

**Topic**


- Cases and Deaths
- Case Rates
- Death Rates
- Syndromes
- Serotypes
- Antibiotic Resistance
- Surveillance Report


**Year**

2021

*Dataset version: May 2023*  
*Final run: Jun 2, 2023*

**Note:** Click [here](#) to access and download Surveillance Reports.

 **Data Download**

Group A *Streptococcus* (GAS)    Group B *Streptococcus* (GBS)    *Haemophilus influenzae* (HFlu)    *Neisseria meningitidis* (NMen)    *Streptococcus pneumoniae* (SPN)    Bact Facts 

**Active Bacterial Core Surveillance (ABCs) Report  
Emerging Infections Program Network  
*Streptococcus pneumoniae*, 2021**

**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 and children <5 years in Erie county); Oregon (3 county Portland area); Tennessee (20 counties).

**ABCs Population:** The surveillance areas represent 34,948,626 persons. Source: Census Bureau's Vintage 2021 population estimates.

**ABCs Case Definition:** Disease is defined as isolation of *S. pneumoniae* from a normally sterile site or detection of pathogen-specific nucleic acid in a specimen obtained from a normally sterile body site, using a validated molecular test in a resident of one of the surveillance areas.

**ABCs Methodology:** ABCs personnel routinely contacted microbiology laboratories serving acute care hospitals 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. Whole genome sequencing (WGS) based characterization was conducted on all pneumococcal isolates, which includes deduction of capsular serotype and minimum inhibitory concentration (MIC) predictions (including PBP typing system for determining beta lactam antibiotic MICs). Conventional MIC testing is conducted on selected strains. Regular laboratory audits assessed completeness of active surveillance and detected additional cases.

Rates of invasive pneumococcal disease were calculated using population estimates from the Vintage 2021 file. For national estimates, race- and age-specific rates of disease were applied from the aggregate surveillance area to the age and racial distribution of the U.S. population. Cases with missing data, excluding ethnicity, were multiply imputed using sequential regression imputation methods.<sup>1</sup>

**ABCs Profiles**

Race	No.	Rate*
Black	511	8.9
White	1,200	4.8
Other	144	3.3

Age (years)	Cases		Deaths	
	No.	Rate*	No.	Rate*
<1	28	7.4	2	0.53
1	35	9.0	0	0.00
2-4	34	2.8	3	0.25
5-17	30	0.5	1	0.02
18-34	164	2.1	18	0.22
35-49	296	4.3	34	0.49
50-64	665	9.8	131	1.94
65-74	346	10.2	58	1.71
75-84	182	11.6	45	2.86
≥85	75	12.7	14	2.38
Total	1,855	5.3	306	0.88

\*Rates are per 100,000 population for ABCs areas

**Surveillance Note**

Missing race (n=156) data were multiply imputed using sequential regression imputation methods.

**Citation**

Centers for Disease Control and Prevention. 2021. Active Bacterial Core Surveillance Report, Emerging Infections Program Network, *Streptococcus pneumoniae*, 2021. [www.cdc.gov/abcs/downloads/SPN\\_Surveillance\\_Report\\_2021.pdf](https://www.cdc.gov/abcs/downloads/SPN_Surveillance_Report_2021.pdf)

**Antibiotic Susceptibility**

Antibiotic	S*	I†	R‡
TMPsulfa	75.9	16.2	7.9
Erythromycin	69.9	0.4	29.3
Levofloxacin	99.9	0.0	0.0
Penicillin+	95.4	1.4	1.9
Cefotaxime	97.0	1.2	0.5
Tetracycline	86.4	0.0	13.6
Vancomycin	100.0	0.0	0.0

Based on reference lab testing of 1,404 isolates.  
\*Susceptible; †Intermediate; ‡Resistant based on 2021 CLSI definitions. +Penicillin CLSI breakpoints changed in 2009.

**National Estimates of Invasive Disease**

Total Cases: 17,390 (5.20/100,000 population)  
Deaths: 2,900 (0.87/100,000 population)

**Syndromes**

Syndrome	No.	%*
Meningitis	110	5.9
Bacteremia Without Focus	286	15.4
Bacteremia With Pneumonia	1,258	67.8

\*Percent of Cases