



Community-driven research on *Helicobacter pylori* infection in northern Canada

K J Goodman, J Huntington, R Munday, S van Zanten

& CANHelp

(Canadian North *Helicobacter pylori*)

Working Group

Research Context

- NWT communities
- NWT health authorities
- NWT government
- Many NWT communities are remote with respect to advanced medical services



CANHelp (Canadian North *Helicobacter pylori*) **Working Group**

Aklavik Community Organizations

- Rachel Munday, Nurse in Charge, Aklavik Health Centre
- Aklavik Health Committee
- Billie Archie, Arctic Health Research Network, Aklavik Chapter

NWT Agencies

- Andre Corriveau, Chief Medical Officer, Health and Social Services, NWT
- John Morse, Medical Director, Stanton Territorial Health Authority
- Leah Seaman, Beaufort-Delta Regional Health and Social Services Authority
- Susan Chatwood, Director, Arctic Health Research Network

Alberta Health Services

- Robert Bailey, Director, Northern Health Services Network

University of Alberta

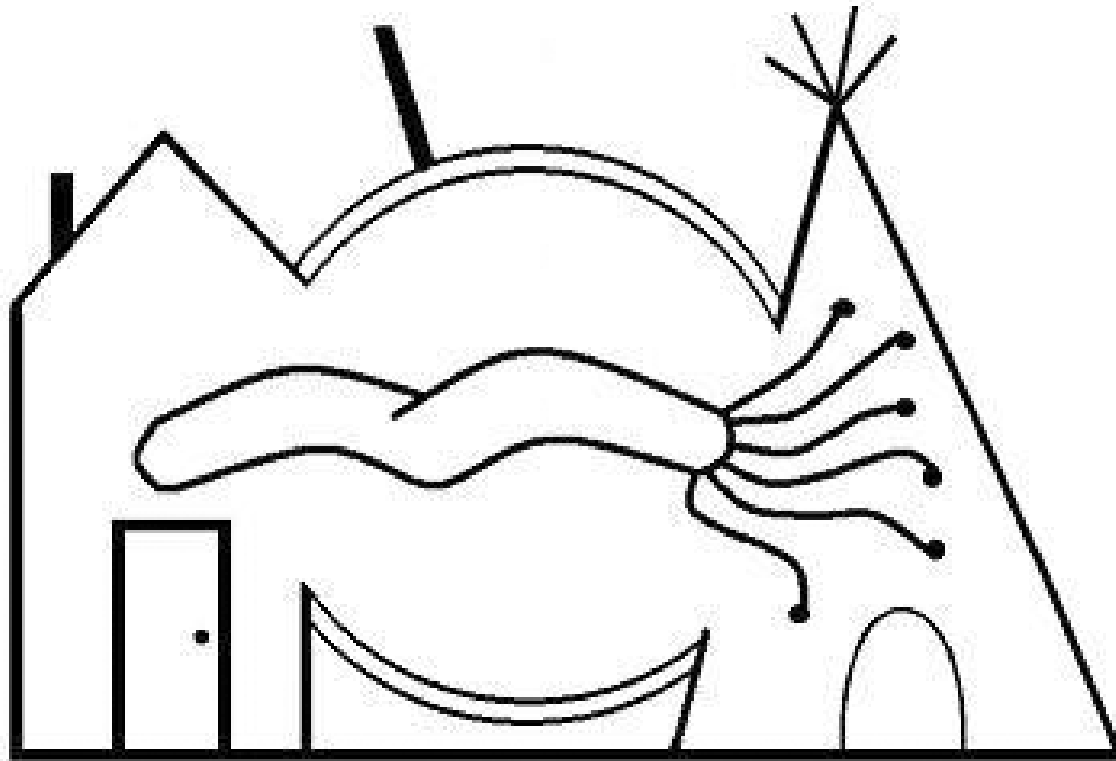
- Principal Investigator: Karen Goodman, Epidemiology
- Gastroenterology: Sander van Zanten, Justin Cheung, Amy Morse, Richard Fedorak
- Microbiology: Monika Keelan, Joanne-Simala Grant
- Pathology: Safwat Girgis
- Anthropology: Christopher Fletcher
- Health Policy: Carl Phillips

CANHelp Research Goals

- 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



Pilot Project



Aklavik *H. pylori* Project

Pilot Project-The Aklavik *H. pylori* Project

- 1) Investigate *H. pylori* infection in Aklavik
- 2) Include community members in research planning and conduct
- 3) Knowledge exchange activities



Pilot Project-The Aklavik *H. pylori* Project

Why Aklavik?

