Vaccines: The Week in Review
24 January 2011
Center for Vaccine Ethics & Policy
http://centerforvaccineethicsandpolicy.wordpress.com/
A program of
- Center for Bioethics, University of Pennsylvania
http://www.bioethics.upenn.edu/
- The Wistar Institute Vaccine Center
http://www.wistar.org/vaccinecenter/default.html
- Children's Hospital of Philadelphia, Vaccine Education Center
http://www.chop.edu/consumer/jsp/microsite/microsite.jsp

This weekly summary targets news and events in global vaccines ethics and policy gathered from key governmental, NGO and industry sources, key journals and other sources. This summary supports ongoing initiatives of the Center for Vaccine Ethics & Policy, and is not intended to be exhaustive in its coverage. Vaccines: The Week in Review is now also posted in pdf form and as a set of blog posts at http://centerforvaccineethicsandpolicy.wordpress.com/. This blog allows full-texting searching of some 1,200 items.

Comments and suggestions should be directed to
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WHO said that WHA Member States, meeting at the 128th session of the Executive Board, "rallied their support for the WHO/UNICEF Global Immunization Vision and Strategy (GIVS Strategy 2006-2015) and its impact in guiding national immunization strategies to reach the child survival goals."
Mindful of the challenges ahead, WHO said Member States "mentioned the need to:
(1) ensure that introducing newer vaccines is not done at the expense of basic immunization;
(2) expand the use of rubella vaccines;
(3) maintain high measles vaccination coverage and not drop our guard against the disease, particularly in Africa where large scale measles outbreaks have occurred;
(4) strengthen linkages between polio eradication efforts and routine immunization;
(5) facilitate vaccine technology transfer to developing countries and promote other strategies to bring down the prices of life-saving vaccines and replicating the success of MenAfrVac; and
(6) strengthen surveillance for vaccine-preventable diseases."

Also, the Executive Board "commends WHO's leadership on the Decade of Vaccines, a vision for using the next 10 years to achieve immunization goals and reach important milestones in vaccine research, development and financing." More details on the Decade of Vaccines strategic framework will be presented for discussion at the 64th World Health Assembly in May 2011.
http://www.who.int/immunization/newsroom/newsstory_givs_eb_jan2011/en/index.html

WHO released WHO/IVB/2010 - *WHO vaccine-preventable diseases: monitoring system - 2010 global summary*, covering disease incidence of diphtheria, measles, mumps, pertussis, polio, rubella and CRS, neonatal and total tetanus, and yellow fever, as well as vaccination coverage for BCG, DTP, hepatitis B, Hib, measles, polio, pneumococcal conjugate, rotavirus, tetanus toxoid and yellow fever. The publication also includes the latest reported recommended immunization schedule. This data is reported on annual basis to the WHO regional offices by 193 member states, and is presented both by member states and in regional summary. http://www.who.int/immunization/documents/who_ivb_2010/en/index.html

The Bill & Melinda Gates Foundation and UNICEF announce a visit by Mr. Anthony Lake, UNICEF Executive Director, and Dr. Tachi Yamada, president of the Global Health Program of the Gates Foundation to **boost the Government of Angola's efforts to stop transmission of polio in the country by increasing vital immunization coverage**. The organizations noted that Angola "has faced several challenges following the aftermath of the war, including massive rural migration to the urban areas which strained health and sanitation services and harbored conditions for the spread of polio. In 2010, 32 people contracted polio in Angola, a disappointing turnaround from 2004, when Angola celebrated three consecutive years free from the virus and the country stood ready to be declared polio-free. But by May of 2005, the disease returned and quickly spread to Namibia (2006), DR Congo (2006, 2008 and 2010), and the Republic of Congo (2010). This sequence of events shows that children remain at risk everywhere as long as polio transmission is not interrupted globally." Mr. Lake and Dr. Yamada "will meet with senior government officials and partners in the fight against polio to urge an increased commitment of all levels of society. They will also discuss how to support national, provincial and municipal efforts in Angola to interrupt transmission. As part of the mission, they will visit families, volunteers and health services in peri-urban areas of Luanda, visiting the frontline in the fight against the virus and observing what action communities are taking."
http://www.gatesfoundation.org/press-releases/Pages/eradicating-polio-in-angola-110121.aspx

Twitter Watch

A selection of items of interest this week from a variety of twitter feeds from NGOs and other sources.

