

Cover Story

Aboriginal health research

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Teaming up with northern communities

Helicobacter pylori, a bacterium that lives in the stomach, is a major cause of [gastric cancer](#) and [peptic ulcer disease](#). AHFMR Health Senior Scholar [Dr. Karen Goodman](#) thought she had seen most aspects of population-based research on this bacterium when she joined the faculty of the University of Alberta in 2005. As an [epidemiologist](#), she had already studied *H. pylori* infection in the United States, in Mexico, and in South America. But almost immediately upon arrival, Dr. Goodman was in for a new experience—a request for research on the topic that came directly from a community. “This has not been part of the history of *H. pylori* infection research. I was intrigued.”

The community was [Aklavik](#), a hamlet of about 600 people in the Northwest Territories whose residents are mainly Inuvialuit (Inuit) and Cwich'in First Nation people. They were concerned about a perceived increase in the number of diagnoses of [stomach cancer](#) among community members. They believed that *H. pylori* was to blame.

Their fears were well founded. Northern Aboriginal communities around the world have much higher rates of *H. pylori* infection (50% to 95%) than the general population (20% to 30%). In the Northwest Territories, the rate of stomach cancer is twice that in the rest of Canada.



Aklavik’s concerns resulted in a groundbreaking research initiative to investigate the health risks from *H. pylori* infection. Led by Dr. Goodman, a collaborative team planned and initiated fieldwork to collect relevant data. The team consisted of researchers from the University of Alberta, health officials from the Northwest Territories and Alberta, and local community leaders. Central to the process was a local planning committee, whose members included Aklavik residents and Dr. Goodman.

“The committee is absolutely vital to the process. Its input is critical to ensuring the research is community-driven,” she says. “The entire project has had tremendous co-operation from everyone—community members, medical professionals, government officials. People volunteered time and resources to make this happen.”

Of the 343 participants in the Aklavik project, 208 tested positive for *H. pylori*. Those with infections were offered treatment with [antibiotics](#); 111 of these individuals enrolled in a treatment trial. Team members are now going back to Aklavik to find out whether the infections cleared. Antibiotic treatment is not always successful, especially in populations with a high prevalence of *H. pylori* infection.

Word about the project has spread among northern communities; and the team is now starting a similar project in [Old Crow, Yukon](#), at the invitation of community leaders. “We see Aklavik as the initial project of a broader collaborative effort to investigate community-health problems related to *H. pylori* infection in northern Canada,” says Dr. Goodman.

“*H. pylori* infection exists around the world. There are no magic bullets; the infection is not easy to treat, and we’re not sure how to stop transmission. That’s why our research focuses on community priorities. We’re addressing community concerns and providing information to health authorities and policy analysts, so they can improve the management of this infection.”

12 Key determinants of health

At every stage of life, health is determined by complex interactions between social and economic factors, the physical environment, and individual behaviour. These factors are called *determinants of health*. They include the following:

- Income and social status
 - Social-support networks
 - Education and literacy
 - Employment and working conditions
 - Social environments
 - Physical environments
 - Personal health practices and coping skills
 - Early childhood development
 - Biology and genetic endowment
 - Health services
 - Gender
 - Culture
- Source: Public Health Agency of Canada

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About the researcher



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Selected publication

[Goodman KJ, Jacobson K, Veldhuyzen van Zanten S. Helicobacter pylori infection in Canadian and related Arctic Aboriginal populations. Canadian Journal of Gastroenterology. 2008 Mar; 22\(3\):289-295.](#)