Vaccines: The Week in Review
13 June 2011
Center for Vaccine Ethics & Policy (CVEP)
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 1,600 items.

Comments and suggestions should be directed to
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The GAVI Alliance pledging conference – Saving children's lives – is underway in London with coverage via twitter at #4mlives and @GAVIAlliance, and at GAVI's website: http://www.gavialliance.org/about/pledging_conference/index.php. GAVI has provided a summary of publications and documents related to the pledging conference at:
http://www.gavialliance.org/media_centre/publications/pledging_conference.php
Initial pledge activity has included "a ten-fold increase in Australia's commitment to GAVI, which will reach AUS$200 million between 2011 and 2013." Anglo-American PLC pledged US$1 million per year for three years and Absolute Return for Kids (ARK) pledged £1 million "to purchase vaccines to combat deadly rotavirus in Zambia."
http://www.gavialliance.org/media_centre/features/pledging_conference_reception.php

GAVI announced that it achieved commitments from two emerging market vaccine manufacturers to lower prices for pentavalent vaccine, and that developed country manufacturers have also offered price reductions on rotavirus and HPV vaccines. GAVI said that Serum Institute and Panacea Biotec have committed to price reductions on their pentavalent vaccines. Serum announced it "would continue to provide the most competitive pricing and encouraged other manufacturers to follow its lead." Panacea Biotec committed to lower its prices by up to 15%. GSK

offered to provide the rotavirus vaccine to GAVI at $2.50 per dose, or $5 to fully immunise a child, in response to a current tender administered by UNICEF, representing a 67% reduction in the current lowest available public price. GAVI said Merck has also stated that it will offer its rotavirus vaccine to UNICEF at discounted prices. The GAVI announcement also noted that Merck announced it will offer GAVI the HPV vaccine at a reduced price of US$ 5 per dose, a 67% reduction in the current lowest public price. The price offer is the first of its kind for developing countries. GAVI also noted that Crucell and Sanofi Pasteur will extend GAVI prices on their pentavalent vaccines to the 16 countries currently expected to graduate from GAVI support. Sanofi Pasteur confirmed that this would also apply to its yellow fever vaccine and the rotavirus vaccine being developed by its subsidiary Shantha. The announcements build on similar commitments made to graduating countries by Pfizer and GSK to provide the same access to pneumococcal conjugate vaccines through the Advance Market Commitment, GAVI said.

Helen Evans, GAVI interim CEO, said, "These are promising offers that demonstrate industry commitment to work towards affordable and sustainable prices for life-saving vaccines in developing countries. We congratulate all manufacturers who have responded to our call in the lead up to the pledging conference. We will continue to drive for sustainable prices, while ensuring procurement of innovative, appropriate, quality vaccines to meet GAVI country needs."
http://www.gavialliance.org/media_centre/press_releases/vaccine_prices.php

*[Editor's Note: **The Lancet** and **Health Affairs released special compendium issues focused on the "decade of vaccines** and timed to the GAVI pledging conference. We treat them in this section of the week in review and provide abstracts for the articles where available. We note that many of the themes in these special issues were also treated in our May symposium **Global Vaccines 202X: Access, Equity, Ethics** with videos of keynotes and panels available at: http://globalvaccines202xsymposium.wordpress.com/final-agenda/]*

The Lancet Series: New Decade of Vaccines
Launched in London on June 9, 2011

Vaccines are undoubtedly one of the best investments in health. Immunisation programmes have contributed enormously to reducing the burden of infectious diseases, and are responsible for much of the falling rates of morbidity and mortality worldwide. In December 2010, global health leaders committed to making the next 10 years the Decade of Vaccines - to ensure discovery, development, and delivery of lifesaving vaccines globally, especially to the poorest countries. This Series looks at every aspect of this medical technology, including the developments expected over the coming decade and what we can expect from translation of the latest vaccine science. Improving vaccine coverage and financing of both existing and newer vaccines together with how we communicate the benefits of vaccines and ensure public trust and confidence, are also examined.

Series Comments

The vaccine paradox
Richard Horton, Pamela Das
Full Text | PDF

A call to action for the new decade of vaccines
E Richard Moxon, Pamela Das, Brian Greenwood, David L Heymann, Richard Horton, Orin S Levine, Stanley Plotkin, Gus Nossal
Full Text | PDF
Will the Decade of Vaccines mean business as usual?
Helen Rees, Shabir A Madhi
Full Text | PDF
Is immunisation child protection?
Adam Finn, Julian Savulescu
Full Text | PDF
Public–private collaboration in vaccine research
Juhani Eskola, Terhi Kilpi
Full Text | PDF
The last mile in global poliomyelitis eradication
Zulfiqar A Bhutta
Full Text | PDF
Series Papers
The next decade of vaccines: societal and scientific challenges
E Richard Moxon, Claire-Anne Siegrist
Full Text | PDF
Summary
Vaccines against microbial diseases have improved the health of millions of people. In the next decade and beyond, many conceptual and technological scientific advances offer extraordinary opportunities to expand the portfolio of immunisations against viral and bacterial diseases and to pioneer the first vaccines against human parasitic and fungal diseases. Scientists in the public and private sectors are motivated as never before to bring about these innovations in immunisation. Many societal factors threaten to compromise realisation of the public health gains that immunisation can achieve in the next decade and beyond—understanding these factors is imperative. Vaccines are typically given to healthy individuals and safety issues loom high on the list of public concerns. The public needs to regain confidence in immunisation and trust the organisations responsible for the research, development, and implementation of vaccines. In the past, by use of a judicious amalgam of knowledge and empiricism, successful vaccines were largely developed by microbiologists who identified antigens that induced immune responses to conserved pathogen components. In the future, vaccines need to be developed against deadly diseases for which this strategy is often not feasible because of the extensive antigenic variability of relevant pathogens. High microbial diversity means that immunity after natural infection is often ineffective for prevention of disease on subsequent exposure, for example in HIV infection and malaria. Additionally, vaccines need to be generated to protect the people who are most vulnerable because of age or underlying diseases. Thus, in the future, a much deeper understanding of the immunological challenges—including the diversifying role of host genetics and environmental factors, leading perhaps to more personalised approaches—will be the touchstone for rational design and development of adjuvants that result in novel safe and effective vaccines.
Vaccine discovery and translation of new vaccine technology
Rino Rappuoli, Steven Black, Paul Henri Lambert
Full Text | PDF

Summary
An unprecedented increase in new vaccine development has occurred over the past three decades. This activity has resulted in vaccines that protect against an increased range of vaccine-preventable diseases, vaccines that reduce the number of required injections, and vaccines with improved safety and purity. New methods of discovery, such as reverse vaccinology, structural biology, and systems biology, promise new vaccines for different diseases and efficient development pathways for these vaccines. We expect development of vaccines not only for infectious diseases in children but also for healthy adults, pregnant women, and elderly people, and for new indications such as autoimmune disease and cancer. We have witnessed a concomitant development of new technology for assessment of vaccine safety to rapidly identify potential safety issues. Success of these new approaches will depend on effective implementation of vaccination programmes, creative thinking on the part of manufacturers and regulators as to how best to ensure that safe and effective vaccines are available in a timely manner, and improvement of public awareness about the benefits and risks of new vaccines in a way that encourages confidence in vaccines.

