Vaccines and Global Health: The Week in Review
6 June 2015
Center for Vaccine Ethics & Policy (CVEP)

This weekly summary targets news, events, announcements, articles and research in the vaccine and global health ethics and policy space and is aggregated from key governmental, NGO, international organization and industry sources, key peer-reviewed journals, and other media channels. This summary proceeds from the broad base of themes and issues monitored by the Center for Vaccine Ethics & Policy in its work: it is not intended to be exhaustive in its coverage.

*Vaccines and Global Health: The Week in Review is also **posted in pdf form** and as a set of blog posts at http://centerforvaccineethicsandpolicy.wordpress.com/. This blog allows full-text searching of over 8,000 entries.*

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***Request an email version:** Vaccines and Global Health: The Week in Review is published as a single email summary, scheduled for release each Saturday evening before midnight (EDT in the U.S.). If you would like to receive the email version, please send your request to david.r.curry@centerforvaccineethicsandpolicy.org.*

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EBOLA/EVD [to 6 June 2015]
Public Health Emergency of International Concern (PHEIC); "Threat to international peace and security" (UN Security Council)

WHO: Ebola Situation Report – 3 June 2015
[Excerpts]
SUMMARY
:: **Since the week ending 10 May, when a 10-month low of 9 cases of Ebola virus disease (EVD) were reported from 2 prefectures of Guinea and 1 district of Sierra Leone, both the intensity and geographical area of EVD transmission have increased.** In the week ending 31 May, a total of 25 confirmed cases were reported from 4 prefectures of Guinea and 3 districts of Sierra Leone. Several cases in both Guinea and Sierra Leone arose from unknown sources of infection in areas that have not reported confirmed cases for several weeks, indicating that chains of transmission continue to go undetected. Rigorous

contact tracing, active case finding, and infection prevention and control must be maintained at current intensive levels in order to uncover and break every chain of transmission. However, the onset of the rainy season will make field operations more difficult from now onwards.

COUNTRIES WITH WIDESPREAD AND INTENSE TRANSMISSION
:: There have been a total of 27 145 reported confirmed, probable, and suspected cases of EVD in Guinea, Liberia and Sierra Leone (figure 1, table 1), with 11 147 reported deaths (this total includes reported deaths among probable and suspected cases, although outcomes for many cases are unknown). A total of 13 new confirmed cases were reported in Guinea and 12 in Sierra Leone in the 7 days to 31 May. The outbreak in Liberia was declared over on 9 May.

Video: Ebola Briefing - General Assembly, Informal meeting of the plenary
2 June 2015
Fifth informal meeting of the plenary to hear a briefing by the Secretary-General of the United Nations, concerning the public health crisis emanating from the Ebola virus outbreak.
Mr. Peter Graaff, Acting Special Representative and Head of the United Nations Mission for Ebola Emergency Response (UNMEER), and Mr. David Nabarro, Special Envoy of the Secretary-General on Ebola, will deliver statements
http://webtv.un.org/watch/ebola-briefing-general-assembly-informal-meeting-of-the-plenary/4271433354001#full-text

WHO: An unprecedented response to an unprecedented outbreak
4 June 2015 -- Since notifying the world of the Ebola outbreak in West Africa on 23 March 2014, WHO has, in partnership with the international health community, mobilized its largest ever outbreak response. WHO's public health expertise, linkages with government and technical networks are unparalleled. This enables collaboration across multiple UN agencies, mobilization of foreign medical teams, deployment of specialized laboratories, training, delivery of millions of sets of personal protective equipment, and rapid development of vaccines, treatments, and diagnostics.
Read more on WHO's achievements

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POLIO [to 6 June 2015]
Public Health Emergency of International Concern (PHEIC)

GPEI Update: Polio this week - *As of 3 June 2015*
Global Polio Eradication Initiative
[Editor's Excerpt and text bolding]
Full report: http://www.polioeradication.org/Dataandmonitoring/Poliothisweek.aspx
:: This week, the Technical Advisory Groups of Afghanistan and Pakistan are meeting to evaluate progress on polio eradication efforts in recent months and to plan for the upcoming polio high transmission season.
:: As the poliovirus is more and more geographically limited, surveillance becomes increasingly important for ensuring that it cannot spread unchecked. Read more about polio surveillance and laboratories.

:: Polio staff continue to offer support to the humanitarian response to the devastating earth quakes in Nepal. Read more.

Selected excerpts from Country-specific Reports

Afghanistan

:: Environmental sampling in the country continues to find wild poliovirus (most recently in Hilmand). Such sampling is invaluable to improved surveillance for the virus.

:: Subnational Immunization Days (SNIDs) are planned from 14 – 16 June across the south and east using bivalent OPV. National Immunization Days are scheduled on 16 to 18 Augus

Pakistan

:: One new case of wild poliovirus type 1 (WPV1) was reported this week in North Waziristan district in the Federally Administered Tribal Areas. This most recent case had onset of paralysis on 6 May. The total number of WPV1 cases for 2015 is now 24 (and remains 306 for 2014).

:: One new environmental sample positive for WPV1 was reported this week from Peshawar district, Khyber Pakhtunkhwa.

:: Environmental surveillance indicates widespread circulation of polioviruses – WPV as well as VDPV – not just in known infected areas but also in areas without cases. Environmental surveillance is proving to be an instrumental supplemental surveillance tool enabling a clearer epidemiological picture.

:: Currently, the focus of the polio eradication programme in Pakistan is on known infected areas and on areas deemed to be high-risk but which have not reported polio cases.

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WHO & Regionals [to 6 June 2015]

Liberia tackles measles as Ebola comes to an end

2 June 2015

As Liberia emerges from the devastating Ebola epidemic, it has been battling the worst measles outbreak in years. The Ebola outbreak led to the collapse of most health services in Liberia, including routine vaccinations. The Liberian government moved swiftly to organize a countrywide vaccination campaign with the help of WHO and partners.

Read more about the vaccination campaign

WHO and the Republic of Korea to carry out joint mission for the MERS-CoV outbreak

5 June 2015 -- The pressing objective of this joint mission is to gain information and review the situation in the Republic of Korea including the epidemiological pattern, the characteristic of the virus and clinical features. The team will also assess the public health response efforts and provide recommendations for response measures going forward.

Middle East respiratory syndrome coronavirus in the Republic of Korea: situation assessment

June 2015 -- The outbreak of Middle East respiratory syndrome coronavirus (MERS-CoV) in the Republic of Korea continues to evolve. WHO is in close contact with the country's government and Ministry of Health, and is receiving information as soon as facts are confirmed.

Global Alert and Response (GAR) – Disease Outbreak News (DONs)

6 June 2015 - Middle East respiratory syndrome coronavirus (MERS-CoV) – Republic of Korea

6 June 2015 - Middle East Respiratory Syndrome coronavirus (MERS-CoV) – Saudi Arabia

5 June 2015 - Middle East respiratory syndrome coronavirus (MERS-CoV) – Republic of Korea
4 June 2015 - Middle East respiratory syndrome coronavirus (MERS-CoV) – Republic of Korea
4 June 2015 - Middle East Respiratory Syndrome coronavirus (MERS-CoV) – Saudi Arabia

The **Weekly Epidemiological Record (WER) 5 June 2015,** vol. 90, 23 (pp. 281–296) incudes
…Review of the 2014–2015 influenza season in the northern hemisphere

:: WHO Regional Offices

WHO African Region AFRO

:: Dr Moeti applauds Zambia for reducing illnesses and deaths of mothers and children

Lusaka, 04 June 2015 - The WHO Regional Director for Africa, Dr Matshidiso Moeti has applauded the Zambian government for progress made in reducing deaths and illnesses amongst women and children under five years old.

:: WHO strengthens capacities of national blood transfusion systems in Ebola-affected countries *- 02 June 2015*

WHO Region of the Americas PAHO

:: PAHO/WHO urges measles and rubella vaccination for travelers to the 2015 Americas Cup (06/04/2015)

WHO South-East Asia Region SEARO

:: Medical Camp Kits replace primary health care facilities before onset of Nepal's monsoon
01 June 2015

WHO European Region EURO

:: Diphtheria detected in Spain 05-06-2015
:: Dramatic increase in Caesarean sections 01-06-2015

WHO Eastern Mediterranean Region EMRO

:: Inequality has transformed surviving childhood into a global postcode lottery (commentary)
3 June 2015
:: Middle East respiratory syndrome coronavirus (MERS-CoV) in the Republic of Korea
2 June 2015

WHO Western Pacific Region

:: The World Health Organization (WHO) and the Republic of Korea to carry out Joint Mission for the MERS-CoV Outbreak

MANILA, 5 June 2015 – In light of the recent outbreak of Middle East Respiratory Syndrome coronavirus (MERS-CoV), the World Health Organization and the Republic of Korea's Ministry of Health and Welfare will conduct a joint mission to the Republic of Korea. The mission comes after close consultation between WHO and the Government.

…Read the news release

…WHO supports member states in its response to the Middle East Respiratory Syndrome coronavirus (MERS-CoV) within the Western Pacific Region

:: Strategy for malaria elimination in the Greater Mekong Subregion (2015-2030)
5 June 2015

In close consultation with countries in the Greater Mekong Subregion, the WHO Regional Offices for the Western Pacific and South-East Asia have developed a malaria elimination strategy for the Subregion, where emerging antimalarial multidrug resistance, including resistance to artemisinin-based combination therapies, is threatening our recent gains. The elimination strategy is fully aligned with the Global technical strategy for malaria 2016-2030, which has just been endorsed by the World Health Assembly. The first subregional document that effectively operationalizes the global strategy, it is a prime example of partnership and collaboration, with six countries, WHO (two regions and headquarters) and multiple development partners joining forces to fight a common threat.

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CDC/MMWR/ACIP Watch [to 6 June 2015]
http://www.cdc.gov/media/index.html
MMWR June 5, 2015 / Vol. 64 / No. 21
:: Influenza Activity — United States, 2014–15 Season and Composition of the 2015–16 Influenza Vaccine

ACIP
:: Next ACIP Meeting - June 24-25, 2015
ACIP June 2015 Draft Meeting Agenda [2 pages]
Register for upcoming June ACIP meeting
(Wednesday - Thursday)
Deadline for registration:
- Non-US Citizens: June 3, 2015
- US Citizens: June 10, 2015

FDA Watch [to 6 June 2015]
http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/default.htm
FDA regulation to help ensure judicious use of antibiotics in food-producing animals
June 02, 2015

NIH Watch [to 6 June 2015]
http://www.nih.gov/news/releases.htm
:: **NIH suspends operations in its Clinical Center Pharmaceutical Development Section**

June 4, 2015 — A series of deficiencies require closure to implement corrective actions. The National Institutes of Health (NIH) Clinical Center has suspended operations of its Pharmaceutical Development Section (PDS) due to the discovery of serious manufacturing problems and lack of compliance with standard operating procedures. Upon receipt of a complaint, Food and Drug Administration (FDA) representatives inspected the PDS between May 19 and May 29, and found a series of deficiencies that will require the NIH Clinical Center to take a number of corrective actions.

The facility makes products for certain clinical research studies conducted in the hospital and collaborating facilities. In April, two vials of albumin, used for the administration of the drug interleukin in experimental studies, were found to have fungal contamination. Vials made from

the same batch were administered to six patients, although it is unknown whether those or other vials were contaminated. The six patients have been notified and are being followed closely for any signs of infection. At this time, none has developed signs of infection or illness.

