

**Vaccines: The Week in Review**  
**8 November 2010**  
**Center for Vaccine Ethics & Policy**

<http://centerforvaccineethicsandpolicy.wordpress.com/>

A program of

- Center for Bioethics, University of Pennsylvania  
<http://www.bioethics.upenn.edu/>
- The Wistar Institute Vaccine Center  
<http://www.wistar.org/vaccinecenter/default.html>
- Children's Hospital of Philadelphia, Vaccine Education Center  
<http://www.chop.edu/consumer/jsp/microsite/microsite.jsp>

*This weekly summary targets news and events in the global vaccines field gathered from key governmental, NGO and company announcements, key journals and events. This summary provides support for ongoing initiatives of the Center for Vaccine Ethics & Policy, and is not intended to be exhaustive in its coverage.*

*Vaccines: The Week in Review is now also posted in a blog format at <http://centerforvaccineethicsandpolicy.wordpress.com/>. Each item is treated as an individual post on the blog, allowing for more effective retrospective searching. Given email system conventions and formats, you may find this alternative more effective. This blog also allows for RSS feeds, etc.*

*Comments and suggestions should be directed to*

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**The WHO reported that "an acute outbreak of poliomyelitis is occurring in the Republic of Congo,** with 120 cases of acute flaccid paralysis and 58 deaths. Half the cases have been reported in the past ten days, with the first case occurring in early October. Two cases have been confirmed to have been caused by wild poliovirus type 1 and laboratory testing continues." The report notes that most cases are in young adults: among those cases for which age data is available (43) at this time, 33 are between the ages of 15-25 years. Only one is under five years old, three are between 7 and 13 and five are between 26 and 58.

WHO said the outbreak is due to imported poliovirus. Congo had recorded its last case of indigenous polio in 2000. Investigations are ongoing to determine definitively the origins of the virus. The Government of Congo has alerted the public to the outbreak and launched an emergency response plan, with support from key partners, including WHO, UNICEF and the US CDC. At least three nationwide vaccination campaigns are expected, using monovalent oral polio vaccine and targeting the entire population. The number, geographic extent and target age groups of further campaigns will be determined by the Government based on the evolving epidemiology. It is anticipated that a multi-country campaign will be required to cover bordering at-risk areas. New cases continue to be reported every day.

[http://www.who.int/csr/don/2010\\_11\\_04a/en/index.html](http://www.who.int/csr/don/2010_11_04a/en/index.html)

## **World Pneumonia Day --- November 12, 2010**

MMWR Weekly Announcement: November 5, 2010 / 59(43);1413

Pneumonia kills more children than any other illness; among approximately 9 million children aged <5 years who die each year worldwide, 1.6 million die from pneumonia (1). Through the Global Action Plan for Prevention and Control of Pneumonia, the World Health Organization and international partners recommend that the global health burden of pneumonia be reduced by 1) using vaccines against organisms that cause pneumonia, 2) providing appropriate care and treatment for persons who contract pneumonia, and 3) promoting preventive measures such as exclusive breastfeeding of infants during their first 6 months of life (2).

*Streptococcus pneumoniae* (pneumococcus) and *Haemophilus influenzae* type b (Hib) account for approximately 60% of pneumonia deaths worldwide of children aged 1 month--5 years in countries that do not use pneumococcal or Hib conjugate vaccines (3,4). In the United States, pneumococcal and Hib conjugate vaccines are recommended for infants and children aged <2 years as part of the routine infant immunization schedule and have reduced morbidity and mortality from pneumococcal disease by 76% and from Hib disease by >99% among children aged <5 years (5,6). In 2010, a 13-valent pneumococcal conjugate vaccine was licensed and recommended in the United States. Collaborative international efforts are expanding use of these vaccines in developing countries (7).

Respiratory viruses, such as respiratory syncytial virus (RSV), influenza, and measles, also are major causes of pneumonia globally. In 2005, an estimated 33.8 million episodes of RSV-associated acute lower respiratory infection occurred in children aged <5 years worldwide (8). Recent studies suggest that 6%--10% of childhood pneumonia is associated with influenza (9,10). Use of influenza and measles vaccines, antiviral medications, and supportive health care can reduce the burden of pneumonia caused by these viruses.

