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

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

Comments and suggestions should be directed to
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WHO: Emergency Committee to convene on MERS-CoV

WHO said it is convening an Emergency Committee under the International Health Regulations (IHR) for Middle East respiratory syndrome coronavirus (MERS-CoV). The Emergency Committee will meet 9 to 11 July.
http://www.who.int/en/

WHO sets up emergency committee on MERS virus

GENEVA | Fri Jul 5, 2013 8:18am EDT

(Reuters) - The World Health Organization is forming an emergency committee of international experts to prepare for a possible worsening of the Middle East coronavirus (MERS), which has killed 40 people, WHO flu expert Keiji Fukuda said on Friday.

Fukuda said there was currently no emergency or pandemic but the experts would advise on how to tackle the disease if the number of cases suddenly grows. Most of the cases of MERS so far have been in Saudi Arabia, which hosts millions of Muslim visitors every year for the annual haj pilgrimage.

"We want to make sure we can move as quickly as possible if we need to," Fukuda told a news conference.

"If in the future we do see some kind of explosion or if there is some big outbreak or we think the situation has really changed, we will already have a group of emergency committee experts who are already up to speed so we don't have to go through a steep learning curve."

The emergency committee is the second to be set up under WHO rules that came into force in 2007, years after the 2002 SARS outbreak. The previous emergency committee was set up to respond to the 2009 H1N1 pandemic.

Fukuda said MERS (Middle East Respiratory Syndrome) remained a patchwork of infections that had not yet swept through countries or communities as influenza can. The committee was partly being formed to consider big gaps in knowledge about the disease, he added.

(Reporting by Tom Miles; Editing by Gareth Jones)
http://www.reuters.com/article/2013/07/05/us-coronavirus-emergency-committee-idUSBRE9640B320130705

WHO: Global Alert and Response (GAR) – *Disease Outbreak News*
http://www.who.int/csr/don/2013_03_12/en/index.html
Middle East respiratory syndrome coronavirus (MERS-CoV) – update 5 July 2013
Excerpt

The Ministry of Health (MoH) in Saudi Arabia has announced two additional laboratory-confirmed cases and two deaths in previously confirmed cases of Middle East respiratory syndrome coronavirus (MERS-CoV) infection in Saudi Arabia.

The new cases are a 69 year-old male and a 66 year-old male from Riyadh. Both were admitted to hospital on the 28 June 2013 and are currently in critical condition in an intensive care unit.

In addition, the two deaths in previously confirmed cases are a 63 year-old female from Riyadh and a 75 year-old male from Al Ahsa.

Globally, from September 2012 to date, WHO has been informed of a total of 79 laboratory-confirmed cases of infection with MERS-CoV, including 42 deaths.

Based on the current situation and available information, WHO encourages all Member States to continue their surveillance for severe acute respiratory infections (SARI) and to carefully review any unusual patterns…

Human infection with avian influenza A(H7N9) virus – update 4 July 2013
Excerpt

The National Health and Family Planning Commission, China notified WHO of an additional retrospectively detected laboratory-confirmed case of human infection with avian influenza A(H7N9) virus.

The patient is a 15-year-old boy reported from Jiangsu who became ill on 25 April 2013 and hospitalized on 26 April 2013. He recovered and was discharged on 2 May 2013. The results of molecular diagnostics were positive for H3N2 seasonal influenza virus and H7N9 avian influenza virus. On 1 July, Jiangsu Provincial Health Department consulted national and provincial experts for diagnosis.

To date, WHO has been informed of a total of 133 laboratory-confirmed cases, including 43 deaths.

Authorities in affected locations continue to maintain surveillance, epidemiological investigations, close contact tracing, clinical management, laboratory testing and sharing of samples as well as prevention and control measures.

So far, there is no evidence of sustained human-to-human transmission…

Update: Polio this week - *As of 3 July 2013*
Global Polio Eradication Initiative
http://www.polioeradication.org/Dataandmonitoring/Poliothisweek.aspx
[Editor's extract and bolded text]
:: In Pakistan, a WPV1 outbreak centred in Federally Administered Tribal Areas (FATA) is continuing. The epicentre of the outbreak is in areas where immunizations are limited due to access challenges. See 'Pakistan' section for more.
Pakistan

:: One new WPV case was reported in the past week (WPV1 from North Waziristan, Federally Administered Tribal Areas – FATA), bringing the total number of WPV cases for 2013 to 18. The most recent WPV case in the country had onset of paralysis on 6 June (WPV1 from Bara in Khyber Agency, FATA).
:: In addition to this latest WPV1 case, North Waziristan is also affected by an ongoing cVDPV2 outbreak. It is an area where immunization campaigns have been suspended by local leaders since last June. To minimize the risk of a major WPV1 and/or cVDPV2 outbreak in this area, it is critical that access to children is granted as quickly as possible. Immunization campaigns in neighbouring high-risk areas are being intensified, to further boost population immunity levels in those areas and minimize the risk of further spread.
:: FATA is the major WPV1 reservoir in Pakistan at the moment. Of 18 WPV1 cases reported in the country in 2013, more than half are from FATA. Khyber Agency is particularly affected, with seven cases confirmed since end-April. This outbreak is threatening progress achieved elsewhere in the country and in neighbouring Afghanistan.
:: In 2011 and 2012, Bara was the epicentre of a major outbreak which also spread to other areas.

Central Africa: Chad and Cameroon

:: In Chad, no new WPV cases were reported in the past week. The most recent WPV case had onset of paralysis on 14 June 2012 (WPV1 from Lac).
:: However, one new cVDPV2 case was reported in the country, with onset of paralysis on 12 May (from Ennedi in northern Chad), bringing the total number of cVDPV2 cases for 2013 to three. The virus is linked to the ongoing cVDPV2 outbreak affecting Chad.

Horn of Africa

:: 17 new WPV cases were reported in the past week (16 WPV1s from Somalia and one WPV1 from Kenya), bringing the total number of WPV1 cases in the region to 48 (41 WPV1s from Somalia and seven WPV1s from Kenya). The most recent cases in the region had onset of paralysis on 3 June (WPV1s from Somalia and Kenya).
:: The bulk of the newly-reported cases are from Somalia's Banadir province, which remains the epicentre of the outbreak. However, two of the new cases are from Lower Shabelle region, in south-central Somalia, where access for supplementary immunization activities (SIAs) has been compromised for the past three years. As many as 500,000 children in this area are at particular risk of polio at the moment. Efforts are ongoing to operate in this area, and vaccinations are continuing at entry and exit points to build up immunity levels.
:: Outbreak response continues across the Horn of Africa, including in Ethiopia and Yemen. -

WHO Europe: Mission sent to Israel following detection of wild poliovirus in sewage

1 July 2013

As requested by Israeli health authorities, a team of international poliomyelitis (polio) experts, coordinated by WHO, completed a five-day mission to Israel on 26 June 2013. The team assessed the risks and recommended action following the detection of wild poliovirus type 1 (wPV1) in sewage in the Southern District of the country. No cases of paralytic polio have been detected.

Following the mission, a supplementary immunization campaign with oral polio vaccine is planned, even though Israel continues to maintain high vaccination coverage and polio immunity in the population. The decision to launch the campaign reflects both the estimated extent of circulation of the virus and the Israeli authorities' commitment to interrupt transmission as rapidly as possible.

The virus was originally isolated from sewage samples collected in Beersheva in February 2013. Since then it has been isolated in further samples from different locations, most recently in early June. Genetic sequencing and epidemiological investigations have established that it is of the South Asian genotype and not related to the virus currently affecting the Horn of Africa. WHO experts are working with scientists from Israel's national polio laboratory to gain further understanding of the origins of the virus…

…Israel has been free of indigenous wPV transmission for 25 years, the last cases of paralytic polio having occurred in 1988. At that time the authorities launched a mass vaccination campaign immunizing the population aged 0–40 years with oral polio vaccine.
http://www.euro.who.int/en/what-we-do/health-topics/communicable-diseases/poliomyelitis/news/news/2013/07/who-sends-mission-to-israel-following-detection-of-wild-poliovirus-in-sewage

Female polio aid worker killed in northwest Pakistan

Thu, 04 Jul 2013 03:00:29 GMT

Peshawar, Jul 3 (PTI) A woman polio worker was today shot dead by suspected militants in northwest Pakistan during an anti-immunisation drive, the latest in a series of attacks targeting the government's vaccination campaign.

Other members of the team managed to escape unhurt in the incident that took place in Swabi District of Khyber-Pakthunkhwa province, which last month witnessed two polio workers being killed by militants, police said…
http://news.in.msn.com/international/article.aspx?cp-documentid=253320000

WHO position paper on vaccines and vaccination against yellow fever

An updated position paper on yellow fever vaccines and vaccination has been published in today's edition of the WHO Weekly Epidemiological record. The updated position paper replaces the previous 2003 WHO position paper and summarizes recent developments in the field.

