Assessment of Shiga Toxin–Producing *Escherichia coli* O157 Illnesses Prevented by Recalls of Beef Products

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Abstract

Beef product recall data from 2005 through 2012 associated with Shiga toxin–producing *Escherichia coli* (STEC) O157 contamination were used to develop quantitative models to estimate the number of illnesses prevented by recalls. The number of illnesses prevented was based on the number of illnesses that occurred relative to the number of pounds consumed, then extrapolated to the number of pounds of recalled product recovered. A simulation using a Program Evaluation and Review Technique (PERT) probability distribution with illness-related recalls estimated 204 (95% credible interval, 117–333) prevented STEC O157 illnesses from 2005 through 2012. Recalls not associated with illnesses had more recalled product recovered and prevented an estimated 83 additional STEC O157 illnesses. Accounting for underdiagnosis resulted in an estimated total of 7500 STEC O157 illnesses prevented over 8 years. This study demonstrates that recalls, although reactive in nature, are an important tool for averting further exposure and illnesses.


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