Vaccines: The Week in Review
18 July 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 1,600 items.

Comments and suggestions should be directed to
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The Global Fund said it welcomed the decision by the Netherlands to commit a further €163.5 million for the period 2011-13. The Netherlands made the significant new funding pledge "despite a reduction in the country's overall official development assistance (ODA) budget. The Global Fund noted. The Netherlands is "the tenth largest donor to the Global Fund and has been among the most generous in terms of its contributions as a percentage of gross national income. It has pledged more than €648 million, including this latest pledge, to the Global Fund since its creation in 2002." http://www.theglobalfund.org/en/mediacenter/pressreleases/2001-07-15_Global_Fund_welcomes_the_Netherlands_decision_to_commit_%E2%82%AC163_5_million/

PAHO said a regional consultation will be held with the countries of the Hemisphere from November to December 2011 to discuss the plan of action for the Decade of Vaccines. The announcement was part of a meeting arranged by the Pan American Health Organization/World Health Organization (PAHO/WHO) with representatives of the Decade of Vaccines Collaboration and eight countries of the Hemisphere in Buenos Aires during the XIX Meeting of the Technical Advisory Group on

Vaccine-preventable Diseases. The objective of this meeting, held on 8 July, was "to share ideas to ensure that the strategies and lines of action for the Decade of Vaccines respond to the challenges facing national immunization programs in the Americas." In the consultation programmed for late 2011, the goal will be to "include the heads of immunization programs, the people in charge of epidemiological surveillance, and the chairs and members of national immunization advisory committees." Christopher Elias, Co-Chair of the Steering Committee of the Decade of Vaccines Collaboration, "highlighted the efforts and achievements of immunization programs in the Americas, making special reference to the PAHO/WHO Revolving Fund, a group procurement mechanism for the purchase of vaccines, syringes, and related supplies for the Organization's Member States.
http://new.paho.org/hq/index.php?option=com_content&task=view&id=5697&Itemid=1926

The MMWR Weekly for July 15, 2011 / Vol. 60 / No. 2 includes:
Dengue Virus Infections Among Travelers Returning from Haiti --- Georgia and Nebraska, October 2010

The **Weekly Epidemiological Record (WER) for 15 July 2011**, vol. 86, 29 (pp 301–316) includes: Rubella vaccines: WHO position Paper

"In an updated position paper…WHO recommends that countries use the opportunity of accelerated measles control and elimination activities to introduce rubella-containing vaccine. All countries that have not yet introduced rubella vaccine, and are providing two doses of measles vaccine using routine immunization and/or supplementary immunization activities should consider the inclusion of rubella-containing vaccine in their immunization programme.
http://www.who.int/entity/wer/2011/wer8629.pdf

Twitter Watch

A selection of items of interest this week from a variety of twitter feeds. This capture is highly selective and by no means intended to be exhaustive.

unpublications UN Publications
Check out the yearly assessment of global progress towards the MDGs, in the #MDG Report 2011 at bit.ly/pdFX83

PublicHealth APHA
Public health returns to the big screen: Trailer released for Contagion, upcoming movie on airborne virus outbreak: http://goo.gl/CuhC9

PIH Partners In Health

VIDEO: @PIH's Paul Farmer interviewed about his new book & humanitarian aid to #Haiti http://ow.ly/5Eysl via @priTheWorld

GAVIAlliance GAVI Alliance
"Will CEOs also agree to join GAVI in this fight?" - @billroedy's challenge to CEOs, as #GAVI's envoy: http://ht.ly/5DPVx #globalhealth

wellcometrust Wellcome Trust
#Globalhealth - the biggest #bioethics challenge of all? http://wellc.me/p56s84 « @nuffbioethics guest post (& video) on our blog.

MalariaVaccine PATH MVI
Have you seen the @gatesfoundation's We Can End Malaria infographic? http://bit.ly/k0Sgef

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
July 5, 2011; 155 (1)
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
16 July 2011 Volume 343, Issue 7815
http://www.bmj.com/content/current
Editorials
Safety of adjuvanted pandemic influenza A (H1N1) 2009 vaccines
Frank DeStefano, Claudia Vellozzi, Lawrence B Schonberger, Robert T Chen

BMJ 2011;343:doi:10.1136/bmj.d4159 (Published 12 July 2011)
Extract

Risk of Guillain-Barré syndrome, if any, is smaller than for 1976 swine flu vaccines

