

2021 Pre-Budget Consultation Submission

Canada celebrates the 100th anniversary of the discovery of insulin

To:

**The Standing Committee on Finance and Government Services
Government of British Columbia**

From:

Diabetes Canada

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Diabetes in British Columbia

While the urgent need to address the COVID-19 pandemic has understandably absorbed the attention of the Government of British Columbia, the pandemic has shown that people with diabetes are more vulnerable to infectious diseases like COVID-19 and demonstrated how critical it is that we reduce the burden of diabetes to protect British Columbians and our health-care system against diabetes, its complications, and other illnesses to which people with diabetes are more vulnerable.

The long-term complications of uncontrolled diabetes include heart attacks, strokes, kidney failure, blindness and amputation. Eighty per cent of the cost of diabetes to the health-care system is treating these complications.

Few people fully realize the devastating consequences that diabetes can have on the health, mind, relationships and finances of those living with diabetes. Diabetes contributes to 30 per cent of strokes, 40 per cent of heart attacks, 50 per cent of kidney failure requiring dialysis and 70 per cent of non-traumatic limb amputation. It is also the leading cause of vision loss and blindness in working age (aged 20-65 years) Canadians. People with diabetes are three times more likely to develop gum disease than the general population, and therefore at greater risk of losing their teeth. People with diabetes typically struggle more with fertility issues and men commonly experience erectile dysfunction as a complication of the disease. Furthermore, those with diabetes are at much greater risk of depression and mental health challenges compared to the general population.

To ease the pressure on individuals, caregivers, families and the health-care system, the Government of British Columbia must commit to take measures to enhance diabetes prevention, screening, treatment and health outcomes. To stop the diabetes epidemic, we need concentrated action, combined with a comprehensive diabetes strategy with aggressive, measurable goals.

Today, a 20-year-old has a 50 per cent chance of developing type 2 diabetes in his or her lifetime. While type 1 diabetes has no known cause and currently cannot be prevented, the World Health Organization estimates that close to 90 per cent of type 2 diabetes cases can be prevented. Type 2 diabetes results from a combination of genetic, environmental and lifestyle factors.

To recognize the 100th anniversary of the discovery of insulin in Canada in 2021, Diabetes Canada urges the Government of British Columbia to take meaningful steps to advance diabetes care in the province:

1. Publicly fund advanced glucose monitoring systems for eligible British Columbians with diabetes.
2. Design and launch a provincial diabetes strategy based on Diabetes Canada's [Diabetes 360°](#) framework.
3. Provide coverage of footcare (offloading) devices that help heal diabetic foot ulcers and prevent lower limb amputations.
4. Expand access to insulin pumps and diabetes medications.

1. Fund advanced glucose monitoring systems

Blood glucose monitoring gives people living with diabetes a more complete picture of their blood glucose (sugar) control, which can lead to better short- and long-term treatment decisions and health outcomes. Until recently, the standard way to monitor the concentration of glucose in the blood has been to obtain a drop of blood from a finger prick and get a blood glucose reading using a blood glucose meter. This is called self-monitoring of blood glucose (SMBG). SMBG has several drawbacks, including the pain of pricking one's fingers often several times a day and less thorough information about glucose concentration trends.

For some people with diabetes, advanced glucose monitoring devices such as a *continuous glucose monitor* or a *flash glucose monitor* can help them stay within their target glucose range when compared to SMBG. Staying within the target glucose range is important to prevent or postpone long-term complications, including heart attack, stroke, kidney failure, blindness and amputation. It can also prevent severe hypoglycemia (low blood sugar) which can be life-threatening.

A **continuous glucose monitor (CGM)** is a wearable device that can be offered to people with type 1 diabetes to track glucose concentration every few minutes throughout the day and night to improve glucose control and reduce hypoglycemia (low blood sugar). The readings are relayed in real time to a compatible device (e.g. smart phone) which can be read by the patient, caregiver or health-care provider, even remotely. This information can help people identify when their blood sugar is trending down, which allows for appropriate and timely treatment to avoid severe hypoglycemia. It can also provide early indication of hyperglycemia (elevated glucose) over the course of the day so that timely adjustments to medications, activity and food intake can be made to help achieve glucose targets. Alarms on the device can also help users to take action early to prevent life-threatening emergencies, especially if the users are hypoglycemic unaware (i.e. they are unable to recognize the typical symptoms of low blood sugar) or experience low blood sugar at night that puts them at risk of not waking up.

