Vaccines and Global Health: The Week in Review
29 August 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.*

Comments and suggestions should be directed to
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Executive Director
Center for Vaccine Ethics & Policy
david.r.curry@centerforvaccineethicsandpolicy.org

***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.*

Contents *[click on link below to move to associated content]*

EBOLA/EVD **[**to 29 August 2015]
Public Health Emergency of International Concern (PHEIC); "Threat to international peace and security" (UN Security Council)

Editor's Note:
Please see full text of this important speech at the end of this edition.

WHO Director-General addresses the Review Committee of the International Health Regulations focused on the Ebola response
Dr Margaret Chan
Director-General of the World Health Organization
Opening remarks at the Review Committee on the role of the International Health Regulations in the Ebola outbreak and response
Geneva, Switzerland 24 August 2015

Ebola Situation Report - 26 August 2015
[Excerpts]
SUMMARY
:: There were 3 confirmed cases of Ebola virus disease (EVD) reported in the week to 23 August, all of which were reported from Guinea. No new confirmed cases were reported from Sierra Leone for the second consecutive week. Overall case incidence has held at 3 confirmed cases per week for 4 consecutive weeks. In addition, the number of contacts under observation continues to fall, from over 800 on 16 August to approximately 600 on 23 August throughout 4 prefectures in Guinea and 2 districts in Sierra Leone…

Sierra Leone celebrates milestone on road to ending Ebola
25 August 2015 -- Sierra Leone celebrated an important milestone on Monday, 24 August 2015. For the first time in more than a year, there are no people being treated for Ebola virus disease and no confirmed cases of Ebola in the country. However, Ebola transmission is considered officially ended when Sierra Leone goes 42 days with no cases.

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WHO: The road to redemption: Ebola infection prevention and control
28 August 2015 -- Redemption Hospital is the only public health facility in the area and serves some 90 000 people. In August 2014, the hospital was at the centre of the Ebola epidemic in Liberia. It quickly became overwhelmed and, for a time, had to close its inpatient department. Now, the community and its health workers feel safer coming to the hospital since adequate infection, prevention and control measures are in place.
Read about the measures taken to reopen the hospital

WHO Fact Sheets:
Ebola virus disease
26 August 2015

WHO: Stories from the field
Exploring fear to regain trust: Getting children to health care in Sierra Leone
21 August 2015
Ebola survivors clinic opens in Monrovia
12 August 2015
Sierra Leone: Tracing Ebola in Tonkolili
4 August 2015

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POLIO [to 29 August 2015]
Public Health Emergency of International Concern (PHEIC)

GPEI Update: Polio this week - *As of 26 August 2015*

Global Polio Eradication Initiative
[Editor's Excerpt and text bolding]
Full report: http://www.polioeradication.org/Dataandmonitoring/Poliothisweek.aspx
:: The Expert Review Committee met in Nigeria last week to review the progress made in Nigeria, identify ways to strengthen the gains of the last few years and identify the major risks to stopping polio across the country. More
:: A project to improve access to hard-to-reach (HTR) populations in Nigeria with polio vaccines is having a dramatic impact on the broader health needs of remote communities, demonstrating the legacy of polio eradication in action. More
:: Through a series of photographs, meet religious leaders, health care workers, volunteers, vaccinators, programme monitors and parents as they play their unique roles in protecting children across Afghanistan from polio.
Selected excerpts from Country-specific Reports
Afghanistan
:: One new wild poliovirus type one (WPV1) case was confirmed this week in Achin district of Nangarhar. This most recent case, which was the second WPV1 case in the district this year, had onset of paralysis on 1 August. The total number of WPV1 cases for 2015 is now eight.
:: Intensive and strengthened supplementary immunization activities are planned in the coming months. Subnational Immunization Days (SNIDs) will take place across the south and east of the country on 20 - 22 September using bivalent OPV and National Immunization Days (NIDs) will take place on 18 - 20 October using trivalent OPV.

