Center for Vaccine Ethics and Policy
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Vaccines: The Week in Review
9 March 2013
Center for Vaccine Ethics & Policy (CVEP)

This weekly summary targets news, events, announcements, articles and research in the global vaccine ethics and policy space and is aggregated from key governmental, NGO, international organization and industry sources, key peer-reviewed journals, and other media channels. This summary proceeds from the broad base of themes and issues monitored by the Center for Vaccine Ethics & Policy in its work: it is not intended to be exhaustive in its coverage. Vaccines: The Week in Review is also posted in pdf form and as a set of blog posts at http://centerforvaccineethicsandpolicy.wordpress.com/. This blog allows full-text searching of over 3,500 entries.

Comments and suggestions should be directed to
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Editor's Notes:

- A pdf version of this issue is available on our blog: http://centerforvaccineethicsandpolicy.wordpress.com/

Report: Pneumococcal AMC process & design evaluation

GAVI
March 2013
http://www.gavialliance.org/results/evaluations/pneumococcal-amc-process---design-evaluation/

Editor's Excerpt from GAVI Announcement

Overview

This report presents the findings of the Process and Design Evaluation for the Pilot Advance Market Commitment (AMC) for Pneumococcal Vaccines.

This evaluation was conducted in 2012 by Dalberg Global Development Advisors.

The pilot AMC is an innovative funding mechanism with the overarching goal to reduce morbidity and mortality from pneumococcal diseases. In June 2009, the governments of Italy, the United Kingdom, Canada, the Russian Federation, Norway and the Bill & Melinda Gates Foundation launched the pilot AMC with a collective US$1.5 billion commitment.

The pneumococcal AMC is designed to:

- accelerate the development of vaccines that meet developing country needs;
- bring forward the availability of effective pneumococcal vaccines - through scaling up of production capacity to meet developing country vaccine demand;
- accelerate vaccine uptake - through predictable vaccine pricing for countries and manufacturers;
- test the AMC concept for potential future applications.

Objectives

This evaluation is a process and design evaluation intended to offer insights and lessons to the international development community by appraising the design process, design decisions, and implementation of the pilot Pneumococcal AMC to date. The Terms of Reference (TOR) for this evaluation were developed in collaboration with AMC stakeholders.

The purpose of the evaluation was to assess the design process, design elements and implementation to date.

It is important to note that this evaluation forms part of the broader Monitoring and Evaluation (M&E) framework for this pilot AMC. This framework is based around four key components:

- a Baseline Study (completed in 2010);
- an annual monitoring report published on the GAVI website each year from 2010 ;
- an independent Process and Design Evaluation;
- independent Impact Evaluations to be undertaken every four years starting from 2014.

Findings and recommendations

Overall, the evaluators conclude that the pilot AMC has been implemented as designed and has demonstrated the ability of the international development community to design, establish and administer an AMC.

The evaluation assesses key design elements of the AMC such as the Pilot's pricing structure, its legally binding commitments on donor pledges, its limited purchase guarantees on long-term procurement contracts, and its target product profile.

The evaluators found that while there are some areas for improvement and key lessons to be learnt for the development of any future AMCs, this Pilot is on track for progressing towards its overarching objective and that the design process and design elements have contributed, at least in part, to increasing the supply and uptake of PCV. In addition to a small number of recommendations for improving the pneumococcal AMC, the report also provides some recommendations based on lessons learned for future AMCs or market shaping initiatives .

The Secretariat's responses to a number of the key findings are outlined in the Management Response.

Documents:

- **Pneumococcal AMC process & design evaluation: full report** [89 pages]
http://www.gavialliance.org/library/documents/gavi-documents/evaluations/amc-process-and-design-evaluation-full-report/
- **Pneumococcal AMC process & design evaluation: appendix**
http://www.gavialliance.org/library/documents/gavi-documents/evaluations/amc-process-and-design-evaluation-appendix-feb-2013/

Pneumococcal AMC process & design evaluation: management response
http://www.gavialliance.org/library/documents/gavi-documents/evaluations/amc-process-and-design-evaluation-mgt-response/

Moody's Investors Service has downgraded the International Finance Facility for Immunisation (IFFIm) by one notch from Aaa to Aa1 and is maintaining a negative outlook. The short-term issuer rating of IFFIm remains unchanged at Prime-1. Moody's decision to downgrade IFFIm follows the recent downgrade by Moody's of the United Kingdom, a donor to IFFIm, to Aa1 from Aaa. In its analysis of IFFIm's rating, Moody's considers IFFIm's credit rating to be closely associated with the rating of the UK. The UK is IFFIm's largest grantor, representing approximately half of the outstanding present value of IFFIm's total

grants. IFFIm currently is rated is rated AAA by Fitch Ratings with a negative outlook, Aa1 by Moody's with a negative outlook and AA+ with a negative outlook by Standard & Poor's. Moody's rating action does not affect IFFIm's ability to approve new programme funding for GAVI.
6 March 2013 – http://www.iffim.org/library/news/press-releases/2013/iffim-rating-action-by-moodys-follows-uk-downgrade/

Update: Polio this week - *As of 6 March 2013*
Global Polio Eradication Initiative
http://www.polioeradication.org/Dataandmonitoring/Poliothisweek.aspx
[Editor's Extract and bolded text]
- In the Democratic Republic of the Congo, all samples from 2012 AFP cases have now been fully cleared, and confirm that the country has not reported a WPV case in over one year (the last reported WPV case had onset of paralysis on 20 December 2011).
- Islamic scholars call for urgent action to complete polio eradication in Muslim communities: "Crippled children lead to a crippled Muslim Ummah" warned the Grand Imam of Al-Azhar, at a meeting in Cairo this week of Muslim scholars from several countries. As Muslim communities and countries everywhere have eradicated polio, the scholars reaffirmed their resolve to support the people, health workers and governments of the three remaining countries – Afghanistan, Nigeria and Pakistan. More at http://www.emro.who.int/media/news/polio-eradication-in-muslim-communities.html.

Nigeria
- One new WPV case was reported in the past week (WPV1 from Yobe), bringing in the total number of WPV cases for 2013 to 3. The total number of WPV cases for 2012 remains 122. The most recent WPV case had onset of paralysis on 31 January (from Yobe).
- No new cases of cVDPV2 were reported in the past week. The total number of cVDPV2 cases for 2012 remains eight. The most recent cVDPV2 case had onset of paralysis on 24 November 2012 (from Kebbi).
- Nationwide Immunization Plus Days (IPDs) were conducted using trivalent OPV on 2-5 March in 30 states, coordinated with activities in neighbouring Republic of Niger. IPDs have been postponed by one week in four southern states and the Federal Capital Territory because of the need for more time to adequately prepare for the round of immunization. IPDs have been postponed in Kano and Borno states due to security concerns. The security situation in the north remains fluid.

Pakistan
- The security situation continues to be monitored closely, in consultation with law enforcement agencies. Based on these security evaluations, immunization campaigns then proceed at local level as and when the situation allows. Immunization campaigns were conducted throughout February in key reservoir areas.

The **Weekly Epidemiological Record (WER) for 8 March 2013**, vol. 88, 10 (pp. 101–116) includes:
- Recommended composition of influenza virus vaccines for use in the 2013–2014 northern hemisphere influenza season
- Global report on Fukushima nuclear accident details health risks

http://www.who.int/entity/wer/2013/wer8810.pdf

WHO - Global Alert and Response (GAR)
Disease Outbreak News –
http://www.who.int/csr/don/en/index.html
6 March 2013 **Novel coronavirus infection - update**

The Ministry of Health in Saudi Arabia has informed WHO of a new confirmed case of infection with the novel coronavirus (NCoV).

The patient, a 69-year-old male, was hospitalized on 10 February 2013 and died on 19 February 2013. Preliminary investigation indicated that the patient had no contact with previously reported cases of NCoV infection and did not have recent history of travel.

To date, WHO has been informed of a global total of 14 confirmed cases of human infection with NCoV, including eight deaths. Of the total number, seven cases, including five deaths, have been reported from Saudi Arabia.

