

# Estimating a national burden of foodborne diseases: A guidance for countries

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# Why estimate the burden of foodborne disease?

Foodborne diseases are highly visible: outbreaks, contamination events

FBD cause considerable morbidity and mortality

Full extent of FBD not documented

FBD are complex: numerous hazards, numerous health outcomes, effects on different time scales

Limited data availability

Food is not the only transmission pathway of many food-related hazards

# Global burden of foodborne disease

Hazard group	Foodborne illnesses (millions)	Foodborne deaths (thousands)	Foodborne DALYs (millions)
All	600	420	33
Diarrheal	549	230	18
Invasive	36	117	8
Helminths	13	45	6
Chemicals	0.2	19	0.9

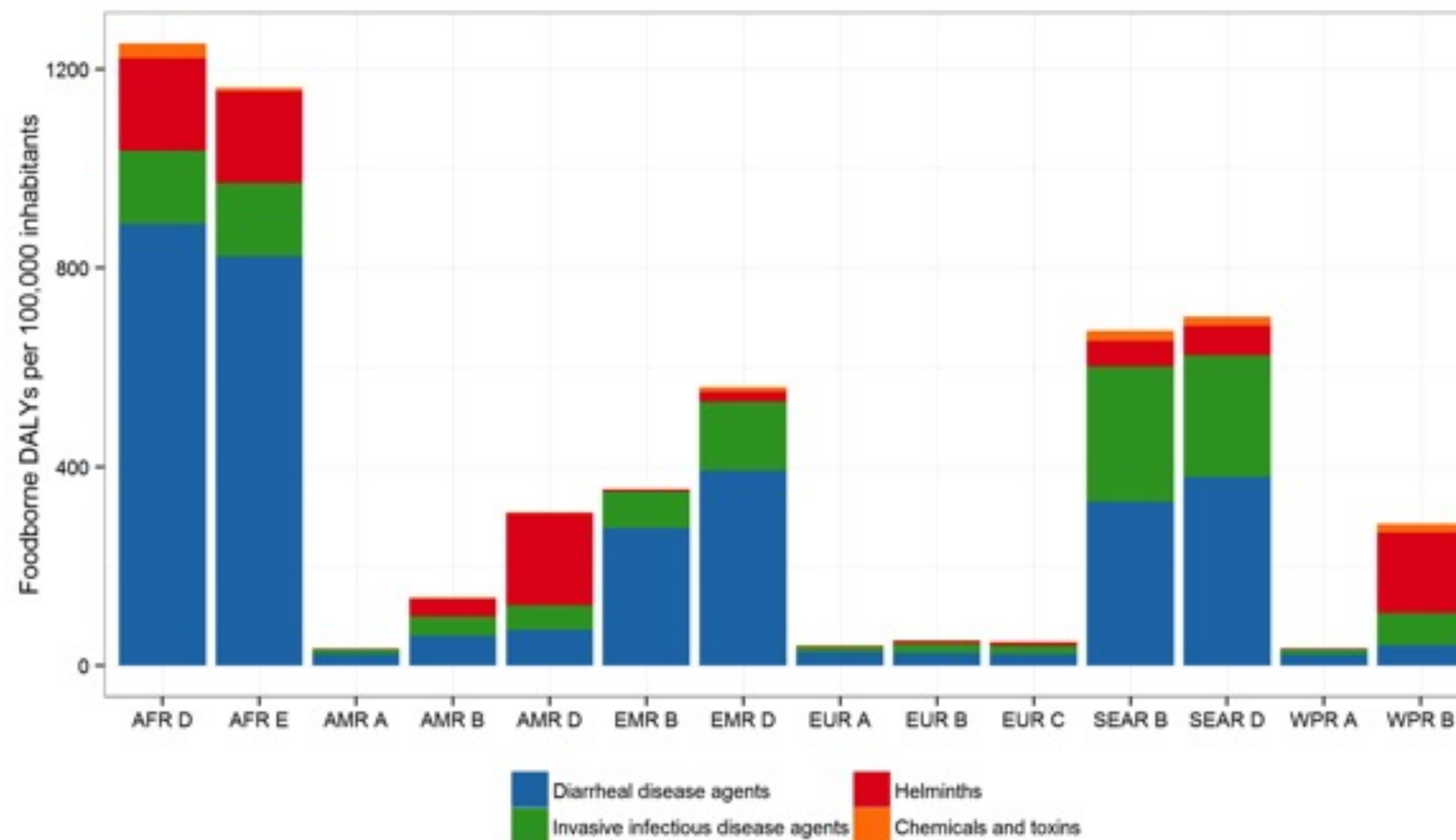
Most frequent causes of global foodborne disease

