MESSAGE FROM FOODNET CANADA (FORMERLY KNOWN AS C-ENTERNET)

C-EnterNet is undergoing several big changes, including a name change to FoodNet Canada. It’s the same program with a new name.

FoodNet Canada (formerly known as C-EnterNet) is excited to announce its third sentinel site in Calgary and Central Alberta (located within a portion of the City of Calgary and includes regions to the North and East). Our team at the Public Health Agency of Canada (the Agency) is working with Alberta government representatives to implement site activities beginning in early 2014.

Change is also in the air in Ontario, as the Region of Waterloo Public Health site steps down to provide another health unit the opportunity to be a sentinel site. Region of Waterloo was the first (pilot) site for FoodNet Canada, since 2005, and has contributed significantly to its success. We would like to thank the Region of Waterloo Public Health for their substantial contribution and note that lessons learned provided valuable information informing the expansion of FoodNet Canada. We are currently working to identify the new sentinel site for Ontario, which is expected to begin in early 2014.

We look forward to collaborating with these new sites and extend a warm welcome. As I write this and reflect, and look forward to FoodNet Canada’s 10th year, I want to take the opportunity to sincerely thank our collaborators and partners. Without you, this grand endeavour would not be possible. The addition of the third site will help FoodNet Canada generate results that take into account a greater portion of the Canadian population. This will allow the government to better identify and prioritize actions on the greatest risks in the food system, enabling more efficient use of limited surveillance and inspection resources to effectively target areas of highest risk. This means we will have greater capacity to address our stakeholders’ needs and inform Canadian source attribution and surveillance activities.

Dr. Frank Pollari, FoodNet Canada Lead
FEATURE 2013:
FOODNET CANADA DATA IN ACTION

CANADA’S REVISED FOODBORNE ILLNESS ESTIMATES

The Public Health Agency of Canada (the Agency) recently generated new Canadian estimates of foodborne illness acquired domestically, and the findings were published in May 2013. The Agency used rigorous methods and current data to provide Canada with the most accurate foodborne illness estimates to date – 1.6 million illnesses from 30 known pathogens and 2.4 million illnesses from unspecified agents annually. FoodNet Canada data served as an essential piece to this process by informing severity of illness and travel-related inputs. FoodNet Canada provides the only source of Canadian data on enteric pathogen specific severity of illness trends and is one of the only surveillance systems in Canada capable of distinguishing between domestic and travel-related cases of foodborne illness. Policy makers, industry, academia and other organizations can use these revised estimates to better inform research, food safety risk assessments, education campaigns and other prevention and control activities. For more information about the Agency’s revised 2013 estimates, please visit http://www.phac-aspc.gc.ca/efwd-emoha/efbi-emoa-eng.php.

FOODNET CANADA COMPONENT HIGHLIGHTS

RETAIL COMPONENT UPDATE

Retail sampling is critical for informing our understanding of exposures to enteric pathogens from retail meat and produce available in grocery stores. Surveillance continues on a weekly basis in both British Columbia (BC) and Ontario (ON) sites and plans have been initiated for sampling in sentinel site 3 (AB) in 2014. Sampling has included fresh packaged produce (leafy greens), our core commodities (ground beef and chicken breasts) and other focused meat products (ground chicken and chicken nuggets).

FoodNet Canada and the Canadian Integrated Program for Antimicrobial Resistance Surveillance (CIPARS) continue to integrate efforts around retail sample collection and data management to leverage investments, with great success. In the spring of 2013, a manuscript was published (Parmley, Pintar et al., 2013) describing the utility of integrating surveillance programs to better understand enteric diseases, inform interventions and refine surveillance platforms. The paper is available from Foodborne Pathogens and Diseases, an open access journal (http://online.liebertpub.com/doi/pdf/10.1089/fpd.2012.1438).

AGRICULTURE COMPONENT UPDATE

The ON site was on target in 2013 for broiler, dairy and beef farm sampling. Fresh and stored manure continue to be collected and tested for Campylobacter and Salmonella on broiler farms and Campylobacter, Salmonella and E. coli on dairy and beef farms. New in 2013, the ON site began sampling egg layer farms. Manure samples are being tested for Campylobacter and Salmonella.