MalariaVaccine PATH MVI
Washington Post op-ed: "Global vaccine efforts offer hope to millions"
http://wapo.st/f0aDNK ##

ArthurCaplan Arthur Caplan
destroying smallpox? http://www.thetakeaway.org/2011/jan/18/smallpox/

StateDept StateDept
by USAID
U.S. helps to vaccinate seven million Pakistani children against #measles and #polio: http://go.usa.gov/Y3L #Pakistan @USAID

Journal Watch

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

Annals of Internal Medicine
January 18, 2011; 154 (2)
http://www.annals.org/content/current
[No relevant content]

Clinical Infectious Diseases
Volume 52 Issue 4 February 15, 2011
http://www.journals.uchicago.edu/toc/cid/current
[No relevant content]

Emerging Infectious Diseases
Volume 17, Number 1–January 2011
http://www.cdc.gov/ncidod/EID/index.htm
[Reviewed last week]

Human Vaccines
Volume 7, Issue 1 January 2011
http://www.landesbioscience.com/journals/vaccines/toc/volume/6/issue/12/
[Reviewed earlier]

JAMA
January 19, 2011, Vol 305, No. 3, pp 223-319
http://jama.ama-assn.org/current.dtl
[No relevant content]

Journal of Infectious Diseases
Volume 203 Issue 4 February 15, 2011
http://www.journals.uchicago.edu/toc/jid/current
[No relevant content]

The Lancet
Jan 22, 2011 Volume 377 Number 9762 Pages 271 - 352
http://www.thelancet.com/journals/lancet/issue/current
Series
Reproductive health, and child health and nutrition in India: meeting the challenge
Vinod Kumar Paul, Harshpal Singh Sachdev, Dileep Mavalankar, Prema Ramachandran, Mari Jeeva Sankar, Nita Bhandari, Vishnubhatla Sreenivas, Thiagarajan Sundararaman, Dipti Govil, David Osrin, Betty Kirkwood
Summary
India, with a population of more than 1 billion people, has many challenges in improving the health and nutrition of its citizens. Steady declines have been noted in fertility, maternal, infant and child mortalities, and the prevalence of severe manifestations of nutritional deficiencies, but the pace has been slow and falls short of national and Millennium Development Goal targets. The likely explanations include social inequities, disparities in health systems between and within states, and consequences of urbanisation and demographic transition. In 2005, India embarked on the National Rural Health Mission, an extraordinary effort to strengthen the health systems. However, coverage of priority interventions remains insufficient, and the content and quality of existing interventions are suboptimum. Substantial unmet need for contraception remains, adolescent pregnancies are common, and access to safe abortion is inadequate. Increases in the numbers of deliveries in institutions have not been matched by improvements in the quality of intrapartum and neonatal care. Infants and young children do not get the health care they need; access to effective treatment for neonatal illness, diarrhoea, and pneumonia shows little improvement; and the coverage of nutrition programmes is inadequate. Absence of well functioning health systems is indicated by the inadequacies related to planning, financing, human resources, infrastructure, supply systems, governance, information, and monitoring. We provide a case for transformation of health systems through effective stewardship, decentralised planning in districts, a reasoned approach to financing that affects demand for health care, a campaign to create awareness and change health and nutrition behaviour, and revision of programmes for child nutrition on the basis of evidence. This agenda needs political commitment of the highest order and the development of a people's movement.

