



Key Messages for World Pneumonia Day

Pneumonia: The Disease

What is pneumonia?

- Pneumonia is an infection of the lungs, filling them with fluid.
- It causes cough and fever and can make breathing difficult.
- Severe pneumonia can be deadly.

Who is most at risk?

- In developing countries, children under 5 and especially under 2 years of age are at risk, especially in the poorest communities.¹
- The elderly are also at risk.
- Tobacco smoke and other indoor air pollution can also increase chances of being more susceptible to pneumonia.^{2,3}
- Some children and adults are at greater risk because they have other illnesses, such as HIV/AIDS.^{4, 5} People with HIV stand a much greater chance of dying from pneumonia than those who do not have HIV.⁶
- Children who are poorly nourished can also have weakened immune systems, putting them at higher risk of contracting pneumonia.⁷

What causes pneumonia?

- Many organisms can cause pneumonia.
- Globally, bacteria such as Hib and pneumococcus are estimated to cause more than 50% of pneumonia deaths in children under 5 years of age.⁸
- Viruses and fungi can also cause pneumonia infections.⁹

¹ UNICEF/WHO. Pneumonia the Forgotten Killer of Children. Geneva: 2006.

² U.S. Department of Health and Human Services. The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Coordinating Center for Health Promotion, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2006.
<http://www.surgeongeneral.gov/library/secondhandsmoke/report/index.html>. Accessed September 7, 2009.

³ Smith KR, Sarnet JM, Romieu I, Bruce N. Indoor air pollution in developing countries and acute lower respiratory infections in children. *Thorax*. 2000;55:518-32.

⁴ SA Madhi, L Kuwanda, C Cutland and KP Klugman, The impact of a 9-valent pneumococcal conjugate vaccine on the public health burden of pneumonia in HIV-infected and -uninfected children, *Clin Infect Dis*.2005; 40:1511–1518.

⁵ Feldman C. Pneumonia associated with HIV infection. *Curr Opin Infect Dis*. 2005;18(2):165-70

⁶ SA Madhi, K Petersen, A Madhi, A Wasas and KP Klugman, Impact of human immunodeficiency virus type 1 on the disease spectrum of *Streptococcus pneumoniae* in South African children, *Pediatr Infect Dis J*. 2000;19:1131-1147.

⁷ Fishman SM, Caulfield LE, de Onis M, Blossner M, Hyder AA, Mullany L, et al. Childhood and maternal underweight. In: Ezzati M, Lopez AD, Rodgers A, Murray CJL, eds. *Comparative quantification of health risks: global and regional burden of disease attributable to selected major risk factors*. Geneva: WHO; 2004.

⁸ In settings where these vaccines are not used. O'Brien K, Wolfson L, Watt J, et al.. Burden of Disease caused by *Streptococcus pneumoniae* in children younger than 5 years: global estimates. *Lancet*. 2009; 374:893-902.



How is pneumonia diagnosed?

- In resource-poor settings, pneumonia can be diagnosed by the symptoms it causes, including cough, fever and difficulty or fast breathing.¹⁰
- Chest X-rays and laboratory tests can also diagnose pneumonia, but these tools are often unavailable in developing countries, especially in remote rural communities, making it more difficult to diagnose and treat pneumonia.

How is pneumonia prevented and treated?

- Some pneumonia can often be prevented with vaccines against Hib and pneumococcus.¹¹
- Measles and pertussis (whooping cough) infections can result in pneumonia complications, so vaccinating against these childhood diseases can prevent some pneumonia cases.¹²
- Inexpensive antibiotics can effectively treat pneumonia at the community level.¹³

Now is the time to take action to deliver these life-saving solutions to all children and give children a chance for a better life.

⁹ Mandell Lionel A, Wunderink Richard. Pneumonia. In: Fauci AS, Braunwald E, Kasper DL, Hauser SL, Longo DL, Jameson JL, Loscalzo J. *Harrison's Principles of Internal Medicine* (17th ed.) New York: McGraw-Hill, 2008. <http://www.accessmedicine.com>. Accessed September 7, 2009.

¹⁰ World Health Organization and UNICEF. *Integrated Management of Childhood Illness Handbook*. Geneva: World Health Organization; 2005.

¹¹ Mahdi SA, Levine OS, Hajjeh R, Mansoor OD, Cherian T. Vaccines to prevent pneumonia and improve child survival. *Bull World Health Organ*. 2008;86:365-72.

¹² Mahdi SA, Levine OS, Hajjeh R, Mansoor OD, Cherian T. Vaccines to prevent pneumonia and improve child survival. *Bull World Health Organ*. 2008;86:365-72.

¹³ Sazawal S, Black RE, Pneumonia Case Management Trials Group. Effect of pneumonia case management on mortality in neonates, infants, and pre-school children: a meta-analysis of community based trials. *Lancet Infect Dis*. 2003;3:547-56.