

**This is an official**  
**CDC Health Advisory**



**CDC Investigation: CDC Investigation and Interim  
Recommendations: Outbreak of *Salmonella* Typhimurium  
Infections -- United States, 2008-2009**

CDC, in collaboration with public health officials in many states and the U.S. Food and Drug Administration (FDA), is investigating a multistate outbreak of human infections caused by *Salmonella* serotype Typhimurium. As of January 16, 2009, 9PM EST, 474 persons infected with the outbreak strain of *Salmonella* Typhimurium have been reported from 43 states. Infection may have contributed to 6 deaths. Of persons for whom data was available, 107 (23%) were hospitalized.

Of the 458 persons with available data, illness onsets were between September 8, 2008 and January 2, 2009. Age range was <1–98 years. A total of 47% of ill persons were females. The most severe illnesses occur among young children, the elderly, and people with impaired immune systems.

The number of ill persons identified in each state is as follows: AL(1), AR(4), AZ(10), CA(60), CO(11), CT(8), GA(6), HI(3), IA(1), ID(11), IL(5), IN(4), KS(2), KY(3), MA(40), MD(8), ME(4), MI(25), MN(35), MO(9), MS(1), NC(4), ND(10), NE(1), NH(11), NJ(19), NV(5), NY(19), OH(64), OK(2), OR(5), PA(14), RI(4), SD(2), TN(9), TX(6), UT(4), VA(20), VT(4), WA(13), WI(3), WV(2), and WY(2).

This outbreak involves a strain of *Salmonella* possessing two closely related pulsed-field gel electrophoresis (PFGE) patterns (Xbal JPXX01.1818 and JPXX01.0459JPXX01.1825).

The case definition is illness in a person with a *Salmonella* Typhimurium infection with illness onset (or isolation, if onset date unknown) on or after September 1, 2008, and with an isolate matching an outbreak PFGE pattern.

### **Epidemiologic Investigation**

The investigation is ongoing, and exposures to peanut butter and other peanut butter-containing products are being examined.

Following hypothesis generating interviews conducted in December, CDC and state partners conducted a case-control study collecting data on January 3-4, 2009. Preliminary analysis of the case-control study among ill persons in multiple states suggested consumption of peanut butter as a likely source of this outbreak. To date, no association has been found with major national brand name jars of peanut butter sold in grocery stores.

An investigation by the Minnesota State Health Department identified King Nut creamy peanut butter as a source of *Salmonella* infections among many ill persons there. The outbreak strain has been isolated from an opened 5-pound container of King Nut brand peanut butter in

Minnesota. *Salmonella* has been isolated from unopened 5-pound containers of King Nut brand peanut butter in Connecticut and Georgia. Further tests are pending to determine if this *Salmonella* is the outbreak strain. This product is distributed to establishments such as long-term care facilities, prisons/detention centers, hospitals, schools, universities, and restaurants. It is not sold directly to consumers and is not known to be distributed for retail sale in grocery stores. King Nut is produced by Peanut Corporation of America in Blakely, Georgia. This facility is now recalling two products it makes: (1) peanut butter (made on or after August 8, 2008) and (2) peanut paste (made on or after September 26, 2008) at the Georgia facility. In many instances, the peanut butter and peanut paste is further distributed to manufacturers to be used as ingredients in many products, including cookies, crackers, cereal, candy and ice cream.

The list of products that may be affected is still being determined and is incomplete at this time. However, a list of products known to be implicated at this point in the investigation can be found at: <http://www.fda.gov/oc/opacom/hottopics/salmonellatyph.html#update>. FDA and the product manufacturers are working to determine the list of affected products, which may be extensive. Some companies have already announced whether their products include ingredients being recalled by PCA, Georgia, and more companies are expected to make similar announcements.

CDC with state partners is continuing to identify and interview new cases (ill persons). To clarify the types of peanut-butter containing foods that are associated with the outbreak, CDC is currently conducting a second case-control study. State partners are also collecting and testing various peanut-butter containing foods.

## **Recommendations**

Based on available information, CDC and FDA recommendations include:

### For consumers:

- Do not eat products that have been recalled and throw them away in a manner that prevents others from eating them
- Postpone eating other peanut butter containing products (such as cookies, crackers, cereal, candy and ice cream) until information becomes available about whether that product may be affected.

### For retailers

- Stop selling recalled products.

### For directors of institutions and food service establishments

- Ensure that they are not serving recalled products.

### For manufacturers

- Inform consumers about whether their products could contain peanut paste from Peanut Corporation of America (PCA). If a manufacturer knows their products do not contain peanut paste from PCA, they should inform consumers of that.

To date, no association has been found with major national brand name jars of peanut butter sold in grocery stores.

**For More Information**

For the latest information about the epidemiological investigation, go to <http://www.cdc.gov/salmonella/typhimurium/>.

For the latest information about recalled products, go to <http://www.fda.gov/oc/opacom/hottopics/salmonellatyph.html>

More general information about *Salmonella* can be found at <http://www.cdc.gov/salmonella/>

[Redacted text block]

[Redacted text block]

[Redacted text block]