



## **Teslin *H. pylori* Project**

### **Progress Report – August 2017**



Logo contest winner  
Shayla Kremer

The Teslin *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.



## Table of contents

<b>TABLE OF CONTENTS</b>	<b>2</b>
<b>TESLIN <i>H. pylori</i> PROJECT TIMELINE</b>	<b>3</b>
<b>OVERVIEW OF THE FINDINGS</b>	<b>4</b>
<b>WHAT HAS BEEN DONE SO FAR?</b>	<b>4</b>
<b>WHAT REMAINS TO BE DONE?</b>	<b>4</b>
<b>WHAT HAVE WE LEARNED?</b>	<b>5</b>
<b>PARTICIPATION AND DATA COUNTS</b>	<b>6</b>
<b>SUMMARY OF PROJECT ACTIVITIES</b>	<b>7</b>
<b>ON-GOING PROJECT ACTIVITIES</b>	<b>7</b>
1.1 UPCOMING ACTIVITIES	7
1.2 RECENT ACTIVITIES - YEAR 2017	7
<b>PREVIOUS PROJECT ACTIVITIES</b>	ERROR! BOOKMARK NOT DEFINED.
2.1 YEARS 2014 AND 2015	ERROR! BOOKMARK NOT DEFINED.
2.2 YEAR 2016	9
<b>DEFINITIONS AND ACRONYMS</b>	<b>11</b>

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



## Teslin *H. pylori* Project Timeline

### Jul 2014 - Oct 2015

- Initial project planning

### Nov 2016 - May 2017

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

### Jun 2017

- Endoscopy\*
- Community wide treatment

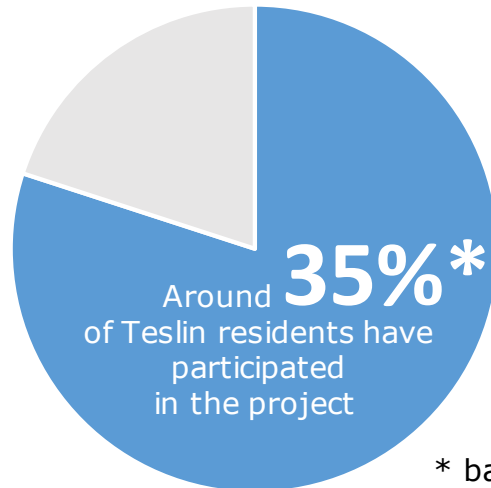
### Ongoing

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



## Overview of the Findings

### What has been done so far?



\* based on a population of 350 people

#### Completed components of the project include



***H. pylori* screening  
by breath test**



**Collection of  
questionnaire data**



**Treatment**

#### What remains to be done?

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



## What have we learned?

2/3

**Two-thirds** of our project participants who had a scope test and whose stomach biopsies\* revealed *H. pylori*\*, had severe chronic inflammation of the stomach.

4 > 3

**The quadruple** (4-drug) therapy seems to work better than the conventional 3-drug therapy or sequential therapy, although we need treatment follow-up data from more participants to be more certain about this. The 4-drug therapy regimen is complex and may be difficult for some people to take as prescribed. Available treatments for eliminating *H. pylori*\* infection are burdensome and more research is needed to find out how to make the treatments easier to take.

2  
Years

**Most people** who were initially free from *H. pylori*\* infection or successfully treated for the infection remained *H. pylori*-free for 2 years or longer.

38%

**38%** of participants screened by breath test (124 participants) in Teslin were positive for *H. pylori*\* infection.

Some

**Some** of the people who tested negative after treatment, tested positive few years later. The reasons why this might happen include:

