

## Home Narrowband Ultraviolet B Phototherapy for Photoresponsive Skin Conditions: Health Quality Ontario Recommendation

### DRAFT RECOMMENDATION

- Health Quality Ontario, under the guidance of the Ontario Health Technology Advisory Committee, recommends publicly funding home narrowband ultraviolet B (UVB) phototherapy as a treatment option for people with photoresponsive skin conditions currently treated with narrowband UVB phototherapy in an outpatient (clinic-based) setting

### RATIONALE FOR THE RECOMMENDATION

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

Ontario Health Technology Advisory Committee members noted that home narrowband UVB phototherapy is at least as effective as outpatient clinic narrowband UVB phototherapy in treating psoriasis. Committee members also noted that, although evidence on the effectiveness of home narrowband UVB phototherapy is available only for psoriasis, studies have demonstrated the effectiveness of outpatient clinic narrowband UVB phototherapy on several other photoresponsive skin conditions. Committee members also felt that the incremental costs of home narrowband UVB phototherapy were acceptable, given the incremental benefit. Over the next 5 years, publicly funding home narrowband UVB phototherapy will result in additional annual costs of \$0.7 million for people with psoriasis and around \$1.3 million each year for all populations. Committee members also considered the lived experience of people with a variety of photoresponsive skin conditions who described the physical, social, and financial constraints of managing their condition. They also discussed the benefits and limitations of home narrowband UVB phototherapy.

Committee members agreed that home narrowband UVB phototherapy would be an effective, patient-centred and cost-effective option for persons with photoresponsive skin conditions that are currently treated with narrowband UVB phototherapy in outpatient settings.

## Decision Determinants for Home Narrowband Ultraviolet B Phototherapy for Photoresponsive Skin Conditions

Decision Criteria	Subcriteria	Decision Determinants Considerations
<b>Overall clinical benefit</b> How likely is the health technology/intervention to result in high, moderate, or low overall benefit?	<b>Effectiveness</b> How effective is the health technology/intervention likely to be (taking into account any variability)?	Home NB-UVB phototherapy is likely to be at least as effective as outpatient clinic NB-UVB phototherapy for the treatment of psoriasis based on scores measuring the area and severity of disease (GRADE: Moderate).
	<b>Safety</b> How safe is the health technology/intervention likely to be?	We are uncertain if adverse events happen more often or less often with home NB-UVB phototherapy than outpatient clinic NB-UVB phototherapy (GRADE: Low). Home NB-UVB phototherapy has the same possible side effects as outpatient clinic NB-UVB phototherapy, which can range from mild erythema to blistering of the skin.
	<b>Burden of illness</b> What is the likely size of the burden of illness pertaining to this health technology/intervention?	The prevalence of psoriasis in Ontario is 2.5%, but there are over 40 photoresponsive skin conditions that may be treatable by NB-UVB phototherapy.
	<b>Need</b> How large is the need for this health technology/intervention?	Home NB-UVB phototherapy could benefit those who find outpatient clinic NB-UVB phototherapy inconvenient or inaccessible.
<b>Patient preferences and values</b> How likely is adoption of the health technology/intervention to be congruent with patient preferences and values and with ethical or legal standards?	<b>Patient preferences and values</b> Do patients have specific preferences, values, or needs related to the health condition, health technology/intervention, or life impact that are relevant to this assessment? (Note: The preferences and values of family members and informal caregivers are to be considered as appropriate.)	Most patients preferred receiving NB-UVB phototherapy treatment at home.
	<b>Autonomy, privacy, confidentiality, and/or other relevant ethical principles as applicable</b> Are there concerns regarding accepted ethical or legal standards related to patient autonomy, privacy, confidentiality, or other ethical principles that are relevant to this assessment? (Note: The preferences and values of the public are to be considered as appropriate.)	Patients with busy schedules, who live farther away from clinics, or who have difficulty travelling due to the nature of their condition reported that home NB-UVB phototherapy treatment provided better autonomy over their treatment and time.  Access to home NB-UVB phototherapy treatment may be consistent with the ethical values of autonomy, fairness, and privacy.

Decision Criteria	Subcriteria	Decision Determinants Considerations
<b>Equity and patient care</b> How could the health technology/intervention affect equity of access and coordination of patient care?	<b>Equity of access or outcomes</b> Are there disadvantaged populations or populations in need whose access to care or health outcomes might be improved or worsened that are relevant to this assessment?	Home NB-UVB phototherapy treatment improves access to treatment for people who have difficulty accessing treatment due to nature of their condition or area of residence.
	<b>Patient care</b> Are there challenges in the coordination of care for patients or other system-level aspects of patient care (e.g., timeliness of care, care setting) that might be improved or worsened that are relevant to this assessment?	Photoresponsive skin conditions require lifelong care and treatment. Easier access to treatment improves patient care.
<b>Cost-effectiveness</b> How efficient is the health technology/intervention likely to be?	<b>Economic evaluation</b> How efficient is the health technology/intervention likely to be?	At a willingness-to-pay of \$50,000 per QALY gained, home NB-UVB phototherapy treatment is moderately likely (77% likely) to be cost-effective <sup>a</sup> compared to outpatient clinic NB-UVB phototherapy. Our model suggested that the most likely estimate of the incremental cost-effectiveness ratio for home NB-UVB phototherapy treatment is \$15,675 per QALY gained.
<b>Feasibility of adoption into health system</b> How feasible is it to adopt the health technology/intervention into the Ontario health care system?	<b>Economic feasibility</b> How economically feasible is the health technology/intervention?	The cost of a home NB-UVB phototherapy device is approximately \$3,000 to \$4,000. In addition, costs related to bulb replacement, physician visits, and other disease-specific adjuvant treatments are expected to be incurred over time. We estimated that the annual budget impact of publicly funding home NB-UVB phototherapy in people with psoriasis in Ontario over the next 5 years will range from \$0.6 million in year 1 to \$0.7 million in year 5. Publicly funding home NB-UVB phototherapy treatment for all people with photoresponsive skin conditions will range from \$1.2 million in year 1 to \$1.3 million in year 5.
	<b>Organizational feasibility</b> How organizationally feasible is it to implement the health technology/intervention?	Purchasing NB-UVB phototherapy devices for home use might be challenging. Other implementation models, such as a rental option, may be more feasible. Implementation may be guided by examining existing provincial programs that fund home equipment use, such as the home-oxygen therapy program.

Abbreviations: GRADE, Grading of Recommendations Assessment, Development, and Evaluation; NB-UVB, narrowband ultraviolet B; QALY, quality-adjusted life year.

<sup>a</sup>Uncertainty was classified into one of five categories based on the Ontario Decision Framework: highly likely to be cost-effective (80% to 100% probability of being cost-effective), moderately likely to be cost-effective (60% to 79% probability of being cost-effective), uncertain likelihood (40% to 59% probability of being cost-effective), moderately likely to not be cost-effective (20% to 39% probability of being cost-effective), or highly likely to not be cost-effective (0% to 19% probability of being cost-effective).<sup>2</sup>

## REFERENCE

- (1) TBA
- (2) Krahn M, Miller F, Bayoumi A, Brooker AS, Wagner F, Winsor S, et al. Development of the Ontario decision framework: a values based framework for health technology assessment. *Int J Technol Assess Health Care*. 2018;34(3):290–9.

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