

Vaccines: The Week in Review

3 January 2011

Center for Vaccine Ethics & Policy

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

A program of

- Center for Bioethics, University of Pennsylvania

<http://www.bioethics.upenn.edu/>

- The Wistar Institute Vaccine Center

<http://www.wistar.org/vaccinecenter/default.html>

- Children's Hospital of Philadelphia, Vaccine Education Center

<http://www.chop.edu/consumer/jsp/microsite/microsite.jsp>

This weekly summary targets news and events in 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 1,200 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

The U.S. Food and Drug Administration approved Gardasil “for the prevention of anal cancer and associated precancerous lesions due to human papillomavirus (HPV) types 6, 11, 16, and 18 in people ages 9 through 26 years.” Gardasil is already approved for the same age population for the prevention of cervical, vulvar, and vaginal cancer and the associated precancerous lesions caused by HPV types 6, 11, 16, and 18 in females. It is also approved for the prevention of genital warts caused by types 6 and 11 in both males and females. Karen Midthun, M.D., director of the FDA’s Center for Biologics Evaluation and Research, commented, “Treatment for anal cancer is challenging; the use of Gardasil as a method of prevention is important as it may result in fewer diagnoses and the subsequent surgery, radiation or chemotherapy that individuals need to endure.” The FDA said that Gardasil’s ability to prevent anal cancer and the associated precancerous lesions [anal intraepithelial neoplasia (AIN) grades 1, 2, and 3] caused by anal HPV-16/18 infection was studied in a randomized, controlled trial of men who self-identified as having sex with men (MSM). This population was studied because it has the highest incidence of anal cancer. At the end of the study period, Gardasil was shown to be 78 percent effective in the prevention of HPV 16- and 18-related AIN. Because anal cancer is the same disease in both males and females, the effectiveness data was used to support the indication in females as well, the FDA said.

<http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm237941.htm>

Emergent BioSolutions announced the initiation of a Phase I clinical trial for NuThrax™ (Anthrax Vaccine Adsorbed with CPG 7909 Adjuvant), described as a third generation vaccine being developed as part of Emergent's anthrax franchise consisting of BioThrax (Anthrax Vaccine Adsorbed) in combination with a novel immunostimulatory compound, CPG 7909. Daniel J. Abdun-Nabi, president and chief operating officer of Emergent BioSolutions, commented, "We believe this third generation anthrax vaccine has the potential to exhibit advanced characteristics such as requiring fewer doses, generating an enhanced immune response, and having a favorable shelf life. If successful, this could be an attractive candidate for the government's growing arsenal of medical countermeasures."

<http://www.businesswire.com/news/home/20101227005257/en/Emergent-BioSolutions-Starts-Phase-Clinical-Trial-Generation>

The MMWR for December 24, 2010 / Vol. 59 / No. 50 includes:

- [Update on Cholera --- Haiti, Dominican Republic, and Florida, 2010](#)
- [Update: Influenza Activity --- United States, October 3--December 11, 2010](#)

<http://www.cdc.gov/mmwr/PDF/wk/mm5950.pdf>

Journal Watch

[Editor's Note]

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

Clinical Infectious Diseases

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

Volume 52 Issue 2 January 15, 2011

ARTICLES AND COMMENTARIES

Implementation of Cocooning against Pertussis in a High-Risk Population

C. Mary Healy, Marcia A Rench, and Carol J. Baker

Clin Infect Dis. (2011) 52(2): 157-162 doi:10.1093/cid/ciq001

Abstract

Despite logistical barriers, tetanus, diphtheria, acellular pertussis cocooning (vaccination of all caregivers of infants <1 year of age) was successfully implemented in a high-risk, predominantly Hispanic, medically underserved, uninsured population at a Houston hospital using standing orders and providing vaccinations on-site.

Projected Impact and Cost-Effectiveness of a Rotavirus Vaccination Program in India, 2008

Douglas H. Esposito, Jacqueline E. Tate, Gagandeep Kang and Umesh D. Parashar

Abstract

Background. To assess the value of rotavirus vaccination in India, we determined the potential impact and cost-effectiveness of a national rotavirus vaccination program.

Methods. We compared the national rotavirus disease and cost burden with and without a vaccination program and assessed the cost-effectiveness of vaccination. Model inputs included measures of disease and cost burden, vaccine performance, and vaccination coverage and cost. We measured the annual number of health-related events and treatment costs averted, as well as the cost-effectiveness in US dollars per disability-adjusted life-year (DALY) and cost per death averted. One-way sensitivity analyses were performed by individually varying each model input.