Pakistan second endemic country to introduce IPV into routine immunization schedule

Islamabad, 24 August 2015 -- Pakistan has taken another step towards a polio-free future on Thursday, introducing IPV into its routine immunization schedule at a ceremony presided over by the Minister of State, Ministry of National Health Services Regulation and Coordination, Mrs Saira Afzal Tarar, and attended by representatives of WHO, UNICEF, GAVI and other development partners, such as USAID and the UK Department for International Development, in the capital, Islamabad.

The introduction of the inactivated polio vaccine (IPV) across Pakistan will benefit more than 6 million children per year, and will be administered to children alongside other life-saving vaccines.

Pakistan is one of 3 countries in the world where polio remains endemic. Nigeria, which recently marked one year without a case of wild polio, introduced the vaccine earlier this year and Afghanistan is due to begin using IPV in the coming weeks.

Pakistan's national introduction of IPV marks the fulfilment of the global commitment to meet one of the 4 major objectives of the Polio Endgame Strategy that calls on all oral polio vaccine (OPV)-only using countries to introduce at least one dose of IPV into routine immunization

schedules by the end of 2015, strengthen routine immunization and withdraw OPV in a phased manner, starting with type 2-containing OPV.

The worldwide roll-out of IPV across 126 countries by the end of 2015 is part of the largest and fastest globally coordinated vaccine introduction project in history. The initiative is funded as part of the budget of the Global Polio Eradication Initiative (GPEI), and support is channelled through GAVI, the Vaccine Alliance, WHO and UNICEF…

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MERS-CoV [to 29 August 2015]
Global Alert and Response (GAR) – Disease Outbreak News (DONs)
:: Middle East Respiratory Syndrome coronavirus (MERS-CoV) – Saudi Arabia
27 August 2015
Between 22 and 23 August 2015, the National IHR Focal Point for the Kingdom of Saudi Arabia notified WHO of 13 additional cases of Middle East respiratory syndrome coronavirus (MERS-CoV) infection. Twelve (12) of these reported cases are associated with a MERS-CoV outbreak currently occurring in a hospital in Riyadh city… Globally, since September 2012, WHO has been notified of 1,474 laboratory-confirmed cases of infection with MERS-CoV, including at least 515 related deaths.

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WHO & Regionals [to 29 August 2015]

Call for nominations: SAGE Working Group on Maternal and Neonatal Tetanus Elimination
25 August 2015

The **Weekly Epidemiological Record (WER) 28 August 2015, vol. 90, 35 (pp. 433–460)** includes:
…Pertussis vaccines: WHO position paper – September 2015

Water, sanitation and hygiene to eliminate neglected tropical diseases
27 August 2015 -- WHO releases a global plan today to better integrate water, sanitation and hygiene (WASH) services with other public health interventions to accelerate progress in eliminating and eradicating neglected tropical diseases by 2020. Targeted water and sanitation interventions are expected to bolster ongoing efforts to tackle 16 neglected tropical diseases that affect more than 1 billion of the world's most vulnerable populations.

Improving preterm birth outcomes: new guidance
August 2015 - WHO's new guidance WHO recommendations on interventions to improve preterm birth outcomes has been launched to help prevent the complications and consequences

of preterm birth. Adding to efforts worldwide to further reduce child mortality, the guidance offers recommendations on interventions which can be provided to the mother when preterm birth is imminent and to the preterm infant after birth, with the aim of improving outcomes for preterm infants.

WHO Fact Sheets:
Rabies
28 August 2015
Ebola virus disease
26 August 2015

:: WHO Regional Offices
WHO African Region AFRO
:: Last Ebola case in Sierra Leone
Sierra Leone celebrated an important milestone on Monday, 24 August 2015. For the first time in more than a year, there are no people being treated for Ebola virus disease and no confirmed cases of Ebola in the country. Surrounded by singing, dancing and clapping health-care workers, Adama Sankou, palm oil trader, was released from the Makheni Ebola treatment unit. In the ceremony held to mark the final Ebola case, the President of Sierra Leone, Ernest Bai Koroma, described Madame Sankou's release as "the beginning of the end of Ebola." "'Ebola nor don don" (Ebola is not yet finished), the President…
:: WHO staff on the ground essential to breaking Ebola transmission chains - 24 August 2015

WHO Region of the Americas PAHO
:: Latin American and Caribbean Countries Commit to a 75% Reduction in New HIV Infections in Adults and Young People by 2020 (08/24/2015)

WHO South-East Asia Region SEARO
No new digest content identified.

