

# Diabetes and Diabetes-Related Out-of-Pocket Costs:

**2022 UPDATE**

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## **Diabetes and Diabetes-Related Out-of-Pocket Costs: 2022 UPDATE**

### **Summary**

This report provides updated data on out-of-pocket costs for people living with diabetes in Canada.

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### **About Diabetes Canada**

Diabetes Canada is a national health charity representing more than 11.9 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:**

[diabetes.ca](https://diabetes.ca)

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# List of Abbreviations

DC	Diabetes Canada
CPG	Diabetes Canada's Clinical Practice Guidelines
OPC	Out-of-pocket Cost

## Representative Individual for Each Diabetes Canada Scenario

Type 1	Representative individual living with type 1 diabetes
Type 2	Representative individual living with type 2 diabetes

## Provinces, Territories, and Geographic Averages

NL	Newfoundland and Labrador
PE	Prince Edward Island
NS	Nova Scotia
NB	New Brunswick
QC	Quebec
ON	Ontario
MB	Manitoba
SK	Saskatchewan
AB	Alberta
BC	British Columbia
NU	Nunavut
NT	Northwest Territory
YT	Yukon Territory
NIHB	Non-insured Health Benefits
PV Avg	Arithmetic Average of 10 Provinces
P/T Avg	Arithmetic Average of All Provinces and Territories
P/T Med	Median of Provinces and Territories

## Age Groups for Representative Individual

Youth	Defined as individual eligible for child/youth health benefits
Adult	Defined as individual Under 65 and no longer eligible for child/youth health benefits
Senior	Individual age 65 plus

## Family Income for Representative Individual

\$30k	Family income of \$30,000
\$75k	Family income of \$75,000
\$150k	Family income of \$150,000

## Type 1 Diabetes Medication and Device Scenarios

MDI+CBG	Multiple daily injections and capillary blood glucose monitoring
MDI+CGM	Multiple daily injections and real-time continuous glucose monitoring
Pump+CBG	Insulin pump and capillary blood glucose monitoring
Pump+CGM	Insulin pump and real-time continuous glucose monitoring

## Type 2 Diabetes Medication and Device Scenarios

CBG	Oral antihyperglycemic agents (AHA) and capillary blood glucose monitoring
MDI+CBG	AHA, insulin, and capillary blood glucose monitoring
MDI+CGM	AHA, insulin, and real-time continuous glucose monitoring
AHT+CBG	AHA, antihypertensive medications, and capillary blood glucose monitoring
AHT+MDI+CBG	AHA, insulin, antihypertensive medications, and capillary blood glucose monitoring
AHT+MDI+CGM	AHA, insulin, antihypertensive medications, and real-time continuous glucose monitoring

# Executive Summary

Since 2001 Diabetes Canada (DC) has tracked the out-of-pocket costs – costs assessed after reimbursement by public insurance programs – of managing type 1 diabetes and added type 2 diabetes in 2003 based on specific composite case studies (“Janet” for type 1 and “Peter” for type 2). This analysis allowed DC to illustrate the impact that the out-of-pocket costs of diabetes have on people with diabetes in each province and territory for individuals with similar circumstances based on available public insurance and funding of diabetes medications, devices, and supplies.

Diabetes is a complex condition with treatment options that vary widely by individual based on their needs, means, and preferences. The treatment protocols adopted by this report are consistent with Diabetes Canada’s [Clinical Practice Guidelines](#). Simplifying assumptions establish a set of representative groups of people with diabetes. These groups are based on the following criteria: type of diabetes, jurisdiction, age, income, and type of medication and medical devices used.

## Out-of-pocket costs for people living with type 1 diabetes in 2022

- Out-of-pocket costs for people living with type 1 diabetes vary from a low of \$78 to a high of \$18,306 in Canada’s provinces.
- Lowest costs occur in Alberta for young people with family income of \$30,000 for all medication and medical device scenarios.

- Highest costs occur in New Brunswick for young people with family income of \$150,000 and using insulin pumps and real-time continuous glucose monitor (CGM).
- The share of out-of-pocket costs covered by governments for people living with type 1 diabetes varies from a low of 0% to a high of 100%.
- Out-of-pocket costs as a share of family income are highest in Prince Edward Island where they can account for up to 20% of income for adults and seniors with family income of \$30,000 or more using an insulin pump and capillary blood glucose monitoring (CBG) and Quebec for adults with income of \$30,000 or more also using an insulin pump and CBG.
- Average out-of-pocket costs, as a share of family income, fall with the level of household income and are highest for adults with family income of \$30,000 using insulin pumps and CGM, where they account for 20% of family income.

**Figure 1: Summary of Out-of-Pocket Costs in Canada in 2022**

	Type 1 Diabetes		Type 2 Diabetes	
	Lowest	Highest	Lowest	Highest
<b>Out-of-Pocket Cost (\$)</b>	\$78	\$18,306	\$76	\$10,014
<b>Province</b>	AB	NB	AB	NB
<b>Age Group</b>	Youth	Youth	Youth	Adult
<b>Family Income Level</b>	\$30k	\$150k	\$30k	\$150k
<b>Meds/Devices</b>	All	Pump+CGM	MDI+CBG	AHT+MDI+CGM
<b>Cost Covered by Gov’t (%)</b>	96%-99%	0%	97%	0%
<b>OPC Share of Family Income</b>	0%	12%	0%	7%

### Out-of-pocket costs for people living with type 2 diabetes in 2022

- Out-of-pocket costs for people living with type 2 diabetes vary from a low of \$76 to a high of \$10,014 in Canada's provinces.
- The lowest costs occur in Alberta for young people with family income of \$30,000 using oral antihyperglycemic agents (AHA), insulin, and CBG.
- The highest costs occur in New Brunswick for adults with family income of \$150,000 and using AHA, multiple antihypertensive medications (AHT), insulin, and CGM.
- Out-of-pocket costs as a share of family income are highest in Ontario where they can account for 17% of income for adults with family income of \$30,000 using AHA, insulin, multiple AHT medications, and CGM.
- Average out-of-pocket costs, as a share of family income, fall with the level of household income and are highest for adults with family income of \$30,000 using AHA, insulin, multiple AHT medications, and CGM where they account for 16% of family income.

As of November 2022, there are numerous instances in which public funding substantially reduces or even eliminates the out-of-pocket costs for diabetes medications, devices, and supplies for the representative individual in each of the scenarios. There remain, however, many situations represented by these scenarios in which government plans only cover a small share of total costs. This issue is particularly acute for people affected by type 2 diabetes where government plans cover less than 20% of total costs for nearly half of the provincial and territorial scenarios.

The Kirby/Keon Senate Study and the Romanow Royal Commission on the Future of Health Care defined the threshold for catastrophic drug costs as 3% of gross income. This threshold was exceeded in over half the type 1 and just under half of the type 2 representative provincial and territorial scenarios included in this report, with out-of-pocket costs exceeding \$3,100 a year for type 1 diabetes and \$1,400 a year for type 2 diabetes for prescribed medications, devices, and supplies in at least half of the representative person scenarios.

Although each scenario is equal-weighted in this analysis (i.e., each of our scenario's representative individuals is given equal weight) some scenarios are more prevalent than others. What is of concern is that, while government support is, as a share of total cost, highest for low-income groups, the proportion of family income required to cover out-of-pocket costs is also highest for this income group. Since people affected by diabetes tend to have lower income than the general population, it is evident that a very substantial share of people living with diabetes are having to make very difficult choices between their health – both current and long-term – and other financial commitments.

In 2022, the out-of-pocket costs scenarios included in this report indicate that over half of all persons living with type 1 diabetes either experience out-of-pocket costs in excess of 3% of their family income or, given other financial commitments, fail to adhere to the treatment recommended by their doctor. It is also highly likely that a majority of persons living with type 2 diabetes also either experience out-of-pocket costs in excess of 3% of their family income or, given other financial commitments, fail to adhere to their doctor's recommendations.

