



World Health  
Organization

[www.who.int/foodafety/foodborne\\_diseases/en](http://www.who.int/foodafety/foodborne_diseases/en)

# Estimating the Global Burden of Foodborne Diseases

To foster  
global health security

To promote  
economic growth and development

To strengthen  
evidence-based policy-making

Estimer la charge mondiale  
des maladies d'origine alimentaire

Pour promouvoir  
la sécurité sanitaire internationale

Pour encourager  
la croissance économique et le développement

Pour renforcer  
l'élaboration des politiques sur la base d'éléments factuels



WHO Strategy on  
Research for Health -  
from concept to practice:

## WHO Initiative to Estimate The Global Burden Of Foodborne Diseases

Dr Claudia Stein  
*Food Safety, Zoonoses &  
Foodborne Diseases*



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China reports big rise in food-poisoning de  
**Koreans Name Food Safety as P:**  
A survey released yesterday said  
60 per

*"Governments need to give food safety just as much attention as they devote to the quality & 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**

30,000  
New York company is voluntar  
5,000 pounds (129,700 kg) of fresh  
ultry products that may be contam  
U.S. agriculture officials said on Satu

**Salmonella-Tainted Tomatoes Linked to Markets, Restaurants**  
Tomatoes tainted with salmonella have been  
iced to supermarkets and  
leral food

**Consumer Group Seeks Ban on Some Food Dyes**

**EU: Could Ban Mozzarella Unless Gets Contamination Info**  
The European Commission warned Italian authorities it could join Japan and South Korea's import ban on mozzarella cheese unless it receives information on

meat and  
may contain excessive  
Centre for  
and those planning to have  
safety levels of mercury, the  
er three out of 280 fish  
ween April and August last  
contain a high level of  
harm brain development  
Consultant Ho Yuk-  
levels exceeded

of fish

**Bacteria, viruses, parasites, chemicals, bio-toxins**

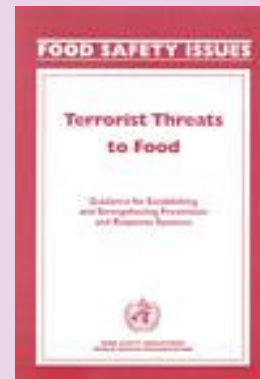
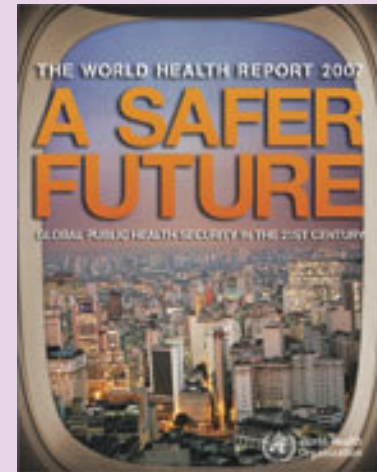
arrived that initial bout. S  
e unraveling a legacy that  
noticed. What they've s  
to interviews with

**Food Safety and Olympic challenge for Beijing**

Chinese-made  
prompting Tokyo officials  
launch an inquiry

# Foodborne Diseases – a global health security issue

- Spread of foodborne disease outbreaks (trade, travel, unrest)
- Emergence of new foodborne diseases (e.g. vCJD)
- Use of food as a vehicle for deliberate contamination (terrorist threats to food)



# Foodborne Diseases – a global development issue

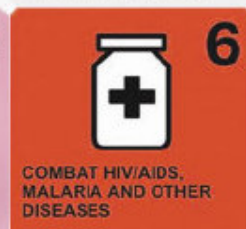
- Diseases of poverty



Foodborne diseases and their resulting morbidity, disability and mortality affect household incomes. Improvements in food availability for those living with hunger must be accompanied by corresponding reductions in foodborne diseases, otherwise the goal of "halving poverty by 2015" will be jeopardized.



Children are particularly vulnerable to the effects of foodborne diseases, often as a result of accompanying morbidity, including malnutrition or other infections. A reduction in child mortality may not be possible without a substantial decrease in food and waterborne diseases in this age group.