Vaccine production, distribution, access, and uptake

Jon Smith, Marc Lipsitch, Jeffrey W Almond

Full Text | PDF

Summary
For human vaccines to be available on a global scale, complex production methods, meticulous quality control, and reliable distribution channels are needed to ensure that the products are potent and effective at the point of use. The technologies used to manufacture different types of vaccines can strongly affect vaccine cost, ease of industrial scale-up, stability, and, ultimately, worldwide availability. The complexity of manufacturing is compounded by the need for different formulations in different countries and age-groups. Reliable vaccine production in appropriate quantities and at affordable prices is the cornerstone of developing global vaccination policies. However, to ensure optimum access and uptake, strong partnerships are needed between private manufacturers, regulatory authorities, and national and international public health services. For vaccines whose supply is insufficient to meet demand, prioritisation of target groups can increase the effect of these vaccines. In this report, we draw from our experience of vaccine development and focus on influenza vaccines as an example to consider production, distribution, access, and other factors that affect vaccine uptake and population-level effectiveness.

The future of immunisation policy, implementation, and financing

Orin S Levine, David E Bloom, Thomas Cherian, Ciro de Quadros, Samba Sow, John Wecker, Philippe Duclos, Brian Greenwood

Full Text | PDF

Summary
Vaccines have already saved many lives and they have the potential to save many more as increasingly elaborate technologies deliver new and effective vaccines against both infectious diseases—for which there are currently no effective licensed vaccines—such as malaria, tuberculosis, and HIV and non-infectious diseases such as hypertension and diabetes. However, these new vaccines are likely to be more complex and expensive than those that have been used so effectively in the past, and they could have a multifaceted effect on the disease that they are designed to prevent, as has already been seen with pneumococcal conjugate vaccines. Deciding which new vaccines a

country should invest in requires not only sound advice from international organisations such as WHO but also a well informed national immunisation advisory committee with access to appropriate data for local disease burden. Introduction of vaccines might need modification of immunisation schedules and delivery procedures. Novel methods are needed to finance the increasing number of new vaccines that have the potential to save lives in countries that are too poor to afford them. Here, we discuss some options.

Addressing the vaccine confidence gap

Heidi J Larson, Louis Z Cooper, Juhani Eskola, Samuel L Katz, Scott Ratzan

Full Text | PDF

Summary

Vaccines—often lauded as one of the greatest public health interventions—are losing public confidence. Some vaccine experts have referred to this decline in confidence as a crisis. We discuss some of the characteristics of the changing global environment that are contributing to increased public questioning of vaccines, and outline some of the specific determinants of public trust. Public decision making related to vaccine acceptance is neither driven by scientific nor economic evidence alone, but is also driven by a mix of psychological, sociocultural, and political factors, all of which need to be understood and taken into account by policy and other decision makers. Public trust in vaccines is highly variable and building trust depends on understanding perceptions of vaccines and vaccine risks, historical experiences, religious or political affiliations, and socioeconomic status. Although provision of accurate, scientifically based evidence on the risk—benefit ratios of vaccines is crucial, it is not enough to redress the gap between current levels of public confidence in vaccines and levels of trust needed to ensure adequate and sustained vaccine coverage. We call for more research not just on individual determinants of public trust, but on what mix of factors are most likely to sustain public trust. The vaccine community demands rigorous evidence on vaccine efficacy and safety and technical and operational feasibility when introducing a new vaccine, but has been negligent in demanding equally rigorous research to understand the psychological, social, and political factors that affect public trust in vaccines.

Related Articles published in *The Lancet*

Making new vaccines affordable: a comparison of financing processes used to develop and deploy new meningococcal and pneumococcal conjugate vaccines

James R Hargreaves, Brian Greenwood, Charles Clift, Akshay Goel, Anne Roemer-Mahler, Richard Smith, David L Heymann

Full Text | PDF

Summary

Mechanisms to increase access to health products are varied and controversial. Two innovative mechanisms have been used to accelerate the development of low-price supply lines for conjugate vaccines. The Meningitis Vaccine Project is a so-called push mechanism that facilitated technology transfer to an Indian company to establish capacity to manufacture a vaccine. The Advanced Market Commitment for pneumococcal vaccines is a so-called pull mechanism that guarantees companies a supplement paid in addition to the purchase price for vaccines for a specific period. We compare these approaches, identifying key dimensions of each and considering their potential for replication. We also discuss issues that the Global Alliance for Vaccines and Immunisation (GAVI) face now that these new vaccines are available. Progress towards GAVI's strategic aims is needed and funding is crucial. Approaches that decrease the

financial pressure on GAVI and greatly increase political and financial engagement by low-income countries should also be considered.

Bill Roedy
Priya Shetty
Full Text | PDF

Helen Rees on the quest for global equity
Pamela Das
Full Text | PDF

Health Affairs
June 2011; Volume 30, Issue 6

Strategies For The 'Decade Of Vaccines'

From The Editor-in-Chief

Vaccines, Children, And Fulfilling Human Potential
Susan Dentzer
Health Aff June 2011 30:1006; doi:10.1377/hlthaff.2011.0562
Extract

Entry Point

Slow Going For The Global Health Initiative
Nellie Bristol
Health Aff June 2011 30:1007-1009; doi:10.1377/hlthaff.2011.0460
Abstract
The program of US foreign assistance to advance health and health care in developing countries survived the 2011 budget battles, but it continues to face other challenges.

The Priceless Payoff

During The 'Decade Of Vaccines,' The Lives Of 6.4 Million Children Valued At $231 Billion Could Be Saved
Sachiko Ozawa, Meghan L. Stack, David M. Bishai, Andrew Mirelman, Ingrid K. Friberg, Louis Niessen, Damian G. Walker, and Orin S. Levine
Health Aff June 2011 30:1010-1020; doi:10.1377/hlthaff.2011.0381
Abstract
Governments constantly face the challenge of determining how much they should spend to prevent premature deaths and suffering in their populations. In this article we explore the benefits of expanding the delivery of life-saving vaccines in seventy-two low- and middle-income countries, which we estimate would prevent the deaths of 6.4 million children between 2011 and 2020. We present the economic benefits of vaccines by using a "value of statistical life" approach, which is based on individuals' perceptions regarding the trade-off between income and increased risk of mortality. Our analysis shows that the vaccine expansion described above corresponds to $231 billion (uncertainty range: $116–$614 billion) in the value of statistical lives saved. This analysis complements results from analyses based on other techniques and is the first of its kind for immunizations in the world's poorest countries. It highlights the major economic benefits made possible by improving vaccine coverage.

