

**Diabetes in Newfoundland
and Labrador**

Backgrounder

Summary: This backgrounder provides key statistics about diabetes in Newfoundland and Labrador, the impact of diabetes on the population of Newfoundland and Labrador, and Diabetes Canada's recommendations to the Government of Newfoundland and Labrador to address diabetes prevention and treatment.

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About Diabetes Canada: Diabetes Canada is a national health charity representing close to 11 million Canadians living with diabetes or prediabetes. Diabetes Canada leads the fight against diabetes by helping those affected by diabetes live healthy lives, preventing the onset and consequences of diabetes, and discovering a cure. It has a heritage of excellence and leadership, and its co-founder, Dr. Charles Best, along with Dr. Frederick Banting, is credited with the co-discovery of insulin. Diabetes Canada is supported in its efforts by a community-based network of volunteers, employees, health care professionals, researchers, and partners. By providing education and services, advocating on behalf of people living with diabetes, supporting research, and translating research into practical applications, Diabetes Canada is delivering on its mission. Diabetes Canada will continue to change the world for those affected by diabetes through healthier communities, exceptional care, and high-impact research.

For more information, please visit: www.diabetes.ca

Contact: advocacy@diabetes.ca with inquiries about this Diabetes Canada report.

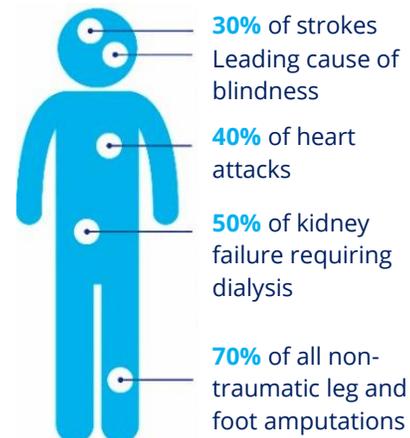
Estimated Prevalence and Cost of Diabetes

Prevalence (1)	2020	2030
Diabetes (type 1 and type 2 diagnosed)	68,000 / 13%	83,000 / 15%
Diabetes (type 1)	5-10% of diabetes prevalence	
Diabetes (type 1 + type 2 diagnosed + type 2 undiagnosed) and prediabetes combined	185,000 / 34%	211,000 / 38%
Increase in diabetes (type 1 and type 2 diagnosed), 2020-2030	22%	
Direct cost to the health care system	\$67 Million	\$79 Million
Out-of-pocket cost per year (2)		
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

- Among Newfoundlanders (1):
 - **34%** live with diabetes or prediabetes, and
 - **13%** live with diagnosed diabetes.
- Diabetes complications are associated with premature death (3). Diabetes can reduce lifespan by **five to 15 years** (3). It is estimated that the all-cause mortality rate among Canadians living with diabetes is **twice** as high as the all-cause mortality rate for those without diabetes (4).
- 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 (3).

- Diabetes contributes to (5):



- The prevalence of clinically relevant depressive symptoms among people living with diabetes is approximately **30%** (6). Individuals with depression have a **40% – 60%** increased risk of developing type 2 diabetes (6).

- Diabetic retinopathy is the leading cause of vision loss in people of working age (7). Vision loss is associated with increased falls, hip fractures, and a 4-fold increase in mortality (7). The prevalence of diabetic retinopathy is approximately **25.1%** in Canada (8).
- Foot ulceration affects an estimated **15%–25%** of people with diabetes in their lifetime (9). **One-third** of amputations in 2011–2012 were performed on people reporting a diabetic foot wound (10).
- The risk factors for type 1 diabetes are not well understood, but interaction between genetic and environmental factors are likely involved (11). Type 2 diabetes is caused by a combination of individual, social, environmental, and genetic factors (11).
 - Certain populations are at higher risk of developing type 2 diabetes, such as those of African, Arab, Asian, Hispanic, Indigenous, or South Asian descent, those who are older, have a lower level of income or education, are physically inactive, or are living with overweight or obesity (11).
 - The rate of diabetes is **1.30 times** higher in First Nations off reserve than in the non-Indigenous population, a situation compounded by barriers to care for Indigenous peoples (12,13).
 - The prevalence of diabetes among adults in the lowest income groups is **7.3 times** that of adults in the highest income group (13).
 - Adults who have not completed high school have a diabetes prevalence **6.1 times** that of adults with a university education (13).
- 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-pocket (2,14).
- Among Canadians with type 2 diabetes, **33%** do not feel comfortable disclosing their disease to others (2).
- Hypoglycemia (low blood sugar) and hyperglycemia (high blood sugar) may affect mood and behaviour, and can lead to emergency situations if left untreated (11).

