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IDAHO DISEASE Bulletin

IDAHO DEPARTMENT OF HEALTH & WELFARE

Office of Epidemiology and Food Protection
Idaho Department of Health and Welfare

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Nationwide *Salmonella* Outbreak: Idaho Investigation

Idaho is working with the Centers for Disease Control and Prevention (CDC), Food and Drug Administration (FDA), and many other states to investigate a multistate outbreak of human infections due to *Salmonella* serotype Typhimurium. As of January 28, 2009, 529 persons infected with the outbreak strains of *Salmonella* Typhimurium have been reported from 43 states and Canada, including 13 from Idaho.

The outbreak investigation is ongoing. During the first week of January, Minnesota detected the outbreak strain in an open container of King Nut brand of peanut butter distributed by King Nut Companies and manufactured by the Peanut Corporation of America, suggesting a connection between consumption of this particular type of peanut butter and illness. Subsequently, Connecticut isolated the outbreak strain in unopened containers of King Nut brand peanut butter. King Nut brand peanut butter is not sold in grocery stores or directly to consumers, but primarily to institutions through food service accounts. King Nut Companies and Peanut Corporation of America have since issued a voluntary recall for peanut butter distributed under the King Nut, Parnell's Pride, and Peanut Corporation of America labels. In addition, many other manufacturers have recalled food and pet products made from peanut paste manufactured by the Peanut Corporation of America.

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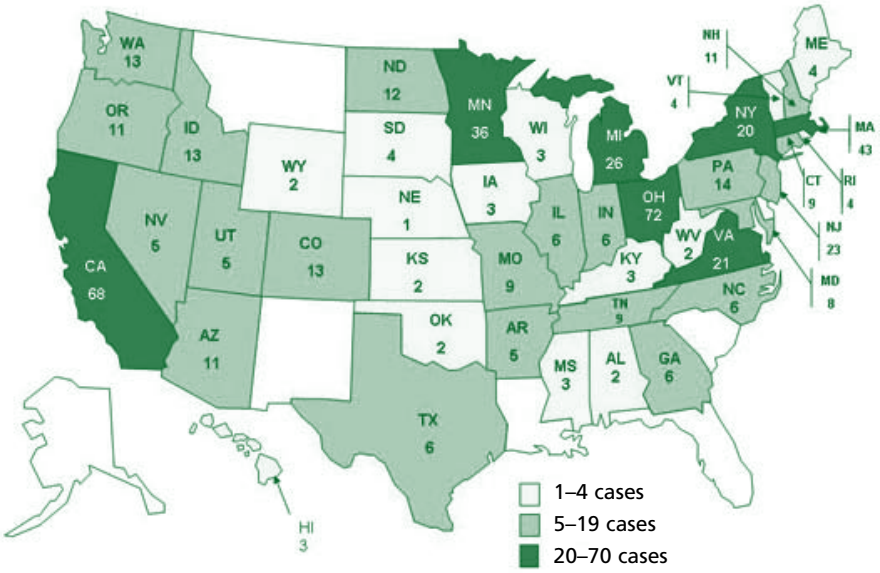
Figure. Persons infected with the outbreak strain of *Salmonella* Typhimurium, United States, by state, September 1, 2008 to January 28, 2009.



Source: CDC, http://www.cdc.gov/salmonella/typhimurium/map.html, accessed January 30, 2009.

Nationwide Salmonella Outbreak *continued*

Clusters of infections in several states have been reported in schools and other institutions, such as long-term care facilities and hospitals, and evidence suggests that King Nut peanut butter was served in some of those facilities. As of January 21, no such clusters have been detected in Idaho; however, through molecular testing of isolates submitted to the Idaho Bureau of Laboratories (IBL), Idaho health officials determined that 11 reported cases of *Salmonella* in Idahoans were linked to the outbreak. Bacterial testing of implicated peanut butter and peanut butter products recovered from one Idaho institution and one case-patient's household is in progress.

This outbreak is a good reminder that persons presenting with diarrhea should be considered for stool culture, following the Infectious Disease Society of America's guidelines, available at: http://www.journals.uchicago.edu/doi/pdf/10.1086/318514. In addition, if a bacterial agent such as *Salmonella, E. coli* O157:H7, *Shigella*, or *Campylobacter* is isolated, samples should be forwarded to the IBL for molecular analysis to help determine if the infection is related to others in Idaho or nationally.

