

handwashingforlife™

Societal Cost of Foodborne Illness
Buzby, et al
USDA Economic Research Service, 1996



Costs to individuals/households

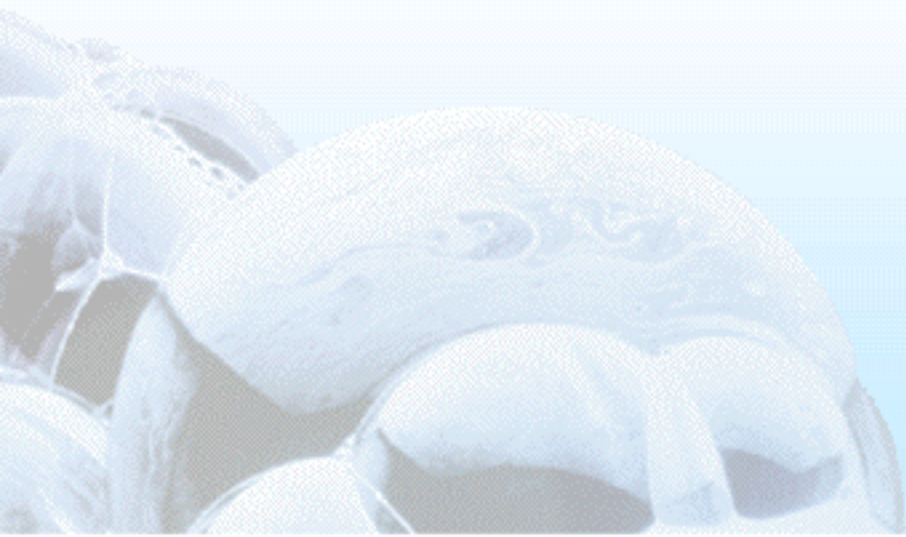
- Human illness costs:
 - Medical costs
 - Physician visits
 - Laboratory costs
 - Hospitalization or nursing home
 - Drugs and other medications
 - Ambulance or other travel costs
- Income or productivity loss for—
 - Ill person or person dying
 - Caregiver for ill person

Costs to individuals/households

- Other illness costs—
 - Travel costs to visit ill person
 - Home modifications
 - Vocational/physical rehabilitation
 - Child care costs
 - Special educational programs
 - Institutional care
 - Lost leisure time

Psychological (psychic) costs

- Pain and other psychological suffering
- Risk aversion



Averting behavior costs

- Extra cleaning/cooking time costs
- Extra cost of refrigerator, freezer, etc.
- Flavor changes from traditional recipes (especially meat, milk, egg dishes)
- Increased food cost when more expensive but safer foods are purchased
- Altruism (willingness to pay for others to avoid illness)

Industry costs

- Costs of animal production:
 - Morbidity and mortality of animals on farms
 - Reduced growth rate/feed efficiency and increased time to market
 - Costs of disposal of contaminated animals on farm and at slaughterhouse
 - Increased trimming or reworking at slaughterhouse and processing plant
 - Illness among workers because of handling contaminated animals or products
 - Increased meat product spoilage due to pathogen contamination

Control costs for pathogens at all links in the food chain:

- New farm practices (age-segregated housing, sterilized feed, etc.)
- Altered animal transport and marketing patterns (animal identification, feeding/watering)
- New slaughterhouse procedures (hide wash, knife sterilization, carcass sterilizing)
- New processing procedures (pathogen tests, contract purchasing requirements)

More control costs

- Altered product transport (increased use of time/temperature indicators)
- New wholesale/retail practices (pathogen tests, employee training, procedures)
- Risk assessment modeling by industry for all links in the food chain
- Price incentives for pathogen-reduced product at each link in the food chain

Outbreak costs

- Herd slaughter/product recall
- Plant closings and cleanup
- Regulatory fines
- Product liability suits from consumers and other firms
- Reduced product demand because of outbreak:
 - Generic animal product - all firms affected
 - Reduction for specific firm at wholesale or retail level
 - Increased advertising or consumer assurances following outbreak

Regulatory and public health sector costs for foodborne pathogens

- Disease surveillance costs to:
 - Monitor incidence/severity of human disease by foodborne pathogens
 - Monitor pathogen incidence in the food chain
 - Develop integrated database from farm to table for foodborne pathogens

