



## Ross River *H. pylori* Project Progress Report – August 2017



The Ross River *H. pylori* Project arose from a collaborative effort of the Canadian North *Helicobacter pylori* (CANHelp) Working Group to investigate *H. pylori* infection in northern Canada with goals of addressing community concerns, improving clinical management, and reducing health risks.



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**When you see a \*, please refer to p.11 for a definition of the term**



## Ross River *H. pylori* Project Timeline

### Apr 2015 - Jul 2016

- Initial project planning

### Oct 21 - Nov 2, 2016

- Recruitment, *H. pylori*\* screening\* by breath test, questionnaires (health/participant/household)

### Jun 2017

- Endoscopy\*
- Treatment

### Ongoing

- Research results reported to community
- Post-treatment breath test\*
- Knowledge exchange activities





## Overview of the Findings

### What has been done so far?



Around **37%**  
of Ross River residents  
have participated  
in this project  
(population ~290)

#### Completed components of the project include

-  ***H. pylori* screening by breath test**
-  **Collection of questionnaire data**
-  **Endoscopy**
-  **Treatment**

### What remains to be done?

- Post Treatment breath tests : ongoing
- Knowledge exchange activities : ongoing
- Analysis of questionnaire data : ongoing
- Reporting research results back to the community: ongoing



## What have we learned?

We are still working on this



## Participation and Data Counts

107	•Participants recruited
104	•Urea breath test screening* completed 100 had a positive, negative, or borderline result 2 had uncertain results that could not be classified
106	•Interviewer-administered health questionnaires completed
63	•Interviewer-administered participant questionnaires completed
62	•Interviewer-administered household questionnaires completed
25	• Participants completing endoscopy*
24	• Biopsies* available for <i>H. pylori</i> * testing
8	•Participants enrolled in treatment trial

## Summary of Project Activities

To categorize activities, we will be using the following symbols:



**Community visit**



**Data collection**



**Dissemination and knowledge exchange**



**Physician's visit**



**Planning**

### On-going Project Activities

#### 1.1 Upcoming Activities

- Reporting of pathology\* results back to the community will start in fall 2017 after pathologic\* assessment of the gastric\* tissue biopsies\* is completed.
- Project staff will travel to Ross River throughout 2017 to collect more data and follow-up with project participants and share updates with community members.

#### 1.2 Recent Activities – Year 2017

##### January 2017: Breath Test Results Reporting and Additional Data Collection



In January 2017, the first set of breath test results were reported to project participants. The last group of breath-test screened\* participants received their test results in March 2017.



Community Engagement Lead Ali Assi and Lead Gastroenterologist\* Dr. Sander van Zanten held a video conference on January 12, 2017 with the community members of Ross River to address concerns regarding *H. pylori*\* infection and to promote the endoscopy\* and treatment components of the project.



During January 15 to 18, 2017, Ali Assi visited Ross River with Northern Health Research Consultant Kathy Gilmore. Ali and Kathy offered breath testing to new participants to continue enrollment in the Ross River *H. pylori* project. 16 new participants were enrolled in the breath test screenings\* and community questionnaires.



On January 18, 2017, Ali met with the Ross River *H. pylori* Project planning committee to share updates from data collection and discuss plans, including further data collection, water biofilm project, and upcoming endoscopy\*.

### February 2017: Endoscopy\* Planning



Community Engagement Lead Ali Assi met with the Ross River *H. pylori* Project Planning Committee in February 2017 to discuss some updates about the upcoming endoscopy\* component in June 2017.

### June 2017: Endoscopy\* and Treatment Trial



Community Engagement Lead Ali Assi, Research Management Lead Hsiu-Ju Chang and Managing Director Janis Geary travelled to Ross River to initiate the endoscopy\* and treatment phases of the Ross River *H. pylori* Project in June 2017.