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:
 - Lifting the age restriction criteria of the provincial insulin pump program for existing enrollees and new users of the program, from the previous age limit of 25.
 - Foot care for Newfoundland and Labrador Prescription Drug Program clients living with diabetes who also receive home support services expanded to those who are over 65 years old.

- 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.
- Newfoundland and Labrador offers diabetes education programs for Indigenous populations.
 - Newfoundland and Labrador’s Wellness Plan and Go Healthy initiatives 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:

- Non-modifiable risk factors of type 2 diabetes include age, sex, and ethnicity (11).
 - The median age in Newfoundland and Labrador is **46 years** (15). **19.4%** of Newfoundlanders are over 65 years old (15). The risk of developing type 2 diabetes increases with age (11). Older adults living with diabetes are more likely to be frail and progressive frailty has been associated with reduced function and increased mortality (16).
 - Adult men are more at risk of type 2 diabetes compared to adult women (11).
 - Approximately **2.8%** of Newfoundlanders self-identify as

- being of African, Arab, Asian, Hispanic, or South Asian descent (15). These groups are at increased risk of developing type 2 diabetes (11).
- There are **45,725** Indigenous Peoples in Newfoundland and Labrador, who face significantly higher rates of diabetes and adverse health consequences than the overall population (17).
 - Newfoundland and Labrador has high rates of individual-level modifiable risk factors (18):
 - **53.2%** of adults and **52.1%** of youth are physically inactive;
 - **36%** of adults are living with overweight and **40.2%** of adults are living with obesity;
 - **81.7%** of adults are not eating enough fruits and vegetables; and
 - **18.2%** of adults are current tobacco smokers.
 - Factors related to the social determinants of health and that can influence the rate of individual-level modifiable risk factors among Newfoundlanders include income, education, food security, the built environment, social support, and access to health care (3).
 - Newfoundland and Labrador has a rural population higher than the national average (19). For people with diabetes, accessing care is more challenging in rural areas across Canada than in urban areas.

Diabetes Canada's Recommendations to the Government of Newfoundland and Labrador

1. Support [Diabetes 360°](#), a nation-wide strategy aimed at achieving measurable improvements in the prevention and management of diabetes.
2. 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:
 - Investments in diabetes research, using the new diabetes registry to ensure up-to date and evidence-based decision making for diabetes initiatives.
 - Increased support for self-management of diabetes.
 - Enhanced access to diabetes medications, devices and supplies.
 - Increased access to appropriate blood glucose testing devices, such as blood glucose strips, flash glucose monitoring devices, and continuous glucose monitors, where appropriate.
 - Better provincial coordination of care delivered using a model supported by the Chronic Disease Action Plan and the Department of Health and Community Services
 - Wellness programs to support type 2 diabetes prevention.

- Programs and support services for diabetes foot care and amputation prevention/limb preservation.

