

Multistate Outbreak of Listeriosis Associated with Jensen Farms Cantaloupe — United States, August–September 2011

Listeriosis is caused by *Listeria monocytogenes*, a gram-positive bacillus common in the environment and acquired by humans primarily through consumption of contaminated food. Infection causes a spectrum of illness, ranging from febrile gastroenteritis to invasive disease, including sepsis and meningoen­cephalitis. Invasive listeriosis occurs predominantly in older adults and persons with impaired immune systems. Listeriosis in pregnant women is typically a mild “flu-like” illness, but can result in fetal loss, premature labor, or neonatal infection. Listeriosis is treated with antibiotics. On September 2, 2011, the Colorado Department of Public Health and Environment (CDPHE) notified CDC of seven cases of listeriosis reported since August 28. On average, Colorado reports two cases of listeriosis annually in August. By September 6, all seven Colorado patients interviewed with the Listeria Initiative* questionnaire reported eating cantaloupe in the month before illness began, and three reported eating cantaloupe marketed as “Rocky Ford.”

A case was defined as illness with one of the outbreak strains isolated on or after August 1. Outbreak strains initially were defined as 1) clinical isolates of *L. monocytogenes* with specimen collection dates in August 2) with a two-enzyme, pulsed-field gel electrophoresis (PFGE) pattern combination that occurred in two or more persons and 3) that matched any of the three pattern combinations found among Colorado residents in August. Analysis of Listeria Initiative data comparing the first 19 outbreak-associated cases in 2011 with 85 cases among persons aged ≥ 65 years with sporadic listeriosis identified during August of the years 2004–2010 indicated that cantaloupe consumption was strongly associated with illness caused by the outbreak strains: 19 of 19 (100%) versus 54 of 85 (64%); (odds ratio = 14.9; 95% CI = 2.4– ∞). Initial

tracebacks of cantaloupe purchased by patients converged on Jensen Farms in Colorado.

After cantaloupe was implicated, PulseNet, the national molecular subtyping network for foodborne bacterial disease surveillance, detected a multistate cluster with a fourth PFGE pattern combination; a sample of cantaloupe collected from the implicated farm yielded *L. monocytogenes* with this pattern, and interviews with patients revealed that most had consumed cantaloupe. Isolates with this pattern were then also considered to be among the outbreak strains. By September 29, 84 cases with one of the four outbreak PFGE pattern combinations had been reported from 19 states[†], including 83 with information on the date of illness onset (Figure). Among the patients, 88% were aged ≥ 60 years (range: 35–96 years); 55% were female, and two were pregnant. Fifteen deaths were reported. Ninety-two percent (57 of 62 with information on food consumption) reported eating cantaloupe in the month before illness began. All four outbreak strains of *L. monocytogenes* were isolated from whole and cut cantaloupe samples from patients’ homes or from samples of Jensen Farms cantaloupe collected from grocery stores and the farm. On September 14, the farm issued a voluntary recall of its cantaloupe.