A CGM includes a small disposable sensor that is worn under the skin (often on the stomach or arm), an attached transmitter and usually a separate receiving device, such as an insulin pump or smart phone.

A **flash glucose monitor** also measures, displays and continuously stores glucose readings that are recorded automatically. It can be used by adults (age 18 years and older) with both type 1 and type 2 diabetes using insulin. A flash glucose monitor uses an externally worn sensor with a small filament inserted under the skin of a person's upper arm. When the sensor is scanned with a separate touchscreen reader device, it transmits the real-time glucose reading and information on the most recent eight-hour trend to the reader. If the person with diabetes performs at least three sensor scans per day at approximately eight-hour intervals, a flash glucose monitor can record 24-hour glucose profiles.

While advanced glucose monitoring devices are included in many private and group health insurance plans, public coverage is scarce across Canada. Currently, Yukon and Ontario provide limited coverage for CGM, and flash glucose monitors are only covered in Ontario and Quebec. British Columbians without private or group health insurance plans must pay out-of-pocket for these glucose monitoring devices which have an annual cost of \$3,000 - \$5,000 for CGM and \$2,500 for flash glucose monitoring. For many people, the cost is prohibitive. Restricted access means a lost opportunity for people with diabetes to enhance their health outcomes, diabetes-specific quality of life and disease management satisfaction.

Diabetes Canada recommends that the Government of British Columbia publicly fund:

- **Continuous glucose monitoring (CGM) devices for people with type 1 diabetes where there are demonstrated improved health outcomes, irrespective of age.**
- **Flash glucose monitoring devices for people with insulin-treated diabetes (type 1 and type 2) aged 18 years and older, where there are demonstrated improved health outcomes.**

2. Launch a provincial Diabetes 360° strategy

The COVID-19 pandemic has highlighted the vulnerability of British Columbians with diabetes and the urgent need to address the diabetes epidemic. Many people with diabetes are at high-risk for a serious case of COVID-19. Early research shows that people with diabetes are approximately twice as likely to require hospitalization and intensive care as those without, and about three times as likely to die of COVID-19.

In light of this, moving forward with the government's commitment to implement a provincial diabetes strategy based on the [Diabetes 360°](#) framework is more relevant than ever. The British Columbia provincial diabetes strategy should set aggressive targets to stem the tide of the diabetes epidemic by enhancing prevention, screening, treatment and health outcomes for British Columbians at risk of or living with diabetes.

With an aging population and exploding growth rates amongst at-risk populations, including South Asian, Chinese, and Indigenous Canadians, British Columbia's diabetes burden will continue to rise over the next decade. The direct cost of treating diabetes in British Columbia is \$528 million this year and will increase to \$701 million by 2030, unless we act with a sense of urgency.

Diabetes Canada believes that a nation-wide strategy is needed to coordinate the efforts currently underway in all provinces and territories to combat the diabetes epidemic. If it acts soon to implement its provincial Diabetes 360° strategy, British Columbia has an opportunity to be a leader in the fight against diabetes. This can occur coincident with the country preparing to celebrate the 100th anniversary of the discovery of insulin in Canada in 2021.

Diabetes Canada recommends the Government of British Columbia prioritize diabetes by following through as soon as possible on its commitment to launch a provincial diabetes strategy based on our Diabetes 360° strategy framework.

3. Prevent amputations

In British Columbia there is **one amputation every 15 hours as a result of a diabetic foot ulcer (DFU)**. In 2016, diabetic foot ulcers that resulted in amputations cost the British Columbia health-care system between \$98 - \$120 million in direct costs and between \$11 - \$18 million in indirect costs. Diabetes is the leading cause of non-traumatic low limb amputations in Canada.

Diabetic foot ulcers are serious wounds that are common, debilitating and one of the most feared complications of diabetes (blindness being the second). They are also the leading cause of all non-traumatic amputations below the knee in Canada.

Devices that lower the pressure on the foot (offloading devices) are needed to prevent and treat diabetic foot problems. Examples of offloading devices include different forms of casts, felt foams and specialized shoes. Currently, a patient without private insurance in British Columbia would be required to incur the cost of an offloading device which all too often competes with priorities, like rent, food and child expenses. When a diabetic foot ulcer heals properly, a person spends approximately five days in the hospital, ER and clinics. With a lower limb amputation, a person spends approximately 86 days in the hospital, ER and clinics, dramatically increasing the burden on British Columbians with diabetes and certainly the health-care system.