Results. With use of a vaccine that has an estimated effectiveness of 50%, a rotavirus vaccination program in India would prevent approx 44,000 deaths, 293,000 hospitalizations, and 328,000 outpatient visits annually, which would avert \$20.6 million in medical treatment costs. Vaccination would be cost-saving at the GAVI Alliance price of \$0.15 per dose. At \$1.00 per dose, a vaccination program would cost \$49.8 million, which would result in an expenditure of \$21.41 per DALY averted or \$662.94 per life saved. Even at \$7.00 per dose, vaccination would be highly cost-effective. In sensitivity analyses, varying efficacy against severe rotavirus disease and vaccine price had the greatest impact on cost-effectiveness.

Conclusions. A national rotavirus vaccination program in India would prevent substantial rotavirus morbidity and mortality and would be highly cost-effective at a range of vaccine prices. Public health officials can use this locally derived data to evaluate how this highly cost-effective intervention might fit into India's long-term health care goals.

EDITORIAL COMMENTARY: Reaching MDG 4 in India: A Role for Rotavirus Vaccine?

Edmund Anthony S. Nelson and Damian G. Walker

Clin Infect Dis. (2011) 52(2): 178-179 doi:10.1093/cid/ciq095

Abstract

A new health intervention can be either more or less expensive than existing intervention(s) (usually more). It can also be more or less effective (again, usually more). Thus, improving the health of a population usually costs more money (for governments, taxpayers, and/or individuals). Occasionally, the situation arises when a new and better intervention costs less and is cost-saving. In this case, the decision should be to introduce the intervention, and a failure to do so would require a very detailed explanation.

The economic evaluation by Esposito et al of the introduction of rotavirus vaccine to India's National Immunization Programme reports that if the Government of India applies to the GAVI Alliance and is approved to receive funds to support its introduction, it could pay the heavily discounted copay price of US\$.15 per dose (US\$.30 for a 2-dose course); at such a price per dose, it would be in the fortunate position of saving both lives and money. Of importance, however, the contribution of the Government of India to the cost of the vaccine would be expected to steadily increase over time until the full cost was borne by the government; thus, the potential cost-saving scenario would not last forever. Nevertheless, even at higher prices, purchasing the rotavirus

vaccine would be considered to still be a very sound investment. What is the likely eventual ...

Volume 52 Issue 1 January 1, 2011

[No relevant content]

Volume 52 supplement 2 January 15, 2011

Special Supplement: The 2009 H1N1 Influenza Pandemic: Field and Epidemiologic Investigations

Closing Schools in Response to the 2009 Pandemic Influenza A H1N1 Virus in New York City: Economic Impact on Households

Rebekah H. Borse, Casey Barton Behraves, Tamara Dumanovsky, Jane R. Zucker, David Swerdlow, Paul Edelson, Julia Choe-Castillo, and Martin I. Meltzer

Abstract

Understanding the effectiveness of a school closure in limiting social interaction and the economic impact of school closure on households is critical when developing guidelines to prevent spread of pandemic influenza. A New York City survey conducted in June 2009 in 554 households affected by the 2009 pandemic influenza H1N1-related school closures showed that, during closure, 30% of students visited at least 1 locale outside their homes. If all the adults in the home were employed, an ill child was less likely to leave home. In 17% of the households, at least 1 adult missed some work because of the closure. If all adults in the home were employed, someone was more likely to take time off work. If other children were in the household, it was less likely that an adult took time off work. The findings of our study will be important when developing future pandemic school-closure guidance.

Volume 52 suppl 2 January 15, 2011

Special Supplement: Linkage, Engagement, and Retention in HIV Care

Emerging Infectious Diseases

Volume 17, Number 1–January 2011

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

Research

Completeness of Communicable Disease Reporting, North Carolina, USA, 1995–1997 and 2000–2006

Emily E. Sickbert-Bennett, ✉David J. Weber, Charles Poole, Pia D.M. MacDonald, and Jean-Marie Maillard

Abstract

Despite widespread use of communicable disease surveillance data to inform public health intervention and control measures, the reporting completeness of the notifiable disease surveillance system remains incompletely assessed. Therefore, we conducted a comprehensive study of reporting completeness with an analysis of 53 diseases reported by 8 health care systems across North Carolina, USA, during 1995–1997 and 2000–2006. All patients who were assigned an International Classification of Diseases, 9th Revision, Clinical Modification, diagnosis code for a state-required reportable communicable disease were matched to surveillance records. We used logistic regression techniques to estimate reporting completeness by disease, year, and health

care system. The completeness of reporting varied among the health care systems from 2% to 30% and improved over time. Disease-specific reporting completeness proportions ranged from 0% to 82%, but were generally low even for diseases with great public health importance and opportunity for interventions.