Pregnant women are especially susceptible to infectious risks, including foodborne diseases. Infection with *Listeria monocytogenes* and *Toxoplasma gondii* are particular hazards in pregnancy. These infections can cause serious illness in the mother and fetus, as well as lead to miscarriages, premature delivery and stillbirth, all of which increase the risk of maternal mortality.

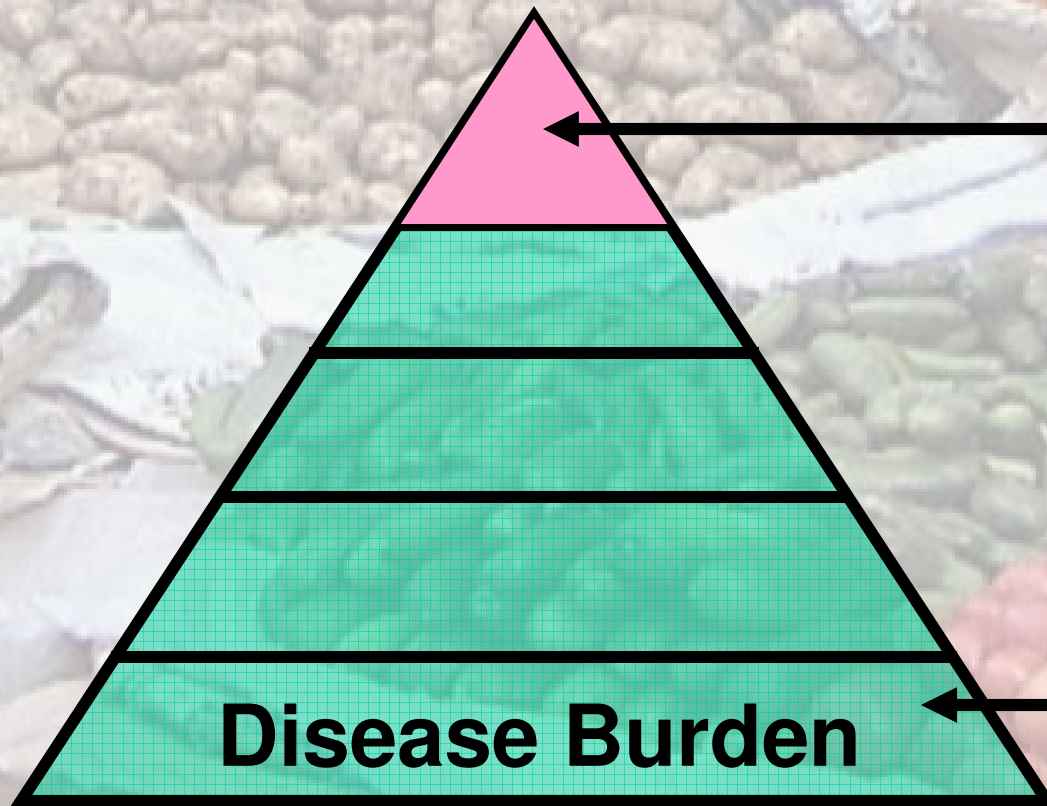
People living with HIV/AIDS are prone to opportunistic infections, including those resulting from contaminated food. Serious complications and chronic symptoms as a result of foodborne diseases, including cerebral toxoplasmosis are common in immunocompromised people. Food safety interventions are, therefore, an important complement to achieve MDG 6.



- Higher rates in vulnerable groups

WHO Global Strategy for Food Safety (WHA, 2002) &  
Beijing Declaration on Food Safety (Nov 2007)

".... develop science-based measures to prevent exposure to hazards through food, and to assess and communicate foodborne risks."



**What we do know...  
(reported cases)**

**What we need to  
know!**

# 2006 WHO Consultation to Develop a Strategy for the Global Burden of Foodborne Diseases –

"What doesn't get measured, doesn't get done"

Goal of Initiative: Provide data & tools to enable policy-makers & other stakeholders to set evidence-based priorities in food safety at country level

WHO Consultation  
to Develop a Strategy to Estimate  
the Global Burden of Foodborne Diseases

*Taking Stock and Charting the Way Forward*



Recommendation 10:  
WHO to lead efforts &  
appoint *Foodborne  
Disease Burden  
Epidemiology  
Reference Group  
(FERG)*

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**Food safety**

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## Call for Advisers - Foodborne Disease Burden Epidemiology Reference Group (FERG)

[WHO sites](#)

**Food Safety**

Although foodborne diseases are a growing public health problem worldwide, no precise and consistent global estimates exist to date. WHO developed a strategic framework for the estimation of Global Burden of Foodborne Diseases during an international expert consultation held in Geneva ([www.who.int/foodsafety/publications/foodborne\\_disease/burden\\_sept06/en/](http://www.who.int/foodsafety/publications/foodborne_disease/burden_sept06/en/)). One of the main recommendations of the Consultation was to create an expert group to implement the framework.

