

## Vaccines: The Week in Review 19 May 2012 Center for Vaccine Ethics & Policy (CVEP)

*This weekly summary targets news, announcements, articles 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 also posted in pdf form and as a set of blog posts at <http://centerforvaccineethicsandpolicy.wordpress.com/>. This blog allows full-text searching of some 2,500 entries.*

*Comments and suggestions should be directed to*

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### ***Of Special Interest:***

- **JAMA** - Special Issue: *Dimensions of Global Health, 2012*  
May 16, 2012, Vol 307, No. 19
- **Vaccine** - Special Issue: *The Role of Internet Use in Vaccination Decisions*  
Volume 30, Issue 25, Pages 3723-3818 (28 May 2012)

Please see *Journal Watch* below...

***Editor's Note:*** The World Health Assembly meeting next week includes a number of agenda sessions around immunization and vaccines. These include:

- [A65/19](#) Pandemic influenza preparedness: sharing of influenza viruses and access to vaccines and other benefits: report of the Advisory Group
- [A65/20](#) Poliomyelitis: intensification of global eradication initiative
- [A65/22](#) Draft global vaccine action plan

### **65<sup>th</sup> World Health Assembly**

Geneva: 21–26 May 2012

"At this session, the Health Assembly will discuss a number of public health issues such as universal health coverage, Millennium Development Goals, noncommunicable diseases, mental disorders, nutrition and adolescent pregnancy. The nomination of Dr Margaret Chan to be WHO Director-General for a second term will be submitted for approval. The Health Assembly will also discuss the programme budget, administration and management matters of WHO."

- [Provisional agenda](#)

- [Complete documentation](#)

<http://www.who.int/mediacentre/events/2012/wha65/en/index.html>

**PATH said it launched a project “to facilitate global access to new adjuvants and formulation technologies, aiming to accelerate the development and introduction of critical, lifesaving vaccines.”** PATH said that funding is being provided by the Bill & Melinda Gates Foundation and involves collaboration with key technology partners including the Vaccine Formulation Laboratory at the University of Lausanne (UNIL) in Switzerland.” The project will focus on providing “industry-quality adjuvants and developing adjuvant-vaccine formulations that enhance immune response, reduce dose requirements, and decrease vaccine costs.” As part of the project, “PATH and partners will focus on evaluating novel adjuvants for potential use in the development of an effective and affordable adjuvanted formulation of inactivated polio vaccine (IPV). In collaboration with UNIL and other Bill & Melinda Gates Foundation–funded research teams, PATH will also work to develop multiple formulations of IPV with other adjuvants. A later phase of the project may involve the development of adjuvanted formulations for vaccines against malaria, rotavirus, AIDS, or tuberculosis. Throughout, PATH will work to foster synergies and strategic partnerships that facilitate the development and advancement of future formulations through efforts that might involve securing access to advanced industry-quality adjuvants and the transfer of technology, data, and expertise among adjuvant developers, product-development partnerships, vaccine producers, and other stakeholders.”

<http://www.path.org/news/pr120514-vaccine-access.php>

## **HIV Vaccine Awareness Day - May 18, 2012**

### ***Modeling Potential Impact on HIV Vaccine Awareness Day***

by Margaret McGlynn, President and CEO, International AIDS Vaccine Initiative (IAVI)  
May 18, 2012

*USAID Impact Blog* [full text]

Throughout my career, I have witnessed the tremendous power of vaccines to prevent sickness and save lives – delivering incredible victories for humanity against diseases such as polio, smallpox and measles. These vaccines would not have been possible without the inspiration, persistence and courage of researchers, volunteers and health workers around the world.

Thanks to a USAID-supported program, Gladys Njeri Macharia is studying how rare individuals might be blocking HIV infection Photo credit: IAVI

And so today, on HIV Vaccine Awareness Day, I join countless others around the world in reflecting on what it would mean to see AIDS consigned to a list of former pandemics. To achieve that goal, it is essential that we enlist the participation of researchers around the world in the design and development of HIV vaccines.

Young researchers such as Gladys Njeri Macharia in Kenya – who has dedicated her career to exploring immune responses to HIV – will play an especially important role in that effort. And one day, critical scientific questions addressed by this research might help lead to an effective vaccine.

New modeling data available today from the International AIDS Vaccine Initiative (IAVI) and the Futures Institute, with support from the U.S. Agency for International

Development (USAID), illustrates how a safe, preventive HIV vaccine that is accessible and affordable can help us end the AIDS pandemic. This information is available in a series of publications and an interactive web tool.

The potential impact of a vaccine is striking. Because HIV is so extraordinarily resistant to the immune response, it is highly unlikely that any single vaccine will be able to prevent infection by all variants of the virus. Still, our modeling shows that if an AIDS vaccine that is only 50% effective is introduced in 2020 to 30% of the population in low- and middle-income countries, 5.2 million new HIV infections could be averted over the first decade. Higher efficacy and more coverage would have an even greater impact on the pandemic.

The world must continue to scale up and improve the response to HIV by using powerful prevention tools that are currently at our disposal. These include condoms, treatment and voluntary medical male circumcision. Our new models show that a vaccine can build on these existing tools and take us down the last mile to the end of the AIDS pandemic.

A 50% effective vaccine combined with greater use of current HIV-prevention tools could prevent nearly 20 million new HIV infections by 2030 – 20 million people that would not need to face the physical, emotional and social hardships caused by the disease and could avoid lifelong, daily antiretroviral treatment to stave off AIDS-related illness or death.

This HIV Vaccine Awareness Day, IAVI and our partners remember those we have lost to AIDS, gain inspiration from those living with and combating the disease today, and look forward to building on the incredible momentum of recent discoveries and study results to deliver on the tremendous potential of an AIDS vaccine.

<http://blog.usaid.gov/2012/05/modeling-potential-impact-on-hiv-vaccine-awareness-day/>

**Statement: NIH - HIV Vaccine Awareness Day - May 18, 2012**

*Statement of Anthony S. Fauci, M.D. Director, National Institute of Allergy and Infectious Diseases National Institutes of Health [full text]*

There is a growing consensus that we can significantly curtail the HIV/AIDS pandemic by implementing scientifically proven HIV prevention strategies, such as voluntary medically supervised adult male circumcision, prevention of mother-to-child transmission and treatment as prevention. With 2.7 million new HIV infections in 2010 alone, however, it is likely that controlling and ultimately ending the HIV/AIDS pandemic will require an effective vaccine as well. This past year, there have been a number of encouraging findings on this front.

Last month, a detailed analysis of specimens from the first HIV vaccine clinical trial to show a modest protective effect yielded important clues about how the vaccine might have worked. These clues suggest directions for improving upon the original vaccine regimen to confer a broader, more potent and longer-lasting effect. The original vaccine regimen was tested among 16,000 adult volunteers in Thailand in a trial co-funded by the National Institute of Allergy and Infectious Diseases (NIAID), part of NIH.

Meanwhile, several other NIAID-sponsored HIV vaccine clinical trials are under way. The largest of these is examining whether a prime-boost vaccine regimen can prevent HIV infection or reduce the amount of virus in the blood of those participants who become infected despite vaccination. These trials are possible because of the generous contributions of time and effort by thousands of study participants, community educators, health care workers and scientists. All those involved deserve our gratitude.

Preclinical animal model studies of HIV infection recently have uncovered valuable leads toward designing a preventive HIV vaccine. Scientists have demonstrated that a vaccine can prevent a virulent monkey version of HIV infection and have shown a correlation between this protection and the presence of specific antibodies to the virus. In basic HIV vaccine research, scientists are discovering and studying HIV neutralizing antibodies that shield cells in the lab against infection with a wide array of HIV strains collected from infected people worldwide. Researchers are analyzing the structure and evolution of these antibodies and the manner in which they bind to HIV, and are using this information to design new molecules to elicit the antibodies through vaccination. In related experiments, injecting these antibodies directly into monkeys has been shown to prevent infection from a monkey version of HIV. Based on these findings, studies to test this concept in people are being planned.

All of these advances reinforce our confidence that one day we will succeed at creating a safe, highly effective vaccine to prevent HIV infection. To contain and ultimately halt the HIV/AIDS pandemic, even the most effective vaccine must be part of a combination of medical and behavioral HIV prevention tools. That is why NIAID continues to support research into promising HIV prevention strategies, such as vaginal and rectal microbicides, pre-exposure prophylaxis (PrEP) and expanded HIV testing with linkage to care. That is also why the public health community will continue to refine and implement scientifically proven HIV prevention measures, including condom use, harm-reduction strategies for injection drug users, and, notably, treatment as prevention: giving antiretroviral therapy to HIV-infected individuals to dramatically reduce their infectiousness while protecting their [health](#)

Vaccines historically have been the single most important tool for controlling epidemics. With an ongoing commitment to HIV vaccine research, we have the potential to radically change the trajectory of the HIV/AIDS pandemic.

<http://www.nih.gov/news/health/may2012/niaid-14.htm>

### ***Video: Recap of the 26th Board Meeting by the Board Chair***

Global Fund Board Chair Simon Bland recaps the 26th Board Meeting in Geneva by saying “[continued from video]...This is a really exciting moment for the Global Fund. We’ve had six months where we’ve been going through an incredible transformation, reorganizing this Fund to deliver, and now we recognize that we do have resources at our disposal, to really accelerate implementation of an ambitious new strategy. This strategy is going to dictate the way we do business. We’re going to have new models of implementation at the country level, and we have enough funds now to really get cracking with the development of those new models.

“We’re going to bring the Board of the Global Fund together again in September—earlier than we’d imagined— to really accelerate the implementation of this strategy. And millions of people’s lives will be positively affected as a result.

“Board members came to this meeting I think really quite excited. Clearly from the Board conversations and the decisions we’ve taken today, they have the confidence in the management, they have the confidence in the reorganization, they have the confidence in the resources, and they’re not letting off the pressure to move as quickly as we possibly can to implement this incredibly exciting new strategy...”

Video and additional information: <http://www.theglobalfund.org/en/blog/29092/>

***President's Bioethics Commission takes up request by HHS Secretary Kathleen Sebelius for ethical advice on the development of medical countermeasures for children.***

*Excerpt from media release*

On Jan. 10, 2012, Secretary Sebelius asked the Commission for ethical advice on the development of medical countermeasures for children...The issue garnered substantial public interest last fall when another Federal advisory committee recommended pediatric testing of the anthrax vaccine.

The question that sparked this broad charge from Secretary Sebelius to the Commission is how to treat children who have been exposed to anthrax; it was a question that arose during a Homeland Security exercise. The National Biodefense Science Board (NBSB) recommended testing children before an anthrax event, rather than waiting for a crisis. However, the NBSB also recommended that such testing occur only after the ethical considerations are adequately reviewed and addressed.

"We are carefully and transparently reviewing all of the ethical considerations surrounding the development of medical countermeasures for children," Gutmann said. "The safety of our children is paramount. It is vital for us to thoroughly address any and all ethical considerations that impact how we treat our children in a time of crisis."

As she introduced the issue to the Commission, Gutmann clearly outlined the task before the panel, "At issue is the lack of development of appropriate pediatric medical countermeasures that would be needed in a crisis. This is not a review of the merits of vaccine research in general."

Sebelius today told the Commission she trusted the panel to do the job. "The Commission has delivered rational, independent, evidence-based advice on a wide range of complex bioethical issues. And I know I can look forward to receiving the same, when it comes to countermeasures for children." Secretary Sebelius said as she addressed the Commission...