Estimated Economic Benefits During The 'Decade Of Vaccines' Include Treatment Savings, Gains In Labor Productivity
Meghan L. Stack, Sachiko Ozawa, David M. Bishai, Andrew Mirelman, Yvonne Tam, Louis Niessen, Damian G. Walker, and Orin S. Levine

Health Aff June 2011 30:1021-1028; doi:10.1377/hlthaff.2011.0382
Abstract
In 2010 the Bill & Melinda Gates Foundation announced a $10 billion commitment over the next ten years to increase access to childhood vaccines in the world's poorest countries. The effort was labeled the "Decade of Vaccines." This study estimates both the short- and long-term economic benefits from the introduction and increased use of six vaccines in seventy-two of the world's poorest countries from 2011 to 2020. Increased rates of vaccination against pneumococcal and Haemophilus influenzae type b pneumonia and meningitis, rotavirus, pertussis, measles, and malaria over the next ten years would save 6.4 million lives and avert 426 million cases of illness, $6.2 billion in treatment costs, and $145 billion in productivity losses. Monetary estimates based on this type of analysis can be used to determine the return on investment in immunization from both the international community and local governments, and they should be considered in policy making.

ANALYSIS & COMMENTARY: The Moral Case For The Routine Vaccination Of Children In Developed And Developing Countries

Angus Dawson
Health Aff June 2011 30:1029-1033; doi:10.1377/hlthaff.2011.0301
Abstract
In developed countries some parents have decided not to provide routine vaccinations for their children, while in many developing countries there are inadequate rates of vaccination for various reasons. The consequences for children, and members of the community in which they live, can be significant and even tragic. Although some parents may worry that vaccines will harm their child, there is a broader moral case for vaccination that parents and policy makers should consider. This case has four components: benefits and harms, best interests, community benefits, and justice. This moral case should be central to deliberations about vaccination by parents and policy makers.

Challenges For Science & Business

ANALYSIS & COMMENTARY: A Global Road Map Is Needed For Vaccine Research, Development, And Deployment

Adel Mahmoud
Health Aff June 2011 30:1034-1041; doi:10.1377/hlthaff.2011.0391
Abstract
The world is witnessing a tremendous interest in the discovery, development, and use of vaccines as an important contributor to disease prevention and control. However, current global vaccine efforts are not coordinated, and they face many challenges. One is scientific: Most vaccines in use today are based on the scientific knowledge of past centuries. To usher in a new era, there is an urgent need to draw upon new science and scientific disciplines and recruit a new generation of talent trained in the basic and computational sciences of the twenty-first century. In addition, a global road map is urgently needed for making the scientific discoveries necessary to produce new vaccines; developing these into effective vaccines; and drawing up priorities and undertaking the necessary planning for rolling out these vaccines in developing countries. The developing countries themselves must play the lead role in these activities and contribute their own resources as well. This article aims to initiate a wide-ranging debate and discussion that will ultimately result in some agreement on the future of vaccine development and deployment.

ANALYSIS & COMMENTARY: Vaccines As A Global Imperative—A Business Perspective

Jean Stéphenne

Health Aff June 2011 30:1042-1048; doi:10.1377/hlthaff.2011.0338

Abstract

During the past thirty years, vaccines have experienced a renaissance. Advances in science, business, and distribution have transformed the field to the point where vaccines are recognized as a "best buy" in global health, a driver of pharmaceutical industry growth, and a key instrument of international development. With many new vaccines available and others on the horizon, the global community will need to explore new ways of ensuring access to vaccines in developing nations. So-called tiered pricing, which makes vaccines available at different prices for countries at different levels of economic development; innovative financing mechanisms such as advance market commitments or offers of long-term and high-volume contracts to vaccine producers; and technology transfers such as sharing intellectual property and production techniques among companies and countries can all play a part in bringing new life-saving vaccines for pneumonia, rotavirus, malaria, and other diseases to developing countries.

Fighting Critical Diseases

Eliminating Epidemic Group A Meningococcal Meningitis In Africa Through A New Vaccine

F. Marc LaForce and Jean-Marie Okwo-Bele

Health Aff June 2011 30:1049-1057; doi:10.1377/hlthaff.2011.0328

Abstract

A new affordable vaccine against Group A meningococcus, the most common cause of large and often fatal African epidemics of meningitis, was introduced in Burkina Faso, Mali, and Niger in 2010. Widespread use of the vaccine throughout much of Africa may prevent more than a million cases of meningitis over the next decade. The new vaccine is expected to be cost-saving when compared to current expenditures on these epidemics; for example, an analysis shows that introducing it in seven highly endemic countries could save $350 million or more over a decade. International donors have already committed funds to support the new vaccine's introduction in Burkina Faso, Niger, and Mali, but an estimated US$400 million is needed to fund mass immunization campaigns in people ages 1–29 over six years in all twenty-five countries of the African meningitis belt. The vaccine's low cost—less than fifty cents per dose—makes it possible for the affected countries themselves to purchase vaccines for future birth cohorts.

ANALYSIS & COMMENTARY: Product Development Partnerships Hit Their Stride: Lessons From Developing A Meningitis Vaccine For Africa

David M. Bishai, Claire Champion, Michael E. Steele, and Lindsay Thompson

Health Aff June 2011 30:1058-1064; doi:10.1377/hlthaff.2011.0295

Abstract

The Meningitis Vaccine Project, a so-called product development partnership, developed a new vaccine against bacterial meningitis, an inflammation of brain tissues that causes an estimated 10,000 deaths among African children and young people each year. The vaccine—known as MenAfriVac and specifically targeted for use in low-income countries in Africa—was designed to be made available to governments at a price of fifty cents per dose. The Meningitis Vaccine Project is an example of how product development partnerships have reinvigorated research on vaccines for neglected diseases. These partnerships disperse the multiple tasks of product development across a network of

partners that are best suited for each task. The vaccine was rapidly embraced by African health officials, and in its first few weeks on the market, in late 2010, more than nineteen million people in Burkina Faso, Mali, and Niger were vaccinated.

Producing A Successful Malaria Vaccine: Innovation In The Lab And Beyond

Christian Loucq, Ashley Birkett, David Poland, Carla Botting, Julia Nunes, and Sally Ethelston

Health Aff June 2011 30:1065-1072; doi:10.1377/hlthaff.2011.0356

Abstract

With approximately 225 million new cases and 800,000 deaths annually, malaria exacts a tremendous toll—mostly on African children under the age of five. Late-stage trials of an advanced malaria vaccine candidate—which, if approved, would become the world's first malaria vaccine—are under way, and it may be ready for use by 2015. This article recounts the pivotal roles in that achievement played by collaborations of nonprofit organizations, pharmaceutical companies, private and public donors, and countries whose citizens would benefit most directly from a vaccine. Just as it takes a village to raise a child, it has taken a huge number of stakeholders around the world to reach this point. Developing even more effective vaccines for malaria and other diseases will require continued hard work and creative thinking from scientists, regulators, and policy makers.