WHO European Region EURO
:: Exploring the cultural contexts of health and well-being 28-08-2015

WHO Eastern Mediterranean Region EMRO
:: Safe corridor needed to deliver health care to over 3 million people in Taiz, Yemen
Sana'a, 27 August 2015 – In Yemen, conflict and a resulting humanitarian crisis have left thousands of people in need of treatment, caused extensive damage to health facilities, and fanned a dengue fever outbreak in Taiz. The governorate has witnessed an extreme spike in cases of dengue fever in the past 2 weeks and a humanitarian corridor is needed not only to ensure access to health care for more than 3 million people in Taiz but to assess the outbreak and institute control measures. Read more about the situation in Taiz
:: Water, sanitation and hygiene to eliminate neglected tropical diseases
27 August 2015
:: Pakistan second endemic country to introduce IPV into routine immunization schedule
24 August 2015

:: WHO steps up response to the critical health needs in Taiz and Hodeida governorates as the humanitarian situation worsens
23 August 2015

WHO Western Pacific Region
:: WHO, DOH, KOICA Launch AcCESS for MNH project to improve health of mothers and newborns in Davao Region

DAVAO, Philippines, 28 August 2015 – The World Health Organization (WHO), Korea International Cooperation Agency (KOICA), and the Department of Health (DOH) Regional Office XI launched on 18 August 2015 at SMEX Convention Center, Davao City a three-year Subnational Initiative (SNI) project called "Accelerating Convergence Efforts through Systems Strengthening for Maternal and Newborn Health" or AcCESS for MNH. The project aims to improve the health of mothers and newborns in 10 local government units (LGUs) in Davao Region.

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CDC/MMWR/ACIP Watch [to 29 August 2015]
http://www.cdc.gov/media/index.html

State exemption levels low, national vaccination rates high
Local pockets of unvaccinated children can reveal nation's vulnerabilities
Thursday, August 27, 2015

Vaccine exemption levels for kindergarteners are low for most states and infant vaccination rates are high nationally, according to data from two reports published in this week's Morbidity and Mortality Weekly Report (MMWR).

The first report looked at vaccination coverage and exemption levels among children entering kindergarten for the 2014-2015 school year. Nationally, exemption levels remain low with a median level of 1.7 percent. However, state exemption levels ranged from a low of less than 0.1 percent in Mississippi to a high of 6.5 percent in Idaho. Additionally, five states did not meet the reporting standards for providing exemption data.

The second report examined vaccination rates among children ages 19 months through 35 months for 2014. Vaccination coverage remained high: over 90 percent for measles-mumps-rubella (MMR); polio; hepatitis B; and varicella vaccines. The percentage of children who do not receive vaccinations also remained low, at less than 1 percent.

"Collaborative efforts are the reason our nation has been able to achieve such high coverage nationally, but much work is still needed to shield our schools and communities from future outbreaks," said Anne Schuchat, MD (RADM, USPHS), director of CDC's National Center for Immunization and Respiratory Diseases.

One important change from 2013 to 2014 was the number of states that provided local coverage and exemption data online. There was an increase from 18 states providing such data in 2013 to 21 states providing these data in 2014. Making this information available publicly keeps parents informed, guides vaccination policies, and strengthens immunization programs. When a disease like measles reaches a community with large numbers of unvaccinated people, it can spread very quickly. Therefore, local pockets of people who are missing vaccinations can leave communities vulnerable to outbreaks.

Consistent, high coverage rates are needed to provide community immunity (herd immunity) and protect children from disease outbreaks like measles.

