



Active Bacterial Core Surveillance (ABCs) Report

Emerging Infections Program Network

Group A *Streptococcus*, 2016



ABCs Areas

California (3 county San Francisco Bay area); Colorado (5 county Denver area); Connecticut; Georgia (20 county Atlanta area); Maryland (6 county Baltimore area); Minnesota; New Mexico; New York (15 county Rochester and Albany areas); Oregon (3 county Portland area); Tennessee (20 urban counties).

ABCs Population

The surveillance areas represent 33,923,217 persons. Source: National Center for Health Statistics bridged-race vintage 2016 postcensal file.

ABCs Case Definition

Invasive group A streptococcal disease: isolation of group A *Streptococcus* from a normally sterile site or from a wound culture accompanied by necrotizing fasciitis or streptococcal toxic shock syndrome in a resident of a surveillance area in 2016.

ABCs Methodology

ABCs personnel routinely contacted all microbiology laboratories serving acute care hospitals in their area to identify cases. Standardized case report forms that include information on demographic characteristics, clinical syndrome, and outcome of illness were completed for each identified case. All group A *Streptococcus* (GAS) isolates were subject to whole genome testing (WGS) to derive emm types and T types. A strategic subset was targeted for conventional MIC determination. Regular laboratory audits assessed completeness of active surveillance and detected additional cases.

All rates of invasive group A streptococcal disease were calculated using population estimates for 2016 from the bridged-race vintage 2016 postcensal file. For national estimates of cases, race- and age-specific rates of disease were applied from the aggregate surveillance area to the age and racial distribution of the 2016 U.S. population. Cases with missing data, excluding ethnicity, were multiply imputed using sequential regression imputation methods.[†]

Reported ABCs Profiles

Race	No.	(Rate [*])
White	1,433	(5.7)
Black	347	(6.2)
Other	179	(5.7)

* Per 100,000 population for ABCs areas

Ethnicity	No.	(Rate [*])
Hispanic	226	(4.9)
Non-Hispanic	1,364	-----
Unknown	369	-----

* Per 100,000 population for ABCs areas

[†] Surveillance Note

Missing race (n=220) data were multiply imputed using sequential regression imputation methods.

Age (years)	Cases		Deaths	
	No.	(Rate [*])	No.	(Rate [*])
< 1	20	(4.9)	2	(0.49)
1	24	(5.9)	2	(0.49)
2-4	26	(2.1)	1	(0.08)
5-17	79	(1.4)	2	(0.04)
18-34	297	(3.7)	10	(0.13)
35-49	377	(5.6)	32	(0.48)
50-64	555	(8.3)	56	(0.83)
65-74	289	(10.1)	41	(1.44)
75-84	181	(13.5)	25	(1.86)
≥ 85	111	(17.6)	26	(4.12)
Total	1,959	(5.8)	197	(0.58)

* Per 100,000 population for ABCs areas

ABCs Area	Most common emm types [*]	% of area isolates
California	49,82,1,92,12,60,4	74.2
Colorado	49,82,89,1,28,92,11,12	77.1
Connecticut	1,3,89,12,28,75,11,4	75.6
Georgia	1,3,12,4,89,28	70.3
Maryland	1,25,4,12,77,89,63,28	71.2
Minnesota	89,1,3,28,12,4,82,77	81.1
New Mexico	1,59,89,12	60.5
New York	1,89,12,28,11,3,4,75	78.9
Oregon	49,59,1,83,89	66.2
Tennessee	1,3,82,12,11,4,89,28	70.6
Total	1,89,49,12,3,82,4,28	64.6

* Requires ≥3 or more isolates and ≥ 5% of isolates typed

Syndrome	No.	(%)
Cellulitis	834	(42.6)
Necrotizing fasciitis	106	(5.4)
Pneumonia	267	(13.6)
Primary bacteremia	413	(21.1)
Streptococcal toxic shock syndrome	56	(2.9)

Note: Some cases had more than one syndrome.

Potentially preventable invasive group A streptococcal disease

During 2016, 1 case of invasive GAS disease was detected in a 44 year-old patient with varicella.

National Estimates of Invasive Disease

Cases: 18,500 (5.8/100,000)

Deaths: 1,850 (0.58/100,000)

Citation

Centers for Disease Control and Prevention. 2016. Active Bacterial Core Surveillance Report, Emerging Infections Program Network, Group A *Streptococcus*—2016.

Available via the internet: <http://www.cdc.gov/abcs/reports-findings/survreports/gas16.pdf>