



C-EnterNet News

Volume 3, Spring 2007

C-EnterNet - Canada's National Integrated Enteric Pathogen Surveillance System

Editor's Note

C-EnterNet's third newsletter, comes to you, following the spring release of our first annual results report (2005-2006), (http://www.phac-aspc.gc.ca/publicat/2007/c-enternet05-06/areport05-06_e.html), and offers the latest happenings from C-EnterNet team members and colleagues. In addition to overseeing the daily operations of each component and analyzing data, the team focused on knowledge creation and exchange - hosting two workshops, presenting at meetings and scientific writing. In February, C-EnterNet hosted a successful *Collaborating Laboratories* meeting in Toronto, where personnel from nine labs (clinical, food, water and animal) gathered to learn more about challenges presented by variations in lab methodologies. As one microbiologist stated, "This is the first time, I have had the opportunity, to sit with other lab people to discuss these questions." Members of the C-EnterNet scientific team journeyed to the CDC, in Atlanta, in March to participate in the annual FoodNet Vision and scientific meeting. Hot topics at that meeting, included STEC, *C. difficile*, and attribution. The road ahead? As C-EnterNet enters its third year of data collection, supported by you - our many collaborative partners, stakeholders and friends - we look forward to secure funding and site expansion. Now is the time for Canada!

Dr. Frank Pollari
C-EnterNet Program Lead

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Notes from C-EnterNet Central

An innovative, **C-EnterNet Collaborating Laboratories Meeting** was held in Toronto on February 27, 2007. The meeting, which brought together the nine laboratories (clinical, food, water and animal) working on C-EnterNet samples and isolates, provided a forum to exchange information, and helped participants better understand both their individual roles and contributions to the overall program. Highlights included, clarifying issues on variation in methodology and discussing potential ways to minimize and assess variations and their impact on C-EnterNet results. Most importantly, the exchange helps guide C-EnterNet activities with current laboratories, and informs C-EnterNet's expansion plan for additional sentinel sites in Canada. A second lab meeting is anticipated for 2008.



From left: C-EnterNet's Angela Cook, Frank Pollari and Barb Marshall.
CDC Vision Meeting, Atlanta, March 2007

Highlights from Lab meeting:

Dr. Angela Cook and Dr. Frank Pollari provided a C-EnterNet overview; **Nicol Janecko, University of Guelph (U of G)**, presented *Campylobacter* isolation methodologies used in Canadian clinical laboratories from a national laboratory survey; **Dr. Danielle Daignault, Laboratory for Foodborne Zoonosis (LFZ)**, presented results showing variation in rates and types of *Campylobacter* isolations from on-farm manure samples using different laboratory methods; **Dr. Cliff Clark, NML**, presented a comparison of molecular methods for cluster detection of *Campylobacter* cases in the C-EnterNet surveillance system; **Bo Cheyne, University of Waterloo**, presented growth efficiency of *Yersinia* and background organisms using a variety of enrichment media recommended for water samples; **Dr. Joseph Odumeru, U of G**, reviewed methods for isolation and detection of *Yersinia* from agri-food products as well as methods being proposed for improved detection; **Anne Maki, Ontario Public Health Laboratory**, gave a summary of *Yersinia* isolation methods from Ontario clinical labs and the

Ontario provincial public health laboratory, as well as subtyping methods utilized in their reference laboratory.

C-EnterNet scientific team members attended the annual CDC FoodNet Vision and Scientific meeting in Atlanta, Georgia, March 7-9, 2007, along with representatives from 10 US FoodNet sites, FDA, USDA, PulseNet and EHS-Net. The team listened to updates from working groups and scientific sessions on HUS/STEC, Attribution, *C. difficile*, *Campylobacter* and Sero-epidemiology, and provided an update on C-EnterNet. <http://www.cdc.gov/foodnet/conferences/2007/FoodNet-Vision2007/vision2007.htm>

Harleen Sahota, University of Toronto (MHSc graduate), working on Travel and Migration Health with the Foodborne, Waterborne and Zoonotic Infections Division at the Public Health Agency of Canada, conducted analyses of C-EnterNet data (2005-2006) on cases, most likely acquired through travel. Comparisons between travelers (international) and non-travelers, who acquired an enteric disease, were also made. These new analyses on travel-related expo-

sure based on the richness of the C-EnterNet data set have increased clarity on the topic for future studies and program planning.

As part of the Canadian Field Epidemiology Program requirements, **Kate Zinser** conducted an evaluation of the C-EnterNet surveillance program. Using qualitative methods, Kate interviewed twenty-eight C-EnterNet stakeholders and then analyzed the results between assignments at the World Cricket tournament in the Caribbean.

While team colleague, **Dr. Shannon Majowicz** is on maternity leave, **Kate Thomas** has been helping to fill the gap. Kate is pursuing a PhD, Department of Population Medicine, U of G., with a research focus on gastrointestinal illness in Latin America, and spends several weeks a year, conducting fieldwork in South America. C-EnterNet welcomes **Rosa Kliese**, administrative support, who recently joined the team.