Transcript for CDC Telebriefing: CDC officials to discuss vaccine exemption levels and infant vaccination coverage
Thursday, August 27, 2015

MMWR August 28, 2015 / Vol. 64 / No. 33
:: National, State, and Selected Local Area Vaccination Coverage Among Children Aged 19–35 Months — United States, 2014
:: Vaccination Coverage Among Children in Kindergarten — United States, 2014–15 School Year
:: World Health Organization Guidelines for Containment of Poliovirus Following Type-Specific Polio Eradication — Worldwide, 2015

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Initiatives/Announcements/Milestones

UNICEF [to 29 August 2015]
http://www.unicef.org/media/media_78364.html
:: **Maternal and Neonatal Tetanus elimination in India will spare thousands of deaths: UNICEF**

NEW DELHI, 27 August 2015 – The Prime Minister of India, Narendra Modi, announced today during the Call to Action 2015 Summit that Maternal and Neonatal Tetanus (MNT) has been eliminated in India. This landmark achievement will save the lives of countless mothers and their newborns, UNICEF said.

India is one of the most populous countries in the world, with 327 million women of childbearing age and 26 million children born every year.

In 1988, tetanus killed as many as 160,000 young children in India. The drop ever since has been extraordinary. The elimination of MNT as a public health problem means that the annual rate is less than 1 per 1000 live births.

"India has shown strong leadership in overcoming two major threats to the prosperity and future of the nation: polio and now maternal and neonatal tetanus," said Louis Arsenault, UNICEF Representative. "India's remarkable achievement in eliminating maternal and neonatal tetanus shows that by making a strong commitment to investing in public health their youngest citizens and mothers will enjoy their right to health, thereby making us all stronger."

In contrast to other countries, India did not carry out massive tetanus vaccination campaigns. The Government, instead, applied a mix of strategies which included a state by state and system approach starting in 2003 in Andhra Pradesh, with the technical support of UNICEF, WHO and other stakeholders.

Successful measures included providing cash incentives to families for delivering the baby in a health facility, training more skilled birth attendants and strengthening the institutional health delivery systems including the National Rural Health Mission (NRHM). In addition, there was a systematic vaccination of pregnant women attending antenatal care with Tetanus Toxoid (TT); and intensive behaviour change communication targeting communities to reduce harmful cord care practices.

These crucial steps have played a key role in eliminating the disease, contributing significantly to progress in the effort to save the lives of children under the age of five, most of whom die from preventable causes…

NIH [to 29 August 2015]
http://www.nih.gov/news/releases.htm
:: **NIH launches human RSV study**

August 26, 2015 — *Study aims to understand infection in healthy adults to aid development of RSV medicines, vaccines.*

A new study will expose healthy adult volunteers to respiratory syncytial virus (RSV), a virus that causes cold-like symptoms in adults. Better understanding of how adults develop RSV infection and immune system responses to infection will assist researchers in developing and testing future antivirals and vaccines to combat the virus. The research is being conducted by the National Institute of Allergy and Infectious Diseases (NIAID), part of the National Institutes of Health.

RSV is the most common cause of lower respiratory tract infections — including pneumonia and bronchiolitis among young children worldwide, according to the U.S. Centers for Disease Control and Prevention…

Global Fund [to 29 August 2015]
http://www.theglobalfund.org/en/mediacenter/newsreleases/
Ecobank Collaborates with The Global Fund To Eliminate Malaria, TB and HIV/AIDS In Nigeria

Lagos, 27 August 2015 – Ecobank and the Global Fund continue their innovative financing partnership program to contribute to the fight against malaria, TB and HIV/AIDS. The program is designed to strengthen the financial management skills of program implementers in Nigeria, South Sudan and Senegal. Ecobank has pledged USD 3 million towards the scheme.

During the second phase of the program, which officially kicked off in Abuja yesterday, six Non-Governmental Organisations (NGOs) who battle TB and HIV/AIDS in Nigeria will receive extensive onsite training over the next twelve weeks…

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BMGF - Gates Foundation [to 29 August 2015]
http://www.gatesfoundation.org/Media-Center/Press-Releases
No new digest content identified

Gavi [to 29 August 2015]
http://www.gavialliance.org/library/news/press-releases/
No new digest content identified.