Yellow fever is a mosquito-borne viral disease of humans and other primates, and is currently endemic in 44 countries in the tropical regions of Africa and South America.

Yellow fever vaccination is carried out for three reasons:
:: To protect populations living in areas subject to endemic and epidemic disease;
:: To protect travellers visiting these areas; and
:: To prevent international spread by minimizing the risk of importation of the virus by infected travellers.

A single dose of yellow fever vaccine is sufficient to sustain life-long protective immunity against yellow fever disease; hence a booster dose is not necessary.

In view of the ongoing transmission of yellow fever virus, and the proven efficacy and safety of yellow fever vaccination, WHO recommends that all endemic countries should introduce yellow fever vaccine into their routine immunization programmes.

Related links

:: WHO position paper on vaccines and vaccination against yellow fever – June 2013 pdf, 1.24Mb
:: Accompanying materials for the WHO position paper on vaccines and vaccination against yellow fever
:: WHO news release: Yellow fever vaccination booster not needed

http://www.who.int/immunization/newsroom/news_WHO_position_paper_yellow_fever/en/index.html

The **Weekly Epidemiological Record (WER) for 5 July 2013**, vol. 88, 27 (pp. 269–284) includes:
- Vaccines and vaccination against yellow fever WHO Position Paper – June 2013
http://www.who.int/entity/wer/2013/wer8827.pdf

WHO - Humanitarian Health Action
http://www.who.int/hac/en/index.html
No new content.

The Sabin Vaccine Institute issued a survey "to gather information about current awareness of the GVAP (Global Vaccine Action Plan) and how the GVAP is being implemented throughout the global immunization community. Results will be compiled and reported to the WHO Strategic Advisory Group of Experts (SAGE) Decade of Vaccines Working Group in late July as part of the GVAP Monitoring and Evaluation/Accountability Framework."
Click here to take the survey.

UN Watch *to 6 July 2013*
Selected meetings, press releases, and press conferences relevant to immunization, vaccines, infectious diseases, global health, etc. http://www.un.org/en/unpress/
No new content.

CDC/MMWR Watch - July 5, 2013 / Vol. 62 / No. 26
http://www.cdc.gov/mmwr/pdf/wk/mm6226.pdf
No relevant content

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

No new content.

Journal Watch
Vaccines: The Week in Review continues its weekly scanning of key peer-reviewed journals to identify and cite articles, commentary and editorials, books reviews and other content supporting our focus on vaccine ethics and policy. ***Journal Watch* is not intended to be**

exhaustive, but indicative of themes and issues the Center is actively tracking. We selectively provide full text of some editorial and comment articles that are specifically relevant to our work. Successful access to some of the links provided may require subscription or other access arrangement unique to the publisher.

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

American Journal of Infection Control
Vol 41 | No. 7 | July 2013 | Pages 575-666
http://www.ajicjournal.org/current
[Reviewed earlier]

American Journal of Public Health
Volume 103, Issue 7 (July 2013)
http://ajph.aphapublications.org/toc/ajph/current
[Reviewed earlier]

Annals of Internal Medicine
2 July 2013, Vol. 159. No. 1
http://www.annals.org/content/current
[No relevant content]

BMC Public Health
(Accessed 5 July 2013)
http://www.biomedcentral.com/bmcpublichealth/content
[No new relevant content]

British Medical Bulletin
Volume 106 Issue 1 June 2013
http://bmb.oxfordjournals.org/content/current
[Reviewed earlier; No relevant content]

British Medical Journal
29 June 2013 (Vol 346, Issue 7914)
http://www.bmj.com/content/346/7914
[Reviewed earlier; No relevant content]

Bulletin of the World Health Organization
Volume 91, Number 7, July 2013, 465-544
http://www.who.int/bulletin/volumes/91/7/en/index.html
BRICS and global health: a call for papers

Pascal Zurn [a], Marie-Andrée Romisch-Diouf [a], Shambhu Acharya [a], Sarah Louise Barber [b], Natela Menabde [c], Luigi Migliorini [d], Joaquin Molina [e] & Michael J O'Leary [f]
http://www.who.int/bulletin/volumes/91/7/13-125344/en/index.html
Excerpt

…The *Bulletin* plans to publish a theme issue on BRICS and global health to enhance people's understanding of the dynamics of health and development in BRICS countries and of how these countries contribute to global health, both by improving health outcomes in their own territories and by engaging in mutual cooperation. This issue will cover these countries' key health policy achievements and their most important health challenges, as well as their rising influence on international health cooperation.

We welcome papers for all sections of the *Bulletin* and encourage authors to consider contributions on any of the following topics as they pertain to BRICS countries: universal health coverage; universal access to medicines or vaccines; emerging and existing public health challenges, notably health inequities and the double burden of disease; South–South cooperation and inter-BRICS cooperation.

The deadline for submissions is October 2013. Manuscripts should be prepared in accordance with the *Bulletin*'s Guidelines for contributors and authors should mention this call for papers in a covering letter. All submissions will go through the *Bulletin*'s peer review process. Please submit to: http://submit.bwho.org

Placing populations' health at the heart of the post-2015 agenda

Carole Presern [a] & for the Post-2015 Working Group of the Partnership for Maternal, Newborn & Child Health

a. Partnership for Maternal, Newborn & Child Health, World Health Organization, 20 Rue Appia 27, Geneva 1211, Switzerland.

Correspondence to Andres de Francisco (e-mail: defranciscoa@who.int)

Bulletin of the World Health Organization 2013;91:467-467A. doi:
http://dx.doi.org/10.2471/BLT.13.125146
http://www.who.int/bulletin/volumes/91/7/13-125146/en/index.html

Excerpt

The Millennium Development Goals (MDGs) have shaped global health and development priorities and have catalysed major improvements in women's and children's health. The post-2015 development agenda, currently under debate, must capitalize on these achievements. To this end, in 2012 the United Nations System Task Team on the Post-2015 Sustainable Development Agenda proposed a framework with four core dimensions: inclusive economic development, environmental sustainability, inclusive social development and peace and security.[1] Based on this framework, the High-Level Panel of Eminent Persons on the Post-2015 Development Agenda has proposed 12 goals and 54 targets as part of a transformative, people-centred agenda for development. We wish to reinforce the direction of this work by stressing the need to put populations' health at the heart of the post-2015 agenda. This can be accomplished by moving health and development efforts beyond sectoral silos and focusing on the world's most disadvantaged groups.[1]

Equity resonates throughout current discussions and consensus towards prioritizing the most disadvantaged members of society is emerging. We therefore propose a focus on the poorest populations in every country, with special attention to women of reproductive age, children and adolescents. These groups are especially vulnerable in several domains, yet they are also vital "human capital" for any society wishing to progress in the four dimensions of sustainable development.

In the economic sphere, women are major players. Over 500 million women in the world have joined the workforce in the past 30 years thanks to strides in female education, access to contraception and gender equity.[2] Lower fertility rates resulting from access to contraception have reduced pressure on the environment. In fact, lower fertility rates and better child survival explain from 30 to 50% of south-eastern Asia's dramatic economic growth between 1965 and 1990.[3] Children and adolescents, on the other hand, are tomorrow's workforce. Those who are healthy will grow up to be more productive citizens and will have higher lifetime earning potential than those who are not…

Clinical Therapeutics
Vol 35 | No. 6 | June 2013 | Pages 745-900
http://www.clinicaltherapeutics.com/current
[Reviewed earlier; No relevant content]

Cost Effectiveness and Resource Allocation
(Accessed 5 July 2013)
http://www.resource-allocation.com/
[No new relevant content]

Current Opinion in Infectious Diseases.
August 2013 - Volume 26 - Issue 4 pp: v-vi,295-398
http://journals.lww.com/co-infectiousdiseases/pages/currenttoc.aspx
Vaccinations for healthcare personnel: update on influenza, hepatitis B, and pertussis
Kaltsas, Anna; Sepkowitz, Kent
Current Opinion in Infectious Diseases. 26(4):366-377, August 2013.
doi: 10.1097/QCO.0b013e3283630ee5
Abstract:
Purpose of review: Healthcare personnel (HCP) are at risk for exposure to and transmission of potentially life-threatening vaccine preventable diseases to patients and colleagues. The Centers for Disease Control and Advisory Committee on Immunization Practices (ACIP) recommend routine influenza immunization and maintenance of immunity to hepatitis B and pertussis, among others. In this article, we aim to review recently approved influenza vaccines, as well as address some of the issues regarding hepatitis B and pertussis vaccinations in HCP.
Recent findings: Several new formulations of influenza vaccines are now available, including quadrivalent vaccines and non-egg-based vaccines; their use in HCP requires further study. An alarming rise in pertussis rates has led to a revision of ACIP guidelines recommending vaccination for women during each pregnancy. Persistent lack of immunity to hepatitis B after vaccine series remains a problem for many HCP.
Summary: Inactivated trivalent influenza vaccines remain the safest and most widely studied influenza vaccinations for healthcare workers. A pertussis booster in the form of Tdap is now recommended for most HCP. More studies are needed regarding the issue of nonresponders in HCP who receive the three-dose hepatitis B vaccine series, as there are some promising strategies available that may boost immune responses.