More information about the outbreak and numerous recalls can be found on the FDA website at http://www.fda.gov/oc/opacom/hottopics/salmonellatyph.html.

Greyhound Bus Travelers May Have Been Exposed to Meningitis: What is the Risk?

On January 11, 2009, an ill Nevada resident was traveling west on a Greyhound bus from Denver. Soon after a scheduled stop in Salt Lake City, he was deemed too sick to travel and was airlifted to a Salt Lake City hospital where he died. Lab results confirmed infection with invasive meningococcal disease.

A press release was issued by the Idaho Department of Health and Welfare (IDHW) on January 14 to locate individuals who may have traveled with the ill passenger. After leaving Salt Lake City, the bus made stops in Burley, Twin Falls, Boise, and Nampa before continuing on to Portland, Oregon. Prophylaxis was recommended only for those with close personal contact, defined as anyone who may have kissed the ill passenger; shared food, water, or cigarettes with him; had direct contact with his oral secretions; or lived in the same household. As of January 22, Idaho health officials have not identified any Idaho residents or visitors for whom prophylaxis was recommended; some passengers in other states received prophylaxis after public health officials there interviewed them.

What is the risk to these passengers? The best data comes from household exposures. The attack proportion for household members exposed to patients who have sporadic meningococcal disease is estimated to be 4 cases per 1,000 persons exposed: 500–800 times greater than that in the total population. For air travelers, the Centers for Disease Control and Prevention (CDC) recommends considering antimicrobial chemoprophylaxis for any passenger who has direct contact with respiratory secretions from an index patient or for anyone seated directly next to an index-patient on a prolonged flight (*i.e.*, one lasting eight hours or more). Although the CDC recommendation was framed around air travel, similar risks might be expected in a bus during winter, when windows were almost certainly closed for the duration of the 10-hour bus ride from Denver to Salt Lake City.

The most urgent priority for prevention after a case of meningococcal disease has been identified is to treat the patient's close contacts with an effective antimicrobial agent to prevent illness and eradicate potential colonization by, and subsequent spread of, an invasive strain of *Neisseria meningitidis*. Prophylaxis should ideally be administered less than 24 hours after identification of the index patient. Conversely, chemoprophylaxis administered more than 14 days after onset of illness in the index patient is probably of limited or no value. Oropharyngeal or nasopharyngeal cultures are not helpful in determining the need for chemoprophylaxis and might unnecessarily delay implementing this preventive measure.

Rifampin, ciprofloxacin, and ceftriaxone are equally effective prophylactic agents and are all 90–95% effective in reducing nasopharyngeal carriage of *N. meningitidis*. Nasopharyngeal carriage of *N. meningitidis* might not be eradicated reliably by systemic antimicrobial therapy of meningococcal disease with agents other than ceftriaxone or other third-generation cephalosporins. One study reported that a single 500-mg oral dose of azithromycin was 93% effective in eradicating nasopharyngeal carriage of *N. meningitidis*. Azithromycin, in addition to being safe and easy to administer, is also available in a suspension form and is approved for use among children. Further evaluation is needed of both the effectiveness of azithromycin in eradicating carriage of *N. meningitidis* and the potential for development of microbial resistance to this drug if it is widely used for chemoprophylaxis.

Vaccination is recommended to provide preexposure immunity in children aged 11–18 years and in adults aged 19–55 years who are at increased risk for meningococcal disease. It is also used to control outbreaks caused by serogroups A, C, Y, and W-135 of *N. meningitidis*. No vaccine is available in the United States for serogroup B. Mass vaccination in response to detection of a single sporadic case is typically not indicated; however, case investigation might identify unimmunized persons for whom routine vaccination is recommended. Because knowledge of the serogroup is necessary to determine prevention measures, the IDHW Office of Epidemiology and Food Protection requests that all *N. meningitidis* isolates be sent to the Idaho Bureau of Laboratories for serotyping.

