

## **Vaccines: The Week in Review**

**21 November 2011**

### **Center for Vaccine Ethics & Policy (CVEP)**

<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/service/vaccine-education-center/home.html>

*This weekly summary targets news and events in global vaccines ethics and policy gathered from key governmental, NGO and industry sources, key journals and other sources. This summary supports 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 pdf form and as a set of blog posts at <http://centerforvaccineethicsandpolicy.wordpress.com/>. This blog allows full-texting searching of some 2,000 content items.*

*Comments and suggestions should be directed to*

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**The Board of the Global Fund to Fight AIDS, Tuberculosis and Malaria announced adoption of a new strategy** "which commits the institution to work with implementing countries and partner organizations to sustain and accelerate gains in the fight against the pandemics. The Global Fund aspires to contribute substantially to international goals by saving 10 million lives and preventing 140-180 million new infections from AIDS, tuberculosis and malaria from 2012 to 2016." The Board also approved a Consolidated Transformation Plan for the organization "to improve its risk management, fiduciary controls and governance. The plan will refocus staff and resources on grant management in high-risk countries; reform the way the Global Fund approves grants by moving towards a more interactive process with applicants and partners and strengthen the Board's governance processes."

Global Fund Board Chair Simon Bland commented, "The five-year strategy and transformation plan adopted at the meeting together commit the Global Fund to shift to a new funding model that focuses on investing strategically in countries, populations and interventions with high potential for impact and strong value for money. It will provide its funding in a more proactive, flexible and predictable way. It will better manage risk and it will work more actively with countries and partners to facilitate grant implementation success. In doing so, I believe the Global Fund will shift from an institution that has successfully provided emergency funding to allow countries to cope

with the runaway pandemics, to become a sustainable, efficient funder of the global efforts to control them and eventually win the battle against AIDS, TB and malaria.”

The Global Fund said it has US\$4 billion held at its trustee account to ensure disbursements on all existing grants, and that, based on pledges from donors, the Fund has or expects to receive resources enabling the institution to sign grants for existing approved programs with a value of more than US\$10 billion for the period 2011 to 2013. However, the Global Fund noted that “a revised resource forecast presented to the Board showed that substantial budget challenges in some donor countries, compounded by low interest rates have significantly affected the resources available for new grant funding. **As a result, the Global Fund will only be able to finance essential services for on-going programs that come to their conclusion before 2014 by making savings in the existing grant portfolio. The Global Fund Board adopted such measures, including further limiting funding to some middle-income countries.**”

The Board “urgently requested donors to consider measures to increase and accelerate funding, and implementing country governments, especially those from middle-income countries, to increase funding for the three diseases and related health investments.” During this period, the Global Fund “will roll out a new way for countries to apply for funding which will reduce the amount of investments a country puts into developing a proposal and engages with partners and implementers.”

Recognizing that the substantial changes that lie ahead will necessitate considerable focus on internal management and administration, the Board decided to appoint a General Manager to work alongside the Executive Director. The General Manager and a potential support team will help to take the organization through its transformation phase over the next twelve months. The strategy, which is the result of more than a year’s discussions and consultations with more than 700 individuals, groups and organizations, will also strengthen the Global Fund’s focus on “most-at-risk” populations and striving to protect human rights through its funding of programs.

<http://www.theglobalfund.org/en/mediacenter/pressreleases/2011-11-23> The Global Fund adopts new strategy to save 10 million lives by 2016/

**Separately, the Global Fund said it warmly welcomed the announcement by Germany to release EUR 100 million as part of its contribution for 2011.**

Germany had previously released EUR 100 million in August 2011 and the latest payment fulfils its full pledge of EUR 200 million for the year. Professor Michel Kazatchkine, the Global Fund’s Executive Director, said, “Germany has been a strong supporter of the Global Fund and has taken a lead in the work to strengthen the Global Fund’s oversight of its grants. We appreciate the trust and confidence Germany has shown in our efforts to transform the Global Fund into a highly efficient channel for financing a sustainable, long-term response to the three diseases.” Germany is described as the fourth largest donor to the Global Fund, having pledged over EUR 1.5 billion since 2002. This includes EUR 600 million for the period 2011-13, in yearly installments of EUR 200 million each. Germany has conditioned next year’s contribution of EUR 200 million on the implementation of the Global Fund’s Consolidated Transformation Plan.

