Chapter 23
Health—Preventing Diabetes-Related Health Complications

1.0 Main Points

The Ministry of Health (Ministry) is responsible for ensuring people with chronic disease, such as diabetes, receive appropriate care. In 2012, we reported that the Ministry did not have effective strategies for preventing diabetes-related health complications and made 12 recommendations.

By February 2015, the Ministry had implemented a program to educate and encourage the use of best practices by healthcare providers in chronic disease management. It had established a method for assessing physician activities in monitoring people with diabetes. Also, the Ministry had goals and set strategies for monitoring management of diabetes-related health complications and gave direction to healthcare providers and regional health authorities (RHAs) about those goals and targets. In addition, the Ministry had begun collecting health service delivery information for patients and physicians.

However, more work remains. The Ministry does not monitor or analyze the collected information to identify gaps in service delivery by physicians or RHAs. Also, it does not collect or analyze information on provincial spending for the treatment of chronic diseases to determine if resources are appropriately allocated. It must do so to enable it to report publicly on the effectiveness of its strategies.

2.0 Introduction

In our *2012 Report – Volume 2*, Chapter 32, we concluded that, for the year ended March 31, 2012, the Ministry of Health did not have effective strategies for preventing diabetes-related health complications. We made 12 recommendations.

This chapter describes the results of our first follow-up of the Ministry's progress towards addressing our recommendations.

To conduct this review engagement, we followed the standards for assurance engagements published in the *CPA Canada Handbook – Assurance*. To evaluate the Ministry's progress towards meeting our recommendations, we used the relevant criteria from the original audit. The Ministry agreed with the criteria in the original audit.

We interviewed Ministry staff, and examined quality improvement plans related to chronic disease management along with other relevant documents of the Ministry and two RHAs (Saskatoon and Kelsey Trail).

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 February 28, 2015, and the Ministry's actions up to that date. We

found that the Ministry has implemented four recommendations. More work is needed to fully implement the remaining eight recommendations.

3.1 Actionable Work Plan Implemented

We recommended that the Ministry of Health implement an actionable work plan relating to chronic disease management including diabetes and prevention of diabetes-related health complications and provide guidance for regional health authorities. (2012 Report – Volume 2; Public Accounts Committee agreement September 9, 2014)

Status – Implemented

In 2013, the Ministry partnered with the Saskatchewan Medical Association and eHealth Saskatchewan (eHealth) to develop the Chronic Disease Management – Quality Improvement Program (CDM-QIP). The Ministry, the Saskatchewan Medical Association and eHealth have developed and implemented the CDM-QIP to encourage the use of and educate healthcare providers about best practices in chronic disease[1] care. The CDM-QIP includes tools and supports for physicians and other chronic disease management healthcare providers to guide clinical practice, along with actions, responsible personnel, and timelines for the program. The CDM-QIP is being phased in over time; the diabetes and coronary heart disease components were implemented in 2013-14.

The Ministry also asks physicians and healthcare providers to submit data on health service delivery to patients with chronic diseases using the CDM-QIP.

The Ministry, through its target of a "30% decrease in hospital utilization related to six chronic conditions by March 31, 2017," has directed all RHAs to support people living with chronic conditions so they can experience better health.[2] The RHAs are also asked to support primary healthcare teams in adopting CDM-QIP, and directed to update and implement their primary healthcare plans with actions to integrate chronic disease management services with primary health care. As required, the RHAs submitted quarterly reports including key actions taken, milestones achieved, successes, challenges, standard measures and reportable metrics from identified targets.

3.2 Goals, Objectives, Performance Indicators and Targets Set

We recommended that the Ministry of Health set goals, objectives, performance indicators and targets to manage diabetes and prevent diabetes-related health complications. (2012 Report – Volume 2; Public Accounts Committee agreement September 9, 2014)

Status – Implemented

[1] CDM-QIP initially focuses on six chronic conditions: diabetes, coronary artery disease, congestive heart failure, chronic obstructive pulmonary disease, asthma and depression.
[2] Ministry of Health Accountability Documents 2014-15.

The Ministry has set, in its 2014-15 strategic plan, goals and measurable targets designed to help people self-manage their diabetes and prevent diabetes-related health complications.

The Ministry's goals for the CDM-QIP include the following:

- Improve identification, continuity and quality of care for people living with chronic conditions
- Encourage and support physicians and other healthcare providers to implement best practices (e.g., flow sheets[3] and clinical best practice guidelines)
- Leverage Saskatchewan's health information system to better meet the needs of residents and healthcare providers (e.g., electronic medical records (EMR) and the eHR Viewer[4])

The Ministry's objective is to ensure that people living with chronic conditions experience better health. Its targets related to this are:

- 30% decrease in hospital utilization related to six chronic conditions, by March 31, 2017
- 80% of patients with any of six chronic conditions receive best practice care as evidenced by the completion of provincial flow sheets available through approved EMRs and the eHR Viewer, by March 31, 2020

The Ministry's primary measure for this will be the hospitalization rates for six chronic conditions.