[Zoonoses](#)

[Microbiological risks](#)

### Purpose of FERG

[Chemical risks](#)

The FERG understands the term epidemiology in the widest sense as meaning the application of a variety of scientific methodologies (including risk assessment approaches) to arrive at disease burden estimates. The group will be composed of professionals from disciplines including:

[Biotechnology \(GM foods\)](#)

[Food standards \(Codex Alimentarius\)](#)

- Microbiology, parasitology and virology
- Burden of disease methodologies
- Microbiological and chemical risk assessment (including toxicological), and source attribution
- Disease and exposure modeling, statistics and geographic information systems
- Clinical medicine and nutrition
- Food protection, policy and regulation

[Foodborne disease](#)

[Food production to consumption](#)

[Capacity building](#)

[Consumer education](#)

The group will operate at the level of various task forces and direct and monitor the strategy for global burden of foodborne disease estimation. It will estimate the burden of disease from all relevant etiologies and be specifically charged with:



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- Food Safety**
- Zoonoses
- Microbiological risks
- Chemical risks
- Biotechnology (GM foods)
- Food standards (Codex Alimentarius)
- Foodborne disease
- Food production to consumption
- Capacity building
- Consumer education

## Food safety

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### Call for Advisers - Foodborne Disease Burden Epidemiology Reference Group (FERG)

Although foodborne disease burden is a consistent global estimate, the Global Burden of Foodborne Disease (GBD-Food) recommendations of the

#### Purpose of FERG

The FERG understand a variety of scientific methods to estimate the global burden of foodborne disease.

- Microbiology, public health
- Burden of disease
- Microbiological
- Disease and exposure
- Clinical medicine
- Food protection

The group will operate to estimate the global burden of foodborne disease etiologies and be spe