- Selected by NWT health authorities as a starting place for this research
 - High level of community concern due to stomach cancer deaths in some families
 - Enthusiasm for the research from local health authorities
- Other communities to be included later



Study Community: Aklavik

- 2006 population: 590
 - 92% Inuvialuit (Inuit) or Gwich'in Dene (First Nation)
- Access
 - Reached only by air or by winter ice-road from Inuvik



Aklavik Health Centre





Aklavik *H. pylori* Project Components

- Community Survey and *H. pylori* Testing
- Endoscopy
- Treatment
- Policy Development
- Knowledge Exchange



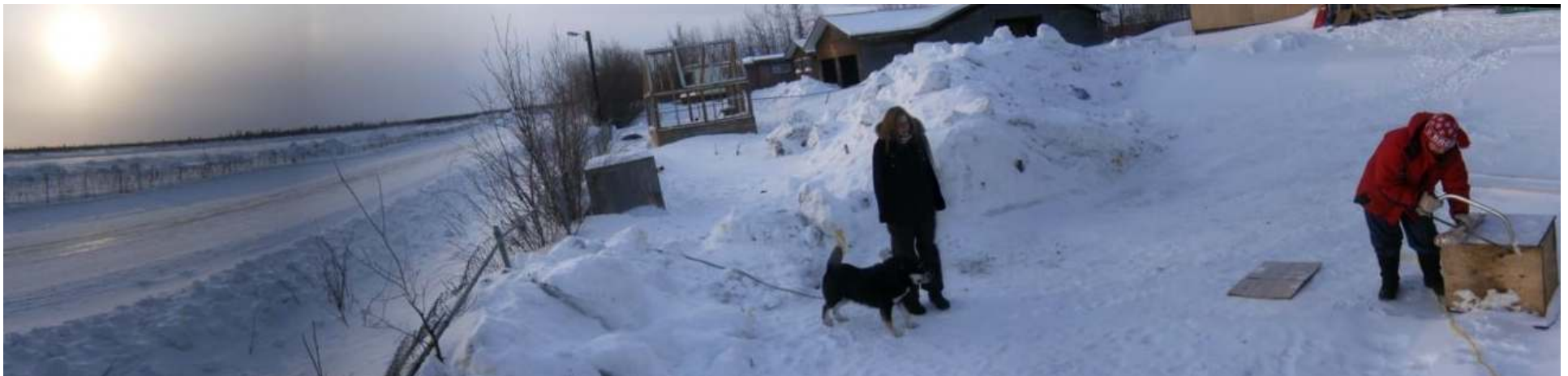
Aklavik *H. pylori* Project: Timeline

Feb 2007	Community approval obtained
May 2007	Community input workshops initiated
Sep 2007	NWT research license obtained
Nov 2007	Fieldwork initiated
Feb 2008	Endoscopy component completed; microbiology initiated
Apr 2008	Pathology results reported to participants
Nov 2008	Treatment trial initiated
Ongoing	Survey data collection
	Breath testing
	Knowledge exchange (video documentary)
	Data analysis and presentation



Aklavik *H. pylori* Project: Participation

- Participants recruited: **368**
- Clinical surveys completed: **339**
- Individuals with breath test results: **313**
- Aklavik residents appearing for endoscopy: **200**
- Individuals from whom biopsies were obtained: **194**
- Epidemiology surveys completed to date:
 - Household: 94
 - Individual: 167



