

## Diabetes in Ontario

### Estimated prevalence and cost<sup>1</sup>

Prevalence	2019	2029
Diabetes (type 1 and type 2 diagnosed)	1,511,000 / 10%	1,945,000 / 12%
Diabetes (type 1)	5-10% of diabetes prevalence	
Diabetes (type 1 + type 2 diagnosed + type 2 undiagnosed) and prediabetes combined	4,424,000 / 29%	5,382,000 / 32%
Increase in diabetes (type 1 and type 2 diagnosed), 2019-2029	29%	
Direct cost to the health-care system	\$1.5 billion	\$2.0 billion
Out-of-pocket cost per year <sup>2</sup>		
Type 1 diabetes on multiple daily insulin injections	\$1,100-\$2,300	
Type 1 diabetes on insulin pump therapy	\$500-\$1,700	
Type 2 diabetes on oral medication	\$200-\$1,900	

### Impact of diabetes

- Diabetes complications are associated with premature death. Diabetes can reduce lifespan by five to 15 years. It is estimated that at least one in every ten deaths in Canadian adults was attributable to diabetes in 2008–2009.<sup>3</sup>
- People with diabetes are over three times more likely to be hospitalized with cardiovascular disease, 12 times more likely to be hospitalized with end-stage renal disease and almost 20 times more likely to be hospitalized for a non-traumatic lower limb amputation compared to the general population.<sup>3</sup>
- Diabetes contributes to 30% of strokes, 40% of heart attacks, 50% of kidney failure requiring dialysis, and 70% of non-traumatic lower limb amputations every year<sup>4</sup> and is a leading cause of vision loss.
- The prevalence of clinically relevant depressive symptoms among people with diabetes is about 30%; individuals with depression have an approximately 60% increased risk of developing type 2 diabetes.<sup>5</sup>
- The risk of blindness in people with diabetes is up to 25 times higher than those without diabetes.<sup>6</sup> Diabetes is the leading cause of acquired blindness in Canadians under the age of 50.<sup>7</sup> Diabetic retinopathy affects 500,000 Canadians.<sup>8</sup>

- Foot ulceration affects an estimated 15%–25% of people with diabetes in their lifetime.<sup>9</sup> One-third of amputations in 2011–2012 were performed on people reporting a diabetic foot wound.<sup>10</sup>
- Some populations are at higher risk of type 2 diabetes, such as those of African, Arab, Asian, Hispanic, Indigenous or South Asian descent, those who are older, have a low income or are living with overweight. Diabetes rates are three to five times higher in First Nations populations than in the general population, a situation compounded by barriers to care for Indigenous peoples.<sup>5</sup>
- For many Canadians with diabetes, adherence to treatment is affected by cost. The majority of 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.<sup>11,12</sup>
- Among Canadians with type 2 diabetes, 33% do not feel comfortable disclosing their disease to others.<sup>12</sup>
- Hypoglycemia (low blood sugar) and hyperglycemia (elevated blood sugar) may affect mood and behaviour, and can lead to emergency situations, if left untreated.

### **Policy, programs and services related to diabetes**

- Effective April 1, 2019, OHIP+ will make 4,400 drug products free for anyone 24 years old or younger if they currently do not have coverage through a private plan. People may choose to opt out of private coverage in order to be eligible for OHIP+.
- The Monitoring for Health Program provides assistance with the cost of blood glucose testing supplies for Ontarians who use insulin or have gestational diabetes and have no other coverage for their supplies. The maximum reimbursement for strips and lancets increased to \$920 per year in September 2016.
- Ontario’s insulin pump program offers coverage for all eligible people with type 1 diabetes as well as \$2,400 per year for pump supplies.
- Ontario reports on two annual targets: 1) the percentage of people with diabetes attached to a primary care physician; and 2) the percentage of people with diabetes receiving hemoglobin A1c tests, lipid tests and dilated retinal exams, in accordance with Diabetes Canada’s Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada (CPGs).
- Ontario’s Diabetes Program Policies and Procedures state that the diabetes programs’ education/work plans must reflect an integration of current principles and practices for diabetes as outlined in Diabetes Canada CPGs and the Diabetes Educator Section/Diabetes Canada Standards for Diabetes Education in Canada.

