

## PREVENTION

Even with protection and treatment interventions in place, all children will benefit from prevention strategies including vaccination. The risk of serious pneumococcal disease remains high throughout the first 24 months of life. Pneumococcal disease is associated with high mortality, especially when timely antibiotic treatment is not available. While improvement of living conditions (i.e., reduced crowding and indoor air pollution) and nutrition can reduce the risk of pneumococcal disease and death, they are not as effective as vaccines in preventing pneumococcal disease.

Vaccination can reduce childhood deaths from pneumonia in two ways: First, vaccination against *Streptococcus pneumoniae* and *Haemophilus influenzae* type b (Hib) protects children from developing these two infections which directly cause pneumonia. Secondly, vaccination against measles and pertussis prevents infections that can lead to pneumonia as a complication. Therefore, four vaccines have the potential to significantly reduce child deaths from pneumonia: pneumococcal conjugate, Hib, measles, and pertussis.

# CHILD SURVIVAL CALLS FOR INTEGRATED, EVIDENCE-BASED CHILD HEALTH INTERVENTIONS

**For more information, please consult  
or visit your nearest health worker or  
health facility.**



## KEY FACTS ABOUT PNEUMOCOCCAL DISEASE

## DEFINITION OF PNEUMOCOCCAL DISEASE

Pneumococcal disease is the name given to a group of diseases caused by a bacterium called *Streptococcus pneumoniae*, (also known as pneumococcus). Diseases caused by the pneumococcus include:

- i. Severe diseases such as pneumonia, meningitis, and bacteraemia (presence of bacteria in the blood) and;
- ii. Milder diseases such as middle ear infection (otitis media), sinusitis and bronchitis.

## MODE OF TRANSMISSION



*Pneumococcus is transmitted by direct contact with respiratory secretions from patients and healthy carriers, who may carry pneumococcus in their nose or throat.*

## PNEUMONIA

Pneumonia is a deadly disease, especially for children in developing countries. Pneumonia kills more than 1.5 million children under 5 years old every year. In fact, **pneumonia and diarrhoea** are the two leading causes of deaths in children under 5 years old worldwide. An estimated 98% of children who die of pneumonia live in developing countries. Pneumonia causes needless suffering and stress. It is an unnecessary economic burden for families and communities, contributing to the cycle of poverty.

## GROUPS AT RISK

Children under 5 years of age and especially those under two years of age are most at risk of developing and dying from pneumococcal disease. Case fatality rates may be up to 20% for pneumonia, and as high as 50% for meningitis. Other risk factors include HIV infection, sickle cell disease, chronic kidney disease, and for infants, lack of breastfeeding and indoor smoke exposure.

## TREATMENT FOR PNEUMOCOCCAL DISEASE

Pneumococcal disease, being bacterial, can be treated with antibiotics. There are other health interventions that will significantly contribute to protecting children from developing pneumonia of any kind, including:

- i. Adequate nutrition
- ii. Exclusive breastfeeding
- iii. Zinc supplementation

These are described more fully below.

### I. ADEQUATE NUTRITION

Malnutrition may place children at an increased risk of developing pneumonia in two ways. First, malnutrition weakens a child's overall immune system, as an adequate amount of protein and energy is needed for proper immune system functioning. Secondly, malnourished children have weakened respiratory muscles, which inhibit them from adequately clearing secretions found in their respiratory tracts.

### II. EXCLUSIVE BREASTFEEDING

It is widely recognized that children who are exclusively breastfed develop fewer infections and have less severe illnesses than those who are not. Breast milk contains the nutrients and antibodies needed by the child to survive and develop. It also helps proper functioning of a child's immune system. Infants under six months old who are not breastfed are at five times the risk of dying from pneumonia as infants who are exclusively breastfed for the first six months of life. Furthermore, infants 6-11 months old who are not breastfed are also at an increased risk of dying from pneumonia compared to those who are breastfed.

### III. ZINC SUPPLEMENTATION

Children who lack sufficient amounts of specific micronutrients, particularly zinc, face additional risks of developing and dying from pneumonia. Zinc intake helps reduce the incidence of pneumonia and the severity of the disease.