The Challenges Of Developing New Tuberculosis Vaccines

Lewellys F. Barker, Annmarie E. Leadman, and Bartholt Clagett

Health Aff June 2011 30:1073-1079; doi:10.1377/hlthaff.2011.0303

Abstract

The World Health Organization estimates that tuberculosis is causing nearly two million deaths annually, mostly in developing countries. Widespread administration of the current tuberculosis vaccine to newborns is not a reliable route for preventing the disease in adults, the population that drives the epidemic. Several new vaccine candidates are in development, and a few have entered clinical trials. However, the field faces formidable scientific and policy challenges. A collaborative approach to solving scientific, policy, and resource obstacles—as well as new partnerships among emerging economies and vaccine development organizations—will be critical to developing a new tuberculosis vaccine that could achieve its public health potential to save lives and reduce the burden of disease.

A Handful Of 'Antipoverty' Vaccines Exist For Neglected Diseases, But The World's Poorest Billion People Need More

Peter Hotez

Health Aff June 2011 30:1080-1087; doi:10.1377/hlthaff.2011.0317

Abstract

So-called neglected tropical diseases are the most common infections of the world's poor. Almost all of the "bottom billion"—the 1.4 billion people who live below the poverty level defined by the World Bank—suffer from one or more neglected diseases including hookworm infection, sleeping sickness, or Chagas disease. These diseases are actually a cause of poverty because of their adverse effects on child growth and development and worker productivity. Vaccines to combat such diseases have come to be known as "antipoverty vaccines." Unfortunately, the recent surge in the development and delivery of vaccines to combat the major childhood killers—such as pneumococcal pneumonia and measles—has bypassed neglected diseases. Nevertheless, some vaccines for these neglected diseases are now entering the clinical pipeline. In this

article I describe how some antipoverty vaccine development is proceeding and offer recommendations for stimulating further development such as through pooled funding for innovation, developing-country manufacturers, and public-private partnerships for product development.

Providing Vaccines Against Human Papillomavirus To Adolescent Girls In The Americas: Battling Cervical Cancer, Improving Overall Health

Silvana Luciani, Elisa Prieto-Lara, and Andrea Vicari

Health Aff June 2011 30:1089-1095; doi:10.1377/hlthaff.2011.0315

Abstract

Vaccines against the human papillomavirus (HPV)—the primary cause of cervical cancer—target adolescent girls, many of whom have limited contact with health services. Countries in the Americas are beginning to use HPV vaccines to increase the impact of cervical cancer programs and as an entry point to broader health services for girls. This strategy opens new opportunities to improve lifelong health habits; encourage regular cervical cancer screening and treatment, when necessary; and offer associated services such as reproductive health and nutrition guidance. Some of the early experiences with this strategy illustrate challenges and opportunities that may arise with other new vaccines.

People & Places

Health Aff June 2011 30:1088; doi:10.1377/hlthaff.2011.0513

Abstract

Peter Hotez and his Sabin Vaccine Institute seek to end preventable illness among the world's impoverished people.

Strengthening Programs

India's Vaccine Deficit: Why More Than Half Of Indian Children Are Not Fully Immunized, And What Can—And Should—Be Done

Ramanan Laxminarayan and Nirmal Kumar Ganguly

Health Aff June 2011 30:1096-1103; doi:10.1377/hlthaff.2011.0405

Abstract

Although India is a leading producer and exporter of vaccines, the country is home to one-third of the world's unimmunized children. Fewer than 44 percent of India's young children receive the full schedule of immunizations. India's vaccine deficit has several causes: little investment by the government; a focus on polio eradication at the expense of other immunizations; and low demand as a consequence of a poorly educated population and the presence of anti-vaccine advocates. In this article we describe India's vaccine deficit and recommend that the government move quickly to increase spending on, and otherwise strengthen, national immunization programs.

ANALYSIS & COMMENTARY: Challenges To Building Capacity For Evidence-Based New Vaccine Policy In Developing Countries

Jon Kim Andrus, Barbara Jauregui, Lúcia Helena De Oliveira, and Cuauhtémoc Ruiz Matus

Health Aff June 2011 30:1104-1112; doi:10.1377/hlthaff.2011.0361

Abstract

There are many challenges to ensuring that people in developing countries have equitable access to new vaccines. Two of the most important are having the capacity to make evidence-based new vaccine policy decisions in developing countries, and then when appropriate actually distributing those new vaccines to those who will most benefit from them. Based on our review of the Pan American Health Organization's ProVac

Initiative in the Americas, we found that when national governments in developing countries develop the expertise to make the best technical decisions about immunization programs; take responsibility for helping to pay for and distribute vaccines; and are supported by strong partnerships with international organizations, they succeed in saving more lives more quickly.

ANALYSIS & COMMENTARY: Vaccine Supply Chains Need To Be Better Funded And Strengthened, Or Lives Will Be At Risk

Judith R. Kaufmann, Roger Miller, and James Cheyne

Health Aff June 2011 30:1113-1121; doi:10.1377/hlthaff.2011.0368

Abstract

In the next decade, at least twelve additional vaccines that target such diseases as typhoid, malaria, and dengue will become available to lower- and middle-income countries. These vaccines must travel along what are called supply chains, which include all personnel, systems, equipment, and activities involved in ensuring that vaccines are effectively delivered from the point of production to the people who need them. But for various reasons, supply chains are already strained in many developing countries, and the potential inability to distribute new vaccines will place lives at risk. Among the many steps needed to strengthen the global vaccine supply chain, we suggest that the international community pursue improved coordination between organizations that donate and ship vaccines and the host-country officials who receive and distribute the vaccines, as well as better training for supply-chain managers.

Financing

An Analysis Of How The GAVI Alliance And Low- And Middle-Income Countries Can Share Costs Of New Vaccines

Helen Saxenian, Santiago Cornejo, Kira Thorien, Robert Hecht, and Nina Schwalbe

Health Aff June 2011 30:1122-1133; doi:10.1377/hlthaff.2011.0332

Abstract

Immunization is one of the "best buys" in global health. However, for the poorest countries, even modest expenditures may be out of reach. The GAVI Alliance is a public-private partnership created to help the poorest countries introduce new vaccines. Since 2008 GAVI has required that countries cover a share of the cost of vaccines introduced with GAVI support. To determine how much countries can contribute to the cost of vaccines—without displacing spending on other essential programs—we analyzed their fiscal capacity to contribute to the purchase of vaccines over the coming decade. For low-income countries, external financing will be required to purchase vaccines supported by GAVI, so co-financing needs to be modest. Relatively better-off "intermediate" countries could support initially modest but gradually increasing co-financing levels. The countries soon to graduate from GAVI can generally afford to follow a rapid path to self-sufficiency. Co-financing for these countries needs to ramp up so that national budgets fully cover the costs of the new generation of vaccines once GAVI support ends.