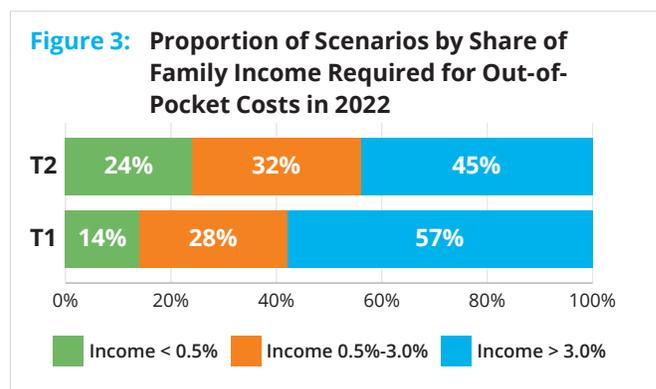
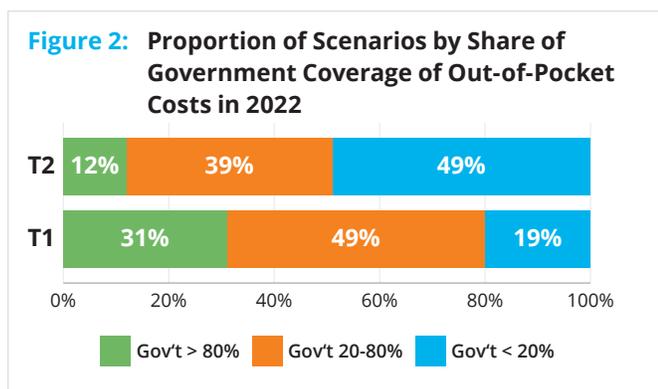


Figure 2 & 3 chart data may not sum to 100% due to data rounding.

# Introduction

Since 2001 Diabetes Canada (DC) tracked the out-of-pocket costs – costs assessed after reimbursement by public insurance programs – of managing type 1 diabetes and added type 2 diabetes in 2003 based on specific composite case studies (“Janet” for type 1 and “Peter” for type 2).<sup>1</sup> This analysis allowed DC to illustrate the impact that the out-of-pocket costs of diabetes have on people with diabetes in each province and territory for individuals with similar circumstances based on available public insurance and funding of diabetes medications, devices, and supplies.

These costs, last updated in 2015, are the focus of this DC research initiative and conducted by Quantitative Economic Decisions, Inc (QEDinc). The current research recognizes the growing range, advancement, and complexity of treatment options for people living with type 1 and type 2 diabetes to reflect individual lifestyles, budgets, and health issues.

The costs of drugs, supplies, and visits to specialty health professionals can be covered by government programs and/or private insurance, including insurance through employers. If the costs are not covered, however, the financial burden may limit access to these needed supports for diabetes management. The [Canada Health Act](#) states that all Canadians should receive reasonable access to publicly funded, medically necessary hospital and physician services. But medications and supplies used outside of hospitals are not publicly insured,

and their cost can take a financial toll on people living with diabetes. In Canada, the level of public coverage for diabetes medications, devices, and supplies varies significantly across provinces and territories, presenting real barriers to effective diabetes management which can compromise health outcomes.

While advocacy has significantly enhanced public funding for the cost of medications, devices, and supplies for people living with both type 1 and type 2 diabetes, the out-of-pocket costs vary widely depending on place of residence, age, income, and other personal circumstances. In this report, out-of-pocket costs are assessed for people living with type 1 and type 2 diabetes by age category (young, adult, and senior), annual family income (\$30,000, \$75,000, and \$150,000), medication, and medical devices used.<sup>2</sup>

1 A summary of results from prior reports is included as an appendix to this report.

2 These scenarios are all conducted under the maintained assumption that the person with diabetes adheres to the recommended CPG treatment for the scenario.

# Methodology and Assumptions

The needs and circumstances of each individual living with diabetes are unique. Any effort to establish a level of out-of-pocket costs for people with diabetes will fail to reflect the full diversity of these personal situations. This research has, therefore, made a set of simplifying assumptions to establish representative groups of people with diabetes.

These groups are based on the following criteria: type of diabetes, jurisdiction, age, income, and type of medication and medical devices used. Each scenario is conducted under the maintained assumption that the person with diabetes adheres to the latest recommended Diabetes Canada Clinical Practice Guidelines (CPG) treatment for the scenario. In reality, this assumption can fail when the cost of treatment recommended by their doctor exceeds their financial resources.

## Definitions and Assumptions for the Out-of-Pocket Cost Scenarios

The types of diabetes covered in this report are limited to type 1 and type 2 diabetes. Other types of diabetes are excluded. The analysis also assumes that the individual living with diabetes has not been recently diagnosed and their condition is stable and well managed. Recently diagnosed people face higher costs as they need to acquire a variety of medical devices and supplies and obtain professional counselling.

The jurisdictions covered in this report include the ten provinces, three territories, and federal government non-insured health benefits for First Nations (NIHB). In keeping with past reports, the analysis also includes a simple average across the 10 provinces and a simple arithmetic average across all jurisdictions. Other types of summary measure across jurisdictions are possible. These alternative measures include the median across jurisdictions and population weighted averages or diabetes prevalence weighted averages.

## Key Definitions

### • Out-of-Pocket Cost

The total cost of the scenario's (based on jurisdiction, age, and income) drugs, devices, and supplies net of premiums, deductibles, copayments, and dispensing fees on covered drugs and supplies plus the costs of non-covered drugs and diabetes supplies, less any government subsidy to offset costs.

### • Premium/Deductible/Copayment/Dispensing Fee on Eligible Rx/Supply

The total cost of the representative individual in each scenario's deductible, copayments, and dispensing fees for the prescription drugs and supplies that are eligible for public plan reimbursement.

### • Other Drug/Supply Cost & Dispensing Fees

The total cost of the representative individual in each scenario's prescription drugs and supplies, including applicable dispensing fees, not covered by a public drug plan or support program.

### • Deductible

The amount you pay for covered health care services before insurance starts to pay.

### • Copayment [co-pay]

Percentage of the cost an individual has to pay from their own pocket for eligible pharmacare expenses.

### • Dispensing Fees

Professional pharmacy fees charged for the provision of prescribed drugs and supplies; dispensing fees apply to all publicly-covered drugs/supplies and some non-covered drugs/supplies based on provincial pharmacare/health coverage plan rules.

### • Government Special Program Subsidies

Limited government financial assistance for certain diabetes drug and/or supply costs; may be administered by government or a third-party organization (i.e., Diabetes Canada).

Out-of-pocket costs are generated for people in three age groups: youth, adult, and senior. Each province has unique health plans for children and young adults. Their plans can vary from Ontario's OHIP+ that covers all prescriptions for people up to the age of 24 to having an earlier cut-off age but with extensions for people enrolled in an educational program. As a result, the ages covered by the youth group vary by jurisdiction. Seniors are uniformly considered to be people aged 65 and over. Adults are defined as those that no longer qualify for youth benefits and are under the age of 65.

Out-of-pocket costs are also affected by income as many government programs are means tested. This research includes three levels of family income that are used to assess eligibility for public assistance. These levels are \$30,000, \$75,000, and \$150,000 a year. There are, therefore, nine potential income-by-age group categories for each jurisdiction and medication scenario.

Healthcare funding including specific diabetes grants have been included when qualified based on income. In many instances adults are either ineligible due to income or to have not applied for various means tested government assistance programs that may help mitigate the cost of diabetes-related medications, medical devices, supplies, and professional counselling.

### Assumptions for Medications, Devices, Supplies based on Diabetes Canada's Clinical Practice Guidelines

Diabetes is a complex condition with treatment options that vary widely by individual based on their needs, means, and preferences. The treatment protocols adopted by this report are consistent with the latest CPG.

