

Chloride Testing in Community-Based Laboratories: An Expert Consultation

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Based on the research conducted by Health Quality Ontario and its partners, the Ontario Health Technology Advisory Committee (OHTAC)—a standing advisory subcommittee of the Health Quality Ontario Board—makes recommendations about the uptake, diffusion, distribution, or removal of health interventions to Ontario's Ministry of Health and Long-Term Care, clinicians, health system leaders, and policy makers.

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Background

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.

Objective of Analysis

The objective of this analysis is to determine the clinical utility of chloride testing in community-based laboratories.

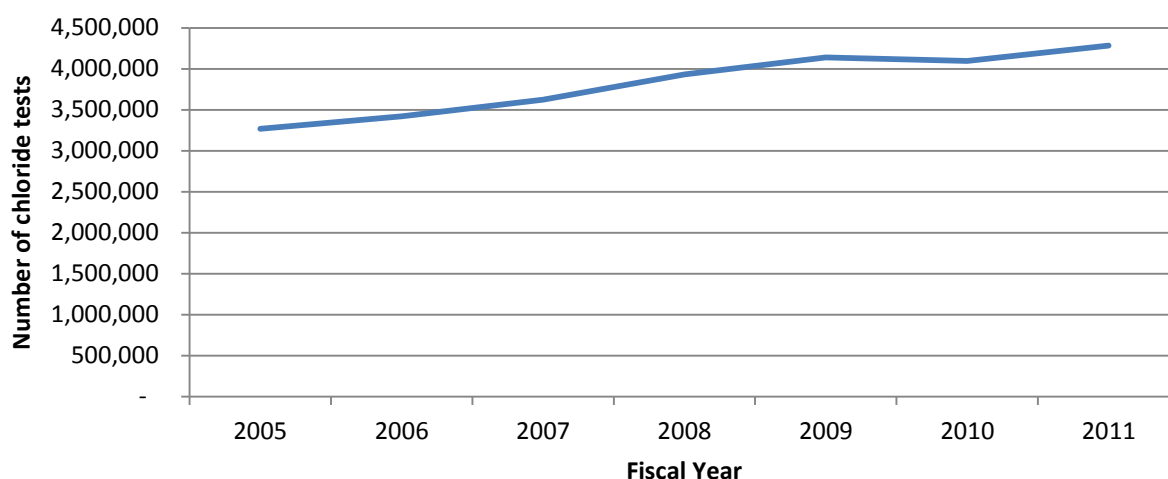
Clinical Need and Target Population

Chloride is an electrolyte that can be measured in the blood. It is often ordered with other electrolytes such as potassium and sodium. Chloride is one of the tests currently listed on the Ontario laboratory requisition form.

Ontario Context

As shown in Figure 1, the number of chloride tests performed in Ontario community laboratories increased from 3,268,050 in fiscal year 2005/2006 to 4,284,617 in fiscal year 2011/2012.