"This is a distressing and unacceptable situation," said NIH Director Francis S. Collins, M.D., Ph.D. "The fact that patients may have been put in harm's way because of a failure to follow standard operating procedures in the NIH Clinical Center's Pharmaceutical Development Section is deeply troubling. I will personally oversee the steps to protect the safety of patients and remedy the situation as swiftly as possible."…

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Sabin Vaccine Institute Watch [to 6 June 2015]
http://www.sabin.org/updates/pressreleases

Phase 1 Clinical Trial of Sm-TSP-2 Schistosomiasis Vaccine Begins

WASHINGTON, D.C. — June 3, 2015 — The Sabin Vaccine Institute Product Development Partnership (Sabin PDP) today released an update on a Phase 1 clinical trial of its vaccine candidate to prevent intestinal schistosomiasis, Sm-TSP-2/Alhydrogel®. Schistosomiasis is one of the most pervasive neglected tropical diseases (NTDs) affecting the world's poorest communities. The Sabin PDP is based at the Sabin Vaccine Institute and Texas Children's Hospital Center for Vaccine Development at Baylor College of Medicine (BCM) in Houston, Texas.

New formulation of HIV treatment to save more children's lives -- UNICEF and UNAIDS

Tiny pellets make antiretroviral medicines more palatable for children
Joint press release

NEW YORK/GENEVA, 5 June 2015—Children affected by HIV and AIDS will benefit from the decision by the United States Food and Drug Administration to grant approval to a new antiretroviral formulation that can be mixed with food to make it easier for children living with HIV to take the life-saving medicines, UNAIDS and UNICEF said today.

"Treatment innovations such as this that replace unpleasant and bad tasting medicines are a real breakthrough, accelerating access to treatment for children and keeping our youngest healthy," said Michel Sidibé, Executive Director of UNAIDS. "It is unacceptable that only 24% of children living with HIV have access to antiretroviral medicines."

The oral pellets, manufactured by Indian generic medicines manufacturer CIPLA, contain an antiretroviral formulation of lopinavir and ritonavir that can be mixed into a child's food. The treatment is heat stable and more palatable than medicines currently available, making it particularly suitable for treating very young children.

"This new formulation is a step in the right direction towards saving more lives of children living with HIV," said Craig McClure, UNICEF's Chief of HIV and AIDS and Associate Director, Programmes. "We expect it to greatly improve treatment access for many more children and support UNICEF's equity focused programming aimed at reaching the most disadvantaged children throughout the world."

HIV infection progresses rapidly in children and, in highly impacted countries, is a major contributor to child morbidity and mortality. Without treatment, one in three children who become infected with HIV will die before their first birthday. Half will die before their second birthday.

Early initiation of antiretroviral treatment in children as recommended by the World Health Organization substantially reduces the risk of death. Many countries have not been able to fully implement the WHO recommendation because of the challenge of not having a more appropriate, heat stable and palatable paediatric formulation of lopinavir/ritonavir used as part of the treatment options for children under 3 years of age.

Despite global efforts to accelerate access to HIV paediatric care and treatment, fewer than 800 000 of the 3.2 million children living with HIV worldwide had access to antiretroviral medicines in 2013.

Application of uniform quality management principles in European medicines agencies.

05/06/2015 13:26 | Presidency of the Council of the EU

On 2-3 June 2015 the meeting of the Heads of Medicines Agencies (HMA) Working Group of Quality Managers (WGQM) took place in Riga, Latvia. The agenda of the meeting included implementation and ensuring of the uniform quality management principles in European medicines agencies.

Meeting participants – the quality managers of national medicines agencies in the European Economic Area countries and representatives of the European Commission and the European Medicines Agency – discussed the following issues: implementation of guidelines on conflict of interest mitigation, ensuring risk management approach in national medicines agencies and results of benchmarking (comparison of one entity (business or other organisation) to other entities and learning from the results of this comparison). The future activities for the next assessment cycle were also planned. The quality managers of European medicines agencies exchanged examples of best practices in quality management, which is a significant contribution to further operational improvement of medicines agencies. Ms Caitriona Fisher, the Manager of Chief Executive's Office and Quality Manager of the Health Products Regulatory Authority of Ireland, was re-elected as the Head of the Working Group for the next three-year period.

WGQM is the working group established by HMA whose main task is to support the quality management of the European Medicines regulatory framework system for public and animal health. The WGQM meetings are held every six months by the medicines agency of the current Presidency of the Council of the European Union.

More information on WGQM is available here: http://www.hma.eu/wgqm.html

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MSF/Médecins Sans Frontières [to 6 June 2015]

http://www.doctorswithoutborders.org/news-stories/press/press-releases

:: **MSF Calls on G7 Leaders to Take Concrete Action to Fight Epidemics**

Berlin, June 3, 2015—The global health system remains unprepared for mass disease epidemics, warned the international medical humanitarian organization Doctors Without Borders/Médecins Sans Frontières (MSF) today, ahead of the G7 summit in Elmau, Germany.

:: **MSF Responds to Growing Cholera Outbreak in Kenya**

June 02, 2015

NAIROBI/NEW YORK—The international medical humanitarian organization Médecins Sans Frontières/Doctors Without Borders (MSF), health authorities, and other partners continue their response to a major cholera outbreak in Kenya that has spread to 10 of the country's 47

counties. The outbreak, which began in January, has killed 72 people, according to official figures.

BMGF (Gates Foundation) [to 6 June 2015]
http://www.gatesfoundation.org/Media-Center/Press-Releases
The Bill & Melinda Gates Foundation announces new $776 million investment in nutrition to tackle child mortality and help all women and children survive and thrive
Melinda Gates makes announcement in Brussels during European Development Days

BRUSSELS, BELGIUM (June 3, 2015, 12:30pm CET) – Melinda Gates today urged European leaders to make the health and nutrition of women and children a top priority, and announced that the Bill & Melinda Gates Foundation will more than double its investments in nutrition to $776 million over the next six years as part of a new commitment to nutrition. The co-chair of the Bill & Melinda Gates Foundation made the announcement at the European Development Days (EDD), Europe's leading forum on development and international cooperation organized by the European Commission.

"Malnutrition is the underlying cause of nearly half of all under-5 child deaths," said Gates. "Yet for too long the world has underinvested in nutrition. Today we see an opportunity to change that. Along with the Gates Foundation, many European donors are now prioritizing nutrition, which we believe will be one of the fundamental solutions to help cut child mortality in half by 2030."

The announcement unlocks $180 million in additional matched funding from the UK's Department for International Development who had committed to match 1:2 any pledge additional to those made at the Nutrition for Growth summit in 2013...

The Gates Foundation's new approach to nutrition will:
:: Reach women and children with solutions proven to improve nutrition, such as breastfeeding and food fortification, and expand research into innovative new approaches.
:: Help women and adolescent girls before they become pregnant, improving the likelihood they'll have a safe pregnancy and a healthy, well-nourished child.
:: Improve food systems (in conjunction with the agriculture sector) to help ensure people have better access to safe, nutritious and affordable food year-round.
:: Catalyze a data revolution in nutrition to strengthen the evidence-base for action, inform decisions and track progress toward goals and commitments.
:: Focus work in India, Ethiopia, Nigeria, Bangladesh, Burkina Faso, where there is both a high burden of malnutrition and a significant opportunity to affect positive change…

GAVI Watch [to 6 June 2015]
http://www.gavialliance.org/library/news/press-releases/
Gavi's Programme Bulletin – May 2015 3rd edition

This quarterly Bulletin developed by the Gavi Country Programme Department, aims to share with you information, updates, tools and resources, and most importantly to serve as a cross-country learning platform.

In this edition, you will learn from Dr Jetri Regmi and Lokdarshan Koirala about the very first Gavi supported IPV launch in Nepal, and from Guy Aho Tete Benissan about the launch of the Francophone CSOs Platform. You will also get some insight on Gavi's successful pledging Conference from Dr Abdoulaye Sawadogo who delivered a very powerful testimony in Berlin.

PATH [to 6 June 2015]
http://www.path.org/news/
:: Blog: **Saving lives through essential vaccines: reimagining "routine" immunization**
Posted on June 2, 2015 by Kathy Neuzil
…Perhaps it's time to rethink the way we talk about the routine immunization schedule to better reflect its importance and complexity. Immunizations are not routine, but vital, critical, necessary—they are essential…

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Global Fund [to 6 June 2015]
http://www.theglobalfund.org/en/mediacenter/newsreleases/
No new digest content identified.

European Vaccine Initiative [to 6 June 2015]
http://www.euvaccine.eu/news-events
No new digest content identified

International AIDS Vaccine Initiative Watch [to 6 June 2015]
http://www.iavi.org/
No new digest content identified.

IVI Watch [to 6 June 2015]
http://www.ivi.org/web/www/home
No new digest content identified.

European Medicines Agency Watch [to 6 June 2015]
http://www.ema.europa.eu/ema/
No new digest content identified.

DCVMN / PhRMA / EFPIA / IFPMA / BIO Watch [to 6 June 2015]
No new digest content identified.

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Reports/Research/Analysis/Commentary/Conferences/Meetings/Book Watch/Tenders

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

USAID Announces Groundbreaking Online Training for Global Health Workforce
June 1, 2015
Today, the U.S. Agency for International Development and partners from the public and private sector announced a new comprehensive online library of resources for training health workers across the globe. This is the first-ever resource that will be freely available and accessible through internet-enabled mobile devices. The online library, called ORB, has the potential to support 100,000 frontline health workers by 2017 who are delivering services to more than 10 million women and children around the world.

Connecting Global Priorities: Biodiversity and Human Health
A State of Knowledge Review
World Health Organization and Secretariat of the Convention on Biological Diversity, 2015.
ISBN: 9789241508537 :: 364 pages
Pdfs:
:: Read the publication
:: Loss of biodiversity impacts human health (web release)pdf, 34kb
:: Read the key messagespdf, 155kb
Overview
Healthy communities rely on well-functioning ecosystems. They provide clean air, fresh water, medicines and food security. They also limit disease and stabilize the climate. But biodiversity loss is happening at unprecedented rates, impacting human health worldwide, according to a new state of knowledge review of the Convention on Biological Diversity (CBD) and WHO.

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Journal Watch

Vaccines and Global Health: The Week in Review continues its weekly scanning of key peer-reviewed journals to identify and cite articles, commentary and editorials, books reviews and other content supporting our focus on vaccine ethics and policy. ***Journal Watch* is not intended to be exhaustive, but indicative of themes and issues the Center is actively tracking.** We selectively provide full text of some editorial and comment articles that are specifically relevant to our work. Successful access to some of the links provided may require subscription or other access arrangement unique to the publisher.
If you would like to suggest other journal titles to include in this service, please contact David Curry at: david.r.curry@centerforvaccineethicsandpolicy.org

The American Journal of Bioethics
Volume 15, Issue 5, 2015
http://www.tandfonline.com/toc/uajb20/current
[Reviewed earlier]

American Journal of Infection Control
June 2015 Volume 43, Issue 6, p547-662
http://www.ajicjournal.org/current
[Reviewed earlier]

American Journal of Preventive Medicine
June 2015 Volume 48, Issue 6, p647-770, e11-e30
http://www.ajpmonline.org/current
[Reviewed earlier]

American Journal of Public Health
Volume 105, Issue 6 (June 2015)
http://ajph.aphapublications.org/toc/ajph/current
[Reviewed earlier]

American Journal of Tropical Medicine and Hygiene
June 2015; 92 (6)
http://www.ajtmh.org/content/current
The Post-2015 Development Agenda: Keeping Our Focus on the Worst Off
Daniel Sharp and Joseph Millum*
Author Affiliations
Clinical Center Department of Bioethics, National Institutes of Health, Bethesda, Maryland; Fogarty International Center, National Institutes of Health, Bethesda, Maryland
Abstract
Non-communicable diseases now account for the majority of the global burden of disease and an international campaign has emerged to raise their priority on the post-2015 development agenda. We argue, to the contrary, that there remain strong reasons to prioritize maternal and child health. Policy-makers ought to assign highest priority to the health conditions that afflict the worst off. In virtue of how little healthy life they have had, children who die young are among the globally worst off. Moreover, many interventions to deal with the conditions that cause mortality in the young are low-cost and provide great benefits to their recipients. Consistent with the original Millennium Development Goals, the international community should continue to prioritize reductions in communicable diseases, neonatal conditions, and maternal health despite the shifts in the global burden of disease.