### **Challenges**

Ontario faces unique challenges in preventing type 2 diabetes and meeting the needs of those living with diabetes:

- Ontario is home to 62% of South Asian, 57% of Black, 47% of Chinese, 45% of Latin American, 44% of Southeast Asian and 22% of Indigenous people in Canada. South Asian, Chinese and Black people respectively make up 8%, 5% and 4% of the provincial population.<sup>13,14</sup>
- Ontario has high rates of many modifiable risk factors that contribute to the growing prevalence of type 2 diabetes: 47% of Ontario residents are physically inactive, 62% are not eating enough fruits and vegetables, and obesity affects 26% of adults and 12% of youth.<sup>15,16,17</sup>
- Ontario has one of the highest prevalence of low income among all provinces, based on low-income cut-offs after tax.<sup>18</sup> People with diabetes earning a low income may face financial constraints that can make their disease more difficult to manage.

## Diabetes Canada recommendations to the Government of Ontario

1. Introduce a renewed provincial Diabetes Strategy that sets aggressive targets to stem the tide of the diabetes epidemic and to improve outcomes for people with diabetes.
2. Address gaps in access to medications, devices and supplies required for effective diabetes management by reducing deductibles associated with publicly funded programs (e.g. Trillium Drug Program) and ensuring adequate coverage for supplies, such as pen needles and syringes.
3. Implement more comprehensive foot care supports and education, including improved screening practices, proper foot care, and better access to multidisciplinary teams for treatment, to reduce diabetic foot ulcer and lower limb amputation risk.
4. In line with Health Quality Ontario's recommendations, publicly fund the following devices that help people with specific types of diabetes optimally monitor and manage their blood glucose levels:
  - **continuous glucose monitoring (CGM):** for patients with type 1 diabetes who are willing to use CGM the vast majority of the time and who have:
    - i) severe hypoglycemia without an obvious precipitant, despite optimized use of insulin therapy and conventional blood glucose monitoring; and/or
    - ii) inability to recognize, or communicate about, symptoms of hypoglycemia.
  - **flash glucose monitoring:** for patients with:
    - i) type 1 diabetes who experience recurrent hypoglycemia despite frequent self-monitoring of blood glucose and efforts to optimize insulin management; and
    - ii) type 2 diabetes requiring intensive insulin therapy (multiple daily injections or use of insulin pump) who experience recurrent hypoglycemia despite frequent self-monitoring for blood glucose and efforts to optimize insulin management.

## References

<sup>1</sup> Diabetes statistics in Ontario are estimates generated by the Canadian Diabetes Cost Model, a forecasting model that provides projections on prevalence, incidence and economic burden of diabetes in Canada based on national data from government sources.

<sup>2</sup> Estimated out-of-pocket costs for type 1 and type 2 diabetes were calculated based on composite case studies. As such, the estimates may reflect the out-of-pocket costs for many people with diabetes in Ontario, but not all. The costs are 2015 estimates and may vary

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depending on income and age. For details on the methodology and estimates, please see the appendix in the Diabetes Canada's 2015 Report on Diabetes: Driving Change, retrieved from <https://www.diabetes.ca/getmedia/5a7070f0-77ad-41ad-9e95-ec1bc56ebf85/2015-report-on-diabetes-driving-change-english.pdf.aspx>.

<sup>3</sup> Public Health Agency of Canada. (2011). Diabetes in Canada: Facts and figures from a public health perspective. Ottawa, Ont.: Public Health Agency of Canada. Retrieved from <https://www.canada.ca/content/dam/phac-aspc/migration/phac-aspc/cd-mc/publications/diabetes-diabete/facts-figures-faits-chiffres-2011/pdf/facts-figures-faits-chiffres-eng.pdf>.

<sup>4</sup> Institute for Clinical Evaluative Sciences. (2003). Diabetes in Ontario: An ICES Practice Atlas. Retrieved from <http://www.ices.on.ca/Publications/Atlases-and-Reports/2003/Diabetes-in-Ontario.aspx>.

<sup>5</sup> Diabetes Canada Clinical Practice Guidelines Expert Committee. (2013). Diabetes Canada 2013 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada. *Can J Diabetes*, 37 (suppl 1).

<sup>6</sup> Thomann KH, Marks ES, Adamczyk DT. (2001). Primary Eye care in Systemic Disease; New York: McGraw-Hill. (Cited in <http://www.cdc.gov/diabetes/ndep/pdfs/ppod-guide-eye-care-professionals.pdf>; also by Ovenseri-Ogbomo, et al. 2013).