This report includes four distinct treatment protocols for people with type 1 diabetes, yielding a set of 36 type 1 scenarios for each jurisdiction when age and income are included. The treatment options include the use of either multiple daily insulin injections (MDI) or an insulin

pump with either capillary blood glucose monitoring (CBG) or real-time continuous glucose monitoring (CGM). The following treatment protocols are assumed for people with type 1 diabetes in this report:

- **MDI+CBG:** Multiple daily insulin injections plus capillary blood glucose monitoring;
- **MDI+CGM:** Multiple daily insulin injections plus real-time continuous glucose monitoring;
- **Pump+CBG:** Insulin pump plus capillary blood glucose monitoring; and
- **Pump+CGM:** Insulin pump plus real-time continuous glucose monitoring.

This report includes six distinct treatment protocols for people with type 2 diabetes, yielding a set of 54 type 2 scenarios for each jurisdiction when age and income are included. The treatment options include the use of an oral antihyperglycemic agents (AHA) with or without insulin and with or without multiple antihypertensive medications (AHT) plus either capillary blood glucose monitoring (CBG) or real-time continuous glucose monitoring (CGM). The following treatment protocols are assumed for people with type 2 diabetes in this report:<sup>3</sup>

- **CBG:** Antihyperglycemic agents plus capillary blood glucose monitoring;
- **MDI+CBG:** Antihyperglycemic agents plus insulin plus capillary blood glucose monitoring;
- **MDI+CGM:** Antihyperglycemic agents plus insulin plus real-time continuous glucose monitoring (CGM);
- **AHT+CBG:** Antihyperglycemic agents plus multiple antihypertensive medications plus capillary blood glucose monitoring;
- **AHT+MDI+CBG:** Antihyperglycemic agents plus insulin plus multiple antihypertensive medications plus capillary blood glucose monitoring; and
- **AHT+MDI+CGM:** Antihyperglycemic agents plus insulin plus multiple antihypertensive medications plus real-time continuous glucose monitoring (CGM).

3 Since all type 2 scenarios include the use of AHAs they are not included in the short-form identifier used in the report tables to identify each group of medication/device scenarios.

Figure 4 lists the medications, devices, and supplies assumed for the representative people with type 1 diabetes scenarios used daily and annually based on the latest Diabetes Canada Clinical Practice Guidelines.

Figure 5 (see page 11) lists the medications, devices, and supplies assumed for the representative people with type 2 diabetes scenarios used daily and annually based on the latest Diabetes Canada Clinical Practice Guidelines. Note

that the use of AHT medications varies by age group.

Use of each medication, device, and supply is multiplied by its cost in each province or territory. This cost plus dispensing fees yields the total cost for each of the representative people scenarios. These total costs are provided in the separate excel database file and are used to generate out-of-pocket costs and the share of costs covered by public insurance plans.

**Figure 4: Type 1 Diabetes – Medications, Devices & Supplies by Scenario**

Medication/Device Scenario	MDI+CBG		MDI+CGM		Pump+CBG		Pump+CGM		
	Usage	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual
<b>Medications</b>									
Admelog 100U/mL Inj Sol-5x3mL Pk or cartridge	30u/day	10950u	30u/day	10950u	30u/day	10950u	30u/day	10950u	
Admelog 100U/mL Inj Susp-10mL	20u/day	7300u	20u/day	7300u	20u/day	7300u	20u/day	7300u	
<b>Devices &amp; Supplies</b>									
Dexcom G6 CGM transmitter (3 month)				4					4
Dexcom G6 CGM sensors (new 3 pack every 10 days)				12					12
Medtronic MiniMed 630G MDI Pump						1*			1*
Paradigm Reservoirs 5XX						60		60	
Mio Advance Infusion Sets						120		120	
Skin Preparations						Yes		Yes	
BD Pen Needles	4/day	1460	4/day	1460					
Lancets	5/day	1825			7/day	2555			
One Touch Ultra Meter		1				1			
One Touch Ultra Test Strips	5/day	1825			7/day	2555			
One Touch Solution (Package of 2)		4				4			
Alcohol Swabs (100)	4/day	1460	4/day	1460	4/day	1460			
Sharps Container 1L		4		4		4			4
Glucose Tablets (50)		4		4		4			4
Blood & Urine Ketone Strips (100)		2		2		2			2

\*every 5 years

**Figure 5: Type 2 Diabetes – Medications, Devices & Supplies by Scenario**

Medication/Device Scenario Usage	CBG		MDI+CBG		MDI+CGM		AHT+CBG		AHT+MDI+CBG		AHT+MDI+CGM	
	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual
<b>Medications</b>												
Apo-Metformin 500mg Tab	4	1460	4	1460	4	1460	4	1460	4	1460	4	1460
100U/mL Injectable Solution- 5x3mL SoloSTAR Prefilled Pen Package			10mg	3650	10mg	3650			10mg	3650	10mg	3650
Admelog 100U/mL Inj Sol- 10mL Vial Pk (backup)			0	1	1	1			0	1	1	1
Apo-Ramipril 10mg (Adult & Senior)							1	365	1	365	1	365
Apo-Indapamide 2.5mg (Adult & Senior)							1	365	1	365	1	365
Amlodipine Besylate 5mg (All Ages)							1	365	1	365	1	365
Atorvastatin 10mg (Adult & Senior)							1	365	1	365	1	365
Empagliflozin 10mg [Senior Only]							1	365	1	365	1	365
<b>Devices &amp; Supplies</b>												
Dexcom G6 CGM transmitter (3 month)						4						4
Dexcom G6 CGM sensors (3 pack every 10 days)						12						12
BD Pen Needles (100)			2	730	2	730			2	730	2	730
One Touch Ultra Meter 2	1		1		0		1		1		0	
Lancets (100)	1	365	4	1460			1	365	4	1460		
One Touch Ultra Test Strips	1	365	4	1460			1	365	4	1460		
One Touch Solution (Package of 2)		2		2		2		2		2		2
BD Ultra Fine MDI Syringe (100)		2		2		2		2		2		2
Alcohol swabs: package 100		4		4		4		4		4		4
Glucose Tablets (50)		4		4		4		4		4		4
Sharps Container 1L		4		4		4		4		4		4
Blood and Urine Ketone Strips (100)		1		1		1		1		1		1

## Role and Assumptions for Public Insurance

Both type 1 and type 2 diabetes are chronic conditions, but they can be well managed if recommended medical treatment is followed. The cost of medications, devices, and supplies required to properly manage diabetes is high and, for people of lower income, can force individuals to make difficult choices regarding compliance with their treatment protocol. People that are unable to comply with their treatment protocols run a higher risk of significant medical complications, both physical and mental, and even death.

Diabetes Canada advocates for public funding of diabetes medications, devices, and supplies for people with type 1 and type 2 diabetes across Canada. This analysis excludes medical support programs for people with very low income (family income below \$30,000) and measures available through personal income tax such as the disability tax credit and non-refundable tax credits for medical expenses. The scenarios assume that people meet the

eligibility criteria and receive prior special authorization or exception drug status to qualify for coverage under their province's public insurance plan. A notable exception to this assumption is Ontario's CGM funding for type 1 diabetes under the Assistive Devices Program. The current funding criteria are very narrowly defined and, while they apply for people of all ages, they are approved for very few people over the age of 6. This study assumes that funding is granted for youth (all income levels) and seniors with family income of \$30,000 who qualify for the Ontario Drug Benefit (ODB) – senior copay but not for adults and seniors with higher income levels.

