

Flash Glucose Monitoring System for People With Type 1 or Type 2 Diabetes: Recommendation

FINAL RECOMMENDATION

Health Quality Ontario, which is now the Quality business unit at Ontario Health, based on the guidance of the Ontario Health Technology Advisory Committee, recommends publicly funding flash glucose monitoring systems for:

- People with type 1 diabetes who experience recurrent hypoglycemia despite frequent self-monitoring of blood glucose and efforts to optimize insulin management
- People with type 2 diabetes requiring intensive insulin therapy (multiple daily injections of insulin or continuous subcutaneous insulin infusion) who experience recurrent hypoglycemia despite frequent self-monitoring of blood glucose and efforts to optimize insulin management

RATIONALE FOR THE RECOMMENDATION

The Ontario Health Technology Advisory Committee has reviewed the findings of the health technology assessment.¹

Ontario Health Technology Advisory Committee members noted that flash glucose monitoring provides benefit for outcomes that are important to people with diabetes, including reducing the time in which their blood glucose is below the target range and reducing the mean number of hypoglycemic events. Committee members also noted the relatively high cost of flash glucose monitoring, particularly for people who do not self-monitor their blood glucose several times daily. The committee also considered the lived experience of adults with type 1 or type 2 diabetes and parents of children with type 1 or type 2 diabetes who described the physical, social, and safety benefits of flash glucose monitoring.

Despite a lack of evidence regarding long-term outcomes and an inability to accurately estimate cost-effectiveness over the long term, committee members agreed that flash glucose monitoring would be a useful option for people with diabetes who monitor their blood glucose several times daily but still experience hypoglycemia.

Decision Determinants for Flash Glucose Monitoring for People With Type 1 or Type 2 Diabetes

Decision Criteria	Subcriteria	Decision Determinants Considerations
Overall clinical benefit How likely is the health technology/intervention to result in high, moderate, or low overall benefit?	Effectiveness How effective is the health technology/intervention likely to be (taking into account any variability)?	In adults with type 1 diabetes, flash glucose monitoring likely reduces the mean time spent in hypoglycemia, the mean time spent above the target glucose range, and the mean number of daily hypoglycemia events, and also increases the mean time spent in the target glucose range compared with self-monitoring of blood glucose (GRADE: Moderate). In adults with type 2 diabetes requiring intensive insulin therapy, flash glucose monitoring likely reduces the mean time spent in hypoglycemia and the mean number of hypoglycemia events compared with self-monitoring of blood glucose (GRADE: Moderate). There were no studies on the effectiveness of flash glucose monitoring in reducing other important clinical outcomes such as myocardial infarction or kidney damage.
	Safety How safe is the health technology/intervention likely to be?	Few adverse events were reported as being associated with flash glucose monitoring. These included allergy, itching, rash, erythema, and edema.
	Burden of illness What is the likely size of the burden of illness pertaining to this health technology/intervention?	About 1.5 million Ontarians have diabetes. We estimate that approximately 170,000 people with type 1 or type 2 diabetes who require intensive insulin therapy would be suitable for flash glucose monitoring.
	Need How large is the need for this health technology/intervention?	Flash monitoring is currently not publicly funded in Ontario.
Consistency with expected societal and ethical values^a How likely is adoption of the health technology/intervention to be congruent with societal and ethical values?	Societal values How likely is adoption of the health technology/intervention to be congruent with expected societal values?	Participants reported a desire for increased access to flash glucose monitoring for people with type 1 or type 2 diabetes. Participants believe that flash glucose monitoring improved their blood glucose control. Adopting flash glucose monitoring would be congruent with societal values for better health management. Adopting flash glucose monitoring would be consistent with ethical values, including beneficence.
	Ethical values How likely is adoption of the health technology/intervention to be congruent with expected ethical values?	
Cost-effectiveness How efficient is the health technology/intervention likely to be?	Economic evaluation How efficient is the health technology/intervention likely to be?	Health Quality Ontario did not undertake a primary economic evaluation.

Decision Criteria	Subcriteria	Decision Determinants Considerations
<p>Feasibility of adoption into health system</p> <p>How feasible is it to adopt the health technology/intervention into the Ontario health care system?</p>	<p>Economic feasibility</p> <p>How economically feasible is the health technology/intervention?</p> <p>Organizational feasibility</p> <p>How organizationally feasible is it to implement the health technology/intervention?</p>	<p>We estimate that publicly funding flash glucose monitoring for people with type 1 diabetes and for people with type 2 diabetes requiring intensive insulin therapy who are eligible for coverage under the Ontario Drug Benefit program would lead to a net budget increase ranging from \$14.6 million in year 1 to \$38.6 million in year 5.</p> <p>Implementing the recommendation in a way that is highly consistent with the population for whom funding is being recommended may pose some challenges.</p>

Abbreviation: GRADE, Grading of Recommendations Assessment, Development, and Evaluation.

^aThe anticipated or assumed common societal and ethical values held in regard to the target condition, target population, and/or treatment options.

Unless there is evidence from scientific sources to corroborate the true nature of the societal and ethical values, the expected values are considered.

REFERENCE

- (1) Ontario Health (Quality). Flash glucose monitoring system for people with type 1 or type 2 diabetes: a health technology assessment. Ont Health Technol Assess Ser [Internet]. 2019 Dec;19(8):1–108. Available from: <http://www.hqontario.ca/evidence-to-improve-care/journal-ontario-health-technology-assessment-series>

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