The Lancet Infectious Disease
Jan 2011 Volume 11 Number 1 Pages 1 - 72
http://www.thelancet.com/journals/laninf/issue/current
[Reviewed earlier]

Nature
Volume 469 Number 7330 pp265-438 20 January 2011
http://www.nature.com/nature/current_issue.html
Nature | Editorial
Smallpox should be saved
doi:10.1038/469265a
Published online
19 January 2011

For much of the world's population, smallpox is a disease of history. The variola virus that causes it last swept through humans in a natural outbreak in Somalia in 1977, and the world was declared free of smallpox in 1980. The disease that killed Queen Mary II of England, Tsar Peter II of Russia, King Louis XV of France and hundreds of millions more during the past century alone is gone — but not forgotten. Smallpox lives on in the memories of those who witnessed its awful impact first hand. It is a terrifying spectre for those who warn that terrorists may seek to spread disease. And it survives in two laboratories, where research continues on live virus.

The fate of these known virus stocks, held in secure laboratories in the United States and Russia, is once again the subject of debate. In May 2011, the World Health Assembly — the decision-making body of the World Health Organization — will vote on whether to set a date by which these collections should be destroyed. They should not be eliminated, at least not completely.

This journal has previously argued that, because the possibility cannot be ruled out that other, secret stocks of smallpox are being held elsewhere, the benefits of continued access to live virus stocks for research outweigh the risks of maintaining them. In 1999 (Nature 398, 733; 1999), we wrote: "Rightly, public-health advocates bemoan the prospect of any measure that increases the risk of a re-emergence of this scourge. But, given the impossibility of knowing who now possesses the virus, and from where it might appear, it is better to have a number of arrows in the quiver than to destroy the stock and cross our collective fingers." The world has changed much since then, and the US terrorist attacks of September 2001 and the subsequent focus on prospects for bioterrorism have increased the stakes further. Smallpox would be an effective weapon — it spreads easily and kills almost one-third of the people it infects. Furthermore, the triumph of smallpox eradication after widespread vaccination in the 1960s and 1970s means that some 40% of the world's population has no immunity.

"Smallpox is a disease of history, but it cannot be consigned to the past."

In an essay published online earlier this month in the journal Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science, security expert Jonathan Tucker argues that many of the stated goals of the World Health Organization's smallpox research programme have been achieved — such as antiviral drugs and diagnostic tools — and that there is a diminished need for live virus to be retained (J. B. Tucker Biosecur. Bioterror. doi:10.1089/bsp.2010.0065; 2011). This may be true, but further study of the virus could still reveal a huge amount, both on the specifics of what makes it such a formidable foe and on human immunology and viral pathogenesis in general.

The scientific case for retaining live variola virus to improve public health is strong. The risk of doing so is largely political. The threat of an accidental release or theft from the biosecure repositories at which it is held — at the Centers for Disease Control and

Prevention in Atlanta, Georgia, and the State Research Center of Virology and Biotechnology ('Vector') near Novosibirsk — seems remote. Destruction of the stocks would be a largely symbolic step.

Countries in Africa and Asia endured the havoc of smallpox most recently, and fear of a repeat outbreak — as well as mistrust of those who control the stocks — has produced strong calls from these nations for its destruction. There is equally strong insistence in countries such as the United States and Russia that it should be retained for defensive research. In a recent article in The New York Times, former US government heavy-hitters Kenneth Bernard and Richard Danzig call elimination of the virus stocks a "bad idea". They say: "We have an obligation to ensure that our children's children never have to worry about seeing this ancient scourge kill yet again. Destroying the remaining research specimens of smallpox at this time will prevent us from fulfilling this obligation."

Tucker warns that the result of this political stand-off, further complicated by the rare involvement of security and defence officials in a public-health matter, could be a "diplomatic train wreck" — particularly given that the World Health Assembly will seek a consensus decision. As part of a compromise solution, he suggests that the United States and Russia should agree to destroy part of their collections, such as hybrid viruses that are scientifically redundant. A handful of strains would continue to be held at each site, for research in the short term and reference afterwards. That seems a sensible approach. True, the world will be denied a final victory in the heroic effort to defeat smallpox, but uncertainty over undeclared surviving stocks would make that a hollow accomplishment anyway. So, too, would development of molecular-biology techniques that could see the smallpox virus reconstructed. Smallpox is a disease of history, but it cannot be consigned to the past.