Figure 6 provides an overview of the availability of public funding across Canada for medications, medical devices, and device supplies by age group for people with type 1 diabetes as of November 1, 2022. Funding for medications, devices, and supplies is classified as either **F** for full funding is available, **P** for partial funding is provided, and **N** for no funding is available. The table also includes information on

**Figure 6: Type 1 Diabetes – Availability of Public Funding by Age Group**

	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL	NU	NT	YT	NIHB
<b>Youth</b>														
Medications	P	P	F	P	F	F	P	P	P	P	F	F	P	F
MD - CGM	P	F	F	P	F	F	N	N	P	N	N	N	F	F
MD - Insulin Pump	P	F	F	F	F	F	P	P	P	F	F	F	F	F
Device Supplies	P	F	F	P	P	P	P	P	P	F	F	F	F	F
Health Premiums	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
<b>Adults</b>														
Medications	P	P	P	P	P	P	P	P	P	P	F	F	P	F
MD - CGM	P	N	N	N	N	F	N	N	P	N	N	N	F	F
MD - Insulin Pump	P	F	F	N	F	N	N	N	P	N	F	F	F	F
Device Supplies	P	F	F	P	P	N	N	N	P	N	F	F	F	F
Health Premiums	N	N	N	N	N	N*	Y	N	N	N	N	N	N	N
<b>Seniors</b>														
Medications	P	P	P	P	P	P	P	P	P	P	F	F	F	F
MD - CGM	P	N	N	N	N	F	N	N	P	N	N	N	F	F
MD - Insulin Pump	P	F	F	N	F	N	N	N	P	N	F	F	F	F
Device Supplies	P	F	F	P	P	N	N	N	P	N	F	F	F	F
Health Premiums	N	Y	N	N	N	N*	Y	Y	N	N	N	N	N	N

\* Revenu Québec collects the annual premium through its income tax return

**Figure 7: Type 2 Diabetes: Availability of Public Funding by Age Group**

	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL	NU	NT	YT	NIHB
<b>Youth</b>														
Medications	P	P	F	P	F	F	P	P	P	P	F	F	P	F
MD - CGM	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Health Premiums	N	Y	N	N	N	N*	N	N	N	N	N	N	N	N
<b>Adults</b>														
Medications	P	P	P	P	P	P	P	P	P	P	F	F	P	F
MD - CGM	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Health Premiums	N	Y	N	N	N	Y	Y	N	N	N	N	N	N	N
<b>Seniors</b>														
Medications	P	P	P	P	P	P	P	P	P	P	F	F	F	F
MD - CGM	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Health Premiums	N	Y	N	N	N	Y	Y	Y	N	N	N	N	N	N

\* Revenu Québec collects the annual premium through its income tax return

whether the province or territory levies separate health premiums to fund their programs. If an **N** is shown, then the program is funded from general revenues.

Figure 7 provides an overview of the availability of public funding across Canada for medications, medical devices, and supplies by age group for people with type 2 diabetes as of November 1, 2022.

The availability of public funding for medications, devices, and supplies is used to offset the total cost of spending on these items by the representative individual in each of the scenarios. Any applicable premiums, deductibles and copayments are then added back on to this net figure to generate the out-of-pocket cost for the representative individual in each scenario.

## Role and Assumptions for Private Insurance

Private insurance plans cover most medical and many medical-related costs. People affected by diabetes often have lower than average income as the condition has an impact on their physical and mental health. As a result, many people with or affected by diabetes do not have access to private insurance either because it is not offered by their employer, or they cannot afford to purchase an individual plan.

Even if they are fortunate and have private insurance, the cost of premiums for a private plan – whether they pay for it directly or indirectly via their employer – must be factored into their out-of-pocket costs. Consequently, this report assumes that private insurance is not available and does not reduce the cost of managing diabetes.

# Out of Pocket Costs in 2022

Full tables of data listing out-of-pocket costs, total costs, the share of cost covered by government plans, and the out-of-pocket cost share of family income by province and scenario for type 1 and type 2 diabetes are available in an excel file available with this report.

The out-of-pocket costs in this report are based on information available in September 2022. They do, however, reflect announced changes in government programs that will take effect in November 2022.

## Minimum and Maximum Out-of-Pocket Costs for Type 1 Diabetes Scenarios

medication and medical device scenario(s) associated with the out-of-pocket cost scenario in that province.

Figure 8 presents the lowest and highest out-of-pocket costs for type 1 diabetes for each province. It also provides information on the age group, level of family income, and

Lowest out-of-pocket costs range from \$0 for Nunavut, the Northwest Territories, and the NIHB to \$1,381 in Manitoba. Lowest costs are least likely to be experienced by adults

**Figure 8: Type 1 Diabetes – Highest and Lowest Out-of-Pocket Costs for all Scenarios**

### Lowest Costs for all Scenarios

	NL	PE	NS	NB	QC	ON	MB	SK	AB	BC	NU	NT	YT	NIHB
Out-of-Pocket Cost	\$520	\$897	\$223	\$200	\$130	\$694	\$1,381	\$623	\$78	\$945	\$0	\$0	\$100	\$0
Age Group	Youth	Youth	Youth	Senior	Youth	Youth	Youth	Youth	Youth	All	All	All	Senior	All
Family Income Level	\$30k	\$30k	\$30k	\$30k	\$30k+	\$30k+	\$30k	\$30k+	\$30k	\$30k	\$30k+	\$30k+	\$30k+	\$30k+
Meds/Devices	Pump+ CBG	Pump+ CGM	Pump+ CBG	MDI+ CBG	Pump+ CGM	MDI+ CGM	MDI+ CGM, Pump+ CGM	MDI+ CGM	All	MDI+ CGM	MDI+ CBG, Pump+ CBG	MDI+ CBG, Pump+ CBG	MDI+ CGM	All
% Covered by Gov't	96%	94%	98%	94%	99%	84%	75%- 90%	88%	96%- 99%	83%	100%	100%	97%	100%
OPC Share of Family Income	2%	3%	1%	1%	0%	2%	5%	2%	0%	3%	0%	0%	0%	0%

### Highest Costs for all Scenarios

	NL	PE	NS	NB	QC	ON	MB	SK	AB	BC	NU	NT	YT	NIHB
Out-of-Pocket Cost	\$9,169	\$6,085	\$14,007	\$18,306	\$5,989	\$5,245	\$9,475	\$7,745	\$6,557	\$6,487	\$3,704	\$3,704	\$642	\$0
Age Group	Adult/ Senior	Adult/ Senior	Youth	Youth	Adult	Adult	Senior	Adult	Adult	All	All	All	Youth/ Adult	All
Family Income Level	\$75k+	\$30k+	\$150k	\$150k	\$30k+	\$30k+	\$150k	\$150k	\$75k+	\$150k	\$30k+	\$30k+	\$75k+	\$30k+
Meds/Devices	Pump+ CGM	Pump+ CBG	Pump+ CGM	Pump+ CGM	Pump+ CBG	Pump+ CGM	Pump+ CGM	Pump+ CGM	MDI+ CGM	Pump+ CBG	MDI+ CGM, Pump+ CGM	MDI+ CGM, Pump+ CGM	Pump+ CBG	All
% Covered by Gov't	35%	51%	0%	0%	52%	62%	35%	45%	0%	49%	29%- 75%	29%- 74%	95%	100%
OPC Share of Family Income	12%	20%	9%	12%	20%	17%	6%	5%	9%	4%	12%	12%	1%	0%

and those with higher income (family income of more than \$30,000). Lowest costs are also most likely to be experienced by people using MDI and CGM.

Highest out-of-pocket costs range from \$0 for the NIHB to \$18,306 in New Brunswick. Highest costs are most likely to be experienced by adults and those with higher family income (family income of \$150,000). Highest costs are also most likely to be experienced by people using insulin pumps and CGM. The high out-of-pocket cost in New Brunswick assumes that the representative individual living with type 1 diabetes opts into the province's prescription drug program (NBPDP).

The share of out-of-pocket costs covered by government insurance plans ranges from 0 to 100% and provides some insight into the priorities and objectives of each jurisdiction's public health insurance plans. It also reveals the extent of differences in the availability and level of government support for people living with type 1 diabetes across Canada.

Out-of-pocket costs as a share of family income are highest in Prince Edward Island where they can account for up to 20% of income for adults and seniors with family income of \$30,000 or more using an insulin pump and CBG and

Quebec for adults with income of \$30,000 or more also using an insulin pump and CBG.

