetes, coronary artery disease, chronic obstructive pulmonary disease), number of active providers, total number of monthly visits, and number of new and returning patients. The reports also provide graphs with trend information back to 2012.

Since our 2020 follow-up audit, we found the Ministry obtained more information about individuals living with chronic health conditions, including diabetes, through increased use of CDM-QIP. For example, we found at May 2024:

- The system included about 42,000 active patients with diabetes—representing about 42% of people living with diabetes in Saskatchewan (March 2020: 37%)[4]
- 900 physicians and nurse practitioners using CDM-QIP compared to 791 using the system at July 2020

[4] At March 2023, approximately 101,000 people live with diabetes in Saskatchewan.

The Ministry also plans to further increase the use of CDM-QIP through a new physician payment model. In April 2024, the Ministry, in consultation with the Saskatchewan Medical Association and the Saskatchewan Health Authority, implemented a new voluntary blended payment model for eligible Saskatchewan physicians called the Transitional Payment Model. It combines the existing fee-for-service model with a new payment model (based on patient contacts and panel size).[5] It has four main deliverables as shown in **Figure 1**.

Figure 1—Transitional Payment Model Deliverables

1. Establish a longitudinal relationship with patients, by providing ongoing family medicine services to a dedicated patient panel, which includes screening, prevention activities, chronic disease management, and comprehensive care
2. Commitment to transition toward the Patient's Medical Home framework[A]
3. Commitment to address multiple relevant patient issues/concerns during one visit
4. Physicians commit to assist the Saskatchewan Medical Association and the Ministry of Health to achieve improvements in longitudinal community-based family medicine delivery and patient outcomes

Source: Adapted from the Ministry of Health's *Transitional Payment Model (TPM) Deliverables*.
[A] The College of Family Physicians of Canada developed the Patient Medical Home framework, which describes how family physicians work in teams with other healthcare professionals to provide accessible, high-quality care for their patients.

The Ministry expects physicians enrolled in the new payment model to use CDM-QIP. Since April 2024 to September 2024, an additional 162 physicians use the system.

The Ministry is also working with eHealth Saskatchewan to establish a data sharing agreement to enable the Ministry to monitor how individuals and groups of physicians enrolled in the new payment model use CDM-QIP (e.g., how many diabetic patients receive quality care). The Ministry indicated it expects to finalize this data sharing agreement in 2024–25.

Having access to CDM-QIP data will allow the Ministry to know whether physicians sufficiently monitored patients living with diabetes or if patients received best practice interventions to reduce their risk of developing diabetes-related health complications.

Reporting Used to Inform Programming

In March 2024, the Ministry of Health began piloting the provision of clinic reports to the Saskatchewan Health Authority for clinics (e.g., health centres) it operates in one area of the province. Through the trial, the clinic reports evolved to include data about diabetic patient rates at the clinic compared to the area (e.g., Regina, Saskatoon, North East).

In September 2024, the Ministry provided clinic reports to all 90 Authority-operated diabetes clinics across Saskatchewan. Management indicated that once it signs the data sharing agreement with eHealth Saskatchewan, it expects to improve the reports with more CDM-QIP information including specific information on number of patients with diabetes and how many receive appropriate care.

[5] Patient contact represents each time a physician provides primary care (in-person or via virtual care). A patient panel is a group of patients assigned to one specific physician.

Providing reporting outlining variations in health needs and services among clinics can help to inform priorities for diabetes-related service improvement.

The Ministry also collects and tracks data on diabetes-related complications and uses this information to assist with program planning. For example, each quarter, the Authority provides the Ministry with the number of diabetic clients at its Kidney Health Clinics and in the Dialysis and Transplant Programs. The Ministry compiles the fiscal year statistics and provides them to the Authority, which allows the Ministry and the Authority to monitor changes in demand for dialysis and chronic disease programs.[6]

Using this information, the Ministry and the Authority assessed the need for an additional hemodialysis unit in North East Saskatchewan. As a result of the analysis, in 2023–24, the Ministry and the Authority started the mobile Point-of-Care Testing pilot project in North East Saskatchewan, which has four goals as shown in **Figure 2**.