Figure 1: Chloride Tests in Ontario Community Laboratories by Fiscal Year



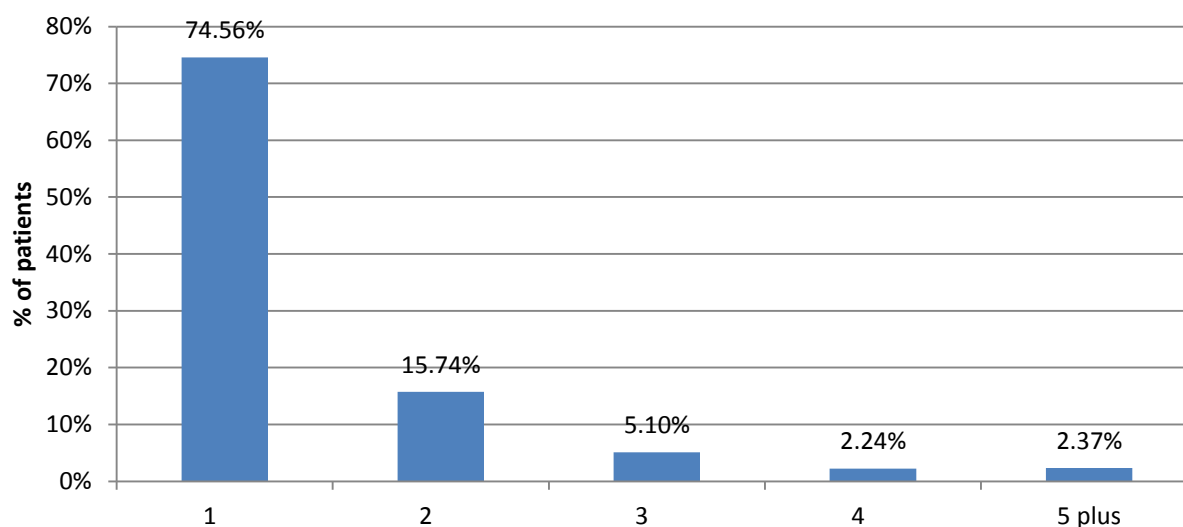
Data are based on health care provider claims (excluding out-of-province, out-of-country, and Work Place Safety and Insurance Board claims) in community labs using the Ontario *Laboratory Schedule of Benefits* fee code L053A. Fiscal service year was defined as having a service date between ccyy-04-01 and ccyy-03-31, assessed to ccyy-09-30 (M7). For example, fiscal service year was defined as having a service date between 2003-04-01 and 2004-03-31, assessed to 2004-09-30. The exception is fiscal service year 2011, which is assessed to 2012-06-30 (M4). Data for fiscal year 2011/2012 may not be complete.

In fiscal year 2011/2012, the top 5 medical specialties that ordered chloride tests in community laboratories were:

- Family and general practice (81.8%)
- Internal medicine (5.7%)
- Nephrology (2.60%)
- Nurse practitioners (2.1%)
- Cardiology (1.9%)

In fiscal year 2011/2012 patients received, on average, 1.48 tests (range, 1–104). The breakdown of the amount of repeat testing occurring during this time period is shown in Figure 2.

Figure 2: Frequency of Repeat Chloride Testing Conducted in Ontario Community Laboratories in Fiscal Year 2011/2012



Data are based on health care provider claims (excluding out-of-province, out-of-country, and Work Place Safety and Insurance Board claims) in community labs using the Ontario *Laboratory Schedule of Benefits* fee code L053A. Fiscal service year was defined as having a service date between ccyy-04-01 and ccyy-03-31, assessed to ccyy-09-30 (M7). For example, fiscal service year was defined as having a service date between 2003-04-01 and 2004-03-31, assessed to 2004-09-30. The exception is fiscal service year 2011, which is assessed to 2012-06-30 (M4). Data for fiscal year 2011/2012 may not be complete. Ontario registered physicians specialties are allocated based on the physician billing pattern for the applicable fiscal service year. For other health care providers, the practicing specialty allocated to the claim submission number as of the last day of each fiscal year was used.

Expert Consultation

Research Question

What is the clinical utility of chloride testing in community-based laboratories?

Research Methods

Expert Opinion

In August 2012, experts were identified to provide advice on the appropriate use of chloride testing in the Ontario health care setting. However, the statements, conclusions, and views expressed in this report do not necessarily represent the views of all experts.

Findings

A number of Ontario experts in the fields of family medicine, endocrinology, internal medicine, and hematology were consulted on this topic. There was general agreement that the majority of chloride testing in the community laboratory setting is inappropriate and is primarily caused by the fact that the test appears on the laboratory requisition form. It was generally agreed that chloride test results had limited utility in the community setting, and that most physicians do not use the results (with the exception of the circumstances when the anion gap is being calculated). Of note, chloride was removed from the laboratory requisition form in British Columbia more than 13 years ago.

Conclusions

Based on the Ontario utilization data and expert consultations, there is inappropriate chloride testing occurring in community laboratories in Ontario. Given its limited clinical utility, chloride testing should be restricted in the community setting.

Acknowledgements

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