Salmonella Infantis Infections Associated with Ducklings Purchased at a Farm Supply Store

March-April

Dakota County/Multiple states

In early April, 2013, the Minnesota Department of Health (MDH) Public Health Laboratory (PHL) identified three *Salmonella* Infantis case isolates that matched a nationwide cluster. The pulsed-field gel electrophoresis (PFGE) subtype in this investigation (SIN99) was also isolated during a 2012 outbreak associated with baby chicks from Hatchery A in Ohio. The first Minnesota case interviewed reported contact with ducklings. An investigation was initiated.

Cases were defined as Minnesota residents who had a culture-confirmed infection with *S.* Infantis SIN99 with illness onset from March 1 through October 11, 2013 (the time frame used for the national investigation). All *Salmonella* cases reported to MDH are interviewed about food consumption, animal contact, and other potential exposures as part of enteric disease surveillance in Minnesota. Cases were also asked questions regarding the source of their ducklings.

Fecal samples were collected from two ducks from a case household. Samples were cultured for *Salmonella,* and isolates were serotyped and subtyped by PFGE. MDH epidemiologists visited the farm supply store where cases purchased the ducklings and worked with the Minnesota Board of Animal Health to identify the source hatchery.

Three cases were identified in Minnesota. Minnesota case onsets ranged from March 28 to April 5. Two cases were female, and the median age was 49 years (range, 18 to 60 years). All three cases reported diarrhea, two reported vomiting, two had cramps, and two had fever. Illness durations (only available for two of the cases) were 7 and 9 days. Two of the cases were hospitalized.

Exact purchase dates were unknown for all three cases, but all ducklings were bought from the same farm supply store in Inver Grove Heights, Minnesota. Cases purchased tan, white, brown, black, and yellow ducklings, and all were purchased sometime in March. Three duck fecal samples were collected from one case household, and all three yielded *S.* Infantis SIN99.

MDH and Board of Animal Health staff worked together to contact the farm supply store in Inver Grove Heights as well as the regional office to discuss the outbreak, public health precautions at the points of sale, and the availability of *Salmonella* fact sheets. The store sourced all of their ducklings from Hatchery A.

Nationally, 158 cases infected with the outbreak strains of *S.* Infantis, *S.* Lille, *S.* Newport, or *S.* Mbandaka were reported from 30 states in this investigation. Information was obtained for 103 of these cases; 29 (28%) were hospitalized, 41% were under 11 years old, and 86% reported baby poultry contact in the week prior to illness. Epidemiologic, laboratory, and traceback findings linked this outbreak to chicks, ducklings, and other baby poultry sourced from Hatchery A in Ohio. Ninety-five percent of cases with available purchase information bought chicks and ducklings sourced from Hatchery A.

This was an outbreak of *S.* Infantis infections associated with duckling contact. All Minnesota cases' ducklings were traced to Hatchery A, which was the hatchery involved in a similar outbreak in the previous year and the hatchery identified by 95% of other cases in the national investigation of this outbreak. Contact with poultry, particularly with young poultry, is a well- known risk factor for *Salmonella* infections in humans.