Development in Practice
Volume 23, Issue 4, 2013
http://www.tandfonline.com/toc/cdip20/current
[Reviewed earlier; No relevant content]

Emerging Infectious Diseases
Volume 19, Number 7—July 2013
http://www.cdc.gov/ncidod/EID/index.htm
[Reviewed earlier; No relevant content]

Eurosurveillance
Volume 18, Issue 27, 04 July 2013
http://www.eurosurveillance.org/Public/Articles/Archives.aspx?PublicationId=11678
[No relevant content]

Forum for Development Studies
Volume 40, Issue 2, 2013
http://www.tandfonline.com/toc/sfds20/current
[Reviewed earlier; No relevant content]

Global Health Governance
Volume VI, Issue 1: Fall 2012
– December 31, 2012
[Reviewed earlier]

Globalization and Health
[Accessed 5 July 2013]
http://www.globalizationandhealth.com/
[No new relevant content]

Health Affairs
June 2013; Volume 32, Issue 6
http://content.healthaffairs.org/content/current
Theme: Medicaid Expansion & Vulnerable Populations
[No specific relevant content on vaccines/immunization]

Health and Human Rights
Volume 15, Issue 1
http://www.hhrjournal.org/

Theme: Realizing the Right to Health Through a Framework Convention on Global Health

Health Economics, Policy and Law
Volume 8 - Issue 03 - July 2013
http://journals.cambridge.org/action/displayIssue?jid=HEP&tab=currentissue
[Reviewed earlier; No relevant content]

Health Policy and Planning
Volume 28 Issue 4 July 2013
http://heapol.oxfordjournals.org/content/current
[No new relevant content]

Human Vaccines & Immunotherapeutics (formerly Human Vaccines)
Volume 9, Issue 7 July 2013
http://www.landesbioscience.com/journals/vaccines/toc/volume/9/issue/7/
Special Focus: VR6 Conference
Review
Race, ethnicity and income as factors for HPV vaccine acceptance and use
Patricia Jeudin, Elizabeth Liveright, Marcela G. del Carmen and Rebecca B. Perkins
http://dx.doi.org/10.4161/hv.24422
Abstract:
If distributed equitably, Human Papillomavirus (HPV) vaccines have the potential to reduce racial disparities in HPV-related diseases and cervical cancers. However, current trends in the US indicate low uptake among all adolescents, with persistent disparities among minority and low-income adolescents despite largely positive views of vaccination among their parents. As Black, Hispanic, and Asian populations continue to grow in the US over the next 40 y, it is imperative that we not only improve HPV vaccination rates overall, but focus on high-risk populations to prevent an increase in cervical cancer disparities. This review discusses initiation and completion rates of the three-dose HPV vaccine series among adolescents in high-risk groups and describes cultural similarities and differences in motivation and barriers to vaccination. The goal of this review is to highlight factors leading to vaccination in different adolescent racial groups and to help guide the development of strategies to increase rates of vaccine initiation and completion among groups at the highest risk for developing cervical cancer.
Short Report
Factors associated with HPV vaccination among adult women in Quebec
Marilou Kiely, Chantal Sauvageau, Eve Dubé, Genevieve Deceuninck and Philippe De Wals
http://dx.doi.org/10.4161/hv.24603
Abstract:
Background and objective: Human papillomavirus (HPV) infections are the most common sexually transmitted infections in North America and are associated with cervical cancer. A publicly-funded HPV immunization program was launched in the province of Quebec, Canada, in the fall of 2008.

The aim of this study was to explore factors associated with HPV immunization among young adult women not targeted by this program.
Methods: A questionnaire was mailed to 2400 24-y-old women randomly selected from the Quebec provincial health insurance database and 56% responded. Factors associated with vaccination status were analyzed using a multivariate logistic regression model.
Results: Few women had received at least one dose of HPV vaccine among the 1347 respondents. Age at first sexual intercourse ≥ 20 y, participating in cervical cancer screening, higher education level, being born in Quebec and some positive beliefs about HPV were associated with vaccination.
Conclusions: The rate of immunization in women who had to pay for the HPV vaccine was very low and was associated with characteristics that are generally associated with a lower risk for HPV infection and cervical cancer. Efforts are needed to reach at-risk adult women.

Commentary

Delivery of immunogens to mucosal immune system using an oral inactivated cholera vaccine: A new approach for development of oral vaccines

Ali Azizi, Haitham Ghunaim, Danylo Sirskyj, Firouzeh Fallahi, Hoang Thanh Le and Ashok Kumar
http://dx.doi.org/10.4161/hv.24200
Abstract:
Oral vaccines have several attractive features; however, due to several challenges, to date, only a limited number of oral vaccines are licensed. Over the past two decades, several oral vehicle delivery systems have been developed to address these challenges and deliver antigens to the target cells in the mucosal immune system. While the size of vehicle delivery systems, the quantity of components in the vehicle formulation, the dose of administration, and even the type of animals species, are important aspects in development of a suitable oral vaccine, our results showed that entrapment of inactivated Vibrio cholera, a component in the structure of Dukoral vaccine into oral vehicle delivery systems, is able to induce a more rigorous humoral immune response in the systemic compartment. We further investigated the mechanism of Dukoral vaccine as a potential stimulator in induction of immune response by immunizing TLR-2-, TLR-4-, MyD88- and Trif-deficient mice. We are hopeful that these findings will lead to development of more precisely-designed oral vaccines in the future.

Research Paper

Understanding the interplay of factors informing vaccination behavior in three Canadian provinces

Franziska Boerner, Jennifer Keelan, Laura Winton, Cindy Jardine and S. Michelle Driedger
Abstract:
Arguably, the two most critical components in any response to a pandemic are effective risk communication and the rapid development of a vaccine. Despite the roll-out of a publicly-funded H1N1 vaccine program across the country, less than half of all Canadians were vaccinated during the 2009–10 pandemic. Using focus group data, this study examined vaccinating behaviors, the impact of public health messaging, and the public's attitudes toward H1N1 and the H1N1 vaccine in three Canadian provinces. Drawing on vaccine risk communication literature, a framework was devised to identify and analyze the factors related to vaccine uptake and vaccine refusal. The most predictive factor for H1N1 vaccine uptake was a prior history of vaccinating against seasonal influenza. Other important factors included barriers to immunizing (access issues) and an individual's perception of serious risk from contracting H1N1. Although critical gaps in the public's understanding of influenza infections were identified, together with misinformation about vaccination effectiveness and safety, these

factors were less frequently reported to be the core factors influencing an individual's decision to vaccinate.

Review

Influenza vaccines in low and middle income countries: A systematic review of economic evaluations

Jördis J. Ott, Janna Klein Breteler, John S. Tam, Raymond C.W. Hutubessy, Mark Jit and Michiel R. de Boer

Abstract:

Objectives

Economic evaluations on influenza vaccination from low resource settings are scarce and have not been evaluated using a systematic approach. Our objective was to conduct a systematic review on the value for money of influenza vaccination in low- and middle-income countries.

Methods

PubMed and EMBASE were searched for economic evaluations published in any language between 1960 and 2011. Main outcome measures were costs per influenza outcome averted, costs per quality-adjusted life years gained or disability-adjusted life years averted, costs per benefit in monetary units or cost-benefit ratios.

Results

Nine economic evaluations on seasonal influenza vaccine met the inclusion criteria. These were model- or randomized-controlled-trial (RCT)-based economic evaluations from middle-income countries. Influenza vaccination provided value for money for elderly, infants, adults and children with high-risk conditions. Vaccination was cost-effective and cost-saving for chronic obstructive pulmonary disease patients and in elderly above 65 y from model-based evaluations, but conclusions from RCTs on elderly varied.

Conclusion

Economic evaluations from middle income regions differed in population studied, outcomes and definitions used. Most findings are in line with evidence from high-income countries highlighting that influenza vaccine is likely to provide value for money. However, serious methodological limitations do not allow drawing conclusions on cost-effectiveness of influenza vaccination in middle income countries. Evidence on cost-effectiveness from low-income countries is lacking altogether, and more information is needed from full economic evaluations that are conducted in a standardized manner.

