Vaccines: The Week in Review
9 January 2012
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
David R. Curry, MS
Editor and
Executive Director
Center for Vaccine Ethics & Policy
david.r.curry@centerforvaccineethicsandpolicy.org

Dr. Christian Loucq was inaugurated as the new head of the International Vaccine Institute (IVI) based in Seoul, South Korea. Dr. Loucq will serve an initial four-year term to build upon the Institute's successes achieved under the leadership of his predecessor Dr. John Clemens, IVI said. Dr. Loucq commented, "I am humbled, honored, and very enthusiastic to be joining the IVI team as Director-General. Since its establishment in 1997, IVI has been a pioneering organization in many aspects of vaccinology - from R&D to epidemiology and from local manufacturing to access - aimed at preventing infectious diseases among the world's poorest children. As the new Director-General, I will strive to increase IVI's impact in the fight against infectious diseases in developing countries, based on its scientific contributions to the research, development and optimal use of new and improved vaccines."
http://www.ivi.org/event_news/news_view.asp?enid=127

The Gates Foundation said that Nigeria's 36 Executive Governors and the Federal Capital Territory have signed up to the Nigeria Immunization Challenge launched by the foundation last year. Gates Foundation CEO Jeff Raikes said, "Renewed political resolve and accountability are critical to stopping polio in Nigeria and we find it encouraging to witness both through the support expressed by every Executive Governor across the country for this initiative. By collectively signing up to this challenge, they are sending a very clear message about their commitment to lead the fight to eliminate polio in Nigeria." The Nigeria Immunization Challenge "sets specific objectives that need to be met during each quarter of 2012. If met, Nigeria will significantly improve its chances of stopping polio and protecting more children against vaccine-preventable diseases such as measles and whooping cough…The Nigerian states that meet all the necessary threshold criteria by the end of 2012 will be awarded a

$500,000 grant from the Bill & Melinda Gates Foundation to support their top health priorities." The foundation announcement noted that as of December 30, 2011, 51 cases of wild poliovirus had been reported in eight Nigerian states, compared with 21 cases in 2010. http://www.gatesfoundation.org/press-releases/Pages/immunization-leadership-challenge-120105.aspx

The Children's Hospital of Philadelphia Vaccine Education Center launched a new HPV-related website: www.prevent-hpv.com. The site "features a video by Dr. Paul Offit as well videos of families discussing their decision to get the HPV vaccine. There are also links to additional information, questions and answers, and opportunities to share via social media."

The AMA said it published a new issue of *Virtual Mentor* (January, 2012) focused on Vaccines and Ethics at (www.virtualmentor.org) which includes:
- A clinical case concerning HPV vaccine
- A consideration of how American society has handled its vaccine controversies, co-authored by Art Caplan
- Ethical implications of current research into a possible stress vaccine
- A contribution from researchers at the Jenner Institute, Oxford, about vaccine research ethics
- A look at residents' role in adult immunizations on the "front lines" by Jay Jacobson, MD

The **MMWR Weekly for January 6, 2012** / Vol. 60 / Nos. 51 & 52 includes:
- Severe Influenza Among Children and Young Adults with Neurologic and Neurodevelopmental Conditions — Ohio, 2011
- Imported Human Rabies — New Jersey, 2011
- Receipt of A(H1N1)pdm09 Vaccine by Prisons and Jails — United States, 2009–10 Influenza Season
- Update: Influenza A (H3N2)v Transmission and Guidelines — Five States, 2011

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

GAVIAlliance GAVI Alliance
MenAfriVac #vaccine could prevent 150,000 deaths by 2015 in Africa's "meningitis belt"- ht.ly/8lQeS
11 hours ago

gatesfoundation Gates Foundation
Op-Ed: It's part of our social responsibility to get our children vaccinated: gates.ly/wOuLs2 #vaccines
6 Jan

bmj_latest BMJ
BBC News - Hepatitis C vaccine: Oxford researchers' trial 'promising' bbc.in/w7UWRx
5 Jan

HHSGov HHSGov
#HHS releases 1st Global Health Strategy. Sec Sebelius talks about building a healthier, safer planet: 1.usa.gov/zlWRDG
6 Jan