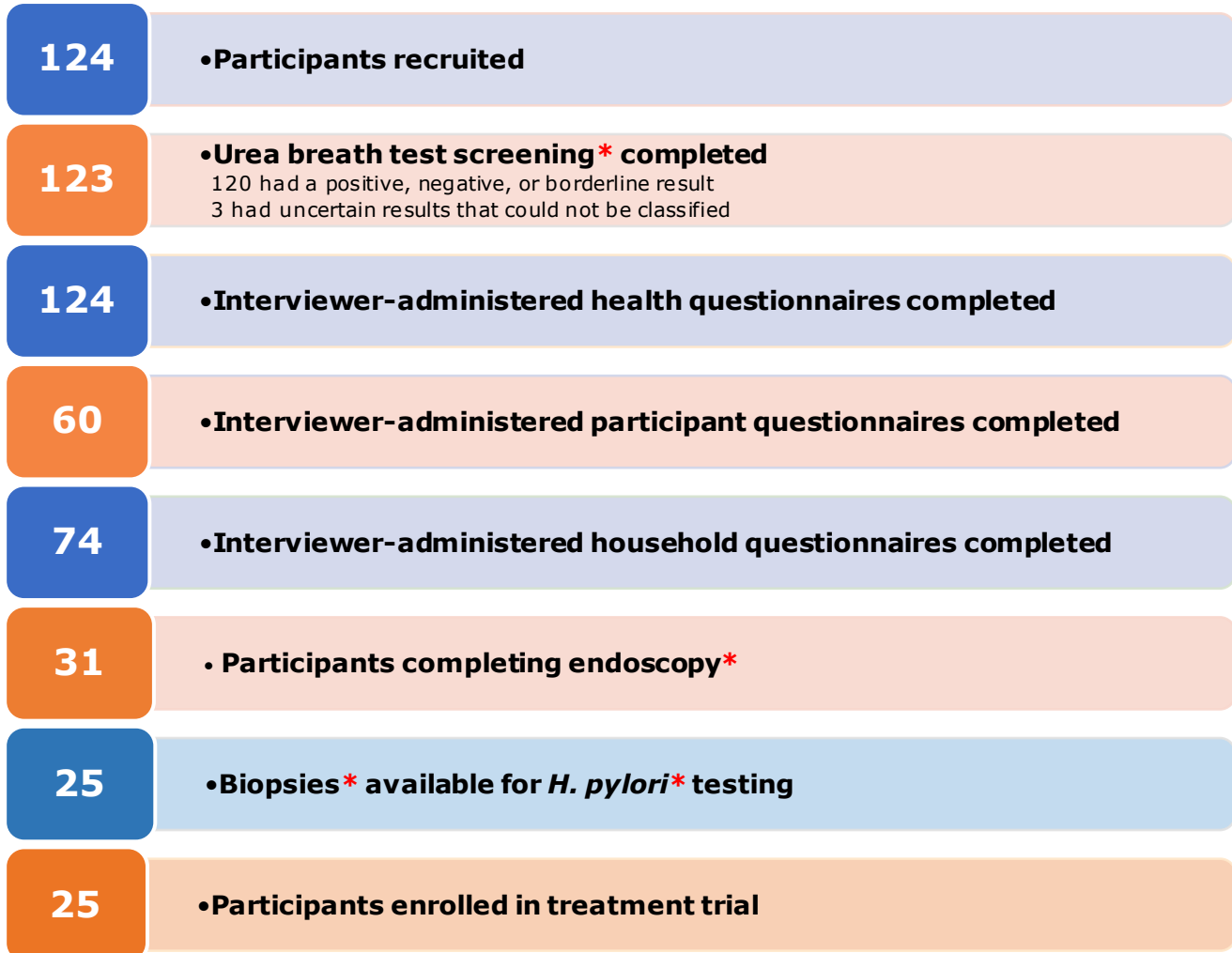
- *After-treatment test results were false negative and they still had the infection.*
- *H. pylori*\* reinfection



The CANHelp\* Working Group research so far has not pinpointed an environmental source of *H. pylori*\* in Teslin or other communities where *H. pylori* projects are being carried out; this is consistent with findings of research around the world: the evidence suggests that most people with *H. pylori* infection get it from direct contact with a person who has the infection.



## Participation and Data Counts





## 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 Teslin throughout 2017 to collect more data and follow-up with project participants.

#### 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.



Ali Assi, Community Engagement Lead, visited Teslin with Kathy Gilmore, Northern Health Research Consultant, during January 20 to 22, 2017. During their visit, Ali and Kathy offered breath testing to new participants to continue the enrollment in the project. 23 new participants were enrolled in the breath test screenings\* and community questionnaires.



During his visit, Ali met with the Teslin *H. pylori* Project planning committee to share updates from data collection and discuss plans, including further data collection, Lead Gastroenterologist\* Dr. Sander van Zanten's upcoming visit to Teslin in March 2017, water biofilm project, and endoscopy\*.



### February 2017: Endoscopy\* Planning



Community Engagement Lead Ali Assi met with the Teslin *H. pylori* Project Planning Committee in February 2017 to discuss some updates about the endoscopy\*, and upcoming data collection trips in March and June 2017.