Infectious Diseases of Poverty

http://www.idpjournal.com/content

[Accessed 5 July 2013]

[No new relevant content]

International Journal of Epidemiology

Volume 42 Issue 2 April 2013

http://ije.oxfordjournals.org/content/current

[Reviewed earlier]

International Journal of Infectious Diseases

Vol 17 | No. 8 | August 2013

http://www.ijidonline.com/current
[Reviewed earlier; No relevant content]

JAMA
July 3, 2013, Vol 310, No. 1
http://jama.ama-assn.org/current.dtl
Special Communication
The Paradox of Disease Prevention: Celebrated in Principle, Resisted in Practice
Harvey V. Fineberg, MD, PhD
ABSTRACT
Prevention of disease is often difficult to put into practice. Among the obstacles: the success of prevention is invisible, lacks drama, often requires persistent behavior change, and may be long delayed; statistical lives have little emotional effect, and benefits often do not accrue to the payer; avoidable harm is accepted as normal, preventive advice may be inconsistent, and bias against errors of commission may deter action; prevention is expected to produce a net financial return, whereas treatment is expected only to be worth its cost; and commercial interests as well as personal, religious, or cultural beliefs may conflict with disease prevention. Six strategies can help overcome these obstacles: (1) Pay for preventive services. (2) Make prevention financially rewarding for individuals and families. (3) Involve employers to promote health in the workplace and provide incentives to employees to maintain healthy practices. (4) Reengineer products and systems to make prevention simpler, lower in cost, and less dependent on individual action. (5) Use policy to reinforce choices that favor prevention. (6) Use multiple media channels to educate, elicit health-promoting behavior, and strengthen healthy habits. Prevention of disease will succeed over time insofar as it can be embedded in a culture of health.

JAMA Pediatrics
July 2013, Vol 167, No. 7
http://archpedi.jamanetwork.com/issue.aspx
[No relevant content]

Journal of Community Health
Volume 38, Issue 3, June 2013
http://link.springer.com/journal/10900/38/3/page/1
[Reviewed earlier]

Journal of Health Organization and Management
Volume 27 issue 5 - Latest Issue
http://www.emeraldinsight.com/journals.htm?issn=1477-7266&show=latest
[No relevant content]

Journal of Infectious Diseases
Volume 208 Issue 3 August 1, 2013

http://jid.oxfordjournals.org/content/current

Consistent Condom Use Reduces the Genital Human Papillomavirus Burden Among High-Risk Men: The HPV Infection in Men Study

Christine M. Pierce Campbell1, Hui-Yi Lin1, William Fulp1, Mary R. Papenfuss1, Jorge J. Salmerón2, Manuel M. Quiterio2, Eduardo Lazcano-Ponce3, Luisa L. Villa4 and Anna R. Giuliano1

http://jid.oxfordjournals.org/content/208/3/373.abstract

Abstract

Background. Data supporting the efficacy of condoms against human papillomavirus (HPV) infection in males are limited. Therefore, we examined the effect of consistent condom use on genital HPV acquisition and duration of infection.

Methods. A prospective analysis was conducted within the HPV Infection in Men Study, a multinational HPV cohort study. Men who were recently sexually active (n = 3323) were stratified on the basis of sexual risk behaviors and partnerships. Using Cox proportional hazards regression, type-specific incidence of HPV infection and clearance were modeled for each risk group to assess independent associations with condom use.

Results. The risk of HPV acquisition was 2-fold lower among men with no steady sex partner who always used condoms, compared with those who never used condoms (hazard ratio, 0.54), after adjustment for country, age, race, education duration, smoking, alcohol, and number of recent sex partners. The probability of clearing an oncogenic HPV infection was 30% higher among nonmonogamous men who always used condoms with nonsteady sex partners, compared with men who never used condoms (hazard ratio, 1.29), after adjustment for country, age, race, education duration, marital status, smoking, alcohol, and number of recent sex partners. No protective effects of condom use were observed among monogamous men.

Conclusions. Condoms should be promoted in combination with HPV vaccination to prevent HPV infection in men.

Reduction in Human Papillomavirus (HPV) Prevalence Among Young Women Following HPV Vaccine Introduction in the United States, National Health and Nutrition Examination Surveys, 2003–2010

Lauri E. Markowitz1, Susan Hariri1, Carol Lin1, Eileen F. Dunne1, Martin Steinau2, Geraldine McQuillan3 and Elizabeth R. Unger2

http://jid.oxfordjournals.org/content/208/3/385.abstract

Abstract

Background. Human papillomavirus (HPV) vaccination was introduced into the routine immunization schedule in the United States in late 2006 for females aged 11 or 12 years, with catch-up vaccination recommended for those aged 13–26 years. In 2010, 3-dose vaccine coverage was only 32% among 13–17 year-olds. Reduction in the prevalence of HPV types targeted by the quadrivalent vaccine (HPV-6, -11, -16, and -18) will be one of the first measures of vaccine impact.

Methods. We analyzed HPV prevalence data from the vaccine era (2007–2010) and the prevaccine era (2003–2006) that were collected during National Health and Nutrition Examination Surveys. HPV prevalence was determined by the Linear Array HPV Assay in cervicovaginal swab samples from females aged 14–59 years; 4150 provided samples in 2003–2006, and 4253 provided samples in 2007–2010.

Results. Among females aged 14–19 years, the vaccine-type HPV prevalence (HPV-6, -11, -16, or -18) decreased from 11.5% (95% confidence interval [CI], 9.2–14.4) in 2003–2006 to 5.1% (95% CI, 3.8–6.6) in 2007–2010, a decline of 56% (95% CI, 38–69). Among other age groups,

the prevalence did not differ significantly between the 2 time periods ($P > .05$). The vaccine effectiveness of at least 1 dose was 82% (95% CI, 53–93).
Conclusions. Within 4 years of vaccine introduction, the vaccine-type HPV prevalence decreased among females aged 14–19 years despite low vaccine uptake. The estimated vaccine effectiveness was high.

Journal of Global Infectious Diseases (JGID)
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July 2013, Volume 39, Issue
http://jme.bmj.com/content/current
Issue Theme: The ethics of male circumcision
[No relevant content]

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July 2013; 62 (Pt 7)
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Volume 2 Issue 2 June 2013
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Vol 163 | No. 1 | July 2013 | Pages 1-308
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July 2013, volume 87, issue 13
http://jvi.asm.org/content/current
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The Lancet
Jul 06, 2013 Volume 382 Number 9886 p1 - 100
http://www.thelancet.com/journals/lancet/issue/current
Comment

Promise, and risks, of conditional cash transfer programmes

Lia CH Fernald

Preview

What do we know about how to help poor children in low-income and middle-income countries? Various approaches have worked—improved nutrition, reduced exposure to infection, and introduction of parenting or preschool programmes—but there is still a long way to go.1,2 Conditional cash transfer programmes try to go deeper than these other approaches and get at the root causes of poverty. These programmes use cash to help households deal with their most pressing financial needs and also as an incentive to promote certain behaviours.

Effect of a conditional cash transfer programme on childhood mortality: a nationwide analysis of Brazilian municipalities

Davide Rasella PhD a, Rosana Aquino MD a, Carlos AT Santos PhD a b, Rômulo Paes-Sousa MD c, Prof Mauricio L Barreto MD a d

http://www.thelancet.com/journals/lancet/article/PIIS0140-6736%2813%2960715-1/abstract

Summary

Background

In the past 15 years, Brazil has undergone notable social and public health changes, including a large reduction in child mortality. The *Bolsa Familia* Programme (BFP) is a widespread conditional cash transfer programme, launched in 2003, which transfers cash to poor households (maximum income US$70 per person a month) when they comply with conditions related to health and education. Transfers range from $18 to $175 per month, depending on the income and composition of the family. We aimed to assess the effect of the BFP on deaths of children younger than 5 years (under-5), overall and resulting from specific causes associated with poverty: malnutrition, diarrhoea, and lower respiratory infections.

Methods

The study had a mixed ecological design. It covered the period from 2004—09 and included 2853 (of 5565) municipalities with death and livebirth statistics of adequate quality. We used government sources to calculate all-cause under-5 mortality rates and under-5 mortality rates for selected causes. BFP coverage was classified as low (0·0—17·1%), intermediate (17·2—32·0%), high (>32·0%), or consolidated (>32·0% and target population coverage ≥100% for at least 4 years). We did multivariable regression analyses of panel data with fixed-effects negative binomial models, adjusted for relevant social and economic covariates, and for the effect of the largest primary health-care scheme in the country (Family Health Programme).

Findings

Under-5 mortality rate, overall and resulting from poverty-related causes, decreased as BFP coverage increased. The rate ratios (RR) for the effect of the BFP on overall under-5 mortality rate were 0·94 (95% CI 0·92—0·96) for intermediate coverage, 0·88 (0·85—0·91) for high coverage, and 0·83 (0·79—0·88) for consolidated coverage. The effect of consolidated BFP coverage was highest on under-5 mortality resulting from malnutrition (RR 0·35; 95% CI 0·24—0·50) and diarrhoea (0·47; 0·37—0·61).

