

## Preventing pneumonia from occurring

### Pneumococcal and Hib vaccines

- Vaccines are a safe and effective tool for preventing pneumonia before children get sick.<sup>1</sup>
- In the absence of vaccines, Hib (*Haemophilus influenzae* type b) and pneumococcal bacteria are estimated to cause more than 50% of life-threatening pneumonia in children under five.<sup>2</sup>
- Pneumococcal conjugate vaccines are used throughout most of the developed world to protect children from pneumococcal pneumonia while children in the poorest countries – who bear the greatest burden of disease – do not yet have access to these vaccines.
- Hib is another common cause of serious pneumonia. Used routinely for nearly 20 years in developed countries, Hib vaccine is being used today in more countries than ever before to prevent pneumonia caused by this deadly bacterium.
- Within two years, 98% of children in low-income countries could have access to Hib vaccine in their country's routine immunization program.<sup>3</sup> Yet, the percent of children actually receiving vaccine is still low in many places, particularly in hard-to-reach rural areas.
- Through the focused efforts of countries, partners, suppliers and donors, and thanks to innovative financing mechanisms like the Advance Market Commitment, children in the poorest countries will soon have access to the newest generation of pneumococcal vaccines
- Urgent action is needed to deliver life-saving Hib and pneumococcal vaccines to all children. Every year of delay is hundreds of thousands of lives lost.

### Measles and pertussis vaccines

- Some diseases, like measles and pertussis (whooping cough), can lead to pneumonia as a complication.<sup>4</sup>
- Safe and effective vaccines against measles and pertussis are used throughout most of the world.<sup>5</sup>
- Improving immunization coverage within developing countries should be an imperative to ensure that each and every child receives these vaccines.

### Preventing HIV and other diseases in children can help reduce risk of pneumonia

- HIV weakens children's immune systems and puts them at much greater risk for pneumonia compared to HIV-negative children.<sup>6</sup>
- We can prevent HIV from being passed from mother to child with appropriate medications and counseling.

### Preventive antibiotic therapy for people with HIV

- Cotrimoxazole is an antibiotic that can help prevent pneumonia in people with HIV.



- All HIV-positive children, as well as children born to mothers with HIV, should receive cotrimoxazole.<sup>7</sup>

### **Zinc supplementation**

- Zinc is an important micronutrient that has been found to prevent child pneumonia and reduce the risk of death from pneumonia.
- Undernourished children may need inexpensive zinc supplements to make up for lack of zinc in their diets.
- Zinc supplementation can reduce that rate of pneumonia in children by 14 to 25%.<sup>8</sup>

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<sup>1</sup> 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.

<sup>2</sup> 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.

<sup>3</sup> Hib Initiative. [www.HibAction.org](http://www.HibAction.org). Accessed September 3, 2009.

<sup>4</sup> 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.

<sup>5</sup> UNICEF. State of the world's children. 2009. New York: UNICEF; 2008. <http://www.unicef.org/sowc09/docs/SOWC09-FullReport-EN.pdf>. Accessed September 7, 2009.

<sup>6</sup> Madhi SA, Kuwanda L, Cutland C, Klugman KP. 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.

<sup>7</sup> World Health Organization. WHO expert consultation on cotrimoxazole prophylaxis in HIV infection. Geneva: World Health Organization; 2005. <http://www.who.int/hiv/pub/meetingreports/ctxprophylaxismeeting.pdf>. Accessed September 8, 2009.

<sup>8</sup> Niessen LW, Hove ten AC, Hilderink HH, Weber M, Mulholland K, Ezzati M. Comparative impact assessment of child pneumonia interventions. *Bull World Health Organ.* 2009; 87(6):472-8.