

# Diabetes in British Columbia

## Backgrounder

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

**Publication Date:** January 2021

**Report Length:** 6 Pages

**Cite As:** Diabetes in British Columbia: Backgrounder. Ottawa: Diabetes Canada; 2021.

**About Diabetes Canada:** Diabetes Canada is a national health charity representing close to 11.5 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.

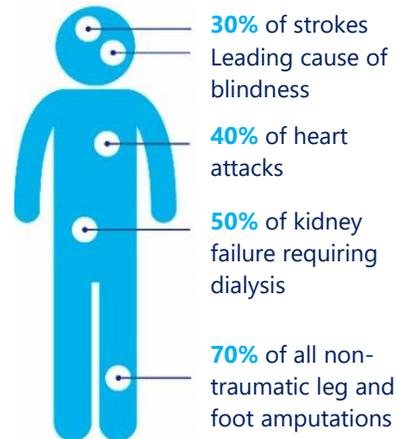
## Estimated Prevalence and Cost of Diabetes

Prevalence (1)	2021	2031
Diabetes (type 1 and type 2 diagnosed)	558,000 / 11%	737,000 / 13%
Diabetes (type 1)	5-10% of diabetes prevalence	
Diabetes (type 1 + type 2 diagnosed + type 2 undiagnosed) and prediabetes combined	1,601,000 / 31%	1,940,000 / 35%
Increase in diabetes (type 1 and type 2 diagnosed), 2021-2031	32%	
Direct cost to the health care system	\$546 million	\$717 million
Out-of-pocket cost per year (2)		
Type 1 diabetes on multiple daily insulin injections	\$800–\$2,800	
Type 1 diabetes on insulin pump therapy	\$800–\$4,700	
Type 2 diabetes on oral medication	\$1,500–\$1,900	

## Impact of Diabetes

- Among British Columbians (1):
  - **31%** live with diabetes or prediabetes and
  - **11%** 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%** 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 **11.1%** among people of South Asian descent, **7.1%** among people of East/Southeast Asian descent, and **14.5%** among people of Arab/West Asian descent.
  - Diabetes rates are **4.5 times** higher in First Nations People off reserve and **2.2 times** higher in Métis 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 **3.5 times** that of adults in the highest income group (13).
    - Adults who have not completed high school have a diabetes prevalence **5.9 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 2020, the Government of British Columbia announced a tax of seven percent on sweetened, carbonated beverages to help address obesity and diabetes. (Effective date postponed with the onset of COVID-19.)
- On January 1, 2020, Medical Service Plan (MSP) premiums were eliminated for all British Columbia residents.
- On November 26, 2019, Lantus was delisted from the provincial formulary following the Biosimilar Initiative switching deadline.
- On November 14, 2019, British Columbia announced its commitment to using the Diabetes 360° framework to develop a provincial diabetes strategy.

- On May 27, 2019, British Columbia joined the rest of Canada by adding a medication from the SGLT2 class to its provincial formulary. The criteria to access empagliflozin is not consistent with national recommendations from CADTH or Diabetes Canada's Clinical Practice Guidelines.
- On May 27, 2019, British Columbia released its Biosimilars Initiative which introduced changes for individuals using insulin glargine. British Columbians were required to switch from the biologic Lantus to the biosimilar Basaglar by November 26, 2019, unless a special authority request to remain using Lantus was approved.
- Effective January 1, 2019, British Columbia eliminated PharmaCare deductibles for households earning up to \$30,000 in annual net income and reduced deductibles for households earning up to \$45,000.
- In July 2018, British Columbia expanded its insulin pump program to cover people living with diabetes who require one, regardless of age. At the same time, the existing program was converted to a tiered program, providing a tier one pump at no charge. A tier two pump may be available at a reduced cost determined by the applicable PharmaCare plan if the request is based on medical need and approved by the program.
- In 2015, the Ministry of Health introduced changes to public coverage of blood glucose test strips. Within the new test strip policy, the maximum level of test strip reimbursement is similar to Diabetes Canada's *minimum* recommended test strip usage guidelines.
- In 2014, the province introduced provincial standards to support students with diabetes in schools, which includes staff training to administer glucagon in an emergency, as well as monitor blood sugar and administer insulin for students who are unable to manage their diabetes independently.
- Generic drug prices were reduced from 35% of the brand name price to 20% on April 1, 2014.
- A Childhood Healthy Weights Intervention Initiative was introduced in 2013.
- The *Healthy Families British Columbia Strategy* (2011) focuses on healthy eating, healthy communities, healthy lifestyle, and a healthy start for babies.
- A diabetes care guideline was released in 2010 by British Columbia's Guidelines and Protocols Advisory Committee.
- The government provides ongoing financial support for the Food Skills for Families program, which helps make healthy eating easy, enjoyable, and affordable.
- British Columbia's *Primary Health Care Charter* identifies diabetes management as a priority medical condition and establishes outcome measures.
- British Columbia has family practice incentive programs and billing codes for physicians providing care for chronic illnesses, including diabetes.

---

## Challenges

---

British Columbia 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 British Columbia is **43 years** (15). **18.3%** of British Columbians are over 65 years old (15).

The risk of developing type 2 diabetes increases with age (15). 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 **31.6%** of British Columbians 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 **270,585** Indigenous Peoples in British Columbia, who face significantly higher rates of diabetes and adverse health consequences than the overall population (17).
- British Columbia has high rates of individual-level modifiable risk factors (18):
  - **35.3%** of adults and **42%** of youth are physically inactive;
  - **35.2%** of adults are living with overweight, **23.1%** of adults are living with obesity, and **21.5%** of youth are living with overweight or obesity;
  - **71.2%** of adults are not eating enough fruits and vegetables; and
  - **12%** 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 British Columbians include income, education, food security, the built environment, social support, and access to health care (3).

---

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

---

1. Launch a provincial diabetes strategy that aligns with [Diabetes 360°](#), and support a nation-wide D360° strategy.
2. Enhance access to diabetes medications, devices, and supplies.
  - Publicly fund advanced glucose monitoring devices (CGM and Flash) for British Columbians with diabetes who would benefit.
3. Expand services and supports to promote limb preservation for British Columbians living with diabetes.

---

## 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](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. British Columbia [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/abotaut/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>