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Ensuring access to and equitable coverage of continuous glucose monitoring for Ontarians living with diabetes

Key Takeaways

- Ontario needs to address discrepancies in coverage of glucose monitoring devices. These devices also need to be equitably covered across the country.

- Continuous glucose monitoring (CGM) improves engagement and self-management among people living with diabetes (PWD), supported by a wealth of clinical evidence demonstrating improved patient outcomes and reduced costs to the health system.

- There is disparity and inequity in access to glucose monitoring for millions of people living with diabetes with eligibility criteria varying on the basis of age, diabetes type, and other factors.

- Ontario has the most complex process, fraught with red tape, where real-time CGM (rtCGM) is reimbursed for only high-risk people living with type 1 diabetes and only via the Assistive Devices Program (ADP) while intermittently scanned CGM (isCGM) is reimbursed for any insulin user.

Monitoring of glucose levels is a critical aspect of safe and effective diabetes management. Since its introduction, continuous glucose monitoring (CGM) has revolutionized diabetes care by providing a more comprehensive and accurate picture of daily glycemic excursions and decreasing burden for people living with diabetes (PWD).[1] This therapeutic tool has been shown to improve glycemic control, reduce hypoglycemic risk, and enhance engagement and self-management in type 1 (T1D) and type 2 diabetes (T2D) to varying degrees depending on the system used.[2] While both isCGM and rtCGM systems were initially prescribed predominantly for those living with T1D, the mounting body of evidence and expert recommendations have led to more widespread use in insulin-treated T2D. In Canada, however, optimal utilization of CGM is currently limited by disparate coverage and reimbursement policies for CGM across the various provinces. Recognizing the inequities of these policies on the management of diabetes for all Canadians, a group of leading Ontarian clinicians and researchers convened as part of a working group to review the clinical and economic evidence supporting the use of CGM.

Real-time continuous glucose monitoring: A revolution in diabetes monitoring and care

An estimated 2.4 million Ontarians are living with T1D, T2D, or prediabetes. Treating diabetes and its complications currently costs the Ontario health system $1.7 billion annually and is expected to reach $2.1 billion by 2033.[3]

While disease knowledge and care interventions have advanced considerably over the past several years, diabetes monitoring and associated outcomes in Canada remain suboptimal. Capillary blood glucose (CBG) testing with fingersticks and test strips improved the accuracy and reliability of self-monitoring in the 1970s and 1980s; however, it remains costly, time-consuming, and burdensome for those living with diabetes. As a result, adherence to prescribed CBG testing is poor and has been documented to be as low as 44% for T1D and 24% for T2D in adults.[4]

Real-time CGM enables best practices for diabetes care and management by continuously monitoring glucose levels without the need to manually scan the sensor. The most clinically significant feature of rtCGM is the *urgent low soon* alert that can predict and alert impending low glucose (i.e., hypoglycemic events). The alerts and alarm can be shared in real-time remotely with caregivers, family, and/or friends for added protection.

	Point of time data	High accuracy	Continuous glucose readings	Predictive trend data	Optional alerts	Wide data accessibility	Low burden of use
Traditional blood glucose monitoring	✓	✓	✗	✗	✗	✗	✗
vs.							
Real-time continuous glucose monitoring	✓	✓	✓	✓	✓	✓	✓

Barriers to consumer-driven choice of real-time CGM

In Canada, eligibility for public funding access to rtCGM varies widely based on a person's age, diabetes type, and treatment regimen (Table 1). Of all provinces and territories, Ontario has the most complex coverage system with different reimbursement mechanisms for rtCGM versus isCGM. Specifically, rtCGM is reimbursed for only T1D at high risk for hypoglycemia and only via the Assistive Devices Program (ADP), whereas isCGM is reimbursed for any insulin user through the Ontario Drug Benefit (ODB). Ontario accounts for more than a third of Canada's diabetes disease burden, and it is in this province where reimbursement mechanisms are the greatest outlier. Coverage of rtCGM in T2D is particularly poor. Furthermore, of the estimated 97% of Ontarians who believe a CGM either has or would improve their diabetes management, the majority do not believe they meet eligibility criteria.[5]

The high degree of variability in terms of coverage eligibility for rtCGM across public payers in Canada creates health inequities. In many provinces, eligibility criteria for access to rtCGM do not even align with the latest update to the Diabetes Canada clinical practice guidelines. Collectively, these nuances in CGM coverage and reimbursement across the nation impede access for people living with diabetes and effective care delivery on the part of clinicians. Ultimately, the current environment in Canada creates barriers to optimal diabetes management and limits options for clinicians and PWD, resulting in Diabetes Canada calling for more equitable coverage of CGM after publishing their guidelines in 2021.[6]

Table 1. Public coverage for CGM across Canada (as of January 19, 2024).