Based on the current situation and available information, WHO encourages all Member States (MS) to continue their surveillance for severe acute respiratory infections (SARI) and to carefully review any unusual patterns. WHO is currently working with international experts and countries where cases have been reported to assess the situation and review recommendations for surveillance and monitoring.

All MS are reminded to promptly assess and notify WHO of any new case of infection with NCoV along with information about potential exposures that may have resulted in infection and a description of the clinical course.

WHO does not advise special screening at points of entry with regard to this event nor does it recommend that any travel or trade restrictions be applied.

WHO continues to closely monitor the situation.

WHO - Humanitarian Health Action
http://www.who.int/hac/en/index.html
No new reports since 25 February 2013

/Reports/Research/Analysis/ Conferences/Meetings/Book Watch
Vaccines: The Week in Review has expanded its coverage of new reports, books, research and analysis published independent of the journal channel covered in Journal Watch below. Our interests span immunization and vaccines, as well as global public health, health governance, and associated themes. If you would like to suggest content to be included in this service, please contact David Curry at: david.r.curry@centerforvaccineethicsandpolicy.org

Public web consultation: WHO engagement with non-State actors
Background
In response to the request of the Executive Board of WHO (Decision EB132(11)) to conduct public web-based consultations on the draft principles and policies of engagement with non-State actors, the WHO Secretariat welcomes interested parties to provide comments on the

issues and questions related to WHO's engagement with non-State actors as outlined and described below. Comments are invited from 6 March 2013 to 20 March 2013.
- PDF version of issues and questions
pdf, 131kb
http://www.who.int/about/who_reform/governance/non_state_consultation/en/index.html

Meeting: 5th *Regional Pneumococcal Symposium*
Sabin Vaccine Institute, PAHO, JHU -IVAC), CDC
5-6 March 2013: Sao Paulo

This meeting convened "…health representatives from the Latin America and Caribbean (LAC) region to discuss and exchange ideas that may lead to the overcoming of financial, logistical, and political obstacles to pneumococcal prevention." Research introduced at the meeting indicated that in the Latin American and Caribbean context the cost of illness is an important and significant economic burden, suggesting that more use of pneumococcal vaccines could be cost-effective in adults.

Dr. Fernando de la Hoz , a member of the Medical Faculty at the National University of Colombia and lead author of the study, said, "Further research is needed in order for health officials to fully grasp the potential impact of immunizing older populations in Latin America and the Caribbean. We know now that the vaccine is saving the lives of thousands of our region's youngest citizens. The question is whether we should also be protecting their parents and grandparents."

The study found that direct medical costs to treat bacteremic pneumonia ranged from USD $993 to USD $3,535 per person, and the cost of treatment for bacteremic meningitis was as high as USD $4,490 for elderly persons. The cost analysis concluded that these diseases pose sizable burdens in five countries studied: Argentina, Brazil, Chile, Colombia and Uruguay.
http://www.prnewswire.com/news-releases/new-study-suggests-potential-shift-in-burden-of-pneumococcal-disease-195297681.html

Meeting: *Global Vaccine Summit*
UNICEF, WHO, Global Polio Eradication Initiative, GAVI Alliance, Bill & Melinda Gates Foundation.
24-25 April 2013; Abu Dhabi
Media Release Excerpt

"…The Summit will endorse the critical role that vaccines and immunization play in saving lives and protecting children for a lifetime. It aims to turn a spotlight on the importance of building and maintaining powerful routine immunization systems to keep all children healthy, no matter where they live.

"Despite tremendous progress, one child still dies every 20 seconds from a disease that could have been prevented by an existing vaccine. The Summit, held during World Immunization Week (April 24-30), will continue the momentum of the Decade of Vaccines -- a vision and commitment to reach all people with the vaccines they need.

"The Global Vaccine Summit will showcase how the world is uniting to improve child health by developing better and more affordable vaccines, by providing access to existing and new vaccines, and by strengthening routine immunization…

"…At the summit, donors, global leaders and partners will demonstrate their support for the Global Polio Eradication Initiative's Eradication and Endgame Strategic Plan 2013-2018, the first

comprehensive plan to lay out all the critical elements needed to achieve eradication. Ending polio is an early milestone in the global roadmap to save more than 20 million lives by 2020…" http://www.prnewswire.com/news-releases/global-vaccine-summit-to-recognize-progress-in-immunizing-all-children-everywhere-195778611.html

Journal Watch

Vaccines: The Week in Review continues its weekly scanning of key peer-reviewed 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

American Journal of Infection Control
Vol 41 | No. 3 | March 2013 | Pages 189-284
http://www.ajicjournal.org/current

Article in Press

Impact of hospital policies on health care workers' influenza vaccination rates

Mary Patricia Nowalk, PhD, RD; Chyongchiou Jeng Lin, PhD; Mahlon Raymund, PhD; Jamie Bialor, MPH, CHES, Richard K. Zimmerman, MD, MPH
published online 18 February 2013.

Abstract

Background

Overall annual influenza vaccination rate has slowly increased among health care workers but still remains below the national goal of 90%.

Methods

To compare hospitals that mandate annual health care worker (HCW) influenza vaccination with and without consequences for noncompliance, a 34-item survey was mailed to an infection control professional in 964 hospitals across the United States in 4 waves. Respondents were grouped by presence of a hospital policy that required annual influenza vaccination of HCWs with and without consequences for noncompliance. Combined with hospital characteristics from the American Hospital Association, data were analyzed using $\chi 2$ or Fisher exact tests for categorical variables and t tests for continuous variables.

Results

One hundred fifty hospitals required influenza vaccination, 84 with consequences (wear a mask, termination, education, restriction from patient care duties, unpaid leave) and 66 without consequences for noncompliance. Hospitals whose mandates have consequences for noncompliance included a broader range of personnel, were less likely to allow personal belief exemptions, or to require formal declination. The change in vaccination rates in hospitals with mandates with consequences (19.5%) was nearly double that of the hospitals with mandates without consequences (11%; $P = .002$). Presence of a state law regulating HCW influenza

vaccination was associated with an increase in rates for mandates with consequences nearly 3 times the increase for mandates without consequences.
Conclusion
Hospital mandates for HCW influenza vaccination with consequences for noncompliance are associated with larger increases in HCW influenza vaccination rates than mandates without such consequences.

American Journal of Public Health
Volume 103, Issue 4 (April 2013)
http://ajph.aphapublications.org/toc/ajph/current
[No relevant content]

Annals of Internal Medicine
5 March 2013, Vol. 158. No. 5_Part_1
http://www.annals.org/content/current
[No relevant content]

BMC Public Health
(Accessed 9 March 2013)
http://www.biomedcentral.com/bmcpublichealth/content
Research article
Economic analysis of pandemic influenza mitigation strategies for five pandemic severity categories
Joel K Kelso, Nilimesh Halder, Maarten J Postma, George J Milne BMC Public Health 2013, 13:211 (8 March 2013)

Abstract (provisional) [Open Access]
Background
The threat of emergence of a human-to-human transmissible strain of highly pathogenic influenza A(H5N1) is very real, and is reinforced by recent results showing that genetically modified A(H5N1) may be readily transmitted between ferrets. Public health authorities are hesitant in introducing social distancing interventions due to societal disruption and productivity losses. This study estimates the effectiveness and total cost (from a societal perspective, with a lifespan time horizon) of a comprehensive range of social distancing and antiviral drug strategies, under a range of pandemic severity categories.
Methods
An economic analysis was conducted using a simulation model of a community of ~30,000 in Australia. Data from the 2009 pandemic was used to derive relationships between the Case Fatality Rate (CFR) and hospitalization rates for each of five pandemic severity categories, with CFR ranging from 0.1% to 2.5%.
Results
For a pandemic with basic reproduction number R0 = 1.8, adopting no interventions resulted in total costs ranging from $441 per person for a pandemic at category 1 (CFR 0.1%) to $8,550 per person at category 5 (CFR 2.5%). For severe pandemics of category 3 (CFR 0.75%) and greater, a strategy combining antiviral treatment and prophylaxis, extended school closure and

community contact reduction resulted in the lowest total cost of any strategy, costing $1,584 per person at category 5. This strategy was highly effective, reducing the attack rate to 5%. With low severity pandemics costs are dominated by productivity losses due to illness and social distancing interventions, whereas higher severity pandemic costs are dominated by healthcare costs and costs arising from productivity losses due to death.
Conclusions
For pandemics in high severity categories the strategies with the lowest total cost to society involve rigorous, sustained social distancing, which are considered unacceptable for low severity pandemics due to societal disruption and cost.
The complete article is available as a provisional PDF. The fully formatted PDF and HTML versions are in production.