CDCgov CDCgov
Read about Dr. Claire Huang & her team at #CDC247, who have developed a dengue vaccine candidate, now in human trials. go.usa.gov/RYU
6 Jan

ArthurCaplan Arthur Caplan
outcome of bachmann hpv challenge gifts put to good use prevent-hpv.com
4 Jan

DofVC DoV Collaboration
Keen to know the status of the Global #Vaccine Action Plan? Check out our new post on GVAP progress: bit.ly/wDK63G
3 Jan

Journal Watch

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
January 3, 2012; 156 (1 Part 1)
http://www.annals.org/content/current
Ideas and Opinions
The Anthrax Attacks 10 Years Later
Larry M. Bush and

Maria T. Perez
Ann Intern Med January 3, 2012 156:41-44; published ahead of print October 3, 2011,
Abstract
Ten years ago, just weeks after the September 11 attacks, the United States experienced a deliberate act of bioterrorism. Through use of the postal service, anthrax spores were widely disseminated, including to homes, the Senate, and major newsrooms, resulting in morbidity and mortality and effectively disrupting our way of life and revealing our vulnerability. Even though such attacks had been the subject of much writing and had been planned for, detection of and the appropriate response to an attack with an agent from the so-called "Category 'A' List" had only been considered in theoretical terms. What transpired during the following difficult weeks, including how public health and federal government agencies performed, has been both praised and criticized. An intertwined epidemiologic and criminal investigation of such magnitude was unprecedented in U.S. history. To address the question of whether we as a nation are now better prepared for future threats involving biologic agents, it is important to learn from the lessons of the 2001 anthrax attacks, including the critical role of clinicians in surveillance. As physicians involved in diagnosing anthrax in the index case and alerting authorities, we offer our perspective on these events a decade after their occurrence.

British Medical Bulletin
Volume 100 Issue 1 December 2011
http://bmb.oxfordjournals.org/content/current
[Reviewed earlier; No relevant content]

British Medical Journal
07 January 2012 (Vol 344, Issue 7838)
http://www.bmj.com/content/current
Note: This issue features a range of articles focuses on clinical trials and issues of research misconduct. The lead BMJ editorial is titled:
Research misconduct is widespread and harms patients
BMJ 2012;344:e14 (Published 5 January 2012)
Analysis
Twenty criteria to make the best of scarce health resources in developing countries
BMJ 2011; 343 doi: 10.1136/bmj.d7023 (Published 25 November 2011)
James D Shelton, science adviser
Extract
The needs of developing countries are so great and potential interventions so numerous that priorities are essential. James D Shelton suggests a simple checklist for deciding on priorities and improving implementation
It is difficult to exaggerate the health needs of developing countries. Consider the formidable core list of priorities in President Obama's Global Health Initiative: maternal health, diarrhoea, pneumonia, routine immunisable diseases, family planning, nutrition, sanitation, malaria, HIV, tuberculosis, and priority neglected tropical diseases—and each has multiple interventions. Yet, numerous other worthy health conditions clamour for

attention. These include infectious diseases such as influenza, meningitis, cholera, and emerging zoonoses but also injuries, mental illness, surgery, palliative care, and chronic diseases. The immense needs dwarf the available resources and fragile overloaded systems. Even basic infrastructure is often lacking—for example, national service provision assessments from Uganda and Tanzania indicate that only 24% and 35%, respectively, of health facilities have regular electricity and only 31% and 34%, respectively, have regular water supply.1 2 Health worker shortages and related system dysfunctions have been described as a "slow-burning crisis."3 Health workers can perform only a limited number of tasks, and organisational system structures are fragile as well. Accordingly, many effective public health approaches such as water and sanitation, food fortification, or alcohol taxation bypass clinical services entirely.

So what is the best use of resources? Much of the advocacy for health interventions stresses the importance of a particular health problem and the clinical efficacy of proposed interventions. However, true success on a large scale in resource constrained environments requires much more. To help a more systematic approach, I suggest some key criteria that should help both to inform priorities and to improve interventions.

