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Research Program:

The Canadian North *Helicobacter pylori* (CANHelp) Working Group conducts community-based, participatory research in Arctic Aboriginal communities to address community concerns about health risks from *H. pylori*.

This research links northern community representatives, health care practitioners and health care decision makers from the Yukon and Northwest Territories, and researchers from various disciplines at the University of Alberta.

Our collaborative initiative aims to describe the burden of disease, and seeks to identify effective public health strategies to reduce associated health risks.

Microbiology Component:

A component of our research involves the identification of *H. pylori* strain types and the assessment of *H. pylori* relatedness within households and between participating communities.

This work is done by culturing *H. pylori* from gastric biopsies obtained from participating community members. From these cultures, the housekeeping genes *ureI*, *atpA*, and *ahpC* are sequenced. "Housekeeping genes" are genes that maintain basic cell function.

After gene sequencing, phylogenetic trees are generated and clusters of *H. pylori* isolates are identified to reveal the relatedness of *H. pylori* isolated from community residents.

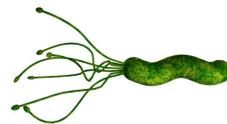


Image provided by: <http://anthropology.net/2008/10/02/evidence-of-an-american-population-bottleneck-seen-through-helicobacter-pylori-genetics/>

Dissemination of Results:

An important element of the research program is the dissemination of research results in a manner that is meaningful to a variety of audiences.

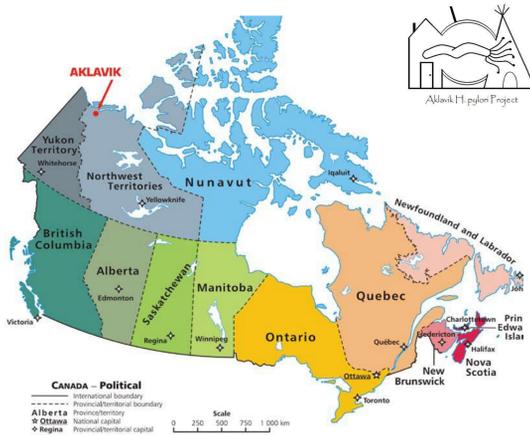
Meaningful dissemination of microbiology results will require incorporating the different world views and knowledge structures of Aboriginal communities, health officials and researchers.

This process requires collaboration with community representatives to understand which results are of interest to community members and how they would be best presented.



Case Study: The Aklavik *H. pylori* Project

The hamlet of Aklavik, with a population of ~600, mostly Aboriginal, is located in the Northwest Territories, Canada.



For several years preceding 2006, residents expressed concerns about a perceived increase in the number of stomach cancer cases diagnosed in the community.

Many residents believed that this occurred due to a high frequency of *Helicobacter pylori*.

The Planning Committee:

- In 2006, the CANHelp Working Group was formed: collaborations and research conducted by the Working Group involve guidance from a local Planning Committee.
- This Planning Committee, comprising community representatives, ensures that the research conducted and results disseminated are aligned with community goals.

One element of the Aklavik *H. pylori* Project, the microbiology research component, reveals that there is a higher degree of relatedness among *H. pylori* isolates than is typically reported for other populations. The manner in which this finding was obtained and the various plausible interpretations must be effectively presented to community members.

Dissemination of meaningful microbiology results to Aklavik community members will be achieved through the following general process:



Acknowledgements

A huge thank you to the community of Aklavik, Northwest Territories, Canada and to other members of the CANHelp Working Group.