Guillain-Barré syndrome has been a focus of safety monitoring since the report in 1976 of an increased risk of almost one extra case per 100 000 influenza vaccinations of swine origin. 1 Subsequent studies have shown either no increased risk or a slightly increased risk (1-2 per million vaccinees) after vaccination for seasonal flu. 2 The spread of the 2009 pandemic influenza A (H1N1) virus, which contained genes of swine origin, resulted in the development and widespread use of influenza A (H1N1) monovalent vaccines (2009 H1N1 vaccines). 3 These included formulations containing oil in water adjuvants that had not previously been widely used in flu vaccines in Europe. Although available evidence suggested that the adjuvanted vaccines had acceptable safety profiles, 3 data on the risk of rare adverse events, such as Guillain-Barré syndrome, were limited.

In the linked study (doi: 10.1136/bmj.d3908), Dieleman and colleagues report the first data on adjuvanted 2009 H1N1 vaccines and the risk of Guillain-Barré syndrome from a …

Guillain-Barré syndrome and adjuvanted pandemic influenza A (H1N1) 2009 vaccine: multinational case-control study in Europe

Jeanne Dieleman, Silvana Romio, Kari Johansen, Daniel Weibel, Jan Bonhoeffer, Miriam Sturkenboom, and the VAESCO-GBS Case-Control Study Group
BMJ 2011;343:doi:10.1136/bmj.d3908 (Published 12 July 2011)
[Free full text]

Abstract

Objective To assess the association between pandemic influenza A (H1N1) 2009 vaccine and Guillain-Barré syndrome.

Design Case-control study.

Setting Five European countries.

Participants 104 patients with Guillain-Barré syndrome and its variant Miller-Fisher syndrome matched to one or more controls. Case status was classified according to the Brighton Collaboration definition. Controls were matched to cases on age, sex, index date, and country.

Main outcome measures Relative risk estimate for Guillain-Barré syndrome after pandemic influenza vaccine.

Results Case recruitment and vaccine coverage varied considerably between countries; the most common vaccines used were adjuvanted (Pandemrix and Focetria). The unadjusted pooled risk estimate for all countries was 2.8 (95% confidence interval 1.3 to 6.0). After adjustment for influenza-like illness/upper respiratory tract infection and seasonal influenza vaccination, receipt of pandemic influenza vaccine was not associated with an increased risk of Guillain-Barré syndrome (adjusted odds ratio 1.0, 0.3 to 2.7). The 95% confidence interval shows that the absolute effect of vaccination could range from one avoided case of Guillain-Barré syndrome up to three excess cases within six weeks after vaccination in one million people.

Conclusions The risk of occurrence of Guillain-Barré syndrome is not increased after pandemic influenza vaccine, although the upper limit does not exclude a potential increase in risk up to 2.7-fold or three excess cases per one million vaccinated people. When assessing the association between pandemic influenza vaccines and Guillain-Barré

syndrome it is important to account for the effects of influenza-like illness/upper respiratory tract infection, seasonal influenza vaccination, and calendar time.

Clinical Infectious Diseases
Volume 53 Issue 3 August 1, 2011
http://www.journals.uchicago.edu/toc/cid/current

ARTICLES AND COMMENTARIES

Daniel C. Payne, Mary Allen Staat, Kathryn M. Edwards, Peter G. Szilagyi, Geoffrey A. Weinberg, Caroline B. Hall, James Chappell, Aaron T. Curns, Mary Wikswo, Jacqueline E. Tate, Benjamin A. Lopman, Umesh D. Parashar, and the New Vaccine Surveillance Network (NVSN)

Direct and Indirect Effects of Rotavirus Vaccination Upon Childhood Hospitalizations in 3 US Counties, 2006–2009

Clin Infect Dis. (2011) 53(3): 245-253 doi:10.1093/cid/cir307

Active, population-based surveillance from 2006-2009 observed dramatic decreases in rotavirus hospitalization rates among children in 3 US counties. In 2008, reductions were prominent among both vaccine eligible age groups and older, largely unvaccinated children; the latter likely resulting from indirect protection.

Brief Reports

Wing-Hong Seto, Benjamin J. Cowling, Hung-Suet Lam, Patricia T. Y. Ching, Mei-Lam To, and Didier Pittet

Clinical and Nonclinical Health Care Workers Faced a Similar Risk of Acquiring 2009 Pandemic H1N1 Infection

Clin Infect Dis. (2011) 53(3): 280-283 doi:10.1093/cid/cir375

Abstract

(See the editorial commentary by Drumright and Holmes, on pages 284–286.)