References

1. Canadian Diabetes Cost Model. Ottawa: Diabetes Canada; 2016. Diabetes statistics in Canada 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.
2. 2015 Report on Diabetes – Driving Change. Ottawa: Diabetes Canada; 2015. 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 Canada, but not all. The costs are 2015 estimates and may vary depending on income and age.
3. Diabetes in Canada: Facts and figures from a public health perspective [Internet]. Ottawa: Public Health Agency of Canada; 2011 p. 126. Available 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>
4. Twenty Years of Diabetes surveillance using the Canadian Chronic Disease Surveillance System [Internet]. Ottawa: Public Health Agency of Canada; 2019 Nov. Available from: <https://www.canada.ca/content/dam/phac-aspc/documents/services/publications/diseases-conditions/twenty-years-of-diabetes/64-03-19-2467-Diabetes-Infographic-EN-11.pdf>
5. Hux J, Booth J, Slaughter P, Laupacis A. Diabetes in Ontario: An ICES Practice Atlas. Institute for Clinical Evaluative Sciences; 2003 Jun.
6. Diabetes Canada Clinical Practice Guidelines Expert Committee, Robinson DJ, Coons M, Haensel H, Vallis M, Yale J-F. Diabetes and Mental Health. Can J Diabetes. 2018 Apr;42 Suppl 1:S130–41.
7. Diabetes Canada Clinical Practice Guidelines Expert Committee, Altomare F, Kherani A, Lovshin J. Retinopathy. Can J Diabetes. 2018 Apr;42 Suppl 1:S210–6.
8. Thomas RL, Halim S, Gurudas S, Sivaprasad S, Owens DR. IDF Diabetes Atlas: A review of studies utilising retinal photography on the global prevalence of diabetes related retinopathy between 2015 and 2018. Diabetes Res Clin Pract. 2019 Oct 23;107840.
9. Singh N, Armstrong DG, Lipsky BA. Preventing Foot Ulcers in Patients With Diabetes. JAMA. 2005 Jan 12;293(2):217–28.
10. Compromised Wounds in Canada [Internet]. Ottawa: Canadian Institute for Health Information; 2013 Aug. Available from: https://secure.cihi.ca/free_products/AiB_Compromised_Wounds_EN.pdf
11. Diabetes Canada Clinical Practice Guidelines Expert Committee. Diabetes Canada 2018 Clinical Practice Guidelines

- for the Prevention and Management of Diabetes in Canada. *Can J Diabetes* [Internet]. 2018 [cited 2019 Oct 28];42. Available from: <http://guidelines.diabetes.ca/docs/CPG-2018-full-EN.pdf>
12. Diabetes Canada Clinical Practice Guidelines Expert Committee, Crowshoe L, Dannenbaum D, Green M, Henderson R, Hayward MN, et al. Type 2 Diabetes and Indigenous Peoples. *Can J Diabetes*. 2018 Apr;42 Suppl 1:S296–306.
 13. Public Health Agency of Canada, Pan - Canadian Public Health Network, Statistics Canada, Canadian Institute of Health Information. Pan-Canadian Health Inequalities Data Tool, 2017 Edition [Internet]. Public Health Agency of Canada. 2019 [cited 2019 Oct 31]. Available from: <https://health-infobase.canada.ca/health-inequalities/data-tool/>
 14. The burden of out-of-pocket costs for Canadians with diabetes. Ottawa: Diabetes Canada; 2011. 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.
 15. Newfoundland and Labrador [Province] and Canada [Country] (table). Census Profile. 2016 Census [Internet]. Ottawa: Statistics Canada; 2017 Nov. Report No.: Statistics Canada Catalogue no. 98-316-X2016001. Available from: <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E>
 16. Diabetes Canada Clinical Practice Guidelines Expert Committee, Meneilly GS, Knip A, Miller DB, Sherifali D, Tessier D, et al. Diabetes in Older People. *Can J Diabetes*. 2018 Apr;42 Suppl 1:S283–95.
 17. Aboriginal Peoples Highlight Tables, 2016 Census [Internet]. Statistics Canada; 2017 Oct [cited 2019 Dec 17]. Available from: <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/hlt-fst/abo-aut/Table.cfm?Lang=Eng&S=99&O=A&RPP=25>
 18. Health characteristics, annual estimates [Internet]. Statistics Canada; 2019 Dec [cited 2019 Dec 17] p. Ottawa. Available from: <https://doi.org/10.25318/1310009601-eng>
 19. Table 17-10-0118-01 Selected population characteristics, Canada, provinces and territories [Internet]. Ottawa: Statistics Canada; 2019 Dec. Available from: <https://doi.org/10.25318/1710011801-eng>
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