

Vaccines: The Week in Review

5 September 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/consumer/jsp/microsite/microsite.jsp>

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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WHO Disease Outbreak Report: Wild poliovirus confirmed in China

1 September 2011 - The Ministry of Health, China, has informed WHO that wild poliovirus type 1 (WPV1) has been isolated from four young children, aged between four months and two years, with onset of paralysis between 3 and 27 July 2011. All four cases are from Hetian prefecture, Xinjiang Uygur autonomous region, China. Genetic sequencing of the isolated viruses indicates they are genetically-related to viruses currently circulating in Pakistan. The last WPV case in China was reported in 1999, due to an importation from India. The last indigenous polio case occurred in China in 1994... The Ministry of Health plans to conduct an initial response vaccination campaign in early September, targeting 3.8 million children aged under 15 years in the key affected outbreak area, and children aged under 5 years in other areas of Xinjiang.

http://www.who.int/csr/don/2011_09_01/en/index.html

CDC released a national survey which found that immunization rates for children 19-35 months of age for most vaccine-preventable diseases are increasing or being sustained at high levels, with rates for most of the long-standing recommended vaccines are at or above 90 percent. Anne Schuchat, M.D., director of CDC's National Center for Immunization and Respiratory Diseases,

commented, "Today's report is reassuring because it means that most parents are protecting their young children from diseases that can cause widespread and sometimes severe harm. We recommend vaccinations because they are one of the most effective, safest ways to keep children healthy."

The 2010 National Immunization Survey (NIS) included "more than 17,000 households looked at children born between January 2007 and July 2009. Compared with the previous year, vaccine coverage increased for many vaccine-preventable diseases, including measles, mumps and rubella, rotavirus, pneumococcal disease, hepatitis A, and Haemophilus influenza type B (Hib). Results from the survey also indicated that vaccination coverage rates against poliovirus, varicella (chickenpox) and the full series of hepatitis B remained stable at or above 90 percent."

http://www.cdc.gov/media/releases/2011/p0901_cdc_nationalsurvey.html

Speech: Despite financial constraints, health commands support at the top of the international agenda

Dr Margaret Chan, Director-General of the World Health Organization

Address to the Regional Committee for Africa, sixty-first session, Yamoussoukro, Côte d'Ivoire

29 August 2011

http://www.who.int/dg/speeches/2011/afro_rc_2011_08_29/en/index.html

Meeting Overview: United Nations high-level meeting on noncommunicable disease prevention and control

Date: 19-20 September 2011

Place: New York, USA

Background: "Noncommunicable diseases - or NCDs - like heart attacks and strokes, cancers, diabetes and chronic respiratory disease account for over 63% of deaths in the world today. Every year, NCDs kill 9 million people under 60. The socio-economic impact is staggering. Global leaders will meet at the United Nations in New York from 19-20 September 2011 to set a new international agenda on NCDs...This is only the second time in the history of the UN that the General Assembly meets on a health issue (the last issue was AIDS). The aim is for countries to adopt a concise, action-oriented outcome document that will shape the global agendas for generations to come."

Overview

[Overview brochure](#)

[pdf, 331kb](#)

[Q&A about the meeting](#)

[pdf, 250kb](#)

http://www.who.int/nmh/events/un_ncd_summit2011/en/index.html

The **MMWR Weekly September 2, 2011** / Vol. 60 / No. 34 includes:

- [National and State Vaccination Coverage Among Children Aged 19--35 Months --- United States, 2010](#)
- [Human Rabies --- Wisconsin, 2010](#)
- [Notes from the Field: Measles Outbreak --- Indiana, June--July 2011](#)
<http://www.cdc.gov/mmwr/pdf/wk/mm6034.pdf>

WHO Epidemiological Brief 16: Measles outbreaks, rotavirus surveillance and response to importation of wild poliovirus

Measles outbreaks

...For the period January – June 2011, of the 49 countries in the European Region that reported measles data, 39 countries reported a total of 24 493 cases of measles. Due to spread from countries that are experiencing large measles outbreaks, countries that have been measles - free for many years are now challenged with re-occurrence of the disease....

http://www.euro.who.int/_data/assets/pdf_file/0018/149211/WHO_EPI_Brief_16_Aug_2011.pdf

The **Weekly Epidemiological Record (WER) for 2 September 2011**, vol. 86, 36 (pp 389–400) includes: Leprosy update, 2011
<http://www.who.int/entity/wer/2011/wer8636.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.