Human Vaccines

Volume 7, Issue 1 January 2011

<http://www.landesbioscience.com/journals/vaccines/toc/volume/6/issue/12/>

Meeting Report

Second National Immunization Congress 2010: Addressing vaccine financing for the future in the United States

Angela K. Shen, Sarah Duggan-Goldstein, Elizabeth Sobczyk, Anna Buchanan and Lauren Wu

At the 2nd National Immunization Congress held in Chicago, IL, from August 31-September 2, 2010, partners from government, provider groups, academia, and manufacturers gathered to discuss the progress made and the future of financing child, adolescent, and adult vaccines. The meeting is a continuation of a solution-oriented vaccine financing dialogue held in February 2007 at the 1st Immunization Congress. The need for this forum arose from concerns that increased costs of immunization could hinder the ability of current financing and delivery systems to maintain access without financial barriers. Preventive care and additional financial coverage for vaccines are key points in federal health reform but some populations, especially adolescents and adults, could continue to experience challenges in accessing vaccines. Congress participants discussed adequate reimbursement in the public and private sectors for vaccine delivery and the potential financial resources, data, and infrastructure needed to increase vaccine uptake in the United States. Participants agreed that partners from all sectors – manufacturers, providers, public health, employers, payors, insurers, and consumers – will collectively need to leverage their efforts to address financial gaps not covered by health care reform law to ensure the preventive benefits of vaccines are fully realized for all Americans.

Research Papers

Correlates of receiving recommended adolescent vaccines among adolescent females in North Carolina

Paul L. Reiter, Annie-Laurie McRee, Sami L. Gottlieb and Noel T. Brewer

Background. Immunization is a successful and cost-effective method for preventing disease, yet many adolescents do not receive recommended vaccines. We assessed correlates of uptake of three vaccines (tetanus booster, meningococcal, and human papillomavirus [HPV] vaccines) recommended for adolescent females.

Methods. We examined cross-sectional data from 647 parents of 11-20 year-old females from North Carolina who completed the Carolina HPV Immunization Measurement and Evaluation (CHIME) Project follow-up survey in late 2008. Analyses used ordinal and binary logistic regression.

Results. Only 17% of parents indicated their daughters had received all three vaccines. Eighty-seven percent of parents indicated their daughters had received tetanus booster vaccine, 36% reported vaccination against meningococcal disease, and 36% reported HPV vaccine initiation. Daughters aged 13-15 years (OR=1.70, 95% CI: 1.09–2.64) or 16-20 years (OR=2.28, 95% CI: 1.51–3.44) had received a greater number of these

vaccines compared to daughters aged 11-12 years. Daughters who had preventive care visits in the last year (OR=4.81, 95% CI: 3.14–7.34) or whose parents had at least some college education (OR=1.90, 95% CI: 1.29–2.80) had also received a greater number of these vaccines.

Conclusions. Few daughters, particularly 11-12 years olds, had received all three vaccines recommended for adolescent females. Ensuring annual preventive care visits and increasing concomitant administration of adolescent vaccines may help increase vaccine coverage.

Seasonal and 2009 H1N1 influenza vaccine uptake, predictors of vaccination, and self-reported barriers to vaccination among secondary school teachers and staff

Lisa M. Gargano, Julia E. Painter, Jessica M. Sales, Christopher Morfaw, LaDawna M. Jones, Dennis Murray, Gina M. Wingood, Ralph J. DiClemente and James M. Hughes
Objective: Teachers, like healthcare workers, may be a strategic target for influenza immunization programs. Influenza vaccination is critical to protect both teachers and the students they come into contact with. This study assessed factors associated with seasonal and H1N1 influenza vaccine uptake among middle- and high-school teachers. Methods: Participants were recruited from two counties in rural Georgia. Data were collected from surveys in September 2009 and May 2010. Multivariate logistic regression was used to assess the association between teachers' attitudes toward seasonal and H1N1 influenza vaccination and vaccine uptake. Results: Seventy-eight percent of teachers who planned to receive seasonal influenza vaccine and 36% of those who planned to receive H1N1 influenza vaccine at baseline reported that they did so. Seasonal vaccine uptake was significantly associated with perceived severity (odds ratio [OR] 1.57, P=0.05) and self-efficacy (OR 4.46, P=0.006). H1N1 vaccine uptake was associated with perceived barriers (OR 0.7, P=0.014) and social norms (OR 1.39, P=0.05). The number one reason for both seasonal and H1N1 influenza vaccine uptake was to avoid getting seasonal/H1N1 influenza disease. The number one reason for seasonal influenza vaccine refusal was a concern it would make them sick and for H1N1 influenza vaccine refusal was concern about vaccine side effects. Conclusions: There is a strong association between the intention to be vaccinated against influenza (seasonal or 2009 H1N1) and actual vaccination uptake. Understanding and addressing factors associated with teachers' influenza vaccine uptake may enhance future influenza immunization efforts.