Annals of Internal Medicine
2 June 2015, Vol. 162. No. 11
http://annals.org/issue.aspx
[New issue; No relevant content identified]

BMC Health Services Research
http://www.biomedcentral.com/bmchealthservres/content
(Accessed 6 June 2015)
[No new relevant content identified]

BMC Infectious Diseases

http://www.biomedcentral.com/bmcinfectdis/content
(Accessed 6 June 2015)
[No new relevant content identified]

BMC Medical Ethics
http://www.biomedcentral.com/bmcmedethics/content
(Accessed 6 June 2015)
[No new relevant content identified]

BMC Pregnancy and Childbirth
http://www.biomedcentral.com/bmcpregnancychildbirth/content
(Accessed 6 June 2015)
[No new relevant content identified]

BMC Public Health
http://www.biomedcentral.com/bmcpublichealth/content
(Accessed 6 June 2015)
[No new relevant content identified]

BMC Research Notes
http://www.biomedcentral.com/bmcresnotes/content
(Accessed 6 June 2015)
[No new relevant content identified]

BMJ Open
2015, Volume 5, Issue 6
http://bmjopen.bmj.com/content/current
Research
Association of pneumococcal conjugate vaccination with rates of ventilation tube insertion in Denmark: population-based register study
Christina Groth, Reimar W Thomsen, Therese Ovesen
Abstract
Objective To examine if the introduction of pneumococcal conjugate vaccine (PCV) in Denmark was associated with a decrease in the rate of ventilation tube (VT) insertions performed by office-based practising ear, nose and throat (ENT) specialists.
Design Population-based register study based on prospectively collected data.
Setting Central Denmark Region. Data on VT insertions performed by any office-based practising ENT specialist in the region were collected from the National Health Service Registry.
Participants
All children below the age of 2 years with a first-time VT insertion from 2001 through 2011.
Main outcome measures Age-stratified and gender-stratified standardised incidence rates of first-time VT insertion, and incidence rate ratio for PCV period 2008–2011 compared with pre-PCV period 2001–2007.

Results The annual incidence rate of first-time VT insertion in small children increased steadily from 64/1000 person-years in 2001 to 100/1000 person-years in 2011. The incidence rate ratio was 1.27 (95% CI 1.24 to 1.30) in the PCV period compared with the pre-PCV period.
Conclusions The introduction of PCV into the Danish childhood immunisation programme in 2007 was not associated with a subsequent decrease in the rate of VT insertions among children below the age of 2 years. Instead, the rate continued to rise, as before the introduction of PCV.
Trial registration number Danish Data Protection Agency: 2007-58-0010.

British Medical Journal
06 June 2015(vol 350, issue 8011)
http://www.bmj.com/content/350/8011
[New issue; Ne relevant content identified]

Bulletin of the World Health Organization
Volume 93, Number 6, June 2015, 361-436
http://www.who.int/bulletin/volumes/93/6/en/
EDITORIALS
The Sendai framework: disaster risk reduction through a health lens
Amina Aitsi-Selmi & Virginia Murray
doi: 10.2471/BLT.15.157362
Research
Identifying implementation bottlenecks for maternal and newborn health interventions in rural districts of the United Republic of Tanzania
Ulrika Baker, Stefan Peterson, Tanya Marchant, Godfrey Mbaruku, Silas Temu, Fatuma Manzi & Claudia Hanson
Abstract
Objective
To estimate effective coverage of maternal and newborn health interventions and to identify bottlenecks in their implementation in rural districts of the United Republic of Tanzania.
Methods
Cross-sectional data from households and health facilities in Tandahimba and Newala districts were used in the analysis. We adapted Tanahashi's model to estimate intervention coverage in conditional stages and to identify implementation bottlenecks in access, health facility readiness and clinical practice. The interventions studied were syphilis and pre-eclampsia screening, partograph use, active management of the third stage of labour and postpartum care.
Findings
Effective coverage was low in both districts, ranging from only 3% for postpartum care in Tandahimba to 49% for active management of the third stage of labour in Newala. In Tandahimba, health facility readiness was the largest bottleneck for most interventions, whereas in Newala, it was access. Clinical practice was another large bottleneck for syphilis screening in both districts.
Conclusion
The poor effective coverage of maternal and newborn health interventions in rural districts of the United Republic of Tanzania reinforces the need to prioritize health service quality. Access to high-quality local data by decision-makers would assist planning and prioritization. The

approach of estimating effective coverage and identifying bottlenecks described here could facilitate progress towards universal health coverage for any area of care and in any context.
Policy & Practice

Applying the lessons of maternal mortality reduction to global emergency health

Emilie J Calvello, Alexander P Skog, Andrea G Tenner & Lee A Wallis

Over the last few decades, maternal health has been a major focus of the international community and this has resulted in a substantial decrease in maternal mortality globally. Although, compared with maternal illness, medical and surgical emergencies account for far more morbidity and mortality, there has been less focus on global efforts to improve comprehensive emergency systems. The thoughtful and specific application of the concepts used in the effort to decrease maternal mortality could lead to major improvements in global emergency health services. The so-called three-delay model that was developed for maternal mortality can be adapted to emergency service delivery. Adaptation of evaluation frameworks to include emergency sentinel conditions could allow effective monitoring of emergency facilities and further policy development. Future global emergency health efforts may benefit from incorporating strategies for the planning and evaluation of high-impact interventions.

Clinical Infectious Diseases (CID)
Volume 60 Issue 12 June 15, 2015
http://cid.oxfordjournals.org/content/current
[Reviewed earlier]

Clinical Therapeutics
May 2015 Volume 37, Issue 5, p925-1146
http://www.clinicaltherapeutics.com/current

Recent Developments and Future Directions of Pneumococcal Vaccine Recommendations

Katherine M. Tromp, PharmD, Marcus W. Campbell, PharmD, Alejandro Vazquez, PharmD
LECOM, Bradenton, Florida
Accepted: March 31, 2015; Published Online: April 23, 2015
DOI: http://dx.doi.org/10.1016/j.clinthera.2015.03.025
Abstract
Purpose
The goal of this article was to review the key clinical trials that resulted in the recent recommendation from the Advisory Committee on Immunization Practices (ACIP) to vaccinate all adults aged ≥65 years with the 13-valent pneumococcal polysaccharide conjugate vaccine (PCV13) in addition to the previously recommended 23-valent pneumococcal polysaccharide vaccine (PPSV23).
Methods
Pertinent articles were identified through searches of EMBASE and MEDLINE by using the terms pneumococcal polysaccharide conjugate vaccine, pneumococcal vaccine, and PCV13. Searches were limited to articles published between January 1, 2013, and January 31, 2015, and were limited to clinical trials. Resources from the Centers for Disease Control and Prevention's ACIP recommendations and cited references were also reviewed.
Findings

Recent clinical trials have focused on the order of administration of PPSV23 and PCV13, comparisons in immunogenicity of PPSV23 and PCV13, and efficacy of PCV13 in adults aged ≥65 years. Immunogenicity trials have shown that PCV13 elicits an equal or greater immune response than PPSV23 for most of the serotypes that both vaccines share. The evidence suggests that PCV13 should be administered before PPSV23 when possible. Most recently, clinical data demonstrated the efficacy of PCV13 in adults aged ≥65 years.
Implications
Recent randomized clinical trials and disease trends have prompted the ACIP to recommend that all adults aged ≥65 years receive a single dose of PCV13. This is in addition to the previous recommended single dose of PPSV23 in the same population. The ACIP and the Centers for Disease Control and Prevention plan to monitor disease trends and clinical data to determine if this recommendation will need to be changed in the future.

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May/June 2015 Volume 20, Issue 5 Pages C1–C1, 1–76
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[No new relevant content identified]

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April 2015 Volume 15, Issue 1 Pages ii–iii, 1–57
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Volume 21, Number 6—June 2015
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[Reviewed earlier]

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Volume 11, In Progress (June 2015)
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Volume 143 - Issue 08 - June 2015
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Volume 20, Issue 22, 04 June 2015
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Volume 10, Issue 5-6, 2015
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Volume 10 - Issue 03 - July 2015
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[Reviewed earlier]

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Volume 30 Issue 5 June 2015
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[Reviewed earlier]

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Volume 11, Issue 4, 2015
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Volume 7 Issue 3 May 2015
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[Reviewed earlier]

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Volume 44 Issue 1 February 2015
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[Reviewed earlier]

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[New issue; No relevant content identified]

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[New issue; No relevant content identified]

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Volume 40, Issue 3, June 2015
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[New issue; No relevant content]

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Volume 211 Issue 11 June 1, 2015
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Volume 2, Issue 2 (2015)
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Volume 4 Issue 2 June 2015
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June 2015 Volume 166, Issue 6, p1329-1550
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[New issue: No relevant content identified]

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Volume 36, Issue 2 (May 2015)
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[Reviewed earlier]

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[Reviewed earlier]

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June 2015, volume 89, issue 12
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[New issue; No relevant content]

The Lancet
Jun 06, 2015 Volume 385 Number 9984 p2223-2322
http://www.thelancet.com/journals/lancet/issue/current
Comment
An updated Ebola vaccine: immunogenic, but will it protect?
Andrea Marzi, Darryl Falzarano
Published Online: 24 March 2015
DOI: http://dx.doi.org/10.1016/S0140-6736(15)60613-4

The largest outbreak of Ebola virus ever recorded has been ongoing for about 16 months in west Africa. In the past week, Liberia, which had nearly reached the halfway point to being declared Ebola free, has reported a new case, and new Ebola infections continue to be confirmed in Sierra Leone and Guinea.1 With more than 24 000 cases and almost 10 000 fatalities,1 this outbreak is one of the biggest public health crises so far this century. When the outbreak was first confirmed in March, 2014, none of the experimental vaccine platforms with promising results in non-human primate studies2 had advanced beyond assessment in phase 1 clinical trials in human beings, let alone been approved for human use. But only a few months later, with the epidemic spreading and thousands of people infected in west Africa, the international community pulled together to accelerate phase 1 clinical trials in humans for vaccine platforms based on recombinant adenovirus (ClinicalTrials.gov numbers NCT02289027, NCT02368119, NCT02231866, NCT02354404, NCT02240875, NCT02267109) and vesicular stomatitis virus (NCT02287480, NCT02269423, NCT02296983, NCT02314923, NCT02280408, NCT02374385, NCT02283099).

The timely study by Feng-Cai Zhu and colleagues3 in The Lancet is the fourth report of a phase 1 trial in humans using either recombinant adenovirus-based or DNA-based vaccination strategies.4, 5, 6 The recombinant adenovirus type-5 vaccine platform has previously been tested by other investigators with a prototypic Ebola virus glycoprotein.2 The present study updated the vaccine vector to encode the glycoprotein from the 2014 west African Ebola virus

isolate, making it the first Ebola vaccine report to use an immunogen that matches that of the currently circulating Ebola virus strain.