Creating Sustainable Financing And Support For Immunization Programs In Fifteen Developing Countries

Michael McQuestion, Devendra Gnawali, Clifford Kamara, Helene Mambu-Ma-Disu, Jonas Mbwangue, and Ciro de Quadros

Health Aff June 2011 30:1134-1140; doi:10.1377/hlthaff.2011.0265

Abstract

Immunization programs are important tools for reducing child mortality, and they need to be in place for each new generation. However, most national immunization programs

in developing countries are financially and organizationally weak, in part because they depend heavily on funding from foreign sources. Through its Sustainable Immunization Financing Program, launched in 2007, the Sabin Vaccine Institute is working with fifteen African and Asian countries to establish stable internal funding for their immunization programs. The Sabin program advocates strengthening immunization programs through budget reforms, decentralization, and legislation. Six of the fifteen countries have increased their national immunization budgets, and nine are preparing legislation to finance immunization sustainably. Lessons from this work with immunization programs may be applicable in other countries as well as to other health programs.

Issues For The United States

The Benefits To All Of Ensuring Equal And Timely Access To Influenza Vaccines In Poor Communities

Bruce Y. Lee, Shawn T. Brown, Rachel R. Bailey, Richard K. Zimmerman, Margaret A. Potter, Sarah M. McGlone, Philip C. Cooley, John J. Grefenstette, Shanta M. Zimmer, William D. Wheaton, Sandra Crouse Quinn, Ronald E. Voorhees, and Donald S. Burke
Health Aff June 2011 30:1141-1150; doi:10.1377/hlthaff.2010.0778

Abstract

When influenza vaccines are in short supply, allocating vaccines equitably among different jurisdictions can be challenging. But justice is not the only reason to ensure that poorer counties have the same access to influenza vaccines as do wealthier ones. Using a detailed computer simulation model of the Washington, D.C., metropolitan region, we found that limiting or delaying vaccination of residents of poorer counties could raise the total number of influenza infections and the number of new infections per day at the peak of an epidemic throughout the region—even in the wealthier counties that had received more timely and abundant vaccine access. Among other underlying reasons, poorer counties tend to have high-density populations and more children and other higher-risk people per household, resulting in more interactions and both increased transmission of influenza and greater risk for worse influenza outcomes. Thus, policy makers across the country, in poor and wealthy areas alike, have an incentive to ensure that poorer residents have equal access to vaccines.

Confidence About Vaccines In The United States: Understanding Parents' Perceptions

Allison Kennedy, Katherine LaVail, Glen Nowak, Michelle Basket, and Sarah Landry
Health Aff June 2011 30:1151-1159; doi:10.1377/hlthaff.2011.0396

Abstract

The United States has made tremendous progress in using vaccines to prevent serious, often infectious, diseases. But concerns about such issues as vaccines' safety and the increasing complexity of immunization schedules have fostered doubts about the necessity of vaccinations. We investigated parents' confidence in childhood vaccines by reviewing recent survey data. We found that most parents—even those whose children receive all of the recommended vaccines—have questions, concerns, or misperceptions about them. We suggest ways to give parents the information they need and to keep the US national vaccination program a success.

The 2011 United Nations High Level Meeting on AIDS, held in New York, "launched a Global Plan that will make significant strides towards eliminating

new HIV infections among children by 2015 and keeping their mothers alive." Michel Sidibé. Executive Director of UNAIDS, said, "We believe that by 2015 children everywhere can be born free of HIV and that their mothers can remain healthy. This new global plan is realistic, it is achievable and it is driven by the most affected countries." The United States President's Emergency Plan for AIDS Relief (PEPFAR) announced an additional US$75 million to preventing mother-to-child transmission of HIV (PMTCT) efforts. This funding will be on top of the approximately US$300 million that PEPFAR already provides annually for PMTCT. The Bill & Melinda Gates Foundation pledged US$40 million, Chevron committed to US$20 million and Johnson & Johnson pledged US$15 million.
http://www.unicef.org/media/media_58834.html

The Sabin Vaccine Institute, Baylor College of Medicine, and Texas Children's Hospital today announced an agreement "to move Sabin's vaccine development program to Texas Children's and BCM as part of the recruitment of world renowned neglected diseases expert Dr. Peter Hotez." The action includes "establishment of the first national school of tropical medicine in the United States at BCM." Dr. Hotez will serve as the founding dean and "the entire Sabin Vaccine Institute vaccine development program will relocate to Texas Children's and BCM, while the Sabin Vaccine Institute's advocacy and education programs will remain at the institute's headquarters in Washington, D.C." Dr. Hotez will continue to serve as president. The institutions noted that the collaborative program "represents a significant expansion of efforts to develop and test vaccines for a range of diseases affecting low-income populations in the United States and worldwide." Representatives of BCM and Texas Children's will be joining the Board of the Sabin Vaccine Institute.
http://sabin.org/news-resources/releases/2011/06/08/bcm-texas-children%E2%80%99s-announce-recruitment-dr-peter-hotez-and-team

The Foundation for Vaccine Research was launched by "fourteen leading scientists and advocacy experts in vaccines and infectious diseases...to advance and accelerate vaccine research and development against infectious diseases." The new foundation will be headquartered in Washington, DC. With the mission to "raise global awareness of the need for increased, long-term, flexible funding for vaccine research against HIV/AIDS, tuberculosis, malaria, and other infectious diseases, including neglected tropical diseases, as well as universal vaccines for influenza and a vaccine to avert pandemic influenza."

The Foundation's activities "will focus on persuading opinion leaders, policymakers inside and outside government, and other decision makers of the benefits and safety of vaccines and the merits of increased investment in vaccine research. The Foundation will seek to mobilize resources internationally and on a large scale to finance vaccine research globally, with a special focus on securing new assets and the development of innovative financing mechanisms. The Foundation will also conduct televised fundraising events and benefit concerts, with 100 percent of publicly donated funds going directly to

teams of scientists and their institutions. The Foundation will also engage with the anti-vaccine movement to persuade them of the benefits of vaccines."

