

# Parathyroid Hormone: OHTAC Recommendation

Ontario Health Technology Advisory Committee

April 2014

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## **Conflict of Interest Statement**

All authors in the Evidence Development and Standards branch at Health Quality Ontario are impartial. There are no competing interests or conflicts of interest to declare.

## About Health Quality Ontario

Health Quality Ontario (HQO) is an arms-length agency of the Ontario government. It is a partner and leader in transforming Ontario's health care system so that it can deliver a better experience of care, better outcomes for Ontarians, and better value for money.

Health Quality Ontario strives to promote health care that is supported by the best available scientific evidence. The Evidence Development and Standards branch works with advisory panels, clinical experts, developers of health technologies, scientific collaborators, and field evaluation partners to provide evidence about the effectiveness and cost-effectiveness of health interventions in Ontario.

To conduct its systematic reviews of health interventions, the Evidence Development and Standards branch examines the available scientific literature, making every effort to consider all relevant national and international research. If there is insufficient evidence on the safety, effectiveness, and/or cost-effectiveness of a health intervention, HQO may request that its scientific collaborators conduct economic evaluations and field evaluations related to the reviews. Field evaluation partners are research institutes focused on multicentred clinical trials and economic evaluation, as well as institutes engaged in evaluating the safety and usability of health technologies.

## About the Ontario Health Technology Advisory Committee

The Ontario Health Technology Advisory Committee (OHTAC) is a standing advisory subcommittee of the Board of Directors of Health Quality Ontario. Based on the evidence provided by Evidence Development and Standards and its partners, OHTAC makes recommendations about the uptake, diffusion, distribution, or removal of health interventions within the provincial health system. When making its recommendations, OHTAC applies a unique decision-determinants framework that takes into account overall clinical benefit, value for money, societal and ethical considerations, and the economic and organizational feasibility of the health care intervention in Ontario.

## Publishing Health Quality Ontario Research

When the evidence development process is nearly completed, draft reviews, reports, and OHTAC recommendations are posted on HQO's website for 21 days for public and professional comment. For more information, please visit: <http://www.hqontario.ca/evidence/evidence-process/evidence-review-process/professional-and-public-engagement-and-consultation>.

Once finalized and approved by the Board of Directors of Health Quality Ontario, the research is published as part of the *Ontario Health Technology Assessment Series*, which is indexed in MEDLINE/PubMed, Excerpta Medica/Embase, and the Centre for Reviews and Dissemination database. Corresponding OHTAC recommendations and associated reports are also published on the HQO website. Visit <http://www.hqontario.ca> for more information.

When sufficient data are available, OHTAC tracks the ongoing use of select interventions it has previously reviewed, compiling data by time period and region. The results are published in the Ontario Health Technology Maps Project Report.

## Disclaimer

This report was prepared by the Evidence Development and Standards branch at Health Quality Ontario or one of its research partners for the Ontario Health Technology Advisory Committee and was developed from analysis, interpretation, and comparison of scientific research. It also incorporates, when available, Ontario data and information provided by experts and applicants to HQO. The analysis may not have captured every relevant publication and relevant scientific findings may have been reported since the development of this recommendation. This report may be superseded by an updated publication on the same topic. Please check the Health Quality Ontario website for a list of all publications: <http://www.hqontario.ca/evidence/publications-and-ohtac-recommendations>.

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# Background

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Overuse, underuse, and misuse of interventions are important concerns in health care and lead to individuals receiving unnecessary or inappropriate care. In April 2012, under the guidance of the Ontario Health Technology Advisory Committee's Appropriateness Working Group, Health Quality Ontario (HQO) launched its Appropriateness Initiative. The objective of this initiative is to develop a systematic framework for the ongoing identification, prioritization, and assessment of health interventions in Ontario for which there is possible misuse, overuse, or underuse.

For more information on HQO's Appropriateness Initiative, visit our website at [www.hqontario.ca](http://www.hqontario.ca).

The Evidence Development and Standards branch at Health Quality Ontario conducted an expert consultation<sup>1</sup> (1) to answer the following research questions:

- What are current parathyroid hormone testing practices in Ontario? Are there any areas of inappropriate parathyroid hormone testing?

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<sup>1</sup>Expert consultations are published for interventions for which there is very limited evidence, but consensus by experts on the appropriate use.

# Conclusions

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Given the lack of systematic reviews on the subject of primary hyperparathyroidism, clinical experts were contacted to contextualize the use or volumes of community laboratory testing of parathyroid hormone in Ontario. A calculation based on published data helped to determine what may be considered inappropriate community laboratory testing of parathyroid hormone in Ontario.

- The estimated total volume of community parathyroid hormone tests needed each year is 76,574. Based on Ontario testing volumes for the fiscal year 2011/2012 (149,690), an excess of 73,116 community parathyroid hormone tests were conducted.

# Decision Determinants

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OHTAC has developed a decision-making framework that consists of 7 guiding principles for decision making and a decision determinants tool. When making a decision, OHTAC considers 4 explicit main criteria: overall clinical benefit, consistency with expected societal and ethical values, value for money, and feasibility of adoption into the health system. For more information on the decision-making framework, please refer to the *Decision Determinants Guidance* document available at: <http://www.hqontario.ca/evidence/evidence-process/evidence-review-process/decision-making-framework>.

Appendix 1 provides a summary of the decision determinants for this recommendation.

Based on the decision determinants criteria, OHTAC weighted in favour of recommending parathyroid hormone testing in specific instances. There was evidence of inappropriate overuse of parathyroid hormone testing.

# OHTAC Recommendations

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- Parathyroid hormone should be measured only when high calcium levels are detected, as in suspected or established primary hyperparathyroidism.
- Parathyroid hormone should be measured in patients with chronic renal disease as needed on an ongoing basis.

# Appendices

## Appendix 1: Decision Determinants

**Table A1: Decision Determinants for Parathyroid Hormone Testing**

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)?	Parathyroid hormone testing has steadily increased in Ontario since 2005.
	<b>Safety</b> How safe is the health technology/intervention likely to be?	The prevalence is low (1/1,000).
	<b>Burden of illness</b> What is the likely size of the burden of illness pertaining to this health technology/intervention?	The incidence is low (20.8/100,000).
	<b>Need</b> How large is the need for this health technology/intervention?	There is a need for parathyroid hormone testing in specific instances.
<b>Consistency with expected societal and ethical values<sup>a</sup></b> How likely is adoption of the health technology/intervention to be congruent with societal and ethical values?	<b>Societal values</b> How likely is the adoption of the health technology/intervention to be congruent with expected societal values?	Not known.
	<b>Ethical values</b> How likely is the adoption of the health technology/intervention to be congruent with expected ethical values?	Not known.
<b>Value for money</b> How efficient is the health technology likely to be?	<b>Economic evaluation</b> How efficient is the health technology/intervention likely to be?	Not presented here.
<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?	None reported.
	<b>Organizational feasibility</b> How organizationally feasible is it to implement the health technology/intervention?	None reported.

<sup>a</sup>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.

# References

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- (1) Health Quality Ontario. Parathyroid hormone: an expert consultation. Toronto, ON: Health Quality Ontario; 2013 July. 11 p. Available from: <http://www.hqontario.ca/evidence/publications-and-ohtac-recommendations/expert-consultations>.

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