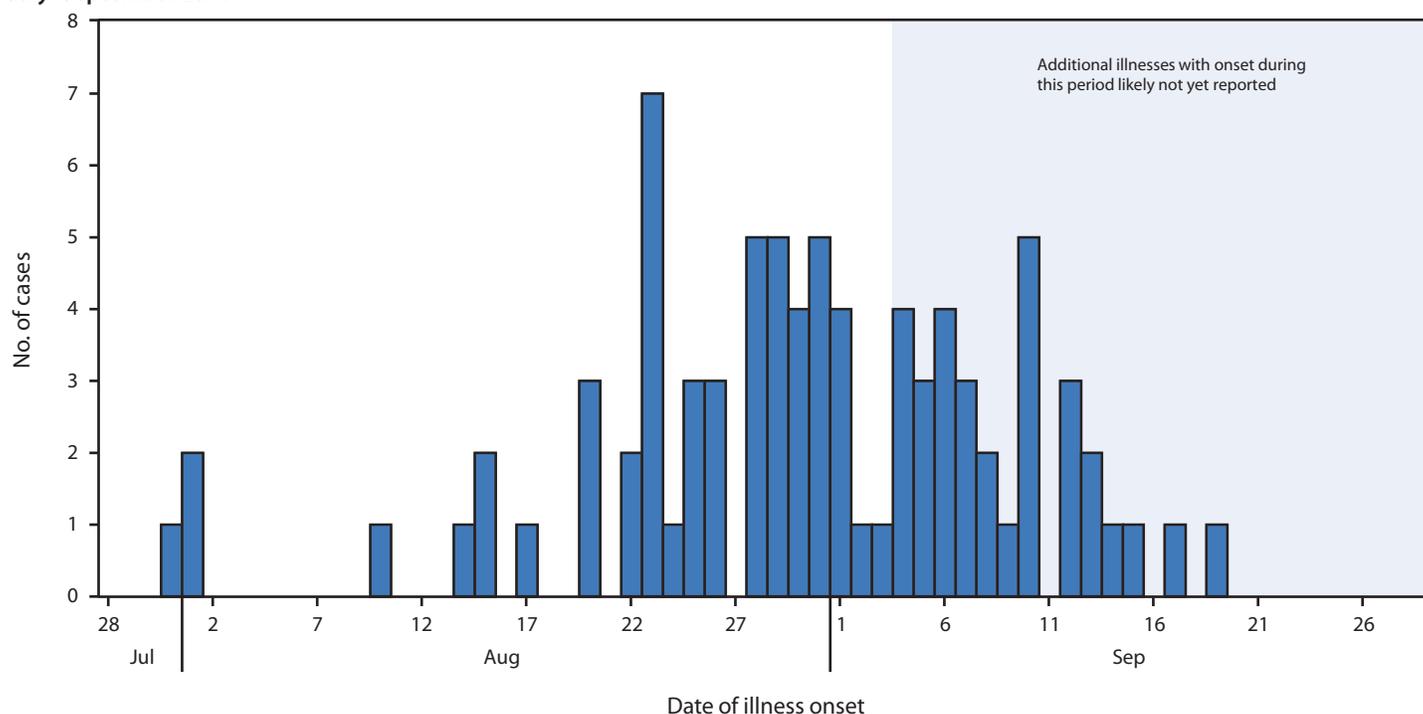
This outbreak has several unusual features. First, this is the first listeriosis outbreak associated with melon. Second, four widely differing PFGE pattern combinations and two serotypes (1/2a and 1/2b) have been associated with the outbreak. Third, this outbreak is unusually large; only two U.S. listeriosis outbreaks, one associated with frankfurters (108 cases) and one with Mexican-style cheese (142), have had more cases (1,2). Additional cases likely will be reported because of the long incubation period (usually 1–3 weeks, range: 3–70 days) and the time needed for diagnosis and confirmation. Fourth,

*The Listeria Initiative is a CDC-led, enhanced surveillance system that has routinely collected data on food consumption from all patients with listeriosis since 2004. Additional information is available at http://www.cdc.gov/nationalsurveillance/listeria_surveillance.html.

[†] Colorado (17 cases), Texas (14), New Mexico (13), Oklahoma (11), Nebraska (6), Kansas (5), Missouri (3), Indiana (2), Wisconsin (2), Wyoming (2), Alabama (1), Arkansas (1), California (1), Illinois (1), Maryland (1), Montana (1), North Dakota (1), Virginia (1), and West Virginia (1).



FIGURE. Number of infections with outbreak-associated strains of *Listeria monocytogenes* (n = 83), by date of illness onset* — United States, July–September 2011



* Among persons for whom information on illness onset was reported to CDC by September 29, 2011.

this outbreak has the highest number of deaths of any U.S. foodborne outbreak since a listeriosis outbreak in 1998 (1).

CDC recommends that persons do not eat cantaloupes from Jensen Farms. This recommendation is especially important for persons at greater risk for listeriosis, including older adults, persons with weakened immune systems, and pregnant women. Not all of the recalled cantaloupes are individually labeled with stickers to indicate production by Jensen Farms. Consumers should consult the retailer or discard any cantaloupe of uncertain origin. Recommendations for preventing listeriosis from other foods are available at <http://www.cdc.gov/listeria>.

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Acknowledgments

State and local health departments in the 19 states with cases.

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