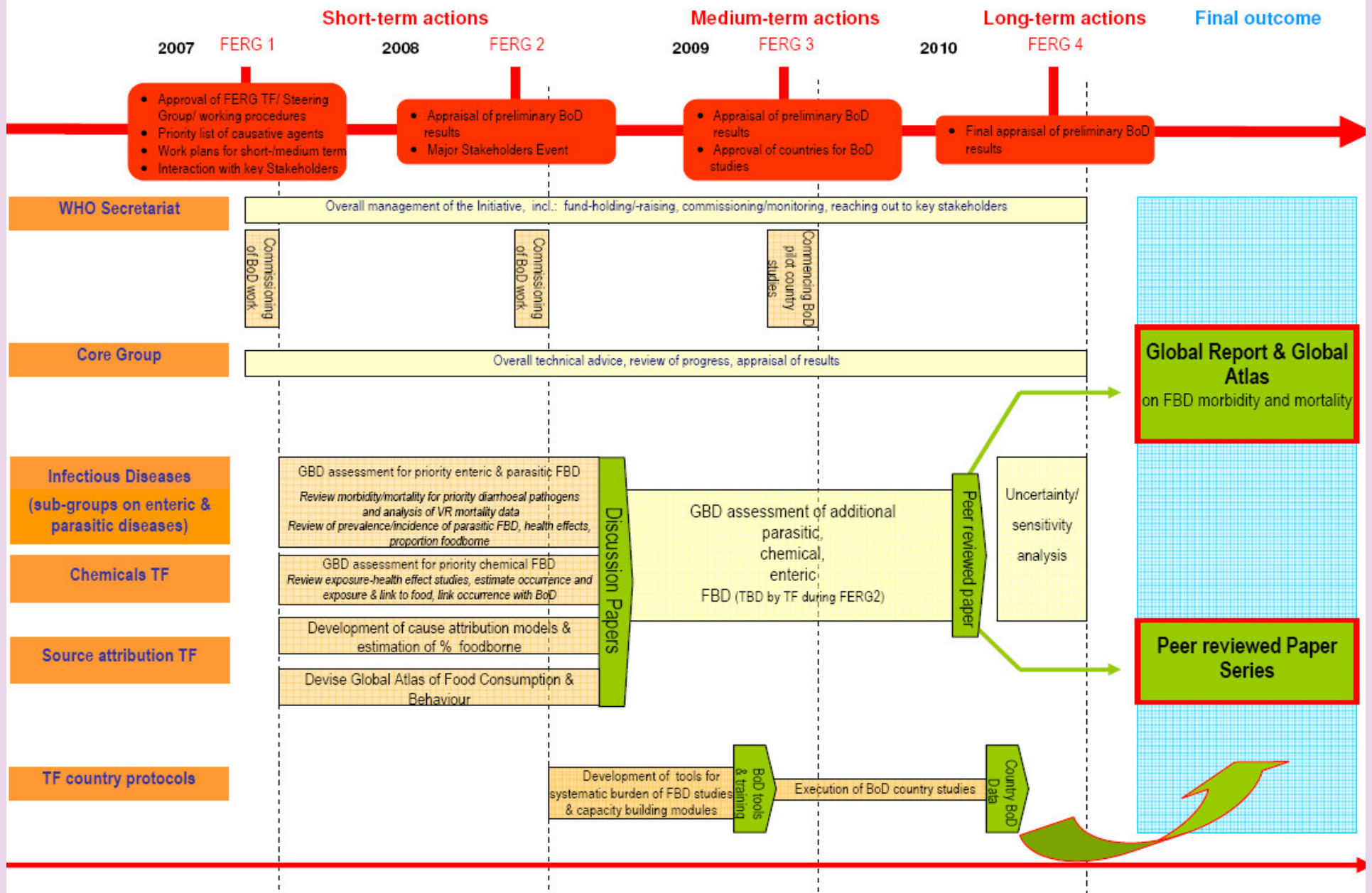


no precise and work for the estimation of on held in Geneva. One of the main ment the framework.

the application of a arrive at disease burden ing:

