WHO/HSE/FOS/09.4

WHO INITIATIVE TO ESTIMATE THE GLOBAL BURDEN OF FOODBORNE DISEASES

INCREASING IMPACT THROUGH COLLABORATION

Foodborne Disease Stakeholder Meeting

20 November 2008, Geneva

World Health Organization

Table of contents

List of tables and textboxes

List of acronyms

CSPI	Center for Science in the Public Interest
DALY	Disability-Adjusted Life Year
EUFIC	European Food Information Council
FERG	Foodborne Disease Burden Epidemiology Reference Group
FERG 2	Second formal FERG meeting
ICD	Industry Council for Development
IFAH	International Federation for Animal Health
IFIC	International Food Information Council
IFPRI	International Food Policy Research Institute
ILO	International Labour Office
IUF	International Union of Food, Agricultural, Hotel, Restaurant, Catering, Tobacco and Allied Workers' Associations
IUFoST	International Union of Food Science & Technology
MDGs	Millennium Development Goals
S.T.O.P.	Safe Tables Our Priority
WTO	World Trade Organization

PURPOSE OF THE MEETING

The second meeting of the stakeholder community of the World Health Organization's (WHO) Initiative to Estimate the Global Burden of Foodborne Diseases was held on Thursday, 20 November 2008. The purpose of the meeting was to:

- Provide an opportunity for all relevant sectors of especially developing countries to actively engage with the research conducted through the Initiative;
- Expand the current list of partners and open new channels for multi-sectoral technical cooperation, networking and fundraising;
- Inform of the Initiative's progress and receive stakeholders' input on the Initiative as it moves into its second year.

The meeting was chaired by Dr Arie Havelaar (RIVM, Bilthovan, the Netherlands) who is also chair of the Foodborne Disease Burden Epidemiology Reference Group (FERG). Dr David Heymann, the Assistant Director-General for the Health Security and Environment cluster at the WHO, opened the meeting by welcoming stakeholders and FERG Members. Dr Heymann outlined the global threat to public health security posed by foodborne diseases. He emphasized the need to estimate the global burden of foodborne diseases to inform policy and perform cost-effectiveness analyses of food safety intervention and control measures. Dr Heymann underlined the strong commitment of the WHO Director-General, Dr Margaret Chan, to this Initiative and to improving food safety world-wide. Dr Jørgen Schlundt, Director of the WHO Department of Food Safety, Zoonoses and Foodborne Diseases, described the history and structure of the Initiative and the FERG and summarized some of the Initiative's achievements during its first year.

"Governments need to give food safety just as much attention as they devote to the quality and safety of pharmaceutical products. Not everyone needs to take medicine every day, but all people need food, each and every day".

Dr Margaret Chan, WHO Director-General

WHO ARE THE STAKEHOLDERS?

The stakeholder community of the Initiative includes all constituencies with an interest in using foodborne disease burden data for decision making, research purposes, and advocacy. These are multi-sectoral and multi-disciplinary, and include WHO Member States, bi- and multilateral organizations, the UN and other international organizations, foundations, scientific networks, research institutions, consumer groups, the food, agricultural and pharmaceutical industry, as well as the public and scientific media. Over 30 stakeholders and their umbrella organizations attended the meeting (see Box 1).

Box 1: Stakeholders attending the second meeting of the stakeholder community of the WHO Global Burden of Foodborne Disease Initiative (including press conference attendees)

International, bi-lateral and non-governmental organizations, consumer groups and networks

Center for Science in the Public Interest (CSPI)
European Commission
European Food Information Council (EUFIC)
Food Safety Network, University of Guelph, Canada
Food Standards Agency of the United Kingdom
GALVmed
Industry Council for Development (ICD)
International Federation for Animal Health (IFAH)
International Food Information Council (IFIC)
International Labour Office (ILO)
International Food Policy Research Institute (IFPRI)
International Union of Food, Agricultural, Hotel, Restaurant, Catering, Tobacco and Allied Workers' Associations (IUF)
International Union of Food Science & Technology (IUFoST)
Med-Vet-Net

Box 1 continued: Stakeholders attending the second meeting of the stakeholder community of the WHO Global Burden of Foodborne Disease Initiative (including press conference attendees)

International, bi-lateral and non-governmental organizations, consumer groups and networks (continued)

National Veterinary Institute, Norway
Permanent mission of Canada, Geneva
Permanent mission of The Netherlands, Geneva
Permanent mission of Mexico, Geneva
Permanent mission of Romania, Geneva
Permanent mission of Italy, Geneva
Permanent mission of Zimbabwe, Geneva
Safe Tables Our Priority (S.T.O.P.)
United States Department of Agriculture - Food Safety and Inspection Service
United States Department of Agriculture - Foreign Agriculture Service
World Trade Organization (WTO)

Scientific & public media

British Medical Journal
Food Biotechnology
International Journal of Food Microbiology
Reuters
The Lancet Infectious Diseases
The New England Journal of Medicine
Tribune de Genève

THE IMPACT OF FOODBORNE DISEASES

Stakeholders recognized and emphasized the need to estimate the global burden of foodborne diseases. Attention is often given to the problem of foodborne diseases following high profile outbreaks or contamination events. These outbreaks generally attract a lot of media attention and can be a catalyst for changes in policy; however, outbreak-associated illnesses and deaths account for just a small proportion of the total burden of foodborne diseases annually. The estimated 2.2 million deaths from diarrhoeal diseases reported by WHO in 2004 exclude those arising from outbreaks of intestinal diseases.

