



CDInfo



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CDInfo is a surveillance newsletter intended to promote prevention of morbidity and mortality by providing useful data and practical recommendations for clinicians, laboratorians and infection control personnel who diagnose, treat and/or report infectious diseases in Chicago.

Investigation of *Salmonella* serotype Saintpaul epidemic cases and clusters in Chicago, May – July, 2008

During the summer of 2008, a multistate, multinational outbreak of *Salmonella* serotype Saintpaul occurred, with 1,442 cases reported by the CDC in late August of last year. With 120 cases, Illinois had the second-highest case count among states, behind Texas' 559 reported cases. By population, Texas and New Mexico were most severely affected, and both states recorded more than 20 cases per million residents. While Illinois' incidence rate was less than 10 per million, Chicago had 44 cases, for a rate of approximately 15 cases per million residents.

An initial case-control study conducted in the Southwestern United States identified an association between illness and eating raw tomatoes, but subsequent studies identified an association between illness and eating raw jalapeño peppers, and accumulated epidemiologic data also suggested an association with raw serrano peppers. Produce tracebacks and microbiologic testing ultimately provided evidence that jalapeño and serrano peppers originating in Mexico were contaminated with the outbreak strain of *S. Saintpaul*. (These findings are described in detail at <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5734a1.htm>.)

In Chicago, an unexpected increase in *S. Saintpaul* activity was noted on May 27, 2008, when two cases in Chicago residents were reported by the Illinois Department of Public Health (IDPH) Division of Laboratories. This occurrence was considered abnormal in light of the annual Chicago case counts of *S. Saintpaul* over the preceding decade (median, 5; range 2 – 17).

By early June, CDC had announced a multistate outbreak; the Food and Drug Administration (FDA) issued a consumer alert for New Mexico and Texas, warning not to eat raw red plum, red Roma or round red tomatoes; and the Chicago case count had risen to 9. On June 3, 2009, three of these Chicago case-patients named the same restaurant (Restaurant A) as one of the places they had visited in the week prior to onset. Also on that day, the Cook County Department of Public Health identified a fourth case-patient who named Restaurant A in his event history. Restaurant A has two locations in Chicago, and each location accounted for two of these initial four cases.

Over the next 3 weeks, all of the original 9 Chicago cases and multiple *S. Saintpaul* cases in non-Chicago residents were found to have eaten at a Restaurant A location in Chicago in May. Only one food item was reported as consumed by each of the case-patients: a guacamole appetizer whose ingredients included tomato and serrano pepper.

By early July, 2009, multiple cases had been associated with meals at three additional Chicago restaurants (Restaurants B, C, and D), and traceback investigations were underway to determine the source of ingredients – specifically, jalapeño and serrano peppers – that the four establishments had in common. On July 21, 2009, FDA announced having isolated the outbreak strain of *S. Saintpaul* from a jalapeño obtained from an agricultural firm in McAllen, Texas; this firm was one of the suppliers of peppers served in the four named Chicago restaurants during the implicated time periods.

The figure is an epidemic curve of the Chicago cases by week of investigation initiation, with colors indicating cases linked to the four restaurants. The table provides a summary of the findings related to each of the establishments.

The prompt reporting of salmonellosis cases and the forwarding of *Salmonella* isolates to the IDPH Division of Laboratories for serotyping allowed CDPH to quickly recognize and respond to local case clusters in this large and complex epidemic.

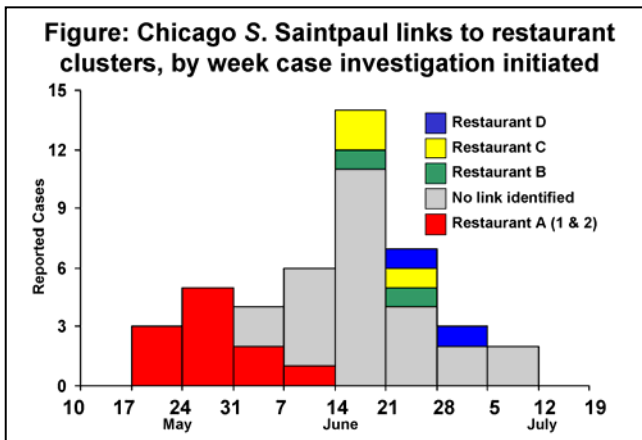


Table: Chicago Restaurant Cluster Summary

	Restaurant			
	A	B	C	D
No. of Cases in patrons*	12	2	4	3
Implicated meal dates	May 7-25	June 4, 5	June 6, 8	May 31, June 10
Suspect item	Guacamole	Salsa	unknown	unknown
Workers (cases/total)	1/115	1/5	0/14	0/31

*Including non-Chicago residents