

CDC Estimates of Foodborne Illness in the United States

FINDINGS

CDC 2011 Estimates

CDC estimates that each year roughly 1 out of 6 Americans (or 48 million people) get sick, 128,000 are hospitalized, and 3,000 die of foodborne diseases. The 2011 estimates provide the most accurate picture yet of which foodborne bacteria, viruses, microbes (“pathogens”) are causing the most illnesses in the United States, as well as estimating the number of foodborne illnesses without a known cause.* The estimates show that there is still much work to be done—specifically in focusing efforts on the top known pathogens and identifying the causes of foodborne illness and death without a known cause.

Reducing foodborne illness by 10% would keep about 5 million Americans from getting sick each year.

CDC has estimates for two major groups of foodborne illnesses:

Known foodborne pathogens— 31 pathogens known to cause foodborne illness. Many of these pathogens are tracked by public health systems that track diseases and outbreaks.

***Unspecified agents**— Agents with insufficient data to estimate agent-specific burden; known agents not yet identified as causing foodborne illness; microbes, chemicals, or other substances known to be in food whose ability to cause illness is unproven; and agents not yet identified. Because you can’t “track” what isn’t yet identified, estimates for this group of agents started with the health effects or symptoms that they are most likely to cause—acute gastroenteritis.

To estimate the total number of foodborne illnesses, CDC estimated the number of illnesses caused by both known and unspecified agents. We also estimated the number of hospitalizations and deaths caused by these illnesses. Table 1 provides the estimates due to known pathogens, unspecified agents, and the total burden.

Table 1. Estimated annual number of domestically acquired foodborne illnesses, hospitalizations, and deaths due to 31 pathogens and unspecified agents transmitted through food, United States

Foodborne agents	Estimated annual number of illnesses (90% credible interval)	%	Estimated annual number of hospitalizations (90% credible interval)	%	Estimated annual number of deaths (90% credible interval)	%
31 known pathogens	9.4 million (6.6–12.7 million)	20	55,961 (39,534–75,741)	44	1,351 (712–2,268)	44
Unspecified agents	38.4 million (19.8–61.2 million)	80	71,878 (9,924–157,340)	56	1,686 (369–3,338)	56
Total	47.8 million (28.7–71.1 million)	100	127,839 (62,529–215,562)	100	3,037 (1,492–4,983)	100

Pathogens causing the most illnesses, hospitalizations, and deaths each year

Eight known pathogens account for the vast majority of illnesses, hospitalizations, and deaths. Tables 2–4 list the top five pathogens causing illness, hospitalization, and death.

Table 2. Top five pathogens causing domestically acquired foodborne illnesses

Pathogen	Estimated annual number of illnesses	90% Credible Interval	%
Norovirus	5,461,731	3,227,078–8,309,480	58
<i>Salmonella</i> , nontyphoidal	1,027,561	644,786–1,679,667	11
<i>Clostridium perfringens</i>	965,958	192,316–2,483,309	10
<i>Campylobacter</i> spp.	845,024	337,031–1,611,083	9
<i>Staphylococcus aureus</i>	241,148	72,341–529,417	3
Subtotal			91

Table 3. Top five pathogens causing domestically acquired foodborne illnesses resulting in hospitalization

Pathogen	Estimated annual number of hospitalizations	90% Credible Interval	%
<i>Salmonella</i> , nontyphoidal	19,336	8,545–37,490	35
Norovirus	14,663	8,097–23,323	26
<i>Campylobacter</i> spp.	8,463	4,300–15,227	15
<i>Toxoplasma gondii</i>	4,428	3,060–7,146	8
<i>E. coli</i> (STEC) O157	2,138	549–4,614	4
Subtotal			88

Table 4. Top five pathogens causing domestically acquired foodborne illnesses resulting in death

Pathogen	Estimated annual number of deaths	90% Credible Interval	%
<i>Salmonella</i> , nontyphoidal	378	0–1,011	28
<i>Toxoplasma gondii</i>	327	200–482	24
<i>Listeria monocytogenes</i>	255	0–733	19
Norovirus	149	84–237	11
<i>Campylobacter</i> spp.	76	0–332	6
Subtotal			88