To raise awareness of the effects of pneumonia globally, the second annual World Pneumonia Day, November 12, 2010, is being promoted by a coalition of more than 100 major health, humanitarian relief, advocacy, faith-based, government, and other organizations; CDC and UNICEF are providing technical assistance. Events are scheduled at CDC and elsewhere in the United States and other countries. Additional information is available at <http://worldpneumoniaday.org>  
[http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5943a6.htm?s\\_cid=mm5943a6\\_w](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5943a6.htm?s_cid=mm5943a6_w)

The **Weekly Epidemiological Record (WER) for 5 November 2010**, vol. 85, 45 (pp 445--452) includes: Outbreaks following importations of wild poliovirus into countries of the WHO African, European and South-East Asian Regions: January 2009 -- September 2010

<http://www.who.int/entity/wer/2010/wer8545.pdf>

**The MMWR for November 5, 2010** / Vol. 59 / No. 43 includes:

- [Outbreaks Following Wild Poliovirus Importations --- Europe, Africa, and Asia, January 2009--September 2010](#)

- [Cholera Outbreak --- Haiti, October 2010](#)
- [Notes from the Field: Malaria Imported from West Africa by Flight Crews --- Florida and Pennsylvania, 2010](#)
- [Announcement: World Pneumonia Day --- November 12, 2010](#)  
<http://www.cdc.gov/mmwr/PDF/wk/mm5943.pdf>

## **Events/Conference Watch**

### **[Editor's Note]**

*Vaccines: The Week in Review* is now monitoring key events and conferences and will include summaries of key announcements and other content. **Event Watch is not intended to be exhaustive, but indicative of themes and issues the Center is actively tracking.** If you would like to suggest events and conferences for coverage, please write to David Curry at [david.r.curry@centerforvaccineethicsandpolicy.org](mailto:david.r.curry@centerforvaccineethicsandpolicy.org)

**Annual Conference: The American Public Health Association (APHA)** will convene more than 13,000 health experts for its 138th Annual Meeting & Exposition from 6-10 November 2010 in Denver, Colorado. This year's conference theme – Social Justice: A Public Health Imperative – “explores the link between social justice and public health and stresses the importance of expanding the dialogue to include social determinants of health equity in policy considerations.”  
More information at: [APHA website](#)

**Conference: Mobile Technologies Use for Public Health and Medical Information;** 8-10 November 2010: Walter E. Washington Convention Center, Washington, DC. “Approximately 5 billion mobile telephones are in use in the world, and use has become common even in remote villages of developing countries. Public health and medical researchers have become interested in the use of mobile telephones and other mobile technologies to improve access to medical care and pharmaceuticals, facilitate responses to public health emergencies, and conduct public health surveillance. The 2010 mHealth Summit, to be held November 8--10, will focus on how mobile technologies can be used to improve the health of persons in underserved communities worldwide....”  
Registration details and additional information are available at:  
<http://www.mhealthsummit.org/>

**Meeting: Strategic Advisory Group of Experts (SAGE)** Meeting, 9-11 November 2010, Geneva, Switzerland (Sponsor/Host: WHO) The meeting agenda is posted at:  
[http://www.who.int/entity/immunization/sage/DRAFT\\_AGENDA\\_Nov\\_SAGE\\_with\\_timing\\_s\\_1\\_Nov\\_2010.pdf](http://www.who.int/entity/immunization/sage/DRAFT_AGENDA_Nov_SAGE_with_timing_s_1_Nov_2010.pdf)

## ***Journal Watch***

[Editor's Note]

