

# Diabetes in Saskatchewan

## Backgrounder

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

**Publication Date:** January 2021

**Report Length:** 5 Pages

**Cite As:** Diabetes in Saskatchewan: 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.

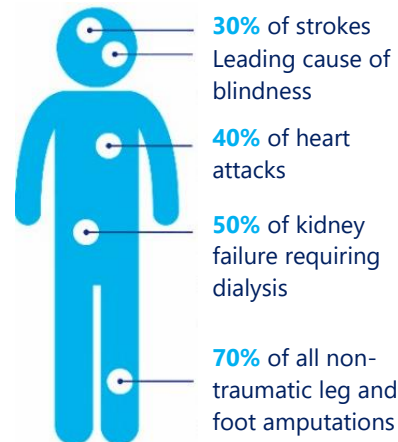
## Estimated Prevalence and Cost of Diabetes

Prevalence (1)	2021	2031
Diabetes (type 1 and type 2 diagnosed)	109,000 / 9%	142,000 / 10%
Diabetes (type 1)	5-10% of diabetes prevalence	
Diabetes (type 1 + type 2 diagnosed + type 2 undiagnosed) and prediabetes combined	327,000 / 26%	395,000 / 29%
Increase in diabetes (type 1 and type 2 diagnosed), 2021-2031	30%	
Direct cost to the health care system	\$108 million	\$137 million
Out-of-pocket cost per year (2)		
Type 1 diabetes on multiple daily insulin injections	\$700–\$2,700	
Type 1 diabetes on insulin pump therapy	\$700–\$6,200	
Type 2 diabetes on oral medication	\$900–\$1,900	

## Impact of Diabetes

- Among the population of Saskatchewan (1):
  - **26%** live with diabetes or prediabetes and
  - **9%** 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 **9.6 times** higher in First Nations People off reserve and **8.6 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 **5.6 times** that of adults in the highest income group (13).
  - Adults who have not completed high school have a diabetes prevalence **3.4 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

---

- A commitment was made during Election 2020 by the incoming government to remove the age restriction from the insulin pump program as well as provide coverage for continuous glucose monitors (CGM) for children under the age of 18 who are insulin dependent.
- In May 2020, the Saskatchewan Ministry of Education released the Policy Statement: *Supporting Students with Potentially Life-Threatening Medical Conditions (e.g., allergies, asthma, diabetes, epilepsy) in Saskatchewan Schools*.
- In February 2019, in response to current evidence, Saskatchewan made available empagliflozin, an SGLT-2 inhibitor, as additional therapy for individuals with type 2 diabetes and clinical cardiovascular disease who have inadequate glycemic control despite existing pharmacotherapy.
- The Government of Saskatchewan introduced changes in 2015 to reduce public coverage of blood glucose test strips. Within

the new test strips policy, the maximum number of test strips reimbursed is similar to Diabetes Canada's minimum recommended test strip usage guidelines.

- In 2015, the government announced funding to support a pediatric endocrinology and diabetes program, adding a second pediatric endocrinologist and more support positions for the pediatric diabetes team.
- In January 2012, the Government of Saskatchewan announced expansion of the insulin pump program to include all individuals with type 1 diabetes under the age of 26.
- The Saskatchewan Children's and Seniors' Drug Plans are available to children aged 14 and younger and eligible seniors aged 65 and older, who pay \$25 per prescription for drugs on the Saskatchewan Formulary and those approved under Exception Drug Status.

---

## Challenges

---

Saskatchewan 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 Saskatchewan is **37.8 years** (15). **15.5%** of people in Saskatchewan 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 **11.5%** of people in Saskatchewan 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 **175,015** Indigenous Peoples in Saskatchewan, who face significantly higher rates of diabetes and adverse health consequences than the overall population (17).
- Saskatchewan has high rates of individual-level modifiable risk factors (18):
  - **47.3%** of adults and **45.7%** of youth are physically inactive;
  - **33.3%** of adults are living with overweight, **34.8%** of adults are living with obesity, and **33.4%** of youth are living with overweight or obesity;
  - **74%** of adults are not eating enough fruits and vegetables; and
  - **20.1%** 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 include income, education, food security, the built environment, social support, and access to health care (3).
  - Saskatchewan has a large rural population. For people with diabetes, accessing care is more challenging in rural areas across Canada than in urban areas (19).

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

---

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 citizens with diabetes who would benefit.
  - Remove the age barrier on the insulin pump program.
3. Expand services and supports to promote limb preservation for citizens 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. Saskatchewan [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>
-