

National Enteric Disease Surveillance: Typhoid Fever Annual Summary, 2007

National Typhoid Fever Surveillance Annual Summary, 2007

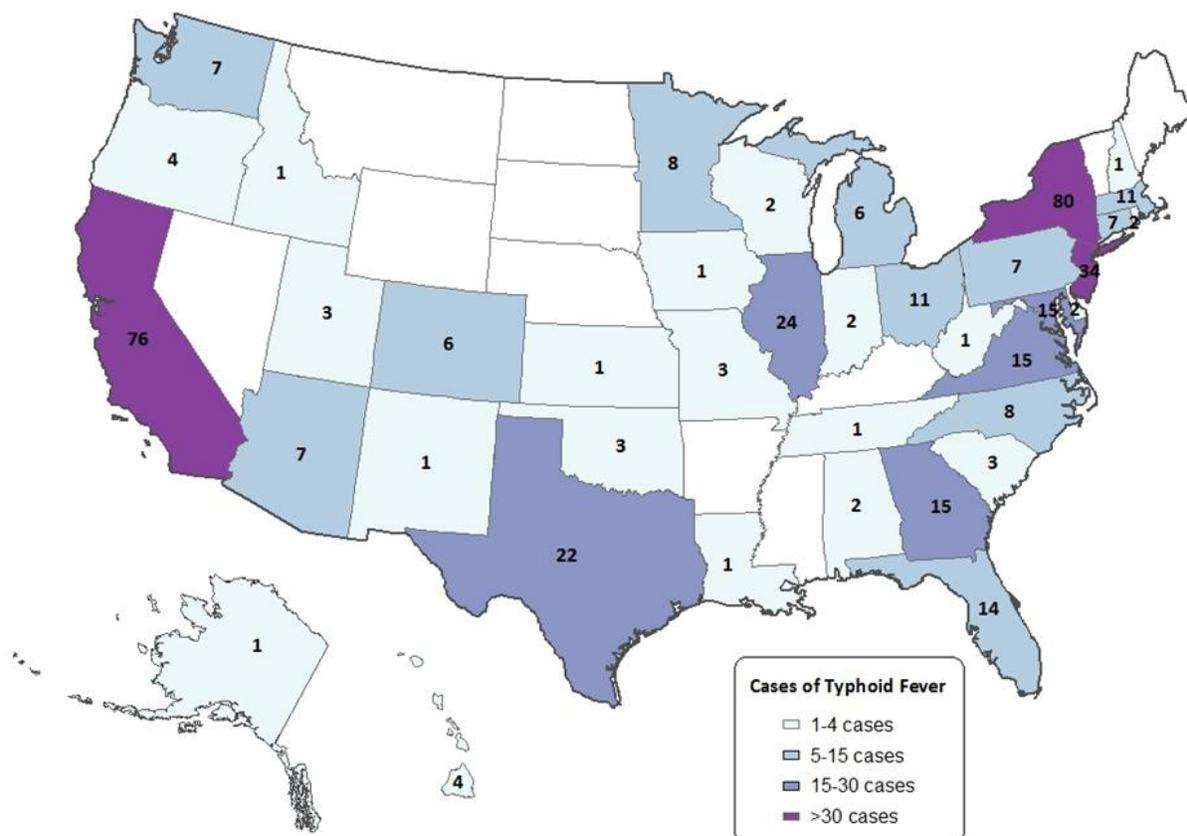
An overview of National Typhoid Fever Surveillance system is available online
http://www.cdc.gov/ncezid/dfwed/PDFs/typhi_surveillance_overview_508c.pdf.

National Typhoid Fever Surveillance Data

States reporting at least one typhoid fever case to NTFS during 2007 are shown in Figure 1.

- Thirty-nine states and the District of Columbia reported 413 typhoid fever cases

Figure 1. States reporting at least one case to National Typhoid Fever Surveillance, 2007 (n=39)



Demographic and clinical characteristics of patients with typhoid fever are shown in Table 1.

- The median age of patients was 24 years
- One patient died (0.3%)

Table 1. Demographic and clinical characteristics of patients with typhoid fever reported to National Typhoid Fever Surveillance, 2007 (n=413).

Characteristic	Count	Percent
Median age in years (range)	24 (1-83)	--
Female (n=410)	206	50
US Citizen (n=328)	167	51
Vaccinated (n=397)	18	5
Site of isolation (n=401)		
Blood	346	86
Stool	45	11
Gall bladder	10	3
Other	0	0
Hospitalized (n=413)	296	72
Died (n=398)	1	0.3

Travel destinations are shown in Table 2.

- 331 (80%) patients reported traveling or living outside the United States in the 30 days before illness began
- Visiting friends or relatives was the most common reason for travel (75%)

Table 2. Top 5 travel destinations reported to National Typhoid Fever Surveillance, 2007 (n=331).

Travel Destination	Count	Percent
India	177	55
Bangladesh	53	16
Pakistan	39	12
Mexico	9	3
Philippines	7	2

NNDSS Data

The National Notifiable Disease Surveillance System (NNDSS) collects and compiles reports of nationally notifiable infectious diseases, including typhoid fever. The 2007 NNDSS report is available at <http://www.cdc.gov/mmwr/PDF/wk/mm5653.pdf>.

- Thirty-eight states and the District of Columbia reported 434 typhoid fever cases (1).

Antimicrobial Resistance Data

The National Antimicrobial Resistance Monitoring System (NARMS) monitors antimicrobial resistance among enteric bacteria (including *Salmonella* serotype Typhi) from humans. In *Enterobacteriaceae*, resistance to nalidixic acid, an elementary quinolone, correlates with decreased susceptibility to ciprofloxacin (MIC ≥ 0.12 $\mu\text{g/mL}$) and possible fluoroquinolone treatment failure. Multidrug resistance is

described in NARMS as resistance to three or more classes of antimicrobial agents, as defined by the Clinical and Laboratory Standards Institute (CLSI).

The most recently published NARMS annual report is from 2010, available at <http://www.cdc.gov/narms/pdf/2010-annual-report-narms.pdf> (2). The 2007 data for *Salmonella* serotype Typhi isolates, as reported in the 2010 report, showed the following:

- 62% were resistant to nalidixic acid
- 1.0% were resistant to ciprofloxacin
- 18% were multidrug resistant

Outbreak Data

The Foodborne Disease Outbreak Surveillance System (FDOSS) collects reports of foodborne disease outbreaks from local, state, tribal, and territorial public health agencies. The 2007 annual summary of foodborne disease outbreaks is available at

<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5931a1.htm> (3).

- In 2007, no outbreaks of typhoid fever were reported in the United States.

References

1. CDC. Summary of notifiable diseases—United States, 2007. *MMWR* 2009; 56(53): 1-100
2. CDC. National Antimicrobial Resistance Monitoring System for Enteric Bacteria (NARMS): Human Isolates Final Report, 2010. Atlanta, Georgia: U.S. Department of Health and Human Services, CDC, 2012.
3. CDC. Surveillance for foodborne disease outbreaks—United States, 2007. *MMWR* 2010; 59(31):1277-1280

Reference Citation:

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