<http://www.theglobalfund.org/en/mediacenter/pressreleases/2011-11-23> Global Fund Welcomes Germany Contribution for 2011/

**GAVI CEO Seth Berkley presented his report on GAVI's achievements in 2011 and the challenges ahead** to the GAVI Board, 16-17 November 2011 in Dhaka, Bangladesh. The slides from the presentation are available here:

<http://www.gavialliance.org/about/governance/secretariat/seth-berkley/ceo-board-report-presentation-16-nov-2011-bangladesh/>

**Immunization of Health-Care Personnel: Recommendations of the Advisory Committee on Immunization Practices (ACIP)**

"This report updates the previously published summary of recommendations of the Advisory Committee on Immunization Practices (ACIP) and the Hospital Infection Control Practices Advisory Committee (HICPAC) for vaccinating health-care personnel (HCP) in the United States. This report summarizes all current ACIP recommendations for vaccination of HCP and does not contain any new recommendations or policies. The recommendations provided in this report apply, but are not limited, to HCP in acute-care hospitals; long-term-care facilities (e.g., nursing homes and skilled nursing facilities); physician's offices; rehabilitation centers; urgent care centers, and outpatient clinics as well as to persons who provide home health care and emergency medical services."

November 25, 2011 / Vol. 60 / No. RR-7

<http://www.cdc.gov/mmwr/pdf/rr/rr6007.pdf>

**UNICEF and Save the Children UK issued a report – Progress in Child Well-being: Building On What Works** – "showing that children's well-being has improved dramatically thanks to increased political will globally, supportive policies and well-focused programmes and resources, but that the gains will be sustained only if the most disadvantaged and vulnerable children are reached. The report "draws on a more in-depth study commissioned by UNICEF and Save the Children UK, and authored by the Overseas Development Institute." The report "points to a vastly improved child mortality rate. Compared to 1990, 12,000 fewer children under five die every day in 2010. Between 1990 and 2008, stunting due to malnutrition declined in developing countries from 40 per cent to 29 per cent. Impressive gains have also been seen in education. In the decade between 1999 and 2009, the number of children enrolled in pre-primary education jumped almost 40 per cent from 113 million to 157 million; 58 million additional children enrolled in primary school; and the number of primary-aged children out of school decreased by 39 million."

[http://www.unicef.org/media/media\\_60687.html](http://www.unicef.org/media/media_60687.html)

The **Weekly Epidemiological Record (WER) for 25 November 2011**, vol. 86, 48 (pp 541–556) includes: African Programme for Onchocerciasis Control: meeting of national task forces, September 2011; Progress introducing rotavirus vaccine into Latin America and the Caribbean, 2006–2010; Monthly report on dracunculiasis cases, January–September 2011

<http://www.who.int/entity/wer/2011/wer8648.pdf>

### ***Twitter Watch***

A selection of items of interest from a variety of twitter feeds associated with immunization, vaccines and global public health. This capture is highly selective and by no means intended to be exhaustive.

[GAVIAlliance](#) GAVI Alliance

With [#GAVI](#) support, [#Tanzania](#) plans to introduce the [#rotavirus](#) [#vaccine](#) by 2013-  
[ht.ly/7G8ER](http://ht.ly/7G8ER)

[Eurovaccine](#) ECDC Eurovaccine

EUROVACCINE 2011: web-based interactive conference on 5 December; register for the webcast [j.mp/slcgcv](http://j.mp/slcgcv)

[25 Nov](#)

[GAVIAlliance](#) GAVI Alliance

The much awaited pentavalent [#vaccine](#) has arrived in India. [@GAVIAlliance](#) is supplying the [#vaccine](#) to India for free- [ht.ly/7E7Zq](http://ht.ly/7E7Zq)

[24 Nov](#)

[globalfundnews](#) The Global Fund

Global Fund Welcomes Germany's Contribution for 2011

[theglobalfund.org/en/mediacenter...](http://theglobalfund.org/en/mediacenter...)