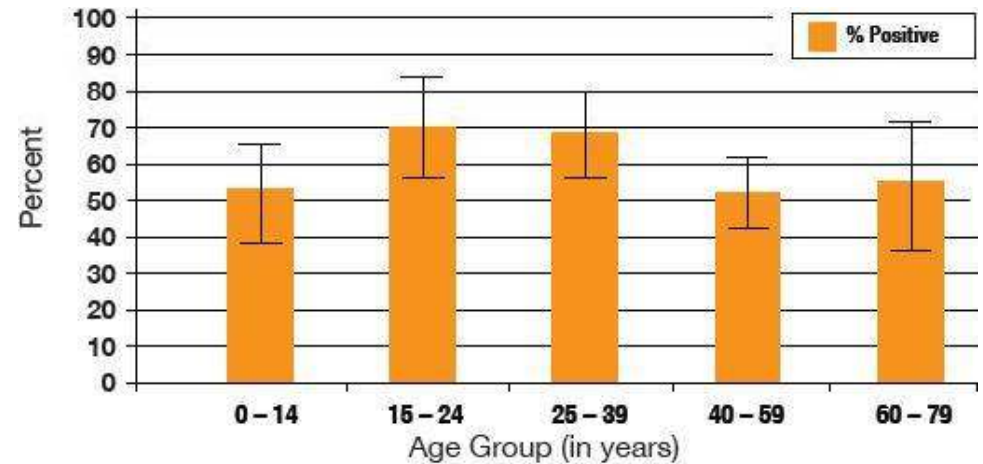


The Aklavik *H. pylori* Project-Results

H. pylori demographics

- Prevalence by age
- *Among 313 Aklavik residents screened by UBT*

	<i>n</i>	UBT-Positive (%)	95% CI
Age			
0-14	59	53	39-66
15-24	53	70	46-82
25-39	61	69	56-80
40-59	105	51	41-61
60-79	35	54	37-71