[GAVI Alliance](#) GAVI Alliance

Most of us have never encountered whooping cough. Learn more from [#vaccine](#) inventor [@DrPaulOffit](#) . <http://ht.ly/6kXQQ>

[MSF USA](#) Doctors w/o Borders

If you're interested in issues around access to essential medicines, make sure you're also following [@MSF_access](#).

[Harvard Health](#) HarvardGlobalHealth

This week in World Health News bitURL.net/bgy Highlights from around the World in Global Health & Public Health [#Journalism](#)

[MalariaVaccine](#) PATH MVI

Progress Fighting Malaria: A Timeline bit.ly/okAWEQ via [@ucsf](#)

[globalfundnews](#) The Global Fund

A publication: Human Rights and the Global Fund to Fight AIDS, Tuberculosis and Malaria bit.ly/n2T0Cs

[gatesfoundation](#) Gates Foundation

Borders are irrelevant: [#Polio](#) returns to China after 12 yrs. Polio anywhere is a threat everywhere: gates.ly/oHWAa6

[AIDSvaccine](#) IAVI

If you missed IAVI's policy brief on opps to accelerate [#AIDS](#) [#vaccine](#) R&D in [#China](#), read it here: bit.ly/n2KK6k [#globalhealth](#) [#HIV](#)

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

Annals of Internal Medicine

August 16, 2011; 155 (4)

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

[Reviewed earlier; No relevant content]

British Medical Bulletin

Volume 98 Issue 1 June 2011

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

[Reviewed earlier; No relevant content]

British Medical Journal

3 September 2011 Volume 343, Issue 7821

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

Feature

Commentary: UN high level meeting on non-communicable diseases: an opportunity for whom?

David Stuckler, Sanjay Basu, Martin McKee,

Extract

In September, world leaders will meet at the United Nations in New York to discuss non-communicable diseases. 1 A decade ago, at a similar meeting on HIV/AIDS, they created the Global Fund for HIV/AIDS, Tuberculosis and Malaria—a revolutionary new global health funding mechanism. 2

The September meeting will focus on four leading conditions—heart disease, cancer, diabetes, and respiratory disease—that together cause more than half of all deaths in low and middle income countries. 3 Without action, the number of premature deaths (age < 60) caused by non-communicable diseases is expected to rise from 3.8 million each year to 5.1 million in poor countries by 2030, trapping a generation of families in cycles of poverty and disease. 4 5 6 As Thomas Frieden, director of the US Centers for Disease Control and Prevention, recently stated, developing countries must immediately tackle the rapid rise of non-communicable diseases because they will “kill four times as many people by 2020 as infectious diseases.” 7

Hopes are high that the UN meeting will mark a turning point and avoid the belated response that hampered HIV strategies. Progress on HIV required not only technical discussions about which drugs work and how to make them cost effective; it also needed to tackle the broader ethical, social, and political dimensions of the HIV pandemic. 8

Throughout the process, the imperative to act was presented as one of social justice. It emphasised that HIV was a manifestation of inequalities in power and resources. Efforts by drug companies to protect long term patents on antiretroviral drugs were met by activists fighting for access to treatment and declaring that human lives in poor countries were just as valuable as those in rich ones...

Clinical Infectious Diseases

Volume 53 Issue 7 October 1, 2011

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

ARTICLES AND COMMENTARIES

J. Anthony G. Scott, John Ojal, Lindsey Ashton, Anne Muhoro, Polly Burbidge, and David Goldblatt

Pneumococcal Conjugate Vaccine Given Shortly After Birth Stimulates Effective Antibody Concentrations and Primes Immunological Memory for Sustained Infant Protection

Clin Infect Dis. (2011) 53(7): 663-670 doi:10.1093/cid/cir444

Immunization of Kenyan newborns with 7-valent pneumococcal conjugate vaccine is safe and immunogenic. Compared with the Expanded Programme on Immunization schedule beginning at 6 weeks, it stimulates similar antibody concentrations at 18 weeks and induces equal responses to a 9-month booster dose.