[24 Nov](#)

[Eurovaccine](#) ECDC Eurovaccine

Over 1000 new measles cases added since the previous reporting; total number of cases in 2011: 30200. [#EU](#), EEA, EFTA [bit.ly/u6g5RU](http://bit.ly/u6g5RU)

[24 Nov](#)

[cdchep](#) CDC Hepatitis

Just posted! [@CDCMMWR](#): ACIP recommendations for immunization of healthcare personnel [go.usa.gov/IhW](http://go.usa.gov/IhW) CE available! [#Hepatitis](#) [#HBV](#)

[23 Nov](#)

[globalfundnews](#) The Global Fund

The Global Fund adopts new strategy to save 10 million lives by 2016

[theglobalfund.org/en/mediacenter...](http://theglobalfund.org/en/mediacenter...)

[23 Nov](#)

[gatesfoundation](#) Gates Foundation

Top 10 Myths About [#HIV](#) Vaccine Research: [gates.ly/t7rr84](http://gates.ly/t7rr84) [#WorldAIDSDay](#)

[21 Nov](#)

## **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. If you would like to suggest other journal titles to include in this service, please contact David Curry at: [david.r.curry@centerforvaccineethicsandpolicy.org](mailto:david.r.curry@centerforvaccineethicsandpolicy.org)

## **Annals of Internal Medicine**

November 15, 2011; 155 (10)

<http://www.annals.org/content/current>

[Reviewed earlier; No relevant content]

## **British Medical Bulletin**

Volume 99 Issue 1 September 2011

<http://bmb.oxfordjournals.org/content/current>

[Reviewed earlier; No relevant content]

## **British Medical Journal**

26 November 2011 (Vol 343, Issue 7833)

<http://www.bmj.com/content/current>

### ***Views & Reviews***

#### ***Personal View***

#### **Transparent pricing of vaccines would help poor as well as rich countries**

BMJ 2011; 343 doi: 10.1136/bmj.d7414 (Published 23 November 2011)

Cite this as: BMJ 2011;343:bmj.d7414

Robert Hecht, managing director, Results for Development Institute, Washington, DC; Miloud Kaddar, group leader, Immunization, Vaccines, and Biologicals Department, World Health Organization, Geneva; Sarah Schmitt, consultant to the World Health Organization on vaccine price and procurement, Geneva

#### ***Extract***

The BMJ's editor, Fiona Godlee, recently challenged the UK government to publish the price it pays for vaccines, including the new vaccine Cervarix, which helps prevent cervical cancer (BMJ 2011;343:d6239, doi:10.1136/bmj.d6239). Price transparency is not just a matter for the United Kingdom, however: it is a point of vigorous debate and growing urgency in countries around the world.<sup>1</sup>

Until recently, only a handful of nations—notably the United States, through its large public sector vaccine programme for children, run by the Centers for Disease Control and Prevention—published the prices that they were paying for vaccines. Yet the questions of how much taxpayers' money is being spent on vaccines, and which

companies are winning the public tenders, is becoming ever more important as science and industry develop a new generation of life saving vaccines.

Beyond the traditional antigens for measles, tetanus, and polio, new vaccines that prevent childhood pneumonia and rotavirus diarrhoea are now in use, as well as cancer blocking vaccines for hepatitis B (liver cancer) and human papillomavirus (cervical cancer). Better vaccines for typhoid are just a few years away. A first vaccine against malaria is in advanced trials and showing promising results.<sup>2</sup>

These fruits of government and private sector investment will save millions of lives ...

