Diabetes in Alberta

Backgrounder
Summary: This backgrounder provides key statistics about diabetes in Alberta, the impact of diabetes on the population of Alberta, and Diabetes Canada's recommendations to the Government of Alberta 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

Contact: advocacy@diabetes.ca with inquiries about this Diabetes Canada report.
Estimated Prevalence and Cost of Diabetes

<table>
<thead>
<tr>
<th>Prevalence (1)</th>
<th>2020</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes (type 1 and type 2 diagnosed)</td>
<td>370,000 / 8%</td>
<td>539,000 / 10%</td>
</tr>
<tr>
<td>Diabetes (type 1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diabetes (type 1 + type 2 diagnosed + type 2 undiagnosed) and prediabetes combined</td>
<td>1,171,000 / 25%</td>
<td>1,543,000 / 29%</td>
</tr>
<tr>
<td>Increase in diabetes (type 1 and type 2 diagnosed), 2020-2030</td>
<td></td>
<td>46%</td>
</tr>
<tr>
<td>Direct cost to the health care system</td>
<td>$455 million</td>
<td>$653 million</td>
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</tbody>
</table>

| Out-of-pocket cost per year (2)                                                |                             |                             |
| Type 1 diabetes on multiple daily insulin injections                           | $2,200–$2,400               |                             |
| Type 1 diabetes on insulin pump therapy                                         | $600–$900                   |                             |
| Type 2 diabetes on oral medication                                             | $500–$2,000                 |                             |

**Impact of Diabetes**

- Among Albertans (1):
  - 25% live with diabetes or prediabetes and
  - 8% 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):
  - 30% of strokes
  - Leading cause of blindness
  - 40% of heart attacks
  - 50% of kidney failure requiring dialysis
  - 70% of all non-traumatic leg and foot amputations

- 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).
  o 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).
  o The age-standardized prevalence rates for diabetes are 18.5% among people of African descent, 15.5% among people of South Asian descent, and 6.3% among people of East/Southeast Asian descent.
  o Diabetes rates are 3.5 times higher in First Nations People off reserve and 1.4 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 3.9 times that of adults in the highest income group (13).

• Adults who have not completed high school have a diabetes prevalence 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 December 2019, the Government of Alberta released its Biosimilars Initiative which introduces changes for individuals using insulin glargine. Albertans are required to switch from the biologic Lantus to the biosimilar Basaglar by June 2020, unless a special authority request to continue using Lantus is approved.

• In February 2019, the Government of Alberta released Guidelines for Supporting Students with Type 1 Diabetes.

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• On April 1, 2015 the Government of Alberta discontinued the Alberta Monitoring for Health program.
• In June 2013, the Government of Alberta launched a publicly funded insulin pump and supplies program for eligible Albertans with type 1 diabetes, regardless of age.
• Alberta Health-sponsored drug plans (e.g. Blue Cross Coverage for Seniors and Non-Group Coverage) include coverage in June 2012 for the full cost of diabetes supplies (e.g. blood glucose test strips, lancets, syringes, needles, cartridges, and urine test strips) to a maximum of $600/year for individuals managing their diabetes with insulin. These drug plans do not cover diabetes supplies for individuals with type 2 diabetes who do not use insulin.
• In June 2012, Alberta Health Services launched the Diabetes, Obesity and Nutrition Strategic Clinical Network (DON SCN), comprised of a diverse community of patients, health care professionals, associations, government, and researchers who are passionate and knowledgeable about these three interrelated health priorities.
• The Alberta Diabetes Strategy (ADS 2003-2013) has expired and some important initiatives introduced within the strategy have been discontinued:
  o The Alberta Diabetes Surveillance System (ADSS) was established to support surveillance and reporting on the incidence, prevalence, and mortality of diabetes and its complications and comorbidities. The ADSS ended in March 2012.
  o The Alberta Monitoring for Health (AMFH) program provided low income Albertans living with type 1 or type 2 diabetes without public or private insurance coverage with some funding for diabetes supplies. This program ended in June 2015.
  o The Mobile Diabetes Screening Initiatives (MDSI) provided diabetes screening for some remote communities in Alberta, as well as Indigenous people living off-reserve. The MDSI program ended in 2014.
• Alberta Seniors Benefit, Adult Health Benefit, and Child Health Benefit provide support for diabetes medication, supplies, and devices for individuals with type 1 and type 2 diabetes. Individuals who benefitted from the AMFH Program have been transitioned to these programs.

**Challenges**

Alberta 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).
  o The median age in Alberta is **36.7 years** (15). **12.3%** of Albertans 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 24.8% of Albertans 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 258,640 Indigenous Peoples in Alberta, who face significantly higher rates of diabetes and adverse health consequences than the overall population (17).

Alberta has high rates of individual-level modifiable risk factors (18):

- 42.5% of adults and 43.5% of youth are physically inactive;
- 35% of adults are living with overweight, 28.8% of adults are living with obesity, and 24% of youth are living with overweight or obesity;
- 72.6% of adults are not eating enough fruits and vegetables; and
- 16.2% 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 Albertans include income, education, food security, the built environment, social support, and access to health care (3).

Alberta had the largest increase in diabetes prevalence during the last 10 years among the provinces and is projected to also experience the largest increase over the next 10 years (1).

Albertans with diabetes living in non-metro health zones have lower rates of specialist care visits and higher use of hospital and emergency departments for acute and chronic complications of diabetes.

### Diabetes Canada’s Recommendations to the Government of Alberta

1. Support Diabetes 360°, a nation-wide strategy aimed at achieving measurable improvements in the prevention and management of diabetes in Canada.

2. Enhance access to diabetes medications and blood glucose monitoring devices and supplies (e.g. test strips).

3. Publicly fund specialized devices and the required visits to a foot care specialist to heal diabetic foot ulcers and prevent amputations.

4. Release a mandatory standard of care for children with type 1 diabetes in school that is in-line with Diabetes Canada’s Guidelines for the Care of Students with Diabetes at School.

### References

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.


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.