### Provincial Average Out-of-Pocket Costs for Type 1 Diabetes

Figure 9 presents the average of provincial out-of-pocket costs for type 1 diabetes for each of the scenarios. The out-of-pocket costs for the three territories<sup>4</sup> are excluded from the average for two reasons: (i) they are lower than the costs for most of the provinces, and (ii) the population covered for these plans is less than that for the provinces. Including them in the average reduces the average for each scenario (a statistical outlier challenge) and their results are shown separately in other tables.

Out-of-pocket costs for adults are, in general, higher than those for youth and seniors. Average out-of-pocket costs rise with the level of family income for all age groups. Out-of-pocket costs are lowest for people using multiple daily injections and CBG and are highest for people using insulin pumps and CGM. Provincial average out-of-pocket costs range from a low of \$871 to a high of \$7,711.

Average out-of-pocket costs, as a share of family income, fall with the level of household income and are highest for

**Figure 9: Type 1 Diabetes – Average of Provincial Out-of-Pocket Costs in 2022**

	MDI+CBG	MDI+CGM	Pump+CBG	Pump+CGM
<b>Youth</b>				
Family Income \$30,000	\$881	\$1,844	\$871	\$1,705
Family Income \$75,000	\$2,458	\$3,382	\$4,082	\$4,331
Family Income \$150,000	\$2,637	\$3,866	\$5,403	\$6,115
<b>Adult</b>				
Family Income \$30,000	\$1,355	\$3,906	\$3,611	\$5,969
Family Income \$75,000	\$2,854	\$4,880	\$5,253	\$7,197
Family Income \$150,000	\$3,080	\$5,225	\$6,155	\$7,711
<b>Senior</b>				
Family Income \$30,000	\$936	\$3,097	\$3,200	\$5,243
Family Income \$75,000	\$2,280	\$4,516	\$4,667	\$6,913
Family Income \$150,000	\$2,372	\$4,727	\$5,458	\$7,417

4 The out-of-pocket costs for the Non-Insured Health Benefits (NIHB) for First Nations and Inuit are not included in any of the average measures because they represent a distinct population that resides throughout the country.

## Alternative Measures for Provincial Average Out-of-Pocket Costs for Type 1 Diabetes

As discussed earlier, other types of summary measures across jurisdictions are possible. These alternative measures include the median across jurisdictions, and population weighted averages or diabetes prevalence weighted averages.

Median out-of-pocket costs are included in the excel database and are equal to the out-of-pocket costs in the sixth highest cost region across the provinces and an arithmetic average of the three territories for each of the scenarios. The median out-of-pocket-cost is, for most scenarios, below the arithmetic average of the ten provinces and above the average of the provinces and

territories. As such, it may provide a useful alternative to the other arithmetic average statistics.

Population weighted averages or diabetes prevalence weighted averages are calculated using each jurisdiction's share of the national population or prevalence as weights for the out-of-pocket or total cost for each jurisdiction. These measures have not been generated and are not included in the database. While these measures are intuitively appealing, they will naturally, due to its size, be dominated by Ontario's out-of-pocket and total costs and are less useful than the other measures for most analyses.

adults with family income of \$30,000 using insulin pumps and CGM where they account for 20% of family income.

### Provincial Average Share of Out-of-Pocket Costs Covered by Government for Type 1 Diabetes

Figure 10 presents the average of out-of-pocket costs for type 1 diabetes covered by provincial governments for each of the scenarios.

The provincial average share of out-of-pocket costs covered by governments falls with income and is highest for young people living with type 1 diabetes. The share of costs covered by governments is lowest for people using MDI and CGM. The provincial average share of costs covered ranges from a low of 13% to a high of 93%.

**Figure 10: Type 1 Diabetes - Average Share of Provincial Out-of-Pocket Costs Covered by Government in 2022**

	MDI+CBG	MDI+CGM	Pump+CBG	Pump+CGM
<b>Youth</b>				
Family Income \$30,000	73%	65%	93%	88%
Family Income \$75,000	36%	44%	68%	69%
Family Income \$150,000	35%	37%	61%	60%
<b>Adult</b>				
Family Income \$30,000	58%	28%	71%	58%
Family Income \$75,000	24%	17%	59%	49%
Family Income \$150,000	21%	13%	52%	46%
<b>Senior</b>				
Family Income \$30,000	71%	43%	75%	63%
Family Income \$75,000	39%	22%	63%	51%
Family Income \$150,000	36%	18%	57%	48%

## Provincial Average Out-of-Pocket Costs as a Share of Family Income for Type 1 Diabetes

Figure 11 presents the average of out-of-pocket costs for type 1 diabetes as a share of family income for each of the scenarios.

The provincial average share of family income needed to cover out-of-pocket costs ranges from a low of 2% to a high of 20%. It tends to fall as income rises and is highest for low-income adults and seniors living with type 1 diabetes and is highest for people using CGM.

**Figure 11: Type 1 Diabetes – Average Provincial Out-of-Pocket Costs as a Share of Family Income in 2022**

	MDI+CBG	MDI+CGM	Pump+CBG	Pump+CGM
<b>Youth</b>				
Family Income \$30,000	3%	6%	3%	6%
Family Income \$75,000	3%	5%	5%	6%
Family Income \$150,000	2%	3%	4%	4%
<b>Adult</b>				
Family Income \$30,000	5%	13%	12%	20%
Family Income \$75,000	4%	7%	7%	10%
Family Income \$150,000	2%	3%	4%	5%
<b>Senior</b>				
Family Income \$30,000	3%	10%	11%	17%
Family Income \$75,000	3%	6%	6%	9%
Family Income \$150,000	2%	3%	4%	5%

## Minimum and Maximum Out-of-Pocket Costs for Type 2 Diabetes Scenarios

Figure 12 (see page 18) presents the lowest and highest out-of-pocket costs for type 2 diabetes for each province. It also provides information on the age group, level of family income, and medication and medical device scenario(s) associated with the out-of-pocket cost scenario in that province.

Lowest out-of-pocket costs range from \$0 for Nunavut, the Northwest Territories, and the NIHB to \$554 in Manitoba. Lowest costs are least likely to be experienced by adults and those with higher income (family income of more than \$30,000). Lowest costs are also most likely to be experienced by people using AHA and CBG.

Highest out-of-pocket costs range from \$3,704 for Nunavut, the Northwest Territories, and the NIHB to

\$10,014 in New Brunswick. Highest costs are most likely to be experienced by adults and those with higher family income (family income of \$150,000). Highest costs are also most likely to be experienced by people using AHA, insulin, multiple AHT medications and CGM.

The share of out-of-pocket costs covered by government insurance plans ranges from 0 to 100% and provides some insight into the priorities and objectives of each jurisdiction’s public health insurance plans. It also reveals the extent of differences in the availability and level of government support for people living with type 2 diabetes across Canada.

Out-of-pocket costs as a share of family income are highest in Ontario where they can account for up to 17% of income for adults with family income of \$30,000 using AHA, insulin, multiple AHT medications and CGM.