### **Cost Effectiveness and Resource Allocation**

(accessed 27 November 2011)

<http://www.resource-allocation.com/>

[No new relevant content]

### **Emerging Infectious Diseases**

Volume 17, Number 11—November 2011

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

[Reviewed earlier]

### **Health Affairs**

November 2011; Volume 30, Issue 11

<http://content.healthaffairs.org/content/current>

***Theme: Linking Community Development & Health***

[Reviewed earlier; No relevant content]

### **Health Economics, Policy and Law**

Volume 6 - Issue 04 - 01 October 2011

<http://journals.cambridge.org/action/displayIssue?jid=HEP&tab=currentissue>

[Reviewed earlier]

### **Health Policy and Planning**

Volume 26 Issue 6 November 2011

<http://heapol.oxfordjournals.org/content/current>

[Reviewed earlier]

### **Human Vaccines**

Volume 7, Issue 11 November 2011

<http://www.landesbioscience.com/journals/vaccines/toc/volume/7/issue/11/>

***Special Focus: Neglected Vaccines - Developing World***

[Reviewed earlier]

**International Journal of Infectious Diseases**

Volume 15, Issue 11 pp. e731-e806 (November 2011)

<http://www.sciencedirect.com/science/journal/12019712>

[Reviewed earlier; No relevant content]

**JAMA**

November 16, 2011, Vol 306, No. 19, pp 2059-2175

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

[No relevant content]

**Journal of Infectious Diseases**

Volume 204 Issue 12 December 15, 2011

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

[No relevant content]

**The Lancet**

Nov 26, 2011 Volume 378 Number 9806 p1825 – 1894 e9 - 10

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

**Review****Making new vaccines affordable: a comparison of financing processes used to develop and deploy new meningococcal and pneumococcal conjugate vaccines**

James R Hargreaves, Brian Greenwood, Charles Clift, Akshay Goel, Anne Roemer-Mahler, Richard Smith, David L Heymann

**Summary**

Mechanisms to increase access to health products are varied and controversial. Two innovative mechanisms have been used to accelerate the development of low-price supply lines for conjugate vaccines. The Meningitis Vaccine Project is a so-called push mechanism that facilitated technology transfer to an Indian company to establish capacity to manufacture a vaccine. The Advanced Market Commitment for pneumococcal vaccines is a so-called pull mechanism that guarantees companies a supplement paid in addition to the purchase price for vaccines for a specific period. We compare these approaches, identifying key dimensions of each and considering their potential for replication. We also discuss issues that the Global Alliance for Vaccines and Immunisation (GAVI) face now that these new vaccines are available. Progress towards GAVI's strategic aims is needed and funding is crucial. Approaches that decrease the financial pressure on GAVI and greatly increase political and financial engagement by low-income countries should also be considered.

**The Lancet Infectious Disease**

Dec 2011 Volume 11 Number 12 p887 - 970

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

**Editorial****A spotlight on neglect**

### The Lancet Infectious Diseases

On Oct 14, 2010, WHO launched the report Working to Overcome the Global Impact of Neglected Tropical Diseases, which was accompanied by pledges from governments of some of the 149 countries affected by neglected tropical diseases and from pharmaceutical companies to commit themselves to prevention and control programmes. To maintain focus, WHO recently marked the first anniversary of the report with an update on the status of these 17 infectious diseases.

### Medical Decision Making (MDM)

November/December 2011; 31 (6)

<http://mdm.sagepub.com/content/current>

[No relevant content]

### Nature

Volume 479 Number 7374 pp445-562 24 November 2011

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

[No relevant content]

### Nature Medicine

November 2011, Volume 17 No 11

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

[No relevant content]

### New England Journal of Medicine

November 24, 2011 Vol. 365 No. 21

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

[No relevant content]

### The Pediatric Infectious Disease Journal

December 2011 - Volume 30 - Issue 12 pp: 1019-1051,e225-e247

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

[No relevant content]

### Pediatrics

November 2011, VOLUME 128 / ISSUE 5

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

[Reviewed earlier]

### Early Releases

#### Financial Impact to Providers Using Pediatric Combination Vaccines

Angela K. Shen, Elizabeth Sobczyk, Lone Simonsen, Farid Khan, Allahna Esber, and Margie C. Andreae



Pediatrics 2011; peds.2011-0025; Published online November 21, 2011  
(10.1542/peds.2011-0025)

### *Abstract*

**Objective:** To understand the financial impact to providers for using a combination vaccine (Pediarix [GlaxoSmithKline Biologicals, King of Prussia, PA]) versus its equivalent component vaccines for children aged 1 year or younger.