*Vaccines: The Week in Review* continues its weekly scanning of key journals to identify and cite articles, commentary and editorials, books reviews and other content supporting our focus on vaccine ethics and policy. ***Journal Watch* is not intended to be exhaustive, but indicative of themes and issues the Center is actively tracking.** We selectively provide full text of some editorial and comment articles that are specifically relevant to our work. Successful access to some of the links provided may require subscription or other access arrangement unique to the publisher. Our initial scan list includes the journals below. If you would like to suggest other titles, please write to David Curry at [david.r.curry@centerforvaccineethicsandpolicy.org](mailto:david.r.curry@centerforvaccineethicsandpolicy.org)

### **Clinical Infectious Diseases**

1 December 2010 Volume 51, Number 11

<http://www.journals.uchicago.edu/toc/cid/current>

[No relevant content]

### **Emerging Infectious Diseases**

Volume 16, Number 11–November 2010

<http://www.cdc.gov/ncidod/EID/index.htm>

[Reviewed earlier]

### **Human Vaccines**

Volume 6, Issue 11 November 2010

<http://www.landesbioscience.com/journals/vaccines/toc/volume/6/issue/10/>

#### ***Meeting Report***

#### **[The global pertussis initiative: Meeting report from the regional Latin America meeting, Costa Rica, 5-6 December, 2008](#)**

Rolando Ulloa-Gutierrez, Daniela Hozbor, Maria L. Avila-Aguero, Jaime Caro, Carl-Heinz Wirsing von König, Tina Tan and Stanley Plotkin

#### ***Abstract***

Pertussis remains endemic across the world, with an estimated 279,000 deaths in 2002, the majority in infants under 1 year of age. Worldwide epidemiologic data indicates increasing infection rates in older children and adults, which act as a source of infection to young infants. The Global Pertussis Initiative (GPI) is an expert scientific forum, which has published consensus recommendations for the monitoring, prevention, and treatment of the disease. This paper reports the proceedings of a regional meeting, held in Costa Rica in December 2008. The meeting gathered information on regional epidemiological, diagnostic capabilities and the ability to introduce GPI recommended vaccine strategies in Latin America. The capacity of Latin American countries to conduct vaccination programs is high and there is considerable government support. Whole-cell pertussis vaccines are used across Latin America, which appear to be quite effective. A 4-dose schedule is typically used (2, 4, 6, and 18 months), and a booster given at 4 to 6 years of age, with coverage often above 90%, but with regions of low coverage due to political and geographical difficulties. Adequate surveillance is lacking in many countries,

giving insufficient data to guide vaccination policy. Improvements are being made, with countries such as Costa Rica, Panama, and Argentina introducing polymerase chain reaction (PCR) diagnosis. Those countries that do not currently use a preschool booster should launch one. Implementing vaccination programs in adolescents and/or adults to reduce exposure to infants would be beneficial and possible in most countries, given their current infrastructure.

### ***Commentaries***

#### **Assessment of HPV vaccines: From the burden of disease to the Health Technology Assessment approach**

Giuseppe La Torre

#### **Why it is still important that countries know the burden of pneumococcal disease**

Rosa Prato, Silvio Tafuri, Francesca Fortunato and Domenico Martinelli

Pneumococcal diseases are a major public health problem worldwide. WHO estimates about 1.6 million of annual deaths, mostly in infants, elderly and immunocompromised individuals. Data on the burden of pneumococcal diseases are still limited but information on serotypes circulation and epidemiological pattern of diseases are essential to assess the impact of old and new vaccines. The 23-valent pneumococcal polysaccharide vaccine is recommended in the elderly in many industrialized countries. The 7-valent polysaccharide-protein conjugate vaccine is introduced into routine infant immunization programs of several countries; it is modifying the epidemiology of invasive pneumococcal diseases (IPD) in the population, including adults of all ages. The 10-valent pneumococcal conjugate vaccine is licensed for active immunization of infants and children from 6 weeks up to 2 years of age but it does not contain the emergent 19A serotype. The 13-valent pneumococcal conjugate vaccine is an evolution of the 7-valent and currently addresses the overall need for a broader serotypes coverage. Vaccine manufacturers must continue to further develop pneumococcal vaccines covering the majority of the circulating serotypes in all age groups. Vaccination appears to be the only public health action that could reduce the impact of IPD.