Aeras [to 29 August 2015]
http://www.aeras.org/pressreleases
No new digest content identified

IAVI International AIDS Vaccine Initiative [to 29 August 2015]

http://www.iavi.org/press-releases/2015

IVI [to 29 August 2015]
http://www.ivi.org/web/www/home
No new diges content identified

PATH [to 29 August 2015]
http://www.path.org/news/index.php
No new diges content identified

Sabin Vaccine Institute [to 29 August 2015]
http://www.sabin.org/updates/pressreleases
No new digest content identified

European Vaccine Initiative [to 29 August 2015]
http://www.euvaccine.eu/news-events
No new digest content identified

FDA [to 29 August 2015]
http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/default.htm
No new digest content identified

European Medicines Agency [to 29 August 2015]
http://www.ema.europa.eu/ema/
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

No new digest content identified.

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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 9, 2015
http://www.tandfonline.com/toc/uajb20/current

Broad Consent for Research With Biological Samples: Workshop Conclusions
Christine Gradya*, Lisa Ecksteinb, Ben Berkmanc, Dan Brockd, Robert Cook-Deegane, Stephanie M. Fullertonf, Hank Greelyg, Mats G. Hanssonh, Sara Hulli, Scott Kima, Bernie Loj, Rebecca Pentzk, Laura Rodriguezl, Carol Weilm, Benjamin S. Wilfondn & David Wendlera
DOI:10.1080/15265161.2015.1062162
pages 34-42
Published online: 25 Aug 2015

Abstract
Different types of consent are used to obtain human biospecimens for future research. This variation has resulted in confusion regarding what research is permitted, inadvertent constraints on future research, and research proceeding without consent. The National Institutes of Health (NIH) Clinical Center's Department of Bioethics held a workshop to consider the ethical acceptability of addressing these concerns by using broad consent for future research on stored biospecimens. Multiple bioethics scholars, who have written on these issues, discussed the reasons for consent, the range of consent strategies, and gaps in our understanding, and concluded with a proposal for broad initial consent coupled with oversight and, when feasible, ongoing provision of information to donors. This article describes areas of agreement and areas that need more research and dialogue. Given recent proposed changes to the Common Rule, and new guidance regarding storing and sharing data and samples, this is an important and timely topic.

Open Peer Commentaries (no abstracts) follow…

American Journal of Infection Control
September 2015 Volume 43, Issue 9, p905-1026, e47-e59
http://www.ajicjournal.org/current
[New issue; No relevant content identified]

American Journal of Preventive Medicine
September 2015 Volume 49, Issue 3 , Supplement 2, S125-S218
http://www.ajpmonline.org/current

Theme: Evidence-Based Behavioral Counseling Interventions as Clinical Preventive Services: Perspectives of Researchers, Funders, and Guideline Developers
Edited by Robert J. McNellis, Susan J. Curry
[Reviewed earlier]

American Journal of Public Health
Volume 105, Issue 9 (September 2015)
http://ajph.aphapublications.org/toc/ajph/current
[Reviewed earlier]

American Journal of Tropical Medicine and Hygiene
August 2015; 93 (2)
http://www.ajtmh.org/content/current
[Reviewed earlier]

Annals of Internal Medicine
18 August 2015, Vol. 163. No. 4
http://annals.org/issue.aspx
[Reviewed earlier]

BMC Health Services Research
http://www.biomedcentral.com/bmchealthservres/content
(Accessed 29 August 2015)
Research article
Perspectives of health care providers on the provision of intermittent preventive treatment in pregnancy in health facilities in Malawi
P. Yoder, Xavier Nsabagasani, Erin Eckert, Allisyn Moran, Yazoumé Yé
BMC Health Services Research 2015, 15:354 (29 August 2015)

Research article
Estimating the cost of referral and willingness to pay for referral to higher-level health facilities: a case series study from an integrated community case management programme in Uganda
Agnes Nanyonjo, Benson Bagorogoza, Frida Kasteng, Godfrey Ayebale, Fredrick Makumbi, Göran Tomson, Karin Källander, for the inSCALE study group
BMC Health Services Research 2015, 15:347 (28 August 2015)

Research article
Risk factors for delay in age-appropriate vaccinations among Gambian children
Aderonke Odutola, Muhammed Afolabi, Ezra Ogundare, Yamu Lowe-Jallow, Archibald Worwui, Joseph Okebe, Martin Ota
BMC Health Services Research 2015, 15:346 (28 August 2015)
Abstract
Background

