Health Quality Ontario

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Home-Based Subcutaneous Infusion of Immunoglobulin for Primary and Secondary Immunodeficiencies: OHTAC Recommendation

ONTARIO HEALTH TECHNOLOGY ADVISORY COMMITTEE RECOMMENDATION

- The Ontario Health Technology Advisory Committee recommends that home-based subcutaneous infusion of immunoglobulin be publicly funded for treatment of patients with primary and secondary immunodeficiencies

RATIONALE FOR THE RECOMMENDATION

The Ontario Health Technology Advisory Committee accepted the findings of the health technology assessment conducted by Health Quality Ontario.[1]

The best available evidence suggested home-based immunoglobulin therapy is similar to hospital-based intravenous infusion. While there is some uncertainty associated with this finding, patients and caregivers expressed preference for home-based subcutaneous immunoglobulin treatment because it reduced treatment burden and improved their overall quality of life. This treatment could also be implemented in a manner that is cost saving to the health care system and patient and would reduce the nursing time needed to provide immunoglobulin treatment.

Public Comment: Held August 29 to September 19, 2017.

Ontario
Health Quality Ontario

Decision Determinants for Home-Based Subcutaneous Infusion of Immunoglobulin for Primary and Secondary Immunodeficiencies

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)?	Compared with hospital-based IVIG, home-based SCIG has a similar annual rate of serious bacterial infection per patient and similar or lower annual rate for all infections per patient. Both methods provide an adequate serum level of immunoglobulin to prevent infection. Where reported, incidence of hospitalization, antibiotic use, and missed days from work or school did not differ between the two methods or were lower for SCIG. The scores for quality of life and treatment satisfaction were either similar between the two methods or were better with SCIG in certain domains. The GRADE of evidence for the above outcomes was low meaning that we cannot be certain about these findings.
	Safety How safe is the health technology/intervention likely to be?	Severe adverse reactions were rare in either method. Risk of systemic adverse events such as fever or headache were higher in IVIG, while infusion site reactions such as swelling, redness, or pain were frequently seen in SCIG.
	Burden of illness What is the likely size of the burden of illness pertaining to this health technology/intervention?	In Ontario, approximately 2,125 patients with primary or secondary immunodeficiency receive IVIG. An audit report shows that in 2007/2008, 65% of immunoglobulin usage was for primary and 35% was for secondary immunodeficiency.
	Need How large is the need for this health technology/intervention?	It appears that with an aging population the demand for immunoglobulin therapy has increased over the last few years. The Canadian Blood Services reported 8.3% annual growth in overall immunoglobulin usage from 2006/2007 to 2010/2011. In addition to immunotherapy, there are many other medical conditions that require infusion or replacement therapy administered at hospital or clinic. At home infusion can allow the redirection of hospitals' human resources to other high priority situations.
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?	SCIG may allow reallocating freed nursing time. A better allocation of human resources in hospital will benefit the hospital as well as the health care system. Individuals with lived experience of SCIG perceived it as a method with reduced rate of infections and side effects, and a better quality of life. The three most important concerns of patients in Ontario regarding SCIG were loss of supervision, cost, and frequency of injections.
	Ethical values How likely is adoption of the health technology/intervention to be congruent with expected ethical values?	Studies have shown that SCIG results in fewer missed days from work or school for both patients and parents of children, and improves some domains of their quality of life. SCIG can reduce travel burdens from monthly visits to hospital for IVIG and give the patient the convenience of receiving the same treatment at home.

Decision Criteria	Subcriteria	Decision Determinants Considerations
Value for money How efficient is the health technology/ intervention likely to be?	**Economic evaluation** How efficient is the health technology/intervention likely to be?	SCIG and IVIG are associated with similar clinical outcomes. However, SCIG at home can lead to reduced needed nursing time and costs for care.
Feasibility of adoption into health system How feasible is it to adopt the health technology/intervention into the Ontario health care system?	**Economic feasibility** How economically feasible is the health technology/intervention?	Funding SCIG could lead to net savings, or at least to a more efficient use of hospital resources.
	Organizational feasibility How organizationally feasible is it to implement the health technology/intervention?	British Columbia implemented a province-wide program in 2013 for SCIG. Calgary initiated an SCIG program in 2015. The Atlantic provinces of Canada have also implemented SCIG programs. It would therefore likely be feasible to implement SCIG widely in Ontario.

Abbreviations: SCIG, home-based subcutaneous infusion of immunoglobulin; IVIG, hospital-based intravenous infusion of immunoglobulin.
[a]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) Health Quality Ontario. Home-based subcutaneous infusion of immunoglobulin for primary and secondary immunodeficiencies: a health technology assessment. Ont Health Technol Assess Ser [Internet]. 2017 Nov;17(16):1-86. Available from: http://www.hqontario.ca/evidence-to-improve-care/journal-ontario-health-technology-assessment-series

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