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

DRAFT RECOMMENDATION

Health Quality Ontario, under 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 and potentially cost-effective option among people with diabetes who monitor their blood glucose several times daily and still experience hypoglycemia.

Public Comment: TBA
**Decision Determinants for Flash Glucose Monitoring for People With Type 1 or Type 2 Diabetes**

<table>
<thead>
<tr>
<th>Decision Criteria</th>
<th>Subcriteria</th>
<th>Decision Determinants Considerations</th>
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<tbody>
<tr>
<td><strong>Overall clinical benefit</strong></td>
<td>Effectiveness</td>
<td>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).</td>
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<td>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.</td>
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<td>Safety</td>
<td>Few adverse events were reported as being associated with flash glucose monitoring. These included allergy, itching, rash, erythema, and edema.</td>
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<td>Burden of illness</td>
<td>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. Flash monitoring is currently not publicly funded in Ontario.</td>
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<td></td>
<td>Need</td>
<td>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.</td>
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<tr>
<td><strong>Consistency with expected societal and ethical values</strong></td>
<td>Societal values</td>
<td>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.</td>
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<td>Ethical values</td>
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<td><strong>Cost-effectiveness</strong></td>
<td>Economic evaluation</td>
<td>Health Quality Ontario did not undertake a primary economic evaluation.</td>
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### Decision Criteria

<table>
<thead>
<tr>
<th>Feasibility of adoption into health system</th>
<th>Economic feasibility</th>
<th>Organizational feasibility</th>
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<tr>
<td>How feasible is it to adopt the health technology/intervention into the Ontario health care system?</td>
<td>How economically feasible is the health technology/intervention?</td>
<td>How organizationally feasible is it to implement the health technology/intervention?</td>
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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 would lead to a net budget increase ranging from $14.6 million in year 1 to $38.6 million in year 5. Implementing the recommendation in a way that is highly consistent with the population for whom funding is being recommended may pose some challenges.

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

*The anticipated or assumed common ethical and societal 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 ethical and societal values, the expected values are considered.*
REFERENCE

(1) TBA

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About the Ontario Health Technology Advisory Committee

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