

Recommendation

Recommendation 1: The federal government should invest \$150 million in funding over seven years (beginning with an initial budget of \$6 million in 2020) to support the implementation of a new national diabetes strategy based on the Diabetes 360° framework and should facilitate the creation of Indigenous-specific strategic approaches led and owned by Indigenous groups, in time to celebrate the 100th anniversary of the Canadian discovery of insulin in 2021.

Diabetes: A growing threat to and a huge opportunity for Canada's economy

In 2021, the world will celebrate the 100th anniversary of the discovery of insulin, which has saved the lives of millions of people around the world. Insulin was discovered by a team of doctors – Banting, Best, Collip and MacLeod – at the University of Toronto, and its discovery made Canada a global leader in the treatment of what was otherwise a terminal disease – type 1 diabetes.

But when the world looks to Canada in 2021 to see how we are faring at treating diabetes 100 years later, they will be disappointed. Double the number of Canadians lives with diabetes than did 15 years ago, and Canada is in the worst third of developed countries for both prevalence and costs of treating the disease. The problem of diabetes is very bad, and rapidly getting worse.

Diabetes: a Canadian and global pandemic

In Canada today, close to 11 million people live with prediabetes or diabetes, and every three minutes, someone new is diagnosed with this progressive, chronic illness. Diabetes prevalence has increased more than 50% in the last ten years, and rates are expected to continue to rise over the next decade. Once thought to be a disease of older individuals, type 2 diabetes is now being diagnosed in young Canadians, impacting people in the prime of life. Shockingly, Canadians under 20 years of age now face a 50% chance of developing the disease in their lifetime. For First Nations Peoples in Canada, that risk is 80% or higher.¹

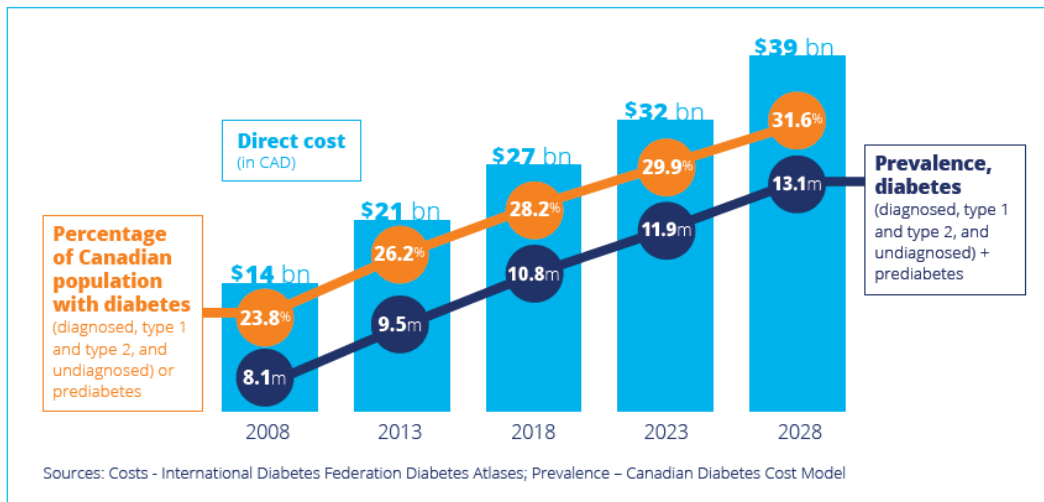
Diabetes is the sixth leading cause of death worldwide, and a key contributor to people developing heart disease, stroke and some cancers – the top three causes of death. At every age group, the death rates of Canadians with diabetes is at least double that of Canadians without. The life expectancy of a person with diabetes is shortened by an average of 13 years.

Seniors make up over half of the people living with diagnosed diabetes in Canada, and close to 40% of new diagnosed cases of diabetes in 2018 will occur in the senior population in Canada. Canadians with lower incomes have a much higher prevalence of diabetes and greater challenges accessing supports. People of certain ethnic backgrounds are genetically at greater risk of developing type 2 diabetes, specifically people of African, Arab, Asian, Hispanic, Indigenous and South Asian descent. For First Nations peoples living on reserve, diabetes prevalence is 3 to 5 times greater than in the general population, and the rates of complications are higher than in non-

¹ Turin TC, Saad N, Jun M, et al. Lifetime risk of diabetes among first nations and non-first nations people. CMAJ 2016;188:1147-53.

