

Managing type 2 diabetes in primary care during COVID-19

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Type 2 diabetes is one of the most common chronic conditions managed in primary care. But how primary care teams provide care and support to people with diabetes needs to change because of new risks posed by the coronavirus disease 2019 (COVID-19) pandemic.

Before the COVID-19 pandemic, usual practice was to see patients with diabetes in the office every 3 to 6 months to review bloodwork results, conduct a focused physical examination, and provide treatment and self-management advice. Primary care clinicians supported patients to reduce their risk of diabetes-related complications through glycaemic and blood pressure control, lipid management, smoking cessation, diet, exercise, and timely screening for renal, foot, and retinopathy complications—evidence-based interventions recommended by the Diabetes Canada clinical practice guidelines.¹

But the benefits of an in-person visit now need to be balanced with the risk of patients acquiring severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) when traveling to and attending a clinic visit. This risk is particularly relevant given that some studies suggest people with diabetes have a higher risk of COVID-19-related complications and death.²

Primary care clinicians need a new approach to delivering diabetes care—one that continues to support evidence-based interventions but does so in a way that balances the risks and benefits of in-person and virtual visits. To address this need, we have developed virtual-first recommendations to support family physicians and other primary care professionals in managing their patients with type 2 diabetes during COVID-19 (page 1 appears in **Figure 1**; the full tool is available from **CFPlus** or <https://cep.health/tool/download/109>).*

This guidance was developed by a group of practising family physicians and endocrinologists in collaboration with the Centre for Effective Practice, using the 2018 clinical practice guidelines from Diabetes Canada as a foundation. We used and cited available evidence when possible, but given the circumstances felt compelled to provide consensus-based recommendations when evidence was lacking. We suggest continuing to use the ABCDESSS (hemoglobin A_{1c}, blood pressure control, cholesterol, drugs, exercise and eating, self-management, screening, and stop smoking) framework to guide visits and

have added 2 additional S's—safety and shots (details on *safety* are presented on page 3 of the tool). We summarize the common aspects of diabetes care that should remain the same, those that should be changed, and those that can be deferred during the COVID-19 pandemic.

Most care can be delivered virtually

In a virtual-first approach to diabetes care during COVID-19, virtual assessments (by telephone or video) should be done every 3 to 6 months and can address most aspects of care. More frequent virtual touchpoints might be needed for complex issues or if guiding the patient through change. In-person visits should still occur at least annually. In-person assessments should be more frequent if a patient's risk factor control is suboptimal or his or her capacity to engage in virtual care is limited.

Support self-assessment

Where feasible, patients should be encouraged to assess their blood pressure, weight, and feet at home. Supporting patient self-assessment makes virtual visits more effective and in-person visits more efficient and thereby safer. Hypertension Canada provides a list of reputable home blood pressure monitors (<https://hypertension.ca/bpdevices>) and offers practical advice for patients on how to take their blood pressure at home (<https://hypertension.ca/hypertension-and-you/managing-hypertension/measuring-blood-pressure>). Blood pressure targets need to be adjusted for home monitoring (eg, an office target of <130/80 mm Hg means a home target of <125/75 mm Hg).³ Patients, together with a caregiver, can perform foot screening for neuropathy using the Touch the Toes Test, a method promoted by Diabetes UK (<https://www.diabetes.org.uk/guide-to-diabetes/complications/feet/touch-the-toes>).⁴ Additionally, clinicians can assess feet visually using video or photos and provide virtual counseling on foot care.

Some investigations can be deferred

Some investigations can be deferred during the COVID-19 pandemic based on individual patient characteristics and risk. For example, patients can have their cholesterol levels checked every 3 years rather than annually if they are taking a stable statin dose with low-density lipoprotein levels at target and have good medication adherence.⁵ If the last hemoglobin A_{1c} level measured within 3 months was less than 8%, testing can likely be extended to a 6- to 9-month interval, with

*The **Managing type 2 diabetes during COVID-19** tool is available at www.cfp.ca. Go to the full text of the article online and click on the **CFPlus** tab.

Figure 1



Providers



Managing type 2 diabetes during COVID-19: a guide for primary care providers (version 1)

During the COVID-19 pandemic, we should be taking a virtual-first approach to diabetes care. The relative benefits and risks of an in-person versus virtual diabetes visit will depend on several factors, including an individual's capacity for using technology, the extent of their disease and local COVID-19 prevalence. **Regardless, most diabetes care and support can be delivered through virtual 'visits,' phone, video or secure messaging.** This resource is meant to supplement the Diabetes Canada guidelines by indicating ways to adapt care for type 2 diabetes during COVID-19. It may also be useful for people with pre-diabetes. See [guidelines.diabetes.ca](https://www.diabetes.ca/guidelines)¹ for full guidelines and decision support tools for diabetes management.