Interpretation

A conditional cash transfer programme can greatly contribute to a decrease in childhood mortality overall, and in particular for deaths attributable to poverty-related causes such as malnutrition and diarrhoea, in a large middle-income country such as Brazil.

Funding

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Health Policy

Universal health coverage in Turkey: enhancement of equity
Rifat Atun, Sabahattin Aydın, Sarbani Chakraborty, Safir Sümer, Meltem Aran, Ipek Gürol, Serpil Nazlıoğlu, Şenay Özgülcü, Ülger Aydoğan, Banu Ayar, Uğur Dilmen, Recep Akdağ
http://www.thelancet.com/journals/lancet/article/PIIS0140-6736%2813%2961051-X/abstract
Summary
Turkey has successfully introduced health system changes and provided its citizens with the right to health to achieve universal health coverage, which helped to address inequities in financing, health service access, and health outcomes. We trace the trajectory of health system reforms in Turkey, with a particular emphasis on 2003—13, which coincides with the Health Transformation Program (HTP). The HTP rapidly expanded health insurance coverage and access to health-care services for all citizens, especially the poorest population groups, to achieve universal health coverage. We analyse the contextual drivers that shaped the transformations in the health system, explore the design and implementation of the HTP, identify the factors that enabled its success, and investigate its effects. Our findings suggest that the HTP was instrumental in achieving universal health coverage to enhance equity substantially, and led to quantifiable and beneficial effects on all health system goals, with an improved level and distribution of health, greater fairness in financing with better financial protection, and notably increased user satisfaction. After the HTP, five health insurance schemes were consolidated to create a unified General Health Insurance scheme with harmonised and expanded benefits. Insurance coverage for the poorest population groups in Turkey increased from 2·4 million people in 2003, to 10·2 million in 2011. Health service access increased across the country—in particular, access and use of key maternal and child health services improved to help to greatly reduce the maternal mortality ratio, and under-5, infant, and neonatal mortality, especially in socioeconomically disadvantaged groups. Several factors helped to achieve universal health coverage and improve outcomes. These factors include economic growth, political stability, a comprehensive transformation strategy led by a transformation team, rapid policy translation, flexible implementation with continuous learning, and simultaneous improvements in the health system, on both the demand side (increased health insurance coverage, expanded benefits, and reduced cost-sharing) and the supply side (expansion of infrastructure, health human resources, and health services).

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July 2013; 33 (5)
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June 2013 Volume 91, Issue 2 Pages 219–418
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Volume 499 Number 7456 pp5-120 4 July 2013
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July 2013, Volume 14 No 7 pp645-763
http://www.nature.com/ni/journal/v14/n7/index.html
Focus Issue: The microbiota
Interactions between the immune system and microbiota influence local and systemic immune homeostasis. Nature Immunology presents a series of specially commissioned articles that discuss the reciprocal regulation between the host immune system and commensal microbiota, the dynamic interactions between commensals and pathogens, and emerging information on how resident viruses might influence immune homeostasis. The web focus also includes highlights of recent research in this area.

Nature Medicine
June 2013, Volume 19 No 6 pp653-790
http://www.nature.com/nm/journal/v19/n6/index.html
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June 2013 Vol 13 No 6
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July 2013 - Volume 32 - Issue 7 pp: A15-A16,709-804,e265-e313
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Pediatrics
July 2013, VOLUME 132 / ISSUE 1
http://pediatrics.aappublications.org/current.shtml
Article
Invasive Pneumococcal Disease in Infants Younger Than 90 Days Before and After Introduction of PCV7
Liset Olarte, MD[a], Krow Ampofo, MD[a], Chris Stockmann, MSc[a], Edward O. Mason, PhD[b], Judy A. Daly, PhD[a], Andrew T. Pavia, MD[a], and Carrie L. Byington, MD[a]
http://pediatrics.aappublications.org/content/132/1/e17.abstract
Abstract
BACKGROUND: Introduction of the heptavalent pneumococcal conjugate vaccine (PCV7) changed the epidemiology of invasive pneumococcal disease (IPD). We evaluated the changes that occurred after PCV7 introduction among Utah infants aged 1 to 90 days, too young to be fully immunized.
METHODS: We identified children <18 years with culture-confirmed IPD from 1997–2010. We analyzed demographic, clinical, and serotype data for infants aged 1–90 days. The pre– and post–vaccine introduction periods spanned 1997–2000 and 2001–2010, respectively.
RESULTS: Of 513 children with IPD, 36 were 1 to 90 days and accounted for 7% of IPD cases in both the pre– and post–vaccine introduction period. The pre–vaccine IPD incidence rate was 5.0 per 100 000 live births, and was unchanged in the post–vaccine introduction period. IPD caused by PCV7 serotypes decreased by 74% (from 2.2 to 0.58 per 100 000), whereas non-vaccine serotype IPD increased by 57% (from 2.8 to 4.4 per 100 000). Sixteen infants (44%) required intensive care, and 3 (8%) died. Bacteremia without focus (56%) and meningitis (44%) were the predominant syndromes in the pre– and post–vaccine introduction periods, respectively. In the post–vaccine introduction period, serotype 7F was the most common serotype among infants and was responsible for 50% of meningitis.
CONCLUSIONS: The incidence of IPD in Utah infants aged 1 to 90 days caused by PCV7 serotypes decreased after PCV7 introduction, but overall incidence was unchanged. In the post–vaccine introduction period, serotype 7F predominated in this age group and was associated with meningitis.
Article
Effectiveness of Monovalent and Pentavalent Rotavirus Vaccine

Margaret M. Cortese, MD[a], Lilly Cheng Immergluck, MD, MS[b,c], Melissa Held, MD[d], Shabnam Jain, MD, MPH[b,e], Trisha Chan, BS[c], Alexandra P. Grizas, MPH[f], Saadia Khizer, MD, MPHP[b], Carol Barrett, MA[d], Osbourne Quaye, PhD[a], Slavica Mijatovic-Rustempasic, MSc[a], Rashi Gautam, PhD[a], Michael D. Bowen, PhD[a], Jessica Moore, MPH[a], Jacqueline E. Tate, PhD[a], Umesh D. Parashar, MBBS, MPH[a], and Marietta Vázquez, MD[f]

Abstract

OBJECTIVE: Previous US evaluations have not assessed monovalent rotavirus vaccine (RV1, a G1P[8] human rotavirus strain) effectiveness, because of its later introduction (2008). Using case-control methodology, we measured the vaccine effectiveness (VE) of the 2-dose RV1 and 3-dose pentavalent vaccine (RV5) series against rotavirus disease resulting in hospital emergency department or inpatient care.

METHODS: Children were eligible for enrollment if they presented to 1 of 5 hospitals (3 in Georgia, 2 in Connecticut) with diarrhea of ≤10 days' duration during January through June 2010 or 2011, and were born after RV1 introduction. Stools were collected; immunization records were obtained from providers and state electronic immunization information system (IIS). Case-subjects (children testing rotavirus antigen-positive) were compared with 2 control groups: children testing rotavirus negative and children selected from IIS.

RESULTS: Overall, 165 rotavirus-case subjects and 428 rotavirus-negative controls were enrolled. Using the rotavirus-negative controls, RV1 VE was 91% (95% confidence interval [CI] 80 to 95) and RV5 VE was 92% (CI 75 to 97) among children aged ≥8 months. The RV1 VE against G2P[4] disease was high (94%, CI 78 to 98), as was that against G1P[8] disease (89%, CI 70 to 96). RV1 effectiveness was sustained among children aged 12 through 23 months (VE 91%; CI 75 to 96). VE point estimates using IIS controls were similar to those using rotavirus-negative controls.

CONCLUSIONS: RV1 and RV5 were both highly effective against severe rotavirus disease. RV1 conferred sustained protection during the first 2 years of life and demonstrated high effectiveness against G2P[4] (heterotypic) disease.

Article

Religious Exemptions for Immunization and Risk of Pertussis in New York State, 2000–2011

Aamer Imdad, MD[a], Boldtsetseg Tserenpuntsag, MD, DrPh[b], Debra S. Blog, MD, MPH[b], Neal A. Halsey, MD[c], Delia E. Easton, PhD[b], and Jana Shaw, MD, MPH[a]

http://pediatrics.aappublications.org/content/132/1/37.abstract

Abstract

OBJECTIVE: The objective of this study was to describe rates of religious vaccination exemptions over time and the association with pertussis in New York State (NYS).

METHODS: Religious vaccination exemptions reported via school surveys of the NYS Department of Health from 2000 through 2011 were reviewed by county, and the changes were assessed against incidence rates of pertussis among children reported to the NYS Department of Health Communicable Disease Electronic Surveillance System.