They were accompanied by a team of two gastroenterologists\*, including CANHelp\* Working Group's Lead Gastroenterologist Dr. Sander van Zanten, and Dr. Ali Kohansal, from the University of Alberta Hospital. One Alberta Health Services (AHS) endoscopy nurse, two AHS processing technicians, and one Vantage/Fuji Canada representative also travelled to Ross River with the team.



Study participants 15+ years of age who wished to undergo endoscopy\* were eligible, as were children whose parents requested that they be included, at the gastroenterologist's discretion. During June 8 and 9, 2017, the team performed 25 endoscopies at the Ross River Health Centre; 1 participant was not able to complete the procedure, and biopsies\* for culture\* and histopathology\* were obtained from 24 participants. No adverse effects occurred during the endoscopy procedures. A post-endoscopy patient satisfaction questionnaire indicated that most of those scoped tolerated the procedure well and would be willing to have it in the future, if needed. The biopsies were sent back to the University of Alberta to be processed for histopathology and culture.



For the treatment phase of the project, the two gastroenterologists\* evaluated eligibility for the project treatment trial and oversaw the administration of therapy. Participants who were not eligible for the trial were prescribed treatment outside the trial protocol as appropriate. Consent for the treatment was obtained from 16 participants and 16 received medications, 8 as part of the trial, which was designed to compare quadruple and concomitant therapies, two of the best available treatment regimens for eliminating *H. pylori*\* infection. Quadruple therapy consisted of a proton pump inhibitor with bismuth, metronidazole, and tetracycline, and the concomitant therapy consisted of proton pump inhibitor, clarithromycin, amoxicillin and metronidazole. The duration of both therapies was 14 days.

### August 2017: Chart Reviews, Water Collection, and Key Informant Interviews



Research Management Lead Hsiu-Ju Chang, MSc Student Amrit Passi and Graduate Research Intern Sateen Werner travelled to Ross River on August 6, 2017 to carry out chart reviews. During August 7 to 11, 2017, 91 chart reviews were completed by the team. The chart reviews collected information for each participant for the 5 years preceding project enrolment on digestive complaints as well as testing and treatment for *H. pylori*\* infection. The chart review information will enhance the completeness of the health questionnaires and help the project better estimate the burden of digestive diseases among residents of Ross River.







During the visit, MSc student Amrit Passi also collected water samples from 14 sites in Ross River for his thesis work on water biofilm project. Amrit's project aims to address community concerns about environmental reservoirs of *H. pylori*\* bacteria by examining potential ways *H. pylori* bacteria might be able to survive in water. Amrit collected 2 water samples from Ross River households, 11 from environmental sites, and 1 from the health centre.



Graduate Research Intern Sateen Werner conducted semi-structured interviews with the residents of Ross River to understand the community members' perspectives on *H. pylori*\* infection, what the residents know and think about the infection, and how *H. pylori* has impacted their lives and the lives of their family members and friends. From August 9 to 11, 2017, Sateen completed 6 interviews with the residents. The CANHelp\* team designed this project to give community members a voice in research on *H. pylori* infection. The result of this project will help broaden the CANHelp Working Group's understanding of the impact that *H. pylori* has on the communities, and will guide future research and inform initiatives that aim to reduce health risks associated with *H. pylori* infection in northern Canada.

## Previous Project Activities

### 2.1 Year 2015



#### April to September 2015: Initial Stages of Research Planning

In April 2015, Research Management Lead Hsiu-Ju Chang and Yukon Community Coordinator Valerie Laurie participated in a meeting of the Ross River Interagency Committee through teleconference. The committee comprised of representatives from various community organizations in Ross River, including the health centre, the school, Yukon college, the Royal Canadian Mounted Police detachment, and the First Nations government. The committee members were informed about potential research opportunities in Ross River and the next steps to move forward. They requested an in-person presentation by Valerie at their meeting in September 2015 to provide more detailed information.