Research to:

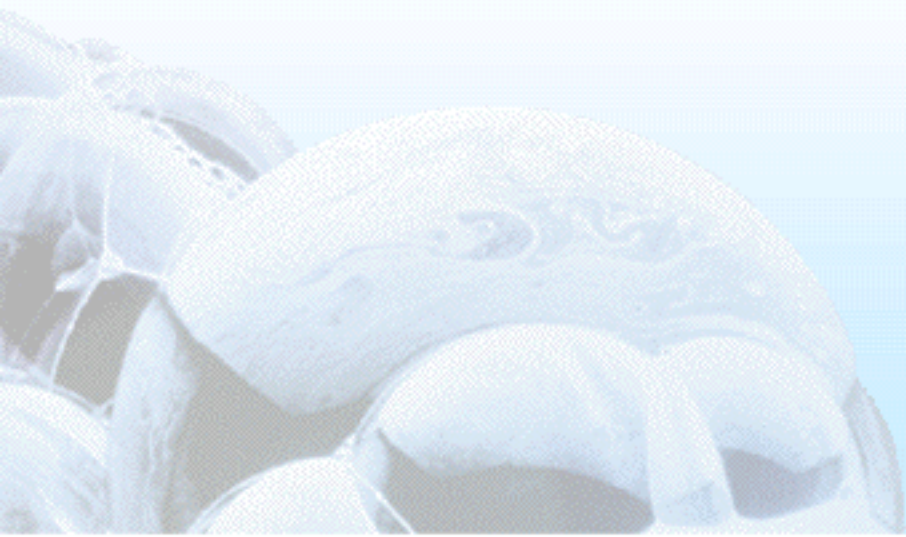
- Identify new foodborne pathogens for acute and chronic human illnesses
- Establish high-risk products and production and consumption practices
- Identify which consumers are at high-risk for which pathogens
- Develop cheaper and faster pathogen tests
- Risk assessment modeling for all links in the food chain

Outbreak costs:

- Costs of investigating outbreak
- Testing to contain an outbreak
 - e.g. example, serum testing & administration of immunoglobulin in persons exposed to Hepatitis A
- Costs of cleanup
- Legal suits to enforce regulations that may have been violated

Other considerations:

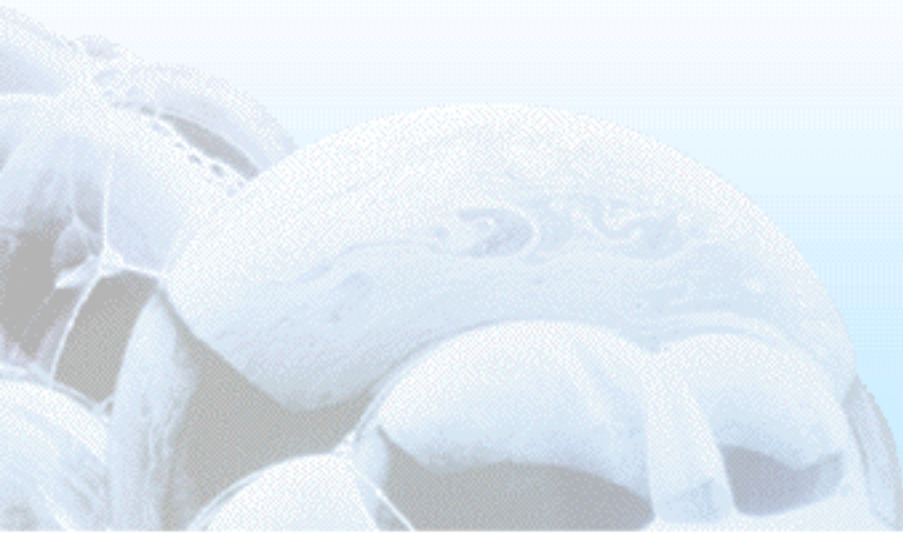
- Distributional effects in different regions, industries, etc.
- Equity considerations, such as special concern for children



Source:

Buzby, et al: *Bacterial Foodborne Disease: Medical Costs and Productivity Losses*

AER-741 Economic Research Service/USDA, 1996, p.8-9,
updated 12/2001



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