Research article

Yellow fever vaccination coverage following massive emergency immunization campaigns in rural Uganda, May 2011: a community cluster survey

James Bagonza, Elizeus Rutebemberwa, Malimbo Mugaga, Nathan Tumuhamye, Issa Makumbi
BMC Public Health 2013, 13:202 (7 March 2013)
Abstract (provisional) [Open Access]
Background
Following an outbreak of yellow fever in northern Uganda in December 2010, Ministry of Health conducted a massive emergency vaccination campaign in January 2011. The reported vaccination coverage in Pader District was 75.9%. Administrative coverage though timely, is affected by incorrect population estimates and over or under reporting of vaccination doses administered. This paper presents the validated yellow fever vaccination coverage following massive emergency immunization campaigns in Pader district.
Methods
A cross sectional cluster survey was carried out in May 2011 among communities in Pader district and 680 respondents were indentified using the modified World Health Organization (WHO) 40 x 17 cluster survey sampling methodology. Respondents were aged nine months and above. Interviewer administered questionnaires were used to collect data on demographic characteristics, vaccination status and reasons for none vaccination. Vaccination status was assessed using self reports and vaccination card evidence. Our main outcomes were measures of yellow fever vaccination coverage in each age-specific stratum, overall, and disaggregated by age and sex, adjusting for the clustered design and the size of the population in each stratum.
Results
Of the 680 survey respondents, 654 (96.3%, 95% CI 94.9 -- 97.8) reported being vaccinated during the last campaign but only 353(51.6%, 95% CI 47.2 -- 56.1) had valid yellow fever vaccination cards. Of the 280 children below 5 years, 269 (96.1%, 95% CI 93.7 -- 98.7) were vaccinated and nearly all males 299 (96.9%, 95% CI 94.3 -- 99.5) were vaccinated. The main reasons for none vaccination were; having travelled out of Pader district during the campaign period (40.0%), lack of transport to immunization posts (28.0%) and, sickness at the time of vaccination (16.0%).
Conclusions
Our results show that actual yellow fever vaccination coverage was high and satisfactory in Pader district since it was above the desired minimum threshold coverage of 80% according to World Health Organization. Massive emergency vaccination done following an outbreak of Yellow fever achieved high population coverage in Pader district. Active surveillance is necessary for early detection of yellow fever cases.

The complete article is available as a provisional PDF. The fully formatted PDF and HTML versions are in production.

British Medical Bulletin
Volume 104 Issue 1 December 2012
http://bmb.oxfordjournals.org/content/current
[Reviewed earlier; No relevant content]

British Medical Journal
09 March 2013 (Vol 346, Issue 7898)
http://www.bmj.com/content/346/7898
Feature - Interview
Andrew Witty: the acceptable face of big pharma?
BMJ 2013; 346 doi: http://dx.doi.org/10.1136/bmj.f1458 (Published 6 March 2013)
Following GlaxoSmithKline's announcement that it will open up its research data, Rebecca Coombes spoke to the company's chief executive, Andrew Witty, about how he is trying to change the company
http://www.bmj.com/content/346/bmj.f1458

Clinical Therapeutics
Vol 35 | No. 2 | February 2013 | Pages 101-198
http://www.clinicaltherapeutics.com/current
[Reviewed earlier]

Cost Effectiveness and Resource Allocation
(Accessed 9 March 2013)
http://www.resource-allocation.com/
[No new relevant content]

Development in Practice
Volume 23, Issue 1, 2013
http://www.tandfonline.com/toc/cdip20/current
[Reviewed earlier]

Emerging Infectious Diseases
Volume 19, Number 3—March 2013
http://www.cdc.gov/ncidod/EID/index.htm
[Reviewed earlier]

Eurosurveillance
Volume 18, Issue 10, 07 March 2013
http://www.eurosurveillance.org/Public/Articles/Archives.aspx?PublicationId=11678

[No relevant content]

Forum for Development Studies
Volume 40, Issue 1, 2013
http://www.tandfonline.com/toc/sfds20/current
[Reviewed earlier]

Global Health Governance
Volume VI, Issue 1: Fall 2012
– December 31, 2012
[Website not available at review]

Globalization and Health
[Accessed 9 March 2013]
http://www.globalizationandhealth.com/
Debate
The health systems funding platform and World Bank legacy: the gap between rhetoric and reality
Brown SS, Sen K and Decoster K Globalization and Health 2013, 9:9 (6 March 2013)
Abstract (provisional) [Open Access]
Global health partnerships created to encourage funding efficiencies need to be approached with some caution, with claims for innovation and responsiveness to development needs based on untested assumptions around the potential of some partners to adapt their application, funding and evaluation procedures within these new structures. We examine this in the case of the Health Systems Funding Platform, which despite being set up some three years earlier, has stalled at the point of implementation of its key elements of collaboration. While much of the attention has been centred on the suspension of the Global Fund's Round 11, and what this might mean for health systems strengthening and the Platform more broadly, we argue that inadequate scrutiny has been made of the World Bank's contribution to this partnership, which might have been reasonably anticipated based on an historical analysis of development perspectives. Given the tensions being created by the apparent vulnerability of the health systems strengthening agenda, and the increasing rhetoric around the need for greater harmonization in development assistance, an examination of the positioning of the World Bank in this context is vital.
The complete article is available as a provisional PDF. The fully formatted PDF and HTML versions are in production.

Health Affairs
March 2013; Volume 32, Issue 3
http://content.healthaffairs.org/content/current
Theme: Promoting Health & Wellness
[No specific relevant content on vaccines/immunization]
Survey Finds Public Support For Legal Interventions Directed At Health Behavior To Fight Noncommunicable Disease

Stephanie Morain and Michelle M. Mello
Health Aff March 2013 32:486-496; doi:10.1377/hlthaff.2012.0609
Abstract
The high prevalence of chronic diseases in the United States with lifestyle-related risk factors, such as obesity and tobacco use, has sparked interest in legal strategies to influence health behavior. However, little is known about the public's willingness to accept these policies as legitimate, which in turn may affect compliance. We present results from a national survey of 1,817 US adults concerning the acceptability of different public health legal interventions that address noncommunicable, or chronic, diseases. We found that support for these new interventions is high overall; substantially greater among African Americans and Hispanics than among whites; and tied to perceptions of democratic representation in policy making. There was much support for strategies that enable people to exercise healthful choices—for example, menu labeling and improving access to nicotine patches—but considerably less for more coercive measures, such as insurance premium surcharges. These findings suggest that the least coercive path will be the smoothest and that support for interventions may be widespread among different social groups. In addition, the findings underscore the need for policy makers to involve the public in decision making, understand the public's values, and communicate how policy decisions reflect this understanding.
http://content.healthaffairs.org/content/32/3/486.abstract

Health and Human Rights
Vol 14, No 2 (2012)
http://hhrjournal.org/index.php/hhr
[Reviewed earlier]

Health Economics, Policy and Law
Volume 8 - Issue 02 - April 2013
http://journals.cambridge.org/action/displayIssue?jid=HEP&tab=currentissue
NICE's social value judgements about equity in health and health care
Koonal K. Shah, Richard Cookson, Anthony J. Culyer and Peter Littlejohns
Health Economics, Policy and Law / Volume 8 / Issue 02 / April 2013, pp 145 - 165

DOI: http://dx.doi.org/10.1017/S1744133112000096 (About DOI), Published online: 01 May 2012
Abstract
The National Institute for Health and Clinical Excellence (NICE) routinely publishes details of the evidence and reasoning underpinning its recommendations, including its social value judgements (SVJs). To date, however, NICE's SVJs relating to equity in the distribution of health and health care have been less specific and systematic than those relating to cost-effectiveness in the pursuit of improved total population health. NICE takes a pragmatic, case-based approach to developing its principles of SVJ, drawing on the cumulative experience of its advisory bodies in making decisions that command respect among its broad range of stakeholders. This paper aims to describe the SVJs about equity in health and health care that NICE has hitherto used to guide its decision making. To do this, we review both the general SVJs reported in NICE guidance on methodology and the case-specific SVJs reported in NICE guidance about particular health care technologies and public health interventions.