Non-specific and sex-differential effects of routine vaccines: What evidence is needed to take these effects into consideration in low-income countries?

Peter Aaby and Christine S. Benn

None of the original vaccines used in the child immunization programmes in low-income countries, including BCG, diphtheria-tetanus-pertussis (DTP), oral polio vaccine (OPV), and measles vaccine (MV), were tested for their overall effect on child mortality before being introduced. It was assumed that the effect on overall child mortality would be equivalent to the proportion of deaths caused by the targeted disease(s) (1). However, this is no longer a tenable assumption. Many studies have shown that these routine vaccines may have more general effects on the immune system than merely protecting against the targeted disease, i.e. so-called non-specific effects (NSE) (2). The NSE may well be more important for overall child survival than the lives saved by specific disease prevention (2-4). The WHO's Global Advisory Committee on Vaccine Safety (GACVS) has recently stated that it will keep a watch on the non-specific effects (NSE) of

vaccination. GACVS indicated that "conclusive evidence for or against non-specific effects of vaccines on mortality, including a potential deleterious effect of DTP vaccination on children's survival as has been reported in some studies, was unlikely to be obtained from observational studies" (5). By insisting on new RCTs to provide conclusive evidence, GACVS is making it very difficult if not impossible to test the NSEs of the currently recommended vaccines. It would usually be considered unethical to test currently recommended vaccines as part of a trial withholding these vaccines from some children (6).

JAMA

December 22/29, 2010, Vol 304, No. 24, pp 2667-2759

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

[No relevant content]

Journal of Infectious Diseases

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

Volume 203 Issue 2 January 15, 2011

[No relevant content]

Volume 203 Issue 1 January 1, 2011

[No relevant content]

The Lancet

Jan 01, 2011 Volume 377 Number 9759 Pages 1 - 96

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

Health Policy

Measuring impact in the Millennium Development Goal era and beyond: a new approach to large-scale effectiveness evaluations

Cesar G Victora, Robert E Black, J Ties Boerma, Jennifer Bryce

Summary

Evaluation of large-scale programmes and initiatives aimed at improvement of health in countries of low and middle income needs a new approach. Traditional designs, which compare areas with and without a given programme, are no longer relevant at a time when many programmes are being scaled up in virtually every district in the world. We propose an evolution in evaluation design, a national platform approach that: uses the district as the unit of design and analysis; is based on continuous monitoring of different levels of indicators; gathers additional data before, during, and after the period to be assessed by multiple methods; uses several analytical techniques to deal with various data gaps and biases; and includes interim and summative evaluation analyses. This new approach will promote country ownership, transparency, and donor coordination while providing a rigorous comparison of the cost-effectiveness of different scale-up approaches.

The Lancet Infectious Disease

Jan 2011 Volume 11 Number 1 Pages 1 - 72

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

Editorial

A vaccine against meningitis in Africa

The Lancet Infectious Diseases

Articles

Effectiveness of inactivated influenza vaccine in children aged 9 months to 3 years: an observational cohort study

Santtu Heinonen, Heli Silvennoinen, Pasi Lehtinen, Raija Vainionpää, Thedi Ziegler, Terho Heikkinen

Summary

Background

Few prospectively collected data are available to support the effectiveness of inactivated influenza vaccines in children younger than 2 years. We aimed to establish the effectiveness of trivalent inactivated influenza vaccine against laboratory-confirmed influenza A and B infections in a cohort of children younger than 3 years.