3.3 Processes for Monitoring Provision of and Access to Services Being Developed

We recommended that the Ministry of Health establish processes to monitor that people with diabetes receive appropriate services to reduce their risk of developing diabetes-related health complications. (2012 Report – Volume 2; Public Accounts Committee agreement September 9, 2014)

Status – Partially Implemented

We recommended that the Ministry of Health establish processes to monitor that people with diabetes have access to appropriate services in the province. (2012 Report – Volume 2; Public Accounts Committee agreement September 9, 2014)

Status – Partially Implemented

[3] A flow sheet is a paper or electronic form that records all important data regarding a patient's condition. The flow sheet serves as a reminder for care and whether care expectations have been met. www.aafp.org (28 March 2015).
[4] The eHR Viewer is a secure website for Saskatchewan healthcare providers to access patient information regardless of where an individual presents for care. www.ehealthsask.ca (22 April 2015).

We recommended that the Ministry of Health work with the Saskatchewan Medical Association to establish a method for assessing physician activities in monitoring people with diabetes. (2012 Report – Volume 2; Public Accounts Committee agreement September 9, 2014)

Status – Implemented

At February 2015, the Ministry was collecting statistical information and developing analytical measures on patients receiving best practice care (see later discussion in **Section 3.6**). For example, the Ministry had set a target for 20,000 chronic disease patients who would receive optimal care via the CDM-QIP tools by March 31, 2015. At February 2015, the Ministry's records showed that 23,400 patients with four chronic diseases,[5] including 16,700 people with diabetes, receive CDM-QIP services. However, it does not collect comprehensive data on the number of people with six chronic conditions to monitor its progress towards meeting its goal that 80% of patients receive best practice care.

The Ministry also tracked the number of physicians who have integrated the CDM-QIP into their practices. At February 2015, the Ministry reported that over 600 family physicians[6] were enrolled in CDM-QIP but fewer than half of those were actively using the CDM-QIP tools and submitting data.

Management indicated that clinical indicator data[7] is collected at the patient and physician's practice level. eHealth has established a process to collect and maintain this information submitted by physicians and healthcare providers. This information enables physicians who actively use the CDM-QIP to self-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 by these indicators and appropriate management of potential issues reduces the risk of developing serious health complications from a chronic disease.

Health services for people with diabetes are typically delivered by individual physicians, primary healthcare teams, and staff at RHA chronic disease management branches. The Ministry collects information on services provided to individual patients, primarily by physicians and primary healthcare teams. The Ministry also monitors and reports on improvements in patient access to a family physician or primary healthcare team as their usual provider of care.

The Ministry stated it is in the early stages of collecting and analyzing data to assess the alignment of physician-provided care with best practice (refer to **Section 3.7**).

Other programs such as educational, exercise or nutritional programs may be delivered by RHA chronic disease management branches. The RHAs' websites provide information to patients on the services available in each region. Management indicated

[5] The Ministry currently collects information on diabetes, coronary artery disease, congestive heart failure and chronic obstructive pulmonary disease. It plans to add CDM-QIP for asthma and depression in 2015.
[6] Ministry of Health, *Medical Services Branch Annual Statistical Report 2013-14* reports there were 860 active family physicians in Saskatchewan in 2014.
[7] Clinical indicator data has been developed for four chronic conditions. For example, the best practice indicators the Ministry has chosen to track for diabetes are blood pressure, smoking cessation advice, obesity/overweight screening, glycemic control, nephropathy screening, dilated eye exam, foot exam and peripheral neuropathy screening, full lipid profile screening, and depression/psychosocial screening.

that all but one RHA, as part of their chronic disease management services, delivers the "LiveWell" chronic disease management program which provides some of the ancillary programs (education and nutrition). Additionally, the Ministry is developing a Lower Extremity Wound clinical pathway[8] to guide treatment and educate healthcare providers on one serious complication of diabetes.

By February 2015, the Ministry had not started to monitor what services were available in each of the 12 RHAs, and did not know if people with diabetes had access to similar services, or if gaps in service existed. Management indicated that the Ministry expects in 2015-16 to work with all RHAs to identify the resources and services available.

3.4 Information Needed to Assess Reasonableness of Resource Allocations Provincially

We recommended that the Ministry of Health implement processes to accumulate, analyze and monitor provincial spending information on people with diabetes, and on diabetes-related complication prevention programs to assess the reasonableness of its resource allocations. (2012 Report – Volume 2; Public Accounts Committee agreement September 9, 2014)

Status – Not Implemented

The Ministry collects some information on direct costs attributed to diabetes including medications, insulin pump program, certain hospital costs, and provincial education/resources. Management indicated that the Ministry can estimate some costs including hospitalizations, the renal program, RHA staffing and programming. Management also informed us that the Ministry expects to start assessing resource allocations on provincially-delivered programs in the near future.

Without this information, the Ministry cannot assess the reasonableness of its resource allocations.

