

# Diabetes in Canada

## Background

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

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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](http://www.diabetes.ca)

**Contact:** [advocacy@diabetes.ca](mailto:advocacy@diabetes.ca) with inquiries about this Diabetes Canada report.

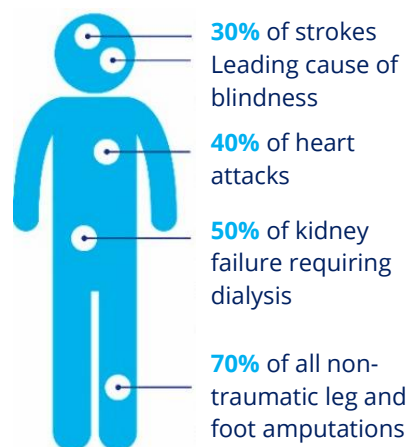
## Estimated Prevalence and Cost of Diabetes

Prevalence (1)	2020	2030
Diabetes (type 1 and type 2 diagnosed)	3,772,000 / 10%	4,891,000 / 12%
Diabetes (type 1)	5-10% of diabetes prevalence	
Diabetes (type 1 + type 2 diagnosed + type 2 undiagnosed) and prediabetes combined	11,232,000 / 29%	13,559,000 / 32%
Increase in diabetes (type 1 and type 2 diagnosed), 2020-2030	30%	
Direct cost to the health care system	\$3.8 billion	\$4.9 billion
Out-of-pocket cost per year (2)		
Type 1 diabetes on multiple daily insulin injections	\$1,100-\$2,600	
Type 1 diabetes on insulin pump therapy	\$1,400-\$4,900	
Type 2 diabetes on oral medication	\$1,200-\$1,900	

## Impact of Diabetes

- Among Canadians:
  - **29%** live with diabetes or prediabetes (1);
  - **10%** live with diagnosed diabetes (1);
  - **6.1%** live with prediabetes, **7.0%** live with high blood glucose, and **1.7%** live with undiagnosed high blood glucose (3); and
  - **1 in 10** women who give birth experience diabetes while pregnant (3).
- Diabetes complications are associated with premature death (4). Diabetes can reduce lifespan by **five to 15 years** (4). 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 (3).

- 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 (4).
- Diabetes contributes to (5):



# DIABETES CANADA

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- 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 age-standardized prevalence rates for diabetes are **14.4%** among people of South Asian descent, **12.9%** among people of African descent, **9.4%** among people of Arab/West Asian descent, **8.2%** among people of East/Southeast Asian descent, and **4.5%** among people of Latin American descent (12).
  - The prevalence of diabetes among South Asian and Black adults is **8.1 times** and **6.6 times** higher, respectively, than the prevalence among White adults (12).
  - The age-standardized prevalence rates for diabetes are **17.2%** among First Nations individuals living on-reserve, **10.3%** among First Nations individuals living off-reserve, and **7.3%** among Métis people, compared to **5.0%** in the general population (14). Further, the prevalence of diabetes among First Nations adults living off reserve and Métis adults is, respectively, **5.9 times** and **3.1 times** that of non-Indigenous adults (12).
  - The prevalence of diabetes among adults in the lowest income groups is **4.9 times** that of adults in the highest income group (12).
  - Adults who have not completed high school have a diabetes prevalence **5.2 times** that of adults with a university education (12).
  - Adults who are permanently unable to work have a diabetes prevalence **2.9 times** that of employed adults (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 (2,15).
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- 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).

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## Policy, Programs, and Services Related to Diabetes

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- In 2016, Health Canada announced its Healthy Eating Strategy, which aims to improve the food environment and decrease the risk of chronic diseases, including type 2 diabetes, by:
  - Supporting healthy eating through the revision of Canada’s Food Guide;
  - Restricting the marketing of unhealthy foods and beverages to children;
  - Strengthening labelling and claims to make it easier for Canadians to identify foods high in sugar, saturated fat, and salt;
  - Working with manufacturers and restaurants to reduce sodium and trans fats in food; and
  - Increasing access to, and availability of, nutritious foods through its Nutrition North program.
- A Parliamentary All-Party Diabetes Caucus was convened in 2016 and meets at least twice a year to advocate for diabetes issues within Parliament in partnership with Diabetes Canada.
- Diabetes Day on the Hill is a federal advocacy event held each fall to connect MPs with those living with, and volunteering to support, diabetes. In 2018, advocates met with 30 MPs and Senators as part of this event to discuss Diabetes Canada’s 2019 pre-budget submission.

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## Challenges

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

- Non-modifiable risk factors of type 2 diabetes include age, sex, and ethnicity (11).
  - The number of adults aged 65 years and older in Canada exceeds the number of children (16). 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 (17).
  - Adult men are more at risk of type 2 diabetes compared to adult women (11).
  - Approximately **30%** of Canadians self-identify as being of African, Arab, Asian, Hispanic, or South Asian descent (16). These groups are at increased risk of developing type 2 diabetes (11).
  - There are approximately **1.7 million** Indigenous Peoples in Canada, who face significantly higher rates of diabetes and adverse health consequences than the overall population (18).

- Canada has high rates of individual-level modifiable risk factors (19):
  - **45.4%** of adults and **44.5%** of youth are physically inactive;
  - **36.3%** of adults are living with overweight, **26.8%** of adults are living with obesity, and **23.7%** of youth are living with overweight or obesity;
  - **71.4%** of Canadian adults are not eating enough fruits and vegetables; and
  - **16.2%** of Canadian 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 Canadians include income, education, food security, the built environment, social support, and access to health care (4).

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## Diabetes Canada's Recommendations to the Government of Canada

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1. Adopt a nation-wide strategy, such as [Diabetes 360°](#), aimed at achieving measurable improvements in the prevention and treatment of diabetes, and reducing its burden on Canadians and the health care system.
2. Ensure fairness in access to the Disability Tax Credit and Registered Disability Savings Plan for Canadians living with type 1 diabetes.
3. Adopt a national pharmacare plan, to reduce out-of-pocket costs for people living with diabetes and facilitate their achievement of better health outcomes.

4. Take a leadership role in implementing decision support tools for diabetes management by incorporating electronic medical records into health systems within federal jurisdiction and support provinces/territories to do the same.

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## References

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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. 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>

4. 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>
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](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. Pan-Canadian Health Inequalities Data Tool, 2017 Edition. Ottawa: Public Health Agency of Canada; 2019 Nov.
13. Key Health Inequalities in Canada: A National Portrait [Internet]. Ottawa: Public Health Agency of Canada; 2018 May. Available from: <https://www.canada.ca/en/public-health/services/publications/science-research-data/key-health-inequalities-canada-national-portrait-executive-summary.html>
14. 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.
15. 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.
16. Canada [Country] and Canada [Country] (table). Census Profile. 2016 Census. [Internet]. Ottawa: Statistics Canada; 2017 Nov [cited 2019 Dec 17]. (Statistics Canada Catalogue no. 98-316-X2016001).

Available from:

<https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?Lang=E&Geo1=PR&Code1=01&Geo2=PR&Code2=01&SearchText=Canada&SearchType=Begins&SearchPR=01&B1=All&TABID=1&type=0>

17. 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.
18. 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/abaut/Table.cfm?Lang=Eng&S=99&O=A&RPP=25>
19. Health characteristics, annual estimates [Internet]. Statistics Canada; 2019 Dec [cited 2019 Dec 17] p. Ottawa. Available from: <https://doi.org/10.25318/1310009601-eng>