#### **Marking Nov 12, 2010 – World Pneumonia Day: Where are we, where are vaccines?**

Ron Dagan, Ciro A. de Quadros, Javier Garau, Keith P. Klugman, Najwa Khuri-Bulos, Orin Levine, Samba Sow and Yonghong Yang

Infectious diseases such as smallpox, pneumonia, rotavirus, malaria and measles have inflicted untold pain, suffering and death on the human population. The fingerprints of these deadly diseases can be found across the pages of history. The harrowing effects of pneumonia on the human body were described by Hippocrates as early as 460 B.C.;<sup>1</sup> smallpox scarring can be found on Egyptian mummies dating back more than 3,000 years ago;<sup>2</sup> and the Persian philosopher and physician Rhazes detailed the devastation of measles in the 10 century A.D.<sup>3</sup> Without the benefits of modern medical interventions, our ancestors had little to no defense against infectious disease, and mortality rates were staggering. In 1531, for example, measles was responsible for the death of half the population of Honduras.<sup>4</sup> Furthermore, some historical estimates indicate case fatality rates as high as 90 percent during smallpox epidemics among Native American populations in the early part of the 15th century.<sup>5</sup>

Yet as science advanced, humanity developed defenses against infectious disease in the form of lifesaving interventions, including vaccines, medical products (e.g., bed nets), therapeutics, and behavioral interventions.<sup>6</sup> Across the developed world, these

interventions quickly turned the tide against infectious disease. In the United States, infectious disease mortality declined 95 percent during the first 8 decades of the 20th century, from 797 deaths per 100,000 in 1900 to 36 deaths per 100,000 in 1980.<sup>7</sup> The success of vaccination programs in the United States and Europe ushered in the 20th-century the concept of "disease eradication"—the idea that a specific disease could be eliminated from the planet. In 1977, after a decade-long campaign involving 33 nations, smallpox was eradicated worldwide—approximately ten years after it had been eradicated from the United States and the rest of the Western Hemisphere.<sup>8</sup> But for millions living in the world's poor and developing countries, it is as if these live-saving interventions were never developed.

The World Bank defines developing countries as those making less than US \$11,905 gross national income per capita per year. People living in developing countries make up more than 80 percent of the world's population.<sup>9</sup> A child born in a developing country faces many of the same risks her ancestors did 1,000 years ago. She is 237 times more likely to die of Hib disease than a child born to parents living in a high-income country.<sup>10</sup> She's also 118 times more likely to die from rotavirus diarrhea,<sup>11</sup> 89 times more likely to die from pneumococcal disease,<sup>10</sup> 57 times more likely to die from HIV/AIDS,<sup>12</sup> and 29 times more likely to die from tuberculosis.<sup>12</sup> For such children, life-saving medical interventions are few and far between. That is why child mortality rates in the developing world remain as high as 60 times those in developed countries,<sup>13</sup> and life expectancies are shorter by almost a quarter century.<sup>14</sup>

## **JAMA**

Vol. 304 No. 17, pp. 1869-1972, November 3, 2010

<http://jama.ama-assn.org/current.dtl>

[No relevant content]

## **Journal of Infectious Diseases**

1 December 2010 Volume 202, Number 11

<http://www.journals.uchicago.edu/toc/jid/current>

### ***Editorial Commentaries***

**A Paradigm for the Control of Influenza** [free full-text]

Edward B. Lewin

## **The Lancet**

Nov 06, 2010 Volume 376 Number 9752 Pages 1513 - 1616

<http://www.thelancet.com/journals/lancet/issue/current>

### ***Comment***

**Malaria elimination: worthy, challenging, and just possible**

Pam Das, Richard Horton

*Preview*

"I have been astonished by colleagues who have suggested that smallpox eradication must have been easy...some with more grandiose dreams have argued that a whole new vista for public health has opened—the eradication of many diseases...At this time, I

don't believe we have either the technology or the commitment to pursue another eradication goal."D A Henderson, 20091

