

Diabetes in New Brunswick

Background

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

Publication Date: February 2020

Report Length: 6 Pages

Cite As: Diabetes in New Brunswick: Backgrounder. Ottawa: Diabetes Canada; 2020.

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.

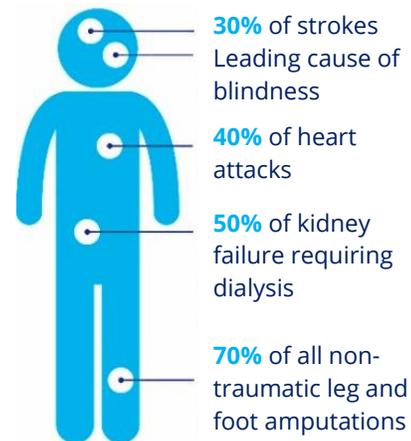
Estimated Prevalence and Cost of Diabetes

Prevalence (1)	2020	2030
Diabetes (type 1 and type 2 diagnosed)	100,000 / 13%	129,000 / 16%
Diabetes (type 1)	5-10% of diabetes prevalence	
Diabetes (type 1 + type 2 diagnosed + type 2 undiagnosed) and prediabetes combined	263,000 / 34%	308,000 / 38%
Increase in diabetes (type 1 and type 2 diagnosed), 2020-2030	29%	
Direct cost to the health care system	\$103 Million	\$129 Million
Out-of-pocket cost per year (2)		
Type 1 diabetes on multiple daily insulin injections	\$30-\$3,100	
Type 1 diabetes on insulin pump therapy	\$100-\$6,200	
Type 2 diabetes on oral medication	\$1,100-\$2,000	

Impact of Diabetes

- Among New Brunswickers (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).
 - Diabetes rates are **5.5 times** higher in First Nations People 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 **6.8 times** that of adults in the highest income group (13).
 - Adults who have not completed high school have a diabetes prevalence **3.7 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

- In February 2018, the Government of New Brunswick announced an expansion of the insulin pump program for people up to the age of 25 who are living with type 1 diabetes. As of April 1, 2018, those who meet eligibility criteria have help covering the cost of their insulin pump and supplies.
- Live Well! Bien Vivre!, a partnership between the Government of New Brunswick and Diabetes Canada, takes a community approach for the prevention and management of type 2 diabetes through peer support, wellness programs, and health coaching.
- The government has established screening tools to identify preschool children at risk for nutritional concerns

and a process for addressing those with identified risk factors.

- New Brunswick has various screening programs that have been implemented to target those at risk.
- Depression screening tools and management skills have been integrated within primary care practices.
- A public health nutrition strategy was developed and implemented.
- New diabetes outreach case manager positions have been funded across the province. Support is provided to allied health care providers to become certified diabetes educators. Health coach-based training in lifestyle and behaviour counseling is available.
- Implementation of the chronic disease billing incentive for physicians is ongoing and provincial physician practice profiles are available.
- A regional network of diabetes management committees has been established in New Brunswick.
- New Brunswick's wellness strategy (2014 to 2021) includes healthy eating and physical activity.
- New Brunswick has diabetes education programs for Indigenous Peoples.
- The province has adopted a provincial drug plan, aimed at providing support and financial relief, including for people with diabetes who require diabetes medications covered under the provincial formulary.

Challenges

New Brunswick 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 New Brunswick, **45.7 years**, is the second highest in Canada (15). **19.9%** of New Brunswickers 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 **5%** of New Brunswickers 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 **29,380** Indigenous Peoples in New Brunswick, who face significantly higher rates of diabetes and adverse health consequences than the overall population (17).
- New Brunswick has high rates of individual-level modifiable risk factors (18):
 - **50.6%** of adults and **49%** of youth are physically inactive;

- **38.1%** of adults are living with overweight and **35.3%** of adults are living with obesity;
- **74.7%** of adults are not eating enough fruits and vegetables; and
- **14.6%** of adults are current tobacco smokers.
- Factors related to the social determinants of health and that can influence the rate of modifiable behavioural risk factors among New Brunswickers include income, education, food security, the built environment, social support, and access to health care (3).
 - New Brunswick has one of the highest rural populations among the provinces. For people living with diabetes, accessing care is more challenging in rural areas across Canada than in urban areas (19).
 - The median after-tax family income in New Brunswick is one of the lowest among the provinces (20).

Diabetes Canada's Recommendations to the Government of New Brunswick

1. The province adopt a comprehensive approach to diabetes prevention and management in consultation with provincial leaders in diabetes and stakeholders that builds on the provincial diabetes strategy.
2. Support [Diabetes 360°](#), a nation-wide strategy aimed at achieving measurable improvements in the prevention and management of diabetes.
3. Provide access for appropriate glucose monitoring options to people living with diabetes, which suits their clinical needs based on evidence and consultation with their health care team. Accordingly, this would include coverage for wearable devices and increased access to blood glucose test strips to allow for appropriate self-monitoring. Remove the current age restriction and expand the existing insulin pump program to include all people living with type 1 diabetes who would benefit from pump therapy and for whom it has been prescribed.
4. Support diabetes foot care and amputation prevention initiatives.
5. 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.

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. New Brunswick [Province] and Canada [Country] (table). Census Profile. 2016 Census. [Internet]. Ottawa: Statistics Canada; 2017 Nov. 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>
20. Table 11-10-0190-01 Market income, government transfers, total income, income tax and after-tax income by economic family type [Internet]. Ottawa: Statistics Canada; 2019 Dec. Available from: <https://doi.org/10.25318/1110019001-eng>