



CD Info



Richard M. Daley, Mayor

September 2010

Bechara Choucrair, MD, Commissioner

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 or report infectious diseases in Chicago.

Salmonellosis in Chicago, 2000-2009

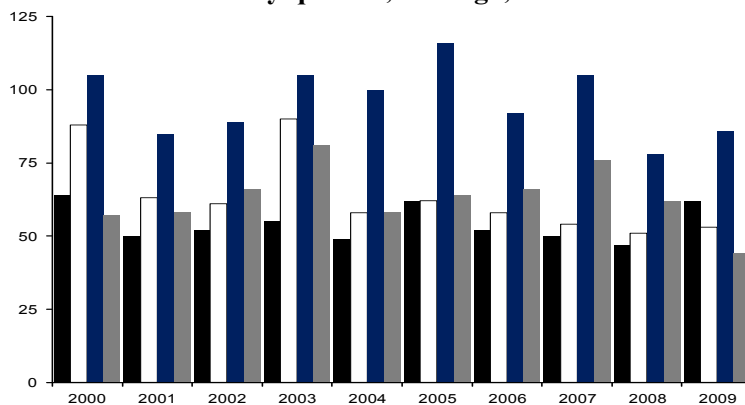
Among notifiable conditions tracked and investigated by the Chicago Department of Public Health (CDPH), salmonellosis is the most frequently reported enteric disease, with approximately 300 cases reported in city residents each year. Several routes of transmission have been identified for *Salmonella* infection, including ingesting contaminated food or water, and having contact with infected people or animals. For every case that is reported to health authorities, it is estimated that as many as 38 unreported individuals are actually infected.

In the decade 2000-2009, 3,185 nontyphoid salmonellosis cases were reported among Chicago residents. Seventeen (<1%) of these case-patients died within one month of isolation of *Salmonella* from blood (n=9), stool (n=5), or urine (n=3). Estimated annual case rates were highest among children aged 0-4 years (35 per 100,000 residents), compared to other age groups (5-19 years, 8; 20-44 years, 9; 45-64 years, 9; ≥65 years, 10). Locally, the counts of sporadic salmonellosis cases typically peak in the third quarter of each year (Figure).

Identification of *Salmonella* serotypes often provides the first evidence that cases share a common source of infection. For this reason, state regulations require that laboratories forward all *Salmonella* isolates to the Illinois Department of Public Health Division of Laboratories for serotyping. More than 2500 *Salmonella* serotypes are known to exist. Over the past decade, a median of 57 different serotypes were reported to CDPH each year (range, 47-64) and 24 different serotypes were associated with outbreaks.

S. Typhimurium and *S. Enteritidis* are consistently the most common serotypes reported in Chicago (Table). Each year over the past decade they have accounted for 26-46% of *Salmonella* case reports. Of 411 outbreak-associated cases, *S. Heidelberg* was the most common serotype, accounting for 118 (29%) cases. This is due in large part to an outbreak in 2007 that resulted in almost 100 cases among Chicago residents. Six serotypes appear in both the top 10 outbreak and

Figure. Reported non-outbreak-associated, nontyphoid salmonellosis cases by quarter, Chicago, 2000-2009



non-outbreak lists: *S. Typhimurium*, *S. Enteritidis*, *S. Heidelberg*, *S. Infantis*, *S. 4,5,12:i:-*, and *S. Saintpaul*. The serotypes reported for the *Salmonella* deaths were: *S. Typhimurium* (6), *S. Enteritidis* (7), *S. Heidelberg* (1), *S. Infantis* (1), *S. Newport* (1), and *S. Choleraesuis* (1).

In Illinois, nontyphoid salmonellosis cases are reportable to the local health department within seven days via the Illinois National Electronic Disease Surveillance System (INEDSS). Clusters, outbreaks, and cases occurring in persons whose occupation presents a risk of transmission to others should be reported upon identification to the Communicable Disease Program at (312) 746-5377 or (312) 746-5925. On weekends, holidays, after hours, or if no one is available to take an urgent report, reports may be made by calling 311 and asking for the communicable disease physician on call.

Table. Ranking of reported nontyphoid *Salmonella* serotypes, by outbreak-association, Chicago, 2000-2009

Rank	All Cases (N=3,185)	N	% of Total	Outbreak ^a (N=411)	N	% of Total	Non-outbreak (N=2,774)	N	% of Total
1	Typhimurium^{b,c}	639	20.1	Heidelberg	118	28.7	Typhimurium	630	22.7
2	Enteritidis	523	16.4	Infantis	76	18.5	Enteritidis	478	17.2
3	Heidelberg	267	8.4	Saintpaul	48	11.7	Heidelberg	149	5.4
4	Infantis	170	5.3	Enteritidis	45	10.9	Newport	125	4.5
5	Newport	132	4.1	Berta	23	5.6	Infantis	94	3.4
6	Saintpaul	105	3.3	Braenderup	22	5.4	4,5,12:i:-	84	3.0
7	4,5,12:i:-	98	3.1	Ohio	17	4.1	Agona	61	2.2
8	Berta	68	2.1	4,5,12:i:-	14	3.4	Saintpaul	57	2.1
9	Agona	61	1.9	Uganda	11	2.7	Muenchen	56	2.0
10	Montevideo	59	1.9	Typhimurium	9	2.2	Montevideo	53	1.9

^aIncludes investigations for which a point-source was not identified and for which CDPH was not the lead jurisdiction. ^bIncludes var. O:5- (formerly Copenhagen). ^c**Bold type** indicates that the serotype appears in all three lists.