In the study, 120 healthy Chinese individuals were randomly assigned to receive placebo (n=40), or a low dose (4 × 1010 viral particles; n=40) or high dose (1·6 × 1011 viral particles; n=40) of the recombinant adenovirus type-5 vaccine.[3] In each group, roughly 60% of the participants had pre-existing neutralising antibody titres greater than 1:200 to adenovirus type-5. In a previous phase 1 trial based on a different recombinant adenovirus type-5-based Ebola vaccine vector with promising data in non-human primates, pre-existing adenovirus type-5 neutralising antibodies negatively affected the immune response to the vaccine (55% vs 100% response).[2, 7] These data provided the basis for replacement of the adenovirus-type-5 vector with a chimpanzee adenovirus vector.[5]

The increased vaccine doses used in Zhu and colleagues' study[3] seem to partly circumvent pre-existing immunity to the vector, because participants in the high-dose group had a 100% response rate, with no resultant increase in adverse events. Glycoprotein-specific antibody titres significantly increased in the low-dose and high-dose vaccine groups at both day 14 (geometric mean titre 421·4 [95% CI 249·7–711·3] and 820·5 [598·9–1124·0], respectively) and day 28 (682·7 [424·3–1098·5] and 1305·7 [970·1–1757·2], respectively), with T-cell responses peaking at day 14 in both these groups (median 465·0 spot-forming cells [IQR 180·0–1202·5] and 765·0 cells [400·0–1460·0], respectively). The antigen-specific immunoglobulin-G responses in participants in the high-dose group with low pre-existing adenovirus type-5 immunity (≤1:200) resulted in geometric mean titres of 2231·8 (95% CI 1268·6–3926·2) at 4 weeks after vaccination, but titres decreased to 946·5 (705·4–1270·1) when the immunised individuals had pre-existing neutralising titres greater than 1:200. This finding is a major concern about this vaccine platform, because 80% of the target population in Africa are expected to have adenovirus type-5 neutralising antibody titres.[8] Furthermore, findings from previous studies[9, 10] in non-human primates suggest that with adenovirus-based vaccines, an Ebola virus glycoprotein-specific ELISA 90% effective concentration (the metric also used in the present study) titre of 3000 is required for protection, and this concentration was not reached in the present trial, particularly in participants with pre-existing adenovirus type-5 immunity. This recombinant adenovirus-based type-5 Ebola virus vaccine also elicits a similar T-cell response in humans to that shown with the chimpanzee adenovirus vector, peaking 14 days after vaccination.[5]

The glycoprotein from the present outbreak strain has 97% similarity to previously known Ebola virus vaccine isolates,[11] and vaccines using the prototypic antigen are expected to protect against infection with the west African isolates. Data from preclinical animal studies will hopefully provide information about the importance of having a vaccine antigen that is identical to that of circulating viruses.

Because Zhu and colleagues' report[3] is preliminary, antibody responses have only been assessed up to day 28 after vaccination. Thus, the durability of a single-dose recombinant adenovirus type-5 vaccination is still unknown, and assessment of whether subsequent boosts will be necessary to maintain or establish sufficient long-term immunity will be important. 82 (68%) participants reported at least one solicited adverse reaction within 7 days of vaccination (19 in the placebo group vs 27 in the low-dose group vs 36 in the high-dose group). The only reported adverse event in all three groups was mild pain at the injection site (eight in the

placebo group, 14 in the low-dose group, and 29 in the high-dose vaccine group),[3] a minor side-effect, suggesting that administration of the high dose probably needed in Africa would be acceptable. However, follow-up was only for 28 days and no conclusion about long-term side-effects can be made.

This adenovirus type-5 Ebola vaccine vector is an example of how quickly existing vaccine platforms can be modified to incorporate a new virus strain, and moved, with minimum testing in animals, into trials in humans during a crisis situation. However, for this vector, efficacy testing in non-human primates to establish whether the high-dose vaccine would be effective against homologous and heterologous Ebola virus strains still needs to be done. The outstanding question remains as to whether DNA, recombinant adenovirus, or recombinant chimpanzee adenovirus vaccine platforms will be more effective than a recombinant vesicular stomatitis virus-based vaccine, which by contrast is fast acting and not affected by pre-existing vector immunity.[12] Ultimately, the effectiveness of all these vaccines will only become clear when they proceed to phase 2 efficacy trials in outbreak regions.

Articles

Safety and immunogenicity of a novel recombinant adenovirus type-5 vector-based Ebola vaccine in healthy adults in China: preliminary report of a randomised, double-blind, placebo-controlled, phase 1 trial

Feng-Cai Zhu, MSc, Li-Hua Hou, PhD, Jing-Xin Li, MSc, Shi-Po Wu, PhD, Prof Pei Liu, PhD, Gui-Rong Zhang, PhD, Yue-Mei Hu, BSc, Fan-Yue Meng, MSc, Jun-Jie Xu, PhD, Rong Tang, MSc, Jin-Long Zhang, PhD, Wen-Juan Wang, MSc, Lei Duan, MSc, Kai Chu, MSc, Qi Liang, MSc, Jia-Lei Hu, MSc, Li Luo, MSc, Tao Zhu, PhD, Jun-Zhi Wang, PhD, Dr Wei Chen, PhD

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Summary

Background
Up to now, all tested Ebola virus vaccines have been based on the virus strain from the Zaire outbreak in 1976. We aimed to assess the safety and immunogenicity of a novel recombinant adenovirus type-5 vector-based Ebola vaccine expressing the glycoprotein of the 2014 epidemic strain.
Methods
We did this randomised, double-blind, placebo-controlled, phase 1 clinical trial at one site in Taizhou County, Jiangsu Province, China. Healthy adults (aged 18–60 years) were sequentially enrolled and randomly assigned (2:1), by computer-generated block randomisation (block size of six), to receive placebo, low-dose adenovirus type-5 vector-based Ebola vaccine, or high-dose vaccine. Randomisation was pre-stratified by dose group. All participants, investigators, and laboratory staff were masked to treatment allocation. The primary safety endpoint was occurrence of solicited adverse reactions within 7 days of vaccination. The primary immunogenicity endpoints were glycoprotein-specific antibody titres and T-cell responses at day 28 after the vaccination. Analysis was by intention to treat. The study is registered with ClinicalTrials.gov, number NCT02326194.
Findings
Between Dec 28, 2014, and Jan 9, 2015, 120 participants were enrolled and randomly assigned to receive placebo (n=40), low-dose vaccine (n=40), or high-dose vaccine. Participants were followed up for 28 days. Overall, 82 (68%) participants reported at least one solicited adverse reaction within 7 days of vaccination (n=19 in the placebo group vs n=27 in the low-dose group

vs n=36 in the high-dose group; p=0·0002). The most common reaction was mild pain at the injection site, which was reported in eight (20%) participants in the placebo group, 14 (35%) participants in the low-dose group, and 29 (73%) participants in the high-dose vaccine group (p<0·0001). We recorded no statistical differences in other adverse reactions and laboratory tests across groups. Glycoprotein-specific antibody titres were significantly increased in participants in the low-dose and high-dose vaccine groups at both day 14 (geometric mean titre 421·4 [95% CI 249·7–711·3] and 820·5 [598·9–1124·0], respectively; p<0·0001) and day 28 (682·7 [424·3–1098·5] and 1305·7 [970·1–1757·2], respectively; p<0·0001). T-cell responses peaked at day 14 at a median of 465·0 spot-forming cells (IQR 180·0–1202·5) in participants in the low-dose group and 765·0 cells (400·0–1460·0) in those in the high-dose group. 21 (18%) participants had mild fever (n=9 in the placebo group, n=6 in the low-dose group, and n=6 in the high-dose group). No serious adverse events were recorded.

Interpretation

Our findings show that the high-dose vaccine is safe and robustly immunogenic. One shot of the high-dose vaccine could mount glycoprotein-specific humoral and T-cell response against Ebola virus in 14 days.

Funding

China National Science and Technology, Beijing Institute of Biotechnology, and Tianjin CanSino Biotechnology.

Comment

Ebola: the challenging road to recovery

Michael Edelstein, Philip Angelides, David L Heymann

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DOI: http://dx.doi.org/10.1016/S0140-6736(15)60203-3

The resurgence of polio in Syria in 2013 has shown how a breakdown in public health can lead to the re-emergence of previously well-controlled diseases.1 In 2014 and early 2015 Liberia, Guinea, and Sierra Leone have focused all resources on the Ebola response at the expense of other health programmes. Combined with losing a large proportion of the health-care workforce and the population's reluctance to attend health-care facilities for fear of Ebola, this means the three countries are now at increased risk of other diseases that their health programmes usually target.

The Lancet Global Health

Jun 2015 Volume 3 Number 6 e297-e340
http://www.thelancet.com/journals/langlo/issue/current

[Reviewed earlier]

The Lancet Infectious Diseases

Jun 2015 Volume 15 Number 6 p615-746
http://www.thelancet.com/journals/laninf/issue/current

Articles

Statistical power and validity of Ebola vaccine trials in Sierra Leone: a simulation study of trial design and analysis

Dr Steven E Bellan, PhD, Juliet R C Pulliam, PhD, Carl A B Pearson, PhD, David Champredon, MSc, Spencer J Fox, BS, Laura Skrip, MPH, Prof Alison P Galvani, PhD, Manoj Gambhir, PhD,

Ben A Lopman, PhD, Prof Travis C Porco, PhD, Prof Lauren Ancel Meyers, PhD, Jonathan Dushoff, PhD
Published Online: 14 April 2015
DOI: http://dx.doi.org/10.1016/S1473-3099(15)70139-8
Summary
Background
Safe and effective vaccines could help to end the ongoing Ebola virus disease epidemic in parts of west Africa, and mitigate future outbreaks of the virus. We assess the statistical validity and power of randomised controlled trial (RCT) and stepped-wedge cluster trial (SWCT) designs in Sierra Leone, where the incidence of Ebola virus disease is spatiotemporally heterogeneous, and is decreasing rapidly.
Methods
We projected district-level Ebola virus disease incidence for the next 6 months, using a stochastic model fitted to data from Sierra Leone. We then simulated RCT and SWCT designs in trial populations comprising geographically distinct clusters at high risk, taking into account realistic logistical constraints, and both individual-level and cluster-level variations in risk. We assessed false-positive rates and power for parametric and non-parametric analyses of simulated trial data, across a range of vaccine efficacies and trial start dates.
Findings
For an SWCT, regional variation in Ebola virus disease incidence trends produced increased false-positive rates (up to 0·15 at α=0·05) under standard statistical models, but not when analysed by a permutation test, whereas analyses of RCTs remained statistically valid under all models. With the assumption of a 6-month trial starting on Feb 18, 2015, we estimate the power to detect a 90% effective vaccine to be between 49% and 89% for an RCT, and between 6% and 26% for an SWCT, depending on the Ebola virus disease incidence within the trial population. We estimate that a 1-month delay in trial initiation will reduce the power of the RCT by 20% and that of the SWCT by 49%.
Interpretation
Spatiotemporal variation in infection risk undermines the statistical power of the SWCT. This variation also undercuts the SWCT's expected ethical advantages over the RCT, because an RCT, but not an SWCT, can prioritise vaccination of high-risk clusters.
Funding
US National Institutes of Health, US National Science Foundation, and Canadian Institutes of Health Research.

Maternal and Child Health Journal
Volume 19, Issue 6, June 2015
http://link.springer.com/journal/10995/19/6/page/1
Commentary
New Dialogue for the Way Forward in Maternal Health: Addressing Market Inefficiencies
Katharine McCarthy, Saumya Ramarao, Hannah Taboada
Abstract
Despite notable progress in Millennium Development Goal (MDG) five, to reduce maternal deaths three-quarters by 2015, deaths due to treatable conditions during pregnancy and childbirth continue to concentrate in the developing world. Expanding access to three effective and low-cost maternal health drugs can reduce preventable maternal deaths, if available to all

women. However, current failures in markets for maternal health drugs limit access to lifesaving medicines among those most in need. In effort to stimulate renewed action planning in the post-MDG era, we present three case examples from other global health initiatives to illustrate how market shaping strategies can scale-up access to essential maternal health drugs. Such strategies include: sharing intelligence among suppliers and users to better approximate and address unmet need for maternal health drugs, introducing innovative financial strategies to catalyze otherwise unattractive markets for drug manufacturers, and employing market segmentation to create a viable and sustainable market. By building on lessons learned from other market shaping interventions and capitalizing on opportunities for renewed action planning and partnership, the maternal health field can utilize market dynamics to better ensure sustainable and equitable distribution of essential maternal health drugs to all women, including the most marginalized

Methodological Notes

Post-disaster Health Indicators for Pregnant and Postpartum Women and Infants

Marianne E. Zotti, Amy M. Williams, Etobssie Wako

Abstract

United States (U.S.) pregnant and postpartum (P/PP) women and their infants may be particularly vulnerable to effects from disasters. In an effort to guide post-disaster assessment and surveillance, we initiated a collaborative process with nationwide expert partners to identify post-disaster epidemiologic indicators for these at-risk groups. This 12 month process began with conversations with partners at two national conferences to identify critical topics for P/PP women and infants affected by disaster. Next we hosted teleconferences with a 23 member Indicator Development Working Group (IDWG) to review and prioritize the topics. We then divided the IDWG into three population subgroups (pregnant women, postpartum women, and infants) that conducted at least three teleconferences to discuss the proposed topics and identify/develop critical indicators, measures for each indicator, and relevant questions for each measure for their respective population subgroup. Lastly, we hosted a full IDWG teleconference to review and approve the indicators, measures, and questions. The final 25 indicators and measures with questions (available online) are organized by population subgroup: pregnant women (indicators = 9; measures = 24); postpartum women (indicators = 10; measures = 36); and infants (indicators = 6; measures = 30). We encourage our partners in disaster-affected areas to test these indicators and measures for relevancy and completeness. In post-disaster surveillance, we envision that users will not use all indicators and measures but will select ones appropriate for their setting. These proposed indicators and measures promote uniformity of measurement of disaster effects among U.S. P/PP women and their infants and assist public health practitioners to identify their post-disaster needs.

