



United States Department of Agriculture
Food Safety and Inspection Service

FAX

To:

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Subject:

Date:

Pages: including this cover sheet.

COMMENTS:

CDC Info on Cereal

From the desk of

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CDC Investigating Cases of *Salmonella* serotype Agona

June 4, 1998

Contact: CDC, Division of Media Relations
(404) 639-3288

The Centers for Disease Control and Prevention (CDC) is working closely with other federal, state, and local health officials to investigate an increased number of cases of *Salmonella* serotype Agona. *Salmonella* is a bacterium that causes diarrhea, fever, and abdominal cramps 12 to 72 hours after infection. The illness usually lasts 4 to 7 days and most persons recover without treatment. Severe cases of *Salmonella* infection can be treated with antibiotics.

During April - May 1998, 11 states reported an increase in *Salmonella* serotype Agona cases to CDC. As of June 4, 1998, 190 cases have been reported and 40 persons were hospitalized. Cases have been reported from Illinois (46), Indiana (29), Michigan (15), Ohio (21), Missouri (18), New York (22), Pennsylvania (20), Iowa (7), Kansas (3), West Virginia (2), and Wisconsin (5). No deaths have been reported. CDC coordinated a case-control study among the involved states to identify possible common source exposures.

Consumption of Millville brand Toasted Oats cereal, distributed by Aldi's supermarkets in the aforementioned states, is associated with cases of *S. Agona* infections in April-May 1998. Other cereal products produced by the same plant have not been implicated, but investigations into these other products are ongoing. There is no evidence that toasted oat cereal products produced by other manufacturers are linked to illness. Consumers are advised to not eat Millville brand Toasted Oat cereals until further investigations by CDC, the Food and Drug Administration, and the states are completed.

CDC monitors the frequency of *Salmonella* infections in the United States, and assists local and state health departments in investigating outbreaks and devising control measures.

Visit the Media Relations website at <http://www.cdc.gov/od/oc/mrmedia>

06/04/98 THU 19:54 FAX 202 205 5025

To: State and Territorial Epidemiologists
State and Territorial Public Health Laboratory Directors

Through: Director, NCID _____

From: Foodborne and Diarrheal Diseases Branch, DBMD, NCID, CDC

Subject: Recent increase in *Salmonella* serotype Agona infections

This message is being sent by e-mail (WONDER) and FAX to inform you about a recent increase in *Salmonella* serotype Agona infections reported to CDC. At least ten states have reported an increase in *S. Agona* cases during the months of April and May 1998 compared with previous years. The states reporting increases during these two months include Illinois (34 cases), Indiana (19), Michigan (17), Ohio (16), Missouri (13), New York (11), Pennsylvania (10), Iowa (5), West Virginia (2), Wisconsin (1). *S. Agona* is one of the less common serotypes accounting for about 1.5% of all human *Salmonella* isolates reported to the Public Health Laboratory Information System (PHLIS).

Among patients in this cluster with information available, 63% were female. Infected persons are mostly children and the elderly (40% < 10 years of age, 38% > 70 years of age). The high proportion of infections among children is similar to the age distribution among all *S. Agona* isolates reported to PHLIS during the last 10 years, however, the proportion of cases among persons older than 70 years is higher than expected (38% vs. 9%).

Interviews are currently being conducted in the states mentioned above to identify possible common source exposures. To assist in this investigation, we request that states with a higher than expected number of cases for the months of April or May contact Nina Marano in the Foodborne Diseases Epidemiology Section of the Foodborne and Diarrheal Diseases Branch, (telephone: 404-639-4020 or 404-639-2214 after hours, fax 404-639-2205, e-mail nbm8@cdc.gov). We also request states with a higher than expected number of cases forward

3 recent isolates to the Foodborne and Diarrheal Diseases Branch Laboratory (please contact Dr. Timothy Barrett, at 404-639-3334 to arrange for shipment of isolates). Finally, please continue to update your PHLIS *Salmonella* reporting weekly so that the extent of the increase in *S. Agona* isolates can be monitored.

Thank you for your cooperation.

