
The Global Burden of Foodborne Disease

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Overview

- In 2006 WHO initiated a project to estimate the global burden of foodborne disease
- In 2007 the Foodborne Disease Burden Epidemiology Reference Group (FERG) was established to tackle this project
- Estimates were published in 2015, using 2010 as a reference year
- WHO report and PLoS page (WHO Estimates of the Global Burden of Foodborne Diseases - [PLOS Collections](#))

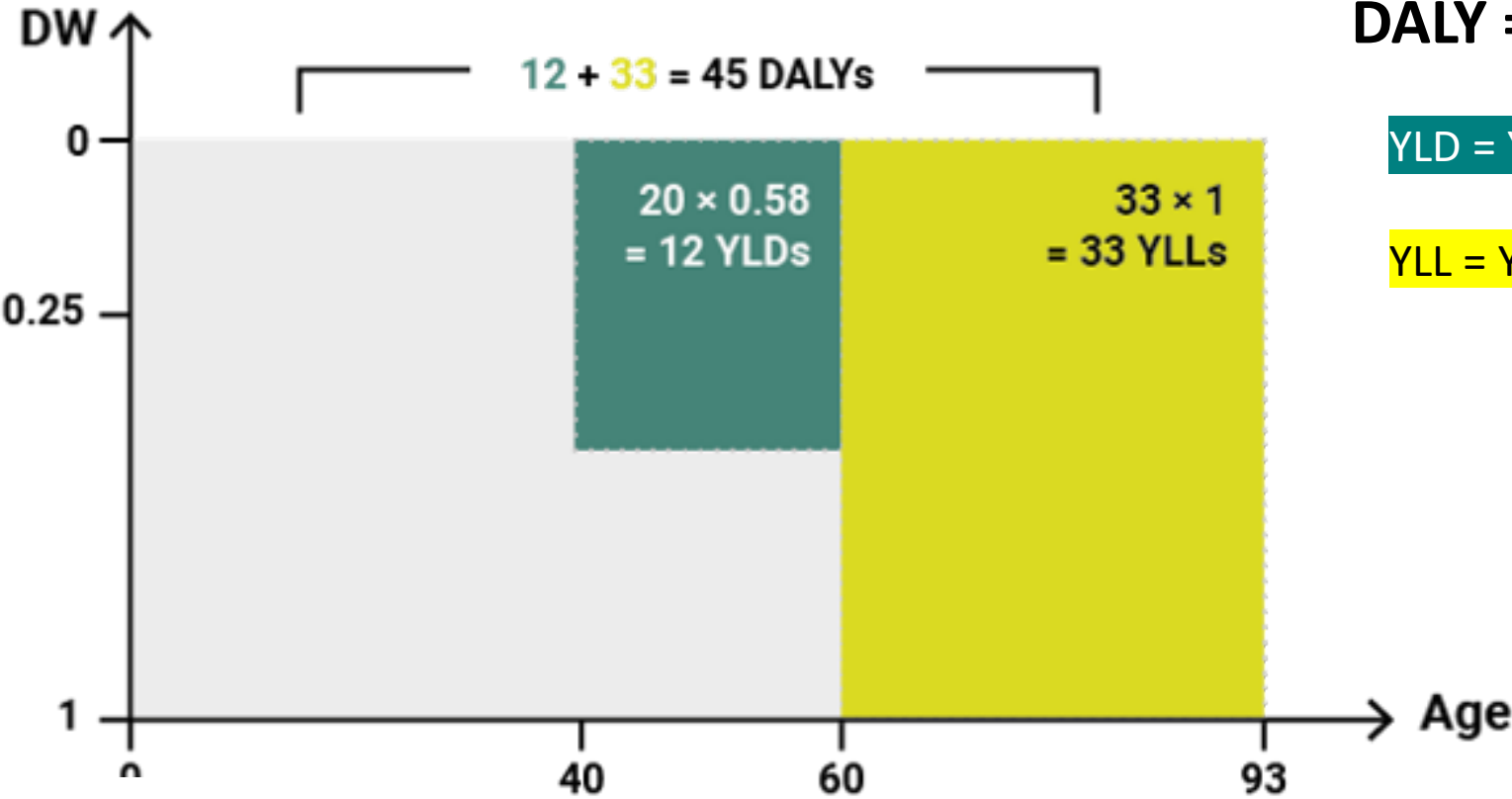
Overview

- 2019: WHO convened two international food safety conferences in collaboration with FAO, OIE, and the WTO
- 2020: Seventy-third World Health Assembly adopted a resolution (WHA73.5) in providing the mandate for the WHO to monitor regularly, and to report to Member States on the global burden of foodborne and zoonotic diseases at national, regional and international levels. In particular, WHO was asked to prepare by 2025 a new report on the global burden of foodborne diseases with up-to-date estimates of mortality, as well as incidence, and burden in terms of DALYs.
- 2020: The WHO reconvened its foodborne disease burden epidemiology reference group (WHO FERG 2) in 2020 with the appointment of 26 international experts and the establishment of a Secretariat.

Why estimate the global burden of foodborne disease?

- Foodborne diseases (FBD) are highly visible: outbreaks, contamination events
- FBD cause considerable morbidity and mortality
- Full extent of FBD not documented
- FBD not a risk factor in studies on global burden of disease (IHME)
- FBD are complex: numerous hazards, numerous health outcomes, effects on different time scales
- Food is not the only transmission pathway of many food-related hazards
- Address limited data availability

Disability-Adjusted Life Years (DALYs)



DALY = YLD + YLL

YLD = Years Lived with Disability = $N \times D \times DW$

YLL = Years of Life Lost = $M \times RLE$

FERG: methods

- Global estimates for 31 hazards
 - 11 acute diarrheal disease; 7 invasive infectious disease; 10 helminths; 3 chemicals
- Estimates for high-income countries for 5 hazards
 - 4 bacterial toxins; 1 allergen
- Estimates for 4 metals published later

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

This seminar

- The dominance of diarrhoeal disease in FERG 1 estimates was partly due to the high proportion of acute enteric hazards that were able to be included
- FERG 2 intends to include a greater number of chemical hazards to better represent this category of hazard
- The following presentations will illustrate the multiplicity of hazards and health outcomes that can be foodborne