Articles

Neglected infectious diseases: Are push and pull incentive mechanisms suitable for promoting drug development research?

Frank Mueller-Langer

Abstract

Infectious diseases are among the main causes of death and disability in developing countries, and they are a major reason for the health disparity between rich and poor countries. One of the reasons for this public health tragedy is a lack of lifesaving essential medicines, which either do not exist or badly need improvements. In this article, we analyse which of the push and pull mechanisms proposed in the recent literature may serve to promote research into neglected infectious diseases. A combination of push programmes that subsidise research inputs through direct funding and pull programmes that reward research output rather than research input may be the appropriate strategy to stimulate research into neglected diseases. On the one hand, early-stage (basic) research should be supported through push mechanisms, such as research grants or publicly financed research institutions. On the other hand, pull mechanisms, such as prize funds that link reward payments to the health impacts of effective medicines, have the potential to stimulate research into neglected diseases.

Health Policy and Planning
Volume 28 Issue 2 March 2013
http://heapol.oxfordjournals.org/content/current
[No relevant content]

Human Vaccines & Immunotherapeutics (formerly Human Vaccines)
Volume 9, Issue 3 March 2013 Pages 447 - 719
http://www.landesbioscience.com/journals/vaccines/toc/volume/9/issue/3/
[Reviewed earlier]

Infectious Diseases of Poverty
http://www.idpjournal.com/content
[Accessed 9 March 2013]
[No new relevant content]

International Journal of Infectious Diseases
March 2013, Vol. 17, No. 3
http://www.ijidonline.com/current
[Reviewed earlier; No relevant content]

JAMA
March 06, 2013, Vol 309, No. 9
http://jama.ama-assn.org/current.dtl
Viewpoint | March 6, 2013 ONLINE FIRST

Influenza Prevention Update - Examining Common Arguments Against Influenza Vaccination
Thomas R. Talbot, MD, MPH; H. Keipp Talbot, MD, MPH
JAMA. 2013;309(9):881-882. doi:10.1001/jama.2013.453.
Extract

Following last year's season of low activity, influenza is surging across the country and as of January 5 has claimed the lives of 20 children.1 With influenza intensifying, it is important to review essential interventions that prevent influenza transmission at home, at work, and in health care facilities.

Several important actions should be performed by everyone to prevent the spread of this potentially deadly pathogen. Basic infection control practices such as regularly performing hand hygiene, observing respiratory hygiene and cough etiquette ("cover your cough"), and avoiding others and crowded areas when ill (social distancing) are important prevention methods for any contagious respiratory tract infection. Additional measures to limit transmission of influenza in health care settings are also essential. These include screening patients on arrival to assess for respiratory symptoms, placing a surgical mask on potentially infected individuals, using isolation precautions for those suspected of having or confirmed to have a respiratory tract infection, keeping infected patients away from other patients, and ensuring that visitors and health care personnel (HCP) do not visit or work while ill (ie, "presenteeism")...2.

JAMA Pediatrics
February 2013, Vol 167, No. 2
http://archpedi.jamanetwork.com/issue.aspx?journalid=75&issueid=926339
[Reviewed earlier; No relevant content]

Journal of Health Organization and Management
Volume 27 issue 1 - Published: 2013,
http://www.emeraldinsight.com/journals.htm?issn=1477-7266&show=latest
[No relevant content]

Journal of Infectious Diseases
Volume 207 Issue 7 April 1, 2013
http://www.journals.uchicago.edu/toc/jid/current
[Reviewed earlier]

Journal of Global Infectious Diseases (JGID)
January-March 2013 Volume 5 | Issue 1 Page Nos. 1-36
http://www.jgid.org/currentissue.asp?sabs=n
[Reviewed earlier; No relevant content]

Journal of Medical Ethics
March 2013, Volume 39, Issue 3
http://jme.bmj.com/content/current

[Reviewed earlier]

Journal of Medical Microbiology
March 2013; 62 (Pt 3)
http://jmm.sgmjournals.org/content/current
[Reviewed earlier; No relevant content]

Journal of the Pediatric Infectious Diseases Society (JPIDS)
Volume 2 Issue 1 March 2013
http://jpids.oxfordjournals.org/content/current
[Reviewed earlier]

Journal of Virology
April 2013, volume 87, issue 7
http://jvi.asm.org/content/current
[No relevant content]

The Lancet
Mar 09, 2013 Volume 381 Number 9869 p777 – 874 e8
http://www.thelancet.com/journals/lancet/issue/current
Comment
SARS legacy: outbreak reporting is expected and respected
David L Heymann, John S Mackenzie, Malik Peiris
Preview |
On March 15, 2003, WHO declared that the new disease it called severe acute respiratory syndrome (SARS) was a worldwide health threat. The disease emerged in late 2002, when an outbreak of atypical pneumonia began in Guangdong Province, China. It subsequently spread across the world via major air routes, reaching 29 countries on five continents. This international spread began when a doctor who had treated patients in China arrived in Hong Kong on Feb 21, 2003. His 1-day stay in a hotel led to infection of 15 others who carried the infection to hospitals within Hong Kong and in Vietnam, Canada, Singapore, the USA, the Philippines, and Australia.
Comment
The beginning of the end for serogroup B meningococcus?
Matthew D Snape, Andrew J Pollard
Preview
Widespread use of glycoconjugate vaccines against Haemophilus influenzae type b, Streptococcus pneumoniae, and serogroup C Neisseria meningitidis has resulted in a substantial decrease in childhood meningitis in industrialised countries, but the persisting threat posed by serogroup B Neisseria meningitidis (MenB) is an unwelcome anomaly. This organism's external polysaccharide capsule is poorly immunogenic, sharing chemical and antigenic identity with human fetal neural-cell antigens, and is therefore unsuitable for use in a glycoconjugate vaccine.

Immunogenicity and safety of an investigational multicomponent, recombinant, meningococcal serogroup B vaccine (4CMenB) administered concomitantly with routine infant and child vaccinations: results of two randomised trials

Timo Vesikari, Susanna Esposito, Roman Prymula, Ellen Ypma, Igor Kohl, Daniela Toneatto, Peter Dull, Alan Kimura, for the EU Meningococcal B Infant Vaccine Study group

http://www.thelancet.com/journals/lancet/article/PIIS0140-6736%2812%2961961-8/abstract

Summary

Background

Meningococcal serogroup B disease disproportionately affects infants. We assessed lot-to-lot consistency, safety and immunogenicity, and the effect of concomitant vaccination on responses to routine vaccines of an investigational multicomponent vaccine (4CMenB) in this population.

Methods

We did primary and booster phase 3 studies between March 31, 2008, and Aug 16, 2010, in 70 sites in Europe. We used two series of sponsor-supplied, computer-generated randomisation envelopes to allocate healthy 2 month-old infants to receive routine vaccinations (diphtheria-tetanus-acellular pertussis, inactivated poliovirus, hepatitis B plus Haemophilus influenzae type b, and seven-valent pneumococcal vaccine) at 2, 4, and 6 months of age alone, or concomitantly with 4CMenB or serogroup C conjugate vaccine (MenC) in: 1) an open-label, lot-to-lot immunogenicity and safety substudy of three 4CMenB lots compared with routine vaccines alone (1:1:1:1, block size eight); or 2) an observer-blind, lot-to-lot safety substudy of three 4CMenB lots compared with MenC (1:1:1:3, block size six). At 12 months, 4CMenB-primed children from either substudy were randomised (1:1, block size two) to receive 4CMenB booster, with or without measles-mumps-rubella-varicella (MMRV) vaccine. Immunogenicity was assessed by serum bactericidal assay with human complement (hSBA) against serogroup B test strains, and on randomly selected subsets of serum samples for routine vaccines; laboratory personnel were masked to assignment. The first coprimary outcome was lot-to-lot consistency (hSBA geometric mean ratio of all lots between 0·5 and 2·0), and the second was an immune response (hSBA titre ≥5) for each of the three strains. The primary outcome for the booster study was immune response to booster dose. Immunogenicity data for 4CMenB were for the modified intention-to-treat population, including all infants from the open-label substudy who provided serum samples. The safety population included all participants who contributed safety data after at least one dose of study vaccine. These trials are registered with ClinicalTrials.gov, numbers NCT00657709 and NCT00847145.