Farm sampling expanded to the BC site in 2013 with sampling beginning on broiler and turkey farms in April. Sampling also began on egg layer farms in August. Manure and environmental samples are being collected and tested for Campylobacter and Salmonella thanks to partnerships with the Fraser Health Authority, the BC Ministry of Agriculture, the BC Chicken Marketing Board, BC Turkey Farmers, BC Egg Marketing Board, producers and veterinarians. Plans are being put in place to initiate dairy farm sampling in 2014. Over the next few months, farm sampling plans will be developed, in consultation with stakeholders, for the new Alberta site.
WATER COMPONENT UPDATE

In the ON site, bi-weekly water samples continued to be collected and tested in partnership with the Ontario Ministry of the Environment. We continue to analyze nine years of monitoring data in the Grand River watershed, exploring trends and investigating the influence of season and other water quality variables on pathogen presence. A manuscript is being submitted for publication on Verotoxigenic E. coli (VTEC) prevalence in the watershed from 2005 to 2012.

In July 2013, the BC site began collecting samples from five sites within the Sumas Prairie and Matsqui watersheds thanks to collaboration with the BC Partnership Committee on Agriculture and the Environment, the BC Regional Public Health Laboratory, the Fraser Health Authority and CIPARS. Water samples were collected bi-weekly and tested for water chemistry, generic indicator bacteria, Campylobacter spp., Salmonella spp. and VTEC.

FoodNet Canada welcomed two new post-doctoral fellows and one new MSc student to the program in 2013. Dr. Paul Hynds and Dr. Heather Murphy are both focusing on waterborne illness source attribution and MSc student Alexandra Swirski is examining the seasonality of Giardia in the Grand River.

PUBLIC HEALTH UPDATE

FoodNet Canada made great strides in 2013 towards its goal of strengthening provincial partnerships, with the ON site welcoming representatives from Public Health Ontario and Public Health Ontario Laboratories to their steering committee. FoodNet Canada also engaged stakeholders at numerous presentations in 2013. For example, in May, Glen Embree from the BC site co-presented with FoodNet Canada at the Canadian Institute of Public Health Inspectors Annual Education Conference in Winnipeg, Manitoba (100th anniversary). In September, Katarina Pintar presented two posters at the 17th International Workshop on Campylobacter, Helicobacter and Related Organisms in Scotland. At this same conference, Eduardo Taboada presented a poster on behalf of Kim Macdonald, Comparative Genomic Fingerprinting (CGF): Leading towards enhanced surveillance of C. jejuni in BC.

Working with the team, University of Guelph MPH student, Anna Lukacsovics analyzed the “most likely source of infection” (MLSI) data collected from the BC site in Fraser Health. This builds on the work conducted by Dumoulin et al. (2012) who analyzed the MLSI data from Waterloo. The BC site MLSI analysis will be published in early 2014. Both studies contribute to FoodNet Canada’s ongoing work of strengthening source attribution knowledge of enteric diseases.

A Healthy Control Survey was launched in the BC site in September 2013 and in the AB site in November 2013. The purpose of this survey is to facilitate case-control analyses for source attribution initiatives and to quantitatively assess statistically significant risk factors for enteric illness. This will ultimately strengthen our ability to identify causes of illness in Canada informing public health policy and decision making to reduce the burden of enteric disease.

SOURCE ATTRIBUTION ACTIVITIES

FoodNet Canada is engaged in multiple analytical studies and knowledge translation activities to tell the story on what is causing enteric diseases in Canada. This includes work being led by Julie David, a FoodNet Canada post-doctoral fellow, on how human Campylobacter infections may be explained by seasonal trends in human behavior and contact with exposure sources. The recent two-year comparative exposure assessment of Campylobacter infections in Ontario, funded by the Ontario Ministry of Agriculture and Food (OMAF) and the Public Health Agency of Canada, is currently in its final phase and peer-reviewed manuscripts and supporting one-pagers will be disseminated in 2014. A new project started in August 2013 on the use of the comparative genomic fingerprinting (CGF) method to determine sources of human campylobacteriosis, involving the FoodNet Canada team, Eduardo Taboada and Steven Mutschall (Public Health Agency of Canada, Lethbridge) and André Ravel (University of Montréal). In conjunction with this work, the strengths and weaknesses of the CGF method for determining the sources of human infection versus multi-locus sequence typing (MLST) will be explored. A number of analytical models will be examined during this work (Hald
family models and evolutionary models). These activities will help FoodNet Canada determine what sources are making Canadians ill with *Campylobacter*. Stay tuned for progress updates on these efforts in 2014.

**KEEPING YOU INFORMED:**

**FOODNET CANADA AND COLLABORATOR PUBLICATIONS FOR 2013**


We welcome data requests. If interested, please contact Frank Pollari.
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Publication date: March 2014
ISSN: 2292-7778 Pub.: 130648