Public Payer	rtCGM	isCGM
Ontario	**T1D hypo-unaware or at high risk of severe hypo under *Assistive Devices Program* with prior approval**	**All insulin users under *Ontario Drug Benefit Program* no prior approval**
British Columbia	All IIT with prior approval	All IIT with prior approval
Alberta	All on insulin age 2 to 17	No coverage
Saskatchewan	T1D + all IIT age 2 to 17 with criteria	T1D + all IIT age 2 to 17 with criteria
Manitoba	All IIT no prior approval	All IIT with prior approval
Quebec	All T1D with prior approval	All IIT with prior approval
New Brunswick	All IIT with prior approval	No coverage
Nova Scotia	No coverage	No coverage
PEI	All IIT with prior approval	All IIT with prior approval
Newfoundland (pilot)	T1D age 2 to 18 under insulin pump program	No coverage
Northwest Territories	T1D + all IIT age 2 to 17 with criteria	T1D + all IIT age 2 to 17 with criteria
Yukon	All T1D with prior approval	All T1D with prior approval
NIHB*	All insulin with prior approval	All insulin with prior approval

rtCGM=real-time continuous glucose monitoring; isCGM=intermittently scanned continuous glucose monitoring; T1D=type 1 diabetes; IIT=intensive insulin treatments; PEI=Prince Edward Island; NIHB=Non-Insured Health Benefits for First Nations and Inuit

*NIHB is a public payer that covers First Nations and Inuit and therefore spans over various provinces and territories.

Growing Body of Evidence Supports Expanded Use of Dexcom rtCGM

Backed by a profusion of positive clinical trials and real-world studies, rtCGM uptake is recommended by Diabetes Canada and virtually all other major diabetes professional organizations as a new paradigm of diabetes self-monitoring.[2] Compared to CBG, CGM devices have shown to reduce diabetes burden, enhance self-management behaviour, and improve glycemic metrics with decreased hypoglycemia risk.[2]

The most recent update of the guidelines specific to blood glucose monitoring in 2021 highlights the role of isCGM and rtCGM in T1D on basal-bolus insulin therapy or continuous subcutaneous insulin infusion (CSII) to improve glycemic metrics, reduce hypoglycemia, and increase treatment satisfaction.[2] In those with T2D on basal-bolus insulin therapy, both categories of CGM are recommended for addressing issues associated with hypoglycemia, and only rtCGM is recommended for reducing HbA1c in those not meeting targets.[2] This recommendation—and more recent expert recommendations from other countries—supporting the use of rtCGM are largely based on data from the expansive Dexcom clinical development program, which currently exceeds that of other CGM manufacturers in terms of scope and professional organization-issued evidence grade.

Since the 2021 Diabetes Canada update, further evidence has been published in favor of using CGM—specifically rtCGM—for the management of insulin-treated T2D. Two recent noteworthy examples are the MOBILE randomized controlled trial (RCT) and a real-world study derived from claims data of a large US integrated healthcare delivery system.

The MOBILE RCT followed 175 adults with basal insulin-treated T2D over 32 weeks at 15 primary care centers.[7] The primary endpoint was a significant 1.1% HbA1c reduction from baseline in the rtCGM group compared with a 0.6% reduction in the optimized CBG group (defined as 1-3 fingerstick tests/day) without a significant increase in insulin doses or non-insulin medications. Real-time CGM users also demonstrated improvements in terms of time in range (TIR; 3.9-10 mmol/L; 3.6 more hours/day) and time spent in hyperglycemia (>13.9 mmol/L; 3.6 fewer hours/day) than CBG users. Overall, the rtCGM group demonstrated greater glycemic improvement despite the administration of fewer medications (i.e., insulin and non-insulin medications) than in the CBG group, indicating that the clinically meaningful benefit was derived primarily from the CGM intervention. The clinical benefits of rtCGM were consistent across diverse racial/ethnic backgrounds, which comprised 53% of the study population. Further demonstrating the value of rtCGM in addressing the needs of PWD affected by social determinants of health (SDOH), 55% of the MOBILE population had a high school diploma or less, and 58% of participants had non-private health insurance. In addition, considering MOBILE was conducted in primary care, this trial also illustrates that diabetes technology does not need to be reserved for prescribing by specialist providers.