Vaccination has been shown to reduce mortality and morbidity due to vaccine-preventable diseases. However, these diseases are still responsible for majority of childhood deaths worldwide especially in the developing countries. This may be due to low vaccine coverage or delay in receipt of age-appropriate vaccines. We studied the timeliness of routine vaccinations among children aged 12–59 months attending infant welfare clinics in semi-urban areas of The Gambia, a country with high vaccine coverage.
Methods
A cross-sectional survey was conducted in four health centres in the Western Region of the Gambia. Vaccination dates were obtained from health cards and timeliness assessed based on the recommended age ranges for BCG (birth–8 weeks), Diphtheria-Pertussis–Tetanus (6 weeks–4 months; 10 weeks–5 months; 14 weeks–6 months) and measles vaccines (38 weeks–12 months). Risk factors for delay in age-appropriate vaccinations were determined using logistic regression. Analysis was limited to BCG, third dose of Diphtheria-Pertussis -Tetanus (DPT3) and measles vaccines.
Results
Vaccination records of 1154 children were studied. Overall, 63.3 % (95 % CI 60.6–66.1 %) of the children had a delay in the recommended time to receiving at least one of the studied vaccines. The proportion of children with delayed vaccinations increased from BCG [5.8 % (95 % CI 4.5–7.0 %)] to DPT3 [60.4 % (95 % CI 57.9 %-63.0 %)] but was comparatively low for the measles vaccine [10.8 % (95 % CI 9.1 %–12.5 %)]. Mothers of affected children gave reasons for the delay, and their profile correlated with type of occupation, place of birth and mode of transportation to the health facilities.
Conclusion
Despite high vaccination coverage reported in The Gambia, a significant proportion of the children's vaccines were delayed for reasons related to health services as well as profile of mothers. These findings are likely to obtain in several countries and should be addressed by programme managers in order to improve and optimize the impact of the immunization coverage rates.

Research article

A survey of the availability, prices and affordability of essential medicines in Jiangsu Province, China

Xiaoyu Xi, Weixia Li, Jun Li, Xuan Zhu, Cong Fu, Xu Wei, Shuzhen Chu

BMC Health Services Research 2015, 15:345 (27 August 2015)

Abstract

Background
Field surveys conducted in China before the implementation of the essential medicine policy showed that Chinese individuals faced less access to essential medicines. This paper aims to evaluate the availability, prices and affordability of essential medicines in Jiangsu Province, China after the implementation of the policy in 2009.
Methods
A cross-sectional survey was conducted in Jiangsu in 2013 using the World Health Organization/Health Action International (WHO/HAI) methodology. Data on the availability and prices of 50 essential medicines were collected from the public and private healthcare sectors.
Results
The mean availabilities of innovator brands and lowest priced generics (LPGs) were 11.5 % and 100 % in primary healthcare facilities, 36.8 % and 32.6 % in the secondary and tertiary sectors, and 18.7 % and 42.9 % in the private sector, respectively. The median price ratios

(MPRs) were 1.26 to 2.05 for generics and 3.76 to 27.22 for innovator brands. Treating ten common diseases with LPGs was generally affordable, whereas treatment with IBs was less affordable.
Conclusions
The high availability of LPGs at primary healthcare facilities reflects the success of the essential medicine policy, while the low availability in secondary and tertiary levels and in private pharmacies reflects a failure to implement the policy in these levels. The health policy should be fully developed and enforced at the secondary and tertiary levels and in the private sector to ensure equitable access to health services.

Research article
Community-level effect of the reproductive health vouchers program on out-of-pocket spending on family planning and safe motherhood services in Kenya
Francis Obare, Charlotte Warren, Lucy Kanya, Timothy Abuya, Ben Bellows
BMC Health Services Research 2015, 15:343 (25 August 2015)

BMC Infectious Diseases
http://www.biomedcentral.com/bmcinfectdis/content
(Accessed 29 August 2015)
[No new relevant content identified]

BMC Medical Ethics
http://www.biomedcentral.com/bmcmedethics/content
(Accessed 29 August 2015)
[No new relevant content identified]