Perspectives

Systemic risk in banking ecosystems

Andrew G. Haldane &
Robert M. May

Abstract

In the run-up to the recent financial crisis, an increasingly elaborate set of financial instruments emerged, intended to optimize returns to individual institutions with seemingly minimal risk. Essentially no attention was given to their possible effects on the stability of the system as a whole. Drawing analogies with the dynamics of ecological food webs and with networks within which infectious diseases spread, we explore the interplay between complexity and stability in deliberately simplified models of financial networks. We suggest some policy lessons that can be drawn from such models, with the explicit aim of minimizing systemic risk.

Nature Medicine
January 2011, Volume 17 No 1
http://www.nature.com/nm/index.html
[Reviewed earlier; No relevant content]

New England Journal of Medicine
January 20, 2011 Vol. 364 No. 3

http://content.nejm.org/current.shtml
[No relevant content]

The Pediatric Infectious Disease Journal
February 2011 - Volume 30 - Issue 2
http://journals.lww.com/pidj/pa ges/currenttoc.aspx
Original Studies
Timing of the Availability and Administration of Influenza Vaccine Through the Vaccines for Children Program
Bhatt, Praful; Block, Stan L.; Toback, Seth L.; Ambrose, Christopher S.
Pediatric Infectious Disease Journal. 30(2):100-106, February 2011.
doi: 10.1097/INF.0b013e3181efff54
Abstract:
Background: Influenza vaccine must be distributed and administered each year during a limited time interval. To our knowledge, no previous studies have simultaneously evaluated the delivery and administration of privately purchased vaccines and influenza vaccines acquired through the Vaccines for Children (VFC) program.
Methods: A prospective, observational study was conducted in US outpatient pediatric offices, tracking all influenza vaccinations during the season by age group, first or second vaccination, the child's need for 1 or 2 doses, type of vaccine, and VFC status.
Results: A total of 42 and 84 practices completed the study in 2007 to 2008 and 2008 to 2009, respectively. In both seasons, initial shipments of VFC influenza vaccine generally arrived 4 to 5 weeks later than non-VFC shipments; VFC vaccine administration also started 1 month later than administration of privately purchased vaccine. Vaccine administration peaked in early November and late October in years 1 and 2, respectively, and declined rapidly thereafter. Overall, approximately one-half of all children who required 2 doses of vaccine were estimated to have received 2 doses. In both years, 2-dose compliance rates in the VFC population were 17% to 19% lower than those in the non-VFC population, possibly resulting from the VFC population's shorter time interval for second dose receipt.
Conclusions: The VFC program is critical to ensuring financially vulnerable children have access to vaccination. Manufacturers, distributors, and public health officials should deliver VFC influenza vaccine to providers as quickly as possible. Pediatric healthcare providers should increase efforts to vaccinate all populations, especially the VFC population, in later months.

Volume 30, January 2011, Supplement, Real World Impact of Rotavirus Vaccination 1, pp. S1-S66

Real-world Impact of Rotavirus Vaccination
Patel, Manish M.; Steele, Duncan; Gentsch, Jon R.; Wecker, John; Glass, Roger I.; Parashar, Umesh D.
Pediatric Infectious Disease Journal. 30(1):S1-S5, January 2011.
doi: 10.1097/INF.0b013e3181fefa1f
Worldwide, diarrhea is the second most common cause of fatal childhood disease, estimated to cause approximately 1.34 million deaths among children aged <5 years.1 Rotavirus is the leading cause of severe diarrhea in young children and is responsible for

approximately one-third of all diarrheal deaths.[2] Two effective rotavirus vaccines, a single-strain attenuated human rotavirus vaccine (Rotarix, GlaxoSmithKline Biologicals) and a multistrain bovine-human reassortant vaccine (RotaTeq, Merck and Company), are now available and recommended for routine immunization of all infants by the World Health Organization (WHO).[3] Efficacy of these vaccines has ranged from 80% to 98% in industrialized countries,[4–7] including Latin America, and 39% to 77% in developing countries, such as Africa and Asia.[8–10] On the basis of efficacy data from Europe and America, the WHO initially approved use of the vaccines in these regions in 2006 and within 2 years several countries added rotavirus vaccination into their routine immunization programs. Subsequently, after proof of efficacy in Asia and Africa, the WHO recommendation was expanded to all infants worldwide in 2009.[3]

