

# NCCEH Retrospective Investigation of Drinking Water-related Illnesses in Canada

The current approach to achieving safe drinking water in Canada, while recognizing the importance of adequate disinfection and a multi-barrier approach, often emphasizes compliance with numerical guidelines as an indicator of “safe water.” The effectiveness of this kind of compliance, however, has been questioned. A more productive approach may come from looking at lessons learned, revealed by examining the evidence provided by a complete review of recent Canadian waterborne disease experiences.

Because much of the inspection, auditing, and decision making surrounding small drinking water systems in many Canadian jurisdictions leaves substantial responsibility in the hands of front line staff, it is felt that the findings of this project will benefit front line public health personnel. In contrast, monitoring requirements for drinking water systems tend to be incorporated into regulation and leave little discretion to front line practitioners. Finally, this review could contribute to future estimates of the burden of illness attributable to drinking water in the Canadian population. This project will build on the work of previous review studies that have investigated waterborne outbreaks in Canada.

This project differs from previous work in several important ways.

- 1) With respect to content, it broadens the question on health outcomes to include acute illness related to exposure to chemical and radiological agents in drinking water.
- 2) With respect to process, active involvement from the intended user community is being sought during the study design, as well as during its conduct and analysis. This involvement improves the completeness of data collection, as much of this is unpublished and exists in the files of local agencies responsible for the provision and regulation of drinking water.
- 3) With respect to outcome, the development of risk-assessment tools, prevention strategies, general “best practices” documentation, and technical tools to efficiently assist the front line public health practitioner is a key deliverable of this work. Active involvement of the user community will also maximize the opportunity for translating findings into documents and other sources of information that are useful for changing policy and practice.

The results of this undertaking will provide the best evidence available on which factors are most frequently responsible for outbreaks of waterborne illness. This information will be used to develop data-based risk assessment frameworks for the evaluation of drinking water systems in Canada. Such a risk assessment framework has great potential to change practice in this area. The results will also be useful for reviewing the extent to which current regulations and policies address the most frequent causal factors associated with outbreaks of waterborne disease. Where the current framework does not address these factors, there is great opportunity for this project to change policy.

A steering committee including environmental and public health practitioners, researchers, and policy-makers provides guidance and direction for the project. The group had its first meeting on March 28, 2008 to review the project design, identify final products useful to practice, and link researchers to relevant information. We believe this project will result in evidence-based changes to practice and policy. If you have any questions or comments on the study, or information on historic waterborne illnesses, or know of people in your jurisdiction who do, please contact Stephanie Clarke at [stephanie\\_clarke@novometrix.com](mailto:stephanie_clarke@novometrix.com).



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