BACKGROUND ABOUT PNEUMOCOCCAL DISEASE

Streptococcus pneumoniae are bacteria that are frequently found in the upper respiratory tract of healthy children and adults. These bacteria, however, can also cause a range of infections – from relatively mild ear infections to fatal pneumonia, meningitis, and sepsis. Serious pneumococcal infections can occur throughout life, but children under two years old and the elderly are at highest risk.

Serious pneumococcal infections are a major global health problem. The World Health Organization estimates that more than 1.6 million people – including up to one million children under five – die every year from pneumococcal infections. Nearly all of these deaths occur in the world's poorest countries. Pneumococcal meningitis is the most severe form of pneumococcal disease and one of the most fatal childhood illnesses. In developing countries it kills or disables over 40% of the children who get it.

The primary causes of death from pneumococcus are pneumonia, in which fluid fills the lungs, hindering oxygen from reaching the bloodstream; meningitis, an infection of the fluid surrounding the spinal cord and brain; and sepsis, an overwhelming infection of the bloodstream by toxin-producing bacteria.

DIAGNOSIS
Pneumonia can be diagnosed in a number of different ways. A chest X-ray is the most specific way to diagnose pneumonia. Healthcare providers can also diagnose many cases by using a stethoscope and/or observing a child's respiratory rate and breathing patterns.

ANTIBIOTIC RESISTANCE, HIV WORSEN THREAT
Pneumococcal infections are becoming more difficult to treat as bacteria become resistant to some of the most commonly used antibiotics. Antibiotic resistance has economic, as well as clinical consequences. Overuse of antibiotics leads to increased resistance and threatens the effectiveness of existing therapy, which in turn increases the cost of treatment by requiring the use of more expensive antibiotics.

Data from a recently published study suggest that the problem of pneumococcal disease will increase in the wake of increasing HIV infection. Data from a South African study show that children with HIV/AIDS are 20 to 40 times more likely to get pneumococcal disease than children without HIV/AIDS.

SAVING LIVES WITH VACCINES
New, lifesaving pneumococcal vaccines are safe and highly effective in preventing pneumococcal disease. Since 2000, when U.S. infants began receiving routine vaccination against pneumococcal disease, the country has nearly eliminated childhood pneumococcal disease caused by vaccine serotypes. In addition, vaccination of infants has reduced the spread of pneumococcal bacteria so that adults have less contact with pneumococci and are thus indirectly protected from pneumococcal disease.