<http://bioethics.gov/cms/node/688>

**The SIVAC (Supporting Independent Immunization and Vaccine Advisory Committees) Initiative said it recently supported the establishment of National Immunization Technical Advisory Groups (NITAGs) in Kazakhstan and Kyrgyzstan.** SIVAC, established in 2009, is managed by the Agence de Médecine Préventive (AMP) in partnership with the International Vaccine Institute (IVI). The Initiative "aims to support the creation or strengthening of sustainable NITAGs in low- and middle-income countries. The purpose is to enhance the use of evidence-based decision-making processes in the development of national immunization programs and policies." SIVAC said Kazakhstan is the first middle-income country to create a NITAG with SIVAC support, and that it helped a national team to develop a concept paper detailing NITAG terms of reference based on WHO guidelines. The opening ceremony of the NITAG was held in Almaty on 23 April 2012, in the presence of the 13 committee members and chair, Dr. Bekshin (chief sanitary doctor), and Dr. Christian Loucq, director general of IVI. In Kyrgyzstan, with SIVAC support, the honorable Minister of Public

Health, Dr. Dinara Saginbayeva, issued a decree establishing a NITAG to ensure that national immunization policies are developed using evidence-based processes. The committee is chaired by Dr. Babadzhanov, pediatrician at the National Center for Maternal and Child Care, and includes 13 additional members. The inauguration ceremony was held in Bishkek on 6 April 2012. IVI Director General Dr. Christian Loucq said, "Such committees represent a great step forward for these countries. Experts in different fields of vaccinology will gather and provide recommendations based on evidence and the local context. These committees will then be very helpful in guiding the Minister of Health to make informed decisions related to immunization programs, especially in the context of the possible introduction of new vaccines."

<http://www.prnewswire.com/news-releases/the-sivac-initiative-supports-kazakhstan-and-kyrgyzstan-to-set-up-national-immunization-technical-advisory-groups-nitags-151665625.html>

The **Weekly Epidemiological Record (WER) for 18 May 2012**, vol. 87, 20 (pp 189–200) includes: Eradication of yaws – the Morges Strategy; Progress towards global interruption of wild poliovirus transmission, January 2011– March 2012

<http://www.who.int/entity/wer/2012/wer8720.pdf>

***Twitter Watch*** [accessed 19 May 2012 – 16:43]

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.

*Hashtags of Interest:*

[#WHA65](#) – for tweets on the World Health Assembly meeting in the week ahead in Geneva.

[#WorldAIDSvaccineDay](#) and [#WAVD](#) – for tweets related to World AIDS Vaccine Day

[USAID Global Health @USAIDGH](#)

A 50% effective vaccine combined w greater use of current HIV prev tools could prevent ~20M new HIV infections by 2030 <http://ow.ly/b07LS>

4:30 PM - 19 May 12

[Doctors w/o Borders @MSF\\_USA](#)

Global vaccine plan draws criticism: <http://bit.ly/J6hLUF> @NatureNews blog post on our vaccine report: <http://bit.ly/LjCKZn>

[IAVI @AIDSvaccine](#)

[@NIAIDNews](#) Tony Fauci's [#WorldAIDSvaccineDay](#) / [#HIV](#) [#vaccine](#) Awareness Day statement: <http://1.usa.gov/MdJIUe> [#WAVD](#)

2:39 PM - 18 May 12

[IAVI @AIDSvaccine](#)

IAVI's McGlynn in [@USAIDGH](#) blog on modeling impact on [#WorldAIDSVaccineDay](#)/HIV Vax Awareness Day: <http://bit.ly/JSMYq1> [#WAVD](#) [#HIVvaximpact](#)  
10:30 AM - 18 May 12

[USAID Global Health @USAIDGH](#)

There are currently 71 ongoing clinical [#HIV](#) vaccine trials at different phases of development [#WAVD](#)  
9:35 AM - 18 May 12

[Arthur Caplan @ArthurCaplan](#)

really going to spend time on ethics of testing anthrax vaccine on kids what an utter waste of time <http://on.msnbc.com/JA37aW>  
7:12 PM - 17 May 12

[Amanda Glassman @glassmanamanda](#)

Amanda Glassman on the difficult task of setting priorities at the WHO  
<http://blogs.bmj.com/bmj/2012/05/17/amanda-glassman-on-the-difficult-task-of-setting-priorities-at-the-who/>  
10:20 AM - 17 May 12

### ***Report/Research/Book Watch***

*Vaccines: The Week in Review* is expanding 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](mailto:david.r.curry@centerforvaccineethicsandpolicy.org)

### **Report: *Public Engagement on Facilitating Access to Antiviral Medications and Information in an Influenza Pandemic - Workshop Series Summary***

Released: May 17, 2012

Type: Workshop Summary

Note: Workshop Summaries contain the opinion of the presenters, but do NOT reflect the conclusions of the IOM.

#### *Overview*

Influenza pandemics overwhelm health care systems with thousands or hundreds of thousands of sick patients, as well as those worried they may be sick. In order to ensure a successful response to the patient swell caused by a pandemic, robust planning is essential to prepare for challenges public health officials may face. This includes the need to quickly distribute and dispense antiviral medications that can reduce the severity and duration of disease to large numbers of people.

In response to a request from the CDC, the IOM's Forum on Medical and Public Health Preparedness for Catastrophic Events held a series of workshops that explored the public's perception of how to facilitate access to antiviral medications and treatment during an influenza pandemic. To help inform potential strategies still in the development stages at the CDC, workshops were held in Fort Benton, Montana;

Chattanooga, Tennessee; and Los Angeles, California; during February and March 2012 to consider the usefulness of several alternative strategies of delivering antiviral medication to the public. Participants considered how the normal systems for prescribing and dispensing antiviral medications could be adjusted to ensure that the public has quick, safe, and equitable access to both potentially life-saving drugs and information about the pandemic and treatment options. This document summarizes the workshops. <http://www.iom.edu/Reports/2012/Public-Engagement-on-Facilitating-Access-to-Antiviral-Medications.aspx>

### ***Journal Watch***

*Vaccines: The Week in Review* continues its weekly scanning of key journals to identify and cite articles, commentary and editorials, books reviews and other content supporting our focus on vaccine ethics and policy. ***Journal Watch* is not intended to be exhaustive, but indicative of themes and issues the Center is actively tracking.** We selectively provide full text of some editorial and comment articles that are specifically relevant to our work. Successful access to some of the links provided may require subscription or other access arrangement unique to the publisher.

*If you would like to suggest other journal titles to include in this service, please contact David Curry at: [david.r.curry@centerforvaccineethicsandpolicy.org](mailto:david.r.curry@centerforvaccineethicsandpolicy.org)*

### **Annals of Internal Medicine**

May 15, 2012; 156 (10)

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

#### ***Editorials***

#### **Ethical Dilemmas and Malfunctions in Clinical Trials Research**

Stuart J. Pocock

Ann Intern Med May 15, 2012 156:746-747;

#### ***Excerpt***

Two articles in this issue raise ethical concerns about the conduct and monitoring of clinical trials that are worthy of debate and future action.

Fan and colleagues (1) report a trial of a behavioral intervention strategy for patients with chronic obstructive pulmonary disease. The trial was stopped early primarily because of a statistically significant excess of deaths in the intervention group. This reminds us all that trials of behavioral strategies are no different from drug trials in their need for effective data monitoring for potential harm, even though some might argue that behavioral actions cannot conceivably harm patients. Appropriate structures (for example, planned interim analyses and an independent data monitoring committee) are an integral part of any major trial's ethical armory in guarding against and acting on nasty surprises.

Having said that, just how convincing is the evidence of harm in this case? Twenty-eight deaths (17%) occurred in the comprehensive care management group compared with 10 deaths (7%) in the usual care group ( $P = 0.003$ ). Trials that stop early because of an apparent treatment difference, whether for superiority or inferiority, are prone to exaggerate the true effect (2, 3). They stop on a "random high," whereas the observed difference might well have regressed to the truth if they had continued longer.

Inevitably, that unobservable truth will remain a mystery, but the idea of potential exaggeration is reinforced by the following 3 issues: The causes of death did not reveal any clear pattern consistent with a plausible reason for harm; the trial's primary end point (time ...

### **British Medical Bulletin**

Volume 101 Issue 1 March 2012

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

[Reviewed earlier]

### **British Medical Journal**

19 May 2012 (Vol 344, Issue 7857)

<http://www.bmj.com/content/344/7857>

#### ***Editorial***

#### **Immunisation against influenza during pregnancy**

BMJ 2012; 344 doi: 10.1136/bmj.e3091 (Published 2 May 2012)

Marian Knight, NIHR (National Institute for Health Research) research professor in public health 1, Boon Lim, consultant obstetrician<sup>2</sup>

#### ***Excerpt***

#### ***The benefits outweigh the risks***

Since the A/H1N1 2009 influenza pandemic, universal immunisation of pregnant women against seasonal flu has been recommended in many areas of the world.<sup>1 2 3</sup> Despite experience with immunisation against seasonal flu in pregnancy over many years, uptake of influenza vaccine in pregnancy during the 2009 A/H1N1 2009 pandemic was low and immunisation rates among pregnant women generally remain low.<sup>4 5</sup> One commonly cited reason for this is concern among women and clinical staff about the safety of the vaccine during pregnancy.<sup>6</sup>

In a linked research paper (doi:10.1136/bmj.e2794), Pasternak and colleagues present findings from an important new Danish national cohort study of women vaccinated against influenza A/H1N1 2009.<sup>7</sup> The study suggests that women who are immunised in pregnancy have a lower risk of fetal loss than non-immunised women. The study provides reassuring information for people who are worried about the safety of the vaccine and evidence of the benefits of vaccination, which were previously only hypothesised. This is particularly important because the influenza vaccination season has just started in the southern hemisphere, where the A/California/7/2009 strain is included in the current vaccine. After a World ...

#### ***Research***

#### **Vaccination against pandemic A/H1N1 2009 influenza in pregnancy and risk of fetal death: cohort study in Denmark**

BMJ 2012; 344 doi: 10.1136/bmj.e2794 (Published 2 May 2012)

Björn Pasternak, registrar and postdoctoral fellow<sup>1,2</sup>, Henrik Svanström, statistician<sup>1</sup>, Ditte Mølgaard-Nielsen, researcher<sup>1</sup>, Tyra G Krause, consultant<sup>3</sup>, Hanne-Dorthe Emborg, epidemiologist<sup>3</sup>, Mads Melbye, professor<sup>1</sup>, Anders Hviid, senior investigator<sup>1</sup>

#### ***Abstract [Open Access]***

**Objective** To investigate whether an adjuvanted pandemic A/H1N1 2009 influenza vaccine in pregnancy was associated with an increased risk of fetal death.

Design Nationwide register based cohort study.

Setting Denmark.

Participants All clinically recognised singleton pregnancies that ended between November 2009 and September 2010. Individual level data on exposure to an inactivated AS03 pandemic A/H1N1 2009 influenza vaccine (Pandemrix) and potential confounders were linked to the study cohort using a unique person identifier.

Main outcome measures The primary outcome measure was risk of fetal death (spontaneous abortion and stillbirth combined) in H1N1 vaccinated compared with unvaccinated pregnancies, adjusting for propensity scores. Secondary outcome measures were spontaneous abortion (between seven and 22 weeks' gestation) and stillbirth (after 22 completed weeks' gestation).