The impact of public funding of offloading devices on the number of patients requiring an amputation and the savings generated from amputation prevention in British Columbia are presented here:

TABLE 1: IMPACT OF ADOPTING OFFLOADING DEVICES TO PREVENT AMPUTATIONS CAUSED BY DFUs IN BRITISH COLUMBIA			
	0%	50% ACCESS	100% ACCESS
# PATIENTS REQUIRING AMPUTATION	923	526	138
SAVINGS FROM AMPUTATIONS PREVENTED	-\$69,286,841	\$29,726,921	\$58,928,366
COST OF PROVIDING OFFLOADING DEVICES	--	-\$16,382,502	-\$32,765,005
OVERALL SAVINGS	-\$69,286,841	\$13,344,418	\$26,163,361

*2019 estimates – calculated based off of Diabetes Canada 2016 Economic Impact Analysis and Health Quality Ontario Budget Impact Analysis. Diabetes prevalence calculated at 10%, DFU prevalence at 2.5% of diabetic population, and amputation rate (without offloading devices) of 7.1%, cost of offloading devices and savings per amputation prevented extrapolated for BC based off of HQO budget impact analysis.

Ontario has taken big steps towards amputation prevention caused by diabetic foot ulcers. In 2017, the province committed funding to cover offloading devices and wound care training for health-care specialists after a recommendation by Health Quality Ontario’s Health Technology Advisory Committee. In British Columbia, there is a significant opportunity to address the diabetes care gap by supporting preventative measures to decrease lower limb amputations caused by diabetic foot ulcers.

Diabetes Canada recommends the Government of British Columbia prevent amputations by covering the cost of offloading devices for British Columbians with a diabetic foot ulcer, as well as ensure British Columbians living with diabetes have access to foot assessments by qualified health-care professionals.

4. Improve equitable and timely access to insulin pumps and diabetes medications

Diabetes is a complex and heterogenous disease. Diabetes Canada feels strongly that a diabetes management plan should always be individualized and include options for care. Patient choice is the cornerstone of person-centred care and policy. Given this, we believe that a ‘one size fits all’ or tiered approach with respect to the funding of insulin pumps does not provide for patients (and their prescribers) to access the device that may be best suited to their individual self-management needs.

The provision of the tier one insulin pump at no cost to eligible British Columbians with diabetes regardless of age is a welcome relief to the financial burden of managing diabetes *if* that device is best suited to the individual needs of a patient. If it is not compatible or preferred, an

individual through his or her provider must receive special approval in order to access the tier two pump that is subject to costs according to the rules of Fair PharmaCare. This results in inequitable access to insulin pumps in British Columbia and surely compromises optimal diabetes care for many British Columbians. People with diabetes need timely and affordable access to the therapy that best meets their individual needs.

British Columbians with diabetes require timely access to medications with evidence-based criteria that are in-line with Diabetes Canada's Clinical Practice Guidelines. British Columbians living with type 2 diabetes and health-care providers welcomed British Columbia's listing of one medication from the SGLT2 inhibitor class to its public formulary.

Empagliflozin has been proven to help reduce blood glucose and significantly decrease the risk of major cardiovascular events in people with type 2 diabetes and pre-existing cardiovascular disease. Unfortunately, the criteria for access are not consistent with evidence-based national recommendations for empagliflozin from the Canadian Agency for Drugs and Technologies in Health or Diabetes Canada's [Clinical Practice Guidelines](#), and are more restrictive than in many of the other provinces that reimburse the drug. As a result, some British Columbians do not have timely access to a medication that could be life-saving.

Diabetes Canada recommends the Government of British Columbia close these gaps to access the prescribed diabetes devices and medications needed to effectively self-manage the disease so that the risk of developing serious complications can be reduced.

Conclusion

In 2019, the government committed to developing a provincial diabetes strategy based on Diabetes Canada's Diabetes 360° strategy framework by March 31, 2020. In light of the COVID-19 pandemic and the demonstrated vulnerability of British Columbians with diabetes to the complications of COVID-19, a comprehensive diabetes strategy is more relevant than ever.

With the 100th anniversary of the discovery of insulin in Canada in 1921 right around the corner, we urge the Government of British Columbia to implement its provincial Diabetes 360° strategy and with that address the immediate treatment needs of people living with diabetes, including enhancing access to prescribed diabetes devices and medications.