As rotavirus vaccines are implemented within national childhood immunization programs, evaluation of their effect is important for several reasons.[11,12] First, routine immunization occurs in real-world conditions different from ideal clinical trial settings. Thus, monitoring postlicensure impact on rotavirus disease is crucial for ensuring that appropriate gains in terms of expected vaccination benefits are attained. Second, changes in the epidemiology of rotavirus disease might occur in the postlicensure era, such as shifts in average age at infection, seasonality of disease, and serotype distribution after vaccination or appearance of unusual genetic variants. Third, ensuring that protection is conferred through the first and second years of life when most severe disease and mortality from rotavirus occur will be crucial for the success of a rotavirus vaccination program. Finally, assessing whether vaccination has an affect on rotavirus transmission in the community, thus providing benefits to unvaccinated groups, is important. Monitoring impact with focus on these public health considerations will not only allow assessment of the effectiveness of rotavirus vaccines in routine use, but also generate the necessary evidence to inform public health policy decision-making and continued investment in rotavirus vaccines.

The articles in this supplement elegantly describe the experience of early-introducer countries in Europe, America, and Australia, and address these relevant postlicensure topics (Table 1). The effect of rotavirus vaccines on burden of severe childhood diarrhea in these early introducer countries has been rapid, easily measured, and substantial, demonstrating the health value of rotavirus vaccination. Two of the most interesting and unanticipated findings in the early rotavirus vaccine era have included indirect protection and changes in rotavirus seasonality.[13,14] The lessons learned to-date will be valuable for other countries, considering the introduction of rotavirus vaccines into their childhood immunization programs.

Pediatrics
January 2011 / VOLUME 127 / ISSUE 1
http://pediatrics.aappublications.org/current.shtml
[Reviewed earlier]

Pharmacoeconomics
February 1, 2011 - Volume 29 - Issue 2 pp: 87-172
http://adisonline.com/pharmacoeconomics/pages/currenttoc.aspx
[No relevant content]

Pharmacoeconomics & Outcomes News
January 22, 2011 - Volume - Issue 620 pp: 1-11
http://adisonline.com/pecnews/pages/currenttoc.aspx
[No relevant content]

PLoS Medicine
(Accessed 23 January 2011)
http://medicine.plosjournals.org/perlserv/?request=browse&issn=1549-1676&method=pubdate&search_fulltext=1&order=online_date&row_start=1&limit=10&document_count=1533&ct=1&SESSID=aac96924d41874935d8e1c2a2501181c#results
[No relevant content]

Science
21 January 2011 vol 331, issue 6015, pages 249-364
http://www.sciencemag.org/current.dtl
Review
Animal Migration and Infectious Disease Risk
Sonia Altizer, Rebecca Bartel, and Barbara A. Han
Science 21 January 2011: 296-302.[D
Abstract
Animal migrations are often spectacular, and migratory species harbor zoonotic pathogens of importance to humans. Animal migrations are expected to enhance the global spread of pathogens and facilitate cross-species transmission. This does happen, but new research has also shown that migration allows hosts to escape from infected habitats, reduces disease levels when infected animals do not migrate successfully, and may lead to the evolution of less-virulent pathogens. Migratory demands can also reduce immune function, with consequences for host susceptibility and mortality. Studies of pathogen dynamics in migratory species and how these will respond to global change are urgently needed to predict future disease risks for wildlife and humans alike.