[Free full text: <http://cid.oxfordjournals.org/content/53/7/663.full>]

Cost Effectiveness and Resource Allocation

(accessed 4 September 2011)

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

[No new relevant content]

Emerging Infectious Diseases

Volume 17, Number 9–September 2011

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

[Reviewed earlier; No relevant content]

Health Affairs

August 2011; Volume 30, Issue 8

New Perspectives On Substance Abuse

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

[Reviewed earlier]

Health Economics, Policy and Law

Volume 6 - Issue 03 - 2011 [http://journals.cambridge.org/action/displayIssue?](http://journals.cambridge.org/action/displayIssue?jid=HEP&tab=currentissue)

[jid=HEP&tab=currentissue](http://journals.cambridge.org/action/displayIssue?jid=HEP&tab=currentissue)

[Reviewed earlier]

Human Vaccines

Volume 7, Issue 9 September 2011

<http://www.landesbioscience.com/journals/vaccines/toc/volume/7/issue/8/>

Research Papers

Acceptability of school requirements for human papillomavirus vaccine

Jennifer S. Smith, Noel T. Brewer, Yuli Chang, Nicole Liddon, Sarah Guerry, Erica Pettigrew, Lauri E. Markowitz and Sami L. Gottlieb

We characterized parental attitudes regarding school HPV vaccination requirements for adolescent girls. Study participants were 889 parents of 10-18 year-old girls in areas of North Carolina with elevated cervical cancer incidence. We calculated odds ratios (ORs) and 95% confidence intervals (CIs) by logistic regression. Approximately half (47%) of parents agreed that laws requiring HPV immunization for school attendance “are a good idea” when opt-out provisions were not mentioned. Far more agreed that “these laws are okay only if parents can opt out if they want to” (84%). Predictors of supporting requirements included believing HPV vaccine is highly effective against cervical cancer (OR=2.5, 95%CI:1.7-5.0) or is more beneficial if provided at an earlier age (OR=16.1, 95%CI:8.4-30.9). Parents were less likely to agree with vaccine requirements being a good idea if they expressed concerns related to HPV vaccine safety (OR=0.3, 95%CI:0.1-0.5), its recent introduction (OR=0.3, 95%CI:0.2-0.6), or its potential to increase their daughters’ sexual activity (OR=0.4, 95%CI:0.2-0.6). Parental acceptance of school requirements appears to depend on perceived HPV vaccine safety and efficacy, understanding of the optimal age for vaccine administration, and inclusion of opt-out provisions.

Commentaries

Adverse events following immunization: Easily preventable in developing countries

Ramesh Verma, Pardeep Khanna, Mohan Bairwa, Suraj Chawla, Shankar Prinja and Meena Rajput

The development of vaccines is one of the most important achievements in public health for reducing morbidity and mortality due to communicable diseases in children. As the incidence of vaccine-preventable diseases is reduced by vaccination, the general public becomes increasingly concerned about the safety associated with vaccines. BCG, DPT, Polio, Measles, Hepatitis B, Hib and their various combinations may cause transient minor adverse events including swelling, redness or soreness at the injection site, and low-grade fever, crying and irritability (in infants). The adverse events caused by an error/accident in vaccination programs as these relate to manufacturing, handling, cold chain maintenance, vaccination schedule or administration are program errors. They are generally preventable and detract from the overall benefit of the immunization program.

AEFI (adverse event following immunization) surveillance allows the vaccination program to monitor the occurrence of adverse events and to differentiate the true from the false AEFI. The system will also ensure quality by monitoring program error, increasing public confidence, and helping to develop capacity to manage 'crisis' events within the vaccination program. These incidents, which result in needless deaths or life-threatening illness and damage to vaccination programs, should be generally preventable if proper reconstitution of vaccines and proper handling procedures are followed.

International Journal of Infectious Diseases

Volume 15, Issue 9 pp. e583-e654 (September 2011)

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

Reviews

Europe's neglected infections of poverty

Pages e611-e619

Peter J. Hotez, Meredith Gurwith

Summary

Objectives

To review the prevalence, incidence, and geographic distribution of the major neglected infections of poverty in Europe as a basis for future policy recommendations.