Results The cohort comprised 54 585 pregnancies; 7062 (12.9%) women were vaccinated against pandemic A/H1N1 2009 influenza during pregnancy. Overall, 1818 fetal deaths occurred (1678 spontaneous abortions and 140 stillbirths). Exposure to the H1N1 vaccine was not associated with an increased risk of fetal death (adjusted hazard ratio 0.79, 95% confidence interval 0.53 to 1.16), or the secondary outcomes of spontaneous abortion (1.11, 0.71 to 1.73) and stillbirth (0.44, 0.20 to 0.94). Estimates for fetal death were similar in pregnant women with (0.82, 0.44 to 1.53) and without comorbidities (0.77, 0.47 to 1.25).

Conclusion This large cohort study found no evidence of an increased risk of fetal death associated with exposure to an adjuvanted pandemic A/H1N1 2009 influenza vaccine during pregnancy.

### ***BMJ Press Release Monday, May 14, 2012 - 14:32***

#### **Should childhood vaccination be mandatory?**

*Is it needed to protect vulnerable people or are there more effective ways to ensure uptake?*

On bmj.com today, two experts debate whether childhood vaccination should be mandatory in the UK.

Paul Offit, Chief of Infectious diseases at the Children's Hospital of Philadelphia believes that mandatory vaccination is needed to protect vulnerable people from infection.

He argues that, when parents choose not to vaccinate, not only are they making a choice for their own children, they are also making a choice for those with whom their children come into contact. This includes children who are too young to receive vaccines and those who can't be vaccinated and depend on those around them to be protected. Which is paramount: the freedom to make bad health decisions or the right of the community to protect itself from those decisions, he asks?

In the United States, mandatory vaccination clearly increases uptake, he says. For example, unlike the UK and Europe, the US didn't suffer a measles epidemic after claims of a link between the MMR vaccine and autism. And in 2011, most of the 200 measles cases in the US were linked to European travel.

"Someday we may live in a world that doesn't scare patients into making bad health decisions," he concludes. "Until then, vaccine mandates are the best way to ensure protection from illnesses that have caused so much needless suffering and death."

But David Salisbury, Director of Immunisation at the UK Department of Health, argues that there are more workable ways to ensure high uptake.

He points out that between 1998 and 2010, the peak age for measles cases in England and Wales was less than five years, so if vaccination were made compulsory for school entry, the law would be coming into effect after many infections had occurred.

He believes that vaccination coverage can be raised by improving immunisation services and argues that, even after the MMR scare, compulsory vaccination "was never considered" and "would probably have made matters much worse."

He also highlights that in the US, exemptions to mandatory vaccination for school entry can be as high as 20% and the rate is increasing.

"When coverage is already high and rising, target diseases are under excellent control (although measles could be better), and parental acceptance for immunisation is high, compulsion seems a heavy hammer," he writes. "Compulsion would be unenforceable, unnecessary, and its use would probably do more harm than good."

### ***Head to Head***

#### **Should childhood vaccination be mandatory? Yes**

BMJ 2012; 344 doi: 10.1136/bmj.e2434 (Published 15 May 2012)

Paul A Offit, chief of infectious diseases

#### *Excerpt*

*Paul Offit believes that mandatory vaccination is needed to protect vulnerable people from infection, but David Salisbury (doi:10.1136/bmj.e2435) argues that there are more workable ways to ensure high uptake*

#### *Excerpt*

In a better world, vaccine mandates wouldn't be necessary. Parents would educate themselves about the diseases that vaccines prevent and learn that measles causes pneumonia and brain damage, mumps causes deafness and sterility, rubella causes severe birth defects, pertussis causes suffocation, and human papillomavirus (HPV) causes cervical, oropharyngeal, and anal cancers. They would learn about the remarkable safety and effectiveness of vaccines. And they would learn that although vaccines are not free of risk, their benefits clearly outweigh their risks. Mostly, they would learn that vaccines stand on a mountain of scientific evidence. Well informed: the choice to vaccinate their children would be an easy one.

Unfortunately, we don't live in that world. In our world, science based information is often obscured by false and misleading claims readily available in newspaper and magazine articles, on radio and television ...

<http://www.bmj.com/content/344/bmj.e2434>

### ***Head to Head***

#### **Should childhood vaccination be mandatory? No**

BMJ 2012; 344 doi: 10.1136/bmj.e2435 (Published 15 May 2012)

David M Salisbury, director of immunisation

*Paul Offit (doi:10.1136/bmj.e2434) believes that mandatory vaccination is needed to protect vulnerable people from infection, but David Salisbury argues that there are more workable ways to ensure high uptake*

#### *Excerpt*

Mandatory vaccination in the UK was attempted first in the 19th century.<sup>1</sup> The legislation was ineffective, discriminated in favour of those able to use the exemptions, and was divisive; it fostered substantial anti-vaccine sentiment and was counterproductive. Attempts to impose compulsion today would undoubtedly be challenged in terms of autonomy, inappropriate intrusion of the state, availability of

choice, and parental rights and responsibilities. Bolstered by access to information, its unacceptability to the public would be likely to have the same consequences.

Two questions need to be answered: do we need mandatory vaccination and are there examples of it being beneficial?

*Compulsion is unnecessary*

I presume that the purpose of mandatory vaccination is to raise coverage. If coverage is sufficiently high, compulsion is not needed. If coverage were not adequately high, other interventions are more likely to be successful than compulsion. We have reasonable ideas of what "sufficiently high" means: polio outbreaks do not occur when coverage is consistently above 80% in ...

<http://www.bmj.com/content/344/bmj.e2435>

### **Bulletin of the World Health Organization**

Volume 90, Number 5, May 2012, 321-400

<http://www.who.int/bulletin/volumes/90/5/en/index.html>

#### **Special theme: e-health**

[Reviewed earlier]

### **Cost Effectiveness and Resource Allocation**

(Accessed 19 May 2012)

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

[No new relevant content]

### **Emerging Infectious Diseases**

Volume 18, Number 6—June 2012

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

[No relevant content]

### **Foreign Affairs**

May/June 2012 Volume 91, Number 3

<http://www.foreignaffairs.com/>

[Reviewed earlier]

### **Global Health**

Winter 2012

[http://www.globalhealthmagazine.com/in\\_this\\_issue/](http://www.globalhealthmagazine.com/in_this_issue/)

[Reviewed earlier]

### **Globalization and Health**

[Accessed 19 May 2012]

<http://www.globalizationandhealth.com/>

[No new relevant content]

### **Health Affairs**

May 2012; Volume 31, Issue 5

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

**Theme: Coverage Expansion & Implications**

[No relevant content]

### **Health and Human Rights**

Vol 13, No 2 (2011) December

<http://hhrjournal.org/index.php/hhr>

[Reviewed earlier]

### **Health Economics, Policy and Law**

Volume 7 - Issue 02 - April 2012

<http://journals.cambridge.org/action/displayIssue?jid=HEP&tab=currentissue>

[Reviewed earlier]

### **Health Policy and Planning**

Volume 27 Issue 3 May 2012

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

[Reviewed earlier]

### **Human Vaccines & Immunotherapeutics** (formerly Human Vaccines)

Volume 8, Issue 5 May 2012

<http://www.landesbioscience.com/journals/vaccines/toc/volume/8/issue/5/>

[Reviewed earlier]

### **International Journal of Infectious Diseases**

Volume 16, Issue 6 pp. e413-e468 (June 2012)

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

[Reviewed earlier]

### **JAMA**

May 16, 2012, Vol 307, No. 19

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

**The Cover | May 16, 2012**

**Dimensions of Global Health, 2012**

Thomas R. Frieden, MD, MPH; Richard M. Garfield, RN, PhD

JAMA. 2012;307(19):2006-2006. doi:10.1001/jama.2012.2984

Human health has improved more in our lifetimes than it did in the preceding thousand years. Since 1970, the number of infants who die has decreased by more than

half worldwide, and maternal mortality has fallen dramatically in virtually every region of the world. Facing today's enormous global health challenges, we often lose sight of such advances. Health has improved for several reasons. First and foremost, economic growth improves people's life chances. In 1970, close to half the world's population lived in extreme poverty; now one in seven people lives in poverty. More people have access to clean water, immunizations, and basic health services because of the work of governments, charitable groups including faith-based organizations, international organizations, the private sector, and public and private development assistance. Wider dissemination of information and increasing citizen participation make it possible for many lower-income people to make better-informed decisions about their health.

This week's cover of JAMA highlights major layers that determine global health status. Underlying all is a clean and safe environment: uncontaminated food, water, and air. The economy—the generation and distribution of products and services—makes essential goods available. Policies can decrease inequalities in the distribution of these goods and services. Research develops better tools and strategies. Applied research shows how to use advances to improve health. Recent advances in vaccines, malaria, and HIV prevention and treatment have been translated into practice and have saved millions of lives.

The new and crucial frontiers for global health to cross in the coming years are both infectious and noninfectious. Some global health activities, such as international trade and disease reporting agreements and restrictions on marketing of dangerous products such as counterfeit medicines, tobacco, and controlled substances, are in the interest of all countries. Surveillance of diseases with epidemic potential protects rich and poor alike. The eradication of smallpox did—and eradicating polio and guinea worm will—serve all of humanity. When the Global Polio Eradication Initiative was launched by Rotary International, the World Health Organization, UNICEF, and the Centers for Disease Control and Prevention (CDC) in 1988, the virus disabled nearly 1000 children every day. In all of 2011, polio affected fewer than 1000 children worldwide. Yet polio eradication remains elusive, with ongoing, widespread transmission in several countries and continued importations to others. Disease eradication is the ultimate achievement for both sustainability and equity—it is forever and for everyone. Future generations will judge us by whether we carried polio eradication over the finish line—or dropped the ball.

In noninfectious diseases, reducing tobacco use and improving control of high blood pressure will be among the world's greatest health challenges in the next decade. Most low-income countries have not yet adopted effective programs to stop smoking and to prevent and treat hypertension. Tobacco control is within reach—WHO's MPOWER package of evidence-based tobacco control policies has reduced tobacco use everywhere it has been implemented, and progress is accelerating—but scaling up to reach most people must happen much more rapidly. Exposure to second-hand smoke in workplaces and other public places remains common, implementation of evidence-based tobacco control policies is increasing only gradually, the tobacco industry is intensifying its already aggressive marketing and lobbying in many countries, government and private funding remains limited, and in many countries there continues to be insufficient political leadership to address the tobacco epidemic, which will kill 1 billion people in this century unless urgent action is taken now.

Between 1990 and 2007, global assistance for health development rose from about \$6 billion to nearly \$22 billion. Some middle-income countries are starting to become

regional donors, and many governments in low-income countries are increasing their budgetary commitments to health. The world has recently made important technological progress, including in the areas of HIV, malaria, vaccinations, and diagnostics, as well as in mobile computing and communications technologies. Many more technological advances are in the pipeline.

The biggest challenge in global health is the growing gap between the effective and cost-effective actions we know work and what we actually do. Unless we close this implementation gap, billions of people will become ill, injured, or disabled or will die of conditions that could be easily and inexpensively prevented. Accurate and timely monitoring systems are crucial to close this gap. The CDC is working with countries and international organizations to strengthen the coverage and quality of disease surveillance and epidemiologic analysis in low- and middle-income countries so that these countries can better design, monitor, defend, and improve programs. These efforts will require additional investments in both human resources and public health institutions. Closing the implementation gap can prevent literally hundreds of millions of premature deaths in the decades ahead.