RESULTS: The overall annual state mean prevalence (± SD) of religious exemptions for ≥1 vaccines in 2000–2011 was 0.4% ± 0.08% and increased significantly from 0.23% in 2000 to 0.45% in 2011 ($P = .001$). The prevalence of religious exemptions varied greatly among counties and increased by >100% in 34 counties during the study period. Counties with mean exemption prevalence rates of ≥1% reported a higher incidence of pertussis, 33 per 100 000 than counties with lower exemption rates, 20 per 100 000, $P < .001$. In addition, the risk of pertussis among vaccinated children living in counties with high exemption rate increased with increase of exemption rate among exempted children ($P = .008$).

CONCLUSIONS: The prevalence of religious exemptions varies among NYS counties and increased during the past decade. Counties with higher exemption rates had higher rates of reported pertussis among exempted and vaccinated children when compared with the low-exemption counties. More studies are needed to characterize differences in the process of obtaining exemptions among NYS schools, and education is needed regarding the risks to the community of individuals opting out from recommended vaccinations.

Article

Sick-Visit Immunizations and Delayed Well-Baby Visits

Steve G. Robison, BS

http://pediatrics.aappublications.org/content/132/1/44.abstract

Abstract

OBJECTIVE: Giving recommended immunizations during sick visits for minor and acute illness such as acute otitis media has long been an American Academy of Pediatrics/Advisory Committee on Immunization Practice recommendation. An addition to the American Academy of Pediatrics policy in 2010 advised considering whether giving immunizations at the sick visit would discourage making up missed well-baby visits. This study quantifies the potential tradeoff between sick-visit immunizations and well-baby visits.

METHODS: This study was a retrospective cohort analysis with a case-control component of sick visits for acute otitis media that supplanted normal well-baby visits at age 2, 4, or 6 months. Infants were stratified for sick-visit immunization, no sick-visit immunization but quick makeup well-baby visits, or no sick-visit immunizations or quick makeup visits. Immunization rates and well-baby visit rates were assessed through 24 months of age.

RESULTS: For 1060 study cases, no significant difference was detected in immunization rates or well-baby visits through 24 months of age between those with or without sick-visit immunizations. Thirty-nine percent of infants without a sick-visit shot failed to return for a quick makeup well-baby visit; this delayed group was significantly less likely to be up-to-date for immunizations (relative risk: 0.66) and had fewer well-baby visits (mean: 3.8) from 2 through 24 months of age compared with those with sick-visit shots (mean: 4.7).

CONCLUSIONS: The substantial risk that infants will not return for a timely makeup well-baby visit after a sick visit should be included in any consideration of whether to delay immunizations.

Pharmaceutics

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PLoS One

[Accessed 5 July 2013]

http://www.plosone.org/

Balancing Evidence and Uncertainty when Considering Rubella Vaccine Introduction

Justin Lessler, C. Jessica E. Metcalf

Research Article | published 05 Jul 2013 | PLOS ONE 10.1371/journal.pone.0067639

Abstract

Background

Despite a safe and effective vaccine, rubella vaccination programs with inadequate coverage can raise the average age of rubella infection; thereby increasing rubella cases among pregnant women and the resulting congenital rubella syndrome (CRS) in their newborns. The vaccination coverage necessary to reduce CRS depends on the birthrate in a country and the reproductive number, R_0, a measure of how efficiently a disease transmits. While the birthrate within a country can be known with some accuracy, R_0 varies between settings and can be difficult to measure. Here we aim to provide guidance on the safe introduction of rubella vaccine into countries in the face of substantial uncertainty in R_0.

Methods

We estimated the distribution of R_0 in African countries based on the age distribution of rubella infection using Bayesian hierarchical models. We developed an age specific model of rubella transmission to predict the level of R_0 that would result in an increase in CRS burden for specific birth rates and coverage levels. Combining these results, we summarize the safety of introducing rubella vaccine across demographic and coverage contexts.

Findings

The median R_0 of rubella in the African region is 5.2, with 90% of countries expected to have an R_0 between 4.0 and 6.7. Overall, we predict that countries maintaining routine vaccination coverage of 80% or higher are can be confident in seeing a reduction in CRS over a 30 year time horizon.

Conclusions

Under realistic assumptions about human contact, our results suggest that even in low birth rate settings high vaccine coverage must be maintained to avoid an increase in CRS. These results lend further support to the WHO recommendation that countries reach 80% coverage for measles vaccine before introducing rubella vaccination, and highlight the importance of maintaining high levels of vaccination coverage once the vaccine is introduced.

Financing HIV Programming: How Much Should Low- And Middle-Income Countries and their Donors Pay?

Omar Galárraga, Veronika J. Wirtz, Yared Santa-Ana-Tellez, Eline L. Korenromp

Research Article | published 05 Jul 2013 | PLOS ONE 10.1371/journal.pone.0067565

Abstract

Global HIV control funding falls short of need. To maximize health outcomes, it is critical that national governments sustain reasonable commitments, and that international donor assistance be distributed according to country needs and funding gaps. We develop a country classification framework in terms of actual versus expected national domestic funding, considering resource needs and donor financing. With UNAIDS and World Bank data, we examine domestic and donor HIV program funding in relation to need in 84 low- and middle-income countries. We estimate expected domestic contributions per person living with HIV (PLWH) as a function of per capita income, relative size of the health sector, and per capita foreign debt service. Countries are categorized according to levels of actual versus expected domestic contributions, and resource gap. Compared to national resource needs (UNAIDS Investment Framework), we identify imbalances among countries in actual versus expected domestic and donor contributions: 17 countries, with relatively high HIV prevalence and GNI per capita, have domestic funding below expected (median per PLWH $143 and $376, respectively), yet total

available funding including from donors would exceed the need ($368 and $305, respectively) if domestic contribution equaled expected. Conversely, 27 countries have actual domestic funding above the expected (medians $294 and $149) but total (domestic+donor) funding does not meet estimated need ($685 and $1,173). Across the 84 countries, in 2009, estimated resource need totaled $10.3 billion, actual domestic contributions $5.1 billion and actual donor contributions $3.7 billion. If domestic contributions would increase to the expected level in countries where the actual was below expected, total domestic contributions would increase to $7.4 billion, turning a funding gap of $1.5 billion into a surplus of $0.8 billion. Even with imperfect funding and resource-need data, the proposed country classification could help improve coherence and efficiency in domestic and international allocations.

Policy Trap and Optimal Subsidization Policy under Limited Supply of Vaccines

Ming Yi, Achla Marathe

Research Article | published 01 Jul 2013 | PLOS ONE 10.1371/journal.pone.0067249

Abstract

We adopt a susceptible-infected-susceptible (SIS) model on a Barabási and Albert (BA) network to investigate the effects of different vaccine subsidization policies. The goal is to control the prevalence of the disease given a limited supply and voluntary uptake of vaccines. The results show a uniform subsidization policy is always harmful and increases the prevalence of the disease, because the lower degree individuals' demand for vaccine crowds out the higher degree individuals' demand. In the absence of an effective uniform policy, we explore a targeted subsidization policy which relies on a proxy variable instead of individuals' connectivity. Findings show a poor proxy-based targeted program can still increase the disease prevalence and become a policy trap. The results are robust to general scale-free networks.

PLoS Medicine

(Accessed 5 July 2013)

http://www.plosmedicine.org/

Reflections on the Global Burden of Disease 2010 Estimates

Peter Byassl, Maximilian de Courten, Wendy J. Graham, Lucie Laflamme, Affette McCaw-Binns, Osman A. Sankoh, Stephen M. Tollman, Basia Zaba

http://www.plosmedicine.org/article/info%3Adoi%2F10.1371%2Fjournal.pmed.1001477

Summary Points

:: Health data include many gaps, particularly relating to poorer areas of the world, so complex estimation techniques are needed to get overall global pictures.

:: Estimates of population health, however, carry their own uncertainties and may be flawed in some instances.

:: Here we present a range of reflections on the Global Burden of Disease 2010 estimates, highlighting their strengths as well as challenges for potential users.

:: In the long term, there can be no substitute for properly counting and accounting for all the world's citizens, so that complex estimation techniques are not needed.

The Institute for Health Metrics and Evaluation (IHME) and its partners recently completed what is probably the largest ever exercise undertaken in epidemiological modelling, the Global Burden of Disease 2010 (GBD-2010) estimates [1]. These estimates attempt to characterise loss of health from disease and injury, including the effects of some major risk factors, on a global basis. They will find widespread use in coming years and influence developments in global health. However, it is important to realise that "estimates are estimates, and not measurements"; they may perform better in some respects than others [2]. Here, as a group of

independent experts, we comment on some of the major issues raised by this important work, while noting that it is impossible to cover all the wealth of detail involved in any critique. We take collective responsibility for these views, though many specific points come from individual specialists among the authors.