Findings

We enrolled 2627 infants in the open-label phase, 1003 in the observer-blind phase, and 1555 in the booster study. Lot-to-lot consistency was shown for the three 4CMenB lots, with the lowest 95% lower confidence limit being 0·74 and the highest upper limit being 1·33. Of 1181—1184 infants tested 1 month after three 4CMenB doses (all lots pooled), 100% (95% CI 99—100) had hSBA titres of 5 or more against strains selective for factor H binding protein and neisserial adhesin A, and 84% (82—86) for New Zealand outer-membrane vesicle. In a subset (n=100), 84% (75—91) of infants had hSBA titres of 5 or more against neisseria heparin binding antigen. At 12 months of age, waning titres were boosted by a fourth dose, such that 95—100% of children had hSBA titres of 5 or more for all antigens, with or without concomitant MMRV. Immune responses to routine vaccines were much the same with or without concomitant 4CMenB, but concomitant vaccination was associated with increased reactogenicity. 77% (1912 of 2478) of infants had fever of 38·5°C or higher after any 4CMenB

dose, compared with 45% (295 of 659) after routine vaccines alone and 47% (228 of 490) with MenC, but only two febrile seizures were deemed probably related to 4CMenB.
Interpretation
4CMenB is immunogenic in infants and children aged 12 months with no clinically relevant interference with routine vaccines, but increases reactogenicity when administered concomitantly with routine vaccines. This breakthrough vaccine offers an innovative solution to the major remaining cause of bacterial meningitis in infant and toddlers.
Funding
Novartis Vaccines and Diagnostics.

The Lancet Infectious Disease
Mar 2013 Volume 13 Number 3 p183 - 276
http://www.thelancet.com/journals/laninf/issue/current
[Reviewed earlier]

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February 2013; 33 (2)
http://mdm.sagepub.com/content/current
[Reviewed earlier; No relevant content]

The Milbank Quarterly
A Multidisciplinary Journal of Population Health and Health Policy
December 2012 Volume 90, Issue 4 Pages 631–807
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Volume 495 Number 7439 pp5-134 7 March 2013
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March 2013, Volume 14 No 3 pp187-305
http://www.nature.com/ni/journal/v14/n3/index.html
[Reviewed earlier; No relevant content]

Nature Medicine
March 2013, Volume 19 No 3 pp247-377
http://www.nature.com/nm/journal/v19/n3/index.html
Opinion
Bioethical accreditation or rating needed to restore trust in pharma
Jennifer E. Miller

Nature Medicine 19, 261 (2013) doi:10.1038/nm0313-261
Published online - 06 March 2013
After years of decline in the public eye, drug companies should implement a bioethics accreditation or rating program to help appropriately restore the industry's good name and improve its effectiveness in advancing global health and new treatments.
Extract

The pharmaceutical industry was once among the most admired industries on the planet. Today, it is heavily criticized and distrusted, with only 12% of people in the US believing that drug companies are generally honest and ethical, according to a Harris poll published late last year. Countless experts have raised this problem before, and drug companies have attempted numerous remedial strategies to address bioethical concerns and repair trust deficits. Nonetheless, the mistrust persists, arguably weakening the effectiveness of these important institutions. Is there something new that companies can do to demonstrate the quality of their processes and genuinely earn back our trust? I believe there is.

The drug industry should voluntarily implement a bioethics accreditation, certification or rating system to help companies assess and improve the quality of their services and organizational processes. Such a system would also increase transparency, accountability and awareness of best practices, as well as appropriately improve public confidence where merited…

Nature Reviews Immunology
March 2013 Vol 13 No 3
http://www.nature.com/nri/journal/v13/n3/index.html
[No relevant content]

New England Journal of Medicine
March 7, 2013 Vol. 368 No. 10
http://www.nejm.org/toc/nejm/medical-journal
Review Article - Global Health
Governance Challenges in Global Health
Julio Frenk, M.D., M.P.H., Ph.D., and Suerie Moon, M.P.A., Ph.D.
N Engl J Med 2013; 368:936-942March 7, 2013DOI: 10.1056/NEJMra1109339
Extract

Global health is at the threshold of a new era. Few times in history has the world faced challenges as complex as those now posed by a trio of threats: first, the unfinished agenda of infections, undernutrition, and reproductive health problems; second, the rising global burden of noncommunicable diseases and their associated risk factors, such as smoking and obesity; and third, the challenges arising from globalization itself, such as the health effects of climate change and trade policies, which demand engagement outside the traditional health sector.1 These threats are evolving within a multifaceted and dynamic global context characterized by great diversity among societies in norms, values, and interests, as well as by large inequalities in the distribution of health risks and the resources to address them.

A robust response to this complex picture requires improved governance of health systems — certainly at the national level but also at a worldwide level in what could be thought of as the "global health system." However, the concept of governance is still poorly understood despite its growing visibility in current debates about global health. In this article, we define and discuss

the importance of good global governance for health, outline major challenges to such governance, and describe the necessary functions of a global health system…

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February 2013, 17(2)
http://online.liebertpub.com/toc/omi/17/2#
[Reviewed earlier; No relevant content]

Revista Panamericana de Salud Pública/Pan American Journal of Public Health (RPSP/PAJPH)
January 2013 Vol. 33, No. 1
http://new.paho.org/journal/index.php?option=com_content&task=view&id=119&Itemid=220
[Reviewed earlier; No relevant content]

The Pediatric Infectious Disease Journal
March 2013 - Volume 32 - Issue 3 p: A7-A8,199-305,e94-e127
http://journals.lww.com/pidj/pages/currenttoc.aspx
[Reviewed earlier]

Pediatrics
March 2013, VOLUME 131 / ISSUE 3
http://pediatrics.aappublications.org/current.shtml
[No relevant content]
Published online March 4, 2013
Article
Effect of Rotavirus Vaccine on Diarrhea Mortality in Different Socioeconomic Regions of Mexico
Paul A. Gastañaduy, MD, MPHa,b, Edgar Sánchez-Uribe, MDc, Marcelino Esparza-Aguilar, MD, MScc, Rishi Desai, MD, MPHa,b, Umesh D. Parashar, MBBS, MPHb, Manish Patel, MD, MScb, and Vesta Richardson, MDc
OBJECTIVE: In Mexico, declines in childhood diarrhea deaths have been documented during 2008–2010 after rotavirus vaccine introduction in 2007. Because of concerns about variation in rotavirus vaccine efficacy by socioeconomic status, we compared reductions in diarrhea mortality in the lesser developed southern region versus the more developed northern and central regions of Mexico.
METHODS: We obtained data from national vital statistics on diarrhea deaths among children aged <5 years from 2002 through 2011. We compared region-specific diarrhea mortality before (2003–2006) and after (2009–2011) vaccine introduction. Regional vaccine coverage was estimated from administrative data, and socioeconomic status was assessed by using the Human Development Index.
RESULTS: In northern, central, and southern Mexico, the 2007 Human Development Index was 0.84, 0.82, and 0.77, respectively, and by 2010 an estimated 99%, 84%, and 89% of children aged <12 months had completed rotavirus vaccination. Diarrhea mortality among children <5 years old declined from 8.3, 17.9, and 28.5 deaths per 100 000 children during 2003–2006 to