**Figure 12: Type 2 Diabetes – Highest and Lowest Out-of-Pocket Costs for all Scenarios**

**Lowest Costs for all Scenarios**

	NL	PE	NS	NB	QC	ON	MB	SK	AB	BC	NU	NT	YT	NIHB
Out-of-Pocket Cost	\$401	\$487	\$232	\$198	\$251	\$287	\$554	\$414	\$76	\$388	\$0	\$0	\$101	\$0
Age Group	Senior	Youth/ Adult	Youth	Senior	Youth	Youth	All	Senior	Youth	Youth/ Adult	All	All	Senior	All
Family Income Level	\$30k	\$30k+	\$30k	\$30k	\$30k+	\$30k+	\$30k+	\$30k	\$30k	\$30k	\$30k+	\$30k+	\$30k+	\$30k+
Meds/Devices	CBG	CBG	MDI+ CBG	MDI+ CBG	CBG	CBG	CBG	CBG	MDI+ CBG	CBG	MDI+ CBG, AHT+ MDI+ CBG	MDI+ CBG, AHT+ MDI+ CBG	CBG, AHT+ CBG	MDI+ CBG, AHT+ MDI+ CBG
% Covered by Gov't	26%	2%	90%	91%	57%	45%	22%	28%	97%	33%	100%	100%	82%- 95%	100%
OPC Share of Family Income	1%	2%	1%	1%	1%	1%	2%	1%	0%	1%	0%	0%	0%	0%

**Highest Costs for all Scenarios**

	NL	PE	NS	NB	QC	ON	MB	SK	AB	BC	NU	NT	YT	NIHB
Out-of-Pocket Cost	\$6,394	\$4,832	\$5,010	\$10,014	\$4,899	\$4,985	\$6,702	\$6,055	\$5,641	\$6,098	\$3,704	\$3,704	\$4,382	\$3,704
Age Group	Senior	Adult	Adult	Adult	Senior	Adult	Senior	Senior	Adult	Senior	All	All	Adult	All
Family Income Level	\$75k+	\$30k+	\$75k+	\$150k	\$75k+	\$30k+	\$75k+	\$75k+	\$75k+	\$150k	\$30k+	\$30k+	\$30k+	\$30k+
Meds/Devices	AHT+ MDI+ CGM	MDI+ CGM, AHT+ MDI+ CGM	MDI+ CGM, AHT+ MDI+ CGM	AHT+ MDI+ CGM	MDI+ CGM, AHT+ MDI+ CGM									
% Covered by Gov't	0%	3%	0%	0%	24%	0%	0%	0%	0%	0%	21%- 40%	21%- 40%	14%	20%- 39%
OPC Share of Family Income	9%	16%	7%	7%	7%	17%	9%	8%	8%	4%	12%	12%	15%	12%

## Provincial Average Out-of-Pocket Costs for Type 2 Diabetes

Figure 13 presents the average of provincial out-of-pocket costs for type 2 diabetes for each of the scenarios. The out-of-pocket costs for the three territories and NIHB for First Nations and Inuit are excluded from the average for two reasons: (i) they are lower than those for most of the provinces, and (ii) the population covered for these plans is less than the average for the provinces. Including them in the average reduces the average for each scenario and is shown in other tables.

The average provincial out-of-pocket costs follow a similar pattern to those for type 1 diabetes. Out-of-pocket costs for adults are, in general, higher than those for youth and seniors. Average out-of-pocket costs rise with the level of family income for all age groups. Out-of-pocket costs are lowest for people using just AHA and CBG and are highest for people using AHA, insulin, multiple AHT medications, and CGM. Provincial average out-of-pocket costs range from a low of \$399 to a high of \$5,786.

**Figure 13: Type 2 Diabetes – Average of Provincial Out-of-Pocket Costs in 2022**

	CBG	MDI+CBG	MDI+CGM	AHT+CBG	AHT+MDI+CBG	AHT+MDI+CGM
<b>Youth</b>						
Family Income \$30,000	\$399	\$763	\$4,205	\$450	\$796	\$4,310
Family Income \$75,000	\$989	\$1,990	\$4,962	\$1,068	\$2,068	\$5,040
Family Income \$150,000	\$1,122	\$2,123	\$5,095	\$1,201	\$2,201	\$5,173
<b>Adult</b>						
Family Income \$30,000	\$581	\$1,291	\$4,491	\$925	\$1,422	\$4,745
Family Income \$75,000	\$1,038	\$2,413	\$5,063	\$1,445	\$2,777	\$5,469
Family Income \$150,000	\$1,171	\$2,546	\$5,196	\$1,578	\$2,929	\$5,602
<b>Senior</b>						
Family Income \$30,000	\$454	\$831	\$4,379	\$807	\$995	\$4,632
Family Income \$75,000	\$903	\$1,889	\$4,987	\$1,723	\$2,557	\$5,710
Family Income \$150,000	\$903	\$1,889	\$4,987	\$1,623	\$2,655	\$5,786

## Provincial Average Share of Out-of-Pocket Costs Covered by Government for Type 2 Diabetes

Figure 14 presents the average of out-of-pocket costs for type 2 diabetes covered by provincial governments for each of the scenarios.

The provincial average share of out-of-pocket costs covered by governments falls with income and is highest for young people living with type 2 diabetes. The share of costs covered by governments is lowest for people using AHA, insulin, and CGM. The provincial average share of costs covered ranges from a low of just 1% to a high of 74%.

**Figure 14: Type 2 Diabetes – Average Share of Provincial Out-of-Pocket Costs Covered by Government in 2022**

	CBG	MDI+CBG	MDI+CGM	AHT+CBG	AHT+MDI+CBG	AHT+MDI+CGM
<b>Youth</b>						
Family Income \$30,000	30%	67%	9%	33%	67%	9%
Family Income \$75,000	17%	31%	3%	17%	31%	3%
Family Income \$150,000	17%	31%	3%	17%	31%	3%
<b>Adult</b>						
Family Income \$30,000	12%	44%	3%	17%	49%	7%
Family Income \$75,000	8%	12%	1%	8%	14%	1%
Family Income \$150,000	8%	12%	1%	8%	13%	1%
<b>Senior</b>						
Family Income \$30,000	25%	64%	7%	63%	74%	27%
Family Income \$75,000	10%	32%	2%	30%	39%	13%
Family Income \$150,000	10%	32%	2%	33%	37%	12%

## Provincial Average Out-of-Pocket Costs as a Share of Family Income for Type 2 Diabetes

Figure 15 presents the average of out-of-pocket costs for type 2 diabetes as a share of family income for each of the scenarios.

The provincial average share of family income needed to cover out-of-pocket costs ranges from a low of 1% to a high of 16%. It tends to fall as income rises and is highest for low-income adults and seniors living with type 2 diabetes and is highest for people using CGM.

**Figure 15: Type 2 Diabetes: Average Provincial Out-of-Pocket Costs as a Share of Family Income in 2022**

	CBG	MDI+CBG	MDI+CGM	AHT+CBG	AHT+MDI+CBG	AHT+MDI+CGM
<b>Youth</b>						
Family Income \$30,000	1%	3%	14%	1%	3%	14%
Family Income \$75,000	1%	3%	7%	1%	3%	7%
Family Income \$150,000	1%	1%	3%	1%	1%	3%
<b>Adult</b>						
Family Income \$30,000	2%	4%	15%	3%	5%	16%
Family Income \$75,000	1%	3%	7%	2%	4%	7%
Family Income \$150,000	1%	2%	3%	1%	2%	4%
<b>Senior</b>						
Family Income \$30,000	2%	3%	15%	3%	3%	15%
Family Income \$75,000	1%	3%	7%	2%	3%	8%
Family Income \$150,000	1%	1%	3%	1%	2%	4%

## Out-of-Pocket Costs for Type 1 versus Type 2 Diabetes

Both type 1 and type 2 diabetes are chronic conditions. The out-of-pocket costs vary widely across the provinces

from a low of \$76 to a high of \$18,351. The difference from lowest to highest cost is greater for type 1 diabetes than for type 2 diabetes and the provincial average out-of-pocket cost of diabetes is, in general, also higher for type 1 diabetes than for type 2 diabetes.

**Figure 16: Summary of Out-of-Pocket Costs in Canada in 2022**

	Type 1 Diabetes		Type 2 Diabetes	
	Lowest	Highest	Lowest	Highest
<b>Out-of-Pocket Cost (\$)</b>	\$78	\$18,306	\$76	\$10,014
<b>Province</b>	AB	NB	AB	NB
<b>Age Group</b>	Youth	Youth	Youth	Adult
<b>Family Income Level</b>	\$30k	\$150k	\$30k	\$150k
<b>Meds/Devices</b>	All	Pump+CGM	MDI+CBG	AHT+MDI+CGM
<b>Cost Covered by Gov't (%)</b>	96%-99%	0%	97%	0%
<b>OPC Share of Family Income</b>	0%	12%	0%	7%

# Review of Other Factors Contributing to the Burden of Diabetes

This report attempts to quantify the out-of-pocket costs for people living with diabetes. As individual circumstances are unique, the information provided here is merely indicative of the costs for the situation represented in each scenario. Even this approach understates the burden of diabetes on people living with and affected by the condition. Some of these additional factors will be discussed in this section and, while a few of them could be quantified, this has not been done for this report.