Methods

We reviewed the literature from 1999 to 2010 for neglected tropical diseases listed by PLoS Neglected Tropical Diseases (<http://www.plosntds.org/static/scope.action>) and the geographic regions and countries of (continental) Europe. Reference lists of identified articles and reviews were also hand searched, as were World Health Organization databases.

Results

In Eastern Europe, the soil-transmitted helminth infections (especially ascariasis, trichuriasis, and toxocariasis), giardiasis, and toxoplasmosis remain endemic. High incidence rates of selected food-borne helminthiases including trichinellosis, opisthorchiasis, taeniasis, and echinococcosis also occur, while brucellosis and leptospirosis represent important bacterial zoonoses. Turmoil and economic collapse following the war in the Balkans, the fall of Communism, and Europe's recent recession have helped to promote their high prevalence and incidence rates. In Southern Europe, vector-borne zoonoses have emerged, including leishmaniasis and Chagas disease, and key arboviral infections. Additional vulnerable populations include the Roma, orphans destined for international adoption, and some immigrant groups.

Conclusions

Among the policy recommendations are increased efforts to determine the prevalence, incidence, and geographic distribution of Europe's neglected infections, epidemiological studies to understand the ecology and mechanisms of disease transmission, and research and development for new control tools.

JAMA

August 24/31, 2011, Vol 306, No. 8, pp 793-896

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

[No relevant content]

Journal of Infectious Diseases

Volume 204 Issue 7 October 1, 2011

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

EDITORIAL COMMENTARIES

Roger I. Glass

Editor's Choice: Unexpected Benefits of Rotavirus Vaccination in the United States

J Infect Dis. (2011) 204(7): 975-977 doi:10.1093/infdis/jir477

The large-scale introduction of a new vaccine can uncover many secrets and surprises about the epidemiology of disease that might not be discovered in any other way. Examination of the outcome of a vaccine introduction can validate prior assumptions concerning the burden of disease and the economic consequences of the vaccination program, as well as determine herd effects of the program arising from either a reduction in the environmental load of the infectious agent or a decrease in the group of susceptibles that might blunt transmission of the agent. In this issue of the Journal, Lopman et al document the impact of the introduction of rotavirus vaccines in the United States and find some surprises that could not have been fully anticipated or predicted in advance [1].

In 2006, the United States introduced a new rotavirus vaccine that was immediately recommended for the routine immunization of all children [2]. Uptake was slow at first but by 2008, about 60% of American infants were being immunized. Small local surveys of diarrheal illnesses in children <2 years who had been immunized indicated a substantial reduction in hospitalizations and emergency room visits [3– 8], outcomes predicted by the large clinical trials that determined the vaccine's efficacy to be 85% or more against severe disease [9, 10]. However, this was not the whole story. Lopman et al at the Centers for Disease Control and Prevention have analyzed a large database covering approximately 20% of all US hospital admissions and looked at the numbers of discharges coded for diarrhea due to rotavirus or for any unspecified cause among children from 0 to 24 years of age. They compared baseline rates of these ...

[\[Full Text of this Article\]](#)

MAJOR ARTICLES AND BRIEF REPORTS

Ben A. Lopman, Aaron T. Curns, Catherine Yen, and Umesh D. Parashar

Editor's Choice: Infant Rotavirus Vaccination May Provide Indirect Protection to Older Children and Adults in the United States

J Infect Dis. (2011) 204(7): 980-986 doi:10.1093/infdis/jir492

Abstract

Following the introduction of rotavirus vaccination in the United States, rotavirus and cause-unspecified gastroenteritis discharges significantly decreased in 2008 in the 0–4, 5–14, and 15–24-year age groups, with significant reductions observed in March, the historic peak rotavirus month, in all age groups. We estimate that 15% of the total 66 000 averted hospitalizations and 20% of the \$204 million in averted direct medical costs attributable to the vaccination program were among unvaccinated 5–24 year-olds. This study demonstrates a previously unrecognized burden of severe rotavirus in the population >5 years and the primacy of very young children in the transmission of rotavirus.