Medical Decision Making (MDM)

May 2015; 35 (4)
http://mdm.sagepub.com/content/current

[Reviewed earlier]

The Milbank Quarterly

A Multidisciplinary Journal of Population Health and Health Policy
June 2015 Volume 93, Issue 2 Pages 223–445
http://onlinelibrary.wiley.com/doi/10.1111/milq.2015.93.issue-2/issuetoc

Review Article

Advocacy for Health Equity: A Synthesis Review

LINDEN FARRER*, CLAUDIA MARINETTI, YOLINE KUIPERS CAVACO andCAROLINE COSTONGS

Article first published online: 4 JUN 2015
DOI: 10.1111/1468-0009.12112

Abstract

Context

Health inequalities are systematic differences in health among social groups that are caused by unequal exposure to—and distributions of—the social determinants of health (SDH). They are persistent between and within countries despite action to reduce them. Advocacy is a means of promoting policies that improve health equity, but the literature on how to do so effectively is dispersed. The aim of this review is to synthesize the evidence in the academic and gray literature and to provide a body of knowledge for advocates to draw on to inform their efforts.

Methods

This article is a systematic review of the academic literature and a fixed-length systematic search of the gray literature. After applying our inclusion criteria, we analyzed our findings according to our predefined dimensions of advocacy for health equity. Last, we synthesized our findings and made a critical appraisal of the literature.

Findings

The policy world is complex, and scientific evidence is unlikely to be conclusive in making decisions. Timely qualitative, interdisciplinary, and mixed-methods research may be valuable in advocacy efforts. The potential impact of evidence can be increased by "packaging" it as part of knowledge transfer and translation. Increased contact between researchers and policymakers could improve the uptake of research in policy processes. Researchers can play a role in advocacy efforts, although health professionals and disadvantaged people, who have direct contact with or experience of hardship, can be particularly persuasive in advocacy efforts. Different types of advocacy messages can accompany evidence, but messages should be tailored to advocacy target. Several barriers hamper advocacy efforts. The most frequently cited in the academic literature are the current political and economic zeitgeist and related public opinion, which tend to blame disadvantaged people for their ill health, even though biomedical approaches to health and political short-termism also act as barriers. These barriers could be tackled through long-term actions to raise public awareness and understanding of the SDH and through training of health professionals in advocacy. Advocates need to take advantage of "windows of opportunity," which open and close quickly, and demonstrate expertise and credibility.

Conclusions

This article brings together for the first time evidence from the academic and the gray literature and provides a building block for efforts to advocate for health equity. Evidence regarding many of the dimensions is scant, and additional research is merited, particularly concerning the applicability of findings outside the English-speaking world. Advocacy organizations have a central role in advocating for health equity, given the challenges bridging the worlds of civil society, research, and policy.

Nature
Volume 522 Number 7554 pp6-122 4 June 2015
http://www.nature.com/nature/current_issue.html

Editorials

Health plan
Proposals to improve the international emergency response to disease outbreaks in the wake of the Ebola epidemic should be implemented — but local solutions are the best defence.

Nature Medicine
June 2015, Volume 21 No 6 pp539-653
http://www.nature.com/nm/journal/v21/n6/index.html
[New issue; No relevant content identified]

Nature Reviews Immunology
June 2015 Vol 15 No 6
http://www.nature.com/nri/journal/v15/n6/index.html
[New issue; No relevant content identified]

New England Journal of Medicine
June 4, 2015 Vol. 372 No. 23
http://www.nejm.org/toc/nejm/medical-journal
Perspective
International Health Care Systems
Brazil's Family Health Strategy — Delivering Community-Based Primary Care in a Universal Health System
James Macinko, Ph.D., and Matthew J. Harris, M.B., B.S., D.Phil.
N Engl J Med 2015; 372:2177-218 1June 4, 2015 DOI: 10.1056/NEJMp1501140
[Initial text]
Brazil has made rapid progress toward universal coverage of its population through its national health system, the Sistema Único de Saúde (SUS). Since its emergence from dictatorship in 1985, Brazil — which has the world's fifth-largest population and seventh-largest economy — has invested substantially in expanding access to health care for all citizens, a goal that is implicit in the Brazilian constitution and the principles guiding the national health system.1 The SUS comprises public and private health care institutions and providers, financed primarily through taxes with contributions from federal, state, and municipal budgets. Health care management is decentralized, and municipalities are responsible for most primary care services as well as some hospitals and other facilities. All publicly financed health services and most common medications are universally accessible and free of charge at the point of service for all citizens — even the 26% of the population enrolled in private health plans (see table)
An important innovation in the system has been the development, adaptation, and rapid scaling up of a community-based approach to providing primary health care…

Pediatrics
June 2015, VOLUME 135 / ISSUE 6
http://pediatrics.aappublications.org/current.shtml
Article
Tdap Vaccine Effectiveness in Adolescents During the 2012 Washington State Pertussis Epidemic

Anna M. Acosta, MDa,b, Chas DeBolt, RN, MPHc, Azadeh Tasslimi, MPHc, Melissa Lewis, MPHd, Laurie K. Stewart, MSc, Lara K. Misegades, PhD, MSb, Nancy E. Messonnier, MDb, Thomas A. Clark, MD, MPHb, Stacey W. Martin, MSb, and Manisha Patel, MD, MSb
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Abstract
BACKGROUND: Acellular pertussis vaccines replaced whole-cell vaccines for the 5-dose childhood vaccination series in 1997. A sixth dose of pertussis-containing vaccine, tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis, adsorbed (Tdap), was recommended in 2005 for adolescents and adults. Studies examining Tdap vaccine effectiveness (VE) among adolescents who have received all acellular vaccines are limited.
METHODS: To assess Tdap VE and duration of protection, we conducted a matched case-control study during the 2012 pertussis epidemic in Washington among adolescents born during 1993–2000. All pertussis cases reported from January 1 through June 30, 2012, in 7 counties were included; 3 controls were matched by primary provider clinic and birth year to each case. Vaccination histories were obtained through medical records, the state immunization registry, and parent interviews. Participants were classified by type of pertussis vaccine received on the basis of birth year: a mix of whole-cell and acellular vaccines (1993–1997) or all acellular vaccines (1998–2000). We used conditional logistic regression to calculate odds ratios comparing Tdap receipt between cases and controls.
RESULTS: Among adolescents who received all acellular vaccines (450 cases, 1246 controls), overall Tdap VE was 63.9% (95% confidence interval [CI]: 50% to 74%). VE within 1 year of vaccination was 73% (95% CI: 60% to 82%). At 2 to 4 years postvaccination, VE declined to 34% (95% CI: −0.03% to 58%).
CONCLUSIONS: Tdap protection wanes within 2 to 4 years. Lack of long-term protection after vaccination is likely contributing to increases in pertussis among adolescents
Article
First Pertussis Vaccine Dose and Prevention of Infant Mortality
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Author Affiliations
aMeningitis and Bacterial Vaccine Preventable Diseases Branch, Division of Bacterial Diseases, National Center for Immunization and Respiratory Diseases, and
bDivision of Global HIV/AIDS, Center for Global Health, Centers for Disease Control and Prevention, Atlanta, Georgia
Abstract
BACKGROUND: American infants are at highest risk of severe pertussis and death. We investigated the role of ≥1 pertussis vaccinations in preventing pertussis-related deaths and risk markers for death among infants aged <42 days.
METHODS: We analyzed characteristics of fatal and nonfatal infant pertussis cases reported nationally during 1991–2008. Infants were categorized into 2 age groups on the basis of eligibility to receive a first pertussis vaccine dose at age 6 weeks; dose 1 was considered valid if

given ≥14 days before illness onset. Multivariable logistic regression was used to estimate the effect of ≥1 pertussis vaccine doses on outcome and risk markers.
RESULTS: Pertussis-related deaths occurred among 258 of 45 404 cases. Fatal and nonfatal cases were confirmed by culture (54% vs 49%) and polymerase chain reaction (31% vs 27%). All deaths occurred before age 34 weeks at illness onset; 64% occurred before age 6 weeks. Among infants aged ≥42 days, receiving ≥1 doses of vaccine protected against death (adjusted odds ratio [aOR]: 0.28; 95% confidence interval [CI]: 0.11–0.74), hospitalization (aOR: 0.69; 95% CI: 0.63–0.77), and pneumonia (aOR: 0.80; 95% CI: 0.68–0.95). Risk was elevated for Hispanic ethnicity (aOR: 2.28; 95% CI: 1.36–3.83) and American Indian/Alaska Native race (aOR: 5.15; 95% CI: 2.37–11.2) and lower for recommended antibiotic treatment (aOR: 0.28; 95% CI: 0.16–0.47). Among infants aged <42 days, risk was elevated for Hispanic ethnicity and lower with recommended antibiotic use.
CONCLUSIONS: The first pertussis vaccine dose and antibiotic treatment protect against death, hospitalization, and pneumonia.

Special Article

Strategies to Decrease Pertussis Transmission to Infants

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Abstract

The Global Pertussis Initiative (GPI) is an expert scientific forum addressing the worldwide burden of pertussis, which remains a serious health issue, especially in infants. This age cohort is at risk for developing pertussis by transmission from those in close proximity. Risk is increased in infants aged 0 to 6 weeks, as they are too young to be vaccinated. Older infants are at risk when their vaccination schedules are incomplete. Infants also bear the greatest disease burden owing to their high risk for pertussis-related complications and death; therefore, protecting them is a high priority. Two vaccine strategies have been proposed to protect infants. The first involves vaccinating pregnant women, which directly protects through the passive transfer of pertussis antibodies. The second strategy, cocooning, involves vaccinating parents, caregivers, and other close contacts, which indirectly protects infants from transmission by preventing disease in those in close proximity. The goal of this review was to present and discuss evidence on these 2 strategies. Based on available data, the GPI recommends vaccination during pregnancy as the primary strategy, given its efficacy, safety, and logistic advantages over a cocoon approach. If vaccination during pregnancy is not feasible, then all individuals having close contact with infants <6 months old should be immunized consistent with local health authority guidelines. These efforts are anticipated to minimize pertussis transmission to vulnerable infants, although real-world effectiveness data are limited. Countries should educate lay and medical communities on pertussis and introduce robust surveillance practices while implementing these protective strategies.

Commentary

Epidemic Pertussis and Acellular Pertussis Vaccine Failure in the 21st Century

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Author Affiliations

Department of Pediatrics, David Geffen School of Medicine at UCLA, Los Angeles, California
[Initial text]

In this issue of Pediatrics Acosta et al1 present a tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis, adsorbed (Tdap) vaccine effectiveness study in adolescents in Washington State during the first 6 months of 2012. Their findings support the previous Tdap effectiveness data from Wisconsin.2 The duration of Tdap effectiveness is disappointing, particularly because case-control studies tend to inflate efficacy.3

In 4 recent publications (including 1 article in Pediatrics) I have discussed epidemic pertussis and why vaccines fail.4–7 Before discussing why Tdap vaccine effectiveness wanes so rapidly, it seems worthwhile to discuss how rapidly protection wanes after a natural infection in the pre-Tdap era and to take a realistic look at the resurgence of pertussis.