Cost Effectiveness and Resource Allocation
(Accessed 8 January 2012)
http://www.resource-allocation.com/
[No new relevant content]

Emerging Infectious Diseases
Volume 18, Number 1—January 2012
http://www.cdc.gov/ncidod/EID/index.htm
[Reviewed last week]

Global Health
Winter 2012
http://www.globalhealthmagazine.com/in_this_issue/
[Reviewed last week]

Globalization and Health
[Accessed 8 January 2012]
http://www.globalizationandhealth.com/
[No new relevant content]

Health Affairs
December 2011; Volume 30, Issue 12
http://content.healthaffairs.org/content/current
Variety Issue
[Reviewed earlier; No relevant content]

Health and Human Rights
Vol 13, No 2 (2011)
http://hhrjournal.org/index.php/hhr
[Reviewed earlier]

Health Economics, Policy and Law
Volume 7 - Special Issue 01 - January 2012
http://journals.cambridge.org/action/displayIssue?jid=HEP&tab=currentissue
Special Focus Issue
Back to the future: 10 years of European health reforms
Anna Dixon and Emmi Poteliakhoff
Health Economics, Policy and Law / Volume 7 / Special Issue 01, pp 1 - 10

Published online: 05 January 2012
DOI:10.1017/S1744133111000247
Abstract
The challenges facing European health systems have changed little over 30 years but the responses to them have. Policy ideas that emerged in some countries spread to others; however, the way policies were implemented and the impact they have had has been shaped by specific national contexts. Comparative policy analysis has evolved in response to this, moving away from simple classifications of health systems and crude rankings to studies that try and understand more deeply what works, where and why. For policymakers interested in how other countries have dealt with common challenges, it is important that they avoid the naïve transplantation of policy solutions but understand the need to translate policies to fit the institutional context of a particular country. Policies that cross borders will necessarily be shaped by the social and political institutions of a country. These dimensions should not be ignored in comparative research. The next decade will require health systems to deliver improved care for people with complex needs while at the same time delivering greater value. Policymakers will benefit from looking backwards as well as to their neighbours in order to develop appropriate policy solutions.
Observations
The role of comparative health studies for policy learning
Richard B. Saltman
The folly of cross-country ranking exercises
Adam Oliver
The unwritten rules of cross-national policy analysis
Theodore Marmor
Shall we dance? The intricate project of comparison in the study of health policy
Carolyn H. Tuohy
Articles
Reflections on the evolution of health technology assessment in Europe
Corinna Sorenson and Kalipso Chalkidou
Choice policies in Northern European health systems

Karsten Vrangbaek, Ruth Robertson, Ulrika Winblad, Hester Van de Bovenkamp and Anna Dixon

Paying for hospital care: the experience with implementing activity-based funding in five European countries

Jacqueline O'Reilly, Reinhard Busse, Unto Häkkinen, Zeynep Or, Andrew Street and Miriam Wiley

The rise of the regulatory state in health care: a comparative analysis of the Netherlands, England and Italy

Jan-Kees Helderman, Gwyn Bevan and George France

Overcoming fragmentation in health care: chronic care in Austria, Germany and the Netherlands

Ellen Nolte, Cécile Knai, Maria Hofmarcher, Annalijn Conklin, Antje Erler, Arianne Elissen, Maria Flamm, Brigit Fullerton, Andreas Sönnichsen and Hubertus J. M. Vrijhoef

Health Policy and Planning
Volume 27 Issue 1 January 2012
http://heapol.oxfordjournals.org/content/current
[Reviewed last week]

Human Vaccines & Immunotherapeutics (formerly Human Vaccines)
Volume 8, Issue 1 January 2012
http://www.landesbioscience.com/journals/vaccines/toc/volume/7/issue/12/

Editor's Corner

Special Focus: Influenza Vaccines

Susanna Esposito

We have been living with influenza for many years, and have become so used to it becoming a part of our lives to which we usually do not pay much attention. After the excitement of the initial discovery of influenza viruses in 1933 and the development of the first vaccines in the 1940s, relatively little happened in the field during the rest of the 20th century except for the development of the first serological assays, the definition of some correlates of protection, and the expansion of worldwide production capacity.