4.5, 8.1, and 16.2 in 2009–2011 in northern, central, and southern Mexico, respectively, corresponding to rate reductions of 45%, 55%, and 43%. No significant differences were observed in rate reductions between regions (P > .8).
CONCLUSIONS: After introduction of rotavirus vaccination, marked and sustained declines in diarrhea deaths were seen among children in all regions of Mexico, including in the least developed southern region with the highest baseline diarrhea mortality. This finding indicates equitable vaccine delivery to children with varying risk of mortality and reaffirms the beneficial effects of rotavirus vaccination against fatal diarrheal disease.
http://pediatrics.aappublications.org/content/early/2013/02/26/peds.2012-2797.abstract?sid=11b7a43a-2784-4fc3-a61b-c965a55dd28c

Pharmacoeconomics
Volume 31, Issue 3, March 2013
http://link.springer.com/journal/40273/31/3/page/1
[No relevant content]

PLoS One
[Accessed 9 March 2013]
http://www.plosone.org/
Seroprevalence of Mumps in The Netherlands: Dynamics over a Decade with High Vaccination Coverage and Recent Outbreaks
Gaby Smits, Liesbeth Mollema, Susan Hahné, Hester de Melker, Irina Tcherniaeva, Sandra Waaijenborg, Rob van Binnendijk, Fiona van der Klis, Guy Berbers
Research Article | published 08 Mar 2013 | PLOS ONE 10.1371/journal.pone.0058234
Abstract
Here we present mumps virus specific antibody levels in a large cross-sectional population-based serosurveillance study performed in the Netherlands in 2006/2007 (n = 7900). Results were compared with a similar study (1995/1996) and discussed in the light of recent outbreaks. Mumps antibodies were tested using a fluorescent bead-based multiplex immunoassay. Overall seroprevalence was 90.9% with higher levels in the naturally infected cohorts compared with vaccinated cohorts. Mumps virus vaccinations at 14 months and 9 years resulted in an increased seroprevalence and antibody concentration. The second vaccination seemed to be important in acquiring stable mumps antibody levels in the long term. In conclusion, the Dutch population is well protected against mumps virus infection. However, we identified specific age- and population groups at increased risk of mumps infection. Indeed, in 2007/2008 an outbreak has occurred in the low vaccination coverage groups emphasizing the predictive value of serosurveillance studies.
Influenza Virus Aerosols in Human Exhaled Breath: Particle Size, Culturability, and Effect of Surgical Masks
Donald K. Milton, M. Patricia Fabian, Benjamin J. Cowling, Michael L. Grantham, James J. McDevitt
Research Article | published 07 Mar 2013 | PLOS Pathogens 10.1371/journal.ppat.1003205
Abstract
The CDC recommends that healthcare settings provide influenza patients with facemasks as a means of reducing transmission to staff and other patients, and a recent report suggested that surgical masks can capture influenza virus in large droplet spray. However, there is minimal

data on influenza virus aerosol shedding, the infectiousness of exhaled aerosols, and none on the impact of facemasks on viral aerosol shedding from patients with seasonal influenza.

We collected samples of exhaled particles (one with and one without a facemask) in two size fractions ("coarse">5 μm, "fine"≤5 μm) from 37 volunteers within 5 days of seasonal influenza onset, measured viral copy number using quantitative RT-PCR, and tested the fine-particle fraction for culturable virus.

Fine particles contained 8.8 (95% CI 4.1 to 19) fold more viral copies than did coarse particles. Surgical masks reduced viral copy numbers in the fine fraction by 2.8 fold (95% CI 1.5 to 5.2) and in the coarse fraction by 25 fold (95% CI 3.5 to 180). Overall, masks produced a 3.4 fold (95% CI 1.8 to 6.3) reduction in viral aerosol shedding. Correlations between nasopharyngeal swab and the aerosol fraction copy numbers were weak (r = 0.17, coarse; r = 0.29, fine fraction). Copy numbers in exhaled breath declined rapidly with day after onset of illness. Two subjects with the highest copy numbers gave culture positive fine particle samples.

Surgical masks worn by patients reduce aerosols shedding of virus. The abundance of viral copies in fine particle aerosols and evidence for their infectiousness suggests an important role in seasonal influenza transmission. Monitoring exhaled virus aerosols will be important for validation of experimental transmission studies in humans.

Author Summary

The relative importance of direct and indirect contact, large droplet spray, and aerosols as modes of influenza transmission is not known but is important in devising effective interventions. Surgical facemasks worn by patients are recommended by the CDC as a means of reducing the spread of influenza in healthcare facilities. We sought to determine the total number of viral RNA copies present in exhaled breath and cough aerosols, whether the RNA copies in fine particle aerosols represent infectious virus, and whether surgical facemasks reduce the amount of virus shed into aerosols by people infected with seasonal influenza viruses. We found that total viral copies detected by molecular methods were 8.8 times more numerous in fine (≤5 μm) than in coarse (>5 μm) aerosol particles and that the fine particles from cases with the highest total number of viral RNA copies contained infectious virus. Surgical masks reduced the overall number of RNA copies by 3.4 fold. These results suggest an important role for aerosols in transmission of influenza virus and that surgical facemasks worn by infected persons are potentially an effective means of limiting the spread of influenza.

Rapid and Scalable Plant-based Production of a Cholera Toxin B Subunit Variant to Aid in Mass Vaccination against Cholera Outbreaks

Krystal Teasley Hamorsky, J. Calvin Kouokam, Lauren J. Bennett, Keegan J. Baldauf, Hiroyuki Kajiura, Kazuhito Fujiyama, Nobuyuki Matoba

Research Article | published 07 Mar 2013 | PLOS Neglected Tropical Diseases
10.1371/journal.pntd.0002046

Abstract

Introduction

Cholera toxin B subunit (CTB) is a component of an internationally licensed oral cholera vaccine. The protein induces neutralizing antibodies against the holotoxin, the virulence factor responsible for severe diarrhea. A field clinical trial has suggested that the addition of CTB to killed whole-cell bacteria provides superior short-term protection to whole-cell-only vaccines; however, challenges in CTB biomanufacturing (i.e., cost and scale) hamper its implementation to mass vaccination in developing countries. To provide a potential solution to this issue, we developed a rapid, robust, and scalable CTB production system in plants.

Methodology/Principal Findings

In a preliminary study of expressing original CTB in transgenic Nicotiana benthamiana, the protein was N-glycosylated with plant-specific glycans. Thus, an aglycosylated CTB variant (pCTB) was created and overexpressed via a plant virus vector. Upon additional transgene engineering for retention in the endoplasmic reticulum and optimization of a secretory signal, the yield of pCTB was dramatically improved, reaching >1 g per kg of fresh leaf material. The protein was efficiently purified by simple two-step chromatography. The GM1-ganglioside binding capacity and conformational stability of pCTB were virtually identical to the bacteria-derived original B subunit, as demonstrated in competitive enzyme-linked immunosorbent assay, surface plasmon resonance, and fluorescence-based thermal shift assay. Mammalian cell surface-binding was corroborated by immunofluorescence and flow cytometry. pCTB exhibited strong oral immunogenicity in mice, inducing significant levels of CTB-specific intestinal antibodies that persisted over 6 months. Moreover, these antibodies effectively neutralized the cholera holotoxin in vitro.
Conclusions/Significance
Taken together, these results demonstrated that pCTB has robust producibility in Nicotiana plants and retains most, if not all, of major biological activities of the original protein. This rapid and easily scalable system may enable the implementation of pCTB to mass vaccination against outbreaks, thereby providing better protection of high-risk populations in developing countries.
Author Summary
Cholera sporadically causes outbreaks in regions where safe water supply and sanitation systems are not sufficient. As currently available vaccines are only effective for 2 to 3 years, reactive mass vaccination has been proposed to reduce mortality during outbreaks. Cholera toxin B subunit (CTB), when combined with killed whole-cell bacteria, has been shown to provide superior short-term protection, but manufacturing challenges of the protein limit its availability for mass vaccination programs in developing countries. Our work presented herein developed a rapid, robust, and scalable bioproduction system in plants for a CTB variant, pCTB. The system allowed for the accumulation of pCTB at >1 g per kg of fresh leaf of tobacco-related plants within 5 days, which accounts for over 1000 doses of original CTB included in the World Health Organization-prequalified vaccine Dukoral. We further analyzed in depth the integrity of pCTB using a series of biochemical, biophysical, and immunological experiments, demonstrating that the plant-made protein is feasible as a cholera vaccine antigen. Thus, pCTB plus killed bacteria may be ideal for reactive vaccination against cholera outbreaks.