The resurgence of pertussis is often attributed to the switch from whole-cell pertussis vaccines to acellular products. However, the increase in reported pertussis began ~14 years before the universal use of diphtheria-tetanus-acellular pertussis (DTaP) vaccines in childhood commenced. The 2 greatest contributors to the resurgence of pertussis are greater awareness and more sensitive diagnosis (the routine use …

Pharmaceutics
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(Accessed 6 June 2015)
[No new relevant content identified]

PLoS Neglected Tropical Diseases
http://www.plosntds.org/
(Accessed 6 June 2015)
Research Article
Updated Global Burden of Cholera in Endemic Countries
Mohammad Ali , Allyson R. Nelson, Anna Lena Lopez, David A. Sack

Published: June 4, 2015
DOI: 10.1371/journal.pntd.0003832
Abstract

Background

The global burden of cholera is largely unknown because the majority of cases are not reported. The low reporting can be attributed to limited capacity of epidemiological surveillance and laboratories, as well as social, political, and economic disincentives for reporting. We previously estimated 2.8 million cases and 91,000 deaths annually due to cholera in 51 endemic countries. A major limitation in our previous estimate was that the endemic and non-endemic countries were defined based on the countries' reported cholera cases. We overcame the limitation with the use of a spatial modelling technique in defining endemic countries, and accordingly updated the estimates of the global burden of cholera.

Methods/Principal Findings

Countries were classified as cholera endemic, cholera non-endemic, or cholera-free based on whether a spatial regression model predicted an incidence rate over a certain threshold in at least three of five years (2008-2012). The at-risk populations were calculated for each country based on the percent of the country without sustainable access to improved sanitation facilities. Incidence rates from population-based published studies were used to calculate the estimated annual number of cases in endemic countries. The number of annual cholera deaths was calculated using inverse variance-weighted average case-fatality rate (CFRs) from literature-based CFR estimates. We found that approximately 1.3 billion people are at risk for cholera in endemic countries. An estimated 2.86 million cholera cases (uncertainty range: 1.3m-4.0m) occur annually in endemic countries. Among these cases, there are an estimated 95,000 deaths (uncertainty range: 21,000-143,000).

Conclusion/Significance

The global burden of cholera remains high. Sub-Saharan Africa accounts for the majority of this burden. Our findings can inform programmatic decision-making for cholera control.

Author Summary

The global burden of cholera is largely unknown because the majority of cases are not reported. The low reporting can be attributed to limited capacity of epidemiological surveillance and laboratories, as well as social, political, and economic disincentives for reporting. We previously estimated 2.8 million cases and 91,000 deaths annually due to cholera in 51 endemic countries. A major limitation in our previous estimate was that the endemic and non-endemic countries were defined based on the countries' reported cholera cases. If a country did not report cases even though the country had cholera, the country was classified as cholera free. This time we addressed this limitation by using a spatial modelling technique, which helped us define the cholera-endemic countries based on access to improved water and sanitation in the country as well as cholera incidence in neighboring countries. Our new estimate illustrates 2.9 million of cases and 95,000 deaths in 69 endemic countries, with the majority of the burden in Sub-Saharan Africa. The sustained high burden of cholera points to the necessity for integrated and improved control efforts, and these findings may help programmatic decision-making for controlling the disease in endemic countries.

What Factors Might Have Led to the Emergence of Ebola in West Africa?

Kathleen A. Alexander, Claire E. Sanderson, Madav Marathe, Bryan L. Lewis, Caitlin M. Rivers, effrey Shaman, John M. Drake, Eric Lofgren, Virginia M. Dato, Marisa C. Eisenberg, Stephen Eubank

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Abstract
An Ebola outbreak of unprecedented scope emerged in West Africa in December 2013 and presently continues unabated in the countries of Guinea, Sierra Leone, and Liberia. Ebola is not new to Africa, and outbreaks have been confirmed as far back as 1976. The current West African Ebola outbreak is the largest ever recorded and differs dramatically from prior outbreaks in its duration, number of people affected, and geographic extent. The emergence of this deadly disease in West Africa invites many questions, foremost among these: why now, and why in West Africa? Here, we review the sociological, ecological, and environmental drivers that might have influenced the emergence of Ebola in this region of Africa and its spread throughout the region. Containment of the West African Ebola outbreak is the most pressing, immediate need. A comprehensive assessment of the drivers of Ebola emergence and sustained human-to-human transmission is also needed in order to prepare other countries for importation or emergence of this disease. Such assessment includes identification of country-level protocols and interagency policies for outbreak detection and rapid response, increased understanding of cultural and traditional risk factors within and between nations, delivery of culturally embedded public health education, and regional coordination and collaboration, particularly with governments and health ministries throughout Africa. Public health education is also urgently needed in countries outside of Africa in order to ensure that risk is properly understood and public concerns do not escalate unnecessarily. To prevent future outbreaks, coordinated, multiscale, early warning systems should be developed that make full use of these integrated assessments, partner with local communities in high-risk areas, and provide clearly defined response recommendations specific to the needs of each community.

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http://journals.plos.org/plospathogens/
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Pearls
A 21st Century Perspective of Poliovirus Replication
Nicolas Lévêque, Bert L. Semler
Published: June 4, 2015
DOI: 10.1371/journal.ppat.1004825
Featured in PLOS Collections
Why Poliovirus Replication Has Been Studied for More Than 50 Years
Poliovirus is the etiologic agent of poliomyelitis, an acute flaccid paralysis affecting 1%–2% of infected patients and, on rare occasions, causing death by paralyzing muscles that control the throat or breathing. A striking feature of infection is lifelong disabilities that may affect survivors of the acute disease. Transmitted by the fecal—oral and oral—oral route, this virus (three serotypes) was one of the most feared pathogens in industrialized countries during the 20th century affecting hundreds of thousands of children every year, via outbreaks during warm summer months. Although there are highly effective vaccines to control poliomyelitis, it remains endemic in a few countries, from which spread and outbreaks continue to occur throughout the

world. Since its discovery in 1908, poliovirus has been intensively studied to better understand and control this formidable pathogen. The history of poliovirus is not, however, limited to the fight against the disease. Poliovirus replication studies also have played important roles in the development of modern virology since poliovirologists and, more generally, picornavirologists have been pioneers in many domains of molecular virology. Poliovirus was, for example, the first animal RNA virus to have its complete genome sequence determined, the first RNA animal virus for which an infectious clone was constructed, and, along with the related rhinovirus, the first human virus that had its three-dimensional structure solved by X-ray crystallography. Indeed, the history of over half a century of poliovirus replication studies is marked by major discoveries, many of which are summarized here and illustrated in Fig 1…

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07 May 2015; volume 282, issue 1806
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March 2015 Vol. 37, No.
http://www.paho.org/journal/index.php?option=com_content&view=article&id=158&Itemid=266&lang=en
Prevalence of cholera risk factors between migrant Haitians and Dominicans in the Dominican Republic [Prevalencia de los factores de riesgo de cólera entre los inmigrantes haitianos y los dominicanos en la República Dominicana]
Andrea J. Lund, Hunter M. Keys, Stephanie Leventhal, Jennifer W. Foster, and Matthew C. Freeman
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A systematic review of nursing research priorities on health system and services in the Americas [Revisión sistemática de las prioridades de investigación de enfermería en sistemas y servicios de salud en la Región de las Américas]
Alessandra Bassalobre Garcia, Silvia Helena De Bortoli Cassiani,and Ludovic Reveiz

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April 2015 Volume 35, Issue 4 Pages 555–758
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Tropical Medicine & International Health
July 2015 Volume 20, Issue 7 Pages 821–966

http://onlinelibrary.wiley.com/doi/10.1111/tmi.2015.20.issue-7/issuetoc

Pneumococcal carriage in rural Gambia prior to the introduction of pneumococcal conjugate vaccine: a population-based survey (pages 871–879)

Effua Usuf, Henry Badji, Abdoulie Bojang, Sheikh Jarju, Usman Nurudeen Ikumapayi, Martin Antonio, Grant Mackenzie and Christian Bottomley

Article first published online: 6 APR 2015 | DOI: 10.1111/tmi.12505

Abstract

Objective

To evaluate pneumococcal colonisation before and after the introduction of pneumococcal conjugate vaccine (PCV) in eastern Gambia.

Methods

Population-based cross-sectional survey of pneumococcal carriage between May and August 2009 before the introduction of PCV into the Expanded Program on Immunization. Nasopharyngeal swabs were collected from all household members, but in selected households, only children aged 6–10 years were swabbed. This age group participated in an earlier trial of a nine-valent PCV between 2000 and 2004.

Results

The prevalence of nasopharyngeal pneumococcal carriage in 2933 individuals was 72.0% in underfives (N = 515), 41.6% in children aged 5–17 (N = 1508) and 13.0% in adults ≥18 (N = 910) years. The age-specific prevalence of serotypes included in PCV7, PCV10 and PCV13 was 24.7%, 26.6% and 46.8% among children <5 years of age; 8.5%, 9.2% and 17.7% among children 5–17 years; and 2.5%, 3.3% and 5.5% among adults ≥18 years. The most common serotypes were 6A (13.1%), 23F (7.6%), 3 (7.3%), 19F (7.1%) and 34 (4.6%). There was no difference in the overall carriage of pneumococci between vaccinated and unvaccinated children 8 years after the primary vaccination with three doses of PCV (48.3% vs. 41.1%).

Conclusion

Before the introduction of PCV, serotypes included in PCV13 accounted for about half the pneumococcal serotypes in nasopharyngeal carriage. Thus, the potential impact of PCV13 on pneumococcal disease in the Gambia is substantial.

Vaccine

Volume 33, Issue 28, Pages 3159-3262 (22 June 2015)
http://www.sciencedirect.com/science/journal/0264410X/33

Vaccination errors reported to the Vaccine Adverse Event Reporting System, (VAERS) United States, 2000–2013

Original Research Article
Pages 3171-3178

Beth F. Hibbs, Pedro L. Moro, Paige Lewis, Elaine R. Miller, Tom T. Shimabukuro

Abstract

Importance

Vaccination errors are preventable events. Errors can have impacts including inadequate immunological protection, possible injury, cost, inconvenience, and reduced confidence in the healthcare delivery system.

Objectives

To describe vaccination error reports submitted to the Vaccine Adverse Event Reporting System (VAERS) and identify opportunities for prevention.

Methods

We conducted descriptive analyses using data from VAERS, the U.S. spontaneous surveillance system for adverse events following immunization. The VAERS database was searched from 2000 through 2013 for U.S. reports describing vaccination errors and reports were categorized into 11 error groups. We analyzed numbers and types of vaccination error reports, vaccines involved, reporting trends over time, and descriptions of errors for selected reports.
Results
We identified 20,585 vaccination error reports documenting 21,843 errors. Annual reports increased from 10 in 2000 to 4324 in 2013. The most common error group was "Inappropriate Schedule" (5947; 27%); human papillomavirus (quadrivalent) (1516) and rotavirus (880) vaccines were most frequently involved. "Storage and Dispensing" errors (4983; 23%) included mostly expired vaccine administered (2746) and incorrect storage of vaccine (2202). "Wrong Vaccine Administered" errors (3372; 15%) included mix-ups between vaccines with similar antigens such as varicella/herpes zoster (shingles), DTaP/Tdap, and pneumococcal conjugate/polysaccharide. For error reports with an adverse health event (5204; 25% of total), 92% were classified as non-serious. We also identified 936 vaccination error clusters (i.e., same error, multiple patients, in a common setting) involving over 6141 patients. The most common error in clusters was incorrect storage of vaccine (582 clusters and more than 1715 patients).
Conclusions
Vaccination error reports to VAERS have increased substantially. Contributing factors might include changes in reporting practices, increasing complexity of the immunization schedule, availability of products with similar sounding names or acronyms, and increased attention to storage and temperature lapses. Prevention strategies should be considered.

