

## Diabetes in Newfoundland and Labrador

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

Prevalence	2019	2029
Diabetes (type 1 and type 2 diagnosed)	67,000 / 12%	82,000 / 15%
Diabetes (type 1)	5-10% of diabetes prevalence	
Diabetes (type 1 + type 2 diagnosed + type 2 undiagnosed) and prediabetes combined	182,000 / 33%	209,000 / 37%
Increase in diabetes (type 1 and type 2 diagnosed), 2019-2029	23%	
Direct cost to the health-care system	\$66 million	\$79 million
Out-of-pocket cost per year <sup>2</sup>		
Type 1 diabetes on multiple daily insulin injections	\$1,000-\$3,200	
Type 1 diabetes on insulin pump therapy	\$1,000-\$6,300	
Type 2 diabetes on oral medication	\$2,000	

### 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>13</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 in 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>15</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>22</sup>
- Hypoglycemia (low blood sugar) and hyperglycemia (high blood sugar) may affect mood and behaviour, and can lead to emergency situations, if left untreated.

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

- The Government of Newfoundland and Labrador released the Chronic Disease Action Plan in June 2017 with a focus on prevention, self-management, treatment and care. Features of the plan include:
  - expansion of HealthLine to include the services of registered dietitians (“Dial a Dietitian” program)
  - recruitment of licensed practical nurses to work as prevention practitioners in select primary care sites in each regional health authority
  - implementation of the BETTER program to improve chronic disease prevention and screening in primary care settings
  - expansion of the Remote Patient Monitoring program
  - increased home-based dialysis
  - integration of a chronic disease case management program in all regional health authorities
  - professional development opportunities on self-management support and recovery approaches to care offered to regional health authority staff
  - Telehealth system enhancements that will better service patients living with diabetes
  - the launch of a new Chronic Disease Registry, with an initial focus on diabetes
  - the establishment of a provincial diabetes flow sheet, based on national diabetes management guidelines, which is integrated into the provincial Electronic Medical Record system
  - a new insulin dose adjustment certification and education program for health care providers

- a newly established Family Practice Renewal Program, with supports for physicians that manage complex and chronic conditions
- development of a new provincial standard for delivering wound care that uses an evidence-based approach
- In 2010, the Government of Newfoundland and Labrador introduced public coverage for insulin pumps and supplies for children and youth up to 25 years of age. The government also provides coverage of up to \$2,500 for insulin pumps for public sector employees. The government has publicly stated its intention to expand the insulin program in the near future.
- Newfoundland and Labrador offers diabetes education programs for Indigenous populations.
- Newfoundland and Labrador's wellness plan and Go Healthy initiative focus on physical activity, healthy body weight and tobacco control. Physical education is mandatory to graduate from high school in the province.

## Challenges

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

- The median age in Newfoundland is 45.7 years, which is the highest among the provinces in Canada.<sup>23</sup> About 16% of the population are seniors (65 years and older).<sup>24</sup>
- Both the overweight and obesity rates among adults in Newfoundland and Labrador are almost 39%.<sup>25</sup> Tobacco is used by 22% of the population.<sup>26</sup> About 74% of people do not eat enough fruits and vegetables daily, and 52% are physically inactive.<sup>16</sup>
- Indigenous peoples constitute about 7% of the provincial population.<sup>27</sup>
- The province has a rural population higher than the national average. Accessing care for people with diabetes is more challenging in rural areas across Canada than in urban areas.<sup>28</sup>

## Diabetes Canada's recommendations to the Government of Newfoundland and Labrador

1. To alleviate cost pressures of diabetes on the provincial health-care system and increase the competitiveness of the province, Diabetes Canada recommends that the government invest in the development of a provincial diabetes strategy that includes the following key components:
  - increased support for self-management of diabetes
  - enhanced access to diabetes medications, devices and supplies, particularly insulin pumps, pump supplies and test strips
  - coordinated diabetes care and access to inter-professional teams
  - wellness programs to support diabetes prevention
  - diabetes foot care and amputation prevention education and service provision
2. Introduce a levy on sugar-sweetened beverages as a fiscal measure to reduce excess sugar intake from beverages in the population and lower type 2 diabetes risk.
3. Support Diabetes 360°, a nation-wide strategy to prevent and manage diabetes.

## References

- <sup>1</sup> Diabetes statistics in Newfoundland 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 Newfoundland, but not all. The costs are 2015 estimates and may vary 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>23</sup> Statistics Canada, Table 051-0001 – Estimates of population, by age group and sex for July 1, Canada, provinces and territories, annual. Retrieved from <http://www5.statcan.gc.ca/cansim/a26?id=510001>.
- <sup>24</sup> Statistics Canada, Population by broad age groups and sex, percentage distribution (2011) for both sexes, for Canada, provinces and territories. Retrieved from <http://www12.statcan.gc.ca/census-recensement/2011/dp-pd/hlt-fst/as-sa/Pages/highlight.cfm?TabID=1&Lang=E&Asc=1&PRCode=01&OrderBy=999&Sex=1&View=3&tableID=21&queryID=1>.
- <sup>25</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>26</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>27</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>28</sup> 41% of residents live in rural areas compared to 59% who live in urban areas. Statistics Canada. Population, urban and rural, by province and territory (Newfoundland and Labrador), 2011 Census. Retrieved from <http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/demo62b-eng.htm>.

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