**Methods:** Using a subscription remittance billing service offered to private-practice office-based physicians, we analyzed charge and payment information submitted by providers to insurance payers from June 2007 through July 2009. We analyzed provider and payer characteristics, payer comments, and the ratio of vaccine product to immunization administration (IA) codes and computed total charges and payments to providers for both arms of the study.

**Results:** Most providers in our data set were pediatricians (74%), and most payers were commercial (75%), primarily managed care. The ratio of the number of vaccine products to the number of IAs was 1:1 in the majority of the claims. Twenty percent of claims were paid with no adjustment by the payer, whereas 76% of the claims were adjusted for charges that exceeded the contract arrangement or the fee schedule. Providers received \$23 less from commercial payers and \$13 less from Medicaid for the use of Pediarix compared with the equivalent component vaccines. The mean commercial payment was greater for age-specific Current Procedural Terminology IA codes 90465 and 90466 than for non-age-specific codes 90471 and 90472, whereas the reverse was true for Medicaid.

**Conclusions:** Providers who administer vaccines to children face a reduction in payment when choosing to provide combination vaccines. The new IA codes should be monitored for correction of financial barriers to the use of combination vaccines.

### **Pharmacoeconomics**

December 1, 2011 - Volume 29 - Issue 12 pp: 1011-1014

<http://adisonline.com/pharmacoeconomics/pages/currenttoc.aspx>

[Reviewed earlier]

### **PLoS One**

[Accessed 27 November 2011]

<http://www.plosone.org/article/browse.action;jsessionid=577FD8B9E1F322DAA533C413369CD6F3.ambra01?field=date>

[No new relevant content]

### **PLoS Medicine**

(Accessed 27 November 2011)

<http://www.plosmedicine.org/article/browse.action?field=date>

[No new relevant content]

### **Proceedings of the National Academy of Sciences of the United States of America**

(Accessed 27 November 2011)

<http://www.pnas.org/content/early/recent>

[No new relevant content]

### **Science**

25 November 2011 vol 334, issue 6059, pages 1021-1172

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

[No relevant content]

### **Science Translational Medicine**

23 November 2011 vol 3, issue 110

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

[No relevant content]

### **Tropical Medicine & International Health**

December 2011 Volume 16, Issue 12 Pages 1465–1561

[http://onlinelibrary.wiley.com/journal/10.1111/\(ISSN\)1365-3156/currentissue](http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1365-3156/currentissue)

[No relevant content]

### **Vaccine**

Volume 29, Issue 51 pp. 9411-9572 (28 November 2011)

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

#### ***Short Communications***

#### **Failure-to-success ratios, transition probabilities and phase lengths for prophylactic vaccines versus other pharmaceuticals in the development pipeline**

Pages 9414-9416

Matthew M. Davis, Amy T. Butchart, John R.C. Wheeler, Margaret S. Coleman, Dianne C. Singer, Gary L. Freed

#### ***Abstract***

Research and development of prophylactic vaccines carries a high risk of failure. In the past, industry experts have asserted that vaccines are riskier to produce than other pharmaceuticals. This assertion has not been critically examined. We assessed outcomes in pharmaceutical research and development from 1995 to 2011, using a global pharmaceutical database to identify prophylactic vaccines versus other pharmaceuticals in preclinical, Phase I, Phase II, or Phase III stages of development. Over 16 years of follow-up for 4367 products (132 prophylactic vaccines; 4235 other pharmaceuticals), we determined the failure-to-success ratios for prophylactic vaccines versus all other products. The overall ratio of failures to successes for prophylactic vaccines for the 1995 cohort over 16 years of follow-up was 8.3 (116/14) versus 7.7 (3650/475) for other pharmaceuticals. The probability of advancing through the development pipeline at each point was not significantly different for prophylactic vaccines than for other pharmaceuticals. Phase length was significantly longer for prophylactic vaccines than other pharmaceuticals for preclinical development (3.70 years vs 2.80 years;  $p < .0001$ ),

but was equivalent for all 3 human clinical trial phases between the two groups. We conclude that failure rates, phase transition probabilities, and most phase lengths for prophylactic vaccines are not significantly different from those of other pharmaceutical products, which may partially explain rapidly growing interest in prophylactic vaccines among major pharmaceutical manufacturers.