For more information on meningococcal meningitis prevention see ACIP recommendations by following the links from the CDC website at http://www.cdc.gov/vaccines/pubs/ACIP-list.htm.

The Importance of RSV Surveillance and Reporting

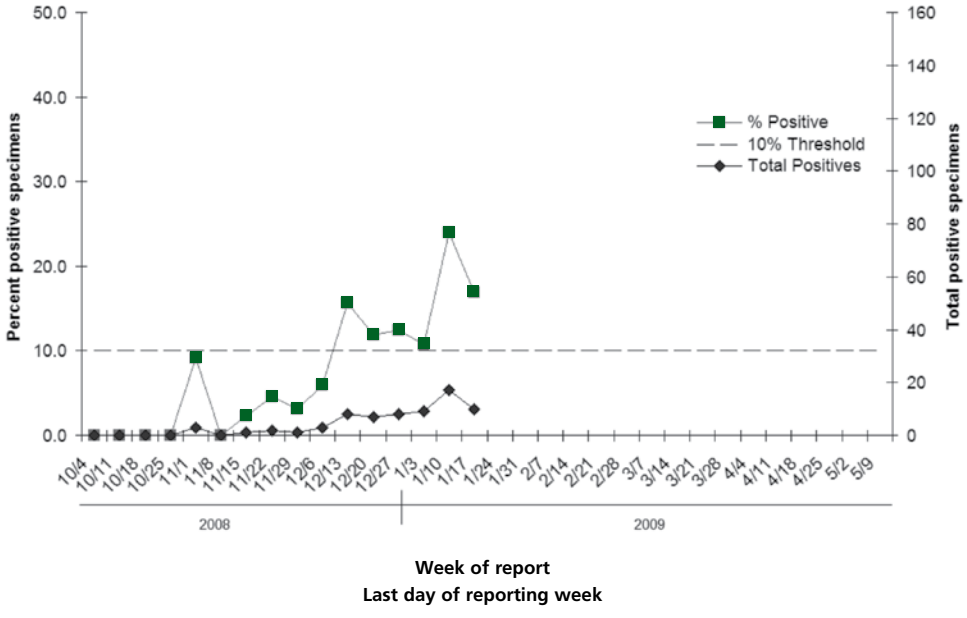
Respiratory syncytial virus (RSV) continues to be the leading cause of bronchiolitis and pneumonia in children aged less than two years. The symptoms of RSV bronchiolitis in infants and young children include wheezing, lung hyperexpansion, and hypoxia. Annually in the United States, RSV causes an estimated 120,000 hospitalizations and 200–500 deaths among children aged less than 5 years. Although recent advances in scientific knowledge make the likelihood of developing a suitable vaccine against RSV more probable, an RSV vaccine has yet to be licensed. However, children aged less than 24 months who are at risk for severe RSV infection (*e.g.*, infants born at 35 weeks gestational age or earlier and those with chronic lung disease) can receive monthly doses of palivizumab (Synagis® by MedImmune, Inc), an expensive monoclonal antibody, as prophylaxis during the RSV season; therefore, healthcare providers' knowledge of local RSV data is important when considering RSV prophylaxis.

RSV season occurs annually during the winter months, and in Idaho typically begins December–January, peaks in February, and ends March–May. In October 2007, in an attempt to better identify the timing of RSV seasons in Idaho, the Idaho Department of Health and Welfare (IDHW) began conducting RSV surveillance. During the 2007–2008 RSV season, 11 Idaho laboratories in each of the 7 local public health districts voluntarily reported the number of specimens testing positive and negative for RSV each week. For the 2008–2009 RSV season, the number of laboratories reporting RSV specimen data increased to 19. Surveillance results are posted weekly on the website, http://www.rsv.dhw.idaho.gov. By definition, RSV season onset in Idaho occurs the first of two consecutive weeks, during which the total percentage of positive specimens reported is less than or equal to 10%. The 2008–2009 season officially began the week ending December 13, 2008. The end of RSV season, or season offset, will occur in the last of two consecutive weeks during which the reported total percentage of specimens testing positive for antigen is greater than or equal to 10%.