The Lancet

Sep 03, 2011 Volume 378 Number 9794 p849 - 960

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

[No relevant content]

The Lancet Infectious Disease

Sep 2011 Volume 11 Number 9 p651 - 720

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

[Reviewed last week]

Medical Decision Making (MDM)

July/August 2011; 31 (4)

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

[Reviewed earlier]

Nature

Volume 477 Number 7362 pp5-126 1 September 2011

http://www.nature.com/nature/current_issue.html

[No relevant content]

Nature Medicine

August 2011, Volume 17 No 8

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

[Reviewed earlier]

New England Journal of Medicine

September 1, 2011 Vol. 365 No. 9

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

[Global Health: Health Technologies and Innovation in the Global Health Arena](#)

S.R. Sinha and M. Barry

[Free full text]

Extract

In recent years, interest in both global health and health care innovation has grown tremendously, and there has been increasing recognition of the importance of medical devices and other nonpharmaceutical health-related technologies to all aspects of health care. In 2007, for example, the World Health Organization (WHO) issued the first global directive on medical devices, recognizing that, like medicines, many health technologies are indispensable. Many appropriate technologies, however, are inaccessible to the majority of people who need them, particularly in low- and middle-income countries — largely because of capacity constraints, a perception that medical devices are out of the reach of or superfluous to developing countries, and the lack of assiduous, multidisciplinary needs assessment and innovation promotion in such countries.

The recognition that the “right to health” should include access to certain devices comes more than 30 years after similar recognition for essential medicines...

The Pediatric Infectious Disease Journal

September 2011 - Volume 30 - Issue 9 pp: A7,731-820,e155-e178

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

[No relevant content]

Pediatrics

September 2011, VOLUME 128 / ISSUE 3

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

Pediatrics Perspective

The First Measles Vaccine

Jeffrey P. Baker

Pediatrics 2011; 128:435-437

Extract [first 20%]

Like in the more familiar story of polio vaccine, the development of the first successful live attenuated vaccine against measles began in the laboratory of John Enders. One of the greatest virologists of the 20th century, Enders pioneered the technique of viral tissue culture, which makes it possible to grow viruses in vitro in cells nourished in laboratory media. 1 In 1949, he and his pediatric infectious disease fellows Thomas Weller and Frederick Robbins showed that poliovirus could be cultivated in tissue of nonneuronal origins, a discovery that set the stage for the first successful vaccines against the disease and led to a Nobel Prize in 1954. 2 Enders himself was a remarkable character. He never tried to patent his work or share results with the media before peer review. He was consistently generous in sharing his knowledge with potential competitors, and despite his personal wealth he was equally known for his frugality; fellows learned to wash their own glassware, and every year the “chief” returned unspent grant money to the National Institutes of Health. Above all, Enders took seriously the role of mentor, rounding each day beside the benches of his select group of fellows with his bow tie, vest, and jacket asking, “Well, what's new?” A positive response was often rewarded by an hour-long conversation. 3

In 1954, while the national field trials of Jonas Salk's polio vaccine captivated media attention, Enders and pediatrician Thomas Peebles successfully cultivated measles virus in human kidney cell culture for the first time. 4 Ever-ingenuous in finding sources for his

tissue cultures, Enders obtained kidneys from a neurosurgeon colleague who treated hydrocephalus by performing a unilateral nephrectomy and connecting a shunt to carry cerebrospinal fluid to the ureter. Peebles traveled the Boston, Massachusetts, area with a throat swab in search of measles ...

Articles

Use of Models to Identify Cost-effective Interventions: Pertussis Vaccination for Pediatric Health Care Workers

Amy L. Greer and David N. Fisman

Pediatrics 2011; 128:e591-e599

Abstract

OBJECTIVE: Acellular pertussis vaccine is safe and effective in adults. An explicit recommendation for pertussis booster vaccination in pediatric health care workers is based on the importance of health care workers as a potential source of infection for patients. However, limited information is available on the economic attractiveness of this intervention. We sought to evaluate the health-economic attractiveness of a diphtheria-tetanus-acellular pertussis booster vaccination program for health care workers in a pediatric intensive care setting.

