



Contribution of the WHO Global Foodborne Infections Network in the knowledge of Campylobacteriosis.



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Introduction

The WHO Global Foodborne Infections Network (GFN), launched as WHO Global Salm-Surv in 2000, is a network of professionals working in veterinary, food and public health disciplines committed to enhancing capacity of countries to conduct integrated surveillance of foodborne and other enteric infections. The program fosters collaboration between epidemiologists and microbiologists. The activities of GFN allow public health authorities of various countries to better assess the health burden of foodborne diseases.

The aim of this study is to describe the contribution of GFN in the reinforcement of surveillance and response capacity of campylobacteriosis at the national and the international level.

Methods

Main activities of GFN are international training courses, organizing external quality assurance system (EQAS), performing focused regional and national projects (including enhanced surveillance work), providing reference services, and an electronic discussion group.

The value of these program activities to increase the global capacity for *Campylobacter* isolation and identification, and understanding of epidemiology were assessed.

Figure 1: WHO Global Foodborne Infections Network International Training Courses, 2000-2011



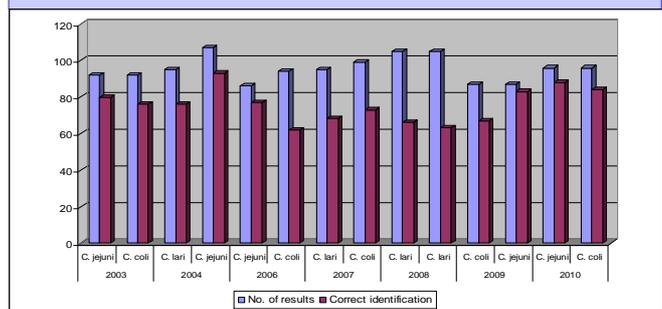
Figure 2: Countries from which one or more laboratories have participated in the WHO GFN EQAS in any of the iterations from 2001 to 2011



Tasks of the Regional Centre of Excellence:

- To develop a regional strategy to provide high-quality antisera for national *Salmonella* reference laboratories.
- To lead regional communications about foodborne disease and pathogen surveillance, including activities related to the Global Foodborne Infections Network. This role involves fostering communications between microbiologists and epidemiologists working in multiple disciplines such as human health, veterinary and food-related disciplines.
- To serve as a regional reference centre for national *Salmonella* laboratories; this role includes quality control and reference testing services.
- To lead region-relevant research projects.
- To develop methodologies for national foodborne disease and pathogen surveillance systems.
- To provide training for national foodborne disease microbiologists and epidemiologists, including individual fellowships and at least one Global Foodborne Infections Network training course per year

Figure 3: EQAS participating laboratories' performance of *Campylobacter* strains identification



Results

Since 2000, GFN has conducted 85 international courses at 20 sites, providing training to more than 1,300 microbiologists and epidemiologists from more than 140 countries on topics such as isolation, identification and antimicrobial susceptibility testing of *Campylobacter* and other enteric pathogens. Additionally, 6 regional Center of Excellence were established since 2000.

Besides these lab-specific topics, micro/epi integrated exercises and discussions were performed. This covered strengthening on the surveillance systems, estimation the burden of illness; and source attribution. The courses provided an ideal platform for the discussions on the differences in *Campylobacter* epidemiology in different geographical areas in the world. Representatives from these different areas were able to provide data on specific situations (e.g. exposure).

In 2003, EQAS testing laboratories' abilities to facilitate a standard approach to identifying *Campylobacter* were launched. Till now, EQAS has 180 laboratories participating in its annual cycle. In 2010, a total of 91.7% and 84.8% of the participants obtained a correct identification for *C. jejuni* and *C. coli*, respectively.

To reinforce cooperation between GFN members, focused regional/national projects (including enhanced surveillance work) reference services; and an electronic discussion group were also initiated. Since 2000, 31 national/regional projects have been carried out between GFN Members and reference institutions from the GFN Steering Committee. These projects were based on analysis of isolates, surveys, and other information, and/or data from various parts of the world.

Conclusion

GFN has increased the capacity of nations to effectively conduct laboratory-based surveillance and response of campylobacteriosis. Future network initiatives will focus on continued enhancement of data collection and the follow-up of Laboratory Practices for the Isolation and Identification of *Campylobacter* in GFN network sites. GFN provides a global platform for discussions on intriguing *Campylobacter* epidemiology in different continents.