and source attribution systems

for the strategy for disease from all relevant



# Strategic framework

□ Activities

■ Milestone/Outputs

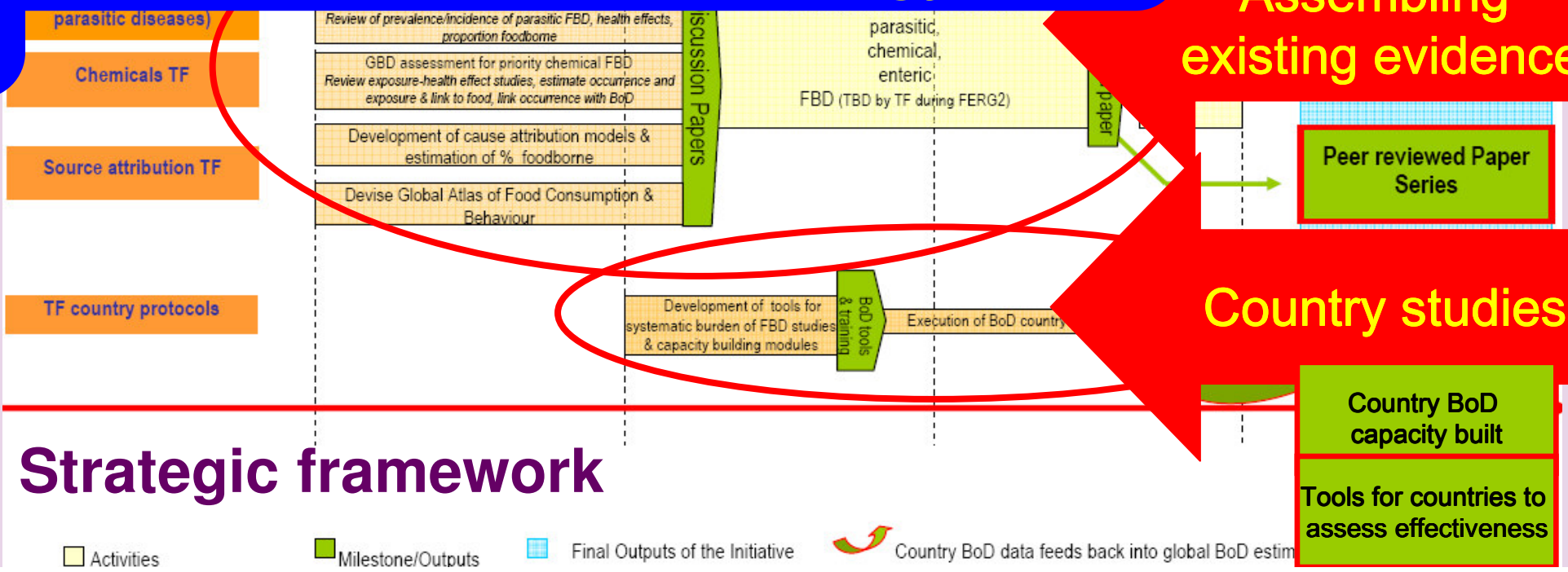
▒ Final Outputs of the Initiative



Country BoD data feeds back into global BoD estimates

2007 FERG 1      **Short-term actions**      2008 FERG 2      **Medium-term actions**      2009 FERG 3      2010 FERG 4      **Long-term actions**      **Final outcome**

- Build on existing evidence
- Priorities as identified by partners
- Monitoring & Evaluation framework
- Peer review framework
- Communication strategy