## Costs Following Initial Diagnosis

This study has assumed that the individual living with diabetes was not diagnosed recently. Those that have been recently diagnosed must have multiple visits to various doctors and other healthcare specialists, purchase all the medications, devices, and supplies required to manage their condition and anything else to support changes in their lifestyle.

*“This is an expensive disease to live with – for people with the disease and for society. I live with it 24/7 with no holidays. I don’t need the added stress of worrying about expense. Many people have to forfeit their best management options because of cost.”*

Ellen K, Manitoba

*“I remember the doctor saying my life was not going to be any different. He was wrong. Nothing was ever the same and even today people don’t understand how hard it is.”*

Dave B, Alberta

*“[I manage out of pocket] costs by extending time on site change for pump.”*

Linda Z, British Columbia

## Visits to Doctors and Other Healthcare Specialists

As mentioned, people living with diabetes must make multiple visits to various doctors and other healthcare specialists when initially diagnosed. Regular additional visits to medical professionals are required to properly manage the condition and to reduce the likelihood or severity of diabetes-related complications. The cost of these visits, even if the professional fees are covered by public or private insurance, still includes travel-related costs and the time required for the appointment. These latter costs can be substantial for people living in rural regions where lengthy travel distances to these appointments are required.

*“I work in diabetes education and know I could have better diabetes management with the use of newer technologies (e.g., CGM, insulin pump) but that is not an option right now.”*

Nikki W, Manitoba

## Mental Health

Diabetes can have a profound impact on the mental health of people living with the condition: affecting their self-esteem and contributing to anxiety, depression, and other related disorders. The impact on the mental health of family caregivers is unrelenting. Parents are directly responsible for the survival of their child and the stress of this responsibility does not diminish when the child becomes an adult. Equally, the spouse of somebody with the condition must be constantly aware and vigilant of their partner's condition.

*“No amount of money can compensate for the stress of parents who have to take on the burden of being fully responsible for their child’s survival. There is very limited medical supervision, training and support. Parents get an hour of out-patient training to inject their child and adjust dosages of potentially fatal medication. Without the recent availability of CGM with remote readings, parents needed to be vigilant and available 24/7 to monitor and treat their child’s condition. There is no respite care, no in-school care, very few daycares or other programs willing to take on responsibility for a child with type 1 diabetes. A parent or trained caregiver has to accompany the child at all times which then impedes the child’s emotional and social development.”*

Denis B, Alberta

*“Now that my child is an adult, they are dependent on us to pay for things and fill that gap when things aren’t available. Before, they’ve called asking if I have any insulin in the fridge. They’re young and don’t always plan ahead. Likely stressful for them. Once, they forgot to apply by the April 30 deadline for Chronic Disease Insurance so they didn’t have access to anything. So, we [parents] had to pay for everything out-of-pocket. It was stressful for them in that they were dependent on family.”*

Anonymous, Yukon

## Long-Term Health Complications

A great deal has been written about the likelihood of people with diabetes developing one or more health complications. Some of the most common complications include heart and chronic kidney disease, nerve damage, and other problems with feet, oral health, vision, hearing, and mental health. These conditions affect the quality of life of the individual living with diabetes and impose additional costs on the household also affecting their quality of life.

*“Prevention of complications is also costly. For example, taking the day off to go get a diabetic retinopathy exam. When they fly down to see the endocrinologist out-of-territory, they also pay for that because Yukon won’t cover it. They also loses wage because they’re gone for several days to Vancouver.”*

Anonymous, Yukon

## Career Choices and Income Potential

The out-of-pocket cost of diabetes affects family budgets and directly reduces funds available for educating children growing up with diabetes. There is a well established connection between family income, educational outcomes, and income potential with the cost of diabetes diminishing this income potential. There are multiple causal factors involved in this relationship, but loss of self-esteem, anxiety, and depression all play a role. People that develop type 1 or type 2 diabetes later in life contend with similar mental health risks and the disruption in their lifestyle can have a significant impact on their availability for work.

*“It’s constant stress on the family. Like having an additional car payment... I’m lucky now but had to ration insulin not so long ago”*

Dave B, Alberta

*“As a young professional, my son would not be able to afford his current rental home without assistance. My husband and I supplement our son \$200/month to help cover his diabetes management supplies.”*

Denis B, Alberta

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## Family and Caregiver

People affected by diabetes face substantial changes in their lifestyle and household costs.

*“When you have a child with type 1 diabetes, you must provide a supervisor trained in diabetes management to accompany every field trip or your child cannot participate. In addition, you have to have flexibility in your work to leave at a moment’s notice to care for your child and administer insulin injections during the school day as school staff will not accept this responsibility. This greatly limits career options.”*

Denis B, Alberta

*“This situation of course puts stress on our family, and it’s always been frustrating for me that technologies that would support better blood glucose management and potential longevity of life have been slightly out of reach based on where I live and my age.”*

Nikki W, Manitoba

*“Once when our child was a teenager they got drunk and the liver will prioritize processing alcohol versus other things, so a glucagon injection won’t help. They were hospitalized for a week and so missed income for the week and I also had to take a bit of time off.”*

Anonymous, Yukon

## Undocumented Medications and Supplies

The cost of non-prescription drugs, medications, and other medical devices, and supplies to help manage the condition can add to the cost of the condition. Any frequently purchased items identified after the publication of this report may be added to future reports.

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## Food and Nutrition

The cost of prepared foods and other groceries required to help manage the condition have an impact on household budgets and the level of vigilance required when buying groceries and planning meals.

***“The constant vigilance required by type 1 diabetes impacts all areas of life – from recreation through to work. You must always carry supplies to treat both high and low blood glucose episodes, plus backup equipment in the event of failures. There must be a plan in place to eat before attempting any activity.”***

Denis B, Alberta

# Public Perception and Policy Comments

As of November 2022, there are numerous instances in which public funding substantially reduces or even eliminates the out-of-pocket costs for diabetes medications, devices, and supplies for the representative individual in each of the scenarios.

There remain, however, many situations represented by these scenarios in which government plans cover a small share of total costs. This issue is particularly acute for people affected by type 2 diabetes where government plans cover less than 20% of total costs for nearly half of the provincial and territorial scenarios.

The Kirby/Keon Senate Study and the Romanow Royal Commission on the Future of Health Care defined the threshold for catastrophic drug costs as 3% of gross income. **This threshold was exceeded in over half the type 1 and just under half of the type 2 representative provincial and territorial scenarios included in this report**, with out-of-pocket costs exceeding \$3,100 a year for type 1 diabetes and \$1,400 a year for type 2 diabetes for prescribed medications, devices, and supplies in at least half of the representative person scenarios.

Although each scenario is equal-weighted in this analysis (i.e., each of our scenario's representative individuals is

given equal weight) some scenarios are more prevalent than others. What is of concern is that, while government support is, as a share of total cost, highest for low-income groups, the proportion of family income required to cover out-of-pocket costs is also highest for this income group. Since people affected by diabetes tend to have lower income than the general population, it is evident that a very substantial share of people living with diabetes are having to make very difficult choices between their health – both current and long-term – and other financial commitments.

In 2022, the out-of-pocket costs scenarios included in this report indicate that over half of all persons living with type 1 diabetes either experience out-of-pocket costs in excess of 3% of their family income or fail to adhere to the treatment recommended by their doctor. It is also highly likely that a majority of persons living with type 2 diabetes also either experience out-of-pocket costs in excess of 3% of their family income or fail to adhere to their doctor's recommendations.