<sup>7</sup> CNIB. (2015). About diabetic retinopathy. Retrieved from <http://www.cnib.ca/en/your-eyes/eye-conditions/eye-connect/DR/About/Pages/default.aspx>.

<sup>8</sup> CNIB. (2015). Eye connect: diabetic retinopathy. Retrieved from <http://www.cnib.ca/en/your-eyes/eye-conditions/eye-connect/DR/Pages/default.aspx>.

<sup>9</sup> Singh, N, Armstrong, DG, Lipsky, BA. (2005) Preventing Foot Ulcers in Patients with Diabetes. *JAMA*. 2005;293(2):217-228. Retrieved from <http://jama.jamanetwork.com/article.aspx?articleid=200119#REF-JCR40054-1>.

<sup>10</sup> Canadian Institute for Health Information. (2013). Compromised wounds in Canada. Ottawa, Ont.: Canadian Institute for Health Information. Retrieved from [https://secure.cihi.ca/free\\_products/AiB\\_Compromised\\_Wounds\\_EN.pdf](https://secure.cihi.ca/free_products/AiB_Compromised_Wounds_EN.pdf).

<sup>11</sup> Out-of-pocket costs that exceed 3% or \$1,500 of a person's annual income are defined as catastrophic drug costs by the Kirby and Romanow Commissions on healthcare. Please see Diabetes Canada. (2011). The burden of out-of-pocket costs for Canadians with diabetes. Retrieved from <http://www.diabetes.ca/CDA/media/documents/publications-and-newsletters/advocacy-reports/burden-of-out-of-pocket-costs-for-canadians-with-diabetes.pdf>.

<sup>12</sup> Diabetes Canada (2015). 2015 Report on Diabetes: Driving Change. Toronto, Ont.: Diabetes Canada. Retrieved from <https://www.diabetes.ca/getmedia/5a7070f0-77ad-41ad-9e95-ec1bc56ebf85/2015-report-on-diabetes-driving-change-english.pdf.aspx>.

<sup>13</sup> Statistics Canada. 2011 National Household Survey, data tables. Retrieved from <http://www12.statcan.gc.ca/nhs-enm/2011/dp-pd/dt-td/Rp-eng.cfm?TABID=2&LANG=E&APATH=3&DETAIL=0&DIM=0&FL=A&FREE=0&GC=0&GK=0&GRP=0&PID=105395&PRID=0&PTYPE=105277&S=0&SHOWALL=0&SUB=0&Temporal=2013&THEME=95&VID=0&VNAMEE=&VNAMEF=>.

<sup>14</sup> Statistics Canada. Number and distribution of the population reporting an Aboriginal identity and percentage of Aboriginal people in the population, Canada, provinces and territories, 2011. Retrieved from <http://www12.statcan.gc.ca/nhs-enm/2011/as-sa/99-011-x/2011001/tbl/tbl02-eng.cfm>.

<sup>15</sup> Statistics Canada. Table 105-0501 - Health indicator profile, annual estimates, by age group and sex, Canada, provinces, territories, health regions (2013 boundaries) and peer groups, occasional, CANSIM (database). Retrieved from <http://www5.statcan.gc.ca/cansim/a26?lang=eng&retrLang=eng&id=1050501&&pattern=&stByVal=1&p1=1&p2=31&tabMode=dataTable&csid=>.

<sup>16</sup> Statistics Canada. (2017). Table 105-2023 - Measured adult body mass index (BMI) (World Health Organization classification), by age group and sex, Canada and provinces, Canadian Community Health Survey - Nutrition, occasional. Retrieved from <http://www5.statcan.gc.ca/cansim/a26?lang=eng&retrLang=eng&id=1052023&&pattern=&stByVal=1&p1=1&p2=31&tabMode=dataTable&csid=>.

<sup>17</sup> Statistics Canada. (2017). Table 105-2024 - Measured children and youth body mass index (BMI) (World Health Organization classification), by age group and sex, Canada and provinces, Canadian Community Health Survey - Nutrition, occasional. Retrieved from <http://www5.statcan.gc.ca/cansim/a26?lang=eng&retrLang=eng&id=1052024&&pattern=&stByVal=1&p1=1&p2=31&tabMode=dataTable&csid=>.

<sup>18</sup> Income Statistics Division, Statistics Canada. Table 206-0042 - Low income statistics by economic family type, Canada, provinces and selected census metropolitan areas (CMAs), annual, CANSIM (database).

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