**Call to action: priorities for malaria elimination**

Richard GA Feachem, Allison A Phillips, Geoffrey A Targett, Robert W Snow  
*Preview*

The Lancet's four-part Series on malaria elimination summarises the remarkable progress achieved over the past 100 years and discusses the substantial technical, operational, and financial challenges that confront malaria-eliminating countries.1–4 The Series comes at a time when there are increased resources to combat malaria worldwide. A three-part strategy to achieve malaria eradication has been developed and is widely endorsed: aggressive control in high-burden regions; progressive elimination from endemic margins to shrink the malaria map; and research and development, to develop new tools and techniques.

**Series**

**Shrinking the malaria map: progress and prospects**

Richard GA Feachem, Allison A Phillips, Jimmie Hwang, Chris Cotter, Benjamin Wielgosz, Brian M Greenwood, Oliver Sabot, Mario Henry Rodriguez, Rabindra R Abeyasinghe, Tedros Adhanom Ghebreyesus, Robert W Snow

[Preview](#)

**Ranking of elimination feasibility between malaria-endemic countries**

Andrew J Tatem, David L Smith, Peter W Gething, Caroline W Kabaria, Robert W Snow, Simon I Hay

[Preview](#)

**Operational strategies to achieve and maintain malaria elimination**

Bruno Moonen, Justin M Cohen, Robert W Snow, Laurence Slutsker, Chris Drakeley, David L Smith, Rabindra R Abeyasinghe, Mario Henry Rodriguez, Rajendra Maharaj, Marcel Tanner, Geoffrey Targett

[Preview](#)

**Costs and financial feasibility of malaria elimination**

Oliver Sabot, Justin M Cohen, Michelle S Hsiang, James G Kahn, Suprotik Basu, Linhua Tang, Bin Zheng, Qi Gao, Linda Zou, Allison Tatarsky, Shahina Aboobakar, Jennifer Usas, Scott Barrett, Jessica L Cohen, Dean T Jamison, Richard GA Feachem

[Preview](#)

**The Lancet Infectious Disease**

Nov 2010 Volume 10 Number 11 Pages 737 - 812

<http://www.thelancet.com/journals/laninf/issue/current>

[Reviewed last week]

**Nature**

Volume 468 Number 7320 pp5-128 4 November 2010

[http://www.nature.com/nature/current\\_issue.html](http://www.nature.com/nature/current_issue.html)

[No relevant content]

**Nature Medicine**

November 2010, Volume 16 No 11

<http://www.nature.com/nm/index.html>

### **News**

#### **The new age of global health governance holds promise**

Tikki Pang, Nils Daulaire, Gerald Keusch, Rose Leke, Peter Piot, Srinath Reddy, Andrzej Rys & Nicole Szlezak

The recognition that many diseases present worldwide challenges has spurred nations and institutions to participate in the development of what is known as 'global health governance'. But this new form of governance will only succeed with strengthened country commitment, collaborations across disparate sectors and improved accountability.

### **New England Journal of Medicine**

November 4, 2010 Vol. 363 No. 19

<http://content.nejm.org/current.shtml>

### **Correspondence**

#### **Poliovirus Vaccine and Vaccine-Derived Polioviruses**

To the Editor:

The Perspective article by Modlin<sup>1</sup> and the articles on polio immunization by Mohammed et al.<sup>2</sup> and Jenkins et al.<sup>3</sup> (June 24 issue) reflect the dilemma of eradication: it cannot be accomplished without discontinuing the use of the oral vaccine that has brought us close to eradication. Oral poliovirus vaccine (OPV) strains inexorably revert to virulence. It has been obvious for years that inactivated poliovirus vaccine (IPV) prevents paralysis caused by the passage of poliovirus through the blood to the central nervous system. The article by Mohammed et al. shows that IPV also could be used economically. The article also shows that the serum antibody titer has an inverse effect on the intestinal excretion of poliovirus; this would have been even clearer had the investigators obtained samples later than 1 week after challenge. The authors advocate the development of an IPV based on Sabin strains, although it is likely to be more expensive because of the need for higher antigen content. Also, if the strains used to make IPV escape from the production facility, they would almost certainly revert to virulence. Another solution is to use combination vaccines containing diphtheria, tetanus, pertussis, hepatitis B, Haemophilus influenzae type b, and IPV components in developing countries.