Foodborne illnesses: norovirus, *Campylobacter* spp.

Foodborne deaths: non-typhoidal *Salmonella enterica*, *Salmonella* Typhi, *Taenia solium*, hepatitis A virus, aflatoxin

Foodborne DALYs: non-typhoidal *Salmonella enterica*, enteropathogenic and enterotoxigenic *Escherichia coli*; *Taenia solium*, norovirus, *Campylobacter* spp.

# Regional differences



# Implications for food safety policy

Difference in burden between regions suggests that FBD are largely preventable by currently available methods

Linked to economic development and effective food safety systems

From reactive, repressive systems to preventive, risk-based and enabling systems

Effective surveillance networks at country, regional and global levels

# Why conduct a national burden of foodborne disease study?

1. Prioritise food safety risks for national public health resource allocation and interventions for disease prevention
2. As a contribution towards facilitating trade and compliance with international market access requirements through strengthening risk-based food safety systems
3. Identifying food safety system needs and data gaps, for national infrastructure and capability development
4. To unify food safety efforts from multiple state and private actors (stakeholder engagement)



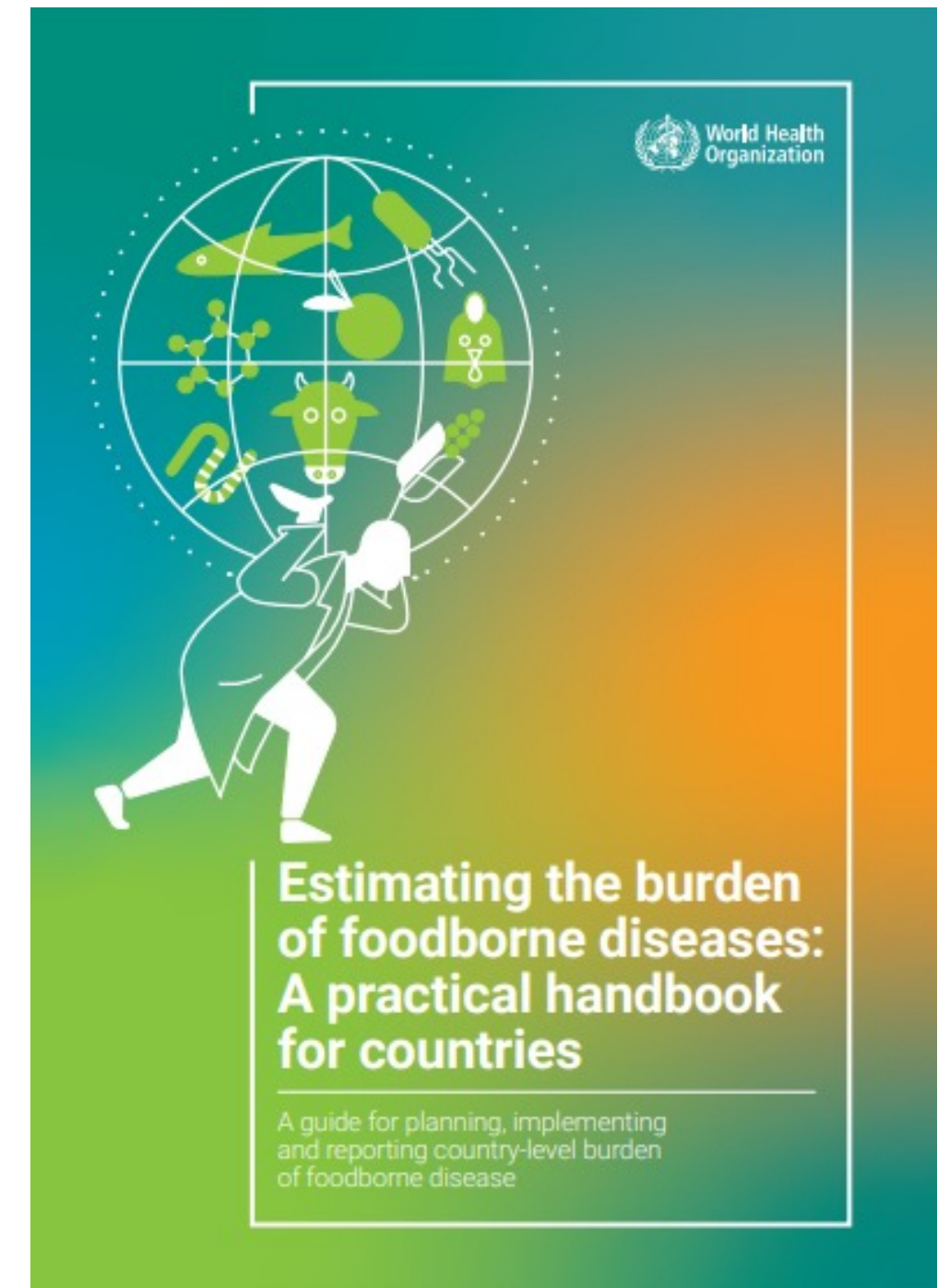
# Prioritising effective food safety interventions