PLoS Neglected Tropical Diseases
June 2013
http://www.plosntds.org/article/browseIssue.action
Editorial
Ears of the Armadillo: Global Health Research and Neglected Diseases in Texas
Jon Andrus, Maria Elena Bottazzi, Jennifer Chow, Karen A. Goraleski, Susan P. Fisher-Hoch, Jocelyn K. Lambuth, Bruce Y. Lee, Harold S. Margolis, Joseph B. McCormick, Peter Melby, Kristy O. Murray, Rebeca Rico-Hesse, Jesus G. Valenzuela, Peter J. Hotez
| info:doi/10.1371/journal.pntd.0002021
Neglected tropical diseases (NTDs) have been recently identified as significant public health problems in Texas and elsewhere in the American South. A one-day forum on the landscape of research and development and the hidden burden of NTDs in Texas explored the next steps to coordinate advocacy, public health, and research into a cogent health policy framework for the American NTDs. It also highlighted how U.S.-funded global health research can serve to combat these health disparities in the United States, in addition to benefiting communities abroad.

PNAS - Proceedings of the National Academy of Sciences of the United States of America
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July 2013; 23 (7)
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http://onlinelibrary.wiley.com/doi/10.1111/risa.2013.33.issue-6/issuetoc
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5 July 2013 vol 341, issue 6141, pages 1-100
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Science Translational Medicine
3 July 2013 vol 5, issue 192
http://stm.sciencemag.org/content/current
Research Article - Genomics
Natural Selection in a Bangladeshi Population from the Cholera-Endemic Ganges River Delta
Elinor K. Karlsson[1,2,*], Jason B. Harris[3,4], Shervin Tabrizi[1,2], Atiqur Rahman[3,5,†], Nick Patterson[2], Colm O'Dushlaine[2], Stephen F. Schaffner[2,6], Sameer Gupta[7], Fahima Chowdhury[5], Alaullah Sheikh[5,‡], Ok Sarah Shin[3,§], Crystal Ellis[3], Christine E. Becker[8], Lynda M. Stuart[2,8], Stephen B. Calderwood[3,9,10], Edward T. Ryan[3,6,9], Firdausi Qadri[5,¶], Pardis C. Sabeti[1,2,6,*,¶] and Regina C. LaRocque[3,9,*,¶]
Abstract
As an ancient disease with high fatality, cholera has likely exerted strong selective pressure on affected human populations. We performed a genome-wide study of natural selection in a population from the Ganges River Delta, the historic geographic epicenter of cholera. We identified 305 candidate selected regions using the composite of multiple signals (CMS) method. The regions were enriched for potassium channel genes involved in cyclic adenosine monophosphate–mediated chloride secretion and for components of the innate immune system involved in nuclear factor κB (NF-κB) signaling. We demonstrate that a number of these strongly selected genes are associated with cholera susceptibility in two separate cohorts. We further identify repeated examples of selection and association in an NF-κB/inflammasome–dependent pathway that is activated in vitro by *Vibrio cholerae*. Our findings shed light on the genetic basis of cholera resistance in a population from the Ganges River Delta and present a promising approach for identifying genetic factors influencing susceptibility to infectious diseases.

Social Science & Medicine
Volume 92, In Progress (September 2013)
http://www.sciencedirect.com/science/journal/02779536/93
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Vaccine
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http://www.sciencedirect.com/science/journal/0264410X
Pakistan's expanded programme on immunization: An overview in the context of polio eradication and strategies for improving coverage
Review Article
Pages 3313-3319
Aatekah Owais, Asif Raza Khowaja, Syed Asad Ali, Anita K.M. Zaidi
Abstract

Since its inception in 1978, Pakistan's Expanded Programme on Immunization (EPI) has contributed significantly towards child health and survival in Pakistan. However, the WHO-estimated immunization coverage of 88% for 3 doses of Diptheria-Tetanus-Pertussis vaccine in Pakistan is likely an over-estimate. Many goals, such as polio, measles and neonatal tetanus elimination have not been met. Pakistan reported more cases of poliomyelits in 2011 than any other country globally, threatening the Global Polio Eradication Initiative. Although the number of polio cases decreased to 58 in 2012 through better organized supplementary immunization campaigns, country-wide measles outbreaks with over 15,000 cases and several hundred deaths in 2012–13 underscore sub-optimal EPI performance in delivering routine immunizations. There are striking inequities in immunization coverage between different parts of the country. Barriers to universal immunization coverage include programmatic dysfunction at lower tiers of the program, socioeconomic inequities in access to services, low population demand, poor security, and social resistance to vaccines among population sub-groups. Recent conflicts and large-scale natural disasters have severely stressed the already constrained resources of the national EPI. Immunization programs remain low priority for provincial and many district governments in the country. The recent decision to devolve the national health ministry to the provinces has had immediate adverse consequences. Mitigation strategies aimed at rapidly improving routine immunization coverage should include improving the infrastructure and management capacity for vaccine delivery at district levels and increasing the demand for vaccines at the population level. Accurate vaccine coverage estimates at district/sub-district level and local accountability of district government officials are critical to improving performance and eradicating polio in Pakistan.

Influenza-related health care utilization and productivity losses during seasons with and without a match between the seasonal and vaccine virus B lineage

Original Research Article

Pages 3370-3388

Sudeep Karve, Genevieve Meier, Keith L. Davis, Derek A. Misurski, Chi-Chuan (Emma) Wang

Abstract

Objective

To assess and compare direct medical costs (incurred by payers) and indirect productivity losses (incurred by employers) associated with influenza seasons with matched or mismatched circulating and vaccine containing influenza B lineages.

Methods

A retrospective analysis, using two MarketScan databases, for the years 2000–2009. Each influenza season was categorized as matched or mismatched after comparing that season's circulating influenza B lineage and the vaccine influenza B lineage. Patients selected had at least one diagnosis claim for influenza (ICD-9-CM code 487.xx [influenza] or 488.1 [H1N1]) during an influenza season. We assessed the incidence of influenza (overall and influenza B), influenza-related medical utilization and associated costs, and productivity losses for each season.

Results

The four matched seasons had lower average influenza incidence (overall incidence per 100,000 plan members: 509; 95% confidence interval [CI]: 505–512) than the five mismatched seasons (748; 95% CI: 745–751). The mismatched seasons had lower influenza B incidence (average incidence per 100,000 plan members: 126; 95% CI: 125–128) than the matched seasons (165; 95% CI: 163–167). The average, per-patient, total influenza-related medical costs in the mismatched seasons ($300.83; range: $245.38–$371.58) were approximately $61.00 higher than in the matched seasons ($239.43; range: $201.49–$264.01). The mismatched seasons

had greater average per-patient, influenza-related productivity-loss costs than the matched seasons (mean: $237.31 vs. $175.10).
Conclusion
CDC data showed that influenza A was the predominant circulating strain during seasons in which the circulating influenza B lineage did not match the vaccine influenza B lineage. This resulted in lower influenza B incidence during the mismatched seasons. However, the average, per-patient, influenza-related direct medical costs and indirect productivity losses were higher during the mismatched seasons. Additional research is required to determine if these higher costs can be attributed to influenza B infections and if the influenza severity varies during mismatched seasons.

Vaccine: Development and Therapy
(Accessed 5 July 2013)
http://www.dovepress.com/vaccine-development-and-therapy-journal
[No new relevant content]

Value in Health
Vol 16 | No. 4 | June 2013 | Pages 453-698
http://www.valueinhealthjournal.com/current
[Reviewed earlier]

From Google Scholar & other sources: Selected Journal Articles, Dissertations, Theses, Commentary

Am J Trop Med Hyg 2013 13-0026
Community Diarrhea Incidence Before and After Rotavirus Vaccine Introduction in Nicaragua
Sylvia Becker-Dreps*, Marlon Meléndez, Lan Liu, Luís Enrique Zambrana, Margarita Paniagua, David J. Weber, Michael G. Hudgens, Mercedes Cáceres, Carina Källestål, Douglas R. Morgan, Félix Espinoza and Rodolfo Peña
Published online July 1, 2013 , doi: 10.4269/ajtmh.13-0026
Abstract
We estimated the incidence of watery diarrhea in the community before and after introduction of the pentavalent rotavirus vaccine in León, Nicaragua. A random sample of households was selected before and after rotavirus vaccine introduction. All children < 5 years of age in selected households were eligible for inclusion. Children were followed every 2 weeks for watery diarrhea episodes. The incidence rate was estimated as numbers of episodes per 100 child-years of exposure time. A mixed effects Poisson regression model was fit to compare incidence rates in the pre-vaccine and vaccine periods. The pre-vaccine cohort (N = 726) experienced 36 episodes per 100 child-years, and the vaccine cohort (N = 826) experienced 25 episodes per 100 child-years. The adjusted incidence rate ratio was 0.60 (95% confidence interval [CI] 0.40, 0.91) during the vaccine period versus the pre-vaccine period, indicating a lower incidence of watery diarrhea in the community during the vaccine period.