Ms Nancy Donley, President and Spokesperson for Safe Tables Our Priority (S.T.O.P.) gave a testimony on behalf of victims of foodborne diseases (see Box 2). Foodborne diseases are often perceived as causing only mild illness, but serious and long-term consequences do occur. The cost of foodborne diseases includes the long-term medical costs to foodborne illness victims, the psychological toll and associated costs to victims and their communities, lost productivity costs due to long-term effects of foodborne illnesses, and premature deaths as a result of complications of a foodborne illness.

Nancy Donley speaking at the Stakeholder Meeting.

Box 2: Unsafe food kills - the victim's perspective

Safe Tables Our Priority (S.T.O.P.) is a non-profit grassroots organization devoted to victim assistance, public education, and policy advocacy for safe food and public health. S.T.O.P.'s mission is to prevent unnecessary illness and loss of life from pathogenic foodborne illness. More information can be found on their website www.safetables.org

Nancy Donley's moving testimony of losing her young son poignantly illustrated the need for the WHO Initiative to Estimate the Global Burden of Foodborne Diseases:

"We applaud the World Health Organization's efforts on gathering foodborne disease mortality and morbidity data in order to understand its burden to society and to prioritize efforts in preventing foodborne disease. "

"Knowing and understanding the scope and toll of foodborne disease is imperative in order to ensure that the necessary governmental resources to prevent foodborne illness are made available."

"It is essential that [the cost associated with the long-term effects of foodborne illness] get factored into the estimated burden to society so that resources necessary for foodborne illness prevention are properly understood and put into place."

"One long-term after-effect that rarely, if ever, gets considered is the psychological toll of foodborne illness and its associated costs. "

"Food is a necessity of life. We all have to eat, there's simply no option. And as borders disappear with the globalization of the world's food supply, it's crucial to keep the advancement of food safety and the prevention of foodborne illness a top priority in world affairs."

Many of the bacteria, parasites, and viruses that cause symptoms of acute diarrhoea and vomiting can lead to other long-term complications or sequelae with serious health effects, sometimes leading to premature death. For example, infection with *Campylobacter* can trigger Guillain-Barré syndrome, an acute paralysis that can take weeks to months to recover from with some patients experiencing long-term neurological symptoms. Haemolytic uraemic syndrome, a leading cause of acute kidney failure in children, is often the result of infection with *E. coli* O157. Foodborne chemical contaminants often cause chronic conditions rather than acute problems; in Africa, exposure to aflatoxins, which are fungal toxins, is associated with liver cancer. In some parts of South East-Asia, a parasitic infection with liver fluke can lead to cancer of the bile duct which is invariably fatal. Long-term complications cause a substantial disease burden from foodborne diseases and need to be factored into estimates of the overall burden of disease.

The FERG will estimate the global burden of foodborne diseases using a summary measure of health - the Disability Adjusted Life Year, or DALY - which takes into account acute illness and long-term complications, in addition to premature deaths. The psychological and social impact of foodborne diseases on family members and others in the community is important but more difficult to measure.

Foodborne disease cause death and suffering even in the richest countries of the world. The true tragedy of foodborne diseases, however, is played out in poor countries where foodborne diseases are also a major obstacle to global development efforts. Foodborne disease burden estimates are important to demonstrate the impact of both unsafe and safe food on development. Without investment in food safety, the achievement of the Millennium Development Goals (MDGs) is jeopardized. At least four out of the eight MDGs are directly affected by foodborne diseases.

MDG 1: Eradicate extreme poverty and hunger - Foodborne diseases are diseases of poverty

- In settings of poverty, food storage and preparation practices are often inadequate leading to food contamination. Poorer countries often have weak or no food regulatory systems and enforcement. While many foodborne diseases may have a short duration, the high frequency of episodes results in high rates of absenteeism and medical expenses. In hunger situations, people are less likely to discard contaminated food, leading to increased exposure to contaminated foods.

MDG 3: Reduce child mortality - Foodborne diseases contribute significantly to child mortality

- Children are particularly vulnerable to contaminated environments, including food. An estimated 2.2 million deaths occurred from diarrhoeal diseases in 2004. Diarrhoeal diseases exacerbate malnutrition leading to a vicious cycle of morbidity and mortality. Children living with HIV/AIDS are especially at risk of foodborne opportunistic infections.