**Viewpoint | May 16, 2012**

### **Primary Health Care in Low-Income Countries - Building on Recent Achievements**

Jeffrey D. Sachs, PhD

JAMA. 2012;307(19):2031-2032. doi:10.1001/jama.2012.4438

*Excerpt*

Small investments in improved health of the poor have a remarkable return in reduced morbidity and mortality. While the developed economies grapple with health systems that cost several thousand dollars per person per year and often spend hundreds of thousands of dollars on a treatment to eke out an additional few months of life, outlays of just a few dozen dollars per person per year in impoverished countries can add several years to life expectancy. In the least developed countries, approximately 112 of every 1000 children die before their fifth birthday, as opposed to 8 per 1000 in the developed countries.<sup>1</sup> With a concerted science-based effort, the under-5 mortality rate of the least developed countries could be reduced to less than 30 per 1000 by 2020. Such low under-5 mortality rates have already been achieved, for example, by the Dominican Republic (28 per 1000), Mexico (17 per 1000), and Thailand (13 per 1000)

**Viewpoint | May 16, 2012**

### **Policy Making With Health Equity at Its Heart**

Michael G. Marmot, FRCP

JAMA. 2012;307(19):2033-2034. doi:10.1001/jama.2012.3534

*Excerpt*

...Economic and financial issues have been dominating global policy making. Health and inequalities in health should feature more strongly. This should be done not to enable physicians or ministers of health to have greater authority, but because economic and social developments have profound effects on health inequalities. Moreover, so crucial are economic and social policy decisions for health and the fair distribution of health, health equity should be an important measure of the effectiveness of social and economic policy making. Progress toward achievement of health equity is a measure of success.

I use the term health equity to have a specific meaning: systematic inequalities in health between social groups that are deemed to be avoidable by reasonable means.<sup>1</sup>

Therefore any policies that retard action to reduce these avoidable health inequalities are unfair..

**Viewpoint | May 16, 2012**

**Achieving Equity in Global Health - So Near and Yet So Far**

Zulfiqar A. Bhutta, FRCPC, PhD; K. Srinath Reddy, MD, DM (Card)

JAMA. 2012;307(19):2035-2036. doi:10.1001/jama.2012.4659

*Excerpt*

Few issues have generated as much passion and imagination over the last few decades as the challenge of global health. From major studies on the global burden of disease<sup>1</sup> to the recognition of the global epidemic of human immunodeficiency virus, AIDS, and tuberculosis, health has been center stage of the global development debate. Issues, which once remained within the purview of health advocacy and policy circles, found their way into the center stage of debates in the World Economic Forum and onto agendas for G8 and G20 summit meetings. The groundbreaking reports from the Commission for Macroeconomics in Health and Social Determinants of Health highlighted the importance of appropriate resource allocations for health as well as focusing on issues that determine population health, but are frequently beyond the purview of ministries of health. Even as the world contends with a worldwide recession, there is clear recognition that health of populations everywhere must be protected and promoted, not only as a developmental commitment to equity but also as an imperative for economic growth and security...

**Special Communication | May 16, 2012**

**A Framework Convention on Global Health - Health for All, Justice for All**

Lawrence O. Gostin, JD

JAMA. 2012;307(19):2087-2092. doi:10.1001/jama.2012.4395

*Excerpt*

Health inequalities represent perhaps the most consequential global health challenge and yet they persist despite increased funding and innovative programs. The United Nations is revising the Millennium Development Goals (MDGs) that will shape the world for many years to come. What would a transformative post-MDG framework for global health justice look like? A global coalition of civil society and academics—the Joint Action and Learning Initiative on National and Global Responsibilities for Health (JALI)—has formed an international campaign to advocate for a Framework Convention on Global Health (FCGH). Recently endorsed by the UN Secretary-General, the FCGH would reimagine global governance for health, offering a new post-MDG vision. This Special Communication describes the key modalities of an FCGH to illustrate how it would improve health and reduce inequalities. The modalities would include defining national responsibilities for the population's health; defining international responsibilities for reliable, sustainable funding; setting global health priorities; coordinating fragmented activities; reshaping global governance for health; and providing strong global health leadership through the World Health Organization...

**Editorial | May 16, 2012**

**Health, Economics, and the 2012 G8 Summit**

Howard Bauchner, MD; Julio Frenk, MD

JAMA. 2012;307(19):2102-2104. doi:10.1001/jama.2012.4874

*Excerpt*

Health and economics are inextricably linked. Health constitutes a vigorous sector of the economy, with effects on inflation, employment, and competitiveness. The World

Health Organization estimates that health systems worldwide absorb approximately 10% of the world economy—about US \$6 trillion.<sup>1</sup> Differences in health expenditures, however, are huge. For instance, the United States spends more than \$7000 per capita on health, whereas Eritrea spends less than US \$10. For low- and middle-income countries, committing more financial resources to health is a complicated and difficult decision, because most nations face many competing priorities. Nor will improving the health of the world's population be possible unless there is global economic recovery. Enlightened ministers of finance realize that better health contributes to sustainable economic growth through its effects on improved productivity.

Indeed, interest in global health has increased significantly over the past 2 decades. Modern travel and the Internet have made the world a far more intimate place, and health risks and benefits more easily travel the world. Examples of the increasing global transfer of health risks are the human immunodeficiency virus (HIV)/AIDS pandemic, the 2002-2003 severe acute respiratory syndrome outbreak, and the recent H1N1 influenza crisis. But opportunities are also spreading. Access to health care as a basic human right has been vigorously endorsed by governments and international agencies, leading to a global movement toward universal health coverage. Substantially more resources from governments and foundations have been committed to the international effort to improve the health of the world's population.<sup>2</sup> Numerous journals have given a powerful voice to the global health movement.<sup>3-4</sup> As a reflection of this increasing interest, more than 100 partnerships are now active in global health.

This global health theme issue of JAMA, published to coincide with the May 2012 G8 Summit in the United States, provides new information and insights directly relevant to the related issues of health, economics, and global well-being. This issue begins with 4 Viewpoints from individuals with long and rich commitments to global health. Sachs<sup>5</sup> provides insights about the role of economics in health care, emphasizing the need to develop primary health care in low-income countries. Marmot<sup>6</sup> addresses health disparities and the potential role of economics in alleviating them. Bhutta and Reddy<sup>7</sup> focus on issues related to maternal and child health. Marrero and colleagues<sup>8</sup> report on the recent high-level meeting of the United Nations that focused on noncommunicable diseases, signaling the global importance of cardiovascular disease, chronic respiratory disease, diabetes, and cancer. In a Special Communication, Gostin<sup>9</sup> details the creation of a Framework Convention on Global Health that “would reimagine global governance for health, offering a new post-[Millennium Development Goals] vision.”...

### **Journal of Health Organization and Management**

Volume 26 issue 3 - Current Issue

Published: 2012

<http://www.emeraldinsight.com/journals.htm?issn=1477-7266&volume=26&issue=3>

**Theme: *Social Values and Health Policy***

[Reviewed earlier]

### **Journal of Infectious Diseases**

Volume 205 Issue 11 June 1, 2012

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

[Reviewed earlier]

## **Journal of Global Infectious Diseases (JGID)**

January-March 2012 Volume 4 | Issue 1 Page Nos. 1-92

<http://www.jgid.org/currentissue.asp?sabs=n>

[Reviewed earlier]

## **The Lancet**

May 19, 2012 Volume 379 Number 9829 p1851 – 1922 e52

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

### **Review**

#### **Scaling up interventions to achieve global tuberculosis control: progress and new developments**

Mario Raviglione, Ben Marais, Katherine Floyd, Knut Lönnroth, Haileyesus Getahun, Giovanni B Migliori, Anthony D Harries, Paul Nunn, Christian Lienhardt, Steve Graham, Jeremiah Chakaya, Karin Weyer, Stewart Cole, Stefan HE Kaufmann, Alimuddin Zumla

### *Summary*

Tuberculosis is still one of the most important causes of death worldwide. The 2010 Lancet tuberculosis series provided a comprehensive overview of global control efforts and challenges. In this update we review recent progress. With improved control efforts, the world and most regions are on track to achieve the Millennium Development Goal of decreasing tuberculosis incidence by 2015, and the Stop TB Partnership target of halving 1990 mortality rates by 2015; the exception is Africa. Despite these advances, full scale-up of tuberculosis and HIV collaborative activities remains challenging and emerging drug-resistant tuberculosis is a major threat. Recognition of the effect that non-communicable diseases—such as smoking-related lung disease, diet-related diabetes mellitus, and alcohol and drug misuse—have on individual vulnerability, as well as the contribution of poor living conditions to community vulnerability, shows the need for multidisciplinary approaches. Several new diagnostic tests are being introduced in endemic countries and for the first time in 40 years a coordinated portfolio of promising new tuberculosis drugs exists. However, none of these advances offer easy solutions. Achievement of international tuberculosis control targets and maintenance of these gains needs optimum national health policies and services, with ongoing investment into new approaches and strategies. Despite growing funding in recent years, a serious shortfall persists. International and national financial uncertainty places gains at serious risk. Perseverance and renewed commitment are needed to achieve global control of tuberculosis, and ultimately, its elimination.

## **The Lancet Infectious Disease**

May 2012 Volume 12 Number 5 p355 - 422

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

[Reviewed earlier]

## **Medical Decision Making (MDM)**

May–June 2012; 32 (3)

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

### **Original Articles**

Anthony J. Culyer and Yvonne Bombard

#### **An Equity Framework for Health Technology Assessments**

Med Decis Making May–June 2012 32: 428–441, first published on November 7, 2011

doi:10.1177/0272989X11426484

#### *Abstract*

Despite the inclusion of equity in the design of many health care systems, pragmatic tools for considering equity systematically, alongside the efficiency categories of cost-effectiveness in health technology assessment (HTA), remain underdeveloped. This article develops a framework to help decision makers supplement the standard efficiency criteria of HTA and avoid building inequities, explicit or implicit, into their methods. The framework is intended as a first step toward creating a checklist for alerting decision makers to a wide range of equity considerations for HTA. This framework is intended to be used as part of the process through which advisory bodies receive their terms of reference; scope the agenda prior to the selection of a candidate intervention and its comparators for HTA; prepare background briefing for decision makers; and help to structure the discussion and composition of professional and lay advisory groups during the assessment process. The framework is offered as only a beginning of an ongoing process of deliberation and consultation, through which the matters covered can be expected to become more comprehensive and the record of past decisions and their contexts in any jurisdiction adopting the tool can serve to guide subsequent evidence gathering and decisions. In these ways, it may be hoped that equity will be more systematically and fully considered and implemented in both the procedures and decisions of HTA.

Yoko Ibuka, A. David Paltiel, and Alison P. Galvani

#### **Impact of Program Scale and Indirect Effects on the Cost-Effectiveness of Vaccination Programs**

Med Decis Making May–June 2012 32: 442–446, first published on April 3, 2012

doi:10.1177/0272989X12441397

#### *Extract*

Vaccination against infectious disease confers both a direct protective effect to the individual receiving the vaccine as well as an indirect “herd protection” effect by reducing the transmission to the rest of the community. In some cases, the indirect population-level benefits may even outweigh the direct individual-level effects of vaccination.<sup>1</sup> This article is motivated by the concern that published cost-effectiveness evaluations of vaccination programs are often conducted in comparison to a nonvaccination scenario<sup>2–8</sup> and that failure to account for considerations of scale— notably, the vaccination coverage both prior to and after program implementation—can lead analysts to ignore the nonlinear effects of herd protection and may misrepresent the cost-effectiveness of program expansion.