### ***Review***

#### **Preparing for introduction of a dengue vaccine: Recommendations from the 1st Dengue v2V Asia-Pacific Meeting**

Pages 9417-9422

Sai Kit Lam, Donald Burke, Maria Rosario Capeding, Chee Keong Chong, Laurent Coudeville, Jeremy Farrar, Duane Gubler, Sri Rezeki Hadinegoro, Jeffrey Hanna, Jean Lang, Han Lim Lee, Yee Sin Leo, Chan Quang Luong, Richard Mahoney, John McBride, Jorge Mendez-Galvan, Lee Ching Ng, Suchitra Nimmannitya, Eng Eong Ooi, Donald Shepard, et al.

### ***Abstract***

Infection with dengue virus is a major public health problem in the Asia-Pacific region and throughout tropical and sub-tropical regions of the world. Vaccination represents a major opportunity to control dengue and several candidate vaccines are in development. Experts in dengue and in vaccine introduction gathered for a two day meeting during which they examined the challenges inherent to the introduction of a dengue vaccine into the national immunisation programmes of countries of the Asia-Pacific. The aim was to develop a series of recommendations to reduce the delay between vaccine licensure and vaccine introduction. Major recommendations arising from the meeting included: ascertaining and publicising the full burden and cost of dengue; changing the perception of dengue in non-endemic countries to help generate global support for dengue vaccination; ensuring high quality active surveillance systems and diagnostics; and identifying sustainable sources of funding, both to support vaccine introduction and to maintain the vaccination programme. The attendees at the meeting were in agreement that with the introduction of an effective vaccine, dengue is a disease that could be controlled, and that in order to ensure a vaccine is introduced as rapidly as possible, there is a need to start preparing now.

### ***Regular Papers***

#### **Seasonal influenza vaccine provision in 157 countries (2004–2009) and the potential influence of national public health policies**

Pages 9459-9466

Abraham Palache

### ***Abstract***

Seasonal influenza places a major burden on public health. Consequently, the World Health Organization (WHO) and over 40% of national governments recommend vaccination of at-risk groups. However, no systematic global data are available to assess vaccine provision nor the effect of immunization policies. To address this situation, IFPMA IVS surveyed global vaccine supply, covering 157 countries from 2004 to 2009. The study also used UN data and a novel vaccine provision "hurdle" rate (set at 15.9% of the population, based on WHO immunization recommendations for the elderly) to compare vaccine supply with development status. In a sub-group of 26 countries, the level of vaccine provision was also correlated to the presence/absence of specific vaccination policies.

Between 2004 and 2009, global annual vaccine provision increased 72% to 449 million doses. Europe and the Americas accounted for 75% to 80% of the total each year, with several countries in these regions, as well as China, Japan and Thailand, achieving notable increases during the study period. However, despite the global growth, only 20% of countries reached the study's modest "hurdle" rate. On a per capita basis, dose distribution did not correlate directly with income, and several less developed countries, particularly in Latin America, outperformed more developed nations (notably in Eastern and Southern Europe). In the sub-group analysis, the presence of official public health authority vaccination recommendations did not correlate well with higher vaccine supply (positive:negative correlation = 1.3:1), while reimbursement (4.5:1) and the use of wide-scale communication activities (5.3:1) correlated more strongly than development status (2.7:1).

This study shows that globally vaccination levels remain low, and official vaccination recommendations alone are insufficient to drive higher coverage. Rather, policy measures that directly impact patients (i.e. reimbursement and communication) appear more effective, irrespective of countries' development status, and therefore may do more to help protect local populations against influenza.

