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New WHO Data Underscores Global Threat of the World's Leading Child Killer

*Prevention and treatment of pneumonia are critical to reducing child mortality,
reaching Millennium Development Goal 4*

WASHINGTON, DC – New World Health Organization data to be published in this week's edition of *The Lancet* will shed new light on two leading causes of pneumonia, the world's leading killer of children under age 5, both globally and within specific countries. The results, which are the first ever available at the country level, are expected to serve as a clarion call to developing country governments to invest in pneumonia prevention programs.

According to the studies, *Streptococcus pneumoniae* and *Haemophilus influenzae* type b [Hib] infections take the lives of an estimated 1.2 million children under age 5 each year. Safe and effective vaccines exist to provide protection against both diseases. However, use of Hib vaccine has only recently expanded to low-income countries and pneumococcal vaccine is not yet included in national immunization programs in the developing world, where children bear the highest risk for pneumonia and where most pneumonia-related child deaths occur.

***Streptococcus pneumoniae* (Pneumococcal Disease)**

Data from the study show that in 2000, there were an estimated 14.5 million cases of pneumococcal disease worldwide, and 826,000 children under 5 years of age died of the disease. Of the 14.5 million pneumococcal cases, 95% were attributable to pneumonia. While the majority of pneumococcal cases (51%) were found in Asia due to the high population, an estimated 54% of pneumococcal deaths occurred in Africa, where the lack of vaccines, a high prevalence of HIV infection and lack of access to medical care contributed to the death toll.

"Our findings underscore the urgent need for prevention efforts throughout the developing world," said Kate O'Brien, primary author of the pneumococcal study and Associate Professor of International Health at the Johns Hopkins Bloomberg School of Public Health. "The need for vaccination and improved treatment is particularly urgent in Africa and Asia, which together account for 95% of all pneumococcal deaths."

The ten countries with the greatest number and greatest proportion of global pneumococcal cases were in Asia and Africa, and taken together account for 66% of cases worldwide. These countries include India (27%), China (12%), Nigeria (5%), Pakistan (5%), Bangladesh (4%), Indonesia (3%), Ethiopia (3%), Democratic Republic of the Congo (3%), Kenya (2%) and the Philippines (2%).

"In areas of the world where access to quality care is limited, the use of pneumococcal vaccine is particularly necessary to limit disease and save lives," said Thomas Cherian, Coordinator of the WHO Expanded Programme on Immunization. "Implementing pneumococcal vaccine is critical if developing countries are to achieve United Nations Millennium Development Goal 4 for child mortality reduction."

In 2000, only the USA had initiated routine use of pneumococcal vaccine. By August 2008, this expanded to include 24 high and two upper-middle income countries but did not include any from Africa or Asia, the regions with the highest numbers of pneumococcal deaths and cases. According to the study, these 26 countries accounted for less than 0.2% of global childhood pneumococcal deaths in 2000 and the children in these countries, on average, had a 40-fold lower risk of pneumococcal death than the children in countries not yet using the vaccine.

Through the GAVI Alliance (www.gavialliance.com), low income countries can access existing and future pneumococcal vaccines with only a small self-financed contribution of as little as US \$0.15 per dose. By February 2009, 11 countries had received GAVI Alliance approval for support to introduce pneumococcal conjugate vaccine (PCV), including 8 in Africa and Asia. Two of these, Rwanda and the Gambia, have now initiated the use of PCV in their routine infant immunization schedules.

"If fully rolled out in GAVI-eligible countries, the pneumococcal vaccine could save the lives of more than 440,000 children by 2015," said Dr. Julian Lob-Levyt, CEO of the GAVI Alliance. "We encourage all developing countries to apply for this support as an important first step to saving children's lives."

Haemophilus influenzae type b (Hib)

Findings from the Hib study indicate that in 2000, Hib caused approximately 8.1 million serious illnesses worldwide and caused 371,000 child deaths. As with pneumococcal disease, the greatest burden of Hib disease lies in Asia and Africa. The ten countries with the highest estimated number of Hib deaths in 2000 include India (72,000), Nigeria (34,000), Ethiopia (24,000), Democratic Republic of the Congo (22,000), China (19,000), Afghanistan (14,000), Pakistan (13,000), Bangladesh (12,000), Angola (9,000) and Niger (8,000).

"The burden of Hib disease is substantial and almost entirely vaccine preventable," said James Watt, Associate in International Health at the Johns Hopkins Bloomberg School of Public Health. "Expanded use of Hib vaccine could reduce the global burden of childhood pneumonia and meningitis and reduce child mortality."

Highly effective and safe protein-polysaccharide conjugate Hib vaccines have been available for almost 20 years. These vaccines have virtually eliminated serious Hib disease in the developed and developing countries in which they are in routine use. Widespread use of Hib vaccines was found to have a significant impact on the burden of Hib disease in the United States and Europe. The study indicates that among children born in 2000, approximately 338,000 Hib cases and 12,500 Hib deaths were averted by Hib vaccination.

The World Health Organization and the GAVI Alliance, which is supporting the Hib Initiative, have been working to expand supplies of Hib vaccine, reduce vaccine cost and assist countries with vaccine introduction. There is substantial regional variability in vaccine use, and the study suggests that expanded use of Hib vaccines could have considerable benefit in reducing child mortality worldwide.

"Prevention of pneumococcal and Hib cases and deaths is imminently achievable, but countries must demonstrate the political will to prioritize prevention," said Orin Levine, Executive Director of PneumoADIP at the Johns Hopkins Bloomberg School of Public Health. "Together with financial assistance now available through the GAVI Alliance, these findings give countries the information they need and should now provide a mandate for local and regional policymakers to prioritize investment in pneumonia prevention."

"These estimates provide the missing link for country policy makers seeking justification for investments in lifesaving vaccines," said Anne Schuchat, Director of the National Center for Immunization and Respiratory Diseases at the U.S. Centers for Disease Control and Prevention.

Both studies were funded by the World Health Organization, GAVI Alliance and the Vaccine Fund, undertaken through a collaboration between scientists at the Johns Hopkins Bloomberg School of Public Health, the London School of Hygiene and Tropical Medicine and the World Health Organization, Geneva, and will be published in the *Lancet* (www.thelancet.com) on September 12. For more information and country-specific estimates, visit http://www.who.int/immunization_monitoring/burden/en/.

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