Estimates of pertussis vaccine effectiveness in United States air force pediatric dependents

Original Research Article
Pages 3228-3233
Greg Wolff, Michael Bell, James Escobar, Stefani Ruiz
Abstract
Background
Pertussis vaccination compliance is critical for reduction in the prevalence of disease; however, the current acellular pertussis vaccine may not provide sufficient protection from infection. This study examined acellular pertussis vaccine effectiveness (VE) for Air Force dependents less than 12 years of age.
Methods
We conducted a case-control study among Air Force pediatric dependents from 2011 to 2013, comparing cases with positive pertussis test results to controls who received the same lab tests with a negative result. Our study population was categorized by age group and vaccination status based on the Centers for Disease Control and Prevention recommended pertussis vaccination schedule. VE was calculated with respect to vaccination status and pertussis lab results.
Results
We compared 27 pertussis laboratory positive cases with 974 pertussis laboratory negative controls, 2 months to <12 years old. Comparing completely vaccinated to non-vaccinated patients, the overall VE was 78.3% (95% confidence interval (CI): 48.6, 90.8; $p < 0.001$). VE was highest among those 15 months to <6 years old: 97.6% (95% CI: 78.5, 99.7; $p < 0.001$). Children 6 to <12 years old had the lowest VE: 48.5% (95% CI: −74.0, 84.7; $p = 0.28$). Comparing partially vaccinated patients to nonvaccinated patients yielded 64.2% (95% CI: −7.2, 88.1; $p = 0.06$) overall VE.

Conclusions
Acellular pertussis vaccination was effective at preventing laboratory confirmed pertussis among our Air Force pediatric dependent population, with highest protection among completely vaccinated, young children. Older children received the lowest amount of protection. Partial vaccination had near significant protection. Our overall calculated pertussis VE corroborates other pertussis VE studies looking at similar age groups.

Vaccine
Volume 33, Issue 27, Pages 3065-3158 (17 June 2015)
http://www.sciencedirect.com/science/journal/0264410X/33/27

Cost-effectiveness of norovirus vaccination in children in Peru

Original Research Article
Pages 3084-3091

Andrew J. Mirelman, Sarah Blythe Ballard, Mayuko Saito, Margaret N. Kosek, Robert H. Gilman

Abstract
Background
With candidate norovirus (NV) vaccines in a rapid phase of development, assessment of the potential economic value of vaccine implementation will be necessary to aid health officials in vaccine implementation decisions. To date, no evaluations have been performed to evaluate the benefit of adopting NV vaccines for use in the childhood immunization programs of low- and middle-income countries.
Methods
We used a Markov decision model to evaluate the cost-effectiveness of adding a two-dose NV vaccine to Peru's routine childhood immunization schedule using two recent estimates of NV incidence, one for a peri-urban region and one for a jungle region of the country.
Results
Using the peri-urban NV incidence estimate, the annual cost of vaccination would be $13.0 million, offset by $2.6 million in treatment savings. Overall, this would result in 473 total DALYs averted; 526,245 diarrhea cases averted;153,735 outpatient visits averted; and 414 hospitalizations averted between birth and the fifth year of life. The incremental cost-effectiveness ratio would be $21,415 per DALY averted; $19.86 per diarrhea case; $68.23 per outpatient visit; and $26,298 per hospitalization. Using the higher jungle NV incidence rates provided a lower cost per DALY of $10,135. The incremental cost per DALY with per-urban NV incidence is greater than three times the 2012 GDP per capita of Peru but the estimate drops below this threshold using the incidence from the jungle setting. In addition to the impact of incidence, sensitivity analysis showed that vaccine price and efficacy play a strong role in determining the level of cost-effectiveness.
Conclusions
The introduction of a NV vaccine would prevent many healthcare outcomes in the Peru and potentially be cost-effective in scenarios with high NV incidence. The vaccine cost-effectiveness model could also be applied to the evaluation of NV vaccine cost-effectiveness in other countries. In resource-poor settings, where NV incidence rates are expected to be higher.

Influenza vaccination coverage of Vaccine for Children (VFC)-entitled versus privately insured children, United States, 2011–2013

Original Research Article
Pages 3114-3121

Anup Srivastav, Yusheng Zhai, Tammy A. Santibanez, Katherine E. Kahn, Philip J. Smith, James A. Singleton

Abstract
Background
The Vaccines for Children (VFC) program provides vaccines at no cost to children who are Medicaid-eligible, uninsured, American Indian or Alaska Native (AI/AN), or underinsured and vaccinated at Federally Qualified Health Centers or Rural Health Clinics. The objective of this study was to compare influenza vaccination coverage of VFC-entitled to privately insured children in the United States, nationally, by state, and by selected socio-demographic variables.
Methods
Data from the National Immunization Survey-Flu (NIS-Flu) surveys were analyzed for the 2011–2012 and 2012–2013 influenza seasons for households with children 6 months–17 years. VFC-entitlement and private insurance status were defined based upon questions asked of the parent during the telephone interview. Influenza vaccination coverage estimates of children VFC-entitled versus privately insured were compared by t-tests, both nationally and within state, and within selected socio-demographic variables.
Results
For both seasons studied, influenza coverage for VFC-entitled children did not significantly differ from coverage for privately insured children (2011–2012: 52.0% ± 1.9% versus 50.7% ± 1.2%; 2012–2013: 56.0% ± 1.6% versus 57.2% ± 1.2%). Among VFC-entitled children, uninsured children had lower coverage (2011–2012: 38.9% ± 4.7%; 2012–2013: 44.8% ± 3.5%) than Medicaid-eligible (2011–2012: 55.2% ± 2.1%; 2012–2013: 58.6% ± 1.9%) and AI/AN children (2011–2012: 54.4% ± 11.3%; 2012–2013: 54.6% ± 7.0%). Significant differences in vaccination coverage among VFC-entitled and privately insured children were observed within some subgroups of race/ethnicity, income, age, region, and living in a metropolitan statistical area principle city.
Conclusions
Although finding few differences in influenza vaccination coverage among VFC-entitled versus privately insured children was encouraging, nearly half of all children were not vaccinated for influenza and coverage was particularly low among uninsured children. Additional public health interventions are needed to ensure that more children are vaccinated such as a strong recommendation from health care providers, utilization of immunization information systems, provider reminders, standing orders, and community-based interventions such as educational activities and expanded access to vaccination services.

Burden of invasive pneumococcal disease (IPD) in Sri-Lanka: Deriving a reasonable measure for vaccine introduction decision making

Original Research Article
Pages 3122-3128
S. Kularatna, P.R. Wijesinghe, M.R.N. Abeysinghe, K. Karunaratne, L. Ekanayake
Abstract
Purpose
The lack of evidence on the disease burden has been an obstacle for decision-making on introducing pneumococcal vaccines in Sri-Lanka. Hence, the purpose of this study is to determine the incidence of invasive pneumococcal disease among children under five-years of age in Sri-Lanka's Colombo district.
Methods
In a community-based study, using a sample of 2310 children, we identified syndromes associated with pneumococcal disease (pneumonia, meningitis, sepsis). The estimates of annual cumulative incidence of invasive pneumococcal disease were derived by having applied proportions of laboratory confirmed invasive pneumococcal disease among all-cause syndromes

associated with pneumococcal infection obtained from the hospital-based invasive bacterial disease sentinel surveillance and findings of the community-based study to population parameters of the district. The estimates of invasive pneumococcal pneumonia and sepsis based on low-sensitive, culture confirmation were adjusted by a correction factor.
Results
The annual cumulative incidence of all-cause clinical syndromes associated with pneumococcal disease (pneumonia, meningitis, sepsis) were 1.3, 0.52, 0.39 per 100 children, respectively. The estimate of adjusted, invasive pneumococcal disease cumulative incidence was 206.3 per 100,000 while estimates of pneumococcal pneumonia, meningitis and sepsis cumulative incidence were 147.9, 13.2 and 45.2 per 100,000 under-five children.
Conclusion
Reasonable estimates of invasive pneumococcal disease could be derived by using incidence of clinical syndromes associated with pneumococcal disease obtained from population-based studies and proportion of pneumococcal infection among all-cause clinical syndromes associated with pneumococcal disease generated from hospital-based sentinel surveillance. These estimates may help informed decision-making on introduction of pneumococcal conjugated vaccine.

Vaccine
Volume 33, Issue 26, Pages 2955-3064 (12 June 2015)
http://www.sciencedirect.com/science/journal/0264410X/33/26

Poliovirus immunity in newly resettled adult refugees in Idaho, United States of America

Pages 2968-2970
Clay Roscoe, Ryan Gilles, Alex J. Reed, Matt Messerschmidt, Rebecca Kinney
Abstract
Background
In the United States, vaccines have eliminated wild poliovirus (WPV) infection, though resettling refugees may lack immunity and importation of WPV remains a concern.
Methods
A cross-sectional survey was performed to determine the prevalence of poliovirus immunity in adult refugees resettling in Boise, Idaho, U.S.A.; immunity was evaluated using two definitions: serotypes 1, 2 and 3 positive, or serotypes 1 and 3 positive.
Results
This survey evaluated 795 adult refugees between August 2010 and November 2012. Poliovirus immunity in adults >18 years was 55.3% for serotypes 1, 2 and 3 combined, and 60% for serotypes 1 and 3 only.
Conclusion
This study demonstrated a WPV immunity rate of <60% in a recently resettled adult refugee population in the United States, reinforcing the need to ensure poliovirus immunity in all newly arrived adult refugees, either by expanding pre-departure immunization or by screening for immunity at resettlement and vaccinating when indicated.

Determinants of maternal immunization in developing countries

Original Research Article
Pages 2971-2977
Jayani Pathirana, Jerome Nkambule, Steven Black
Abstract
Background

Maternal immunization is an effective intervention to protect newborns and young infants from infections when their immune response is immature. Tetanus toxoid vaccination of pregnant women is the most widely implemented maternal vaccine in developing countries where neonatal mortality is the highest. We identified barriers to maternal tetanus vaccination in developing African and Asian countries to identify means of improving maternal immunization platforms in these countries.

Method

We categorized barriers into health system, health care provider and patient barriers to maternal tetanus immunization and conducted a literature review on each category. Due to limited literature from Africa, we conducted a pilot survey of health care providers in Malawi on barriers they experience in immunizing pregnant women.

Results

The major barriers of the health system are due to inadequate financial and human resources which translate to inadequate vaccination services delivery and logistics management. Health care providers are limited by poor attendance of Antenatal Care and inadequate knowledge on vaccinating pregnant women. Patient barriers are due to lack of education and knowledge on pregnancy immunization and socioeconomic factors such as low income and high parity.

Conclusion

There are several factors that affect maternal tetanus immunization. Increasing knowledge in health care providers and patients, increasing antenatal care attendance and outreach activities will aid the uptake of maternal immunization. Health system barriers are more difficult to address requiring an improvement of overall immunization services. Further analyses of maternal immunization specific barriers and the means of addressing them are required to strengthen the existing program and provide a more efficient delivery system for additional maternal vaccines.

Vaccines4Kids: Assessing the impact of text message reminders on immunization rates in infants

Original Research Article

Pages 2984-2989

Victoria Niederhauser, Melissa Johnson, Abbas S. Tavakoli

Abstract

The purpose of this study was to examine the effect text messages (TM) immunization reminders have on immunization rates in the first 7 months of life. This randomized-control trial enrolled 57 parent/infant dyads and had a 74% completion rate (43) at the end of the study period. The study was approved by Committee on Human Subjects at the University of Hawaii Institutional Board Review. All participants completed a demographics form and a Barriers to Immunization Survey (SHOTS survey) at the start and end of the study. Parents received TM at 4, 7, 12, 15, 20, & 23 weeks of child's age. The intervention group received immunization reminders and the control group received healthy baby messages. In the overall mixed model, between enrollment and 7 months of age, the barriers to immunizations decreased for all parents significantly. There were no significant differences in immunization rates between groups at 7 months of age. Positive responses from regarding TM interventions show this is a promising intervention, but further research is required regarding how to address behavior change and motivation for health prevention behaviors with TM.