However, the coming of the 21st century brought new epidemiological data and technological innovations in the production of vaccines. The epidemiological studies showed that influenza viruses are underestimated global killers; they cause annual epidemics and occasional pandemics that have claimed the lives of millions, and the emergence of new strains continues to challenge public health authorities and scientific communities. The real-time monitoring of the evolution of influenza viruses has improved our understanding of the factors leading to viral pathogenicity and/or transmissibility, and the development of new vaccines will be critical for controlling future outbreaks of the disease. The correlates of protection continue to rely on serum antibodies, but live attenuated vaccines also employ another mechanism of protection, and the use of adjuvants and intradermal vaccination has improved the effectiveness of inactivated vaccines. Furthermore, alternatives to eggs have become available, and reverse genetics has allowed us to navigate new horizons. All of these findings have had

a significant impact on public health policies and the recommendations for influenza vaccination in different age groups.

The aim of this special issue is to provide a comprehensive update of the state-of-the-art concerning influenza and its prevention. It begins with an overview of influenza viruses that also covers influenza in birds and animals, moves on to deal with the epidemiological, clinical and diagnostic aspects of the disease in different age groups, and finally discusses the various issues associated with its prevention. There are chapters on newly available influenza vaccines, the new technologies used to prepare them, and why there is a need for a quadrivalent vaccine. The recommendations concerning vaccination in children, adults and the elderly are described in detail, and the differences between countries are explained and discussed. The reasons for the low vaccination coverage rate even in high-risk categories are critically reviewed, and there is a discussion of the economic value of vaccination and its impact on public health. Finally, consideration is given to the use of influenza vaccination in special situations such as pregnancy, and there is a summary of the lessons learned from the last pandemic.

I hope that these articles by representative highly experienced authors will make this issue useful to experts in pediatrics, infectious diseases, public health and internal medicine, and believe they can make a significant contribution to our fight against influenza.

Special Focus Review

Economic value of influenza vaccination

Volume 8, Issue 1 January 2012

Chiara de Waure, Maria Assunta Veneziano, Chiara Cadeddu, Silvio Capizzi, Maria Lucia Specchia, Stefano Capri and Walter Ricciardi

Extract

Influenza epidemics are responsible for high mortality and morbidity rates in particular among elderly and high risk groups. This review is aimed at assessing the economic value of vaccination in these groups. A search of full economic evaluations of influenza vaccination in comparison with no interventions was performed on PubMed from January 1990 to May 2011. Only economic evaluations dealing with elderly and high risk groups were considered. The quality of selected articles was assessed through Drummond's checklist. Sixteen cost-effectiveness analyses and four cost-benefit analyses were included: overall, the quality of studies was fairly good. The vaccination was demonstrated to be cost-effective or cost-saving in almost all studies, independently by the perspective and the type of analysis. Influenza vaccination is a worthwhile intervention from the pharmacoeconomic view-point, anyway a standardization of methods should be desirable in order to guarantee the comparability and transferability of results.

International Journal of Infectious Diseases

Volume 16, Issue 1 pp. e1-e74 (January 2012)

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

[No relevant content]

JAMA

January 4, 2012, Vol 307, No. 1, pp 7-104
http://jama.ama-assn.org/current.dtl
[No relevant content]

Journal of Infectious Diseases
http://www.journals.uchicago.edu/toc/jid/current
[Reviewed last week]

The Lancet
Jan 07, 2012 Volume 379 Number 9810 p1 – 92 e1 - 4
http://www.thelancet.com/journals/lancet/issue/current
Comment
The remaining smallpox stocks: the healthiest outcome
Jean-Vivien Mombouli, Stephen M Ostroff

The Lancet Infectious Disease
Jan 2012 Volume 12 Number 1 p1 - 88
http://www.thelancet.com/journals/laninf/issue/current
[Reviewed last week]

Medical Decision Making (MDM)
November/December 2011; 31 (6)
http://mdm.sagepub.com/content/current
[No relevant content]

Nature
Volume 481 Number 7379 pp5-108 5 January 2012
http://www.nature.com/nature/current_issue.html
[No relevant content]

Nature Medicine
January 2012, Volume 18 No 1

http://www.nature.com/nm/index.html
[No relevant content]