BMC Pregnancy and Childbirth
http://www.biomedcentral.com/bmcpregnancychildbirth/content
(Accessed 29 August 2015)
[No new relevant content identified]

BMC Public Health
http://www.biomedcentral.com/bmcpublichealth/content
(Accessed 29 August 2015)
Research article
An evaluation of psychological distress and social support of survivors and contacts of Ebola virus disease infection and their relatives in Lagos, Nigeria: a cross sectional study – 2014
Abdulaziz Mohammed, Taiwo Sheikh, Saheed Gidado, Gabriele Poggensee, Patrick Nguku, Adebola Olayinka, Chima Ohuabunwo, Ndadilnasiya Waziri, Faisal Shuaib, Joseph Adeyemi, Ogbonna Uzoma, Abubakar Ahmed, Funmi Doherty, Sarah Nyanti, Charles Nzuki, Abdulsalami Nasidi, Akin Oyemakinde, Olukayode Oguntimehin, Ismail Abdus-salam, Reginald Obiako
BMC Public Health 2015, 15:824 (27 August 2015)

BMC Research Notes
http://www.biomedcentral.com/bmcresnotes/content
(Accessed 29 August 2015)
[No new relevant content identified]

BMJ Open
2015, Volume 5, Issue 8
http://bmjopen.bmj.com/content/current
[Reviewed earlier]

British Medical Journal
22 August 2015 (vol 351, issue 8022)
http://www.bmj.com/content/351/8022
[Reviewed earlier]

Bulletin of the World Health Organization
Volume 93, Number 8, August 2015, 513-588
http://www.who.int/bulletin/volumes/93/8/en/
[Reviewed earlier]

Clinical Infectious Diseases (CID)
Volume 61 Issue 5 September 1, 2015
http://cid.oxfordjournals.org/content/current
[Reviewed earlier]

Clinical Therapeutics
August 2015 Volume 37, Issue 8 , Supplement, e1-e170
http://www.clinicaltherapeutics.com/current
[Reviewed earlier]

Complexity
July/August 2015 Volume 20, Issue 6 Pages C1–C1, 1–97
http://onlinelibrary.wiley.com/doi/10.1002/cplx.v20.6/issuetoc
[Reviewed earlier]

Conflict and Health
http://www.conflictandhealth.com/
[Accessed 29 August 2015]
[No new content]

Contemporary Clinical Trials
Volume 43, In Progress (July 2015)
http://www.sciencedirect.com/science/journal/15517144/43
[Reviewed earlier]

Cost Effectiveness and Resource Allocation
http://www.resource-allocation.com/
(Accessed 29 August 2015)
[No new content]

Current Opinion in Infectious Diseases
August 2015 - Volume 28 - Issue 4 pp: v-vi,283-396
http://journals.lww.com/co-infectiousdiseases/pages/currenttoc.aspx
[Reviewed earlier]

Developing World Bioethics
August 2015 Volume 15, Issue 2 Pages ii–iii, 59–114
http://onlinelibrary.wiley.com/doi/10.1111/dewb.2015.15.issue-2/issuetoc
[Reviewed earlier]

Development in Practice
Volume 25, Issue 6, 2015
http://www.tandfonline.com/toc/cdip20/current
[New issue; No relevant content identified]

Emerging Infectious Diseases
Volume 21, Number 8—August 2015
http://wwwnc.cdc.gov/eid/
[Reviewed earlier]

Epidemics
Volume 13, In Progress (December 2015)
http://www.sciencedirect.com/science/journal/17554365
[Reviewed earlier]

Epidemiology and Infection
Volume 143 - Issue 11 - August 2015
http://journals.cambridge.org/action/displayIssue?jid=HYG&tab=currentissue
[Reviewed earlier]

The European Journal of Public Health
Volume 25, Issue 4, 1 August 2015
http://eurpub.oxfordjournals.org/content/25/4
[Reviewed earlier]

Eurosurveillance
Volume 20, Issue 34, 27 August 2015
http://www.eurosurveillance.org/Public/Articles/Archives.aspx?PublicationId=11678
[New issue; No relevant content identified]

Global Health: Science and Practice (GHSP)
June 2015 | Volume 3 | Issue 2
http://www.ghspjournal.org/content/current
[Reviewed earlier]