We used a simple model of influenza transmission to show how coverage rates affect cost-effectiveness in the evaluation of vaccination programs when herd protection effects are considered. Specifically, we show how estimates of costs, health outcomes, and cost-effectiveness of the vaccination program change with different levels of vaccination coverage due to the herd protection effect.

#### *Methods*

### *Disease Transmission Model*

A standard susceptible-infectious-recovered (SIR) differential equation model was used to capture influenza transmission dynamics (Figure 1 and Table 1)<sup>9</sup> and to estimate the disease incidence at varying levels of vaccination coverage in a population of 100,000 homogeneous, randomly mixing individuals. Vaccination efficacy ( $\epsilon$ ) was assumed to be 70%.<sup>10</sup> The basic reproduction number ( $R_0$ ), the mean number of infectious cases from a single infection in a totally susceptible population, was assumed to be 1.5,<sup>11</sup> producing an influenza attack rate of approximately 10% at 35% vaccination coverage, which mirrors the typical influenza season in the US.<sup>12</sup> The contact rate was parameterized to generate the  $R_0$  value, based on the relationship between the contact rate and basic reproduction number:  $R_0 \times \dots$

Jeffrey T. Vietri, Meng Li, Alison P. Galvani, and Gretchen B. Chapman

### **Vaccinating to Help Ourselves and Others**

Med Decis Making May–June 2012 32: 447-458, first published on November 29, 2011  
doi:10.1177/0272989X11427762

#### *Abstract*

**Background.** Many behaviors affect not only the self but also others. The utility of a vaccination to each individual depends on population immunity, the cumulative result of individual vaccination decisions. However, little is known about how the benefit to others influences vaccination decisions. **Methods.** In a series of 3 experiments ( $N = 292, 316,$  and  $299$ ) using hypothetical scenarios and college student respondents, we tested whether the vaccination decisions of individuals were sensitive to the level of immunity in the population when it had implications for either altruistic or free-riding vaccination behavior. **Results.** Our findings indicate that decisions of individuals were sensitive to opportunities both to free ride by refusing vaccination and to vaccinate altruistically. Although individuals were most willing to get vaccinated when they were at risk themselves, they were also sensitive to the amount of good they could do for others. This altruistic sensitivity was strongest when individuals were not vulnerable to the disease themselves. **Conclusions.** The most effective vaccination strategies, from a public health perspective, often entail vaccinating the disease transmitters rather than those who are most vulnerable. Consequently, those who bear the burden of vaccination and those who benefit are not the same individuals. Thus, effective vaccination campaigns require that disease transmitters vaccinate even when it is not in their self-interest to do so. Our results suggest that it may be possible to encourage vaccination by appealing to altruistic motives.

### **Nature**

Volume 485 Number 7398 pp279-410 17 May 2012

[http://www.nature.com/nature/current\\_issue.html](http://www.nature.com/nature/current_issue.html)

[No relevant content]

### **Nature Medicine**

May 2012, Volume 18 No 5 pp631-834

<http://www.nature.com/nm/journal/v18/n5/index.html>

[Reviewed earlier]

### **Nature Reviews Immunology**

May 2012 Vol 12 No 5

<http://www.nature.com/nri/journal/v12/n5/index.html>

[No relevant content]

### **New England Journal of Medicine**

May 17, 2012 Vol. 366 No. 20

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

[No relevant content]

### **OMICS: A Journal of Integrative Biology**

May 2012, 16(5)

<http://online.liebertpub.com/toc/omi/16/5>

[Reviewed earlier]

### **The Pediatric Infectious Disease Journal**

May 2012 - Volume 31 - Issue 5

pp: A7-A8,431-537,e73-e77

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

[Reviewed earlier]

### **Pediatrics**

May 2012, VOLUME 129 / ISSUE 5

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

[Reviewed earlier]

### **Pharmacoeconomics**

June 1, 2012 - Volume 30 - Issue 6 pp: 447-535

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

#### **Leading Article**

#### **[Value of Information and Pricing New Healthcare Interventions](#)**

Willan, Andrew R.; Eckermann, Simon

Pharmacoeconomics. 30(6):447-459, June 1, 2012.

doi: 10.2165/11592250-000000000-00000

#### *Abstract*

Previous application of value-of-information methods to optimal clinical trial design have predominantly taken a societal decision-making perspective, implicitly assuming that healthcare costs are covered through public expenditure and trial research is funded by government or donation-based philanthropic agencies. In this paper, we consider the interaction between interrelated perspectives of a societal decision maker (e.g. the National Institute for Health and Clinical Excellence [NICE] in the UK) charged with the responsibility for approving new health interventions for reimbursement and the

company that holds the patent for a new intervention. We establish optimal decision making from societal and company perspectives, allowing for trade-offs between the value and cost of research and the price of the new intervention.

Given the current level of evidence, there exists a maximum (threshold) price acceptable to the decision maker. Submission for approval with prices above this threshold will be refused. Given the current level of evidence and the decision maker's threshold price, there exists a minimum (threshold) price acceptable to the company. If the decision maker's threshold price exceeds the company's, then current evidence is sufficient since any price between the thresholds is acceptable to both. On the other hand, if the decision maker's threshold price is lower than the company's, then no price is acceptable to both and the company's optimal strategy is to commission additional research. The methods are illustrated using a recent example from the literature.

## **PLoS One**

[Accessed 19 May 2012]

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

### **Cervical, Anal and Oral HPV in an Adolescent Inner-City Health Clinic Providing Free Vaccinations**

Nicolas F. Schlecht, Robert D. Burk, Anne Nucci-Sack, Viswanathan Shankar, Ken Peake, Elizabeth Lorde-Rollins, Richard Porter, Lourdes Oriana Linares, Mary Rojas, Howard D. Strickler, Angela Diaz

PLoS ONE: Research Article, published 18 May 2012 10.1371/journal.pone.0037419

#### *Abstract*

##### Objectives

Published human papillomavirus (HPV) vaccine trials indicate efficacy is strongest for those naive to the vaccine-types. However, few high-risk young women have been followed and cervical HPV has been the predominant outcome measure.

##### Methods

We collected cervical and anal swabs, as well as oral rinse specimens from 645 sexually active inner-city young females attending a large adolescent health-clinic in New York City that offers free care and HPV vaccination. Specimens were tested for HPV-DNA using a MY09/MY11-PCR system. Type-specific prevalence of HPV at each anatomic site was compared for individuals by vaccination dose using generalized estimating equation logistic regression models.

##### Results

The majority of subjects reported being of non-Caucasian (92%) and/or Hispanic ethnicity (61%). Median age was 18 years (range:14–20). All had practiced vaginal sex, a third (33%) practiced anal sex, and most (77%) had also engaged in oral sex. At enrollment, 21% had not received the vaccine and 51% had received three doses. Prevalent HPV infection at enrollment was detected in 54% of cervical, 42% of anal and 20% of oral specimens, with vaccine types present in 7%, 6% and 1% of specimens, respectively. Comparing prevalence for vaccine types, the detection of HPV in the cervix of vaccinated compared to unvaccinated adolescents was significantly reduced: HPV6/11 (odds ratio [OR] = 0.19, 95%CI:0.06–0.75), HPV16 (OR = 0.31, 95%CI:0.11–0.88) and HPV18 (OR = 0.14, 95%CI:0.03–0.75). For anal HPV, the risk of detecting vaccine types HPV6/11 (OR = 0.27, 95%CI:0.10–0.72) and HPV18(OR = 0.12, 95%CI:0.01–1.16)

were significantly reduced for vaccinated adolescents however, the risk for HPV16 was not significantly decreased (OR = 0.63, 95%CI:0.18–2.20).

Conclusion

HPV Prevalence is extremely high in inner-city female adolescents. Administration of the HPV vaccine reduced the risk for cervical HPV; however continued follow-up is required to assess the protection for HPV at all sites in young women with high exposure.

## **PLoS Medicine**

(Accessed 19 May 2012)

<http://www.plosmedicine.org/article/browse.action?field=date>

### **[A New Deal for Global Health R&D? The Recommendations of the Consultative Expert Working Group on Research and Development \(CEWG\)](#)**

John-Arne Røttingen, Claudia Chamas

Perspective, published 15 May 2012

doi:10.1371/journal.pmed.1001219

*Excerpt*

In May 2012 at the World Health Assembly, member states of the World Health Organization (WHO) have the opportunity to make substantial progress on a major global health challenge: how to catalyse new knowledge for diseases that primarily affect the global poor and for which patents provide insufficient market incentives. The existing system can neither adequately develop nor deliver health technologies addressing health concerns mainly or only constituting a problem in developing countries. Those markets have no ability to pay the high prices needed to recover research and development (R&D) costs, which is the way the current system operates. We need mechanisms that delink the cost of R&D from the price of products.

### **[Innovation and Access to Medicines for Neglected Populations: Could a Treaty Address a Broken Pharmaceutical R&D System?](#)**

Suerie Moon, Jorge Bermudez, Ellen 't Hoen

Essay, published 15 May 2012

doi:10.1371/journal.pmed.1001218

*Summary Points*

- The current system for the research and development (R&D) of new medicines does not adequately meet the needs of the majority of the world's population.
- There is a lack of new medicines for the “neglected diseases”—those that primarily affect populations with little purchasing power, and therefore offer an insufficient incentive for industry to invest in R&D. However, with problems extending far beyond the narrow notion of neglected diseases, the issue is better understood as one of “neglected populations.”
- International debate and proposals for reform have ensued, including the recommendation that governments begin negotiations over a binding medical R&D convention to address systematic, long-standing problems with innovation and globally equitable access to medicines. Despite the emergence of many new approaches to generating R&D that meets the needs of poorer populations, efforts remain ad hoc, fragmented, and insufficient.
- We discuss how an R&D treaty could complement and build on existing initiatives by addressing four areas where the system remains particularly weak: affordability,

sustainable financing, efficiency in innovation, and equitable health-centered governance.

- We argue that effective tools for global governance are required to generate medical R&D as a global public good, based on the understanding that a politically and financially sustainable system will require both fair contributions from all, and fair benefit-sharing for all.