1. What is the public health impact of different foodborne diseases?  
How do we compare and prioritise diseases?
2. What causes these problems?  
How do we identify sources of disease and routes of transmission
3. What are the options for intervention?  
Which are more effective?
4. How do we measure the effect of each intervention?



# Handbook for national burden of foodborne disease studies

1. Introduction
2. Burden of foodborne disease studies
3. Planning a burden of foodborne disease study
4. Data preparation
5. Estimating incidence, mortality and DALYs
6. Estimating foodborne DALYs (source attribution)
7. Interpreting national burden of foodborne disease results
8. Knowledge translation and risk communication
9. Final considerations



[Estimating the burden of foodborne diseases: A practical handbook for countries \(who.int\)](https://www.who.int/publications-detail/estimating-the-burden-of-foodborne-diseases-a-practical-handbook-for-countries)

# Purpose of this handbook

Guidance for anyone planning to assess the burden of foodborne diseases, particularly at national level

Complete picture of:

- the requirements

- enabling factors

- challenges and opportunities

- the steps in the process

Aims to foster harmonization of methodologies for estimating foodborne disease burden across countries

# Target Audience

National governments

Academic institutions

Others involved in conducting a study of burden of foodborne disease at national or other level (i.e. regional, subnational)

Food business operators as potential data providers

Consumer organizations as potential partners to establish priorities



# Scope

Microbiological agents – foodborne bacteria, virus, parasites

General sequential steps to estimating burden

To be adapted to countries capacity and data availability

Does not cover

Chemical hazards

Attribution to foods and other sources

# Key Step: Conduct a situation analysis

Facilitate knowledge translation of burden estimates into policy

Identify and engage with key actors in food safety

Position estimates of foodborne disease burden as input to the national policy-making process

Strengthen of stakeholder collaboration and sharing of data

# Key Step: Knowledge translation and risk communication

Presentation and communication of results is essential

Consider target audiences, e.g.

- Policy-makers

- Food business operators

- Media

- Community, general public, consumers

- Scientific community

Consider the purpose of the message

Decide on dissemination strategy early



# FERG2 Country Support Task Force

The (WHO) secretariat will support countries to:

“Estimate national burden of foodborne diseases and make a robust case for investment in food safety, assess and build capacity to establish risk-based food safety systems with enhanced foodborne disease surveillance systems, put in place risk control measures along the food chain, including to contain antimicrobial resistance, and perform risk assessments on emerging food hazards or related subjects; and...”

To advise on provision of that support FERG2 has established the Country Support Task Force

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