Reporting of confirmed pandemic influenza A virus (pH1N1) 2009 infection was mandatory among health care workers in Hong Kong. Among 1158 confirmed infections, there was no significant difference in incidence among clinical versus nonclinical staff (relative risk, 0.98; 95% confidence interval, 0.78–1.20). Reported community exposure to pH1N1 was common and was similar in both groups.

Lydia N. Drumright and Alison H. Holmes

Editorial Commentary: Monitoring Major Illness in Health Care Workers and Hospital Staff

Clin Infect Dis. (2011) 53(3): 284-286 doi:10.1093/cid/cir384

Extract

During the past 3 decades, our understanding of both the biology and epidemiology of infectious diseases has vastly improved because of methodological and technological developments. However, researchers have yet to take full advantage of the tools available to them, particularly in health care settings. Most studies of nosocomial influenza and other infections focus primarily on patients, but health care workers (HCWs) [1– 3] and hospitals [4] are likely to be central to disease transmission, prevention, and risk. Unfortunately, most studies of disease transmission within hospitals treat HCWs as "fixtures" rather than dynamic members of a disease transmission network, and there has been inadequate investment in the study of disease transmission among HCWs. This is a missed opportunity to develop a critical

understanding of disease epidemiology, thereby increasing patient safety and supporting and protecting HCWs as one of society's most important and valued resources.

The study in this month's Clinical Infectious Diseases by Seto and colleagues highlights the importance of detailed surveillance and research of infectious diseases among HCWs in understanding the roles of HCWs and patients in nosocomial transmission. It demonstrates the value of an organizational ability to adopt and integrate innovative methods into hospital procedures, and also some missed opportunities to gain a more complete understand the observations.

SURVEILLANCE OF ILLNESS IN HEALTH CARE WORKERS POPULATIONS

An area in need of urgent attention is surveillance of infectious diseases among HCWs, which was magnified by the severe acute respiratory syndrome epidemic [5]. Although the dearth of surveillance in this population persists, recognition of the utility and value of collecting such data is beginning to emerge. Seto et al report on an impressive system of monitoring and surveillance of all hospital and clinic staff in 38 hospitals and 74 outpatient …

Cost Effectiveness and Resource Allocation
(accessed 17 July 2011)
http://www.resource-allocation.com/
[No relevant content]

Emerging Infectious Diseases
Volume 17, Number 7–July 2011
http://www.cdc.gov/ncidod/EID/index.htm
[Reviewed earlier]

Health Affairs
July 2011; Volume 30, Issue 7
New Directions In System Innovations
http://content.healthaffairs.org/content/current
[Reviewed earlier; No relevant content]

Health Economics, Policy and Law
Volume 6 - Issue 03 - 2011 http://journals.cambridge.org/action/displayIssue?jid=HEP&tab=currentissue
[Reviewed earlier]

Human Vaccines
Volume 7, Issue 7 July 2011
http://www.landesbioscience.com/journals/vaccines/toc/volume/7/issue/7/
[Reviewed earlier]

JAMA
July 13, 2011, Vol 306, No. 2, pp 127-226
http://jama.ama-assn.org/current.dtl
Commentaries
The WHO Pandemic Influenza Preparedness Framework: A Milestone in Global Governance for Health
David P. Fidler,
Lawrence O. Gostin
JAMA. 2011;306(2):200-201.doi:10.1001/jama.2011.960
[First 150 words]

After years of negotiations, the World Health Organization (WHO) reached agreement on a pandemic influenza preparedness (PIP) framework for the sharing of influenza viruses and access to vaccines and other benefits in April 2011. 1 The framework addresses a troubling controversy—should low- and middle-income countries share influenza virus specimens with WHO without assurances that benefits derived from sharing will be equitably distributed?