Deaths averted by influenza vaccination in the U.S. during the seasons 2005/06 through 2013/14

Original Research Article

Pages 3003-3009

Ivo M. Foppa, Po-Yung Cheng, Sue B. Reynolds, David K. Shay, Cristina Carias, Joseph S. Bresee, Inkyu K. Kim, Manoj Gambhir, Alicia M. Fry

Abstract

Background

Excess mortality due to seasonal influenza is substantial, yet quantitative estimates of the benefit of annual vaccination programs on influenza-associated mortality are lacking.

Methods

We estimated the numbers of deaths averted by vaccination in four age groups (0.5 to 4, 5 to 19, 20 to 64 and ≥65 yrs.) for the nine influenza seasons from 2005/6 through 2013/14. These estimates were obtained using a Monte Carlo approach applied to weekly U.S. age group-specific estimates of influenza-associated excess mortality, monthly vaccination coverage estimates and summary seasonal influenza vaccine effectiveness estimates to obtain estimates of the number of deaths averted by vaccination. The estimates are conservative as they do not include indirect vaccination effects.

Results

From August, 2005 through June, 2014, we estimated that 40,127 (95% confidence interval [CI] 25,694 to 59,210) deaths were averted by influenza vaccination. We found that of all studied seasons the most deaths were averted by influenza vaccination during the 2012/13 season (9398; 95% CI 2,386 to 19,897) and the fewest during the 2009/10 pandemic (222; 95% CI 79 to 347). Of all influenza-associated deaths averted, 88.9% (95% CI 83 to 92.5%) were in people ≥65 yrs. old.

Conclusions

The estimated number of deaths averted by the US annual influenza vaccination program is considerable, especially among elderly adults and even when vaccine effectiveness is modest, such as in the 2012/13 season. As indirect effects ("herd immunity") of vaccination are ignored, these estimates represent lower bound estimates and are thus conservative given valid excess mortality estimates

Special Section on Aeras Meeting Reports on Tuberculosis Vaccine Development;

Edited by Stefan H.E. Kaufmann

Aeras-sponsored meeting reports: Aerosol TB vaccines, whole mycobacteria cell TB vaccines, and prevention of sustained Mycobacterium tuberculosis infection

Pages 3035-3037

Stefan H.E. Kaufmann

Vaccine

Volume 33, Supplement 2, 8 June 2015, Pages B29–B33

http://www.sciencedirect.com/science/journal/0264410X/33/supp/S2

Enhancing Vaccine Immunity and Value

An update of the progress and future needs of research and policies for enhancing vaccine value, based on the symposium organised by Novartis

Introduction to the supplement

Pages B1-B2

Rino Rappuoli

Abstract

In July of 2014, a symposium entitled "Enhancing Vaccine Immunity and Value" was held in Siena, Italy. The focus of the symposium was on how to best meet the challenge of developing and implementing vaccines for future disease targets. Vaccination has been responsible for averting estimated 3 billion cases of disease and more than 500 million lives to date through the

prevention of infectious diseases. This has largely been responsible for dramatic increases in life span in developed countries. However, with the demographics of the world's population are changing, with many adults now surviving into their 80s, we now face the challenge of protecting the aging and other underserved populations not only against infectious diseases but also against cancer and other chronic conditions that occur in older adults. To face this challenge, we must harness new technologies derived from recent advances in the fields of immunology, structural biology, synthetic biology and genomics that promise a revolution in the vaccine field. Specifically, vaccine adjuvants have the potential to harness the immune system to provide protection against new types of diseases, improve protection in young children and expand this protection to adults and the elderly. However, in order to succeed, we need to overcome the non-technical challenges that could limit the implementation of innovative vaccines, including controversies regarding the safety of adjuvants, increasing regulatory complexity, the inadequate methods used to assess the value of novel vaccines, and the resulting industry alienation from future investment. In this supplement, we have assembled manuscripts from lectures and discussions of the symposium last July that addressed two related questions: how to improve vaccine efficacy using breakthrough technologies and how to capture the full potential of novel vaccines.

Valuing vaccines: Deficiencies and remedies
Review Article
Pages B29-B33
David E. Bloom

Abstract
Current evaluation models for the value of vaccines typically account for a small subset of the full social and economic benefits of vaccination. Health investments yield positive economic benefits via several channels at the household, community, and national levels. Underestimating, or worse, not considering these benefits can lead to ill-founded recommendations regarding the introduction of vaccines into immunization programs. The clear and strong links between health and wealth suggest the need to redesign valuation frameworks for vaccination so that the full costs may be properly weighed against the full benefits of vaccines.

Bridging the gap: Need for a data repository to support vaccine prioritization efforts
Review Article
Pages B34-B39
Guruprasad Madhavan, Charles Phelps, Kinpritma Sangha, Scott Levin, Rino Rappuoli

Vaccines — Open Access Journal
(Accessed 6 June 2015)
http://www.mdpi.com/journal/vaccines
[No new relevant content identified]

Value in Health
May 2015 Volume 18, Issue 3
http://www.valueinhealthjournal.com/current
[Reviewed earlier]

* * * *

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

No new content identified.

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Media/Policy Watch

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

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

Al Jazeera
http://america.aljazeera.com/search.html?q=vaccine
Accessed 6 June 2015
[No new, unique, relevant content]

The Atlantic
http://www.theatlantic.com/magazine/
Accessed 6 June 201
[No new, unique, relevant content]

BBC
http://www.bbc.co.uk/
Accessed 6 June 2015
[No new, unique, relevant content]

Brookings
http://www.brookings.edu/
Accessed 6 June 2015
[No new, unique, relevant content]

Center for Global Development
http://www.cgdev.org/
Accessed 6 June 2015
New Rules for Public Payers and Pharma in Emerging Economies?
6/3/15
Amanda Glassman

This week, emerging economy governments and multinational pharmaceutical executives announced they have agreed to a new way of working together, which should ensure people in those countries get the medicines they need at affordable prices. I'm glad to see this new framework for better priority-setting become a reality. Agreed to in April in Vietnam, it will allow public healthcare payers, the pharma industry and patients benefit from a more transparent process for deciding what drugs are made available to those who rely on strained public health care systems. While I have some questions and reservations about the agreement, at least it begins to address a chronic problem in global public health…

Council on Foreign Relations
http://www.cfr.org/
Accessed 6 June 2015
[No new, unique, relevant content]

The Economist
http://www.economist.com/
Accessed 6 June 2015
[No new, unique, relevant content]

Financial Times
http://www.ft.com/hme/uk
[No new, unique, relevant content]

Forbes
http://www.forbes.com/
Accessed 6 June 2015
Bill Gates, Dr. Paul Farmer And African Tycoon Strive Masiyiwa On Combating Future Epidemics
Billionaire Bill Gates, renowned doctor Paul Farmer and Zimbabwe's richest man Strive Masiyiwa discussed how to combat future epidemics during the Forbes 400 Summit on Philanthropy.
Keren Blankfeld, Forbes Staff Jun 05, 2015

Foreign Affairs
http://www.foreignaffairs.com/
Accessed 6 June 2015
[No new, unique, relevant content]

Foreign Policy
http://foreignpolicy.com/
Accessed 6 June 2015
[No new, unique, relevant content]

The Guardian
http://www.guardiannews.com/
Accessed 6 June 2015
Children continue to die from vaccine-preventable diseases. We can stop that
Amy Belisle
4 June 2015

An unprecedented outbreak of chicken pox and whooping cough in Maine likely stems from a breakdown of herd immunity

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

Mail & Guardian
http://mg.co.za/
Accessed 6 June 2015
[No new, unique, relevant content]

New Yorker
http://www.newyorker.com/
Accessed 6 June 2015
[No new, unique, relevant content]

New York Times
http://www.nytimes.com/
Accessed 6 June 2015
Movie Review
Review: 'Every Last Child,' a Front-Line View of the Polio Crisis in Pakistan
New York Times | 2 June 2015
"Every Last Child," a compelling documentary by Tom Roberts, gives a street-level view of the polio crisis in Pakistan, where that crippling virus remains endemic. While a program by the World Health Organization goes door to door administering oral vaccinations to infants, Pakistani Taliban militants have killed dozens of health workers since 2012.

The film spends time with an adult victim of polio and with a father whose infant son must be fitted for leg braces. And it follows Gulnaz Sherazi, a health worker who lost her niece and sister-in-law to Taliban attacks but continues to serve. These wrenching stories humanize the stakes of a health initiative that found itself and its employees at risk from a toxic mix of politics, propaganda and terrorism.

Once thought to be on the verge of global eradication, polio continues to threaten pockets of Pakistan: Peshawar in the north and the Waziristan tribal areas, and spreading south to Karachi. And the Pakistan polio strain has turned up in Afghanistan, Egypt, Syria, even China.
The Taliban's brutal violence stuns Elias Durry, in charge of the W.H.O. program in Pakistan. "It's a public health campaign," he says. "It's not supposed to be a war." But that's what the vaccination project has become, with an implacable enemy and a resentful populace…

Wall Street Journal
http://online.wsj.com/home-page?_wsjregion=na,us&_homepage=/home/us
Accessed 6 June 2015
Ebola's Long Shadow - West Africa Struggles to Rebuild Its Ravaged Health-Care System
By Betsy McKay 5 June 2015

Washington Post
http://www.washingtonpost.com/
Accessed 6 June 2015

The Post's View

Cholera's fresh attack in Haiti

As donor dollars have dried up, the impoverished Caribbean nation faces a surge in the disease.

Editorial Board | Opinions | Jun 4, 2015

By Editorial Board June 4

THE FIGHT against the cholera epidemic in Haiti, by far the world's worst in recent years, has been a hard slog. Still, the number of new cases had fallen precipitously, to just 1,000 per month for much of 2014 from an average in 2011 of nearly 30,000 per month.

But a recent spike — to about 1,000 new cases per week — is a grim reminder of how much is left to do to eradicate an illness that was virtually unknown in Haiti until U.N. peacekeepers from Nepal introduced it in 2010.

The surge in new cases also casts an unflattering spotlight on international donors, whose focus has gradually shifted elsewhere since the deadly 2010 earthquake killed at least 160,000 people .

It's impossible to know whether flagging contributions reflect donor fatigue or the fact that relatively few cholera victims end up dying (less than 1 percent), thanks to quicker recognition and treatment in many parts of the country. Still, tighter money means longer odds for tackling the disease over the long term.

A plan to eliminate cholera in Haiti by 2022, devised in coordination with the Port-au-Prince government, was pegged to cost $2.2 billion. But of the $1.7 billion sought to execute the first five years of the plan, from 2013 to 2018, only 17 percent — about $286 million — has been raised and spent so far.

That means that blueprints to improve and replace portions of Haiti's glaringly inadequate water and sanitation infrastructure are not being implemented. In the absence of those upgrades, more Haitians will continue to succumb to cholera, a diarrheal illness caused by consuming contaminated food and water.

Vaccinations have been a major focus of international health organizations combating cholera in Haiti. Yet in a country of more than 10 million people, fewer than 400,000 Haitians have received the cholera vaccine despite the efforts of organizations such as Partners in Health, which has vaccinated thousands of people in rural areas, and a Haitian group called GHESKIO, which has done similar work in the slums of Port-au-Prince. Supplies of the vaccine, which was not in wide demand before the Haitian outbreak, remain limited.

The United Nations has done extensive and admirable work in Haiti, including on public health, but it maintains it is immune from legal liability for the cholera epidemic. This is despite the consensus of health experts that U.N. peacekeepers introduced the disease into the country. In January, a federal judge in New York sided with the United Nations .

Nonetheless, it has a moral obligation to do more, including pressing donors to fund the plan to eradicate the disease. There is no mystery about how cholera is transmitted or about the means to eradicate it. Only money is lacking.

* * * *

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Support is also provided by a growing list of individuals who use this membership service to support their roles in public health, clinical practice, government, NGOs and other international institutions, academia and research organizations, and industry.

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