C-EnterNet's Advisory committee, critical to guiding the development of C-EnterNet, welcomes new member **Nelson Fok**, Associate Director, Capital Health, Edmonton, Alberta. Nelson replaces **Marilyn Lee**, who is focusing on her academic and research duties at Ryerson University. C-EnterNet also welcomes **Maria Nazarowec-White**, our new representative from Agriculture & Agri-Food Canada.



C-EnterNet Collaborating Labs small group work, from left foreground:

Dr. Alicia Sarabia, Bo Cheyne, Anne Maki, Kim Ziebell, Ed Taboada, Linda Cole, Kris Rahn, Andrea Nesbitt, Nancy Sittler.

On a personal note of accomplishment, dressage fan, Angie Cook, and her 15-year-old Mecklenburg gelding “Classic Tyme” moved to the FEI dressage levels, successfully competing in their first Prix St. Georges class, March 31st.



Angie & Classic Tyme

Notes from C-EnterNet Sentinel Site 1: The Region of Waterloo

Region of Waterloo Public Health, C-EnterNet, and the Waterloo Wellington Infection Control Network (WWICN) collaborated to hold the fourth training workshop, “**Management of Institutional Outbreaks**” at the Region’s

Emergency Management Services centre. With the broad goal of enhancing the work of public health, workshop attendees participated in a mock outbreak investigation, focusing on documentation, communication and decision-making during the management of an institutional outbreak. Planning for Workshop # 5 with a focus on endemic case questionnaires, to be held in October 2007 is underway.

Doug Quibell, MHSc, CPHI (C) is the new Manager of Environmental Health at Region of Waterloo Public Health. Doug, employed as an Environmental Health Program Developer in Qatar since May 2003, was previously to that Deputy Chief of Environmental Health with North Health Authority in British Columbia. Congratulations to **Curt Monk**, Manager of Health Protection, who has assumed additional responsibilities including management of the Infection Control Program. Curt will be presenting “An *E. coli* outbreak in a local daycare”, at the 2007 CIPHI National Conference in Kelowna. Thanks to **Lewinda Knowles**, epidemiologist and V. P., Association of Public Health Epidemiologists (APHEO), who, helped C-EnterNet move to-

wards seamless human data transfer, questionnaire development and data management. Best wishes as she switches her focus to other areas within ROWPH. We’d like to welcome epidemiologist, **Rachel McCormick** to the ROWPH-C-EnterNet team.

Note from C-EnterNet’s Retail Food and Agriculture Component

In February, C-EnterNet met with **Theresa Schumilas**, Director, Health Determinants, Planning & Evaluation (ROWPH) and **Dr. David Waltner-Toews** (Ecosystem Health, Population Medicine, U. of G.) to consult on a better understanding of food flows in the Region of Waterloo. ROWPH is progressive in its work with food localism.

C-EnterNet is very fortunate to continue its partnership with the Ontario Ministry of Agriculture, Food and Rural Affairs. They have contributed resources for one year of continued enumeration evaluation on the retail meat samples, and to increase the number of meat samples collected. The enumeration data will provide count results that are valuable to risk assessment work while the increased sample size will improve the confidence intervals of our results.

Angela Cook will participate in the bi-monthly Canadian Integrated Program for Antimicrobial Resistance Surveillance (CIPARS)



Mock Outbreak investigation groups:

Foreground from left: Chris Komorowski, Moy Lum, Cathy Egan, Dennis Cudney, Sandra Morrison, Nic Crawford, Rachel McCormick.

Background left: Dr. Hsiu-Li Wang, Vittoria Vecchiarelli, Paul Norman, Evelyn Martel, Bernadette Moussa.

Background right: Nancy Sittler, Carolyn Biglow, and Kulvinder Dosangh.

national teleconferences to help the two surveillance programs (C-EnterNet and CIPARS) continue to co-ordinate program activities and communications. Since June 2005 C-EnterNet, as part of its baseline surveillance, has been sampling retail raw chicken breasts with the skin-on, raw pork chops and ground beef, and testing for a variety of pathogens. In January 2007, C-EnterNet began a short-term study to compare the level of pathogens on skin-on and skin-off chicken breast. A recent consumer survey performed by C-EnterNet and the Public Health Agency of Canada has found that the majority (75%) of consumers buying chicken in our sentinel site purchase chicken breasts with skin-off.

Note from C-EnterNet's Water Component

C-EnterNet and our Canadian Water Network (CWN) project team is pleased to announce that our Value-Added Proposal submitted to the Canadian Water Network was accepted for funding for the next two years. Through our partnership with the CWN and the University of Waterloo's (UW) NSERC Chair in Drinking Water Treatment, funding from this proposal will be used to collect an additional year of data on pathogen occurrence and water quality in the Grand River watershed. Additional data on pathogen occurrence is important, as it will provide a better understanding of the occurrence and types of specific pathogens in the watershed, and their importance in human health. Also, by collecting an additional year of data, yearly and seasonal variations can be more accurately assessed.