Infectious Agents and Cancer
2013, 8:22 doi:10.1186/1750-9378-8-22
http://www.infectagentscancer.com/content/8/1/22
Review
Answering human papillomavirus vaccine concerns; a matter of science and time
David Hawkes1*, Candice E Lea2 and Matthew J Berryman3
Abstract
Since the introduction of the HPV vaccine, questions have been asked about its efficacy in preventing cancer linked with HPV. Concerns about the HPV vaccine safety profile have also been raised. This paper highlights the rapidly growing body of evidence (including clinical trials and post-marketing surveillance) illustrating both the safety of the HPV vaccine, through a detailed investigation of reported adverse events, and its efficacy in reducing both HPV infections rates and the resulting drop in cervical lesions, which have been demonstrated to be good predictors of cervical cancer risk.

Systems biological approaches to measure and understand vaccine immunity in humans
S Li, HI Nakaya, DA Kazmin, JZ Oh, B Pulendran - Seminars in Immunology, 2013
Highlights
:: Recent studies have used systems biological approaches to predict vaccine efficacy.
:: Such studies are yielding new insights about the mechanisms underlying vaccine immunity.
:: Data acquisition, management and modeling represent major challenges.
:: Integration of multiple "omics" data also represents major challenges.
:: Overcoming such challenges will enable systems approaches to guide rational vaccine design.
Abstract
Recent studies have demonstrated the utility of using systems approaches to identify molecular signatures that can be used to predict vaccine immunity in humans. Such approaches are now being used extensively in vaccinology, and are beginning to yield novel insights about the molecular networks driving vaccine immunity. In this review, we present a broad review of the methodologies involved in these studies, and discuss the promise and challenges involved in this emerging field of "systems vaccinology."

A vaccine against Haemonchus contortus: current status and future possibilities.
D Knox, MW Kennedy, W Harnett - Parasitic nematodes: molecular biology, …, 2013
Abstract This chapter summarizes progress made in vaccine development against Haemonchus contortus infection, including discussions on lead vaccine antigens (ie, dipeptidyl peptidases, aminopeptidases, aspartyl and metalloproteases, cysteine ...

Kicking against the pricks: vaccine sceptics have a different social orientation
J Luyten, P Desmet, V Dorgali, N Hens, P Beutels - The European Journal of Public …, 2013
Background: In any country, part of the population is sceptical about the utility of vaccination. To develop successful vaccination programmes, it is important to study and understand the defining characteristics of vaccine sceptics. Research till now mainly focused either on the ...

Report of the first Asia-Pacific influenza summit, Asia-Pacific Alliance for the Control of Influenza (APACI), Bangkok, 12–13 June 2012
LC Jennings, DW Smith, PKS Chan - Influenza and Other Respiratory Viruses, 2013

... The objectives of the meeting were to review the current state of official influenza control policies in Asia-Pacific countries; identify, summarize and communicate influenza control strategies that have successfully increased vaccine uptake in the region; develop policy and ...

[PDF] **Stability analysis of a general SIR epidemic model**
R Ullah, G Zaman, S Islam - VFAST Transactions on Applied Mathematics, 2013
... Farrington [1] studied the impact of vacci- nation program on the transmission potential of the infection in large populations and obtained relation between vaccine efficacy against transmission, reproduction number and vaccine coverage. ..

Media/Policy Watch

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

We acknowledge the Western/Northern bias in this initial selection of titles and invite suggestions for expanded coverage. We are conservative in our outlook of adding news sources which largely report on primary content we are already covering above. Many electronic media sources have tiered, fee-based subscription models for access. We will provide full-text where content is published without restriction, but most publications require registration and some subscription level.

Al Jazeera
http://www.aljazeera.com/Services/Search/?q=vaccine
Accessed 5 July 2013
[No new, unique, relevant content]

The Atlantic
http://www.theatlantic.com/magazine/
Accessed 5 July 2013
[No new, unique, relevant content]

BBC
http://www.bbc.co.uk/
Accessed 5 July 2013
[No new, unique, relevant content]

Brookings
http://www.brookings.edu/
Accessed 5 July 2013
[No new, unique, relevant content]

Council on Foreign Relations
http://www.cfr.org/

Accessed 5 July 2013
[No new, unique, relevant content]

Economist
http://www.economist.com/
Accessed 5 July 2013
[No new, unique, relevant content]

Financial Times
http://www.ft.com
Accessed 5 July 2013
[No new, unique, relevant content]

Forbes
http://www.forbes.com/
Accessed 5 July 2013
[No new, unique, relevant content]

Foreign Affairs
http://www.foreignaffairs.com/
Accessed 5 July 2013
[No new, unique, relevant content]

Foreign Policy
http://www.foreignpolicy.com/
Accessed 5 July 2013
[No new, unique, relevant content]

The Guardian
http://www.guardiannews.com/
Accessed 5 July 2013
[No new, unique, relevant content]

The Huffington Post
http://www.huffingtonpost.com/
Accessed 5 July 2013
[No new, unique, relevant content]

Le Monde
http://www.lemonde.fr/
Accessed 5 July 2013
[No new, unique, relevant content]

New Yorker
http://www.newyorker.com/
Accessed 5 July 2013
[No new, unique, relevant content]

New York Times
http://www.nytimes.com/
Accessed 5 July 2013
[No new, unique, relevant content]

Reuters
http://www.reuters.com/
Accessed 5 July 2013
[No new, unique, relevant content]

Wall Street Journal
http://online.wsj.com/home-page
Accessed 5 July 2013
[No new, unique, relevant content]

Washington Post
http://www.washingtonpost.com/
Accessed 5 July 2013
Opinion
Anti-cancer vaccine gets too few takers
By Editorial Board, Friday, July 5, 7:22 PM

THE SAFETY and effectiveness of a vaccine to protect teen girls against dangerous strains of the virus that is a leading cause of cervical cancer have been unquestionably proved. So it is both discouraging and heartbreaking that, because of ignorance and ill-founded fears, relatively few young people get this lifesaving vaccine.

A study released in June by the Centers for Disease Control and Prevention catalogued the remarkable decrease in the rate of infection from the human papillomavirus, or HPV, among girls 14 to 19. The study, comparing infection rates in girls before and after the vaccine was introduced in 2006, showed a drop of more than 56 percent. "These are striking results," said CDC director Thomas R. Frieden.

HPV, the most common sexually transmitted infection, causes serious health problems (including cancer) for both men and women. But only one-third of 13- to 17-year-old girls in the United States have received the recommended three-dose series of HPV vaccine. "Preventable tragedies" is how Dr. Frieden referred to the cases of cervical cancer that will affect 50,000 girls alive today who would have been spared were the vaccination rate boosted to the targeted 87 percent. That's in addition to increasing evidence that the HPV vaccine may protect against head and neck cancers associated with HPV, an issue that recently received attention with the revelation by actor Michael Douglas that his throat cancer may have been caused by having oral sex with an HPV-
infected woman.

Routine vaccination is recommended for both girls and boys starting at age 11 or 12. Parents have proved to be reluctant; some worry about harmful, long-term side effects (there are none), while others fear the vaccination will promote adolescent promiscuity (also disproved by the recent CDC study). Doctors and other health-care providers have been lackadaisical in recommending the shots. States, which long ago recognized the public-policy importance of tying immunizations for communicable diseases to school enrollment, unfortunately have shied away from the HPV vaccine. The District and Virginia are the only jurisdictions in the country

that include HPV in the portfolio of shots required for school, though even they (rightly) allow parents to opt out.

It's time America gets over its squeamishness and takes advantage of this medical advance. Said Dr. Frieden: "The time has come to ramp up our efforts to protect the next generation against cancer with the HPV vaccine. This is an anti-cancer vaccine."

* * * *

Vaccines: The Week in Review *is a service of the Center for Vaccines Ethics and Policy (CVEP) which is solely responsible for its content. Support for this service is provided by its governing institutions – Department of Medical Ethics, NYU Medical School; The Wistar Institute Vaccine Center and the Children's Hospital of Philadelphia Vaccine Education Center. Additional support is provided by the PATH Vaccine Development Program and the International Vaccine Institute (IVI), and by vaccine industry leaders including GSK, Pfizer,* and Sanofi Pasteur U.S. *(list in formation), as well as the Developing Countries Vaccine Manufacturers Network (DCVMN). Support is also provided by a growing list of individuals who use this service to support their roles in public health, clinical practice, government, NGOs and other international institutions, academia and research organizations, and industry.*

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