Nature Reviews Immunology
January 2012 Vol 12 No 1
http://www.nature.com/nri/journal/v12/n1/index.html
[Reviewed earlier]

New England Journal of Medicine
January 5, 2012 Vol. 366 No. 1
http://content.nejm.org/current.shtml
Original Articles
Efficacy Results of a Trial of a Herpes Simplex Vaccine
R.B. Belshe and Others
Background
Two previous studies of a herpes simplex virus type 2 (HSV-2) subunit vaccine containing glycoprotein D in HSV-discordant couples revealed 73% and 74% efficacy against genital disease in women who were negative for both HSV type 1 (HSV-1) and HSV-2 antibodies. Efficacy was not observed in men or HSV-1 seropositive women.
Methods
We conducted a randomized, double-blind efficacy field trial involving 8323 women 18 to 30 years of age who were negative for antibodies to HSV-1 and HSV-2. At months 0, 1, and 6, some subjects received the investigational vaccine, consisting of 20 μg of glycoprotein D from HSV-2 with alum and 3-O-deacylated monophosphoryl lipid A as an adjuvant; control subjects received the hepatitis A vaccine, at a dose of 720 enzyme-linked immunosorbent assay (ELISA) units. The primary end point was occurrence of genital herpes disease due to either HSV-1 or HSV-2 from month 2 (1 month after dose 2) through month 20.
Results
The HSV vaccine was associated with an increased risk of local reactions as compared with the control vaccine, and it elicited ELISA and neutralizing antibodies to HSV-2. Overall, the vaccine was not efficacious; vaccine efficacy was 20% (95% confidence interval [CI], −29 to 50) against genital herpes disease. However, efficacy against HSV-1 genital disease was 58% (95% CI, 12 to 80). Vaccine efficacy against HSV-1 infection (with or without disease) was 35% (95% CI, 13 to 52), but efficacy against HSV-2 infection was not observed (−8%; 95% CI, −59 to 26).
Conclusions
In a study population that was representative of the general population of HSV-1– and HSV-2–seronegative women, the investigational vaccine was effective in preventing HSV-1 genital disease and infection but not in preventing HSV-2 disease or infection. (Funded by the National Institute of Allergy and Infectious Diseases and GlaxoSmithKline; ClinicalTrials.gov number, NCT00057330.)

OMICS: A Journal of Integrative Biology
http://www.liebertonline.com/toc/omi/15/11
Volume 15, Number 12
[No relevant content]

The Pediatric Infectious Disease Journal
January 2012 - Volume 31 - Issue 1 pp: A11-A12,1-9,e1-e36
http://journals.lww.com/pidj/pages/currenttoc.aspx
Original Studies

Maternal Characteristics and Hospital Policies as Risk Factors for Nonreceipt of Hepatitis B Vaccine in the Newborn Nursery

O'Leary, Sean T.; Nelson, Christina; Duran, Julie

Pediatric Infectious Disease Journal. 31(1):1-4, January 2012.
doi: 10.1097/INF.0b013e3182345995

Abstract:

Background: A birth dose of hepatitis B vaccine (HBV) is a primary focus of the Advisory Committee on Immunization Practices' strategy to eliminate transmission of hepatitis B virus in the United States. We sought to assess the impact of maternal characteristics and hospital policy on the receipt of a birth dose of HBV.

Methods: A retrospective cohort study was performed using data from the 2008 Colorado birth registry. Hospital policy was assessed by state health department personnel. Univariate and multivariate logistic regression analyses were used to examine the association of maternal characteristics and hospital policy with nonreceipt of HBV.

Results: A total of 64,425 infants were identified in the birth cohort, of whom 61.6% received a birth dose of HBV. Higher maternal education and income were associated with nonreceipt of HBV (master's degree vs. eighth grade or less: adjusted odds ratio [OR] = 1.66, 95% confidence interval [CI] = 1.49–1.85; >$75,000 vs. <$15,000: adjusted OR = 1.21, 95% CI = 1.13–1.30). Lack of a hospital policy stipulating a universal birth dose strongly predicted nonreceipt of a birth dose of HBV (policy with no birth dose vs. policy with a birth dose: adjusted OR = 2.21, 95% CI = 2.13–2.30).