### **PLoS Neglected Tropical Diseases**

April 2012

<http://www.plosntds.org/article/browseIssue.action>

[Reviewed earlier]

### **PNAS - Proceedings of the National Academy of Sciences of the United States of America**

(Accessed 19 May 2012)

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

[No new relevant content]

### **Public Health Ethics**

Volume 5 Issue 1 April 2012

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

[Reviewed earlier]

### **Science**

18 May 2012 vol 336, issue 6083, pages 761-948

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

[No relevant content]

### **Science Translational Medicine**

16 May 2012 vol 4, issue 134

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

[No relevant content]

### **Tropical Medicine & International Health**

May 2012 Volume 17, Issue 5 Pages 531-682

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

[Reviewed earlier]

### **Vaccine**

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

**Volume 30, Issue 26, Pages 3819-3982 (6 June 2012)**

**Regular Papers**

**[Estimation of immunization providers' activities cost, medication cost, and immunization dose errors cost in Iraq](#)**

Original Research Article

Pages 3862-3866

Omer Qutaiba B. Al-lela, Mohd Baidi Bahari, Mustafa G. Al-abbassi, Muhannad R.M. Salih, Amena Y. Basher

*Abstract*

The immunization status of children is improved by interventions that increase community demand for compulsory and non-compulsory vaccines, one of the most important interventions related to immunization providers. The aim of this study is to evaluate the activities of immunization providers in terms of activities time and cost, to calculate the immunization doses cost, and to determine the immunization dose errors cost. Time-motion and cost analysis study design was used. Five public health clinics in Mosul-Iraq participated in the study. Fifty (50) vaccine doses were required to estimate activities time and cost. Micro-costing method was used; time and cost data were collected for each immunization-related activity performed by the clinic staff. A stopwatch was used to measure the duration of activity interactions between the parents and clinic staff. The immunization service cost was calculated by multiplying the average salary/min by activity time per minute. 528 immunization cards of Iraqi children were scanned to determine the number and the cost of immunization doses errors (extraimmunization doses and invalid doses). The average time for child registration was 6.7 min per each immunization dose, and the physician spent more than 10 min per dose. Nurses needed more than 5 min to complete child vaccination. The total cost of immunization activities was 1.67 US\$ per each immunization dose. Measles vaccine (fifth dose) has a lower price (0.42 US\$) than all other immunization doses. The cost of a total of 288 invalid doses was 744.55 US\$ and the cost of a total of 195 extra immunization doses was 503.85 US\$. The time spent on physicians' activities was longer than that spent on registrars' and nurses' activities. Physician total cost was higher than registrar cost and nurse cost. The total immunization cost will increase by about 13.3% owing to dose errors.

**[Impact of pneumococcal vaccination in Denmark during the first 3 years after PCV introduction in the childhood immunization programme](#)**

Original Research Article

Pages 3944-3950

Helene Ingels, Jeppe Rasmussen, Peter Henrik Andersen, Zitta B. Harboe, Steffen Glismann, Helle Konradsen, Steen Hoffmann, Palle Valentiner-Branth, Lotte Lambertsen, On behalf of Danish Pneumococcal Surveillance Collaboration Group 2009–2010

*Abstract*

Background and aims

The 7-valent pneumococcal conjugate vaccine (PCV7) was introduced in Denmark in October 2007 in a 2 + 1 schedule with a catch-up programme for children up to 17 months of age. To assess the impact of PCV we evaluated on the whole population: (1) direct and indirect effects on incidence of invasive pneumococcal disease (IPD), (2) changes in pneumococcal serotype distribution and (3) IPD related mortality.

Methods

We compared disease incidence in pre-PCV (years 2000–2007) and PCV periods (years 2008–2010) based on national surveillance data.

#### Results

In children aged 0–5 years the overall incidence of IPD decreased from 26.7 to 16.3 cases per 100,000 (IRR 0.58; 95% Confidence Interval (CI) [0.48–0.69]) and case fatality declined from 1.8% (12 deaths) in the eight-year pre-PCV period to 0% (no deaths) in the three-year PCV period. In the whole population the overall incidence of IPD and of IPD caused by vaccine serotypes declined significantly from 19.5 to 17.7 and from 7.7 to 3.8 cases per 100,000 persons comparing the two periods. The incidence of IPD due to non-vaccine serotypes (NVT-IPD) increased significantly from 11.8 to 13.9 cases per 100,000 in the whole population (incidence rate ratio 1.18; 95% CI [1.12–1.24]) with predominance of the serotypes 1.7F and 19A.

#### Conclusions

We report a marked decline in incidence in IPD in both vaccinated and non-vaccinated age groups and a minor but statistically significant increase in incidence of IPD due to NVTs in both vaccinated and non-vaccinated groups with predominance of serotypes covered by higher valence pneumococcal conjugate vaccines.

### **Vaccine**

**Volume 30, Issue 25, Pages 3723-3818 (28 May 2012)**

<http://www.sciencedirect.com/science/journal/0264410X/30/25>

**Special Issue: The Role of Internet Use in Vaccination Decisions**

Edited by Cornelia Betsch and Katharina Sachse

***Section 1. Web 2.0 - What it is and how it may affect vaccination decisions***  
**[Opportunities and challenges of Web 2.0 for vaccination decisions](#)**

Original Research Article

Pages 3727-3733

Cornelia Betsch, Noel T. Brewer, Pauline Brocard, Patrick Davies, Wolfgang Gaissmaier, Niels Haase, Julie Leask, Frank Renkewitz, Britta Renner, Valerie F. Reyna, Constanze Rossmann, Katharina Sachse, Alexander Schachinger, Michael Siegrist, Marybelle Stryk

#### *Abstract*

A growing number of people use the Internet to obtain health information, including information about vaccines. Websites that allow and promote interaction among users are an increasingly popular source of health information. Users of such so-called Web 2.0 applications (e.g. social media), while still in the minority, represent a growing proportion of online communicators, including vocal and active anti-vaccination groups as well as public health communicators. In this paper, the authors: define Web 2.0 and examine how it may influence vaccination decisions; discuss how anti-vaccination movements use Web 2.0 as well as the challenges Web 2.0 holds for public health communicators; describe the types of information used in these different settings; introduce the theoretical background that can be used to design effective vaccination communication in a Web 2.0 environment; make recommendations for practice and pose open questions for future research. The authors conclude that, as a result of the Internet and Web 2.0, private and public concerns surrounding vaccinations have the potential to virally spread across the globe in a quick, efficient and vivid manner. Web 2.0 may influence vaccination decisions by delivering information that alters the perceived personal risk of vaccine-preventable diseases or vaccination side-effects. It appears useful for public health officials to put effort into increasing the effectiveness of

existing communication by implementing interactive, customized communication. A key step to providing successful public health communication is to identify those who are particularly vulnerable to finding and using unreliable and misleading information. Thus, it appears worthwhile that public health websites strive to be easy to find, easy to use, attractive in its presentation and readily provide the information, support and advice that the searcher is looking for. This holds especially when less knowledgeable individuals are in need of reliable information about vaccination risks and benefits.

### **[The defining characteristics of Web 2.0 and their potential influence in the online vaccination debate](#)**

Original Research Article

Pages 3734-3740

Holly O. Witteman, Brian J. Zikmund-Fisher

*Abstract*

The emergence of Web 2.0 has led to more and more Web-based resources demonstrating three defining characteristics: user participation, openness and network effects. This paper discusses these characteristics in the context of the online vaccination debate, explores how they structurally alter the way people might interact with vaccination information online, and describes ways in which such characteristics support particular tendencies in human decision making processes. Specifically, user participation supports the influence of narratives and personal accounts, openness shapes expectations for greater levels of detail and movement toward models of informed decision making, and network effects demonstrate the social nature of decision making, the influence of like-minded others and thus, the pitfalls of polarization in the online vaccination debate. Web 2.0 means that concerns about vaccination information online must expand beyond simply the possibility that people might access information of varying quality to incorporate a more comprehensive understanding of how people use current Web functionality, how such usage influences expectations about information sources and decision making processes, and the implications for communication strategies about vaccination.

### ***Section 2. Surfing the web - processing the obtained information***

### **[Sorting through search results: A content analysis of HPV vaccine information online](#)**

Original Research Article

Pages 3741-3746

Kelly Madden, Xiaoli Nan, Rowena Briones, Leah Waks

*Abstract*

Introduction

Surveys have shown that many people now turn to the Internet for health information when making health-related decisions. This study systematically analyzed the HPV vaccine information returned by online search engines. HPV is the most common sexually transmitted disease and is the leading cause of cervical cancers.

Methods

We conducted a content analysis of 89 top search results from Google, Yahoo, Bing, and Ask.com. The websites were analyzed with respect to source, tone, information related to specific content analyzed through the lens of the Health Belief Model, and in terms of two content themes (i.e., conspiracy theories and civil liberties). The relations among these aspects of the websites were also explored.

Results

Most websites were published by nonprofit or academic sources (34.8%) and governmental agencies (27.4%) and were neutral in tone (57.3%), neither promoting nor opposing the HPV vaccine. Overall, the websites presented suboptimal or inaccurate information related to the five behavioral predictors stipulated in the Health Belief Model. Questions related to civil liberties were present on some websites.

#### Conclusion

Health professionals designing online communication with the intent of increasing HPV vaccine uptake should take care to include information about the risks of HPV, including susceptibility and severity. Additionally, websites should include information about the benefits of the vaccine (i.e., effective against HPV), low side effects as a barrier that can be overcome, and ways in which to receive the vaccine to raise individual self-efficacy.

#### **[Do the media provide transparent health information? A cross-cultural comparison of public information about the HPV vaccine](#)**

Original Research Article

Pages 3747-3756

Nicolai Bodemer, Stephanie M. Müller, Yasmina Okan, Rocio Garcia-Retamero, Angela Neumeyer-Gromen

#### *Abstract*

The media is a powerful tool for informing the public about health treatments. In particular, the Internet has gained importance as a widely valued source for health information for parents and adolescents. Nonetheless, traditional sources, such as newspapers, continue to report on health innovations. But do websites and newspaper reports provide balanced information? We performed a systematic media analysis to evaluate and compare media coverage of the human papillomavirus (HPV) vaccine on websites and in newspapers in Germany and Spain. We assessed to what extent the media provide complete (pros and cons), transparent (absolute instead of relative numbers), and correct information about the epidemiology and etiology of cervical cancer as well as the effectiveness and costs of the HPV vaccine. As a basis for comparison, a facts box containing current scientific evidence about cervical cancer and the HPV vaccine was developed. The media analysis included 61 websites and 141 newspaper articles in Germany, and 41 websites and 293 newspaper articles in Spain. Results show that 57% of German websites and 43% of German newspaper reports communicated correct estimates of epidemiological data, whereas in Spain 39% of the websites and 20% of the newspaper did so. While two thirds of Spanish websites explicitly mentioned causes of cervical cancer as well as spontaneous recovery, German websites communicated etiological information less frequently. Findings reveal that correct estimates about the vaccine's effectiveness were mentioned in 10% of German websites and 6% of German newspaper reports; none of the Spanish newspaper reports and 2% of Spanish websites reported effectiveness correctly. Only German websites (13%) explicitly referred to scientific uncertainty regarding the vaccine's evaluation. We conclude that the media lack balanced reporting on the dimensions completeness, transparency, and correctness. We propose standards for more balanced reporting on websites and in newspapers.

#### **[Parents' Internet use for information about HPV vaccine](#)**

Original Research Article

Pages 3757-3762

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

#### *Abstract*

## Purpose

The Internet is an increasingly common source of health-related information. We sought to examine associations between parents' Internet information-seeking and their knowledge, attitudes and beliefs about human papillomavirus (HPV) vaccine.

## Methods

We interviewed parents within a year after approval of HPV vaccine for females and males. Participants were North Carolina parents with daughters ages 10–18 surveyed by telephone in Fall 2007 (n = 773); and a national sample of parents with sons ages 11–17 surveyed online in Fall 2010 (n = 115). We used multivariate regression to examine associations of past and intended Internet seeking for HPV vaccine information with knowledge and health belief model-related constructs.