METHODS: We developed a Markov model to calculate the cost-effectiveness of vaccinating NICU health care workers in different proportions ranging from the current strategy of no pertussis booster vaccination program to a vaccination program that achieves between 25% and 95% vaccine coverage.

RESULTS: Implementation of a vaccination program that achieves 25% coverage was projected to be cost-saving compared with no vaccine program. At all coverage levels the intervention reduced costs, increased life expectancy, and was cost-effective.

Projections were most sensitive to the risk of a pertussis introduction via an infected health care worker. Once the monthly risk of an introduction exceeded ~0.3%, implementation of an immunization program with at least 25% coverage provided both greater health and greater economic benefits than having no vaccine program.

CONCLUSIONS: The implementation of a hospital-based and funded diphtheria-tetanus-acellular pertussis vaccine program administered through an occupational health program is cost-effective or cost-saving in the context of pediatric health care facilities in which many of the patients are at risk of serious morbidity and mortality should they acquire pertussis while hospitalized.

Pharmacoeconomics

September 1, 2011 - Volume 29 - Issue 9 pp: 731-821

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

[Reviewed earlier]

PLoS One

[Accessed 4 September 2011]

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

Avian Influenza Risk Perception and Preventive Behavior among Traditional Market Workers and Shoppers in Taiwan: Practical Implications for Prevention

Pei-Chun Kuo, Jiun-Hau Huang, Ming-Der Liu avian influenza, influenza vaccination, and use PLoS ONE: Research Article, published 02 Sep 2011 10.1371/journal.pone.0024157

Abstract

Background

Avian influenza (AI) can be highly pathogenic and fatal. Preventive behavior such as handwashing and wearing face masks has been recommended. However, little is known about what psychosocial factors might influence people's decision to adopt such preventive behavior. This study aims to explore risk perception and other factors associated with handwashing and wearing face masks to prevent AI.

Methodology/Principal Findings

An interviewer-administered survey was conducted among 352 traditional market workers and shoppers in Taiwan between December 2009 and January 2010. Factors associated with the recommended AI preventive behavior (i.e., when in a traditional market, wearing a face mask and also washing hands after any contact with poultry) included: having correct knowledge about the fatality rate of AI (adjusted odds ratio [AOR] = 4.18), knowing of severe cases of AI (AOR = 2.13), being informed of local AI outbreaks (AOR = 2.24), living in northeastern Taiwan (AOR = 6.01), having a senior high-school education (AOR = 3.33), and having a university or higher education (AOR = 6.86). Gender interactive effect was also found among participants with a senior high-school education, with males being less likely to engage in the recommended AI preventive behavior than their female counterparts (AOR = 0.34).

Conclusions/Significance

Specific information concerning AI risk perception was associated with the recommended AI preventive behavior. In particular, having correct knowledge about the fatality rate of AI and being informed of severe cases and local outbreaks of AI were linked to increased AI preventive behavior. These findings underscore the importance of transparency in dealing with epidemic information. These results also have practical implications for prevention and policy-making to more effectively promote the recommended AI preventive behavior in the public.

PLoS Medicine

(Accessed 4 September 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 4 September 2011)

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

[No relevant content]

Science

2 September 2011 vol 333, issue 6047, pages 1189-1344

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

Special Issue: Synthetic Biology

[No relevant content]

Science Translational Medicine

31 August 2011 vol 3, issue 98

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

[No relevant content]

Tropical Medicine & International Health

September 2011 Volume 16, Issue 9 Pages 1043–1189

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

[Reviewed earlier]

Vaccine

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

Volume 29, Issue 40 pp. 6823-7114 (16 September 2011)

Regular Papers

Overview of the Clinical Consult Case Review of adverse events following immunization: Clinical Immunization Safety Assessment (CISA) network 2004–2009

Pages 6920-6927

S. Elizabeth Williams, Nicola P. Klein, Neal Halsey, Cornelia L. Dekker, Roger P. Baxter, Colin D. Marchant, Philip S. LaRussa, Robert C. Sparks, Jerome I. Tokars, Barbara A. Pahud, Laurie Aukes, Kathleen Jakob, Silvia Coronel, Howard Choi, Barbara A. Slade, Kathryn M. Edwards

Abstract

Background

In 2004 the Clinical Consult Case Review (CCCR) working group was formed within the CDC-funded Clinical Immunization Safety Assessment (CISA) Network to review individual cases of adverse events following immunizations (AEFI).