Conclusions: Maternal characteristics such as higher education and income are associated with nonreceipt of the HBV during the perinatal period. To effectively reduce risk of perinatal hepatitis B transmission, hospitals should stipulate that all infants are offered HBV and ensure that these policies are implemented and followed.

Pediatrics

January 2012, VOLUME 129 / ISSUE 1
http://pediatrics.aappublications.org/current.shtml
[Reviewed last week]

Pharmacoeconomics

January 1, 2012 - Volume 30 - Issue 1 pp: 1-81
http://adisonline.com/pharmacoeconomics/pages/currenttoc.aspx
[Reviewed earlier]

PLoS One

[Accessed 8 January 2012]
http://www.plosone.org/article/browse.action;jsessionid=577FD8B9E1F322DAA533C413369CD6F3.ambra01?field=date

A Stakeholder-Informed Approach to the Identification of Criteria for the Prioritization of Zoonoses in Canada

Victoria Ng, Jan M. Sargeant

PLoS ONE: Research Article, published 06 Jan 2012 10.1371/journal.pone.0029752

Abstract

Background
Zoonotic diseases account for over 60% of all communicable diseases causing illness in humans and 75% of recently emerging infectious diseases. As limited resources are available for the control and prevention of zoonotic diseases, it is necessary to prioritize diseases in order to direct resources into those with the greatest needs. The selection of criteria for prioritization has traditionally been on the basis of expert opinion; however, details of the methods used to identify criteria from expert opinion often are not published and a full range of criteria may not be captured by expert opinion.
Methodology/Principal Findings
This study used six focus groups to identify criteria for the prioritization of zoonotic diseases in Canada. Focus groups included people from the public, animal health professionals and human health professionals. A total of 59 criteria were identified for prioritizing zoonotic diseases. Human-related criteria accounted for the highest proportion of criteria identified (55%), followed by animal-related criteria (26%) then pathogen/disease-related criteria (19%).
Similarities and differences were observed in the identification and scoring of criteria for disease prioritization between groups; the public groups were strongly influenced by the individual-level of disease burden, the responsibility of the scientific community in disease prioritization and the experiences of recent events while the professional groups were influenced by the societal- and population-level of disease burden and political and public pressure.
Conclusions/Significance
This was the first study to describe a mixed semi-quantitative and qualitative approach to deriving criteria for disease prioritization. This was also the first study to involve the opinion of the general public regarding disease prioritization. The number of criteria identified highlights the difficulty in prioritizing zoonotic diseases. The method presented in this paper has formulated a comprehensive list of criteria that can be used to inform future disease prioritization studies.

Evolutionary Determinants of Genetic Variation in Susceptibility to Infectious Diseases in Humans

Christi Baker, Janis

PLoS ONE: Research Article, published 05 Jan 2012 10.1371/journal.pone.0029089

Abstract
Although genetic variation among humans in their susceptibility to infectious diseases has long been appreciated, little focus has been devoted to identifying patterns in levels of variation in susceptibility to different diseases. Levels of genetic variation in susceptibility associated with 40 human infectious diseases were assessed by a survey of studies on both pedigree-based quantitative variation, as well as studies on different classes of marker alleles. These estimates were correlated with pathogen traits, epidemiological characteristics, and effectiveness of the human immune response. The strongest predictors of levels of genetic variation in susceptibility were disease characteristics negatively associated with immune effectiveness. High levels of genetic variation were associated with diseases with long infectious periods and for which vaccine development attempts have been unsuccessful. These findings are consistent with predictions based on theoretical models incorporating fitness costs associated with the different types of resistance mechanisms. An appreciation of these observed patterns will be a valuable tool in directing future research given that genetic variation in disease susceptibility has large implications for vaccine development and epidemiology.