Science Translational Medicine
19 January 2011 vol 3, issue 66
http://stm.sciencemag.org/content/current
Commentary
Policy
"Creating Hope" and Other Incentives for Drug Development for Children
Edward Connor and Pablo Cure
19 January 2011: 66cm1
Abstract
Enhancing drug development for pediatric disease is a priority and a public responsibility. The Creating Hope Act of 2010 is important new proposed legislation that adds drugs and biologics for treating rare diseases in children to those for neglected tropical diseases as eligible for a priority review voucher from the U.S. Food and Drug

Administration. The Act enhances existing incentive programs through specific financial benefits to companies who seek a pediatric indication for a new drug to treat an orphan disease that occurs specifically in children.

Vaccine
http://www.sciencedirect.com/science/journal/0264410X
Volume 29, Issue 6 - pp. 1115-1354 (1 February 2011)

Meeting Report

The Global Pertussis Initiative: Report from a Round Table Meeting to discuss the epidemiology and detection of pertussis, Paris, France, 11–12 January 2010

Pages 1115-1121

Nicole Guiso, Carl-Heinz Wirsing von König, Kevin Forsyth, Tina Tan, Stanley A. Plotkin

Abstract

Pertussis remains endemic worldwide and is an important public health problem, even in countries with sustained high vaccination coverage. Resurgence of pertussis in the post-vaccination era has been reported in many areas of the world. The Global Pertussis Initiative (GPI) was established in 2001 to evaluate the ongoing problem of pertussis worldwide and to recommend appropriate pertussis control strategies. In addition to primary vaccinations, the GPI currently recommends a pertussis booster vaccination to pre-school children, adolescents and those adults at risk of transmitting Bordetella pertussis infection to infants. At a meeting in Paris, France, in January 2010, GPI members discussed pertussis surveillance and testing then prepared recommendations on the implementation and utilisation of these activities. Issues and projects discussed included: national surveillance systems and their suitability for other countries; seroprevalence studies; ideal surveillance methodologies; ongoing efforts in obtaining biological samples; standardisation of sample treatment; culture; real-time polymerase chain reaction (PCR); and likely future advances such as antibody detection in saliva. Previous regional meetings of the GPI have confirmed that many countries have limited laboratory facilities for the detection of pertussis. The GPI hopes that the future introduction of increased laboratory capabilities and greater harmonisation of clinical definitions and detection methods will lead to enhanced surveillance and a better estimate of the burden of pertussis infection worldwide. This article provides a current guide on the appropriate use of laboratory diagnostics and optimal surveillance methodologies to assist countries in the control of pertussis disease.

Lessons from pandemic influenza A(H1N1): The research-based vaccine industry's perspective ***Review Article***

Pages 1135-1138

Atika Abelin, Tony Colegate, Stephen Gardner, Norbert Hehme, Abraham Palache

Abstract

As A(H1N1) influenza enters the post-pandemic phase, health authorities around the world are reviewing the response to the pandemic. To ensure this process enhances future preparations, it is essential that perspectives are included from all relevant stakeholders, including vaccine manufacturers. This paper outlines the contribution of R&D-based influenza vaccine producers to the pandemic response, and explores lessons that can be learned to improve future preparedness.

The emergence of 2009 A(H1N1) influenza led to unprecedented collaboration between global health authorities, scientists and manufacturers, resulting in the most comprehensive pandemic response ever undertaken, with a number of vaccines approved for use three months after the pandemic declaration. This response was only possible because of the extensive preparations undertaken during the last decade. During this period, manufacturers greatly increased influenza vaccine production capacity, and estimates suggest a further doubling of capacity by 2014. Producers also introduced cell-culture technology, while adjuvant and whole virion technologies significantly reduced pandemic vaccine antigen content. This substantially increased pandemic vaccine production capacity, which in July 2009 WHO estimated reached 4.9 billion doses per annum. Manufacturers also worked with health authorities to establish risk management plans for robust vaccine surveillance during the pandemic. Individual producers pledged significant donations of vaccine doses and tiered-pricing approaches for developing country supply.