Figure 2—Point-of-Care Testing Pilot Project Goals

- Perform primary screening and risk prediction for kidney failure on at-risk individuals in their own community using point-of-care testing
- Use point-of-care testing to allow instant feedback to those individuals screened about their results, their level of risk, and what measures they can take to decrease risk and prolong their kidney health
- Provide results and treatment recommendations/actions to local primary care providers with consent of the individual screened
- Increase public awareness and education about chronic kidney disease, risk factors, and possible treatments (including home-based dialysis)

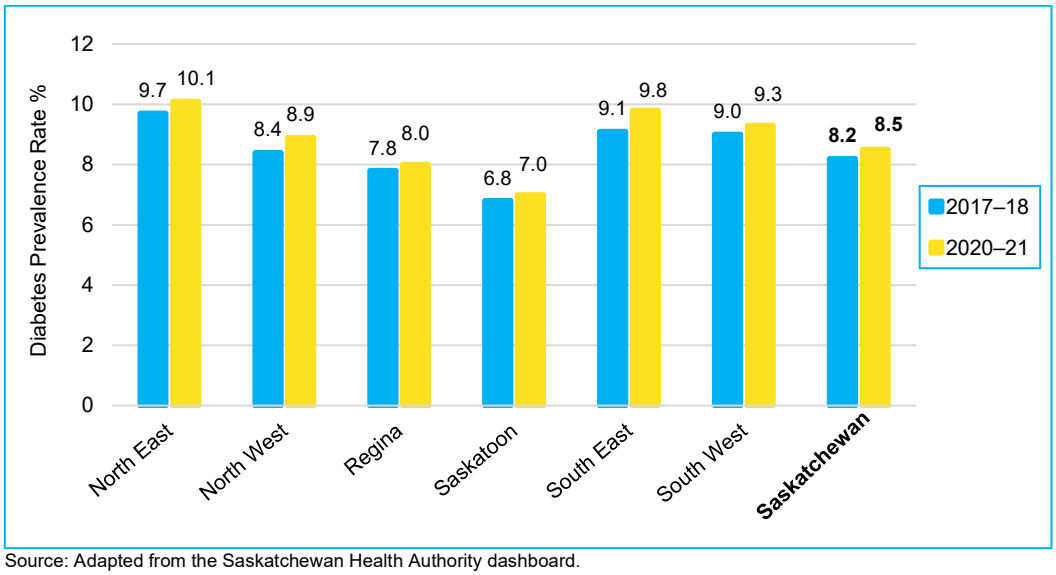
Source: Ministry of Health.

The Ministry also provides the Authority with chronic disease information organized by geographic area, prevalence, and age-standardized prevalence. Beginning in January 2024, the Authority used this information to generate an online dashboard.[7] The dashboard includes information on the diabetes prevalence rate by area (e.g., Regina, Saskatoon, North East), health network (each area is broken down into health networks), and communities within each health network.

According to the Authority's dashboard, as shown in **Figure 3**, the overall diabetes prevalence rate increased from 8.2% in 2017–18 to 8.5% in 2020–21. The North East (e.g., includes communities such as La Ronge, Creighton, Big River) has the highest prevalence rate at 10.1% and Saskatoon has the lowest at 7%. However, the Authority has not updated its dashboard with current information (i.e., beyond 2021), although it continues to work on the dashboard (e.g., current data, access, content).

[6] The Kidney Foundation of Canada notes people with diabetes are at increased risk of kidney disease that may require dialysis. kidney.ca/Kidney-Health/Newly-Diagnosed/Risk-Factors (4 October 2024).
[7] Prior to implementing the dashboard, the Authority produced health network profile reports but production of reports stopped with the COVID-19 pandemic.

Figure 3—Diabetes Prevalence Rate by Area Comparing 2017–18 to 2020–21



Source: Adapted from the Saskatchewan Health Authority dashboard.

Having data on the prevalence of diabetes across the province can help the Authority and Ministry determine areas with greatest need for resources.

Treating diabetes-related complications is a significant cost to the healthcare system. Using its analysis, along with the Authority's dashboard information, can help the Ministry determine whether programs to manage diabetes and diabetes-related complications are designed correctly and where more support may be needed.