Methods

Cases were referred by practitioners, health departments, or CDC employees. Vaccine Adverse Event Reporting System (VAERS) searches and literature reviews for similar cases were performed prior to review. After CCCR discussion, AEFI were assessed for a causal relationship with vaccination and recommendations regarding future immunizations were relayed back to the referring physicians. In 2010, surveys were sent to referring physicians to determine the utility and effectiveness of the CCCR service.

Results

CISA investigators reviewed 76 cases during 68 conference calls between April 2004 and December 2009. Almost half of the cases (35/76) were neurological in nature. Similar AEFI for the specific vaccines received were discovered for 63 cases through VAERS searches and for 38 cases through PubMed searches. Causality assessment using the modified WHO criteria resulted in classifying 3 cases as definitely related to vaccine administration, 12 as probably related, 16 as possibly related, 18 as unlikely related, 10 as unrelated, and 17 had insufficient information to assign causality. The physician

satisfaction survey was returned by 30 (57.7%) of those surveyed and a majority of respondents (93.3%) felt that the CCCR service was useful.

Conclusions

The CCCR provides advice about AEFI to practitioners, assigns potential causality, and contributes to an improved understanding of adverse health events following immunizations.

Volume 29, Issue 38 pp. 6427-6720 (2 September 2011)

Commentary

[Response to the 2009 pandemic: Effect on influenza control in wealthy and poor countries](#)

Pages 6427-6431

Arnold S. Monto, Steven Black, Stanley A. Plotkin, Walter A. Orenstein

Abstract

The declaration by the World Health Organization (WHO) that appearance of a swine-origin novel influenza virus in 2009 represented a pandemic was based on previously adopted guidelines and the new International Health Regulations. Severity of the pandemic was not part of the definition used, but it was stated to be less than severe at the time of declaration. It was necessary, when there was still uncertainty about the overall impact of the pandemic, for vaccine production to begin to have timely availability. Countries arranged to have vaccine for their populations, and WHO attempted to secure supplies for under-resourced countries.

The world had been concerned that the next pandemic might be a severe one, based on the specter of avian influenza with a case fatality of up to 80% in humans. After it was clear that the 2009 pandemic was not severe, there were accusations, especially in Europe, that countries had secured vaccine supplies mainly to benefit the manufacturers. Such charges, even when refuted, may undermine public confidence in the process which assures vaccine supply and availability of vaccine for seasonal use.

Production of pandemic vaccine is conditioned on the supply of seasonal influenza vaccine; it is unrealistic to expect vaccine to be available for pandemic use when none is used for seasonal influenza. This particularly applies to poorer countries. They have traditionally not recognized that influenza is a problem, although this attitude is changing. As we go forward, we need to keep in mind the global nature of the threat of influenza. Had the 2009 pandemic been more severe, demand would have been greater and poorer countries would have had little vaccine to meet their needs. Only by taking a broad view of influenza on an annual basis can vaccine supplies be ensured for all countries of the world.

Meeting Report

[WHO Working Group discussion on revision of the WHO recommendations for the production and control of poliomyelitis vaccines \(oral\): TRS Nos. 904 and 910. Report of Meeting held on 20–22 July 2010, Geneva, Switzerland](#)

Pages 6432-6436

Javier Martin, Catherine Milne, Philip Minor, Konstantin Chumakov, Maria Baca-Estrada, Jacqueline Fournier Caruana, Tiequn Zhou

Regular Papers

[Cost-effectiveness of conjugate pneumococcal vaccination in Singapore: Comparing estimates for 7-valent, 10-valent, and 13-valent vaccines](#)

Pages 6686-6694

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Abstract

Introduction

Although multiple studies of cost-effectiveness of pneumococcal conjugate vaccines have been conducted, no such study has examined Singapore's situation nor compared the licensed conjugate vaccines in an Asian population. This paper estimates the costs and public health impacts of pneumococcal conjugate vaccine programs, varying estimates of serotype replacement and herd immunity effects as key parameters in the analysis. Based in part on a 2008 analysis also presented here, Singapore has approved the PCV-7, PHiD-10, and PCV-13 pneumococcal conjugate vaccines as part of its National Childhood Immunisation Programme.