The leadership of the new Foundation includes:

- Galit Alter, PhD, Assistant Professor in Medicine, Ragon Institute of Massachusetts General Hospital, Massachusetts Institute of Technology, and Harvard University; Director, Ragon Institute Imaging Core; Director, Harvard Center for AIDS Research (CFAR) Immunology Core, Boston, USA
- Patrice Debre, MD, PhD, Professor of Immunology, University of Pierre and Marie Curie, Pitie-Salpetriere Hospital, Paris, France
- Jose M. Gatell MD, PhD, Professor of Medicine, Senior Consultant & Head, Infectious Diseases & AIDS Units, Clinical Institute of Medicine & Dermatology, Founder and Co-Director of the Catalan HIV Vaccine Project (HIVACAT), Hospital Clinic de Barcelona, University of Barcelona, Spain
- Peter Hale, Founder, The It's Time Campaign, Washington, DC, USA
- Sylvie Le Gall, PhD, Assistant Professor of Medicine, Ragon Institute of Massachusetts General Hospital, Massachusetts Institute of Technology, and Harvard University; Director, Ragon Institute Education and Training Platform, Boston, USA
- Ronald C. Desrosiers, PhD, Professor of Microbiology and Molecular Genetics, Harvard Medical School; Director, New England Primate Research Center, Boston, USA
- Willem Hanekom, Professor of Immunology; Co-Director, South African TB Vaccine Initiative (SATVI), Institute of Infectious Disease and Molecular Medicine, University of Cape Town, South Africa
- Professor Gregory Hussey, Deputy Dean: Research, Faculty of Health Sciences; Founder and Director, Vaccines for Africa, University of Cape Town, South Africa
- Paul A. Offit, MD, Chief, Division of Infectious Diseases, Maurice R. Hilleman Professor of Vaccinology, Children's Hospital of Philadelphia, Philadelphia, USA
- Gregory A. Poland, MD, MACP, FIDSA, Mary Lowell Leary Professor of Medicine, Infectious Diseases, Molecular Pharmacology and Experimental Therapeutics; Director, Mayo Vaccine Research Group; Director, Translational Immunovirology and Biodefense; Editor-in-Chief, VACCINE; Mayo Clinic, Rochester, MN, USA
- Mauro Schechter, MD, PhD, Professor of Infectious Diseases, Head, Projeto Praca Onze, Hospital Escola Sao Francisco de Assis, Federal University of Rio de Janeiro, Brazil Guillaume Stewart-Jones, PhD, Principal Investigator, Weatherall Institute of Molecular Medicine, University of Oxford, John Radcliffe Hospital, Oxford, UK
- Professor Simon Wain-Hobson, PhD, Chief, Molecular Retrovirology, Institut Pasteur, Paris, France
- Robin A. Weiss, PhD, Professor of Viral Oncology, Division of Infection and Immunity, University College London, UK

The Foundation said it will incorporate the "It's Time Campaign," an advocacy and campaign organization based in Washington, which will become a program of the new Foundation and its main fundraising arm. The Foundation said it will also finance vaccine research directly. Funding sources will include the It's Time Campaign's internet-based campaign, televised fundraising events, benefit concerts, and other initiatives undertaken by the Foundation.

http://www.prnewswire.com/news-releases/scientists-launch-vaccine-research-foundation-123459359.html

The **MMWR Weekly for June 10, 2011** / Vol. 60 / No. 22 includes:
- Interim Results: State-Specific Influenza Vaccination Coverage --- United States, August 2010--February 2011
http://www.cdc.gov/mmwr/pdf/wk/mm6022.pdf

The **Weekly Epidemiological Record (WER) for 10 June 2011**, vol. 86, 24 (pp 241–256) includes: 241 Vaccines against tick-borne encephalitis: WHO position paper
http://www.who.int/entity/wer/2011/wer8624.pdf

Twitter Watch
A selection of items of interest this week from a variety of twitter feeds. This capture is highly selective and by no means intended to be exhaustive.

GAVIAlliance GAVI Alliance
GAVI's Pledging Conference gets off to a flying start http://ht.ly/5g1c7 #4mlives #vaccines

GAVIAlliance GAVI Alliance
"Melinda and I very committed to vaccines. It is as much fun as writing code" @billgates #4mlives

PATHtweets PATH
Tackling chronic disease—our work on cervical cancer will be spotlighted at Global Health Council conference. http://ow.ly/5fgVE #ghc2011

sabinvaccine Sabin Vaccine Inst.
In advance of @GAVIAlliance pledging mtg Dr Ciro de Quadros offers support with "A Lesson from Smallpox Eradication": http://bit.ly/iYOMbL

ECDevelopment EC Development
by GAVIAlliance
Piebalgs will announce an extra €10 million to provide life-saving vaccines @GAVIAlliance in London #4mlives http://bit.ly/9JMs9e

AIDSvaccine IAVI
@IAVISeth on strengthening continuum from R&D to eradication to deliver on #vaccines' promise http://bit.ly/kWQ12H #globalhealth #AIDS2011

TheLancet The Lancet
New Decade of Vaccines Series launched in London today. Read the papers here bit.ly/jj239B

PublicHealth APHA

Though child vaccination rates are high, parents need more education about vaccines, says new study: http://goo.gl/8MjxO

GAVIAlliance GAVI Alliance
#FACT: Every 20 seconds, a child dies of a vaccine-preventable disease. #infographic: http://on.fb.me/klwV1i #health #GAVI

USAID USAID
"The most transformative new breakthroughs we have at our disposal are vaccines," says USAID's @RajShah #FrontLines http://1.usa.gov/m5nIn7

MalariaVaccine PATH MVI
GSK, J&J to trial next-generation malaria vaccine | @Reuters reut.rs/mNMyFe #malaria #vaccine

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

Annals of Internal Medicine
June 7, 2011; 154 (11)
http://www.annals.org/content/current

National Clinical Guideline Centre Cost-Effectiveness Assessment for the National Institute for Health and Clinical Excellence

David Wonderling, Laura Sawyer, Elisabetta Fenu, Kate Lovibond, and Philippe Laramée
Ann Intern Med June 7, 2011 154:758-765;

Abstract
The National Clinical Guideline Centre (NCGC) develops evidence-based clinical guidelines on behalf of the National Institute for Health and Clinical Excellence (NICE) in the United Kingdom. The U.K. Department of Health has commissioned NICE to make recommendations on the basis of both clinical effectiveness and cost-effectiveness. This article describes how cost-effectiveness is evaluated and accounted for in NCGC guidelines. Six recent case studies are presented, in which consideration of cost-effectiveness has informed recommendations in various ways for clinical guidelines on alcohol use disorders, chronic obstructive pulmonary disease, glaucoma, lower urinary tract symptoms, non–ST-segment elevation myocardial infarction and unstable angina, and venous thromboembolism prophylaxis. Some of the challenges faced in trying to

account for cost-effectiveness in clinical guidelines are outlined, as well as some of the difficulties in adapting cost-effectiveness guidelines for other settings.