Based on the pandemic experience, a number of improvements would strengthen future preparedness. Technical improvements to rapidly select optimal vaccine viruses, and processes to speed up vaccine standardization, could accelerate and extend vaccine availability. Establishing vaccine supply agreements beforehand would avoid the need for complex discussions during a period of intense time pressure.

Enhancing international regulatory co-operation and mutual recognition of approvals could accelerate vaccine supply, while maintaining safety standards. Strengthening communications with the public and healthcare workers using new approaches and new channels could help improve vaccine uptake. Finally, increasing seasonal vaccine coverage will be particularly important to extend and sustain pandemic vaccine production capacity.

Major motives in non-acceptance of A/H1N1 flu vaccination: The weight of rational assessment ***Original Research Article***

Pages 1173-1179

Baruch Velan, Giora Kaplan, Arnona Ziv, Valentina Boyko, Liat Lerner-Geva

Abstract

Recent efforts of health authorities to promote vaccination against influenza A/H1N1 were met with low compliance rates in most industrialized countries. Here we analyzed the attitudes of the Israeli public towards A/H1N1 vaccination based on a telephone survey conducted several months after the peak of the outbreak. The findings attest to the low uptake of the A/H1N1 vaccine (17%) in Israel, and identify the socio-demographic characteristics associated with non-compliance. In addition, the survey reveals passiveness, fear and distrust as motives leading to non-compliance. Most importantly, the study identified the substantial weight of reflective assessment in the attitude of lay individuals towards the A/H1N1 vaccine. As many as 30% of the non-vaccinated responders provided reasoned arguments for rejecting the vaccine, based mainly on assessment of threat versus actual risk. These observations highlight the need to consider the opinion of the lay public when implementing new vaccination programs.

The potential economic value of a hookworm vaccine

Original Research Article

Pages 1201-1210

Bruce Y. Lee, Kristina M. Bacon, Rachel Bailey, Ann E. Wiringa, Kenneth J. Smith

Abstract

Hookworm infection is a significant problem worldwide. As development of hookworm vaccine proceeds, it is essential for vaccine developers and manufacturers, policy makers, and other public health officials to understand the potential costs and benefits of such a vaccine. We developed a decision analytic model to evaluate the cost-effectiveness of introducing a hookworm vaccine into two populations in Brazil: school-age children and non-pregnant women of reproductive age. Results suggest that a vaccine would provide not only cost savings, but potential health benefits to both populations. In fact, the most cost-effective intervention strategy may be to combine vaccine with current drug treatment strategies.

Vaccine
http://www.sciencedirect.com/science/journal/0264410X
Volume 29, Issue 5 - pp. 865-1114 (29 January 2011)

Approaches to monitoring biological outcomes for HPV vaccination: Challenges of early adopter countries ***Review Article***
Pages 878-885
Charlene A. Wong, Mona Saraiya, Susan Hariri, Linda Eckert, Roberta I. Howlett, Lauri E. Markowitz, Julia M.L. Brotherton, Katy Sinka, Olga G. Martinez-Montañez, Susanne K. Kjaer, Eileen F. Dunne
Abstract
In this review, we describe plans to monitor the impact of human papillomavirus (HPV) vaccine on biologic outcomes in selected international areas (Australia, Canada, Mexico, the Nordic countries, Scotland, and the United States) that have adopted this vaccine. This summary of monitoring plans provides a background for discussing the challenges of vaccine monitoring in settings where resources and capacity may vary. A variety of approaches that depend on existing infrastructure and resources are planned or underway for monitoring HPV vaccine impact. Monitoring HPV vaccine impact on biologic outcomes is a complex and challenging task, but also plays an important role in documenting the benefit of vaccination, monitoring the progress of vaccination programs, and providing data to inform vaccination and disease prevention policies.
Regular Papers
Predictors of HPV vaccine uptake among women aged 19–26: Importance of a physician's recommendation ***Original Research Article***
Pages 890-895
S.L. Rosenthal, T.W. Weiss, G.D. Zimet, L. Ma, M.B. Good, M.D. Vichnin
Abstract
Among insured women, aged 19–26 years, those who discussed the HPV vaccine with their physician and received a recommendation were overwhelmingly more likely to be vaccinated. Student status and perception of the personal importance of vaccination were also predictive of vaccination. The strength of the physician's recommendation played a significant role in the decision to be vaccinated, resulting in a 4-fold greater likelihood of vaccination when women received a strong recommendation versus one that was not strong. Health care providers should be well-informed about HPV vaccination and recognize that the strength of their recommendation to patients will foster appropriate uptake.
Incremental costs of introducing jet injection technology for delivery of routine childhood vaccinations: Comparative analysis from Brazil, India, and South Africa