During the avian influenza A(H5N1) outbreaks in late 2006, Indonesia refused to share virus specimens with WHO, claiming it was unfair to give pharmaceutical companies access. Industry would use viruses to patent vaccines and antiviral medications that Indonesia could not afford. Indonesia asserted sovereignty over viruses isolated within its territory, grounded on the Convention on Biological Diversity. Indonesia also argued that the 2005 International Health Regulations did not require states to share H5N1 viruses. 2 The international community feared that Indonesia's refusal to share would impede surveillance and …

Journal of Infectious Diseases
Volume 204 Issue 3 August 1, 2011
http://www.journals.uchicago.edu/toc/jid/current
[Reviewed last week]

The Lancet
Jul 16, 2011 Volume 378 Number 9787 Pages 199 - 288
http://www.thelancet.com/journals/lancet/issue/current
[No relevant content]

The Lancet Infectious Disease
Jul 2011 Volume 11 Number 7 Pages 489 - 578
http://www.thelancet.com/journals/laninf/issue/current
[Reviewed earlier]

Medical Decision Making (MDM)
July/August 2011; 31 (4)
http://mdm.sagepub.com/content/current
Editorials

Using Models to Make Policy: An Inflection Point?
Med Decis Making July/August 2011 31: 527-529, doi:10.1177/0272989X11412079
Extract

The use of models in guidelines making may be reaching a kind of inflection point, based on the evolution of 2 separate—but coincidentally converging—lines of work in the fields of guidelines making and model building. The result will be improved transparency about the differences among guidelines and the reasons for differences. Transparency is particularly important in an age when guidelines for the same problem, made by different organizations, may vary substantially and when the "trustworthiness" or quality of guidelines has been questioned because of weaknesses in the steps by which guidelines are made. Users of guidelines— clinicians, patients, and policy makers —need transparency to make informed choices among guidelines.

Transparency is challenging because of the detail, complexity, and kinds of expertise involved at each of the 3 steps in guidelines making:

- Evidence is gathered systematically, evaluated for quality, and selected on the basis of strength for use in quantitative analysis.
- Analysis of the evidence is conducted quantitatively, often through modeling, to show the likely outcomes of different intervention strategies.
- Using the results of steps 1 and 2, guidelines groups then decide among different strategies, based on the decision makers' values and decision thresholds.

In 2011, it is increasingly clear what kinds of expertise should be involved in each step and which methods will help ensure trustworthiness. Steps 1 and 2 may in some instances be done by "neutral" groups, expert in clinical research methodology and modeling, whereas groups that actually create guidelines may focus on step 3.

To understand and improve the overall process, the Institute of Medicine (IOM) of the US National Academy of Sciences recently released 2 reports. One, titled "Finding What Works in Health Care: Standards for Systematic Reviews," is concerned with the quality of step 1, the process used to gather, review, and "weigh" evidence. 1 The …

Nature
Volume 475 Number 7355 pp139-260 14 July 2011
http://www.nature.com/nature/current_issue.html
[No relevant content]

Nature Medicine
July 2011, Volume 17 No 7
http://www.nature.com/nm/index.html
[No relevant content]

New England Journal of Medicine
July 14, 2011 Vol. 365 No. 2
http://content.nejm.org/current.shtml
[No relevant content]

The Pediatric Infectious Disease Journal
July 2011 - Volume 30 - Issue 7 pp: A9-A10,545-632,e109-e129
http://journals.lww.com/pidj/pages/currenttoc.aspx
[Reviewed earlier; No relevant content]

Pediatrics
July 2011, VOLUME 128 / ISSUE 1
http://pediatrics.aappublications.org/current.shtml
[Reviewed earlier]

Pharmacoeconomics
August 1, 2011 - Volume 29 - Issue 8 pp: 637-730
http://adisonline.com/pharmacoeconomics/pages/currenttoc.aspx
[Reviewed last week]

PLoS One
[Accessed 17 July 2011]
http://www.plosone.org/article/browse.action;jsessionid=577FD8B9E1F322DAA533C413369CD6F3.ambra01?field=date

PLoS Medicine
(Accessed 17 July 2011)
http://www.plosmedicine.org/article/browse.action?field=date
Individualized Cost-Effectiveness Analysis
John P. A. Ioannidis, Alan M. Garber Essay, published 12 Jul 2011
doi:10.1371/journal.pmed.1001058
Summary Points
- Cost-effectiveness analyses typically express their principal results as incremental cost-effectiveness ratios (ICERs).
- ICERs are useful in making decisions for allocation of resources at a population level, but typical ICER measures have shortcomings when used for individual decisions.
- For the same ICER, the cost-effectiveness may vary among individuals because not everyone assigns the same priorities to specific outcomes, shares the same attitudes toward risk, or faces the same distribution of expected outcomes.
- ICER information can be enhanced by providing additional metrics that individualize cost-effectiveness analyses.
- These metrics include the per person net benefit and cost, subgroup ICER estimates for observed measured sources of heterogeneity, and distributions of outcomes and costs for unknown or unmeasured sources of heterogeneity.