Signed 5/28/98

Patricia M. Griffin, MD
Chief
Foodborne Diseases Epidemiology Section
Foodborne and Diarrheal Diseases Branch
Division of Bacterial and Mycotic Diseases
National Center for Infectious Diseases
Centers for Disease Control and Prevention

Signed 5/29/98

Robert V. Tauxe, M.D., M.P.H.
Chief
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Director, Epidemiology Program Office
Director, Public Health Practice Program Office
Regional Offices
Director of Regional Operations, PHPPO
Deputy/Associate Directors, NCID
Division/Program/Office Directors, NCID
CDC/W
NCID
DBMD
FoodNet sites
Directors, National Molecular Subtyping Network for *E. coli* O157:H7

June 4, 1998

To: State and Territorial Epidemiologists
State and Territorial Public Health Laboratory Directors

Through: Director NCID _____

From: Foodborne and Diarrheal Diseases Branch, DBMD, NCID, CDC

Subject: Implication of Millville brand Toasted Oats cereal in an outbreak of *Salmonella* serotype Agona infections

This message is being sent via e-mail (WONDER) and FAX to provide further information about the outbreak of *Salmonella* serotype Agona infections and to inform you about the implication of a particular product.

During April-May 1998, 11 states reported an increase in *S. Agona* cases; as of June 4, a total of 188 cases were reported, and 40 persons were hospitalized. No deaths have been reported. This represents a seven-fold increase over the median number of *Salmonella* serotype Agona cases (26) reported in those states for April-May during 1992-1997. Increased numbers of cases have been reported from Illinois (46 cases), Indiana (29), Michigan (15), Ohio (21), Missouri (18), New York (22), Pennsylvania (20), Iowa (7), Kansas (3), West Virginia (2), and Wisconsin (5).

Hypothesis-generating interviews in three states suggested a link with shopping at Aldi supermarket stores. This was confirmed in Illinois, where health officials analyzed all standard forms completed by May 29 for patients with *Salmonella* Agona infections in April or May and compared them with forms for patients with other *Salmonella* infections in the same towns in January 1997 through April 1998. On this form is an open-ended question that asks at what supermarkets the household shops. Five (62%) of 8 persons with *S. Agona* infection reported shopping at Aldi, compared with only 4 (9%) of 47 persons with infection due to other serotypes of *Salmonella* ($p=0.001$). This information was obtained by local health officials before the link to Aldi supermarkets was postulated.

Officials in the 11 state health departments with more than the expected number of cases collaborated with CDC on a matched case-control study comparing cases of *S. Agona* infection in

April and May with their well household members (controls); conditional linear logistic regression was used to examine the relationship between consumption of cereal and illness. Information from 55 households has been analyzed to date; 46 (84%) of these 55 households shop at Aldi. In the 3 days before onset of illness, 31 (69%) of 47 patients but only 32 (36%) of 89 household controls consumed Millville brand plain Toasted Oats cereal purchased at an Aldi supermarket (matched odds ratio [OR] 22, $p=0.003$). This association remained significant when controlling for age ($p<0.05$). When consumption of Millville brand plain Toasted Oats cereal purchased from an Aldi supermarket was categorized into three groups (0 cups, ≤ 1 cup, >1 cup), a significant dose response relationship was found ($p=0.003$). These data indicate that consumption of Millville brand Toasted Oats cereal distributed by Aldi supermarkets is associated with cases of *Salmonella* Agona infections in these states in April and May 1998. Other cereal products produced by the same company have not been implicated, but investigation into these is ongoing. There is no evidence that toasted oats cereals produced by other manufacturers are linked to illness. These data have been shared with the Food and Drug Administration, which is collaborating in the investigation and conducting an investigation of the plant. We recommend that consumers be advised not to eat Millville brand plain Toasted Oats cereal until further investigation has identified the scope, magnitude, and cause of the contamination.

In the United States, *S. Agona* is an infrequently reported serotype, accounting for approximately 700 of the 40,000 culture-confirmed cases reported annually to the Public Health Information System (PHLIS). *S. Agona* is found in many animal reservoirs including poultry, cattle, pigs, and animal feed. The first reported U.S. outbreak of *S. Agona* infections was traced to animal feed made with contaminated fishmeal; other outbreaks of *S. Agona* infections have been attributed to a commercial peanut-flavored snack and to dried milk.

We request that you report any clusters of *S. Agona* infections promptly to CDC and that you consider interviewing any recent cases of *S. Agona* infections in your state using standard questions provided by CDC. To report clusters and obtain standard questions, please contact Nina Marano in the Foodborne and Diarrheal Diseases Branch (FDDB), telephone 404-639-4020, fax 404-639-2205, E-mail nbm8@cdc.gov. Please continue to update your PHLIS *Salmonella* reporting weekly so the extent of the outbreak can be monitored. We request that states with a higher than expected number of cases contact Dr. Timothy Barrett of the FDDBat 404-639-3334 to arrange for shipment of isolates.

The CDC question and answer sheet on Salmonella is available on the CDC homepage at <http://www.cdc.gov/ncidod/diseases/foodborn/salmon.htm>.

Thank you for your cooperation.

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