Offering perhaps even more expansive findings than the MOBILE RCT, a real-world study conducted by Kaiser Permanente of Northern California used a propensity score-matched cohort analysis to compare rtCGM with CBG (12 months pre/post rtCGM initiation) among 41,753 participants with insulin-treated diabetes (5,673 T1D; 36,080 T2D).[8] Real-time CGM resulted in a statistically significant advantage over CBG in both T1D and T2D, but the benefit was more pronounced in T2D, including a 0.56 reduction in HbA1c. This HbA1c difference favored rtCGM across all ages (33-79 years), baseline HbA1c levels (7.1%-11.6%), education levels, and diabetes numeracy. Through claims data, rtCGM initiation was associated with a statistically significant 4% reduction in hypoglycemia rates (emergency department (ED)/hospital admissions) and a 53% reduction in ED visits and hospitalizations in T2D. Real-time CGM was also associated with a reduction in outpatient visits and an increase in telephone visits, demonstrating increased patient engagement without increased in-person visits and potential cost-savings.

Beyond the clinical effectiveness of CGM, recent analyses underscore the cost-effectiveness of rtCGM over traditional CBG and isCGM in the management of Canadians with insulin-treated T2D.[9,10] In addition, several studies document the value of rtCGM for improving quality of life via enhanced disease management/knowledge and reduced hypoglycemia-related distress.[11,12,13,14]

At the same time, the body of evidence supporting the use of CGM in a broader population of PWD continues to grow. ClinicalTrials.gov currently lists 308 studies of CGM in T2D.[15] At the 2023 American Diabetes Association (ADA) Scientific Sessions, 144 abstracts were presented that centered on CGM, and 66 of those were specific to CGM utilization in T2D, including additional real-world evidence.[16,17,18] According to leading researchers and clinicians, including those involved in this policy position working group, these recently published studies demonstrate that the clinical benefit of rtCGM in T2D is at least equal to that in T1D.[19]

In the US, the findings from the MOBILE RCT and Kaiser claims analysis resulted in increased petitioning from the medical community for broader access to CGM.[20,21] After easing restrictions on access in recent years, the US Centers for Medicare and Medicaid Services ultimately expanded public coverage of CGM in 2023—in light of findings from the MOBILE RCT and Kaiser retrospective claims analysis and subsequent consensus guideline updates—to include all insulin-treated beneficiaries and those who experience problematic hypoglycemia.[22,23,24,25] In a similar manner, a comprehensive review of the most current body of evidence should be used to inform Canadian provincial healthcare policies.

The time is now.
Ontarians deserve real-time equitable coverage, and access for all.

A recent survey of 769 Canadians, including 285 Ontarians living with diabetes, revealed that despite 97 percent acknowledging the potential improvement in diabetes management with rtCGM, a significant majority feel ineligible under the current criteria. Other results of the survey revealed the following:[5]

of respondents have sought ADP coverage and received approval.

believe that ADP coverage is excessively limited, covering only a small portion of individuals.

faced barriers to ADP coverage due to not meeting the stringent criteria.

Disparities in rtCGM access increase the potential risks to vulnerable individuals, and place significant additional burden on our health care system and higher costs for the government.

Dexcom has been at the forefront of rtCGM innovation by listening to the needs of those living with diabetes, their caregivers, and giving them the power to change how they live with diabetes. The landscape for medical devices and innovative technologies to support Canadians with diabetes has never been more exciting and Dexcom continues to lead these developments.

Dexcom empowers people to take control of their diabetes and with equitable coverage and access for all, Ontario can sustain a healthy and productive population. The onus is now on the Ontarian government to modernize diabetes management by implementing policies that align with the abundance of clinical evidence and expert recommendations.

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No representatives from Dexcom, Inc., attended the working group meeting or participated in the discussion.

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