Methods

In a prospective cohort study during the influenza season of 2007–08 in Turku, Finland, between Jan 14 and April 9, 2008, we assessed the effectiveness of trivalent inactivated influenza vaccine against laboratory-confirmed influenza A and B infections in children aged 9 months to 3 years. Our study was part of a clinical trial on antiviral treatment of influenza in children (ClinicalTrials.gov, number [NCT00593502](https://clinicaltrials.gov/ct2/show/study/NCT00593502)). The vaccine was given as part of the Finnish vaccination programme as a 0·5 mL injection. Children enrolled into our study through mailed announcements and local advertisements were examined every time they had fever or signs of respiratory infection. No exclusion criteria were used for enrolment. Influenza was diagnosed with viral culture, antigen detection, and RT-PCR assays of nasal swab specimens. Vaccination status of children was determined by parental report. We calculated the primary effectiveness of influenza vaccination by comparing the proportions of infections in fully vaccinated and unvaccinated children in the follow-up cohort.

Findings

We enrolled 631 children into our study with a mean age of 2·13 years (range 9–40 months). Seven (5%) of 154 fully vaccinated children and 61 (13%) of 456 unvaccinated children contracted influenza during the study (effectiveness 66%, 95% CI 29–84; $p=0\cdot003$). In the subgroup of children younger than 2 years, four (4%) of 96 fully vaccinated children and 21 (12%) of 172 unvaccinated children contracted influenza (66%, 9–88, $p=0\cdot03$). We were unable to record any adverse events associated with the vaccination of the children in our study.

Interpretation

Trivalent inactivated influenza vaccine was effective in preventing influenza in young children, including those younger than 2 years. Our findings suggest that influenza vaccine recommendations should be reassessed in most countries.

Funding

F Hoffmann-La Roche Ltd.

Review

Antimalarial drug resistance of *Plasmodium falciparum* in India: changes over time and space

Naman K Shah, Gajender PS Dhillon, Aditya P Dash, Usha Arora, Steven R Meshnick, Neena Valecha

After the launch of the National Malaria Control Programme in 1953, the number of malaria cases reported in India fell to an all-time low of 0·1 million in 1965. However, the initial success could not be maintained and a resurgence of malaria began in the late 1960s. Resistance of *Plasmodium falciparum* to chloroquine was first reported in 1973 and increases in antimalarial resistance, along with rapid urbanisation and labour migration, complicated the challenge that India's large geographical area and population size already pose for malaria control.

Quadrivalent human papillomavirus vaccination and trends in genital warts in Australia: analysis of national sentinel surveillance data

Basil Donovan, Neil Franklin, Rebecca Guy, Andrew E Grulich, David G Regan, Hammad Ali, Handan Wand, Christopher K Fairley

Preview

The decrease in frequency of genital warts in young Australian women resulting from the high coverage of HPV vaccination might provide protective effects in heterosexual men through herd immunity.

Nature

Volume 468 Number 7327 pp1001-1138 23 December 2010

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

[No relevant content]

Nature Medicine

December 2010, Volume 16 No 12

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

[Reviewed earlier]

New England Journal of Medicine

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

December 30, 2010 Vol. 363 No. 27

[No relevant content]

December 23, 2010 Vol. 363 No. 26

[What Is Value in Health Care?](#)

M.E. Porter

[Putting the Value Framework to Work](#)

T.H. Lee

The Pediatric Infectious Disease Journal

January 2011 - Volume 30 - Issue 1 pp: A9-A10,1-94,e1-e17

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

[The Remaining Challenge of Pneumonia: The Leading Killer of Children](#)

Dagan, Ron; Bhutta, Zulfiqar A.; de Quadros, Ciro A.; Garau, Javier; Klugman, Keith P.; Khuri-Bulos, Najwa; Levine, Orin; Saha, Samir K.; Sow, Samba; Were, Fred; Yang, Yonghong

Pediatric Infectious Disease Journal. 30(1):1-2, January 2011.

doi: 10.1097/INF.0b013e3182005389

[No abstract available]

Vaccine Preventable Community-acquired Pneumonia in Hospitalized Children in Northwest China

Zhang, Qingli; Guo, Zhongqin; MacDonald, Noni E.

Pediatric Infectious Disease Journal. 30(1):7-10, January 2011.

doi: 10.1097/INF.0b013e3181ec6245

Abstract:

Background: Community-acquired pneumonia (CAP) is a major cause of morbidity in industrialized countries and morbidity/mortality in developing countries. In China, comprehensive studies of the etiology of CAP in children aged between 2 months and 14 years who are serious enough to require hospitalization are lacking. Previous studies have been limited in child age range, focused on fatal cases, and/or limited in etiologies sought. An understanding of the etiologies is needed for development of best prevention and management practices.

