

DRUG-RESISTANT *STREPTOCOCCUS PNEUMONIAE*

THREAT LEVEL **SERIOUS**



900,000
Estimated
infections in
2014



3,600
Estimated
deaths in
2014

Streptococcus pneumoniae (pneumococcus) is a leading cause of bacterial pneumonia and meningitis in the United States. It also is a common cause of bloodstream infections, and ear and sinus infections.

WHAT YOU NEED TO KNOW

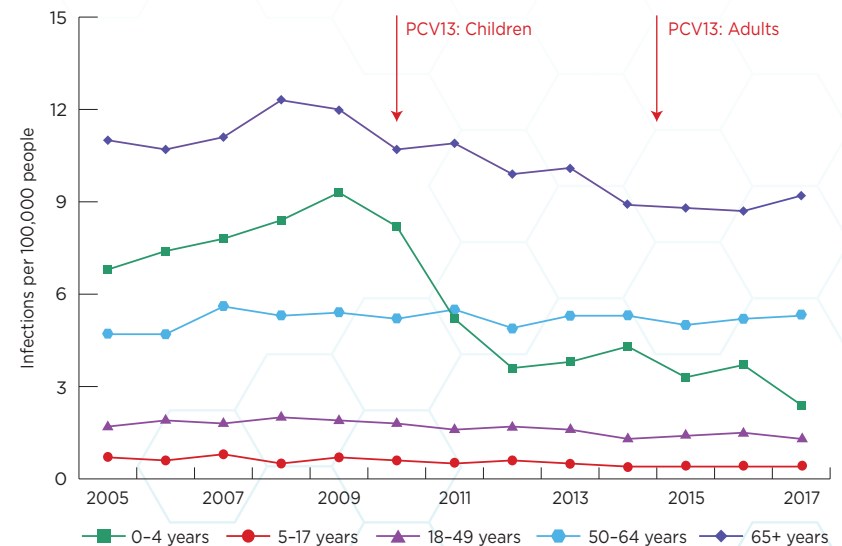
- Overall, there are more than 2 million pneumococcal infections each year in the United States, resulting in more than 6,000 deaths and \$4 billion in total costs. In more than 30% of infections, the bacteria are resistant to one or more clinically relevant antibiotics.
- Pneumococcal pneumonia leads to an estimated 150,000 hospitalizations for adults each year and accounts for \$1.3 billion in direct medical costs (65% of direct costs for all adult pneumococcal disease treatment).
- Drug-resistant *S. pneumoniae* is one of the only germs listed in this report with an effective vaccine to prevent infections, called pneumococcal conjugate vaccine (PCV).



U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention

INFECTIONS OVER TIME BY AGE

Rates of antibiotic-resistant invasive pneumococcal infections have decreased across age groups in the United States from 2005 to 2017.



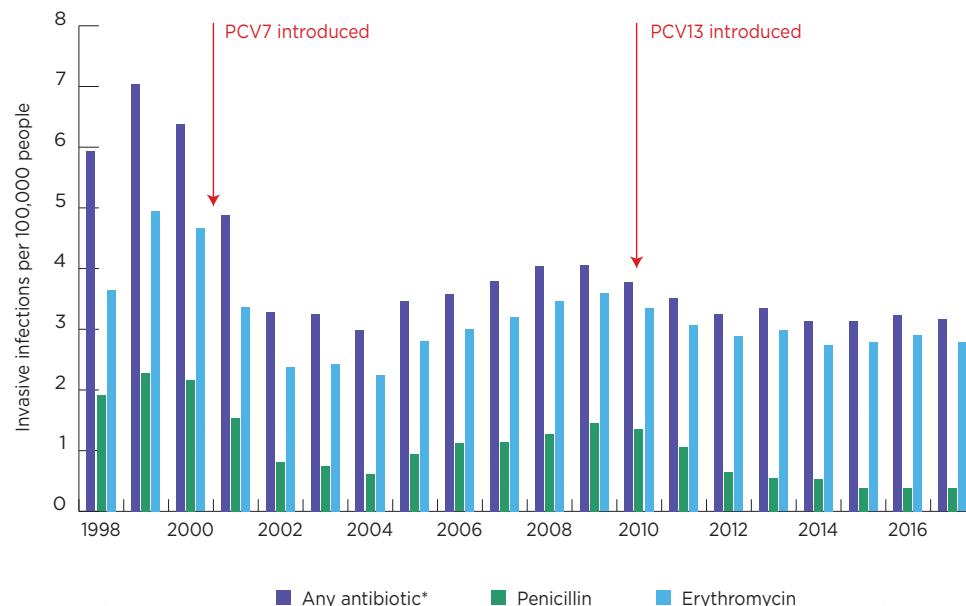
VACCINE: AN EFFECTIVE TOOL

Pneumococcal conjugate vaccine (PCV) helps prevent infections and slow the development of pneumococcal resistance. PCV has reduced pneumococcal infections caused by vaccine strains, most of which were resistant, by more than 90% in children. It has also decreased the spread of resistant *S. pneumoniae* strains, because vaccinated people do not spread the bacteria. Blocking the spread reduces resistant infections among children, as well as adults, through vaccine indirect effects (or “herd immunity”). From 2000 to 2009, PCV7 provided protection against seven pneumococcal strains. These strains caused more than 83% of the antibiotic-resistant invasive infections in children prior to PCV7 introduction. Beginning in 2010, use of PCV13 expanded that protection to 13 strains, one of which—serotype 19A—accounted for more than 30% of resistant infections prior to PCV13 introduction. Since PCV introduction among U.S. children in 2000, the rates of antibiotic-resistant invasive pneumococcal infections caused by vaccine strains decreased by 97% among children younger than 5 years old and by more than 60% among adults. Achieving high vaccination coverage and encouraging appropriate antibiotic use will slow the spread of pneumococcal resistance.



INFECTIONS OVER TIME BY ANTIBIOTIC

Antibiotic-resistant invasive pneumococcal infections have decreased in the United States since PCVs were introduced.



*Any antibiotic includes germs not susceptible (not sensitive) to at least one of the following antibiotics: penicillin, amoxicillin, erythromycin, cefotaxime, ceftriaxone, cefuroxime, tetracycline, vancomycin, or levofloxacin.

ONLINE RESOURCES

About Drug-resistant Pneumococcal Disease

www.cdc.gov/Pneumococcal/Drug-Resistance.html

Bact Facts Interactive: Data from Active Bacterial Core Surveillance

wwwn.cdc.gov/BactFacts/Index.html