

Supplementary Data

SUPPLEMENTARY APPENDIX TABLE A1. MODEL INPUTS FOR ESTIMATING ILLNESSES, HOSPITALIZATIONS, AND DEATHS FOR *CAMPYLOBACTER*, *ESCHERICHIA COLI* O157, *LISTERIA MONOCYTOGENES*, AND NONTYPHOIDAL *SALMONELLA* AMONG ADULTS AGED ≥ 65 YEARS

<i>Model input</i>	<i>Data source(s)</i>	<i>Probability distribution</i>	<i>Distribution parameters^a</i>
Laboratory-confirmed illnesses among adults aged ≥ 65 years (by pathogen)	Illnesses among adults aged ≥ 65 years (by pathogen) reported to FoodNet	Empirical	Rate by site and year (2005–2008)
Population adjustment (2005–2008)	Incidence of infection among adults aged ≥ 65 years (by pathogen) in each FoodNet site by year applied to 2006 U.S. census population estimates for adults aged ≥ 65 years (U.S. Census Bureau, 2010)	Degenerate	1.01, 1.00, 0.99, 0.98
Severe illness (% of laboratory-confirmed illnesses among adults aged ≥ 65 years)			
<i>Campylobacter</i>	Proportion of case-patients by site reporting bloody diarrhea (FoodNet case-control study of sporadic laboratory-confirmed <i>Campylobacter</i> infections) (Friedman <i>et al.</i> , 2004). UMVU estimators were used for lower and upper endpoints.	PERT	36, 45, 52
<i>E. coli</i> O157	Proportion of adults aged ≥ 65 years by site reporting bloody diarrhea from two FoodNet case-control studies of sporadic laboratory-confirmed <i>E. coli</i> O157 infections (Kassenborg <i>et al.</i> , 2004; Voetsch <i>et al.</i> , 2007). UMVU estimators were used for lower and upper endpoints.	PERT	80, 93, 100
<i>L. monocytogenes</i>	Most cases of infection assumed to be severe. Only invasive infections included here.	PERT	95, 100, 100
<i>Salmonella^b</i>	Proportion of people reporting bloody diarrhea in FoodNet case-control studies of sporadic laboratory-confirmed <i>Salmonella</i> infections (Hennessy <i>et al.</i> , 2004; Kimura <i>et al.</i> , 2004; Marcus <i>et al.</i> , 2007; Mermin <i>et al.</i> , 2004). UMVU estimators were used for lower and upper endpoints.	PERT	35, 45, 71
Medical care sought (% of adults aged ≥ 65 years)			
<i>L. monocytogenes</i>	Assumed to have a high rate of medical care-seeking.	PERT	80, 90, 100
Bloody diarrhea ^c	Proportion (and 95% CI) of survey respondents aged ≥ 50 years ^b with bloody diarrhea who sought medical care (FoodNet population surveys 2000–2001, 2002–2003, 2006–2007) (CDC, unpublished data).	PERT	34, 56, 77
Nonbloody diarrhea	Proportion (and 95% CI) of survey respondents aged ≥ 65 years with nonbloody diarrhea who sought medical care (FoodNet population surveys 2000–2001, 2002–2003, 2006–2007) (CDC, unpublished data).	PERT	16, 22, 28
Specimen submitted (% of those who sought medical care)			
<i>Listeria monocytogenes</i>	Assumed to have a high rate of specimen submission.	PERT	70, 80, 90
Bloody diarrhea ^b	Proportion (and 95% CI) of survey respondents aged ≥ 50 years ^b who submitted a stool specimen among people with bloody diarrhea who sought medical care (FoodNet population surveys 2000–2001, 2002–2003, 2006–2007) (CDC, unpublished data).	PERT	6, 39, 72
Nonbloody diarrhea	Proportion (and 95% CI) of survey respondents aged ≥ 65 years who submitted a stool specimen among people with nonbloody diarrhea who sought medical care (FoodNet population surveys 2000–2001, 2002–2003, 2006–2007) (CDC, unpublished data).	PERT	3, 21, 39

(continued)

SUPPLEMENTARY APPENDIX TABLE A1. (CONTINUED)

<i>Model input</i>	<i>Data source(s)</i>	<i>Probability distribution</i>	<i>Distribution parameters^a</i>
Laboratory testing (% of stool cultures)	data).		
<i>Campylobacter</i>	Proportion of clinical laboratories routinely testing stool samples for <i>Campylobacter</i> (FoodNet Laboratory Survey). Uncertainty with this proportion (97%) based on 50% relative increase/decrease from 0.97 on an odds scale.	PERT	94, 97, 100
<i>E. coli</i> O157	Proportion of clinical laboratories routinely testing stool samples for <i>E. coli</i> O157 (FoodNet Laboratory Survey). Uncertainty with this proportion (71%) based on 50% relative increase/decrease from 0.71 on an odds scale.	PERT	62, 71, 79
<i>L. monocytogenes</i>	We assumed most people with listeriosis who submitted a specimen for testing would be tested for listeriosis.	PERT	95, 97, 100
<i>Salmonella</i> , nontyphoidal	100% of clinical laboratories reported routinely testing stool samples for <i>Salmonella</i> in the FoodNet Laboratory Survey. We assumed a slightly lower rate of 97%; uncertainty with this proportion based on 50% relative increase/decrease from 0.97 on an odds scale.	PERT	94, 97, 100
Test sensitivity			
<i>Campylobacter</i> , <i>E. coli</i> O157, and nontyphoidal <i>Salmonella</i>	We used a laboratory test sensitivity rate of 70% based on studies of <i>Salmonella</i> . We assumed a lower bound of 60% and an upper bound of 90%.	PERT	60, 70, 90
<i>L. monocytogenes</i>	71% based on published study of blood culture sensitivity.	PERT	55, 71, 83
Proportion of laboratory-confirmed hospitalizations among adults aged ≥65 years (by pathogen)	Proportion of FoodNet cases of infection (by pathogen) among adults aged ≥65 years who were hospitalized (2005–2008).	Empirical	Rate by FoodNet site and year (2005–2008)
Proportion of laboratory-confirmed deaths among adults aged ≥65 years (by pathogen)	Proportion of FoodNet cases of infection (by pathogen) among adults aged ≥65 years who died (2005–2008).	Empirical	Rate by FoodNet site and year (2005–2008)

^aLow, middle, and high value for PERT distribution.

^bNontyphoidal; includes serotypes other than Typhi.

^cBecause there were few respondents, the rate of medical care-seeking and stool sample submission for older adults with bloody diarrhea was estimated from data for all adults aged ≥50 years.

CDC, Centers for Disease Prevention and Control; CI, confidence interval; FoodNet, Foodborne Diseases Active Surveillance Network; PERT, (originally, Program Evaluation and Review Technique, referring to a project management tool) indicates the four-parameter beta family of probability distributions; here the scale parameter is fixed at 4; UMVU, uniform minimum variance unbiased.