## Results

Among parents of daughters, having heard of HPV vaccine through the Internet (8%) was associated with higher HPV knowledge, perceived likelihood of HPV, and vaccination willingness, and with receiving a doctor's recommendation. It was also associated with lower perceived vaccine harms, uncertainty, and anticipated regret. Parents of sons who heard of HPV vaccine through the Internet (10%) perceived greater barriers to vaccination than parents who learned about HPV vaccine for males through other sources. Intended future Internet information-seeking among parents of daughters (69%) was more likely if they perceived a lower likelihood that their daughters would get HPV if they were vaccinated (all  $p < .05$ ).

## Conclusions

Our findings suggest a positive influence of accessing information on the Internet about HPV vaccine. It was associated with higher knowledge and mostly positive parental attitudes and beliefs.

## **[Vaccine-critical videos on YouTube and their impact on medical students' attitudes about seasonal influenza immunization: A pre and post study](#)**

Original Research Article

Pages 3763-3770

Pierre Robichaud, Steven Hawken, Leslie Beard, Dante Morra, George Tomlinson, Kumanan Wilson, Jennifer Keelan

### *Abstract*

YouTube is a video-sharing platform that is increasingly utilized to share and disseminate health-related information about immunization. Using a pre–post survey methodology, we compared the impact of two of the most popular YouTube videos discussing seasonal influenza vaccine, both vaccine-critical, on the attitudes towards immunizing of first year medical students attending a Canadian medical school. Forty-one medical students were randomized to view either a scientifically styled, seemingly “evidence-based”, vaccine-critical video or a video using anecdotal stories of harms and highly sensationalized imagery. In the pre-intervention survey, medical students frequently used YouTube for all-purposes, while 42% used YouTube for health-related purposes and 12% used YouTube to search for health information. While medical students were generally supportive of immunizing, there was suboptimal uptake of annual influenza vaccine reported, and a subset of our study population expressed vaccine-critical attitudes and behaviors with respect to seasonal influenza. Overall there was no significant difference in pre to post attitudes towards influenza immunization nor were there any differences when comparing the two different vaccine-critical videos. The results of our study are reassuring in that they suggest that medical students are

relatively resistant to the predominately inaccurate, vaccine-critical messaging on YouTube, even when the message is framed as scientific reasoning. Further empirical work is required to test the popular notion that information disseminated through social media platforms influences health-related attitudes and behaviors. However, our study suggests that there is an opportunity for public health to leverage YouTube to communicate accurate and credible information regarding influenza to medical students and others.

### **Measuring people's knowledge about vaccination: Developing a one-dimensional scale**

Original Research Article

Pages 3771-3777

Alexandra Zingg, Michael Siegrist

*Abstract*

We propose a new scale to measure people's general knowledge about vaccinations. The scale's psychometric properties and its relationship with people's willingness to vaccinate were examined in two studies. In Study 1, a representative sample of the German- and French-speaking populations in Switzerland (N = 1123) responded to a mail survey. In Study 2, members of an online panel answered the same questions (N = 233). The results of both studies suggest that people differ considerably in their ability to correctly answer questions related to vaccinations. Mokken scale analyses and a test-retest analysis showed that nine items form a one-dimensional scale with good psychometric properties. In both studies, a substantial correlation between knowledge and willingness to vaccinate was observed. The scale proposed in this study is well suited for research examining group differences. In a time when new media such as the Internet is highly accessible to most people, misconceptions can easily be spread. A good knowledge scale is important for measuring possible knowledge changes.

### ***Section 3. Online communication strategies - advocacy in a minefield***

### **Anti-vaccine activists, Web 2.0, and the postmodern paradigm – An overview of tactics and tropes used online by the anti-vaccination movement**

Original Research Article

Pages 3778-3789

Anna Kata

*Abstract*

Websites opposing vaccination are prevalent on the Internet. Web 2.0, defined by interaction and user-generated content, has become ubiquitous. Furthermore, a new postmodern paradigm of healthcare has emerged, where power has shifted from doctors to patients, the legitimacy of science is questioned, and expertise is redefined. Together this has created an environment where anti-vaccine activists are able to effectively spread their messages. Evidence shows that individuals turn to the Internet for vaccination advice, and suggests such sources can impact vaccination decisions – therefore it is likely that anti-vaccine websites can influence whether people vaccinate themselves or their children. This overview examines the types of rhetoric individuals may encounter online in order to better understand why the anti-vaccination movement can be convincing, despite lacking scientific support for their claims. Tactics and tropes commonly used to argue against vaccination are described. This includes actions such as skewing science, shifting hypotheses, censoring dissent, and attacking critics; also discussed are frequently made claims such as not being “anti-vaccine” but “pro-safe vaccines”, that vaccines are toxic or unnatural, and more. Recognizing disingenuous

claims made by the anti-vaccination movement is essential in order to critically evaluate the information and misinformation encountered online.

### **[Risk perception and communication in vaccination decisions: A fuzzy-trace theory approach](#)**

Original Research Article

Pages 3790-3797

Valerie F. Reyna

#### *Abstract*

The tenets of fuzzy-trace theory, along with prior research on risk perception and risk communication, are used to develop a process model of vaccination decisions in the era of Web 2.0. The theory characterizes these decisions in terms of background knowledge, dual mental representations (verbatim and gist), retrieval of values, and application of values to representations in context. Lack of knowledge interferes with the ability to extract the essential meaning, or gist, of vaccination messages. Prevention decisions have, by definition, a status quo option of "feeling okay." Psychological evidence from other prevention decisions, such as cancer screening, indicates that many people initially mentally represent their decision options in terms of simple, categorical gist: a choice between (a) a feeling-okay option (e.g., the unvaccinated status quo) versus (b) taking up preventive behavior that can have two potential categorical outcomes: feeling okay or not feeling okay. Hence, applying the same theoretical rules as used to explain framing effects and the Allais paradox, the decision to get a flu shot, for example, boils down to feeling okay (not sick) versus feeling okay (not sick) or not feeling okay (sick, side effects, or death). Because feeling okay is superior to not feeling okay (a retrieved value), this impoverished gist supports choosing not to have the flu vaccine. Anti-vaccination sources provide more coherent accounts of the gist of vaccination than official sources, filling a need to understand rare adverse outcomes.

### **[A public-professional web-bridge for vaccines and vaccination: User concerns about vaccine safety](#)**

Original Research Article

Pages 3798-3805

Alberto L. García-Basteiro, María-José Álvarez-Pasquín, Guillermo Mena, Anna Llupià, Marta Aldea, Victor-Guillermo Sequera, Sergi Sanz, Jose Tuells, José-Antonio Navarro-Alonso, Javier de Arísteguí, José-María Bayas

#### *Abstract*

Vacunas.org (), a website founded by the Spanish Association of Vaccinology offers a personalized service called Ask the Expert, which answers any questions posed by the public or health professionals about vaccines and vaccination. The aim of this study was to analyze the factors associated with questions on vaccination safety and determine the characteristics of questioners and the type of question asked during the period 2008–2010. A total of 1341 questions were finally included in the analysis. Of those, 30% were related to vaccine safety. Questions about pregnant women had 5.01 higher odds of asking about safety (95% CI 2.82–8.93) than people not belonging to any risk group. Older questioners (>50 years) were less likely to ask about vaccine safety compared to younger questioners (OR: 0.44, 95% CI 0.25–0.76). Questions made after vaccination or related to influenza (including H1N1) or travel vaccines were also associated with a higher likelihood of asking about vaccine safety. These results identify risk groups (pregnant women), population groups (older people) and some vaccines (travel and

influenza vaccines, including H1N1) where greater efforts to provide improved, more-tailored vaccine information in general and on the Internet are required.

**[Lessons from an online debate about measles–mumps–rubella \(MMR\) immunization](#)**

Original Research Article

Pages 3806-3812

Michelle S. Nicholson, Julie Leask

*Abstract*

Objective

To provide strategies for immunization advocates on how best to participate in online discussion forums about immunization.

Methods

Content and thematic analysis of an online discussion forum held following the national screening of a documentary about the measles-mumps-rubella (MMR) vaccine and autism scare. A subsample of branches containing more than 20 posts was analysed. Each distinct message (a "post") was coded for the author's manifest position on immunization, author type, topic, and evidence presented or sought.

Results

From 103 distinct branches there were 1193 posts sent over a 3½ h period. We selected the 13 longest branches containing 466 posts from 166 individuals. One third of these individuals were explicitly critical of MMR immunization and one third sought information. The remainder were ambivalent but seeking no information (5%), supportive (14%), or unstated (15%). Among five author categories, only 4% identified themselves as health professionals. Topics included alleged adverse effects of immunization (35%); autism spectrum disorders treatment and causes (31%); vaccine ingredients (12%); a conspiracy (9%); immunization policies (8%); and measles, mumps or rubella (4%). Scientific concepts of evidence failed to compete with lay concepts and personal anecdotes prevailed.

Conclusions

Health professionals and other advocates of immunization should engage in similar types of post-broadcast online discussion forums in a planned and strategic manner that accounts for the decision processes of lay people. This involves expanding and diversifying the support base of people contributing to the forum; setting the agenda; introducing messages known to influence behaviour; not overselling vaccination; and avoiding personal attacks.

**[Toward interactive, Internet-based decision aid for vaccination decisions: Better information alone is not enough](#)**

Original Research Article

Pages 3813-3818

Terry Connolly, Jochen Reb

*Abstract*

Vaccination decisions, as in choosing whether or not to immunize one's small child against specific diseases, are both psychologically and computationally complex. The psychological complexities have been extensively studied, often in the context of shaping convincing or persuasive messages that will encourage parents to vaccinate their children. The computational complexity of the decision has been less noted. However, even if the parent has access to neutral, accurate, credible information on vaccination risks and benefits, he or she can easily be overwhelmed by the task of

combining this information into a well-reasoned decision. We argue here that the Internet, in addition to its potential as an information source, could provide useful assistance to parents in integrating factual information with their own values and preferences – that is, in providing real decision aid as well as information aid. We sketch one approach for accomplishing this by means of a hierarchy of interactive decision aids ranging from simple advice to full-scale decision analysis.

## **Vaccine**

**Volume 30, Issue 24, Pages 3489-3722 (21 May 2012)**

<http://www.sciencedirect.com/science/journal/0264410X/30/24>

### **Editorial**

#### **[Adult immunization recommendations in the US—New changes and a plea for a global adult immunization schedule](#)**

Pages 3489-3491

Gregory A. Poland, Diane Peterson, Pierce Gardner

*No abstract or preview*

### **Regular Papers**

#### **[An update on human papillomavirus vaccine uptake among 11–17 year old girls in the United States: National Health Interview Survey, 2010](#)**

Original Research Article

Pages 3534-3540

Tabassum H. Laz, Mahbubur Rahman, Abbey B. Berenson

*Abstract*

*Purpose*

A 3-dose human papillomavirus (HPV) vaccine is recommended for adolescents to protect against HPV-related cervical and other cancers. The purpose of this study was to provide an update on HPV vaccine uptake among 11–17 year old girls residing in the US. *Methods*

Data from the 2010 National Health Interview Survey (NHIS) were obtained to assess HPV vaccination status and its correlates. Multivariate logistic regression analyses were performed to examine HPV vaccine uptake of  $\geq 1$  dose and  $\geq 3$  doses among all girls, and completion of the 3-dose series among those who initiated (received  $\geq 1$  dose) the vaccine.