Stanley A. Plotkin, M.D.

University of Pennsylvania, Philadelphia, PA

### **The Pediatric Infectious Disease Journal**

November 2010 - Volume 29 - Issue 11

<http://journals.lww.com/pidj/pages/currenttoc.aspx>

[Reviewed earlier]

### **Pediatrics**

November 2010 / VOLUME 126 / ISSUE 5

<http://pediatrics.aappublications.org/current.shtml>

### **Articles**



## **Association Between Medicaid Reimbursement and Child Influenza Vaccination Rates**

Byung-Kwang Yoo, MD, PhD<sup>a</sup>, Andrea Berry, MS<sup>a</sup>, Megumi Kasajima, BS<sup>a</sup>, Peter G. Szilagyi, MD, MPH<sup>b</sup>

<sup>a</sup>Departments of a Community and Preventive Medicine and  
<sup>b</sup>Pediatrics, School of Medicine and Dentistry, University of Rochester, Rochester, New York

**OBJECTIVE** We examined associations between influenza vaccination rates and Medicaid reimbursement rates for vaccine administration among poor children who were eligible for Medicaid (<100% of the federal poverty level in all states).

**METHODS** We analyzed 3 consecutive National Immunization Surveys (NISs) to assess influenza vaccination rates among nationally representative children 6 to 23 months of age during the 2005–2006 (unweighted N = 12 885), 2006–2007 (unweighted N = 9238), and 2007–2008 (unweighted N = 11 785) influenza seasons (weighted N = 3.3–4.0 million per season). We categorized children into 3 income levels (poor, near-poor, or nonpoor). We performed analyses with full influenza vaccination as the dependent variable and state Medicaid reimbursement rates (continuous covariate ranging from \$2 to \$17.86 per vaccination) and terms with income levels as key covariates.

**RESULTS** In total, 21.0%, 21.3%, and 28.9% of all US children and 11.7%, 11.6%, and 18.8% of poor children were fully vaccinated in the 2006, 2007, and 2008 NISs, respectively. Multivariate analyses of all 3 seasons found positive significant (all P < .05) associations between state-level Medicaid reimbursement and influenza vaccination rates among poor children. A \$10 increase, from \$8 per influenza vaccination (the US average) to \$18 (the highest state reimbursement), in the Medicaid reimbursement rate was associated with 6.0-, 9.2-, and 6.4-percentage point increases in full vaccination rates among poor children in the 2006, 2007, and 2008 NIS analyses, respectively.

**CONCLUSION** Medicaid reimbursement rates are strongly associated with influenza vaccination rates.

### **PLoS Medicine**

(Accessed 7 November 2010)

[http://medicine.plosjournals.org/perlserv/?request=browse&issn=1549-1676&method=pubdate&search\\_fulltext=1&order=online\\_date&row\\_start=1&limit=10&document\\_count=1533&ct=1&SESSID=aac96924d41874935d8e1c2a2501181c#results](http://medicine.plosjournals.org/perlserv/?request=browse&issn=1549-1676&method=pubdate&search_fulltext=1&order=online_date&row_start=1&limit=10&document_count=1533&ct=1&SESSID=aac96924d41874935d8e1c2a2501181c#results)

[No relevant content]

### **Science**

5 November 2010 Vol 330, Issue 6005, Pages 715-880

<http://www.sciencemag.org/current.dtl>

[No relevant content]

### **Science Translational Medicine**

3 November 2010 vol 2, issue 56

<http://stm.sciencemag.org/content/current>

[No relevant content]

**Vaccine**

Volume 28, Issue 47 (3 November 2010)

<http://www.sciencedirect.com/science/journal/0264410X>

[Reviewed earlier]