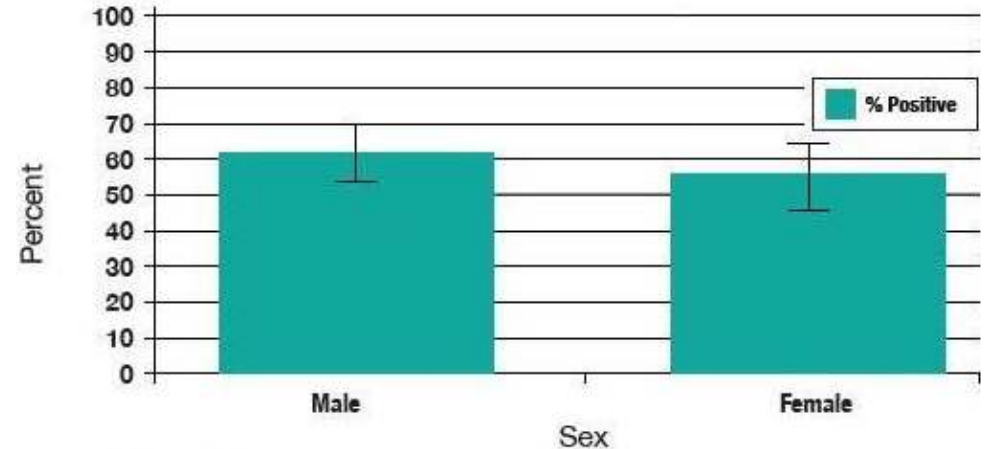


The Aklavik *H. pylori* Project-Results

H. pylori demographics

- Prevalence by sex
- *Among 313 Aklavik residents screened by UBT*

	<i>n</i>	UBT-Positive (%)	95% CI
Sex			
Male	140	61	53-70
Female	173	56	48-64



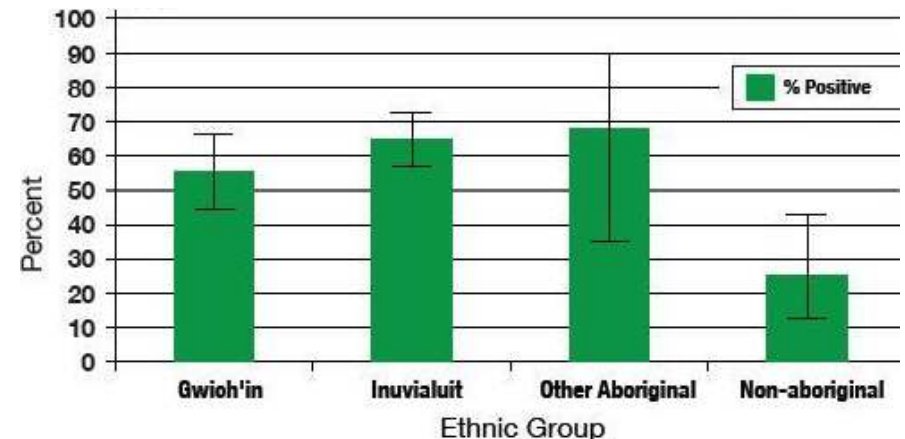


The Aklavik *H. pylori* Project-Results

H. pylori demographics

- Prevalence by ethnicity
- *Among 313 Aklavik residents screened by UBT*

	<i>n</i>	UBT-Positive (%)	95% CI
Ethnicity			
Gwich'in	79	57	45-68
Inuvialuit	157	65	57-72
Other Aboriginal	12	67	35-90
Non-Aboriginal	36	25	12-42





The Aklavik *H. pylori* Project-Results

- Of 194 scoped persons, percent who had the following:

Apparent inflammation	Gastritis	13.8%
	Duodenitis	6.7%
Erosions	Gastric	6.2%
	Duodenal	0.5%
Ulcers	Gastric	3.1%
	Duodenal	0
Cancer	0	
Esophagitis	10.4%	
Barrett's Esophagus	2.6%	





The Aklavik *H. pylori* Project-Results

- Histopathology results of 194 residents having an endoscopy

	All <i>H. pylori</i> Positive	All Participants
n	129	194
Inflammation		
Mild (%)	8	7
Moderate (%)	47	31
Severe (%)	43	29
Atrophy (%)	21	14
Intestinal Metaplasia (%)	11	8



The Aklavik *H. pylori* Project-Results

Effectiveness of treatment for 71 residents completing treatment trial

- ***Alternate therapy***: 27/35 were negative after treatment
 - 77% effective (95% CI: 60-90)
- ***Standard therapy***: 24/36 were negative after treatment
 - 67% effective (95% CI: 49-81)

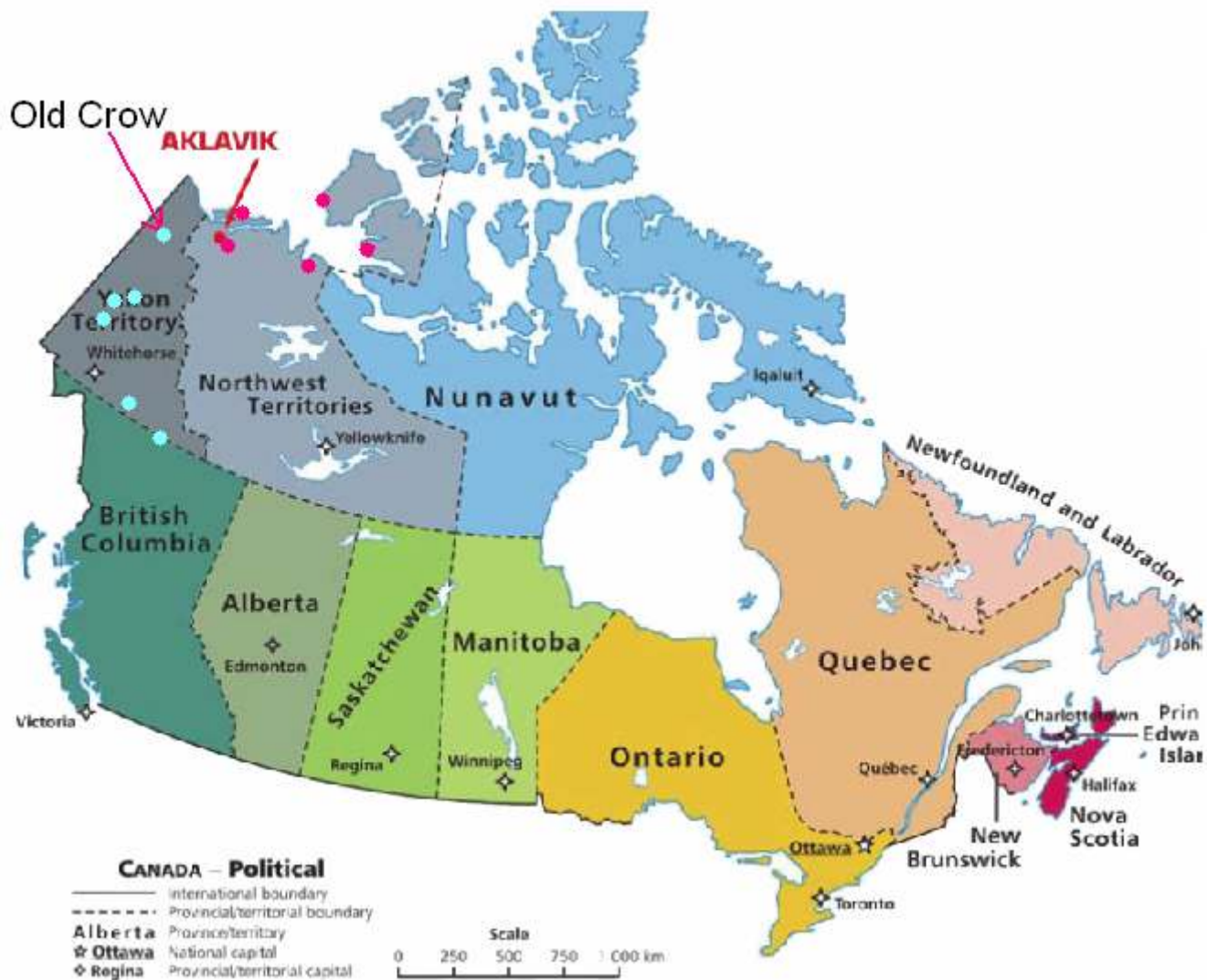
We need more data for statistically precise estimates of the treatment success difference



