

**Study:** Reduction in the incidence of invasive listeriosis in the FoodNet sites, 1996-2003

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**Journal Publication:** *Clinical Infectious Diseases*

**Publication Date:** January 15, 2007, 44, 513-20

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**Study:** *Listeria monocytogenes* Infection from Foods Prepared in a Commercial Establishment: A Case-Control Study of Potential Sources of Sporadic Illness in the United States

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**Journal Publication:** *Clinical Infectious Diseases*

**Publication Date:** January 15, 2007, 44, 1-8

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In 1999, the CDC estimated that 2,500 people become ill with listeriosis every year, resulting in 500 deaths. Pregnant women, newborns, the elderly, and persons with weakened immune systems, including persons living with HIV, are more likely to become ill with listeriosis. In the past 10 years, several large national outbreaks of listeriosis due to eating hot dogs and turkey deli meat have occurred. However, since 1989, when CDC first began to track listeriosis, the number of cases has been decreasing. Published in the January 2007 edition of the journal *Clinical Infectious Diseases* are two FoodNet studies. One describes continued reductions in listeriosis in the U.S. FoodNet sites, and the other describes a case-control study in the FoodNet sites to determine possible sources of sporadic infection.

The Foodborne Diseases Active Surveillance Network, or FoodNet, is a collaborative sentinel site surveillance program for foodborne infections conducted as part of the CDC's Emerging Infections Program. FoodNet conducts active surveillance for laboratory-confirmed foodborne disease, including listeriosis, in 10 U.S. states. In addition, FoodNet conducts periodic telephone surveys of high-risk food consumption among a sample of several thousand people living in the FoodNet sites.

From 1996 through 2003, there were 766 cases of listeriosis identified and 21% of these cases were fatal. The rate of listeriosis dropped significantly by an estimated 24%, from 4.1 cases per million people in 1996 to 3.1 cases per million people in 2003. Pregnant Hispanic women and people more than 50 years old were disproportionately affected. Based on the FoodNet Population survey, persons of Hispanic ethnicity were more likely to report eating cheese made from unpasteurized milk, a known high risk food for listeriosis. The data from this analysis suggest that the efforts of federal regulatory agencies (Food and Drug Administration and the US Department of Agriculture Food Safety Inspection Service) continue to be effective in reducing the burden of listeriosis in the United States.

Outbreaks associated with *Listeria monocytogenes* have been widely studied, and interventions to reduce illness have been targeted at foods implicated in these outbreaks. However, few studies have focused on determining potential sources for sporadic *L. monocytogenes* infection. In 2000, FoodNet conducted a case-control study to examine the effect of industry and government regulations in targeting known sources of *L. monocytogenes* and to determine additional sources that could be targeted by interventions. The study was conducted in nine states: California, Colorado, Connecticut, Georgia, Maryland, Minnesota, New York, Oregon, and Tennessee, and the questionnaire included questions about medical history, consumption of various foods and beverages, animal contact, and travel in the four weeks prior to specimen collection for case patients.

Eating hummus prepared in a commercial establishment and eating melons at a commercial establishment were found to be associated with *Listeria* infection. These findings suggest that retail environments may play an important role in the contamination of foods with *L. monocytogenes* and interventions targeted at retail venues may help reduce sporadic infection.

Furthermore, pregnant women, the immunocompromised, and other persons at increased risk may wish to avoid consumption of the new foods associated with infection.