Helicobacter pylori infection in Aklavik, NWT: Describing demographic characteristics of participants in a community driven project

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Helicobacter pylori

- Helical, flagellar, gram-negative, microaerophilic bacterium that inhabits the lining of the stomach and/or duodenum

Photo from Blaser Sci Am Feb 1996, pp. 104-7
About *H. pylori*

- Infects half or more of the world population, in some communities more than in others
- Most people with *H. pylori* get it in childhood; some people stay infected throughout their lives
- Can cause peptic ulcer disease, gastritis, and stomach cancer
- People living in crowded conditions are more likely to have it
About *H. pylori*

- Mode of transmission remains uncertain
  - Research suggests person to person spread through close contact
  - Not certain how often people get it from water or other environmental exposures

- Public health control measures have not been developed
H. Pylori disproportionately affects Northern populations.
Little Data on *H. pylori*-associated Disease in Northern Canada

- **Peptic Ulcer Disease**
- **Gastric Cancer**
  - 4th most frequently diagnosed cancer in NWT males
  - versus 10th for males across Canada
NWT communities were concerned about *H. pylori*

- Perceived high rates of stomach cancer
- Other health risks
- Fear of environmental cause
CANHelp (Canadian North *Helicobacter pylori*) Working Group

**Community Organizations**
- Aklavik Health Committee
- Billie Archie, Arctic Health Research Network, Aklavik Chapter
- Crystal Lennie, Inuvialuit Regional Corporation

**NWT Agencies**
- Rachel Munday, Nurse in Charge, Aklavik Health Center
- Leah Seaman, Public Health Physician, Beaufort-Delta Regional Health Authority
- Kami Kandola, Chief Public Health Officer, NWT Health and Social Services
- John Morse, Former Medical Director, Stanton Territorial Health Authority
- Susan Chatwood, Director, NWT Arctic Health Research Network

**Alberta Health Services**
- Robert Bailey, Director, Northern Health Services Network

**University of Alberta**
- Epidemiology: Karen Goodman
- Gastroenterology: Sander van Zanten, Justin Cheung, Amy Morse, Richard Fedorak
- Microbiology: Monika Keelan
- Pathology: Safwat Girgis
- Anthropology: Christopher Fletcher
- Health Policy: Carl Phillips
CANHelp Working Group-Aims

• To address community concerns about health risks from *H. pylori* infection

• To recommend *H. pylori* management strategies to health authorities

• To reduce health risks from *H. pylori* infection
Aklavik H. pylori Project
Hamlet of Aklavik, NWT
2006 population: 590
90% Inuvialuit (Inuit) or Gwich’in Dene (First Nation)
Aklavik *H. pylori* Project Specific Aims:

- Investigate *H. pylori* infection in Aklavik
  - Screen residents for *H. pylori* infection, family history, symptoms
    - Urea Breath Test (UBT)
    - Endoscopy
  - Collect epidemiologic data on risk factors
  - Evaluate effectiveness of anti-*H. pylori* therapies
  - Follow those treated long-term to identify factors associated with treatment failure and reinfection
Breath Test Results

- 321 people were tested for *H. pylori* by UBT
  - 58% were positive
Prevalence of *H. pylori* by sex among 321 Aklavik residents screened by UBT
Prevalence of *H. pylori* infection by age among 321 Aklavik residents screened by UBT

![Graph showing prevalence of H. pylori infection by age](image-url)

- **0-14**
- **15-24**
- **25-39**
- **40-59**
- **60-79**

**Age groups (years)**

**Percent**

- **0-14**
- **15-24**
- **25-39**
- **40-59**
- **60-79**

- **% positive**

*Note: The graph shows the percentage of positive H. pylori tests across different age groups.*
Prevalence of \textit{H. pylori} infection by ethnicity among 293 UBT-screened Aklavik residents with ethnicity data.

![Bar graph showing the prevalence of H. pylori infection by ethnicity.](image)
This assessment suggests that community worries over cancer risks from *H. pylori* infection are well-placed.

The Aklavik *H. pylori* Project is currently developing knowledge exchange strategies that help community members understand *H. pylori* health risks as well as currently available solutions and unsolved challenges for reducing these health risks.

This research will expand to other northern Canadian Aboriginal communities to obtain representative data for informing regional health policy aimed at reducing health risks from *H. pylori* infection.
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Questions?

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