First Nations Canadians.² Indigenous individuals are diagnosed at an increasingly younger age, have greater severity at diagnosis, and experience poorer treatment outcomes.

Economic Impact:



Canada can follow international best practice to tackle diabetes

Part of the reason why Canada compares so poorly to other developed nations is that we have not implemented a nation-wide strategy to address the problem. Today, valiant efforts to prevent, screen for and treat diabetes are underway across Canada, but there is no coordinating framework, limited sharing of best practices and lessons learned across the provinces and territories, and little to no means of measuring the impact of diabetes programs on improving the health of Canadians.

Other developed countries, including the United Kingdom, Sweden, Finland, New Zealand and Hong Kong, have implemented national action plans and coordinated frameworks to address diabetes, to great effect. That is why the World Health Organization recommends that every country should have a national strategy to combat diabetes.³

A problem as large and complex as diabetes can only be addressed by committed and coordinated leadership to address a complex array of contributing factors including poverty, stigma, food supply and insecurity, and environments that discourage healthy living and contribute to diabetes. With a national diabetes strategy, the federal

² Diabetes Canada, 2015 Report on Diabetes: Driving Change.

³ World Health Organization, Global Report on Diabetes, 2016

government can help to prevent a million cases of diabetes and avoid hundreds of thousands of hospitalizations for diabetes-related consequences in the next ten years.

That's why Diabetes Canada's sole recommendation to the pre-budget consultations for Budget 2020 is that:

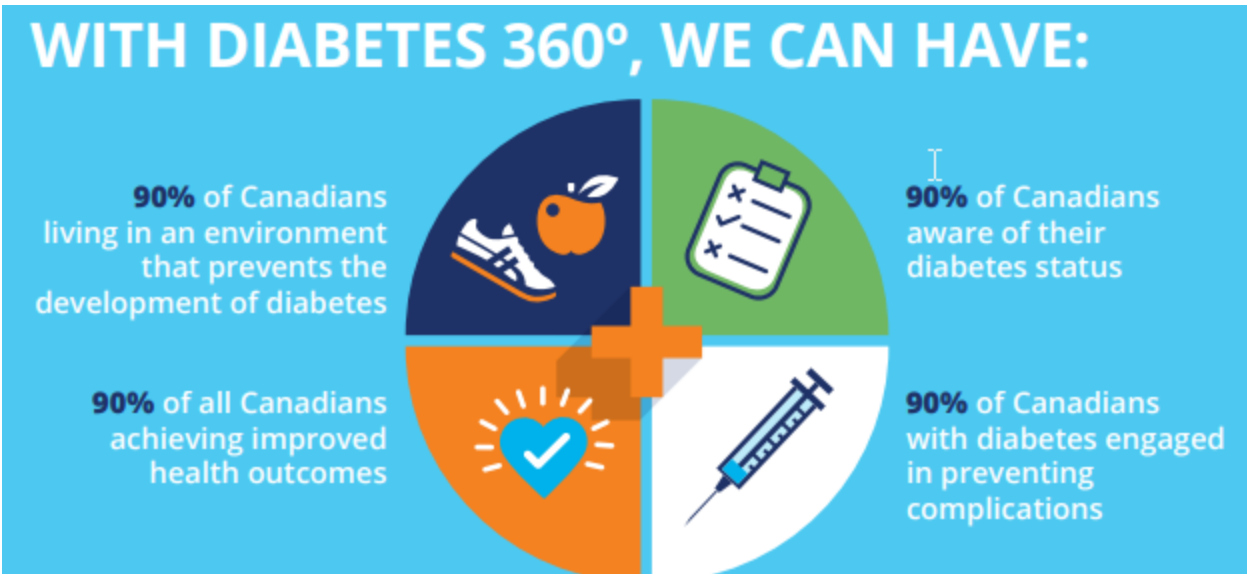
The federal government should invest \$150 million in funding over seven years to support the implementation of a new national diabetes strategy, based on the Diabetes 360° framework and should facilitate the creation of Indigenous-specific strategic approaches led and owned by Indigenous groups, in time to celebrate the 100th anniversary of the Canadian discovery of insulin in 2021.

