

## Multistate Outbreak of *Salmonella* Infections Linked to Coconut Tree Brand Frozen Shredded Coconut (Final Update)

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This outbreak appears to be over. However, the recalled shredded coconut has a long shelf life and may still be in people's homes. Consumers unaware of the recall could continue to eat the product and potentially get sick. Read the [Recall and Advice to Consumers and Retailers](#).

### Highlights

- [Read the Recall & Advice to Consumers, Restaurants, and Retailers](#)>>
- This outbreak appears to be over. However, the recalled shredded coconut has a long shelf life and may still be in people's homes. Consumers unaware of the recall could continue to eat the product and potentially get sick.
  - CDC recommends that retailers not sell, restaurants not serve, and consumers not eat recalled frozen shredded coconut.
  - The recalled product was packaged in 16-ounce plastic bags labeled as Coconut Tree Brand frozen Shredded Coconut.
- CDC, public health and regulatory officials in several states, and the U.S. Food and Drug Administration investigated a multistate outbreak of *Salmonella* infections.
- 27 people infected with the outbreak strains of *Salmonella* I 4,[5],12:b:- or *Salmonella* Newport were reported from 9 states.
  - Six ill people were hospitalized. No deaths were reported.
- [Epidemiologic, laboratory, and traceback evidence](#) indicated that Coconut Tree Brand frozen Shredded Coconut, distributed by Evershing International Trading Company, was the likely source of this multistate outbreak.
  - On January 3, 2018, Evershing International Trading Company [recalled](#) all 16 oz. Coconut Tree Brand Frozen Shredded Coconut after *Salmonella* was identified in the product by [officials in Massachusetts](#).
- If you have recalled frozen shredded coconut in your home, you can return it to the place of purchase for a refund.
  - **If you aren't sure if the frozen coconut you bought is Coconut Tree Brand frozen Shredded Coconut**, you can ask the place of purchase. Restaurants and retailers can ask their supplier.
  - **When in doubt, don't eat, sell, or serve it. Throw it out.**

- o Wash and sanitize countertops as well as drawers or shelves in freezers or [refrigerators](#) where frozen shredded coconut were stored.

February 15, 2018

CDC, public health and regulatory officials in several states, and the [U.S. Food and Drug Administration \(FDA\)](#) investigated a multistate outbreak of *Salmonella* infections.

Public health investigators used the [PulseNet](#) system to identify illnesses that were part of this outbreak. PulseNet is the national subtyping network of public health and food regulatory agency laboratories coordinated by CDC. DNA fingerprinting was performed on *Salmonella* bacteria isolated from ill people by using techniques called [pulsed-field gel electrophoresis](#) (PFGE) and [whole genome sequencing](#) (WGS). CDC PulseNet manages a national database of these DNA fingerprints to identify possible outbreaks. WGS gives a more detailed DNA fingerprint than PFGE.

As of February 12, 2018, 27 people infected with the outbreak strains of *Salmonella* I 4,[5],12:b:- (26 people) or *Salmonella* Newport (1 person) were reported from 9 states. A list of the states and the number of cases in each can be found on the [Case Count Map](#) page. An ill person infected with the outbreak strain of *Salmonella* I 4,[5],12:b:- was also reported from Canada.

WGS showed that isolates from people infected with *Salmonella* I 4,[5],12:b:- were closely related genetically. This close genetic relationship means that people in this outbreak were more likely to share a common source of infection.

Illnesses started on dates ranging from January 9, 2017, to November 4, 2017. Ill people ranged in age from 1 to 82 years, with a median age of 15. Among ill people, 19 (70%) are male. Six people (29%) reported being hospitalized. No deaths were reported.

This outbreak can be illustrated with a chart showing the number of people who became ill each day. This chart is called an epidemic curve, or [epi curve](#).

WGS analysis did not identify any predicted antimicrobial resistance in isolates from 15 ill people. Standard [antibiotic resistance testing](#) methods were used by CDC's [National Antimicrobial Resistance Monitoring System \(NARMS\)](#) laboratory on clinical isolates from 3 ill people in this outbreak. These isolates were not resistant to any antibiotics tested.

## **Investigation of the Outbreak**

[Epidemiologic, laboratory, and traceback evidence](#) indicated that Coconut Tree Brand Frozen Shredded Coconut was the likely source of this multistate outbreak. This outbreak appears to be over.

In interviews, ill people answered questions about the foods they ate and other exposures in the week before they became ill. Ten (63%) of 16 people interviewed reported eating or maybe eating coconut. Of these 10 people, 8 (80%) reported having an Asian-style dessert drink that contained frozen shredded coconut.

Throughout the outbreak investigation, state and local health officials collected different food items from restaurants where ill people consumed Asian-style dessert drinks. In November 2017, laboratory testing of a sample from coconut milk made in one restaurant in New York did not identify the outbreak strain of *Salmonella* I 4,[5],12:b:-, but did identify a strain of *Salmonella* Newport. This sample was from coconut milk made with Coconut Tree Brand frozen Shredded Coconut, as well as other ingredients. WGS showed that the *Salmonella* Newport isolated from the coconut milk was closely related genetically to a *Salmonella* Newport isolate from an ill person from Massachusetts who had consumed an Asian-style dessert drink.

In December 2017, [officials in Massachusetts](#) collected food items from a restaurant where that ill person had consumed Asian-style dessert drinks. One sample from frozen shredded coconut identified a strain of *Salmonella* that was new to the PulseNet database and has not been previously linked to any illnesses. This sample was from an unopened package of Coconut Tree Brand Frozen Shredded Coconut. As a result, on January 3, 2018, Evershing International Trading Company [recalled](#) all Coconut Tree Brand Frozen Shredded Coconut. The recalled product was packaged in 16-ounce plastic bags.

Officials in Massachusetts returned to the restaurant and collected more Coconut Tree Brand frozen Shredded Coconut in January 2018. These samples were from unopened packages of Coconut Tree Brand frozen Shredded Coconut already subject to recall. On January 12, laboratory testing of these samples identified the outbreak strain and another strain of *Salmonella* I 4,[5],12:b:-, as well as several other types of *Salmonella* bacteria, including *Salmonella* Javiana, *Salmonella* Rissen, and *Salmonella* Thompson. WGS showed that the additional strain of *Salmonella* I 4,[5],12:b:- isolated from the frozen shredded coconut was closely related genetically to *Salmonella* I 4,[5],12:b:- isolated from two ill people.

The frozen shredded coconut linked to this outbreak was used as an ingredient in Asian-style dessert drinks served at restaurants. The product was also sold in grocery stores and markets in

[several states](#). Frozen shredded coconut can last for several months if kept frozen and may still be **in retail stores or in people's homes**.

CDC recommends that retailers not sell, restaurants not serve, and consumers not eat recalled Coconut Tree Brand frozen Shredded Coconut. This outbreak appears to be over. However, consumers unaware of the recall could continue to eat the product and get sick.