

## Notes from the Field

### Human *Salmonella* Infantis Infections Linked to Dry Dog Food — United States and Canada, 2012

CDC is collaborating with public health and agriculture officials in multiple states, the Public Health Agency of Canada, and the Food and Drug Administration (FDA) to investigate an outbreak of human *Salmonella* Infantis infections linked to direct or indirect contact with dry dog food. Multiple brands of dry dog food produced by Diamond Pet Foods at a single manufacturing facility in Gaston, South Carolina, have been linked to human illnesses (1).

On April 2, 2012, the Michigan Department of Agriculture and Rural Development detected *Salmonella* in an unopened bag of Diamond brand dry dog food collected during routine retail testing, resulting in a recall of a single product. Public health investigators used PulseNet, the national molecular subtyping network, to identify recent human infections with the same strain of *Salmonella* found in the dog food sample.

During February 1–May 31, 2012, a total of 22 cases (20 cases in 13 states, and two cases in Canada) of human infections with the outbreak strain were reported. The median patient age was 46.5 years (range: <1–82 years); 68% were female. Thirty-five percent (six of 17) were hospitalized. Epidemiologic investigations found that 83% (15 of 18) reported dog contact, and of the 11 patients who recalled types of dog food, eight reported brands produced by Diamond Pet Foods. The results of further product testing by multiple agencies and the provision of production codes by ill persons led to expansion of recalled products to include 17 brands, representing approximately 30,000 tons of dry dog and cat food produced at the implicated production facility. Pet illnesses associated with recalled products have been reported to FDA's pet food complaint system (2); as of May 31, 2012, the outbreak strain was isolated from one ill dog and one asymptomatic dog in Ohio, both of which had consumed recalled products.

This is the second documented outbreak of human salmonellosis linked to dry pet food in the United States (3).

Persons should be aware that dry dog and cat food can be contaminated with *Salmonella* and should not be handled or stored in areas where human food is prepared or consumed. Washing hands is the most important step to prevent illness, especially right after handling pet food and treats or cleaning up after pets (4).

#### Reported by

Public Health Agency of Canada. April Hunt, JD, Michigan Dept of Agriculture and Rural Development; Susan R. Bohm, MS, Sally A. Bidol, MPH, Michigan Dept of Community Health. Maya Achen, DVM, Jing Cui, DVM, Ohio Dept of Agriculture; Lynn Denny, MPH, Eric Brandt, Ohio Dept of Health. Sam Davis, South Carolina Dept of Agriculture. Dillard Woody, Renate Reimschuessel, VMD, PhD, Center for Veterinary Medicine; Carla Tuite, David Rotstein, DVM, Coordinated Outbreak Response and Evaluation Network, Food and Drug Administration. Colin Schwensohn, MPH, Casey Barton Behravesh, DVM, DrPH, Div of Foodborne, Waterborne, and Environmental Diseases, National Center for Emerging and Zoonotic Infectious Diseases; Maho Imanishi, VMD, EIS Officer, CDC. **Corresponding contributor:** Maho Imanishi, hwl2@cdc.gov, 404-718-4689.

#### References

1. CDC. Multistate outbreak of human *Salmonella* Infantis infections linked to dry dog food. Atlanta, GA: US Department of Health and Human Services, CDC; 2012. Available at <http://www.cdc.gov/salmonella/dog-food-05-12/index.html>. Accessed June 7, 2012.
2. Food and Drug Administration. How to report a pet food complaint. Silver Spring, MD: US Department of Health and Human Services, Food and Drug Administration; 2012. Available at <http://www.fda.gov/animalveterinary/safetyhealth/reportaproblem/ucm182403.htm>. Accessed June 7, 2012.
3. Behravesh CB, Ferraro A, Deasy M 3rd, et al. Human *Salmonella* infections linked to contaminated dry dog and cat food, 2006–2008. *Pediatrics* 2010;126:477–83.
4. CDC. *Salmonella* from dry pet food and treats. Atlanta, GA: US Department of Health and Human Services, CDC; 2011. Available at <http://www.cdc.gov/features/salmonelladrypetfood>. Accessed June 7, 2012.



## 2012 Pet Food Recall Response

A cooperative effort by staff from the Pesticide and Plant Pest Management, Laboratory, Animal Industry and Food and Dairy Divisions and the Michigan Department of Agriculture and Rural Development's (MDARD) Rapid Response Team resulted in the detection of a human pathogen in pet food, a connection to dozens of human illnesses and a nationwide recall.

On April 2, 2012, MDARD detected *Salmonella* in an unopened bag of Diamond Pet Foods dog food. Subsequent samples of various brands and lot numbers of Diamond Pet Foods dry dog food, collected by MDARD Plant and Plant Pest Management Division inspectors and tested by MDARD Laboratory Division microbiologists resulted in more positive samples and an expanded recall, continuing throughout the spring and summer of 2012. Pulse Field Gel Electrophoresis (PFGE) further identified the pathogen to be *Salmonella* Infantis. A PulseNet data base search found this organism to be implicated in several human illnesses across the county.

Until the recovery of this organism in by MDARD, the source of this national outbreak was unknown. By mid-summer, there were 49 human illnesses in 20 states and 2 Canadian provinces connected to the discovery, resulting in 10 hospitalizations along with numerous dog and cat illnesses and deaths.<sup>1</sup> The results of further product testing by MDARD, the South Carolina and Ohio departments of agriculture, and U.S. Food and Drug Administration (FDA), and the production codes provided by ill persons, led to eight expansions of recalled products that included 17 brands representing more than 30,000 tons of dry dog and cat food produced at the South Carolina manufacturing facility.<sup>2</sup>

This discovery is unique and serves as a national case study on the interconnection between animal feed safety and human health. The MDARD staff identified below played a key role in identifying the pathogen, facilitating communication and sharing information between MDARD Divisions, the Michigan Department of Community Health, State Departments of Agriculture, FDA and the Centers for Disease Control and Prevention.

<sup>1</sup> CDC online. July 18, 2012.

<sup>2</sup> CDC Morbidity and Mortality Weekly. June 15, 2012/61 (23); 436.

### Laboratory

Bonnie Moon

Ted Gatesy

Karen Wilson

Frances Mohnke

Scott Benko

Karen Pietrzen

Sharon Robeson (now with DCH)

Marla Marsh

Erica McConnell

Judy Purkiss

Hasmukh Shah

Miranda Tiedt

Mark Stenske

Kammie Coates

### Pesticide & Plant Pest Mgmt

Gina Alessandri

Jeff Haarer

April Hunt

Tim Lyons

Jeff Zimmer

Jean Meiner

Ahmed Jama

Jim Loncar

Nicole Cairns

Mike Zupin

### Food and Dairy

Kevin Besey

John Tilden

Lisa Hainstock

Justin Henderson

John Buchweitz (now w/DCPAH)

### Animal Industry

Mike Neault