British Medical Bulletin
Volume 98 Issue 1 June 2011
http://bmb.oxfordjournals.org/content/current
[No relevant content]

British Medical Journal
11 June 2011 Volume 342, Issue 7810
http://www.bmj.com/content/current
[No relevant content]

Clinical Infectious Diseases
Volume 53 Issue 1 July 1, 2011
http://www.journals.uchicago.edu/toc/cid/current
ARTICLES AND COMMENTARIES
Sucheta J. Doshi, Hardeep S. Sandhu, Linda V. Venczel, Karen J. Hymbaugh, Jagadish M. Deshpande, Mark A. Pallansch, Sunil Bahl, Jay D. Wenger, and Steve L. Cochi
Poliomyelitis-Related Case-Fatality Ratio in India, 2002–2006
Clin Infect Dis. (2011) 53(1): 13-19 doi:10.1093/cid/cir332
Abstract
Background. On the basis of studies from developed countries, the case-fatality ratio (CFR) of poliomyelitis generally ranges from 2%–5% among children <5 years of age to 10%–30% among adults. However, little information is available for poliomyelitis-related CFR in developing countries. We conducted a study to determine the CFR in India, 1 of the 4 remaining countries with endemic wild poliovirus (WPV) circulation, during outbreaks of WPV infection during 2002 and 2006 and during the inter-epidemic years of 2003–2005.
Methods. We conducted a descriptive analysis with use of data from the acute flaccid paralysis surveillance system in India. Variables analyzed included age, caregiver-reported vaccination status, date of paralysis onset, laboratory results, final case classification, and survival outcome. Our analysis also accounted for surveillance changes that occurred in 2005, impacting case definitions and final classification.
Results. In 2006, 45 deaths occurred among 676 WPV cases in India, yielding a CFR of 6.7%. By comparison, in 2002, there were 66 deaths among 1600 reported WPV cases (CFR, 4.2%) and during 2002–2005, CFR was 1.5%–5.2%. All 45 deaths were among 644 (95%) WPV cases in children aged <5 years (CFR, 7.0%). Among those who died, 33 (73%) were children aged <2 years (CFR, 7.1%).
Conclusions. The CFR among children aged <2 years in India is high compared with previously published Cars for young children, in part because of improved case finding through enhanced surveillance techniques. Fatal cases emphasize the lethal nature of the disease and the importance of achieving polio eradication in India.

Cost Effectiveness and Resource Allocation
(accessed 12 June 2011)
http://www.resource-allocation.com/
[No relevant content]

Emerging Infectious Diseases
Volume 17, Number 6–June 2011
http://www.cdc.gov/ncidod/EID/index.htm
[Reviewed earlier]

Health Affairs
June 2011; Volume 30, Issue 6
Strategies For The 'Decade Of Vaccines'
http://content.healthaffairs.org/content/current
[Please see feature treatment above]

Health Economics, Policy and Law
Volume 6 - Issue 02
http://journals.cambridge.org/action/displayIssue?jid=HEP&tab=currentissue
[Reviewed earlier; No relevant content]

Human Vaccines
Volume 7, Issue 6 June 2011
http://www.landesbioscience.com/journals/vaccines/toc/volume/7/issue/6/
[Reviewed last week]

JAMA
June 8, 2011, Vol 305, No. 22, pp 2257-2368
http://jama.ama-assn.org/current.dtl
Theme Issue: Cancer
[No relevant content]

Journal of Infectious Diseases
Volume 204 Issue 1 July 1, 2011
http://www.journals.uchicago.edu/toc/jid/current
[Reviewed last week]

The Lancet
Jun 11, 2011 Volume 377 Number 9782 Pages 1977 - 2054
http://www.thelancet.com/journals/lancet/issue/current
Health Policy

Towards an improved investment approach for an effective response to HIV/AIDS
Bernhard Schwartländer, John Stover, Timothy Hallett, Rifat Atun, Carlos Avila, Eleanor Gouws, Michael Bartos, Peter D Ghys, Marjorie Opuni, David Barr, Ramzi Alsallaq, Lori Bollinger, Marcelo de Freitas, Geoffrey Garnett, Charles Holmes, Ken Legins, Yogan Pillay, Anderson Eduardo Stanciole, Craig McClure, Gottfried Hirnschall, Marie Laga, Nancy Padian, on behalf of the Investment Framework Study Group
Preview
Substantial changes are needed to achieve a more targeted and strategic approach to investment in the response to the HIV/AIDS epidemic that will yield long-term dividends. Until now, advocacy for resources has been done on the basis of a commodity approach that encouraged scaling up of numerous strategies in parallel, irrespective of their relative effects. We propose a strategic investment framework that is intended to support better management of national and international HIV/AIDS responses than exists with the present system.
The Lancet Series: New Decade of Vaccines
Launched in London on June 9, 2011
[Please see feature treatment above]

The Lancet Infectious Disease
Jun 2011 Volume 11 Number 6 Pages 417 - 488
http://www.thelancet.com/journals/laninf/issue/current
[Reviewed last week]

Medical Decision Making (MDM)
May/June 2011; 31 (3)
http://mdm.sagepub.com/content/current
[Reviewed earlier]

Nature
Volume 474 Number 7350 pp127-246 9 June 2011
http://www.nature.com/nature/current_issue.html
World View
Beware of gifts that come at too great a cost
Danger lurks for state universities when philanthropy encroaches on academic independence, warns Sheldon Krimsky.
Sheldon Krimsky
Specials
Outlook: Hepatitis C
Vaccines: A moving target
Michael Eisenstein

Nature Medicine
June 2011, Volume 17 No 6

http://www.nature.com/nm/index.html
Book Review: Vaccine politics - p656
Arthur Allen reviews Three Shots at Prevention: the HPV Vaccine and the Politics of Medicine's Simple Solutions by Keith Wailoo, Julie Livingston, Steven Epstein and Robert Aronowitz
doi:10.1038/nm0611-656

New England Journal of Medicine
June 9, 2011 Vol. 364 No. 23
http://content.nejm.org/current.shtml
[No relevant content]

The Pediatric Infectious Disease Journal
June 2011 - Volume 30 - Issue 6 pp: A9-A10,451-542,e88-e108
http://journals.lww.com/pidj/pages/currenttoc.aspx
[Reviewed last week]

Pediatrics
June 2011, VOLUME 127 / ISSUE 6
http://pediatrics.aappublications.org/current.shtml
[Reviewed last week]

Pharmacoeconomics
June 1, 2011 - Volume 29 - Issue 6 pp: 455-547
http://adisonline.com/pharmacoeconomics/pages/currenttoc.aspx
[Reviewed earlier]

PLoS Medicine
(Accessed 12 June 2011: database unavailable)
http://www.plosmedicine.org/article/browse.action?field=date
[No relevant content]

Science
10 June 2011 vol 332, issue 6035, pages 1229-1344
http://www.sciencemag.org/current.dtl
[No relevant content]

Science Translational Medicine
8 June 2011 vol 3, issue 86
http://stm.sciencemag.org/content/current
[No relevant content]

Tropical Medicine & International Health
June 2011 Volume 16, Issue 6 Pages 661–772
http://onlinelibrary.wiley.com/doi/10.1111/tmi.2011.16.issue-6/issuetoc
[Reviewed earlier]

Vaccine
http://www.sciencedirect.com/science/journal/0264410X
Volume 29, Issues 29-30 pp. 4647-4874 (24 June 2011)
Regular papers
Student utilization of a university 2009 H1N1 vaccination clinic
Pages 4687-4689
T.S. Sunil, Lisa K. Zottarelli
Abstract
The 2009 H1N1 influenza resulted in widespread outbreaks on college campuses. Once sufficient quantity of vaccine became available, many universities held vaccination clinics for students. We sought to examine factors associated with participation in an on-campus vaccination effort. A self-administered questionnaire was completed by students in January 2010. Our results suggest a high degree of awareness of the 2009 H1N1 virus among students. The odds of being vaccinated were higher for students who believed the H1N1 virus was a greater public health threat and for students who had friends and family that were vaccinated after controlling for sex, ethnicity, age, and living conditions.