Objective: The aim of this study was to prospectively determine during a 12-month period the etiology of CAP in hospitalized children in a center in Northwest China.

Design/Methods: A prospective 12-month study (2004–2005) of CAP cases in children who were 2 months to 14 years of age admitted to the Second Hospital of Lanzhou University, China. Testing included admission and 1-month postdischarge serum for viral and bacterial serologic analyses (respiratory syncytial virus, influenza A and B, parainfluenza 1–3, adenovirus; *Streptococcus pneumoniae*, *Haemophilus influenzae* B, *Mycoplasma*, and *Moraxella catarrhalis*), blood culture, a nasopharyngeal aspirate for viral antigen testing, and a chest radiograph on admission and 1 month postdischarge. The study was funded by Lanzhou University. The study was performed in compliance with the guidelines of the institutional review board of the Second Hospital of Lanzhou University. Results: CAP was the admitting diagnosis for 29% of all admissions during the 12-month study. Of the 884 CAP cases, 821 (93%) were enrolled and completed the study. The age range was 2 months to 14 years; mean age was 2.3 years; 40% were <1 year. The average length of stay was 9.2 days (range, 6–20) but varied by age and etiology. Fourteen percent had received antibiotics before admission and 14% had underlying illnesses; 12% required intensive care unit treatment and 5 died. A microbial etiology for CAP was identified in 547 (67%); viral 535 (43%), bacterial 228 (27%), mixed viral bacterial 107 (13%), mixed viral in 1%, and mixed bacterial in 1%. The etiology varied by age; respiratory syncytial virus was most common in <1 year, *S. pneumoniae* and Hib 1–3 years, and *Mycoplasma* >5 years. Three potentially vaccine preventable etiologies accounted for 35% of the cases: influenza 9%, Hib 12%, and *S. pneumoniae* 14%.

Conclusions: CAP is a major cause of childhood admission in China. Given the etiologic findings in this study, potentially 25% to 35% of cases could be prevented if seasonal influenza vaccine and conjugated H. influenzae b and conjugated pneumococcal vaccines were introduced into routine practice

Pediatrics

January 2011 / VOLUME 127 / ISSUE 1

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

Adherence to the HPV Vaccine Dosing Intervals and Factors Associated With Completion of 3 Doses

Lea E. Widdice, David I. Bernstein, Anthony C. Leonard, Keith A. Marsolo, and Jessica A. Kahn

Pediatrics 2011; 127: 77-84.

Abstract

OBJECTIVE The objectives of this study were to determine (1) adherence to the immunization schedule for the human papillomavirus quadrivalent vaccine and (2) factors associated with completion of the 3-dose series.

METHODS This was a retrospective review of health information records from an academic medical center. The sample included all 9- to 26-year-old female patients who initiated vaccination within 2 years after quadrivalent vaccine availability. Multivariable logistic regression models were estimated to determine associations with completion of the 3-dose series within 7 and 12 months.

RESULTS Among the 3297 female patients who initiated vaccination with human papillomavirus quadrivalent vaccine, 67% self-identified as black and 29% self-identified as white. Fewer than 3% of vaccine doses were received earlier than recommended, but >50% of doses were received late. Completion rates were 14% by 7 months and 28% by 12 months. Independent predictors of completion by 7 months included white versus black race (odds ratio [OR]: 2.04 [95% confidence interval (CI): 1.64–2.56]; $P < .001$), use of contraception that required intramuscular injections every 3 months (OR: 1.53 [95% CI: 1.12–1.95]; $P < .001$), and private versus public insurance (OR: 1.31 [95% CI: 1.06–1.63]; $P < .05$). Age and clinic type were not independent predictors of completion.

CONCLUSIONS Adherence to recommended intervals and completion of the vaccine series were low. Lower rates of completion in black patients compared with white patients raises concern that disparities in vaccine completion could exacerbate existing disparities in cervical cancer.