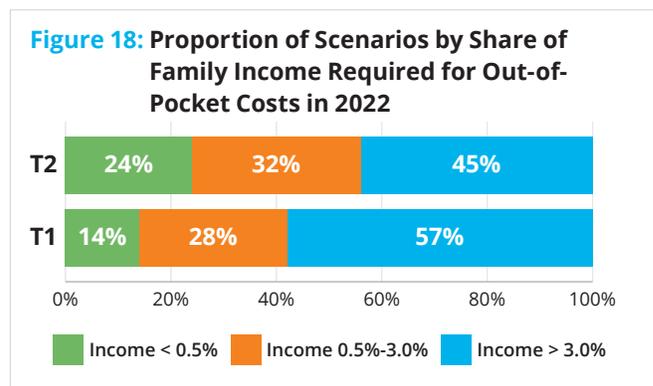
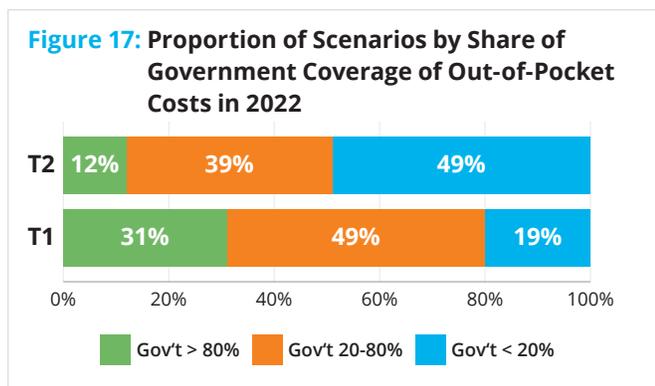


Figure 17 & 18 chart data may not sum to 100% due to data rounding.

Individuals currently affected by diabetes were asked to comment on what they would like the general public and public policy makers to know about the condition. The following are some of their comments.

*"Please encourage us and do not be sympathetic rather be empathetic. Never just stare when we are administering insulin."*

Anirudh K, British Columbia

*"There is no age in which diabetes management ends or becomes easier. There should never be an age restriction or varied coverage based on province for government funded life saving devices or medications. Diabetes takes a mental toll; it is something that is managed every second of every day by the individual and/or caregiver. Accessible public funding would in part reduce the stress on the individual and/or caregiver and likely lead to better health outcomes and an overall decrease in government spending for reactive treatments associated with diabetes complications."*

Nikki W, Manitoba

*"As insulin is a requirement for survival, I believe it should be covered by public insurance...Because type 1 diabetes is an autoimmune disease caused by an organ failure (pancreas), the acquisition and use of an artificial device (insulin pump) that mimics the failed organ should additionally be covered. The ideal solution would be a pancreatic transplant which surgery would be covered by public health insurance; however, this option is limited due to an insufficient supply of healthy organs. Why then would the next best option available – closed loop system of continuous glucose monitor and insulin pump – not be covered?"*

Denis B, Alberta

*"Hope that people with T1 will be able to get what they need without a prescription for every item every year. Provincial gov'ts require a doctor's prescription before they will cover costs...Having access to all the equipment to manage the disease and doctors to help us. We can live a healthy and productive life."*

Linda Z, British Columbia

*"I have private insurance through Blue Cross as well as Pharmacare but now that I am married, I am unable to reach my Pharmacare deductible."*

Nikki W, Manitoba

*"I have worked hard my whole adult life, saved for my retirement. Now my entire pension goes to my medical expenses. Thankfully I have a partner to help with other costs in our lives. Many aren't as lucky! I hope to live to a ripe old age (only 74 now) and need help to stay healthy! I don't want to be in a position of forfeiting my devices as I age and money gets tighter."*

Ellen K, Manitoba

*"With two family members with type 1 diabetes, we are able to claim out-of-pocket medical expenses on our personal tax return each year...Canada Revenue Agency has selected us for review on several occasions."*

Denis B, Alberta

*"It's common for people to travel out of the territory for care. Coverage depends on the doctor. For example, in our family the doctor thinks it's unnecessary for our child to visit an endo even though they have type 1. So they go around the doctor but it means paying out-of-pocket to see an endo."*

Anonymous, Yukon

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# Appendix: Review of Previous Out-of-Pocket Cost Reports

Previous out-of-pocket cost reports expanded from the original studies that considered just a single representative individual with type 1 diabetes (Janet) and type 2 diabetes (Peter) to representative individuals with different levels of income in 2011 and, in 2015, also by age group. From 2011 on, the type 1 costs also include scenarios with insulin pumps in place of multiple daily injections (MDI).

## Costs for Representative People with Type 1 Diabetes

Since the early 2000s, evidence on both the health and cost-effectiveness of insulin pumps over MDI was used to ask jurisdictions across the country to extend public funding to cover insulin pumps and their supplies. The summary of previous reports for type 1 diabetes includes the out-of-pocket costs for people that chose to use an insulin pump from 2011 on.

In 2009, two provinces along with the territories covered all out-pocket costs while highest costs of about \$1,500

annually were borne by residents of Prince Edward Island but the average across all provinces was just over \$600. In 2011, the cost of an insulin pump and its supplies pushed average out-of-pocket costs across provinces to over \$2,600 for low-income individuals and to over \$5,000 for high income individuals. Average out-of-pocket costs across provinces were lower in 2015 as more provinces extended funding for insulin pumps and their supplies. This funding was, in general, more generous for young people than adults and for those with low income.

**Figure 17: Annual Out-of-Pocket Costs: Type 1 DM (Janet, 2011+ with insulin pump)**

Income	2009	2011			2015 Youth			2015 Adult		
		<\$15k	\$43k	\$75k	\$20k	\$40k	\$80k	\$20k	\$40k	\$80k
Low	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
High	\$1,565	\$5,673	\$6,824	\$6,824	\$5,196	\$5,527	\$5,527	\$5,196	\$5,527	\$5,527
P/T AVG	\$409	\$1,910	\$3,357	\$3,760	\$1,018	\$1,810	\$2,525	\$2,373	\$3,073	\$3,524
Pv Avg	\$637	\$2,664	\$4,690	\$5,265	\$1,425	\$2,528	\$3,510	\$3,322	\$4,298	\$4,909
Low	AB, NL, NU, NT, NIHB	AB, NL, NU, NT, NIHB	NU, NT, NIHB	NU, NT, NIHB	NU, YT, NT, NIHB					
High	PE	PE	AB	AB	QC	QC	QC	QC	QC	QC

## Costs for Representative People with Type 2 Diabetes

In 2009, just the territories covered all out-pocket costs while highest costs of over \$3,400 annually were borne by residents of New Brunswick with the average across all provinces was just over \$2,200. In 2011, average out-of-pocket costs across provinces started at over \$2,500 and rose with income. Average out-of-pocket costs

across provinces were lower in 2015 as more provinces extended funding for diabetes-related medications and supplies. This funding was, in general, more generous for seniors than adults or for those with low income. Average provincial annual out-of-pocket costs were over \$1,700 for adults with low income and just over \$1,200 for seniors with low income.

**Figure 18: Annual Out-of-Pocket Costs: Type 2 DM (Peter)**

Income	2009	2011			2015 Youth			2015 Adult		
		<\$15k	\$43k	\$75k	\$20k	\$40k	\$80k	\$20k	\$40k	\$80k
Low	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
High	\$3,427	\$3,427	\$3,427	\$3,427	\$1,963	\$1,963	\$2,007	\$1,930	\$1,935	\$1,940
P/T AVG	\$1,754	\$1,825	\$1,958	\$2,067	\$1,235	\$1,379	\$1,385	\$864	\$936	\$1,011
Pv Avg	\$2,233	\$2,530	\$2,716	\$2,868	\$1,729	\$1,905	\$1,914	\$1,210	\$1,310	\$1,416
Low	NU, NT, NIHB									
High	NB	NB	NB	NB	AB	AB	NB	MB	BC	BC



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