In September 2015, Yukon Community Coordinator Valerie Laurie presented at the Ross River Interagency Committee meeting about the research conducted by the CANHelp\* Working Group, and informed the members about the subsequent steps to bring the research to Ross River.

### 2.2 Year 2016



#### July 2016: Research Planning Workshop

Community Engagement Lead Ali Assi and Yukon Community Partnership Coordinator Reanna Mohammad travelled to Ross River in July 2016 for a planning workshop to launch the project. The Ross River planning committee reviewed and approved the research agreement, and made plans to launch the Ross River *H. pylori* project in October 2016.



#### October 2016: First Wave of Data Collection

Community Engagement Lead Ali Assi, Northern Health Research Consultant Kathy Gilmore, and Ethnographic Research Lead Sally Carraher travelled to Ross River in October 2016 to launch the Ross River *H. pylori* Project.



On October 21, 2016, the team held a community presentation and project kick-off. Ali Assi also held an information session at the local school with Principal Fran Etzel for the community youths. During the session the students learned about *H. pylori*\* infection and the CANHelp\* Working Group research program, and were invited to submit drawings to the community project logo contest.



During October 21 to November 2, 2016, 73 participants were enrolled in the project. The team obtained informed consent and screened the participants for *H. pylori*\* infection by breath test. They also interviewed participants using the participant, household, and health questionnaires.

Initial recruitment efforts were met with a positive response from the community. Most residents contacted indicated a desire to participate. The biggest challenge was getting potential participants to follow through on scheduled appointments to complete the informed consents, breath tests, and questionnaires.

### **December 2016: Planning Session for Returning Breath Test Results**



In December 2016, Lead Gastroenterologist\* Dr. Sander van Zanten and Research Management Lead Hsiu-Ju Chang held a TeleHealth conference with the Ross River Nurse-in-Charge Christina Carrillo to discuss plans for returning the breath test results to the Ross River participants.



Later that month, Community Engagement Lead Ali Assi and Community Projects Lead Laura McAlpine held a teleconference with Brendan Hanley and Collaborative Member Sheila Thompson to discuss options for endoscopy\* activities for Ross River, and the possibility of holding the activities at the local health centre.



## Definitions and Acronyms

Antibiotic resistance	Ability of a microorganism to withstand the effects of an antibiotic
Antibiotic susceptibility	Susceptibility/Sensitivity of bacteria to antibiotics
Atrophy	Wasting away and breakdown
Biopsy, of stomach	A tiny piece of stomach taken during endoscopy
CANHelp	Canadian North <i>Helicobacter pylori</i>
Culture	As bacteria are living organisms, they can be made to grow in laboratories under the right conditions. A culture test provides conditions that encourages the bacteria to grow
Duodenal	Related to the duodenum (small intestine)
Duodenitis	Inflammation of the duodenum (small intestine)
Endoscopy, of stomach	Using a scope/tube to look inside the stomach
Gastric	Related to the stomach
Gastritis	Inflammation of the lining of stomach
Gastroenterologist	Stomach specialist
Histopathology	A test where biopsy material are made into slides so a pathologist can examine them under a microscope to see if <i>H. pylori</i> organisms are visible
<i>H. pylori</i>	<i>Helicobacter pylori</i>
Long-term follow-up	Includes both breath tests and endoscopy. It is done few years after treatment to estimate the incidence rate of <i>H. pylori</i> infection, and to examine the change in stomach lining
Metaplasia	Abnormal change in the nature of a tissue
Microbiology	Science that studies microscopic forms of life
Microbiologist	A scientist who specializes in microbiology
Pathology	Science that identifies diseases and conditions by studying tissues and organ biopsies
Pathologist	A scientist who specializes in pathology
Positive for <i>H. pylori</i>	Have the <i>H. pylori</i> infection
Post-treatment breath tests	Tests given after the participants complete their treatment
Screening	Testing
Short-term follow-up	Breath test given starting 8 weeks after treatment