PLoS Medicine

(Accessed 2 January 2011)

http://medicine.plosjournals.org/perlserv/?request=browse&issn=1549-1676&method=pubdate&search_fulltext=1&order=online_date&row_start=1&limit=10&document_count=1533&ct=1&SESSID=aac96924d41874935d8e1c2a2501181c#results
Toward a Consensus on Guiding Principles for Health Systems Strengthening

Robert C. Swanson, Annette Bongiovanni, Elizabeth Bradley, Varnee Murugan, Jesper Sundewall, Arvind Betigeri, Frank Nyonator, Adriano Cattaneo, Brandi Harless, Andrey Ostrovsky, Ronald Labonté Policy Forum, published 21 Dec 2010

doi:10.1371/journal.pmed.1000385

Summary Points

- Despite the expanding consensus about the need for health systems strengthening (HSS), there is a lack of a common definition and set of guiding principles that can inform strategic frameworks used to develop policy, practice and evaluations.
- Without a set of agreed-upon principles, these frameworks may be unclear and inconsistent, limiting the ability for collective learning, innovation, and improvement.
- A set of ten guiding principles for HSS is proposed in this paper that is based upon a systematic review and consultation with experts in three countries.

- They are: holism, context, social mobilization, collaboration, capacity enhancement, efficiency, evidence-informed action, equity, financial protection, and satisfaction.
- The authors welcome and encourage further discussion of these findings at all levels so that a broad consensus on HSS principles is obtained.

Science

24 December 2010 vol 330, issue 6012, pages 1717-1852

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

News of the Week: Infectious Disease

Polio Outbreak Breaks the Rules

Leslie Roberts

Summary

Polio is a horrendous disease, but it is seldom fatal—except now. An explosive outbreak in the Republic of Congo is writing another chapter in the book on how this ancient scourge behaves. The new outbreak tearing through this West African country has so far killed an estimated 42% of its victims, who, in another unusual twist, are mostly adult males between the ages of 15 and 25. Since it began in early October, the outbreak has paralyzed more than 476 people and killed at least 179, according to World Health Organization estimates from early December, making this one of the largest and deadliest polio outbreaks in recent history. And one of the most mystifying, too, polio experts say.

News Focus: Global Public Health

What's Next for Disease Eradication?

Martin Enserink

Summary

Two days after the 30th anniversary of the eradication of smallpox, 30 scientists and public health experts from around the world gathered for a weeklong meeting in the German city of Frankfurt am Main to try to chart a new path for disease eradication in the 21st century. Their meeting was triggered by several developments. Interest in tackling global health problems has surged the past decade, as has funding, but the two ongoing eradication campaigns—against guinea worm disease and polio—have proven far more difficult than predicted. Meanwhile, a key rationale for past eradication efforts—the promised financial windfall from stopping all control measures once a disease is gone—all but disappeared as a result of 9/11 and the 2001 anthrax letters. Wealthy countries in particular are determined never to let their guard down against diseases like smallpox, polio, or measles. Meanwhile, developing countries have their own questions: Why should they keep spending inordinate amounts of time and money on a disease such as polio—now down to fewer than 2000 cases a year—while their health systems are struggling with far more devastating diseases such as AIDS and TB?

Science Translational Medicine

22 December 2010 vol 2, issue 63

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

[No relevant content]

Vaccine

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

Volume 29, Issue 4 pp. 613-864 (17 January 2011)

Editorial

[Pandemic 2009–2010 influenza vaccine: Six lessons learned and the way forward \(Allegro not Adagio\)](#)

Pages 613-614

Gregory A. Poland

Review Article

[Civil society: A critical new advocate for vaccination in Europe](#)

Pages 624-628

Vanina Laurent-Ledru, Angus Thomson, Joseph Monsonego

Abstract

The vaccinology landscape has changed, with national authorities now being increasingly accountable to new stakeholders such as health insurers, regional regulatory bodies, the media, and civil society. Here, we discuss how civil society organisations (CSOs), such as patient and women's groups, have become important drivers in the introduction and sustainability of new vaccination programs. This shift in public implication in vaccine policy has been well illustrated in the recent introduction of human papillomavirus (HPV) vaccination in Europe. Patient and women's groups which were traditionally focused on advocacy of treatments have also become advocates for prevention with the advent of HPV vaccination. Civil society advocacy at the European level supported key resolutions and white papers which in turn informed national recommendations on cervical cancer vaccination. CSOs were also active at the national level, supporting national policy makers. These organisations may bring innovative and effective new approaches to communication on vaccination benefits, using public events, celebrities and various social media. Working with experts, CSOs can also be an important bridge from the science to the lay public. This may provide a vital counterbalance to media hype and antivaccination groups, although CSOs may also be active and vocal opponents of immunization. The successful implementation and sustainability of future vaccination programs against infections such as HIV will be dependent upon the active participation of civil society to inform, to reassure and to maintain public trust.

