Editorials

Childhood pneumonia – preventing the world's biggest killer of children

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The past decade has seen a significant increase in the amount of funds available for international health activities. This is due largely to the generosity of private foundations, particularly the Bill & Melinda Gates Foundation, and some bilateral donors. Although this increase in support has already made a significant impact on the health of peoples in developing countries, the allocation of funds for disease-specific activities has become unbalanced, with some areas receiving generous support and others almost none. The most dramatic example of this is shown by the resources made available to fight AIDS, tuberculosis and malaria - the so-called "big three" - and those devoted to the two main killers of children, pneumonia and diarrhoeal disease.

Pneumonia, the world's most important cause of child death,¹ has attracted remarkably little attention over the past decade. There has been very little research on the disease, apart from trials of pneumococcal and Haemophilus influenzae type b (Hib) vaccines, which included evaluations of the impact on these vaccines on pneumonia,²⁻⁵ and some studies on the case management of pneumonia.⁶⁻⁹ Country-level efforts to prevent pneumonia mortality have been limited to case management, particularly the Integrated Management of Childhood Illness (IMCI) strategy, which incorporates standardized case management of suspected pneumonia cases.¹⁰ A recent analysis of donor spending on maternal and child health in developing countries showed that barely 1% was allocated to IMCI.11 In contrast, new pneumococcal conjugate vaccines, whose life-saving potential is probably similar to that of IMCI, have

attracted a great deal of attention, with large sums of money being allocated to support early use of these vaccines by the GAVI Alliance and through innovative funding mechanisms such as the Advanced Market Commitment (AMC) and the International Finance Facility for Immunization (IFFIm).

In 2006, there was a substantial increase in international awareness about pneumonia, helped by the publication of a report by the United Nations Children's Fund (UNICEF) and WHO.¹² There are promising signs that this awareness will lead to increased funding for both control programmes and research activities. When new funds become available in a particular field, it is not uncommon to see special interest groups competing for them, claiming that their strategy or product is superior to others and should therefore receive most of the new resources.

However, there are encouraging signs that this will not happen with childhood pneumonia. In March 2007, WHO and UNICEF convened a meeting in Geneva to establish a Global Action Plan for Pneumonia (GAPP). The meeting was attended by experts in the four areas that offer the best prospects for pneumonia control - case management (IMCI), vaccination (Hib and pneumococcal), environmental health (reduced indoor air pollution) and nutrition. The group unanimously concluded that attention to all of these areas will be needed to control the global problem of childhood pneumonia, and urged that the global response to pneumonia mortality be balanced and equitable. As an initial step, group members will prepare a series of review papers summarizing the evidence that

specific interventions will lead to reductions in pneumonia incidence and/or pneumonia mortality. These papers will be accompanied by analyses of the comparative or additive impact of these interventions in different settings and an analysis of their potential to reduce inequity in child health and mortality. In Spring 2008, the *Bulletin* will publish shortened versions of some of these papers in a theme issue on childhood pneumonia prevention and control.

To complement these commissioned papers, the *Bulletin* welcomes submissions of papers on childhood pneumonia for this theme issue. We are particularly interested in Research, Lessons from the field or Perspectives dealing with epidemiology of pneumonia, improved methods for the diagnosis of pneumonia, etiology of pneumonia, the impact on pneumonia mortality of case management, vaccines, and environmental and nutritional interventions.

Manuscripts should be submitted to http://submit.bwho.org by 1 October 2007, respecting the Guidelines for Contributors and accompanied by a cover letter mentioning this call for papers.

References

- Bryce J, Boschi-Pinto C, Shibuya K, Black RE. WHO estimates of the causes of death in children. *Lancet* 2005;365:1147-52.
- Cutts FT, Zaman SMA, Enwere G, Jaffar S, Levine OS, Okoko JB, et al. Efficacy of ninevalent pneumococcal conjugate vaccine against pneumonia and invasive pneumococcal disease in the Gambia: randomised, double-blind, placebo-controlled trial. *Lancet* 2005;365:1139-46.

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- Gessner BD, Sutanto A, Linehan M, Djelantik IGG, Fletcher T, Gerudug IK, et al. Incidences of vaccine-preventable *Haemophilus influenzae* type b pneumonia and meningitis in Indonesian children: hamlet-randomised vaccine-probe. *Lancet* 2005;365:43-52.
- Klugman KP, Madhi SA, Huebner RE, Kohberger R, Mbelle N, Pierce N. A trial of a 9-valent pneumococcal conjugate vaccine in children with and those without HIV infection. N Engl J Med 2003;349:1341-8.
- Mulholland K, Hilton S, Adegbola R, Usen S, Oparaugo A, Omosigho C, et al. Randomised trial of *Haemophilus influenzae* type-b tetanus protein conjugate vaccine for prevention of pneumonia and meningitis in Gambian infants. Lancet 1997;349:1191-7.
- Pakistan Multicentre Amoxicillin Short Course Therapy (MASCOT) Study Group. Clinical efficacy of 3 days versus 5 days of oral amoxicillin for treatment of childhood pneumonia: a multicentre double-blind trial. *Lancet* 2002;360:835-41.
- Addo-Yobo E, Chisaka N, Hassan M, Hibberd P, Lozano JM, Jeena P, et al. Oral amoxicillin versus injectable penicillin for severe pneumonia in children aged 3 to 59 months: a randomised multicentre equivalency study. *Lancet* 2004;364:1141-8.

- Agarwal G, Awasthi S, Kabra SK, Kaul A, Singhi S, Walter SD, et al. Three day versus five day treatment with amoxicillin for non-severe pneumonia in young children: a multicentre randomised controlled trial. *BMJ* 2004;328:791-4.
- Straus WL, Qazi SA, Kundi Z, Nomani NK, Schwartz B. Antimicrobial resistance and clinical effectiveness of co-trimoxazole versus amoxycillin for pneumonia among children in Pakistan: randomised controlled trial. *Lancet* 1998;352:270-4.
- IMCI chart booklet. Geneva: WHO, 1995. Available at: http://www.who. int/child-adolescent-health/New_Publications/IMCI/Chartbooklet.pdf
- 11. Powell-Jackson T, Borghi J, Mueller DH, Patouillard E, Mills A. Countdown to 2015: tracking donor assistance to maternal, newborn, and child health. *Lancet* 2006;368:1077-87.
- Pneumonia, the forgotten killer of children. Geneva: UNICEF/ WHO; 2006. Available at: http://whqlibdoc.who.int/publications/2006/9280640489_ eng.pdf