PLoS Medicine
(Accessed 8 January 2012)
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 8 January 2012)
http://www.pnas.org/content/early/recent
[No new relevant content]

Science
6 January 2012 vol 335, issue 6064, pages 1-136
http://www.sciencemag.org/current.dtl
[No relevant content]

Science Translational Medicine
4 January 2012 vol 4, issue 115
http://stm.scienceag.org/content/mcurrent
Focus: Hepatitis C Virus
Chimp Virus Makes a Savvy Vaccine Vector
Michael Houghton
4 January 2012: 115fs1
Abstract
A hepatitis C virus vaccine delivered by a chimpanzee-derived adenovirus vector produces strong T cell immune responses in healthy human volunteers.
Research Articles
Hepatitis C
Novel Adenovirus-Based Vaccines Induce Broad and Sustained T Cell Responses to HCV in Man
Eleanor Barnes, Antonella Folgori, Stefania Capone, Leo Swadling, Stephen Aston, Ayako Kurioka, Joel Meyer, Rachel Huddart, Kira Smith, Rachel Townsend, Anthony Brown, Richard Antrobus, Virginia Ammendola, Mariarosaria Naddeo, Geraldine O'Hara, Chris Willberg, Abby Harrison, Fabiana Grazioli, Maria Luisa Esposito, Loredana Siani, Cinzia Traboni, Ye Oo, David Adams, Adrian Hill, Stefano Colloca, Alfredo Nicosia, Riccardo Cortese, and Paul Klenerman
4 January 2012: 115ra1
An adenoviral HCV vaccine induces antiviral T cell responses in human volunteers.
Gene therapy
Vaccine Vectors Derived from a Large Collection of Simian Adenoviruses Induce Potent Cellular Immunity Across Multiple Species
Stefano Colloca, Eleanor Barnes, Antonella Folgori, Virginia Ammendola, Stefania apone, Agostino Cirillo, Loredana Siani, Mariarosaria Naddeo, Fabiana Grazioli, Maria Luisa Esposito, Maria Ambrosio, Angela Sparacino, Marta Bartiromo, Annalisa Meola, Kira

Smith, Ayako Kurioka, Geraldine A. O'Hara, Katie J. Ewer, Nicholas Anagnostou, Carly Bliss, Adrian V. S. Hill, Cinzia Traboni, Paul Klenerman, Riccardo Cortese, and Alfredo Nicosia
4 January 2012: 115ra2
Simian adenoviruses screened from wild-derived candidates can prime T cell responses in man and may serve as new vaccine vector candidates.

Tropical Medicine & International Health
January 2012 Volume 17, Issue 1 Pages 1–141
http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1365-3156/currentissue
[Reviewed last week]

Vaccine
http://www.sciencedirect.com/science/journal/0264410X

Volume 30, Issue 5 pp. 821-982 (20 January 2012)
Regular Papers
Influenza vaccination among healthcare personnel after pandemic influenza H1N1
Original Research Article
Pages 911-915
José Sánchez-Payá, Ignacio Hernández-García, Vicente García-Román, Robert Camargo-Angeles, Julio Barrenengoa-Sañudo, Cesar O. Villanueva-Ruiz, Hector R. Martínez, María González-Hernández
Abstract
The purpose of this study was to evaluate the coverage rates for influenza vaccination among health-care personnel (HCP), and if the reasons for accepting influenza vaccine by HCP and the frequency of vaccine-related adverse events (AEs) in 2010–2011 were different compared to 2009–2010. The AEs were detected by telephoning the worker one week after the vaccination. The coverage for seasonal vaccination in 2009–2010 was 31.0%, whereas that for 2009 pandemic influenza (H1NI) was 22.2% and 24.4% ($p < 0.05$) in 2010–2011. The most frequent reason for being vaccinated during the three campaigns was to "protect my health". Over 80.5% of the HCP reported 2009 pandemic influenza (H1N1) vaccine-related AEs compared to the 25.3% and 25.4% reporting seasonal vaccine-related AEs in 2009–2010 and 2010–2011 respectively ($p < 0.05$). None of the AEs were severe. Specific measures should be implemented in our country to recover and improve poor vaccination coverage.
Pandemic influenza vaccination: Lessons learned from Latin America and the Caribbean
Original Research Article
Pages 916-921
Alba María Ropero-Álvarez, Alvaro Whittembury, Hannah Jane Kurtis, Thais dos Santos, M. Carolina Danovaro-Holliday, Cuauhtémoc Ruiz-Matus
Abstract
In April 2009, the World Health Organization (WHO) reported the emergence of a new influenza (H1N1) virus which led to the first pandemic declaration of the 21st century.