Volume 29, Issue 3 pp. 363-612 (10 January 2011)

Meeting Reports

[Afriflu—International conference on influenza disease burden in Africa, 1–2 June 2010, Marrakech, Morocco](#)

Pages 363-369

C. Steffen, O.M. Diop, B.D. Gessner, M.M. Hacen, M. Hassar, M.A. Katz, M.A. Miller, W.J. Paget, B.D. Schoub, G. Vernet, P.M. Ndumbe

Abstract

The burden of influenza disease is to a large extent unknown for the African continent. Moreover, the interaction of influenza with common infectious diseases in Africa remains poorly described. Solid scientific evidence on the influenza disease burden in Africa is critical for the development of effective influenza vaccine policies.

On 1st and 2nd June 2010 in Marrakech, Morocco, over eighty surveillance and influenza experts from 22 African countries as well as Europe and America met at the 'Afriflu' conference to discuss influenza challenges and solutions for the continent. During the meeting, participants exchanged their experiences and discussed a wide variety of topics related to influenza in Africa, including diagnosis, surveillance, epidemiology, and interventions.

The meeting concluded with a pledge to improve influenza knowledge and awareness in Africa, with an emphasis on accurate determination of disease burden to help orient public health policies.

"Once Bitten, Twice Shy": Participant perspectives in the aftermath of an early HIV vaccine trial termination

Original Research Article

Pages 451-458

P.A. Newman, S. Yim, A. Daley, R. Walisser, R. Halpenny, W. Cunningham, M. Loutfy

Abstract

The Step Study phase IIb HIV-1 vaccine trial was terminated early due to futility; subsequent analyses revealed increased susceptibility to HIV infection among a subset of test vaccine recipients. We conducted a mixed methods investigation, including a brief, self-administered baseline questionnaire and in-depth, semi-structured, 1-h interviews after unblinding, to explore experiences and perspectives among trial participants and key informants. Interviews were digitally recorded, transcribed, and analyzed using NVivo and thematic techniques. Forty-eight trial participants (46 gay/bisexual men) completed baseline surveys; 15 (14 gay/bisexual men) engaged in post-trial interviews. Participants indicated surprise and disappointment about the early trial termination and unexpected risks. Some articulated understanding the uncertainties of clinical trials, steadfast support and willingness to participate in the future; others reported greater risks than they deemed acceptable and unlikelihood of volunteering again. A few indicated mistrust of trial sponsors and ethics. Participants' most profound criticism was not about unexpected results, but perceived delays in unblinding and gaps in post-trial dissemination of information. Future HIV vaccine trials may benefit from increased emphasis on: (1) communication mechanisms among participants, investigators and trial sponsors, and (2) post-trial dissemination of information and psychosocial support.

Economic evaluation of infant and adolescent hepatitis B vaccination in the UK

Original Research Article

Pages 466-475

M. Ruby Siddiqui, Nigel Gay, W. John Edmunds, Mary Ramsay

Abstract

A Markov model of hepatitis B virus (HBV) disease progression in the UK estimated that 81% of predicted HBV-associated morbidity and mortality could be prevented by universal infant vaccination at a cost of approximately £260,000 per QALY gained. Universal adolescent vaccination would be less effective (45% prevented) and less cost-effective (£493,000 per QALY gained). Higher HBV incidence rates in males and intermediate/high risk ethnic populations meant it was approximately 3 times more cost-effective to vaccinate these groups. At current vaccine costs a selective infant vaccination programme, based on vaccinating intermediate/high risk ethnic populations would not be considered cost effective.

The threshold cost per vaccinated child at which the programme would be considered cost-effective was investigated. Universal infant vaccination would be cost-effective if the average cost of vaccinating each child against HBV, including vaccine and administration costs of all doses, was less than £4.09. Given the low cost of vaccination required to make a universal programme cost-effective the most feasible policy in the UK would be to use a suitably priced combined vaccine that included the other antigens in the current infant vaccination schedule.

Worsening disparities in HPV vaccine utilization among 19–26 year old women

Original Research Article

Pages 528-534

Amanda Dempsey, Lisa Cohn, Vanessa Dalton, Mack Ruffin

Abstract

We evaluated the characteristics associated with uptake of HPV vaccine by 19–26 year old women seen in primary care university-based clinics. Of the 11,545 women analyzed only 18% had initiated the 3-dose vaccine series. Series completion among the sample overall was only 10% in the 30 month study period. Decreased series initiation was associated with older age, public insurance, white race and non-family medicine specialty. Decreased series completion was associated with public insurance and African American race. Utilization disparities by race and insurance worsened over time suggesting that the highest risk populations of women were not getting vaccinated.