A 360° Response to Canada's Diabetes Epidemic

In 2018, Diabetes Canada and other groups came together to develop a framework for a new diabetes national strategy, called Diabetes 360°. Diabetes 360° was built on a successful model implemented in the HIV/AIDS community that has been credited for transformational breakthroughs in the treatment and management of HIV/AIDS.

The Diabetes 360° framework includes specific recommendations in the areas of prevention, screening, treatment and patient outcomes for diabetes. It describes the unique considerations of two important subpopulations: people with type 1 diabetes and Indigenous peoples in Canada. It suggests a plan that could deliver measurable results within less than seven years. All recommendations are based on extensive consultation and thorough review of the evidence.

A diabetes strategy for Canada that is inclusive of the needs of Indigenous groups is overdue. Diabetes 360° will provide a framework for stakeholders to work with Indigenous leaders and communities wishing to embrace and implement a similar strategic framework.



Diabetes Canada recommends a task force be created for a period of 7 years to implement the Diabetes 360° recommendations. That task force would act as a resource and center of expertise to help each province and territory implement the Diabetes 360° recommendations most relevant to their needs and priorities. The task force would partner with industry and governments to implement a foundation of data and metrics to better quantify the diabetes burden in Canada and would facilitate the sharing of best practices across provinces and territories. This work requires an investment by the federal government of \$150 million over 7 years.

The merit of Diabetes 360° has been recognized by many parliamentarians, and the strategy was specifically recommended for implementation by the Standing Committees on Health and Finance.⁴ In addition, thousands of Canadians have reached out to their elected officials in support of this nation-wide approach to addressing diabetes.

Table 1: Estimated budget of proposed task force 2020-2026

YEAR	TOTAL BUDGET
2020	\$6 million
2021	\$12 million
2022	\$18 million
2023	\$24 million
2024	\$30 million
2025	\$30 million
2026	\$30 million
Total	\$150 million

⁴ <https://www.ourcommons.ca/DocumentViewer/en/42-1/HESA/report-23/> and <https://www.ourcommons.ca/DocumentViewer/en/42-1/FINA/report-27/>

Support for a 2021 Research Program

Another important recommendation that is part of the Diabetes 360° strategy is continued research into causes and preventive measures for all types of diabetes and its cure, must be supported. While Canada is currently investing in important research in these areas, more such research is required to address an epidemic of this scope and complexity. Over the last 45 years, Diabetes Canada has administered the Charles H. Best Research Fund to support some of the greatest diabetes research being conducted in the world, and over the last 10 years has supported almost 500 grants with over \$55 million.

Consistent with the Diabetes 360° recommendation that Canada must address diabetes differently, Diabetes Canada proposes to establish and administer a “Innovation in Diabetes” strategic fund to support the highest quality and most dynamic approaches to diabetes research with an emphasis on research into a cure for diabetes. This program will allow focus on high risk – high return ideas that have a strong potential to end the impact of diabetes, but otherwise would not likely be funded. Diabetes Canada will raise funds to support this program from individual donors and partners.

The Canadian Institutes for Health Research (CIHR) is developing an aspirational research program to celebrate the 100th anniversary of the discovery of insulin in Canada. Given CIHR’s preeminent role in funding and overseeing health research in Canada, we recommend that, in addition to providing the \$150 million funding over 7 years suggested for the Diabetes 360° taskforce, the federal government ensure that significant funding is provided to deliver on CIHR’s program.

Diabetes and Canada’s economy: the connection between health and wealth

It has long been recognized that a healthy workforce is a more productive workforce. In fact, the World Bank reports that 50% of the economic growth differentials between developing and developed nations are attributed to poor health and low life expectancy. The healthier the citizens of a country, the more effective the workforce.ⁱ As the Conference Board of Canada has noted, poor health negatively impacts individual and household economic prospects, labour force participation and productivity, as well as a country’s capacity to fund health care.ⁱⁱ

Diabetes is increasingly recognized as a global economic threat. According to the World Economic Forum, the possible negative impact of diabetes on output, revenue, profitability, business performance, and potential for economic growth can be substantial.

