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

World Health Organization
Department of Food Safety, Zoonoses and Foodborne Diseases

WHO Consultation to Develop a Strategy for the Global Burden of Foodborne Diseases – charting the way forward

**Rationale**

- To assess impact of food safety measures
- To advise policy makers of cost-effective use of resources

Claudia Stein, MD, MSc, PhD, FFPH

Food Safety, Zoonoses and Foodborne Diseases (FOS)
What do we mean by 'burden'?

**DISEASE/SYNDROME**
- Gastroenteritis
- Neurological disorders
- Hepatic disease
- Cancer

**CAUSATIVE**
- Bacterial
- Viral
- Parasitic
- Chemical
- Other

**RISK FACTOR**
- Unsafe water
- Poor food hygiene
- Poor sanitation
- Habitation
Which approach to use?

- DALYs
- HALE & others
- Surveillance systems
- Intervention impact

DISEASE/SYNDROME
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The plan

- Estimate % foodborne disease among overall global burden of disease
- Consider multiple causes (infectious/zoonotic, parasitic, chemical)
- Launch alliance of multiple national and international partners
- Assimilate previous efforts to estimate burden
- Identify gaps in foodborne disease burden estimates
- Triangulate various methods and approaches
- Use BoD summary measures that are internationally understood (incidence, prevalence, mortality, DALYs)
- Encourage BoD studies at country level
What has been done so far?

- Incidence & mortality studies of diarrhoeal disease (various infective agents)
- Comparative Risk Assessment (CRA) studies of water-borne diseases (various causes)
- Foodborne disease burden in OECD countries (WHO)
- Comparative Risk Assessment of foodborne diarrhoeal disease (unpublished)
- Prevalence studies of zoonotic foodborne diseases
- Burden studies of parasitic diseases
- …
What has been done so far?

Trees, trees, where is the wood?

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- Prevalence studies of zoonotic foodborne diseases
- Burden studies of parasitic diseases
- ...
Comparative Risk Assessment – Foodborne Diarrhoeal Disease

• Currently unpublished
• Causes:
  – Bacterial, parasitic (limited) & viral only
• Disease model
  – Using salmonella prevalence in food & consumption rates
  – Building on % of cases due to salmonella spp
  – Totalling to % of remaining causes
Comparative Risk Assessment – Foodborne Diarrhoeal Disease

Salmonella prevalence in food + Consumption data

↓

Annual incidence of foodborne salmonellosis

% foodborne diarrhoea caused by Salmonella

↓

Annual incidence of foodborne diarrhoea
Previous steps

- Compile and assess work done to date
- Build alliances with key stakeholders (WHO internal & external)
  - Identify and invite collaboration
  - Link with existing networks
  - Establish formal initiative to plan way forward

<table>
<thead>
<tr>
<th>Cause of foodborne disease</th>
<th>Units at WHO involved</th>
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<tr>
<td>Bacterial</td>
<td>FOS, CAH, NTD, WSH, IVB, EIP</td>
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<td>Viral</td>
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Where we are now...

- **Purpose of September meeting**
  - Develop strategy for global foodborne BOD estimates involving relevant partners
  - Use meeting as "launch" event for wider collaboration
  - Prepare detailed action plan and time frame for BOD work – completing the 'evidence map'
  - Develop a standard protocol/manual for conducting BOD studies in countries to obtain estimates
### What we will be doing...

<table>
<thead>
<tr>
<th>Time</th>
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<th>Tuesday 26 Sept</th>
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- **Plenary**
- **Group work**
What we will have on Wednesday...

- First draft of 'evidence map'

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<th>Evidence ranking&quot;</th>
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...
What more we will have on Wednesday…

- Country protocols for minimum data set
- Advice for WHO to complete the evidence map
- Suggestions for further collaboration

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More things to come …

• Proposals for composition of core reference group
  • Develop estimates for global foodborne BOD for all relevant causes and risk factor
  • Convene group regularly to report to and advise WHO

• Suggestions for sponsorship/potential donors

• Summary of these efforts in meeting report (end of year '06)
Some housekeeping tips

• Queries relating to administrative issues (travel, accommodation, logistics)
  – Contact Jenny Murcott (# 13557), L Building, office L 212

• Queries relating directly to logistics of the meeting:
  – Contact Johanna Slotte (present), L Building, office L 229

• Queries relating to logistics of meeting or technical matters:
  – Contact Claudia Stein or Peter Braam (present)
The ultimate Swiss experience –
• Ever played the Swiss Alphorn?
• Ever yodelled?

If not, the following is a must…

Dinner at the Edelweiss Hotel
Tuesday, 26 September @ 19:30 hrs

– List circulating this morning
– Set menu
– Attendance required once signed up
– Directions to hotel in folders
Welcome
Thank you &
Let's get to work 😊
Extra slides
Foodborne diseases encompass a wide spectrum of illnesses and are a major public health problem worldwide. They are the result of ingestion of contaminated food stuffs, and range from diseases caused by a multitude of microorganisms to those caused by chemical hazards.

The contamination of food may occur at any stage in the process from food production to preparation (‘farm to fork’) and result from environmental contamination, including pollution of water, soil and/or air. It is for this reason that this burden of disease work is coordinated with other WHO activities in this area, including those on chemicals, water, sanitation and hygiene.

The most common clinical presentation of foodborne diseases takes the form of gastrointestinal symptoms but these diseases can also include neurological and other symptoms. Multi-drug resistant species, considerable disability as well as economic and social costs associated with foodborne diseases and their absence data, however, tend to make the true disease burden for affected persons to feature in such health statistics, they not only have to seek medical care, provide a specimen for laboratory investigation, and test positive on laboratory methods but also be reported to the relevant health authorities.
Comparative Risk Assessment – Unsafe water, sanitation & hygiene

• Causes:
  – Bacterial, protozoal and viral diarrhoea
  – Trichuriasis
  – Arsenic

• Disease model
Working Group 1
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Plenary               Group work
Instructions 1

- Identify your group
  
  Group 1: Salle B  
  Group 2: Room X 7  
  Group 3: Room M 105  
  Breakout: Room L 132

- Chairs and Rapporteurs nominated

- Please try not to change groups or roles
Instructions 2

- Discussion of presented and un-presented evidence
- Tabulate and categorise the evidence

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- Allocation of burden which is foodborne
- Record any points of disagreement
Working Group 2
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- **Plenary**
- **Group work**
Instructions 1

• Identify your group
  Group A1: Room X 7
  Group A2: Salle B
  Group B1: Room C 102
  Group B2: Room M 505

• Chairs and Rapporteurs nominated

• Please try not to change groups or roles
Instructions 2

- Groups A = Country protocols and donors
- Groups B = Burden strategy and donors

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- Record any points of disagreement
- Provide any other input deemed important