Assembling existing evidence

Peer reviewed Paper Series

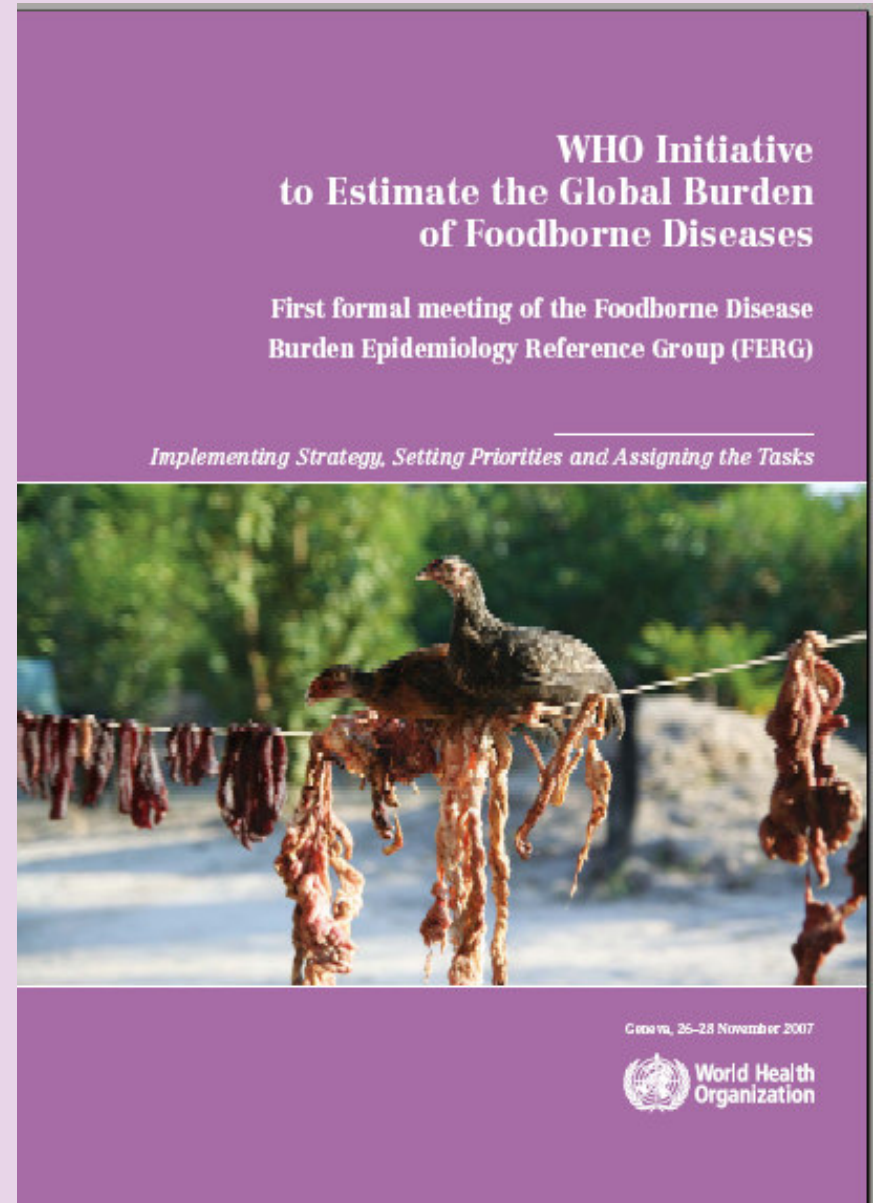
Country studies

Country BoD capacity built

Tools for countries to assess effectiveness

# FERG 1 – held in November 2007

(report soon available  
in French & Spanish)



[http://www.who.int/foodsafety/publications/foodborne\\_disease/burden\\_nov07/en/index.html](http://www.who.int/foodsafety/publications/foodborne_disease/burden_nov07/en/index.html)

# FERG 2 meeting – 17-21 November 2008

(report soon available  
in French & Spanish)

## WHO Initiative to Estimate the Global Burden of Foodborne Diseases

First formal meeting of the Foodborne Disease  
Burden Epidemiology Reference Group (FERG)

### International Life Sciences Institute (ILSI)

“We are pleased to note that this WHO Initiative is covering the whole area of foodborne diseases, going beyond enteric agents and including important parasitic and chemical causes”.

*Dr Nico van Belzen, Executive Director, ILSI Europe*



### Center for Science in the Public Interest (CSPI)

“As governments and industries work together to tackle diarrhoeal diseases and to achieve other Millennium Development Goals, consumer groups have also stepped up to the challenge to contribute research and information.”

*Ms Caroline Smith de Waal, Director, Food Safety, CSPI*



### International Union of Food Science and Technology (IUFoST)

“We appreciate the scope of this Initiative and invite FERG to draw on our wide global network of scientist and communication platforms.”

*Dr Geoffrey Campbell-Platt, President Elect, IUFoST*



### International Federation for Animal Health (IFAH)

“Although some vaccines have been proven to be very effective - like those against Salmonella - other pathogens causing potentially high burden of disease have been neglected. FERG will be able to redress this imbalance.”

*Dr Dieter Schillinger, Chair, Food Chain Committee, IFAH*



[http://www.who.int/foodsafety/publications/foodborne\\_disease/burden\\_nov07/en/index.html](http://www.who.int/foodsafety/publications/foodborne_disease/burden_nov07/en/index.html)

# Alliance of collaborators & partners

- CDC, Atlanta (technical & \$ support)
- US Department of Agriculture (technical & \$ support)
- Dutch Ministry of Health, Sports & Welfare (\$ support)
- Government of the Federal Republic of Germany (JPO to Secretariat)
- Japanese Ministry of Health, Labour and Welfare (\$ support)
- Government of the UK (2 secondments to Secretariat)
- Government of Sri Lanka (secondment to Secretariat agreed)
- Government of the Republic of Ireland (secondment to Secretariat)
- UN & other internationals (FAO, OIE, IARC, UNEP, WTO, World Bank)
- European CDC
- Institute for Health Metrics and Evaluation
- Multiple topic-relevant networks (e.g GSS, Med-Vet-Net, Int Collab of Bol studies)

## In discussion process with countries

- Numerous bi-laterals, including:
  - National equivalents of FDA, DoA, AID & NIH
- Other multi-laterals, Foundations etc

**Regular  
stakeholder  
consultation**

# Who are the multi-sectoral stakeholders?

- WHO member states
- Bi/multi-lateral donors
- NGOs
- Consumer groups
- Industry
- Public & scientific media



World Health  
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WHO Initiative to Estimate the Global Burden of Foodborne Diseases

On the occasion of the second meeting of  
the Foodborne Disease Burden Epidemiology Reference Group (FERG)

Date: Thursday, 20 November 2008

Time: 10:00 hrs to 17:30 hrs

Place: International Conference Centre Geneva (CICG), Conference Rooms 5 & 6

The Stakeholder Meeting will be followed by a reception with  
Dr David Heymann, WHO Assistant Director-General.