Although we tend to think of RSV as a disease of infants and children, adults, especially the elderly, can become infected with RSV, sometimes resulting in hospitalization. RSV infection in adults is less well-characterized than in younger populations; however, one study reported that among adult daycare attendees, RSV accounted for 21% of acute respiratory infections.[1] Another study found that in one cohort, 11% of adult hospitalizations for pneumonia were caused by RSV and were was similar to influenza A in length of stay, use of intensive care, and mortality.[2] In adults, RSV tends to have a similar clinical presentation to many other respiratory viruses, including influenza, but RSV infections are often longer in duration, accompanied by a prolonged productive cough, and more apt to cause wheezing. Infection with RSV can also mimic the appearance of bacterial infections on chest radiographs, often resulting in lobar consolidation, and clinically can mimic underlying decompensated cardiopulmonary disease.[1]

Beginning in April 2008, RSV became a laboratory-reportable disease in Idaho, allowing for improved assessment of the number of persons diagnosed with RSV infection and an enhanced estimation of disease burden. Laboratory personnel should report RSV infections within one day of identification to their local public health district or the Office of Epidemiology and Food Protection (OEFP).

Figure. Total and percent positive RSV tests by week of report as of January 23, 2009



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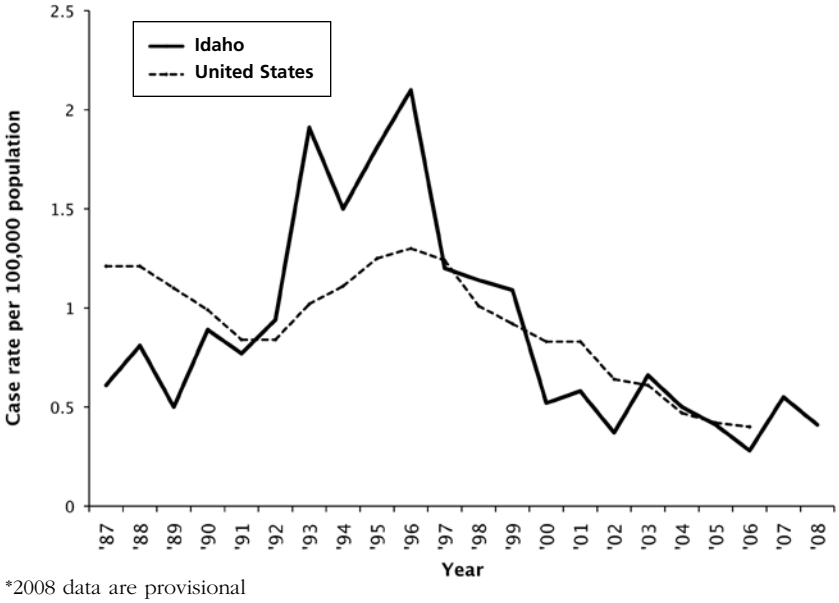
1 Hall CB. Respiratory syncytial virus and parainfluenza virus. N Engl J Med. 2001 Jun 21;344:1917–1926.

2 Falsey AR, et al. Respiratory syncytial virus infection in elderly and high-risk adults. N Engl J Med. 2005 Apr 28;352:1749–1759.

Data Snapshot: Meningococcal Disease

Invasive meningococcal disease occurred more frequently in Idaho in the mid-1990s than it does today. There has been a steady decrease in both Idaho and national. rates since then, probably in part because of the cyclical nature of this disease, introduction of quadrivalent conjugate vaccine for routine use in adolescents in 2005, and identification and prophylaxis of contacts of case-patients. In 2008, preliminary data reveal that 7 cases were reported: patients were aged 9 months, 1 year, 3 years, 19 years, 22 years, 54 years, and 81 years. Two of these cases were fatal.

Figure. Meningococcal disease in Idaho and the United States, 1987–2008*



*2008 data are provisional

ROUTINE 24-Hour Disease Reporting Line 1.800.632.5927
EMERGENCY 24-Hour Reporting Line 1.800.632.8000

An electronic version of the Rules and Regulations Governing Idaho Reportable Diseases may be found at http://adm.idaho.gov/adminrules/rules/idapa16/0210.pdf.

Current and past issues are archived online at www.epi.idaho.gov.

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