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Updating Economic Burden of Foodborne Diseases Estimates for Inflation and Income Growth

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What Is the Issue?

Estimates of the economic burden of foodborne disease are used to inform public policy discussions, research, and the general public about the economic impact of foodborne diseases. Since the mid-1990s, the USDA, Economic Research Service (ERS) has provided estimates of the economic burden of U.S. foodborne diseases. The latest USDA, ERS estimates were for 2013 (Hoffmann et al., 2015). These estimates cover 15 major foodborne pathogens that account for over 95 percent of cases with an identifiable pathogen cause.

Since 2013, there has been substantial inflation in medical care prices. In particular, the prices that hospitals charge for inpatient stays rose by 25 percent between 2013 to 2018. In comparison, overall inflation rose 7.8 percent. Income, as measured as real per capita Gross Domestic Product (GDP), rose by 8.8 percent.

This report updates USDA, ERS cost of foodborne illness estimates for inflation and income growth. These estimates include three broad cost components: the costs of medical care, the value of time lost from work due to the illnesses, and value individuals place on preventing deaths from foodborne illnesses.

What Did the Study Find?

Our analysis provides several insights into how the cost of foodborne illnesses in the United States changed in response to inflation from 2013 to 2018.

1. Inflation caused the USDA, ERS cost of foodborne illness to rise from $15.5 billion in 2013 to $17.6 billion in 2018. The top five pathogens—*Salmonella, Toxoplasma, Listeria*, norovirus, and *Campylobacter*—accounted for 90 percent of 2018 costs (summary figure)

2. Increases in the price of hospital care drove 74 percent of the increase in the total cost of medical treatment for foodborne illnesses from all 15 pathogens.

3. The value of preventing deaths accounted for 83 percent of the cost of foodborne illnesses from the 15 pathogens in 2013. As a result, the change in the value of preventing deaths also drove most of the change in the cost of these foodborne illnesses from 2013 to 2018.

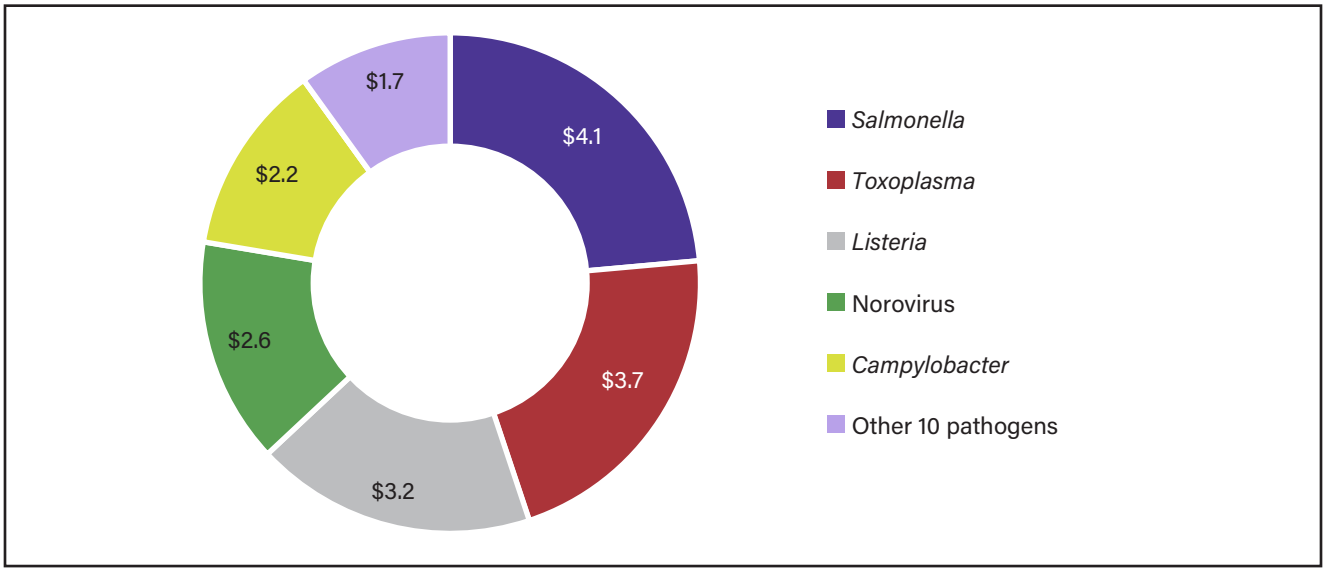
How Was the Study Conducted?

This study updates USDA, ERS estimates of the cost of 15 major foodborne illnesses for inflation experienced from 2013 to 2018 (Hoffmann et al., 2015). This update reflects only the influence of price and income changes and not changes in the annual number of illnesses or the amount of health care services used. Our estimates are based on Centers for Disease Control and Prevention (CDC) U.S. foodborne illness incidence estimates for 2011, the latest year available, and on previous USDA, ERS modeling of health care use (Scallan et al., 2011a; Buzby et al., 1996; Frenzen et al., 1999; Frenzen et al., 2005; Hoffmann et al., 2012; Hoffmann et al., 2015).

USDA, ERS estimates the social cost of non-fatal illness as the sum of the cost of medical treatment and wages lost because people could not work while they were ill. This is an underestimate of the full social cost of preventing these illnesses (Hoffmann and Anekwe 2013). We use Consumer Price Indexes (CPIs) from the Bureau of Labor Statistics (BLS) to adjust these estimates for inflation. As is widely done in social cost analysis, we use people's willingness to pay to prevent deaths as a measure of the social cost of deaths. Following standard practice, we update this value for both price inflation and income growth.

Detailed 2018 estimates for each of the 15 pathogens are available in the Cost Estimates of Foodborne Illnesses Data Product on the USDA, ERS website. The website also has a detailed explanation of how to adjust USDA, ERS cost of illness estimates for inflation and income growth, as well as a spreadsheet with information needed to make these adjustments for other years (USDA, ERS Cost Estimates of Foodborne Illnesses, 2021).

Economic burden of the top 15 major foodborne diseases in the United States in 2018 dollars



Source: USDA, Economic Research Service calculations.