# What is the purpose of the stakeholder meeting?

- Actively engage with the research conducted
- Open new channels for multi-sectoral technical cooperation

Date: Thursday, 20 November 2008  
Time: 10:00 hrs to 17:30 hrs  
Place: International Conference Centre Geneva (CICG),  
Conference Rooms 5 & 6

## DRAFT AGENDA FOR THE WHO STAKEHOLDER MEETING

10:00-10:30	<b>Registration</b>
10:30-10:40	<b>Welcome by the Assistant Director-General</b> Dr. David Heymann, ADG/HSE
10:40-11:00	<b>Testimony on foodborne diseases</b> Nancy Donley, President and Spokesperson, S.T.O.P.-Safe Tables Our Priority <i>Discussion</i>
	<b>Celebrity speech</b> to be confirmed <i>Discussion</i>
11:00-11:30	<b>Estimating the global burden of foodborne diseases in the context of global public health security</b> Dr. David Heymann, WHO/ADG/HSE Overview presentation on the rationale of estimating the global burden of foodborne diseases <i>Discussion</i>
11:30-12:00	<b>WHO Initiative to Estimate the Global Burden of Foodborne Diseases</b> Dr. Jorgen Schlundt, Director Food Safety, Zoonoses and Foodborne Diseases Overview presentation on: a) the Initiative's recent history and achievements b) the Foodborne Disease Burden Epidemiology Reference Group (FERG) c) the Initiative's Strategic Framework, incl. budget d) the Initiative's Partnerships <i>Discussion</i>
12:00-14:00	<b>LUNCH BREAK</b> and press conference
14:00-15:30	<b>Stakeholder Working Groups - views &amp; suggestions on communication, advocacy and policy making</b>
15:30-15:45	<b>COFFEE BREAK</b>
15:45-16:30	<b>Feedback of the Stakeholder Working Groups in plenary</b> <i>Discussion</i>
16:30-17:10	<b>Open floor to stakeholders - where should we go?</b>
17:10-17:30	<b>Brief outlook &amp; closure</b> Dr. Jorgen Schlundt, Director Food Safety, Zoonoses and Foodborne Diseases

# Stakeholder roles at the meeting

- Suggest what type of burden data best meet the needs of policy makers (and other end-users)
- Suggest how WHO can improve the reporting of data
- Suggest how collaboration in this area can be improved
- Other suggestions!

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Testimony on foodborne diseases  
Nancy Donley, President and Spokesperson,  
S.T.O.P.-Safe Tables Our Priority  
*Discussion*

# FERG technical meeting 21 November

15:30-15:45

COFFEE BREAK

15:45-16:30

Feedback of the Stakeholder Working Group  
*Discussion*

16:30-17:10

Open floor to stakeholders – where should w

17:10-17:30

Brief outlook & closure  
Dr. Jorgen Schlundt, Director Food Safety, Zoonoses and Foodborne  
Diseases



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# Initiative to Estimate the Global Burden of Foodborne Diseases (FBD)

## Why?

- Because information on burden of FBD from all causes is poor
- Policy makers require information to assess effectiveness of prevention and interventions (incl. Codex Alimentarius)
- Foster international development and global health security

## What?

- Estimation of *current*, *future* and *averted* morbidity, disability and mortality of FBD
- Development of tools for countries to conduct BoD studies & assess effectiveness of policies & interventions

## How?

- Foodborne Disease Burden Epidemiology Reference Group (FERG)
- Time frame of ~ 5 years

## Outcome?

- Global report and global atlas (communication strategy)
- Country BoD studies and BoD capacity

WHO Initiative to Estimate the Global Burden of Foodborne Diseases



# Please join us!

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[www.who.int/foodsafety/foodborne\\_disease/ferg/](http://www.who.int/foodsafety/foodborne_disease/ferg/)

WHO Initiative to  
Estimate the Global Burden of Foodborne Diseases  
A summary document



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*Implementing Strategy, Setting Priorities and Assigning the Tasks*