Most countries in Latin America and the Caribbean (LAC) had a national preparedness plan in place at this time; however, the vaccination component of such plans was largely undeveloped. Nevertheless, countries were able to capitalize on the infrastructure of their immunization programs and widespread experience utilizing the seasonal influenza vaccine to prepare rapidly, developing H1N1 vaccination plans targeting individuals with chronic disease, pregnant women and health care workers, among others. In LAC vaccine was acquired through three mechanisms: the Pan American Health Organization's Revolving Fund, direct manufacturer purchase, and WHO donations. Vaccine access was not equitable both in quantity of vaccine available and timeless of vaccine availability. As of December 2010, an estimated 145 million doses had been administered in LAC. Despite high regional coverage, there were large variations in coverage at the national level; pregnant women had the lowest coverage, despite their high risk for morbidity and mortality. The number of severe adverse events reported in LAC was similar to those expected with the seasonal influenza vaccine. Risk communication was one of the key challenges countries faced, mainly due to concerns and misinformation spread regarding vaccine safety. Countries and the international community need to learn from the experiences gained during H1N1 vaccination in order to be better prepared for the next pandemic.

Effects of a nationwide Hib vaccine shortage on vaccination coverage in the United States

Original Research Article

Pages 941-947

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Abstract

Background

A shortage of Haemophilus influenzae type b (Hib) vaccine that occurred in the United States during December 2007 to September 2009 resulted in an interim recommendation to defer the booster dose, but to continue to vaccinate as recommended with the primary series during the first year of life.

Objectives

To quantify effects of the Hib shortage on vaccination coverage and to determine if any demographic subgroups were disproportionately affected.

Methods

Data from the 2009 National Immunization Survey (NIS) were divided based on child's age at the onset of the shortage. Comparisons were made in primary series coverage by 9 months between children <7 months versus ≥7 months at the start of the shortage. Comparisons in primary series plus booster dose completion by 19 months were made between children who were <12 months versus ≥12 months at the start of the shortage.

Results

Nationally, there was a difference in Hib primary series completion by 9 months among children age <7 months versus ≥7 months at the start of the shortage (73.9% versus 81.2%, $P < 0.001$). There was a large difference in the percentage of children fully vaccinated with the primary series plus booster dose by 19 months among children age <12 months versus ≥12 months at the start of the shortage (39.5% versus 66.0%, $P<0.001$). There were differential effects of the shortage on primary series coverage among states and for some demographic characteristics.

Conclusions
As expected booster dose coverage was reduced consistent with interim recommendations, but primary series coverage was also reduced by 7 percentage points nationally.

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Regular Papers
Maternal determinants of complete child immunization among children aged 12–23 months in a southern district of Nigeria
Original Research Article
Pages 730-736
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Abstract
This study was conducted to identify determinants of complete immunization status among children aged 12–23 months in a southern district of Nigeria. The World Health Organization cluster survey was used to evaluate immunization coverage of infants. Mothers of 525 children selected by the two-stage sampling method and interviewed using an adapted questionnaire responded. Completion of the immunization schedule was verified by an immunization card or by reported history indicating that the child had received full doses of four of the antigens included in the Nigeria routine immunization schedule. Multivariate logistic regression was used to identify factors associated with completion of immunization. Only 32.4% of children had completed the immunization schedule. Determinants of complete immunization status included a maternal age less than 30 years (AOR = 2.26, 95% CI:1.27–4.03), availability of an immunization card at first contact (AOR = 7.72, 95% CI:4.43–13.44), fewer than three children (AOR = 2.22, 95% CI:11.1–4.42), completion of post secondary education (AOR = 2.34, 95% CI:1.12–4.47) and maternal unemployment (AOR = 1.71, 95% CI:1.01–2.89). Identifying mothers whose children are at risk of not completing the immunization schedule and educating them is an important strategy to improve antigen coverage and prevent early childhood deaths from diseases like tuberculosis, poliomyelitis, tetanus, diphtheria, pertussis and measles.

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