Policy Resistance Undermines Superspreader Vaccination Strategies for Influenza

Chad R. Wells, Eili Y. Klein, Chris T. Bauch
Research Article | published 07 Mar 2013 | PLOS Computational Biology
10.1371/journal.pcbi.1002945
Abstract
Theoretical models of infection spread on networks predict that targeting vaccination at individuals with a very large number of contacts (superspreaders) can reduce infection incidence by a significant margin. These models generally assume that superspreaders will always agree to be vaccinated. Hence, they cannot capture unintended consequences such as policy resistance, where the behavioral response induced by a new vaccine policy tends to reduce the expected benefits of the policy. Here, we couple a model of influenza transmission on an empirically-based contact network with a psychologically structured model of influenza vaccinating behavior, where individual vaccinating decisions depend on social learning and past experiences of perceived infections, vaccine complications and vaccine failures. We find that policy resistance almost completely undermines the effectiveness of superspreader strategies: the most commonly explored approaches that target a randomly chosen neighbor of an

individual, or that preferentially choose neighbors with many contacts, provide at best a 2% relative improvement over their non-targeted counterpart as compared to 12%when behavioral feedbacks are ignored. Increased vaccine coverage in super spreaders is offset by decreased coverage in non-superspreaders, and superspreaders also have a higher rate of perceived vaccine failures on account of being infected more often. Including incentives for vaccination provides modest improvements in outcomes. We conclude that the design of influenza vaccine strategies involving widespread incentive use and/or targeting of superspreaders should account for policy resistance, and mitigate it whenever possible.

Author Summary

Superspreaders are the small number of individuals responsible for the majority of infections. Theoretical models have shown how vaccinating superspreaders can be a highly efficient way to control disease. However, these models neglect behavior by assuming that superspreaders will always agree to be vaccinated. This is a problematic assumption for influenza vaccination, which is voluntary in most populations, and for which vaccine coverage is often suboptimal. We developed a model of seasonal influenza transmission on a network of individuals who make decisions about whether or not to get vaccinated based on known determinants of vaccine uptake, such as personal infection history, perceived vaccine risks, and social influences. We found that, because of feedbacks between disease spread and individual vaccinating behavior, attempts to boost vaccine coverage in superspreaders through the use of incentives or recruiting by social contacts are almost completely undermined by such feedbacks. For example, higher vaccine uptake in superspreaders reduces influenza incidence, which in the next season reduces the perceived need for vaccination among non-superspreaders, who then do not become vaccinated as much. Our results suggest that the design of potential strategies to reach influenza superspreaders should account for behavioral feedbacks, since they may blunt policy effectiveness.

PLoS Medicine
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[No new relevant content]

PLoS Neglected Tropical Diseases
February 2013
http://www.plosntds.org/article/browseIssue.action
[Reviewed earlier]

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Public Health Ethics
Volume 5 Issue 3 November 2012

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[Reviewed earlier]

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April 2013; 23 (4)
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[No specific vaccines/immunization content]

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8 March 2013 vol 339, issue 6124, pages 1113-1244
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[No relevant content]

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6 March 2013 vol 5, issue 175
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Volume 31, Issue 12, Pages 1549-1650 (15 March 2013)
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[Reviewed earlier]

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(Accessed 9 March 2013)
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[No new relevant content]

Value in Health
Vol 16 | No. 1 | January-February 2013 | Pages 1-228
http://www.valueinhealthjournal.com/current
[Reviewed earlier; No relevant content]

From Google Scholar+: Dissertations, Theses, Selected Journal Articles

Virus-like particles: the future of microbial factories and cell-free systems as platforms for vaccine development
WA Rodríguez-Limas, K Sekar, KEJ Tyo - Current Opinion in Biotechnology, 2013

Vaccines based on virus-like particles have proved their success in human health. More than 25 years after the approval of the first vaccine based on this technology, the substantial efforts to expand the range of applications and target diseases are beginning to bear fruit. ...

A Mobile Phone Application for Recording Vaccine Refusals
D Murphy, J Cremer, PM Polgreen - International Meeting on Emerging Diseases and …, 2013
Background: Although vaccines are a safe and effective approach for preventing morbidity and mortality, many people in developed countries are refusing vaccination for themselves and their children. Low vaccination rates are contributing to the re-emergence of vaccine ...

Travel Characteristics and Yellow Fever Vaccine Usage Among US Global TravEpiNet Travelers Visiting Countries with Risk of Yellow Fever Virus Transmission, 2009 ...
ES Jentes, P Han, MD Gershman, SR Rao… - The American Journal of …, 2013
Abstract Yellow fever (YF) vaccine-associated serious adverse events and changing YF epidemiology have challenged healthcare providers to vaccinate only travelers whose risk of YF during travel is greater than their risk of adverse events. We describe the travel ...

Exploring Barriers and Facilitators to Participation of Male-to-Female Transgender Persons in Preventive HIV Vaccine Clinical Trials
MP Andrasik, R Yoon, J Mooney, G Broder, M Bolton… - Prevention Science, 2013
Abstract Observed seroincidence and prevalence rates in male-to-female (MTF) transgender individuals highlight the need for effective targeted HIV prevention strategies for this community. In order to develop an effective vaccine that can be used by transgender ...

DBH gene as predictor of response in a cocaine vaccine clinical trial
TR Kosten, CB Domingo, SC Hamon, DA Nielsen - Neuroscience Letters, 2013
Abstract We examined a pharmacogenetic association of the dopamine β-hydroxylase (DBH) gene with a response to an anti-cocaine vaccine that was tested in a recent clinical trial. This gene is associated with cocaine-induced paranoia, which has a slower onset ...

Increasing Human Papillomavirus Vaccine Acceptability by Tailoring Messages to Young Adult Women's Perceived Barriers
MA Gerend, MA Shepherd, MLA Lustria - Sexually Transmitted Diseases, 2013
Background: Human papillomavirus (HPV) vaccination is a safe and effective primary prevention strategy for cervical cancer. Despite the need for effective HPV vaccination interventions, relatively few have been tested. Moreover, existing interventions have ...

Media/Policy Watch
Beginning in June 2012, *Vaccines: The Week in Review* expanded to alert readers to substantive news, analysis and opinion from the general media on vaccines, immunization, global; public health and related themes. *Media Watch* is not intended to be exhaustive, but indicative of themes and issues CVEP is actively tracking. This section will grow from an initial base of newspapers, magazines and blog sources, and is segregated from *Journal Watch* above which scans the peer-reviewed journal ecology.

We acknowledge the Western/Northern bias in this initial selection of titles and invite suggestions for expanded coverage. WE are conservative in our outlook of adding news sources

which largely report on primary content we are already covering above. Many electronic media sources have tiered, fee-based subscription models for access. We will provide full-text where content is published without restriction, but most publications require registration and some subscription level.

The Atlantic
http://www.theatlantic.com/magazine/
Accessed 9 March 2013
[No new, unique, relevant content]

BBC
http://www.bbc.co.uk/
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[No new, unique, relevant content]

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[No new, unique, relevant content]

Economist
http://www.economist.com/
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http://www.ft.com
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[No new, unique, relevant content]

Forbes
http://www.forbes.com/
Accessed 9 March 2013
[No new, unique, relevant content]

Foreign Affairs
http://www.foreignaffairs.com/
Accessed 9 March 2013
Essay
Own the Goals
March/April 2013
By John W. McArthur
Since their inception in 2000, The Millennium Development Goals have revolutionized the global aid business, using specific targets to help mobilize and guide development efforts. They have encouraged world leaders to tackle multiple dimensions of poverty simultaneously and provided a standard for judging performance. As their 2015 expiration looms, the time has come to bank those successes and focus on what comes next.