3.5 Regional Plans Reviewed but Programs Not Assessed for Alignment with Ministry Strategies

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

Status – Not Implemented

[8] A Clinical Pathway is a multi-disciplinary tool based on evidence-based practice for a specific group of patients with a predictable clinical course, in which the different tasks (interventions) by the professionals involved in the patient's care are defined, optimized and sequenced. The Lower Extremity Wound clinical pathway outlines the protocols for treating chronic wounds or wounds that do not heal, such as leg or foot sores caused by diabetes.

We recommended that the Ministry of Health review regional health authorities' Primary Health Care plans and programs to ensure they contain appropriate actions and align with the Ministry's strategies relating to chronic disease management including diabetes management and prevention of diabetes-related health complications. (2012 Report – Volume 2; Public Accounts Committee agreement September 9, 2014)

Status – Partially Implemented

By February 2015, the Ministry had started to address these recommendations.

The Ministry communicated its objectives and targets for chronic disease management to RHAs in its 2014-15 Accountability Documents. In 2014-15, RHAs provided the Ministry with their primary healthcare plans, including some actions related to chronic disease management, and with mid-year progress reports on their objectives. Management indicated that the Ministry's primary health service consultants review the primary healthcare plans and give feedback to the RHAs. Because these consultants did not document their review or the feedback they provided, we could not assess if the Ministry ensured RHAs' actions aligned with the Ministry's strategies.

As previously described in **Section 3.3**, because the Ministry had not analyzed what services were available in the RHAs, it did not know whether RHAs' services aligned with the Ministry's strategies, or if gaps in service existed.

Without specific information and guidance on strategies and programs for diabetes and diabetes-related health complications, RHAs cannot know if their programs are designed correctly and consistently, reach the intended population, and are achieving desired outcomes.

3.6 Process to Gather Information on Care Implemented

We recommended that the Ministry of Health implement processes to gather sufficient information relating to people with diabetes and diabetes-related health complications to ensure they are receiving care consistent with provincial standards. (2012 Report – Volume 2; Public Accounts Committee agreement September 9, 2014)

Status – Implemented

The CDM-QIP includes tools such as flow sheets outlining the recommended services for each chronic disease based on best practice. Clinical experts developed the flow sheets, and the Ministry and the Saskatchewan Medical Association approved them. In addition, CDM-QIP includes links to clinical practice guidelines, and submission of and access to data for physicians and chronic disease management health providers.

As previously noted, eHealth developed and maintains the repository of CDM-QIP information submitted by physicians. Physicians can access clinical indicator

information about their patients from the repository. They can also generate clinical and administrative reports to help care for their patients.

3.7 Collection of Information Underway

We recommended that 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; Public Accounts Committee agreement September 9, 2014)

Status – Partially Implemented

We recommended that the Ministry of Health collect and analyze information to assess the effectiveness of regional health authorities' programs to manage diabetes and the prevention of diabetes-related health complications. (2012 Report – Volume 2; Public Accounts Committee agreement September 9, 2014)

Status – Not Implemented

At February 2015, management indicated that it was working with eHealth to address these recommendations. The Ministry was working with eHealth to develop a Health System Analytic Service. It expects this service to provide advanced data analytics and health intelligence reporting to support appropriate care and effective system management. eHealth was working on:

- Establishing a repository including metadata[9] and a data catalog along with a process to maintain and expand the repository
- Building the foundation to provide Health System Analytics Services to enable accurate, centralized and timely access to support decision-making for key clients
- Establishing a comprehensive and transparent governance structure to support evidence-based decision making for information analytics and health/business intelligence

Management indicated the Ministry plans to seek permission from the Health Information Privacy Commissioner to use the CDM-QIP data in the repository for secondary purposes (such as monitoring, analysis and reporting). Once it receives permission, the Ministry plans to analyze data in the repository to assess the effectiveness of services physicians, healthcare providers and RHAs deliver, and report provincial and comparative regional information.

With data on services delivered by physicians, healthcare providers and RHAs linked to patient outcomes, the Ministry may be able to identify patterns of good service delivery

[9] Metadata in the repository describes how and when, and by whom, a particular set of data was collected.

and gaps in service delivery. It may then be able to aid physicians, healthcare providers, and RHAs to provide better care and monitoring to reduce diabetes-related health complications.

3.8 Some Progress Reported on Strategies

We recommended that the Ministry of Health publicly report progress in implementing its strategies to manage chronic diseases separately identifying diabetes and prevention of diabetes-related health complications. (2012 Report – Volume 2; Public Accounts Committee agreement September 9, 2014)

Status – Partially Implemented

In its 2013-14 annual report, the Ministry communicated its five-year improvement targets and outcomes, and its progress on implementing the following strategies related to six chronic conditions including diabetes:

- By 2017, people living with chronic conditions will experience better health as indicated by a 30% decrease in hospital utilization related to six chronic conditions

  Progress: The Ministry established a baseline of 173.61 hospitalizations for the six chronic conditions for every 100,000 total hospitalizations.

- By 2017, 80% of patients are receiving care consistent with clinical practice guidelines for the six chronic conditions

  Progress: The Ministry identified clinical practice guidelines for diabetes, coronary artery disease, chronic obstructive pulmonary disease and congestive heart failure. It has begun tracking the use of the guidelines by active physicians.