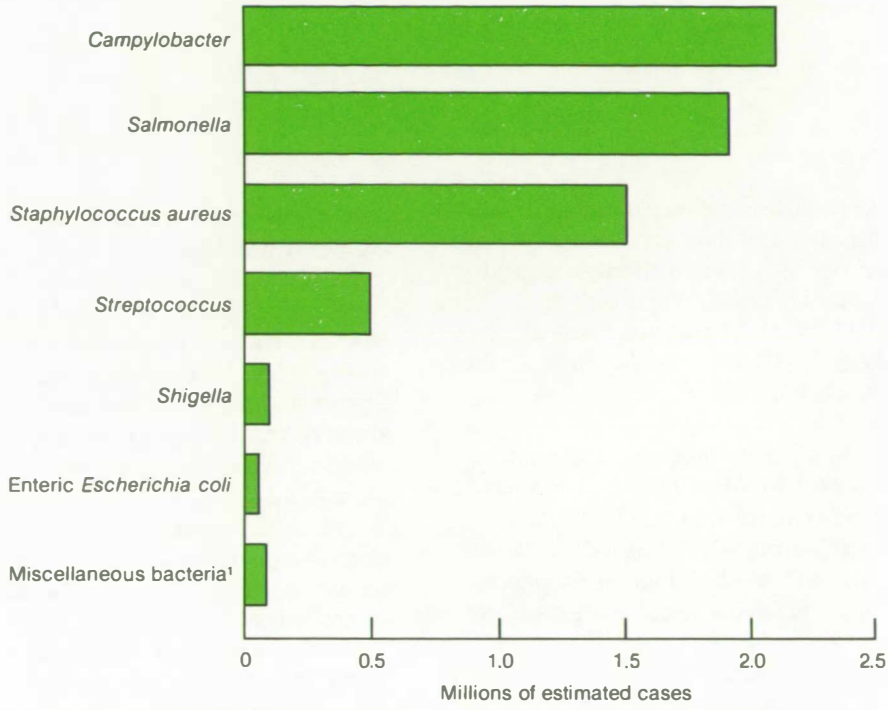
Foodborne Disease

Researchers at the Centers for Disease Control and the Carter Center Health Policy Project at Emory University estimate bacteria in food cause 6.4 million cases of human illness annually. The three most common bacterial sources, *Campylobacter*, *Salmonella*, and *Staphylococcus aureus*, all cause a full spectrum of illnesses from a day or two of "intestinal flu-like symptoms" to death. The seriousness depends on several factors including the number of organisms ingested, the foods they are in, and the strength of the individual's immune system in fighting off disease. Identifying the particular place where these organisms enter the food chain is important to designing effective control strategies. *Campylobacter* and *Salmonella* are often found on the farm, while food handlers are the most likely source of *Staphylococcus*.

Foodborne Disease Is Often Caused by Bacteria



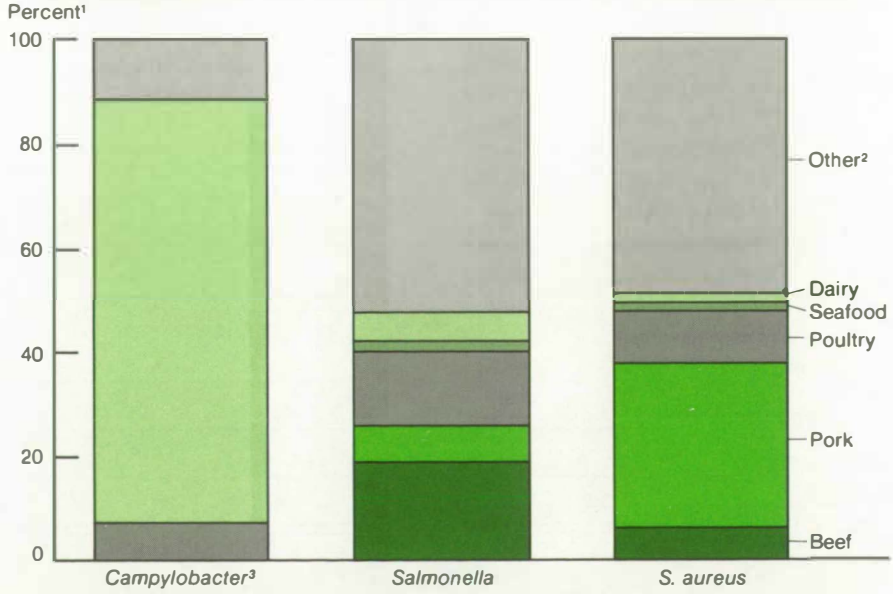
1Includes *Vibro* infections, *Clostridium perfringens*, *Bacillus cereus*, *Yersinia*, *Clostridium botulinum*, *Brucella*.

Source: John V. Bennett, Scott D. Holmberg, Martha F. Rogers, and Steven L. Solomon, "Infectious and Parasitic Diseases," *Closing the Gap: The Burden of Unnecessary Illness*, Robert W. Amler and H. Bruce Dull (editors), Oxford University Press, New York, 1987.

Animal and seafood products are the main foods reported as causing foodborne illness. These foods are typically high in protein and support bacterial growth. Outbreaks of foodborne illness are reported to the Centers for Disease Control. An outbreak is defined as a particular occurrence of a disease involving two or more people. For example, a single outbreak could include 3 people or 300. Reporting is voluntary, and only the most serious incidents are investigated and reported by State and local health departments, although a few outbreaks are reported by Federal agencies and private physicians.

While animal and seafood products are associated with a number of disease-causing bacteria, the causes of over half the outbreaks are never identified. However, new testing procedures being developed are faster and can identify more microbial and chemical contaminants.

Animal and Seafood Products Are the Primary Foods Associated With Foodborne Disease



1Percentage of outbreaks reported to the Centers for Disease Control, 1973-84, identified with a particular food source. 2Includes mixed foods, such as chicken salad. 3Outbreaks of *Campylobacter* were first reported in 1978. Although most reported outbreaks have been associated with dairy products, over half of sporadic cases have been linked with poultry.

Author Tanya Roberts is an agricultural economist with the Food Marketing and Consumption Economics Branch, Commodity Economics Division.

Source: "Statement of Mitchell L. Cohen" (Assistant Director for Medical Science, Division of Bacterial Diseases, Centers for Disease Control), *Foodborne Illnesses and Deaths*, Hearing Before the Committee on Agriculture, Nutrition, and Forestry, U.S. Senate, June 4, 1987, S. Hrg. 100-396.