Foreign Policy
http://www.foreignpolicy.com/
Accessed 9 March 2013]
[No new unique, relevant content]

The Guardian
http://www.guardiannews.com/
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[No new unique, relevant content]

The Huffington Post
http://www.huffingtonpost.com/
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[No new unique, relevant content]

Le Monde
http://www.lemonde.fr/
Accessed 9 March 2013
Idées
Prévenir le cancer et protéger les futures générations de femmes !
Le Monde.fr | 08.03.2013 à 10h29 • Mis à jour le 09.03.2013 à 15h17
Par Seth Berkley, directeur exécutif GAVI ; Jacqueline Godet, présidente de la Ligue contre le cancer

Chaque année en France, 1 000 femmes décèdent d'un cancer du col de l'utérus. Dans le monde, elles sont 275 000, c'est une femme qui meurt toutes les deux minutes, en majorité dans les pays en développement . Des cancers et des décès qui peuvent quasiment tous, être évités. La journée internationale de la femme est aujourd'hui l'occasion de rappeler que la prévention est fondamentale en matière de lutte contre le cancer et particulièrement dans le cas du cancer du col de l'utérus. Il faut, par ailleurs, briser les peurs, les tabous et préjugés qui entourent la maladie afin que tous puissent accéder aux outils qui permettent de l'éviter ou de la dépister.

La principale cause du cancer du col de l'utérus est une infection due à des virus, les Papillomavirus Humains (VPH), transmis sexuellement. Dans leur vie, 80 % des femmes sont susceptibles de les rencontrer – il existe plus d'une centaine de génotypes différents – et en général, elles vont arriver à les éliminer naturellement. Si l'infection persiste, elle provoque le développement de lésions qui peuvent évoluer en cancer. Deux outils sont à la disposition des filles et des femmes : la vaccination et le dépistage, par frottis notamment.

Le vaccin contre le VPH est disponible depuis 2006. Il a été homologué par plus de 120 pays et plus d'une quarantaine l'ont introduit dans leurs programmes de vaccination nationaux comme le recommande l'OMS. Cette vaccination ne se substitue cependant pas au dépistage car elle ne protège que contre 70 % des types de VPH mais, elle constitue un outil complémentaire essentiel. Dans certaines situations, la vaccination est également le seul rempart contre le VPH pour les femmes car elles n'ont pas ou peu accès au dépistage.

Dans le monde, le cancer du col de l'utérus constitue le deuxième cancer le plus répandu chez les femmes. Environ 85 % des femmes qui meurent du cancer du col vivent dans les pays en développement. En Afrique sub-saharienne notamment, c'est la première cause de mortalité par cancer chez les femmes . La plupart d'entre elles n'ont en effet pas accès au dépistage, ni

au traitement. Par ailleurs, les tabous sont un frein, si bien que la vaccination apparaît comme le seul moyen de les protéger, de leur permettre de devenir "actrice" de leur vie de femme.

GAVI soutient ainsi cette année huit pays parmi les plus pauvres de la planète dans des projets pilotes de vaccination qui doivent démontrer la capacité des pays bénéficiaires à introduire à l'échelle nationale les vaccins intégrés à d'autres interventions de santé publique. Des milliers de jeunes filles du Ghana, du Kenya ou encore du Niger et de Madagascar vont être immunisées. A l'horizon 2020, GAVI compte l'avoir introduit dans plus de 40 pays pauvres pour protéger plus de 30 millions d'adolescentes.

Le vaccin ne peut cependant se substituer au dépistage. La Ligue contre le cancer et l'Alliance des ligues francophones africaines et méditerranéennes (ALIAM) réaffirment qu'il est nécessaire d'agir conjointement en amont de la maladie en évitant et en dépistant les cancers. Il est indispensable aussi d'agir pendant et après la maladie.

En France, plus de 50 % des femmes ne sont pas ou trop peu souvent dépistées. Les femmes appartenant par ailleurs à un ménage modeste sont deux fois plus nombreuses à ne jamais avoir eu de frottis. La Haute Autorité de santé estime que le dépistage organisé permettrait d'atteindre en quelques années une couverture de 80 % des femmes, et ainsi de réduire de plus de 20 % le nombre de décès.

Au moment où en France se prépare un plan Cancer III, tous les acteurs concernés par la prévention des cancers et en particulier par la prévention des cancers féminins se mobilisent. Cette action doit viser à lutter contre les tabous et les préjugés concernant plus spécifiquement ceux liés au cancer du col de l'utérus et à réduire les inégalités pour protéger les femmes les plus vulnérables. En cette journée internationale de la femme, c'est notre appel pour les futures générations de femmes.

Seth Berkley, directeur exécutif GAVI ; Jacqueline Godet, présidente de la Ligue contre le cancer

http://www.lemonde.fr/idees/article/2013/03/08/prevenir-le-cancer-et-proteger-les-futures-generations-de-femmes_1845051_3232.html

New Yorker

http://www.newyorker.com/

Accessed 9 March 2013

[No new, unique, relevant content]

NPR/National Public Radio [U.S.]

Public Health

Accessed 9 March 2013

[No new, unique, relevant content]

New York Times

http://www.nytimes.com/

Accessed 9 March 2013

Reuters

http://www.reuters.com/

Accessed 9 March 2013

[No new, unique, relevant content]

Wall Street Journal

http://online.wsj.com/home-page
Accessed 9 March 2013
[No new, unique, relevant content]

Washington Post
http://www.washingtonpost.com/
Accessed 9 March 2013
Sequester spin: The White House's vaccine statistics
Posted by Glenn Kessler at 06:00 AM ET, 03/08/2013
Rep. Andy Harris (R-Md.): "Let me get it straight. Under the president's cut of $58 million to the [Section] 317 program, you think you could get around that to avoid cutting vaccines to children, but under a sequester, that the president blames on Republicans, you don't know if you can do that?"
CDC Director Thomas R. Frieden: "We're going to do everything we can to limit any damage that occurs because of the across-the-board cut, but it reduces our flexibility significantly."
Harris: "Is it your testimony that under the president's proposed cut of $58 million in his budget to the 317 program you could have avoided cuts to vaccines to children in Maryland?"
Frieden: "We believe that we could have maintained vaccination levels, yes."
— exchange during congressional testimony, March 5, 2013
A colleague alerted us to this interesting exchange on Capitol Hill. Is this another case of sequester spin?
On the face of it, it looks suspicious. In the White House's fiscal 2013 budget proposal, the administration had sought a $58 million cut in funding for the Section 317 Immunization Program, which mainly gives grants to states and localities for child and some adult vaccinations, primarily those who do not have enough insurance to be fully vaccinated. (The program gets its name from the Vaccine Assistance Act, or Section 317 of the Public Health Service Act, which was enacted in 1962.)
Yet, in raising the alarm about the sequester, the administration has highlighted the decline in vaccinations that it claims would result from sequestration. The White House Web site displays an interactive map, which when you click on Maryland, it declares: "2,050 fewer children will get vaccines for diseases like measles and whooping cough." It's even worse for Virginia: 3,530 children would supposedly be affected.
What's going on here?...
Full analysis here: http://www.washingtonpost.com/blogs/fact-checker/post/sequester-spin-the-white-houses-vaccine-statistics/2013/03/07/798295e2-877a-11e2-98a3-b3db6b9ac586_blog.html

***Twitter Watch* (9 March 2013 – 17:47)**
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.

UNICEF @UNICEF
IN PHOTOS: Bringing measles & rubella #vaccines to children in Mongolia by foot, by car – and by reindeer. http://uni.cf/XW28az
10:30 p.m. - Mar 8, 2013

PATH @PATHtweets
The 'iPods' of poverty alleviation have likely been invented.~ Steve Davis http://ow.ly/iAqMH @HarvardBiz
12:21 p.m. - Mar 8, 2013

PAHO/WHO @pahowho
Video Message from Dr. Margaret Chan, Director @WHO for the International #WomensDay 2013: http://youtu.be/Mk_0mdV5J9I cc: @un @un_Women #IWD2013
11:55 a.m. - Mar 8, 2013

UN Spokesperson @UN_Spokesperson
#UNSG Ban Ki-moon's message on International #Women's Day #IWD2013 #endVAW http://bit.ly/10qbAal
7:12 a.m. - Mar 8, 2013

IAVI @AIDSvaccine
Even a partially effective #HIV #vaccine could significantly reduce the number of new HIV infections among women http://bit.ly/10kW7It #IWD
5:11 a.m. - Mar 8, 2013

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