The Aklavik *H. pylori* Project Conclusions Presented to Community

- Endoscopic and histopathologic evaluation of Aboriginal residents of Aklavik, NWT shows a pattern consistent with an elevated risk of gastric cancer
- This assessment suggests that community worries over cancer risks from *H. pylori* infection are well-placed
- The Aklavik *H. pylori* Project will develop additional 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

CANHelp Next Steps



CANHelp Next Steps-Old Crow

From: Darius.Elias [mailto:Darius.Elias@yla.gov.yk.ca] {Old Crow MLA in Yukon legislature}

Sent: Wednesday, August 20, 2008 11:02 AM

To: Karen Goodman

Subject: Vuntut Gwitchin First Nation Resolution No. 2008-02

Helicobacter Pylori Bacterium study in the community of Old Crow

Whereas; For many years the community members of Old Crow have voiced concerns about the high number of internal body health problems;

Whereas; Many citizens feel there is a need to address *H. Pylori* health concerns because of its link to developing ulcers and then stomach cancer;

Whereas; It is vitally important to have early detection and prevention of health complications that could lead to cancer and possibly death;

Whereas; *H. Pylori* is an urgent health concern that effects many residents of Old Crow and which we would like health authorities to address;

Whereas; An *H. Pylori* research study presentation was described in an information session held at the 2008 International Gwitchin Gathering in Old Crow.

Therefore Be It Resolved;

The Vuntut Gwitchin First Nation General Assembly has considered the value of participating in a *H. Pylori* research study and we have unanimously decided that such a project be carried out in the community of Old Crow for those citizens willing to participate;

the community of Old Crow; Yukon healthcare professionals and the Division of Gastroenterology, University of Alberta lead and facilitate this project to ensure that it stays focused on community priorities and benefits the people of Old Crow, Yukoners and the citizens of the world.

Aklavik *H. pylori* Project: Funding Agencies

- Alberta Heritage Foundation for Medical Research
- Canadian Association for Gastroenterology with Canadian Institutes for Health Research & Industry Partners
- Social Sciences and Humanities Research Council of Canada
- NEAHR
- Public Health Agency of Canada
- Indian and Northern Affairs Canada
- Canadian Circumpolar Institute

Aklavik *H. pylori* Project: Supporters

OLYMPUS



Reg Service #21, Inuvik, NT X0E 0T0



Aklavik, NWT
2:30 am, June 2, 2009