Methods

An economic evaluation was performed using a Markov simulation model populated with Singapore-specific population parameters, vaccine costs, treatment costs, and disease incidence data. The vaccinated infant and child cohort of 226,000 was 6% of the Singapore resident population of 3.8 million. Vaccine efficacy estimates were constructed for PCV-7, PHiD-10, and PCV-13 vaccines based on their serotype coverage in Singapore and compared to 'no vaccination'. The model estimated impacts over a five-year time horizon with 3% per year discounting of costs and health effects. Costs were presented in 2010 U.S. dollars (USD) and Singapore dollars (SGD). Sensitivity analyses included varying herd immunity, serotype replacement rates, vaccine cost, and efficacy against acute otitis media.

Results

Under base case assumptions for the revised analysis (i.e., herd effects in the unvaccinated population equivalent to 20% of direct effects) PCV-13 prevented 834 cases and 7 deaths due to pneumonia, meningitis, and bacteremia in the vaccinated population, and 952 cases and 191 deaths in the unvaccinated population over the 5-year time horizon. Including herd effects, the cost-effectiveness ratio for PCV-13 was USD \$37,644 (SGD \$51,854) per QALY. Without herd effects, however, the ratio was USD \$204,535 (SGD \$281,743) per QALY. The PCV-7 cost per QALY including herd effects was USD \$43,275 (SGD \$59,610) and for PHiD-10 the ratios were USD \$45,100 (SGD \$62,125). The original 2008 analysis, which had higher estimates of pneumonia prevention due to herd immunity and lower estimates of cost per dose, had found a cost-effectiveness ratio of USD \$5562 (SGD \$7661) per QALY for PCV-7.

Conclusions

When compared to cost-effectiveness thresholds recommended by the World Health Organization (WHO), our 2008 analysis found that vaccination of infants in Singapore with PCV-7 was very cost-effective if herd immunity effects were present. However, knowledge on herd immunity and serotype replacement that emerged subsequent to this analysis changed our expectations about indirect effects. Given these changed inputs, our current estimates of infant vaccination against pneumococcal disease in Singapore find such programs to be moderately cost-effective compared to WHO thresholds. The different findings from the 2008 and 2011 analyses suggest that the dynamic issue of serotype replacement should be monitored post-licensure and, as changes occur, vaccine effectiveness and cost-effectiveness analyses should be re-evaluated.

Cost-effectiveness of rotavirus vaccination in Bolivia from the state perspective

Pages 6704-6711

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Abstract

Background

In Bolivia, in 2008, the under-five mortality rate is 54 per 1000 live births. Diarrhea causes 15% of these deaths, and 40% of pediatric diarrhea-related hospitalizations are caused by rotavirus illness (RI). Rotavirus vaccination (RV), subsidized by international donors, is expected to reduce morbidity, mortality, and economic burden to the Bolivian state. Estimates of illness and economic burden of RI and their reduction by RV are essential to the Bolivian state's policies on RV program financing. The goal of this report is to estimate the economic burden of RI and the cost-effectiveness of the RV program.

Methods

To assess treatment costs incurred by the healthcare system, we abstracted medical records from 287 inpatients and 6751 outpatients with acute diarrhea between 2005 and 2006 at 5 sentinel hospitals in 4 geographic regions. RI prevalence rates were estimated from 4 years of national hospital surveillance. We used a decision-analytic model to assess the potential cost-effectiveness of universal RV in Bolivia.

Results

Our model estimates that, in a 5-year birth cohort, Bolivia will incur over US\$3 million in direct medical costs due to RI. RV reduces, by at least 60%, outpatient visits, hospitalizations, deaths, and total direct medical costs associated with rotavirus diarrhea. Further, RV was cost-savings below a price of US\$3.81 per dose and cost-effective below a price of US\$194.10 per dose. Diarrheal mortality and hospitalization inputs were the most important drivers of rotavirus vaccine cost-effectiveness.

Discussion

Our data will guide Bolivia's funding allocation for RV as international subsidies change.

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