Vaccine
http://www.sciencedirect.com/science/journal/0264410X
Volume 29, Issue 28 pp. 4535-4646 (20 June 2011)
Editorial
Sophiology, vaccinology, and the healing professions – A warning from ancient Greece?
Pages 4535-4536
Gregory A. Poland
[No abstract or preview]
Regular Papers
Challenges and opportunities of a new HPV immunization program: Perceptions among Swedish school nurses
Pages 4576-4583
Maria Gottvall, Tanja Tydén, Margareta Larsson, Christina Stenhammar, Anna T. Höglund
Abstract
Aim
To investigate school nurses' perceptions of HPV immunization, and their task of administering the vaccine in a planned school-based program in Sweden. Method: Data were collected through five focus group interviews with school nurses (n = 30). The interviews were recorded, transcribed verbatim and analyzed using content analysis.
Findings

The theme Positive attitude to HPV immunization despite many identified problems and challenges summarizes the results. The school nurses saw the program as a benefit in that the free school-based HPV immunization program could balance out social inequalities. However, they questioned whether this new immunization program should be given priority given their already tight schedule. Some also expressed doubts regarding the effect of the vaccine. It was seen as challenging to obtain informed consent as well as to provide information regarding the vaccine. The nurses were unsure of whether boys and their parents should also be informed about the immunization.
Conclusion
Although some positive aspects of the new HPV immunization program were mentioned, the school nurses primarily identified problems and challenges; e.g. regarding priority setting, informed consent, culture and gender. In order to achieve a good work environment for the school nurses, and obtain a high coverage rate for the HPV immunization, these issues need to be taken seriously, be discussed and acted upon.

Willingness of pregnant women to vaccinate themselves and their newborns with the HPV vaccine

Pages 4618-4622
Katherine P. Heyman, Michael J. Worley Jr, Melissa K. Frey, Robin T. Kessler, Diane C. Bodurka, Brian M. Slomovitz
Abstract
Objective
To evaluate the willingness of pregnant women to accept the HPV vaccine for their newborns as well as themselves.
Methods
An 18-item questionnaire was distributed to antepartum women. Demographic data about the respondent's current pregnancy and her knowledge of HPV and the HPV vaccine was collected. Information about the respondent's HPV and HPV vaccine status as well as her acceptance of the vaccine for herself during pregnancy and her newborn son and/or daughter after delivery was also collected.
Results
Three hundred surveys were completed and available for review. Only 6 respondents (2%) had received the HPV vaccine. Despite the small group of patients who had previously been vaccinated, 112 respondents (37.3%) stated that they would receive the HPV vaccine during pregnancy if recommended by an obstetrician. 99 respondents (33%) stated that they would vaccinate their newborn female infant and 83 (27.7%) stated would vaccinate their male infants.
Conclusion
Providing the HPV vaccine to pregnant women as well as newborns could be an important way to increase the patient population who is protected against HPV. A percentage of pregnant women are willing to accept the vaccine for themselves and their newborns.

Vaccine
http://www.sciencedirect.com/science/journal/0264410X
Volume 29, Issue 27 pp. 4431-4534 (15 June 2011)
Reviews

Influenza vaccine for pregnant women in resource-constrained countries: A review of the evidence to inform policy decisions

Pages 4439-4452
Justin R. Ortiz, Janet A. Englund, Kathleen M. Neuzil
Abstract
Seasonal influenza is responsible for three to five million severe cases of disease annually, and up to 500,000 deaths worldwide. Pregnant women and infants suffer disproportionately from severe outcomes of influenza. The excellent safety profile and reliable immunogenicity of inactivated influenza vaccine support WHO recommendations that pregnant women be vaccinated to decrease complications of influenza disease during pregnancy. Nevertheless, influenza vaccine is not routinely used in most low-and middle-income countries and is not widely used in pregnant women worldwide.
Two recent prospective, controlled trials of maternal influenza vaccination in Bangladesh and US Native American reservations demonstrated that inactivated influenza vaccine given to pregnant women can decrease laboratory-confirmed influenza virus infection in their newborn children. These studies support consideration of the feasibility of targeted influenza vaccine programs in resource-constrained countries.
Platforms exist for the delivery of influenza vaccine to pregnant women worldwide. Even in the least developed countries, an estimated 70% of women receive antenatal care, providing an opportunity for targeted influenza vaccination. Challenges to the introduction of maternal influenza vaccination in resource-constrained countries exist, including issues regarding vaccine formulation, availability, and cost. Nonetheless, maternal influenza vaccination remains an important and potentially cost-effective approach to decrease influenza morbidity in two high-risk groups – pregnant women and young infants.

Regular Papers

The effects of vaccine characteristics on adult women's attitudes about vaccination: A conjoint analysis study

Pages 4507-4511
Melissa S. Stockwell, Susan L. Rosenthal, Lynne A. Sturm, Rose M. Mays, Rita M. Bair, Gregory D. Zimet
Abstract
The number of current and future vaccines for adults has been steadily increasing. Yet, vaccine coverage rates for adult vaccinations have historically been low, and less is known about how adults in the mid-adult age range make vaccine decisions for themselves. The purpose of this study was to assess which vaccine characteristics affect vaccine decision-making among mid-adult women. Adult women, aged 27–55 (n = 258) rated 9 hypothetical vaccine scenarios, each of which was defined along 4 dimensions: mode of transmission (STI or non-STI), severity of infection (curable, chronic, or fatal), vaccine efficacy (50%, 70%, or 90%), and availability of behavioral methods for prevention (available or not available). Ratings ranged from 0 to 100. Conjoint analysis was used to assess the effect of relative preferences for the vaccine scenario characteristics on participant ratings of scenarios. The mean vaccine scenario rating was 78.2. Nearly half (40%, n = 104) of participants rated all nine scenarios the same, with the majority of those (84%) holding strongly positive views. Conjoint analysis of the other 154 participants who discriminated between scenarios indicated that the main drivers for vaccine acceptability were severity of the disease and the efficacy of the vaccine to prevent the disease. Mode of transmission and availability of a preventative behavioral measure did not play a significant role. Future studies should further assess

how women's understanding of severity of the disease and efficacy of the vaccine to prevent disease may be useful for increasing vaccine acceptability.