### March 2017: Physician's Visit



Sander van Zanten, Lead Gastroenterologist\*, visited Teslin on March 18, 2017 to meet with residents who were concerned about their breath test results and/or wanted more information about *H. pylori*\*. Throughout his visit, he met with community members one-on-one to answer their questions and address their concerns.

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



Community Engagement Lead Ali Assi and Research Management Lead Hsiu-Ju Chang travelled to Teslin to initiate the endoscopy\* and treatment phases of the Teslin *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 Teslin 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 5 and 6, 2017, the team performed 24 endoscopies at the Teslin Health Centre; 1 participant was not able to complete the procedure, and biopsies\* for culture\* and histopathology\* were obtained from 23 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 29 participants and 29 received medications, 25 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 Teslin on August 13, 2017 to carry out chart reviews. During August 14 to 18, 2017, 119 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 Teslin.



During the visit, MSc student Amrit Passi also collected water samples from various sites in Teslin 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 6 water samples from Teslin households, 7 from environmental sites, as well as from the community facilities, and the water treatment site.



Graduate Research Intern Sateen Werner conducted semi-structured interviews with the residents of Teslin 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 15 to 18, 2017, Sateen completed 8 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 Years 2014 and 2015

#### July 2014 to September 2015: Initial Stages of Research Planning



On July 14, 2014, Janis Geary, Research Partners Lead, and Valerie Laurie, Yukon Community Partnership Coordinator, set up a booth at the Teslin Tlingit Council (TTC) General Assembly. Janis and Valerie engaged with community members and offered knowledge exchange opportunities with the research program. The community members were informed of the current status, as well as the future directions of the research program.



In the January and September 2015, Dalelyn Secord, representative from the Teslin Tlingit Council (TTC), participated in the 3<sup>rd</sup> and 4<sup>th</sup> Yukon Advisory Committee meetings respectively, based on which she shared the community's interest in pursuing research opportunities with the CANHelp\* Working Group.







### 2.2 Year 2016

#### May to October 2016: Information Sessions and Research Planning






On May 6, 2016, Ali Assi, Acting Community Projects Lead, and Reanna Mohamed, Yukon Community Partnership Coordinator, met with a group of leaders in Teslin who were interested in bringing the research to the community. On May 26, 2016, Ali attended the monthly TTC-VOT assembly via teleconference and shared with representatives from the Teslin Tlingit Council (TTC) and the Village of Teslin (VOT) some background information about the ongoing projects in Yukon and Northwest Territories, and answered questions about the research program.




-  After establishing that the community and leadership were interested in establishing a local community project in Teslin, Ali had many emails and telephone conversations with leaderships in Teslin to form a planning committee who will be guiding the research activities in Teslin.
-   
 On May 31, 2016, Ali and Reanna held a community information session at the Rec Plex in Teslin to provide information about the research program and share knowledge about *H. pylori*\* infection.
-  On June 2 and 3, 2016, Ali facilitated planning workshop with the Planning Committee to discuss a research agreement and develop research plans for the community. The Teslin Planning Committee reviewed and approved the research agreement, and made plans to launch the Teslin *H. pylori* project in November 2016.
-  On September 6, 2016, Ali met with the Teslin *H. pylori* Project Planning Committee, to over the details of launching the project in Teslin, and planning the community meeting project launch.
-  On October 4, 2016, Ali held a teleconference with the planning committee to finalize the details of the community meeting and supper, and other details concerning the data collection. On October 6, 2016, Ali and Megan Highet, Post-Doctoral Fellow with the CANHelp\* Working Group, had a teleconference with the Teslin School principal, Ann Jirousek, to go over some activities the planning committee were interested in holding with the youth in the community.

### **November 2016: First Wave of Data Collection**

-  Community Engagement Lead Ali Assi and Northern Health Research Consultant Kathy Gilmore, and undergraduate student Skye Russell travelled to Teslin to launch the Teslin *H. pylori* Project and initiate data collection in November 2016.
-  A community presentation and supper was held on November 3, 2016 to mark the start of the Teslin *H. pylori* Project. 112 participants were enrolled in the project. During November 3 to 19, 2016, the team obtained informed consent and screened 110 participants for *H. pylori*\* infection by breath test. They also interviewed participants using 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**

-  Lead Gastroenterologist\* Dr. Sander van Zanten, Community Projects Lead Laura McAlpine, and Research Management Lead Hsiu-Ju Chang held a TeleHealth conference with Teslin Nurse-in-Charge (NIC) Lisa Joinson in December 2016 to discuss plans for returning the breath test results to the Teslin participants.



## 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 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