

Defeating diarrheal disease: Tracking the source of foodborne infections

Diarrheal disease is a leading killer of adults and children in India.
How much of this disease is caused by contaminated food?

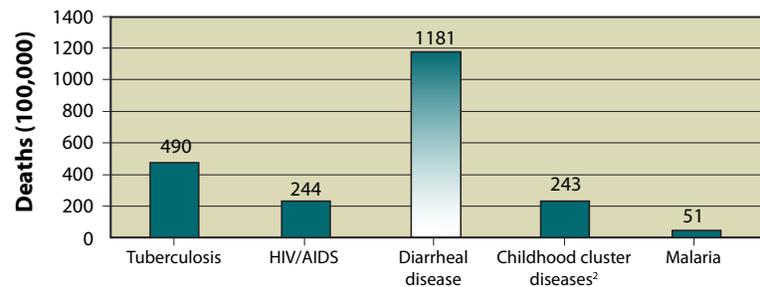


**“Foodborne...
diseases are a
common cause of
illness, disability,
and death
worldwide. We
believe they are
preventable....”**

Global Foodborne Infections Network
vision statement

People who track and study diseases know that you can't prevent what you can't measure. Public health scientists have measured the disproportionate amount of illness and death caused by diarrheal disease in India, compared with the rest of the world. But what is still unknown and has not been measured is how much of this disease—which includes cholera, salmonellosis, and shigellosis, also called dysentery—is caused by food. Isolating the foodborne causes is a critical step toward defeating a disease that is common, costly, but largely preventable.

Estimated causes of death in WHO South-East Asia Region¹, 2008



Source: World Health Organization <http://www.who.int/evidence/bod>

¹Countries included: Bangladesh, Bhutan, Democratic People's Republic of Korea, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand, Timor-Leste

²Childhood cluster diseases include pertussis, poliomyelitis, diphtheria, measles, tetanus

An important next step

Finding the foodborne causes of diarrheal disease depends on strong partnerships and collaboration. In 2011, the Centers for Disease Control and Prevention's Global Foodborne Infections Network (GFN), a World Health Organization-sponsored program, began working with partners in India to isolate the infections that are foodborne.

- **The challenge?** To separate the primary culprits of diarrheal disease—water and food—and focus on the disease caused by contaminated food.
- **What is needed?** More robust data to help isolate the germs causing the illness.
- **How will it happen?** Training microbiologists and epidemiologists to become partners so they can take the important next step—to move beyond simply identifying clusters of diarrheal disease (case-based surveillance) to find the infections that are causing the diarrheal disease (laboratory-based surveillance).



New training + New perspectives = Better collaborations to prevent disease



Hunting down the foodborne sources of diarrheal disease requires epidemiologists, laboratorians, and veterinarians to regularly communicate with each other and share findings.

The new GFN-sponsored training program takes a novel approach by bringing multidisciplinary scientists together under one roof to help them see the problem through the different lenses of their colleagues. The goal is that these dynamic new cross-collaborations can produce reliable data more quickly that can reduce the numbers of illnesses as well as the economic costs of diarrheal disease.

Launching workshops in Kolkata

In March 2011, microbiologists from 16 states traveled to Kolkata to attend GFN's inaugural workshops focused on detection of foodborne disease. The workshops focused on the isolation, identification, serotyping, and susceptibility testing of the germs that cause a lot of the illness and death—*Salmonella* and *Vibrio cholerae*.

Expanding training throughout India and to the larger South Asia region

GFN's overarching goal is to work with partners to strengthen the food safety network throughout India and to the South Asia region. To accomplish this, GFN plans to:

- Work with the National Center for Disease Control (NCDC) in Delhi, a major partner of CDC's Global Disease Detection Program, to offer training to the key players in foodborne disease surveillance.
- Sponsor multidisciplinary workshops to develop regional projects, strengthening laboratory-based surveillance tailored to the specific needs of the region.
- Extend regional efforts to build state and national capacity for foodborne disease surveillance throughout the country and to the South Asia region.

"India is rich in expertise, and their inclusion in our global network is a real asset."

Dr. Danilo Lo Fo Wong,
World Health Organization



Diarrheal diseases: A call to action

Build capacity for surveillance in India to identify which infections are caused by contaminated food.