**Economic and clinical evaluation of a catch-up dose of 13-valent pneumococcal conjugate vaccine in children already immunized with three doses of the 7-valent vaccine in Italy**

Pages 9521-9528

Sara Boccalini, Chiara Azzari, Massimo Resti, Claudia Valleriani, Martina Cortimiglia, Emilia Tiscione, Angela Bechini, Paolo Bonanni

***Abstract***

A new 13-valent conjugated polysaccharide vaccine (PCV13) against *Streptococcus pneumoniae* infections, which replaced the 7-valent vaccine (PCV7) in the regional immunization programmes for newborns and children who started but not completed the 3 doses schedule of PCV7, is available in Italy since 2010. The opportunity of administering a further dose of PCV13 to children under 5 years of age who had already completed their vaccination with PCV7, with the aim of extending the serotype coverage, triggered an animated scientific debate. The purpose of this study was to perform a clinical/economic evaluation of the administration of a dose of PCV13, in a catch-up programme, for children under 5 years of age, who had already received 3 doses of PCV7.

A mathematical model of the clinical/economic impact of the adoption of 4 catch-up strategies with PCV13 (children up to 24, 36, 48 and 60 months old) was set up, with a vaccination coverage of 80%, versus immunization with 3 doses of PCV7 without the catch-up programme. The time span covered by the simulation was 5.5 years. The following clinical outcomes of infection were evaluated: hospitalised meningitis/sepsis, hospitalised bacteraemic pneumonias (complicated and uncomplicated), hospitalised non-bacteraemic pneumonias, and non-hospitalised pneumonias.

The administration of one dose of PCV13 to children up to 60 months of age significantly reduces the number of cases of pneumococcal diseases (especially, non-hospitalised pneumonias, 80% of all events prevented, and hospitalised cases of non-bacteraemic pneumococcal pneumonias, 15% of all events prevented) and, subsequently, the relative cost for medical treatment. This results in savings for medical costs amounting to more than 1,000,000 Euros when vaccinating children under 24 months of age (up to almost 3 million Euros for children up to 60 months). More than

half of those savings are attributable to avoided hospitalised cases of non-bacteraemic pneumococcal pneumonias. Increasing the number of cohorts involved in the vaccination programme, the impact of immunization increases. The average cost per event avoided is 1674 Euros vaccinating children up to 24 months, and increases to 2522 Euros by vaccinating up to 60 months of age. The cost per year of life saved for different vaccination strategies is always acceptable (from 12,250 Euros to 22,093 Euros).

The results of this study justify, even from the economic point of view, the recommendation of the Italian Ministry of Health to vaccinate children up to 24 months of life in a catch-up programme, as well as the administration of PCV13 children up to 36 months of age, already used in some Italian regions. Furthermore, a catch-up programme that provides the immunization of children under 60 months of age, is also justified from both the economic and clinical point of view.

### **Vaccination policies for health-care workers in acute health-care facilities in Europe**

Pages 9557-9562

Helena C. Maltezou, Sabine Wicker, Michael Borg, Ulrich Heininger, Vincenzo Puro, Maria Theodoridou, Gregory A. Poland

#### ***Abstract***

The aim of this study was to evaluate existing policies regarding recommended and mandatory occupational vaccinations for health-care workers (HCWs) in Europe. A standardized questionnaire was sent to experts in Infection Control or Occupational Health in all 27 European Union Member States, as well as Norway, Russia, and Switzerland. All 30 countries have established policies about HCW vaccination against vaccine-preventable diseases. However significant gaps and considerable country-to-country variation were found, in terms of number of recommended vaccines and target subgroups of HCWs and health-care settings. Vaccination against hepatitis B and annual vaccination against seasonal influenza are almost universally recommended for HCWs in Europe (29 countries each, including eight countries where vaccination against hepatitis B is mandatory or required for employment). Policies regarding HCW vaccination also exist against mumps (12 countries), measles or rubella (15 countries), varicella (17 countries), diphtheria-tetanus (14 countries), pertussis (9 countries), poliomyelitis (11 countries), hepatitis A (11 countries), tuberculosis (BCG vaccine) (9 countries), and against meningococcus group C or meningococci groups A, C, W135, Y (tetraivalent vaccine) (in 4 countries each). Re-evaluation of occupational vaccine policies for HCWs in Europe on a consensus basis is imperative in order to promote HCW and patient safety

### **Value in Health**

November 2011, Vol. 14, No. 7

<http://www.valueinhealthjournal.com/home>

[Reviewed earlier; No relevant content]