Here in Canada, the economic impact of diabetes is significant – to individuals, our health care system and our economy. In the workforce, diabetes and other preventable non-communicable diseases can lead to increased absenteeism and reduced productivity while at work, inability to work due to disease-related disability, and lost productive capacity due to early mortality and exclusion from the workplace to take care of sick family members.

Employees with type 2 diabetes cost employers an estimated \$3,000 annually per employee due to reduced productivity, missed work and higher benefits costs.^{iii iv}

On an individual level, most Canadians with diabetes pay more than 3% of their income or over \$1,500 per year for prescribed medications, devices and supplies out of their own pocket.^v Out-of-pocket costs that exceed 3% of a person’s annual income are defined as catastrophic drug costs by the Kirby and Romanow Commissions on healthcare.

Diabetes is equally expensive to Canadian healthcare. It will cost Canada’s healthcare system \$29 billion in 2019 and if we continue with current growth rate, the direct costs associated with treating diabetes in Canada will top \$39 billion by 2028.^{viii}

These facts mean that the opportunity for savings from implementing the Diabetes 360 strategy are significant. If we made the Diabetes Prevention Program available to all Canadians with pre-diabetes, we could prevent 770,000 cases of type 2 diabetes from being diagnosed in the next seven years. At \$3,000 per employee with diabetes, that would reduce costs to employers by \$9.25 billion during that timeframe. Similarly, preventing the costs of treating those 770,000 cases of type 2 diabetes will save our healthcare system \$5.1 billion over seven years.

That investment of \$150 million will save \$20 billion in just seven years⁵ with:

- 770,000 fewer cases of type 2 diabetes
- 245,000 fewer hospitalizations for diabetes
- 34,000 fewer lower limb amputations.

⁵ For reference and detailed calculations, please visit https://www.diabetes.ca/DiabetesCanadaWebsite/media/Advocacy-and-Policy/Diabetes_CND_24HR_InfoSheets.pdf.

Table 2: Summary of health and cost savings anticipated in 7 years

YEAR	2020	2021	2022	2023	2024	2025	2026	TOTAL
Cases prevented	110,000	220,000	330,000	440,000	550,000	660,000	770,000	n/a
Costs saved from prevention	\$322,300,000	\$458,700,000	\$595,100,000	\$731,500,000	\$867,900,000	\$1,004,300,000	\$1,140,700,000	\$5,120,500,000
Employer costs saved	\$330,000,000	\$660,000,000	\$990,000,000	\$1,320,000,000	\$1,650,000,000	\$1,980,000,000	\$2,310,000,000	\$9,240,000,000
Amputations prevented	4,250	4,420	4,597	4,781	4,972	5,171	5,378	33,568
Amputation costs avoided	\$510,000,000	\$530,400,000	\$551,616,000	\$573,680,640	\$596,627,866	\$620,492,980	\$645,312,699	\$4,028,130,185
Hospitalizations avoided	35,000	36,400	37,856	39,370	40,945	42,583	44,286	276,440
Hospitalization costs avoided	\$210,000,000	\$218,400,000	\$227,136,000	\$236,221,440	\$245,670,298	\$255,497,110	\$265,716,994	\$1,658,641,841
TOTAL COST SAVINGS	\$1,372,300,000	\$1,867,500,000	\$2,363,852,000	\$2,861,402,080	\$3,360,198,163	\$3,860,290,090	\$4,361,729,693	\$20,047,272,026

Canada’s current and future economic prosperity require a population that is as healthy and free from chronic diseases like diabetes as possible. With federal government support in Budget 2020, implementation of the Diabetes 360° national strategy could begin in time for 2021 – allowing Canada to truly celebrate the milestone of the 100th anniversary of Dr. Banting’s discovery of insulin.

ⁱ WEF, [Outlook on the Global Agenda 2015](#)

ⁱⁱ CBOC, [Health Matters: An Economic Perspective](#)

ⁱⁱⁱ Janssen, *Managing Diabetes in the Workplace: Understanding the Motivated Patient*.

^{iv} Benefits Canada, [ROI of one life: diabetes](#)

^v Diabetes Canada, [The burden of out-of-pocket costs for Canadians with diabetes](#).

^{vi} IDF, [IDF Diabetes Atlas, 8th Edition](#)

^{vii} Diabetes Canada. 2009. [An economic tsunami – the cost of diabetes in Canada](#).