Clinical management of *H. pylori* in the Arctic
Lessons from community-driven research

Hotìì ts’eeda Ełèts’ehdèe
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Presentation Overview

- *H. pylori* infection and related disease
- Overview of CANHelp Working Group
- Burden of *H. pylori* infection
- Impacts of the project
- Ongoing work
H. pylori infection and disease
**Helicobacter pylori**

- Stomach bacteria
- Not a new infection, found all over the world
- Most often acquired during childhood
- Likely spreads most frequently through direct person-to-person contact
Disease caused by *H. pylori*

- In most chronic cases: only asymptomatic mild gastritis
- In a small fraction of cases: dyspepsia
- In a small fraction of cases
  - Peptic ulcers (~10%)
  - Stomach cancer (~1%)

Adapted from Press Release: The 2005 Nobel Prize in Physiology or Medicine. Nobelprize.org
Stomach Cancer in Indigenous Populations

• Evidence that Indigenous populations worldwide have higher rates of stomach cancer
• Same trend in Arctic regions of Canada
• Populations are too small to get precise estimates, trends, risks
CANHelp Working Group

Canadian North Helicobacter pylori Working Group
CANHelp Working Group
Burden of infection and related stomach disease
H. pylori infection in Canada

Study of multiple southern provinces: 30%

38% 51% 95% 35% 38%

57-66%
**H. pylori-related Disease in Community Project Participants**

- 3:1 ratio, gastric:duodenal ulcer
- More frequent gastric than duodenal disease
- Higher prevalence of more severe inflammation

**Characteristic of a population at higher risk of stomach cancer**

https://www.drugs.com/mcd/images/image_popup/DS00242_%20DS00958_IM02752_r7_ulcersthu_jpg.jpg
Impacts of the project
Testing Treatments for *H. pylori* infection

- Conventional treatments weren’t working very well
- Different treatments are more likely to eliminate the infection
- However, these drugs are difficult for many patients to take

![Bar chart showing proportion of participants successfully cleared of the infection](chart.png)
New Clinical Guidelines and Recommendations

- **Published guidelines that cite CANHelp community project results**
  - 2016 Arctic Regions Expert Commentary – 2016
    *Epidemiol Infect* 2016, 144, 225–233
  - 2016 Toronto Consensus
    *Gastroenterology* 2016, 151:1, 51-69
  - 2016 Alberta Clinical Practice Guidelines (based on Toronto Consensus)
  - 2017 AGC Practice Guideline – Management of *H. pylori* Infection
    *Am J Gastroenterol* 2017 advanced online publication doi: 10.1038/ajg.2016.563

- **Guidelines that CANHelp academic researchers co-authored**
  - 2016 Arctic Regions Expert Commentary – 2016 (Goodman)
  - 2016 Toronto Consensus (van Zanten)
  - 2016 Alberta Clinical Practice Guidelines (van Zanten)
  - 2017 NASPGHAN-ESPHGHAN Pediatric Guidelines – update forthcoming (Goodman)
    *J Pediatr Gastroenterol Nut*, in press
New Clinical Guidelines and Recommendations

- New directions common to new guidelines
  - Greater caution about “test and treat”
  - Greater caution about clarithromycin-based triple therapy
  - Longer duration of recommended regimens (14 days)
  - Emphasis on importance of confirming treatment success

- Emphasis on using local evidence to inform management strategies
Treated individuals mostly remain infection-free

- Estimated re-infection proportion during the follow-up period: 4.7% (95% CI: 0.6-16.0%)
- Combined re-infection/incidence rate in 72 Indigenous participants: 2.4% per year (95% CI: 0.8-5.9% per year)
- The following groups remained free from infection:
  - All 9 non-Indigenous participants
  - All 23 participants aged 55 and older

Ongoing work
What do we still need to do?

- Effective primary prevention measures have not been identified
  - Vaccines are not yet available

- Large trials show that the elimination of *H. pylori* infection in adults reduces gastric cancer rates
  - BUT WE STILL NEED LOCAL EVIDENCE
    (on who to target for interventions)

- Results from long-term endoscopy follow-up and analysis of health-care data will provide local evidence for these questions
Value of community-driven methods

- **Community-engaged research can**
  - Be part of a multilevel approach to develop and implement effective prevention strategies
  - Build relationships
    - Communities and their healthcare providers
  - Build capacity in communities
    - Accelerate creating local evidence
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