Science
15 July 2011 vol 333, issue 6040, pages 257-376
http://www.sciencemag.org/current.dtl

[No relevant content]

Science Translational Medicine
13 July 2011 vol 3, issue 91
http://stm.sciencemag.org/content/current

Perspectives: Vaccine Design

Vaccine Design Reaches the Atomic Level

Peter D. Kwong and Lawrence Shapiro

13 July 2011: 91ps29

Abstract

The genetic diversity of pathogens presents a challenge to the development of broadly effective vaccines. In this issue, Scarselli et al. combine atomic-level structural information with genomics and classical vaccinology to design a single immunogen that elicits protective immunity against more than 300 natural variants of the bacterial pathogen meningococcus B. This accomplishment provides a glimpse of the power of structure-based vaccine design to create immunogens capable of eliciting protective responses against genetically diverse pathogens.

Research Articles

Vaccine Design

Rational Design of a Meningococcal Antigen Inducing Broad Protective Immunity

Maria Scarselli, Beatrice Aricò, Brunella Brunelli, Silvana Savino, Federica Di Marcello, Emmanuelle Palumbo, Daniele Veggi, Laura Ciucchi, Elena Cartocci, Matthew James Bottomley, Enrico Malito, Paola Lo Surdo, Maurizio Comanducci, Marzia Monica Giuliani, Francesca Cantini, Sara Dragonetti, Annalisa Colaprico, Francesco Doro, Patrizia Giannetti, Michele Pallaoro, Barbara Brogioni, Marta Tontini, Markus Hilleringmann, Vincenzo Nardi-Dei, Lucia Banci, Mariagrazia Pizza, and Rino Rappuoli

13 July 2011: 91ra62

Abstract

The sequence variability of protective antigens is a major challenge to the development of vaccines. For Neisseria meningitidis, the bacterial pathogen that causes meningitis, the amino acid sequence of the protective antigen factor H binding protein (fHBP) has more than 300 variations. These sequence differences can be classified into three distinct groups of antigenic variants that do not induce cross-protective immunity. Our goal was to generate a single antigen that would induce immunity against all known sequence variants of N. meningitidis. To achieve this, we rationally designed, expressed, and purified 54 different mutants of fHBP and tested them in mice for the induction of protective immunity. We identified and determined the crystal structure of a lead chimeric antigen that was able to induce high levels of cross-protective antibodies in mice against all variant strains tested. The new fHBP antigen had a conserved backbone that carried an engineered surface containing specificities for all three variant groups. We demonstrate that the structure-based design of multiple immunodominant antigenic surfaces on a single protein scaffold is possible and represents an effective way to create broadly protective vaccines.

Podcast

Vaccine Design

Science Translational Medicine Podcast: 13 July 2011

Rino Rappuoli and Orla Smith
13 July 2011: 91pc8
http://podcasts.aaas.org/science_transl_med/ScienceTranslMed_110713.mp3

Tropical Medicine & International Health
August 2011 Volume 16, Issue 8 Pages 905–1041
http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1365-3156/currentissue
Implementation research
Communities of practice: the missing link for knowledge management on implementation issues in low-income countries? (pages 1007–1014)
Bruno Meessen, Seni Kouanda, Laurent Musango, Fabienne Richard, Valéry Ridde and Agnès Soucat
Article first published online: 12 MAY 2011 | DOI: 10.1111/j.1365-3156.2011.02794.x
Summary
The implementation of policies remains a huge challenge in many low-income countries. Several factors play a role in this, but improper management of existing knowledge is no doubt a major issue. In this article, we argue that new platforms should be created that gather all stakeholders who hold pieces of relevant knowledge for successful policies. To build our case, we capitalize on our experience in our domain of practice, health care financing in sub-Saharan Africa. We recently adopted a community of practice strategy in the region. More in general, we consider these platforms as the way forward for knowledge management of implementation issues.

Vaccine
Volume 29, Issue 31 pp. 4875-5086 (12 July 2011)
http://www.sciencedirect.com/science/journal/0264410X
[Reviewed last week]

Value in Health
June 2011, Vol. 14, No. 4
http://www.valueinhealthjournal.com/home
[Reviewed earlier]