Original Research Article

Pages 969-975

Ulla K. Griffiths, Andreia C. Santos, Neeti Nundy, Erica Jacoby, Dipika Matthias

Abstract

Background

Disposable-syringe jet injectors (DSJIs) have the potential to deliver vaccines safely and affordably to millions of children around the world. We estimated the incremental costs of transitioning from needles and syringes to delivering childhood vaccines with DSJIs in Brazil, India, and South Africa.

Methods

Two scenarios were assessed: (1) DSJI delivery of all vaccines at current dose and depth; (2) a change to intradermal (ID) delivery with DSJIs for hepatitis B and yellow fever vaccines, while the other vaccines are delivered by DSJIs at current dose and depth. The main advantage of ID delivery is that only a small fraction of the standard dose may be needed to obtain an immune response similar to that of subcutaneous or intramuscular injection. Cost categories included were vaccines, injection equipment, waste management, and vaccine transport. Some delivery cost items, such as training and personnel were excluded as were treatment cost savings caused by a reduction in diseases transmitted due to unsafe injections.

Results

In the standard dose and depth scenario, the incremental costs of introducing DSJIs per fully vaccinated child amount to US$ 0.57 in Brazil, US$ 0.65 in India and US$ 1.24 in South Africa. In the ID scenario, there are cost savings of US$ 0.11 per child in Brazil, and added costs of US$ 0.45 and US$ 0.76 per child in India and South Africa, respectively. The most important incremental cost item is jet injector disposable syringes.

Conclusion

The incremental costs should be evaluated against other vaccine delivery technologies that can deliver the same benefits to patients, health care workers, and the community. DSJIs deserve consideration by global and national decision-makers as a means to expand access to ID delivery and to enhance safety at marginal additional cost.

Parental decline of pneumococcal vaccination and risk of pneumococcal related disease in children ***Original Research Article***

Pages 994-999

Jason M. Glanz, David L. McClure, Sean T. O'Leary, Komal J. Narwaney, David J. Magid, Matthew F. Daley, Simon J. Hambidge

Abstract

Background

An increasing number of parents are choosing to decline immunizations for their children. This study examined the association between the parental decision to decline pneumococcal conjugate (PCV7) vaccinations and the risk of hospitalization due to pneumococcal disease or lobar pneumonia in children.

Methods

We conducted a case–control study nested within a cohort of children enrolled in the Kaiser Permanente Colorado (KPCO) health plan between 2004 and 2009. Each child hospitalized with pneumococcal disease or lobar pneumonia (n = 106) was matched to 4 randomly selected controls (n = 401). Cases were matched to controls by age, sex, high-risk status, calendar time, and length of enrollment in KPCO. Disease status and

parental vaccination decisions were validated with medical record review. Cases and controls were classified as vaccine decliners or vaccine acceptors.
Results
Among 106 cases, there were 6 (6%) PCV7 vaccine decliners; among 401 controls, there were 4 (1%) vaccine decliners. Children of parents who declined PCV7 immunization were 6.5 times (OR = 6.5; 95% CI = 1.7, 24.5) more likely to be hospitalized for invasive pneumococcal disease or lobar pneumonia than vaccinated children.
Conclusions
Parental decline of pneumococcal vaccination apparently increases the risk for hospitalization due to pneumococcal disease or lobar pneumonia in children. Providers can use this information when helping parents weigh the benefits and risks of immunizing their children.