MDG 5: Improve maternal health - Some foodborne diseases have direct impact on maternal health

- Listeriosis and toxoplasmosis in pregnant women, for example, can lead to miscarriages, premature birth and stillbirth, all of which increase the risk of maternal mortality. Infected children who are born healthy may develop severe complications later in life, such as meningitis and blindness.

MDG 6: Combat HIV/AIDS, Malaria and other diseases

- All persons affected by HIV/AIDS are more likely to have opportunistic infections, and will develop more severe disease including increased mortality.

Foodborne diseases impact trade and many industries and their workers at all levels. An outbreak of foodborne disease or the identification of a single contaminated food ingredient can lead to the recall of tons of food products with considerable monetary losses from decreased production and trade embargoes, as well as damage to the tourist industry. Outbreaks or contamination events may also lead to business closures resulting in temporary or permanent job losses for workers, events that can affect not only households but whole communities.

Food workers may become victims of foodborne diseases from consuming contaminated food at their workplace or from direct contact with infected food animals or a contaminated working environment. Training of food workers in safe food practices is an important step in the prevention of foodborne disease. However, food workers also need a work environment that promotes the production and preparation of safe food. Workers, particularly in developing countries, often lack sanitary and other services (e.g. appropriate toilet and hand-washing facilities) that would improve the safety and quality of the foods they produce.

OVER TO THE STAKEHOLDERS: COMMUNICATION, ADVOCACY, AND POLICY IN THE WHO INITIATIVE

During the meeting, stakeholders formed working groups where detailed views and suggestions were voiced and documented, with specific focus on:

(1) further developing the Initiative's communications and advocacy strategy and

(2) ensuring that the findings of the Initiative are useful to and feed directly into policy.

Stakeholders suggested developing a communication plan which includes (a) raising awareness about the Initiative, (b) disseminating interim results, and (c) sharing results with policy-makers at the earliest possible opportunity. It was noted that a variety of different strategies will be needed to communicate effectively with different stakeholder groups.

Raising awareness about the Initiative -- the internet and newsletters were seen as important tools for communicating information about the Initiative and raising awareness. It was suggested that the WHO submit summary articles to organizations with pre-existing newsletters, such as food safety authorities, industry groups, and other stakeholder organizations. It was suggested that the WHO may want to consider producing a newsletter specifically for the Initiative. Press releases directed at the Ministries of Health or Agriculture may be a good way to disseminate information in developing countries.

It was recommended that the Initiative raise awareness about its purpose and agenda among institutions that may be in a position to fund future research recommended by the FERG, such as the European Commission. Providing information about the Initiative to businesses that promote and advertise agro-business and 'green food' issues may forge closer links with industry, and in turn, increases in funding. In these communications it would be useful to focus on the wider picture and interconnected nature of food and food production in the global economy. For example, one could communicate the global nature of food and the fact that a single food product eaten in one country may contain ingredients from many other countries.

© Oliver O'Hanlon

Stakeholders expressing views at the Stakeholder Meeting.

Disseminating interim results -- stakeholders strongly recommended that the Initiative communicate interim findings rather than waiting for the final product to be complete. Information on the impact of foodborne diseases and the food commodities implicated should be shared with a broad audience in an open and transparent way. Stakeholders would welcome the dissemination of interim results in peer reviewed journals; however, it was suggested that the Initiative explore other ways in which professionals obtain this information. When appropriate, systematic reviews and other work commissioned by the WHO Initiative should also be made available to stakeholders on the Initiative's website and in hardcopy. The early engagement of stake-

care will be needed when formatting the messages. Scientists currently communicate that "food has never been safer" - this could generate confusion and anxiety among the public. Consumer groups offer a way of channelling the Initiative's messages out to consumers, and expressed strong interest in playing a role in this.

Sharing results with policy-makers -- policy-makers are the key group that needs to be specifically targeted by WHO and a separate communications strategy should be developed to ensure that the Initiative's findings are turned into public health action. There was some disagreement about the timing of involving policy-makers in the Initiative with some advocating involvement at the current, others at a later stage.

Stakeholders stressed that the burden information provided by WHO should include the long-term complications suffered by victims and the larger societal impact to adequately demonstrate the overall human health impact from foodborne diseases. Policy-makers and other stakeholders should be made aware of how foodborne diseases impact the industry and its workers. Moreover, information on demonstrated ways to reduce foodborne diseases should also be disseminated to policy-makers, wherever possible. A clear definition of foodborne disease is needed when communicating with policy-makers.

Data on the overall burden of foodborne diseases will help prioritize food safety and the design and implementation of prevention and control measures for foodborne diseases. However, food safety interventions will be more focused and more successful if the specific food commodities causing foodborne diseases are identified. Source attribution information - that is, information on the specific food causing illness - will be vital for informing policy. Moreover, information is needed on where in the food supply chain contamination occurs. Intervention studies which can demonstrate the effectiveness of different interventions are desirable, but are difficult to implement for foodborne diseases. These comments were followed by a discussion endorsing the detailed source attribution approach being em-