Note from C-EnterNet's Source Attribution Component

Although, Dr. André Ravel was out of the office for personal reasons last winter, this did not slow his enthusiastic leadership on source attribution. According to André, the next six months will see a focus on providing estimates of source attribution for Canada. Several approaches, including the analysis of foodborne outbreak data, the application of the Danish method developed for *Salmonella*, and other subtyping and microbial source tracking methods will be employed.



Dr. André Ravel – passionate on the subject of Source Attribution.

At the invitation of **Carl Shroeder, USDA**, André attended, *Modeling the Attribution of Foodborne Illness in the United States*, held during the Society for Risk Analysis annual meeting in Baltimore, December 2006. At that symposium, modeling the attribution of foodborne illness in the United States, and results on source attribution using various methodologies were presented. On April 5, 2007, André attended a *Food Safety Summit - Attributing Illness to Food*, following an invitation by Richard A. Raymond, M.D., Under Secretary Office of Food Safety, Department of Agriculture (USDA), Washington, DC. Food Safety and Inspection Services (FSIS), the Food and

Drug Administration (FDA), and the Centers for Disease Control and Prevention (CDC) hosted the attribution summit with scientific experts, consumer representatives, industry representatives, and other public health stakeholders to determine *what* attribution data exists, how to *improve* attribution data, how to *use* attribution data more effectively, and how to best *share* attribution data. Being able to attribute foodborne illness to specific foods and settings is widely accepted as an important step in understanding the sources of infection, identifying where interventions can be applied to prevent illness, and determining the success of interventions. This information is invaluable to research scientists, risk assessors, and decision makers, as we all strive to improve public health.

C-EnterNet: Knowledge Exchange and Dissemination

Recent C-EnterNet publications and reports:

- C-EnterNet 2005-2006 Annual Report
- C-EnterNet 2005-2006 Accomplishment Report
- Marshall, B. *Where's the Evidence?* CIPHI - Ontario Branch News. Winter 2007.
- Pintar, Katarina; Cook, Angela; Pollari, Frank; Ravel, André; Lee, Susan and Odumeru, Joseph. Quantitative Effect of Refrigerated Storage Time on the Enumeration of *Campylobacter*, *Listeria*, and *Salmonella* on Artificially Inoculated Raw Chicken Meat. *Journal of Food Protection* 70(3), 739-745. 2007.

- Nesbitt, Andrea, Shannon Majowicz, Rita Finley, Frank Pollari, Katarina Pintar, Barbara Marshall, Jeff Wilson, Carl Ribble, Lewinda Knowles. *Food Consumption Patterns in Waterloo, Ontario, Canada: A Food Safety Perspective*. Prepared for submission to Food Research International.

Conferences and meetings attended:

- Climate Change and Infectious Diseases meeting, Toronto, December 5, 2006
- Community Etiology planning meeting, National Microbiology Laboratory in Winnipeg, January 2007
- HECS APF Water meeting- February 16, 2007
- 2007 PulseNet Canada Annual Meeting & Foodborne Epidemiologists Conference Winnipeg, February 20-21, 2007.
- CDC FoodNet Vision & Scientific Meeting, Atlanta, Georgia, March 7-9
- 2nd Annual PHAC Research Forum in Winnipeg, March 12 & 13, 2007

Presentations:

- Region of Waterloo Community Services Committee, November 2006



Micro Lab - the cornerstone of C-EnterNet:

John Vanderlaan & Grand River Hospital Lab staff, following a lunch and learn provided by C-EnterNet. March 29, 2007, Kitchener, Ont.

- Interagency Council on Food Safety, December 2006, Toronto
- C-EnterNet, ROWPH and WWICN Workshop, January 31, 2007
- C-EnterNet Collaborating Laboratories Workshop, Feb 27, Toronto, Ontario
- South Western Ontario Infection Control Meeting, March 29, 2007, London, Ontario
- Grand River Hospital Laboratory staff, March 29, 2007, Kitchener, Ontario
- Canadian Partnership for Consumer Food Safety Education, March 30, 2007, Guelph, Ontario

Looking Ahead

- 2006 Annual Report
- Source Attribution Report

For further details on C-EnterNet, please contact:

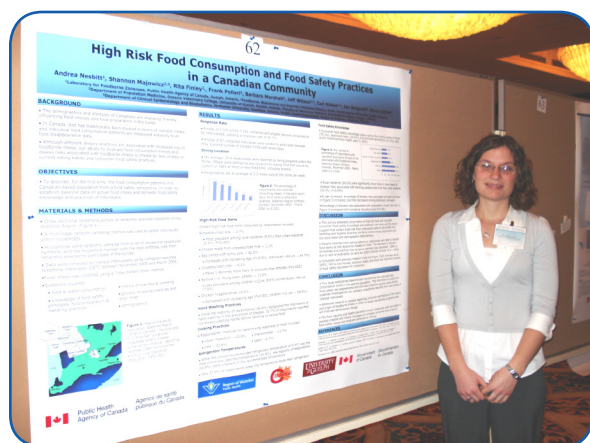
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Sharing Knowledge:

Andrea Nesbitt at her poster, 2nd Annual PHAC Research Forum, Winnipeg