*Results*

Overall, 28.9% and 14.2% received  $\geq 1$  dose and  $\geq 3$  doses of vaccine: 14.5% and 3.0% among 11–12 year old girls, and 34.8% and 18.7% among 13–17 year olds, respectively. Hispanics had higher uptake of  $\geq 1$  dose (odds ratio (OR) 1.63, 95% confidence interval (CI) 1.22–2.17) than whites. Having received an influenza shot in the past year and parents' awareness of the vaccine were significantly associated with receiving  $\geq 1$  dose (OR 1.88, 95% CI 1.51–2.33 and OR 16.57, 95% CI 10.95–25.06) and  $\geq 3$  doses (OR 1.48, 95% CI 1.13–1.92 and OR 10.60, 95% CI 5.95–18.88). A separate multivariate model based on girls who initiated the vaccine did not identify any significant correlates of 3-dose series completion. Among parents of unvaccinated girls, 60% were not interested in vaccinating their daughters and mentioned three main reasons: "does not need vaccine" (25.5%), "worried about safety" (19.3%) and "does not know enough about vaccine" (16.6%). Of those who were interested, 53.7% would pay \$360–\$500 for the vaccination, while 41.7% preferred to receive it at a much lower cost or free.

## Conclusions

Only 1 out of 3 girls (11–17 years) have received  $\geq 1$  dose of HPV vaccine and much less have completed all 3 doses. Strategies should be taken to improve this vaccine uptake among girls, especially those 11–12 year olds, and to educate parents about the importance of vaccination.

## [Predictors of administration and attitudes about pneumococcal, Haemophilus influenzae type b and rotavirus vaccines among pediatricians in India: A national survey](#)

Original Research Article

Pages 3541-3545

Lisa M. Gargano, Naveen Thacker, Panna Choudhury, Paul S. Weiss, Karen Pazol, Sunil Bahl, Hamid S. Jafari, Manisha Arora, Walter A. Orenstein, James M. Hughes, Saad B. Omer

### *Abstract*

#### Introduction

According to the World Health Organization in 2008, pneumonia accounted for 20% of deaths and diarrheal diseases accounted for 13% of deaths among children under 5 in India. Vaccines are available for Streptococcus pneumoniae (pneumococcal conjugate vaccine (PCV)), Haemophilus influenzae type b (Hib vaccine), and rotavirus. Barriers to including these vaccines in routine immunization schedule in India include potential negative impacts on fragile existing immunization programs and cost. Pediatricians who are members of the Indian Academy of Pediatrics (IAP) are important stakeholders for vaccine delivery and maintaining public confidence in vaccines.

#### Methods

A random sample of 785 pediatricians belonging to IAP was selected for the survey conducted from June 2009 to June 2010. Descriptive analyses using sampling weights were performed to evaluate the distributions of variables assessing vaccine-related attitudes and behaviors among pediatricians. Logistic regression was used to assess factors associated with routine vaccine use.

#### Results

The majority of pediatricians reported administering PCV (85.6%), Hib (95.9%), and rotavirus (80.2%) vaccine selectively or routinely. Pediatricians who had high perceived disease susceptibility were 2.42 times more likely to report routine administration of Hib vaccine (OR 2.42, 95% CI 1.24, 4.74). Pediatricians who had high perceived Hib vaccine efficacy were 4.74 times more likely to administer Hib vaccine routinely (OR 4.74, 95% CI 2.09, 10.74). Perceptions of disease susceptibility and severity or of vaccine safety and efficacy were not associated with routine administration of PCV or rotavirus vaccine.

#### Conclusions

Understanding predictors of routine use of a new vaccine could help focus interventions to improve the routine use of other vaccines. The importance of perceived susceptibility to and severity of diseases caused by S. pneumoniae, Hib, and rotavirus and perceived efficacy and safety of the vaccines by pediatricians presents an opportunity to design strategies to build support for new vaccine introduction and may have important implications for national immunization policy in India.

## [Factors associated with HPV vaccine uptake in teenage girls: A systematic review](#)

Original Research Article

Pages 3546-3556

Sharon J.M. Kessels, Helen S. Marshall, Maureen Watson, Annette J. Braunack-Mayer, Rob Reuzel, Rebecca L. Tooher

*Abstract*

Background

Since 2006 Human papillomavirus (HPV) vaccination has become available to adolescent girls and women in an increasing number of countries, to protect against the virus causing cervical cancer. The vaccine series is offered in three doses over 6 months, and this study aimed to identify factors associated with initiation and/or completion of the 3 dose series in (pre-) adolescent girls. Previous studies have considered intention to vaccinate rather than actual vaccination uptake.

Methods

A systematic search of Medline, Medline in process, Embase and CINAHL, from 2006 to March 2011 for articles related to HPV-vaccine uptake among adolescent girls and factors potentially associated with uptake yielded 25 studies.

Results

The majority of studies were surveys or retrospective reviews of data, only 5 studies reported data on program completion. Most were conducted in the United States (20/25). Higher vaccine uptake was associated with having health insurance, of older age, receipt of childhood vaccines, a higher vaccine related knowledge, more healthcare utilization, having a healthcare provider as a source of information and positive vaccine attitudes. In US settings, African American girls were less likely to have either initiated or completed the three dose vaccination series.

Conclusions

HPV vaccination programs should focus on narrowing disparities in vaccine receipt in ethnic and racial groups and on providing correct information by a reliable source, e.g. healthcare providers. School-based vaccination programs have a high vaccine uptake. More studies are required to determine actual vaccine course completion and factors related to high uptake and completion, and information from a broader range of developed and developing settings is needed.

**[The expected emotional benefits of influenza vaccination strongly affect pre-season intentions and subsequent vaccination among healthcare personnel](#)**

Original Research Article

Pages 3557-3565

Mark G. Thompson, Manjusha J. Gaglani, Allison Naleway, Sarah Ball, Emily M. Henkle, Leslie Z. Sokolow, Beth Brennan, Hong Zhou, Lydia Foster, Carla Black, Erin D. Kennedy, Sam Bozeman, Lisa A. Grohskopf, David K. Shay

*Abstract*

Background

The relative importance of different attitudes in predicting vaccination among healthcare personnel (HCP) is unclear. We hypothesized that HCP who feel at risk without vaccination or say they would regret not getting vaccinated would be more likely to get vaccinated than HCP who do not expect these emotional benefits.

Methods

A prospective cohort of 1544 HCP with direct patient care was enrolled from September 18 to December 18, 2010 at Scott & White Healthcare in Texas and Kaiser Permanente Northwest in Oregon and Washington. An Internet-based questionnaire assessed pre-season intention to be vaccinated and included 12 questions on attitudes about vaccination: single-item measures of perceived susceptibility and vaccine effectiveness,

5 items that were summed to form a concerns about vaccine scale, and 5 items summed to form an emotional benefits of vaccination scale. Influenza vaccination status for the 2010–2011 season and for 5 prior seasons was confirmed by medical record extraction.

#### Results

There were significant differences between vaccinated and unvaccinated HCP on all attitude items; 72% of vaccinated HCP agreed that they “worry less about getting the flu” if vaccinated, compared to only 26% of the unvaccinated (odds ratio = 7.4, 95% confidence interval = 5.8–9.5). In a multivariate model, the emotional benefits scale was the strongest predictor of 2010–2011 seasonal influenza vaccination, after adjusting for other attitude measures, prior vaccination history, and pre-season intention to be vaccinated. The predictive value of the emotional benefits scale was strongest for HCP with low pre-season intention to be vaccinated, where HCP vaccine receipt was 15% versus 83% for those with low versus high scores on the emotional benefits scale.

#### Conclusions

The expected emotional benefits of vaccination strongly affect seasonal influenza vaccination among HCP, even after taking into account other attitudes, pre-season intentions, and prior vaccination history. These attitudes are promising targets for future vaccination campaigns.

### **[Invasive meningococcal disease in England and Wales: Implications for the introduction of new vaccines](#)**

Original Research Article

Pages 3710-3716

Shamez N. Ladhani, Jessica S. Flood, Mary E. Ramsay, Helen Campbell, Stephen J. Gray, Edward B. Kaczmarski, Richard H. Mallard, Malcolm Guiver, Lynne S. Newbold, Ray Borrow

#### *Abstract*

A number of meningococcal vaccines have either been recently licensed or are in late-phase clinical trials. To inform national vaccination policy, it is important to define the burden of disease and the potential impact of any new vaccine. This study describes the epidemiology of invasive meningococcal disease across all age groups in England and Wales for recent epidemiological years between 2006 and 2010. The Health Protection Agency (HPA) conducts enhanced national meningococcal surveillance through a combination of clinical and laboratory reporting. Between 2006/07 and 2010/11, the average annual incidence of invasive meningococcal disease across all age groups was 2.0/100,000. Capsular group B (MenB) accounted for 87% (4777/5471) cases, with an overall incidence of 1.8/100,000. The highest MenB incidence observed among infants (36.2/100,000) where cases increased from birth to 5 months of age then gradually declined. An annual average of 245 MenB cases occurred in infants (135 in those aged ≤6 months) representing 26% (and 14%) of all MenB cases, respectively. After infancy, MenB rates declined until the age of 12 years, rising to a second smaller peak at 18 years. MenB case fatality ratio (CFR) was 5.2% (247/4777 cases) overall and was highest among ≥65 year-olds (28/161; 17.4%). The largest number of deaths (n = 125), however, occurred among <5 year-olds. Clonal complexes cc269 and cc41/44 each accounted for around a third of cases across the age groups. Other capsular groups rarely caused invasive disease, although capsular group Y (MenY) cases more than doubled from 35 in 2006/07 to 86 in 2010/11. Thus, universal meningococcal vaccination with an effective broad-spectrum formulation has potential to prevent most disease, particularly if the vaccine is immunogenic early in infancy, but, there is currently

little justification for routine quadrivalent ACWY conjugate vaccination in the UK, although the increase in MenY disease warrants continued surveillance.

**[Rotavirus vaccine series completion and adherence to vaccination schedules among infants in managed care in the United States](#)**

Original Research Article

Pages 3717-3722

Girishanthi Krishnarajah, Elizabeth J. Davis, Ying Fan, Baudouin A. Standaert, Ami R. Buikema

*Abstract*

Background

Two rotavirus vaccines are currently approved in the United States: 3-dose RotaTeq (RV5; Merck & Co., Inc., Whitehouse Station, NJ, USA) is administered at ages 2, 4, and 6 months; and 2-dose Rotarix (RV1; GlaxoSmithKline, Research Triangle Park, NC, USA) is administered at ages 2 and 4 months. Our objective was to compare rotavirus vaccine series completion and dosing schedule compliance between cohorts of infants who received these vaccines.

Methods

Infants aged less than 1 year who initiated a rotavirus vaccine series between 01 January 2009 and 30 June 2009 were identified in US health insurance claims data. Cohorts were formed based on vaccine brand use. Series completion and compliance with the FDA-approved and ACIP-recommended harmonized schedules were analyzed descriptively and a log binomial model was used to estimate the difference in series completion by vaccine brand while adjusting for demographic variables.

Results

Among infants in the RV1 and RV5 cohorts (N = 55,584), 84.3% completed a full series. A greater proportion of the RV1 cohort than the RV5 cohort completed their series (91.0% vs. 83.4%; P < 0.001; multivariate-adjusted relative risk 1.07; 95% CI 1.06–1.08). In the RV1 and RV5 cohorts, respectively, 75.0% and 59.5% of infants were fully compliant with the FDA-approved administration schedule for their vaccine (P < 0.001); 83.3% and 76.4% of infants were fully compliant with the harmonized schedule (P < 0.001).

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[Reviewed earlier]

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