Self-management is a core element of effective diabetes care and is essential during COVID-19. Two virtual resources to support self-management in people with diabetes and pre-diabetes include:

- **1-800 BANTING** (226-8464): People living with diabetes can call to speak with live diabetes educators
- **Canadian Diabetes Prevention Program**²: People living with pre-diabetes can self-enroll in this free, online, 1-year healthy behavior coaching program

Continue	Shift to	Delay
<ul style="list-style-type: none"> • In-person visits for patients with limited capacity to engage virtually • A1C testing every 3 months for patients with A1C $\geq 8\%$ (Note: A1C target for most individuals remains $< 7\%$) • Assess medication adherence at every visit • Support self-management through education and personalized goals • Annual lab work for renal parameters (creatinine and urine ACR) 	<ul style="list-style-type: none"> • Conduct virtual visits when possible, based on disease severity and self-management capacity • Collect relevant information virtually before an in-person visit to minimize time in clinic • Ask a patient to self-monitor weight and blood pressure if possible • Support a patient's self-management with high-quality apps • Check cholesterol every 3 years if... the patient is on a stable statin dose, their LDL is on target and medication adherence is good • Cluster labwork to avoid repeated lab visits 	<ul style="list-style-type: none"> • If A1C $< 8\%$, delay frequency of A1C testing to a 6-9-month interval. Use smart self-monitoring of blood glucose (SMBG) as a proxy. • Delay the start of ACEi/ARB to 2 weeks before the patient's next scheduled labwork if using only for cardiovascular risk reduction • Defer screening ECGs (for those with no symptoms) • Defer retinopathy screening to a 3-year interval (for those with no previous eye disease and A1C $< 8\%$)



Schedule



Virtual visit (every 3-6M)

- A** Assess glycemic control using **A1C** and/or smart glucose self-monitoring, and assess for hypoglycemia.
- B** **BP** measured at home*
- C** Assess **cholesterol** medication adherence and the need for lipid testing
- D** Assess appropriateness of **drugs** for CVD risk reduction
- E** **Exercise**, healthy **eating**, and weight check
- S** **Self-screening** for feet using Ipswich Touch Test
- S** **Smoking** cessation
- S** **Self-management** support (provide apps, connect to resources, support medication adherence, extend prescription refills until next scheduled visit)



In-person visit (at least annually**)

- Review **glucose meter** and log results
- Foot examination** (if concerns present on self-screening or unable to self-screen)
- BP machine calibration** (if concerns with home BP)
- S** **Shots/immunizations** (unless can be completed at a pharmacy)



Lab testing and referrals

- A1C**: Every 6-9M if $< 8\%$; every 3M if $\geq 8\%$
- Cholesterol**: Annually if above target; every 3Y if on stable statin dose, LDL on target, and med adherence is good
- eGFR, urine ACR**: Annual
- ECG**: Defer if no symptoms
- Retinopathy screening**: Defer to a 3-year interval if no previous eye disease and A1C $< 8\%$

* If a patient is unable to measure BP at home, then measure BP in-person in the clinic, Q6-9 mo if BP is near target and stable

**Patients may require more frequent in-person visits depending on risk factor control and their capacity to engage in virtual care

self-monitoring of blood glucose used as a proxy in the interim. Retinopathy screening can be done at a 3-year interval for those with no previous eye disease and a hemoglobin A_{1c} level of less than 8%.⁶ Cardiac screening for asymptomatic individuals using electrocardiography can be deferred. Whenever possible, laboratory tests should be clustered to avoid repeat in-person visits.

In-person care should be focused and efficient

In-person care should focus on blood pressure measurement (and home machine calibration), foot assessment, immunizations, and review of a blood glucose log if relevant. Even with in-person visits, relevant information can be collected virtually before the appointment to minimize the time in clinic. For example, an electronic survey can be completed by patients and automatically populated into their electronic medical records (<https://ocean.cognisantmd.com/questionnaires/preview/QuestionnairePreview.html?ref=diabetes> is an example).

Self-management is more important than ever


Supporting self-management has always been a core tenet of good diabetes care and is even more critical during the COVID-19 pandemic. Patients can be referred to a free virtual diabetes educator through Diabetes Canada by calling 800 BANTING (800 226-8464). Providers can gauge medication adherence by asking, “How many doses have you missed in the past week?” Assessing adherence is particularly important because of a potential decrease in the frequency of “objective” measurement (eg, hemoglobin A_{1c} level, blood pressure, cholesterol level).

Digital health apps can be helpful for some patients, although most apps in Canada focus on glycemic control alone and require paid upgrades for data sharing with a primary care provider. Many glucometers have specific apps; other popular apps to support glycemic control include Health2Sync and mySugr. Additionally, popular exercise tracking apps (eg, MyFitnessPal) might support patients to maintain a healthy lifestyle during the pandemic.

Finally, it is important to recognize that people with diabetes might be experiencing increased socioeconomic challenges and worsening mental health and addictions because of COVID-19. We encourage proactive screening and referral to relevant supports. For example, Wellness Together Canada (<https://ca.portal.gs>) is a relatively new national hub providing free mental health and addiction support to patients. The recently developed

COVID-19 Social Care Guidance tool⁷ provides tips on screening for social issues and practical resources to help patients.

Conclusion

The COVID-19 pandemic has forced primary care teams to consider a new normal in health care delivery, including chronic disease management for conditions such as type 2 diabetes. Our consensus-based guidance document provides practical recommendations for primary care professionals to help them reduce the risk to patients of acquiring COVID-19 while providing evidence-based care to prevent complications from diabetes. 

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Competing interests

Dr Bajaj has received honoraria and research funding from Amgen, AstraZeneca, Boehringer Ingelheim, Eli Lilly, Janssen, Merck, Novo Nordisk, and Sanofi. **Dr Kim** has received grant support, honoraria, or consulting fees from Abbott, AstraZeneca, Eli Lilly, Boehringer Ingelheim, Janssen, Merck, Novo Nordisk, and Sanofi. **Dr Ivers** is a member of the advisory board of Novo Nordisk, has done evaluation consulting for the Centre for Effective Practice and Merck, and is Past Co-Chair of the Diabetes Canada Guideline Dissemination and Implementation Committee.

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