Global Health Governance
http://blogs.shu.edu/ghg/category/complete-issues/spring-autumn-2014/
[Accessed 29 August 2015]
[No new relevant content]

Global Public Health
Volume 10, Issue 8, 2015
http://www.tandfonline.com/toc/rgph20/current
[Reviewed earlier]

Globalization and Health
http://www.globalizationandhealth.com/
[Accessed 29 August 2015]
[No new content]

Health Affairs
August 2015; Volume 34, Issue 8
http://content.healthaffairs.org/content/current
[Reviewed earlier]

Health and Human Rights
Volume 17, Issue 1 June 2015
http://www.hhrjournal.org/
Special Section on Bioethics and the Right to Health
in collaboration with the Dalla Lana School of Public Health, University of Toronto

[Reviewed earlier]

Health Economics, Policy and Law
Volume 10 - Issue 03 - July 2015
http://journals.cambridge.org/action/displayIssue?jid=HEP&tab=currentissue
[Reviewed earlier]

Health Policy and Planning
Volume 30 Issue 7 September 2015
http://heapol.oxfordjournals.org/content/current
[Reviewed earlier]

Health Research Policy and Systems
http://www.health-policy-systems.com/content
[Accessed 29 August 2015]
No new digest content identified.

Human Vaccines & Immunotherapeutics (formerly Human Vaccines)
Volume 11, Issue 9, 2015
http://www.tandfonline.com/toc/khvi20/current
Is EU/EEA population protected from polio?
Open access
DOI:10.1080/21645515.2015.1016673
DRE Nijstena, P Carrillo-Santisteve, A Miglietta, J Ruitenberg & PL Lopalco*
pages 2123-2131
Published online: 21 Apr 2015
Abstract
The WHO European Region has been declared polio-free since 2002. By 2010, inactivated polio vaccine (IPV) was the only polio vaccine in use in the EU/EEA for the primary vaccination of children. A systematic review of the literature on polio seroprevalence studies, complemented by the analysis of available vaccine coverage data, has been carried out with the aim of assessing the level of protection against polio in the European population. A total of 52 studies, with data from 14 out of the 31 EU/EEA countries, were included in the analysis. This systematic review shows that, overall, seroprevalence for PV1 and PV3 is high in most countries, although seroimmunity gaps have been detected in several birth cohorts. In particular, relatively low immunity status was found in some countries for individuals born in the 60's and 70's. Discrepancies between reported vaccination coverage and immunity levels have been also highlighted. Countries should make sure that their population is being vaccinated for polio to reduce the risk of local poliovirus transmission in case of importation. Moreover, assessing immunity status should be priority for those traveling to areas where wild polioviruses are still circulating.

The value of childhood combination vaccines: From beliefs to evidence

Khaled Mamana*, York Zöllnerb, Donato Grecoc, Gerard Durud, Semukaya Sendyonaa & Vanessa Remye
pages 2132-2141
DOI:10.1080/21645515.2015.1044180
Accepted author version posted online: 15 Jun 2015
Abstract
Although vaccination is one of the most cost-effective health care interventions, under-vaccination and variation in coverage rates lower than policy targets is rising in developed countries, partly due to concerns about vaccination value and benefits. By merging various antigens into a single product, combination vaccines represent a valuable tool to mitigate the burden associated with the numerous injections needed to protect against vaccine preventable infectious diseases and increase coverage rate, possibly through various behavioral mechanisms which have yet to be fully explored. Beyond their cost-effectiveness in protecting against more diseases with fewer injections, combination vaccines also have several other benefits, for children, their parents/carers, as well as for the health system and the population as a whole. The objectives of this review are to identify and illustrate the value of combination vaccines for childhood immunization. Evidence was classified into 2 groups: benefits for society and benefits for public health and healthcare systems. This article also highlights the value of innovation and challenges of combination vaccine development as well as the need for an increased number of suppliers to mitigate the impact of any potential vaccine shortage. Increasing public confidence in vaccines and combination vaccines is also critical to fully exploit their benefits.

Adult vaccination: Now is the time to realize an unfulfilled potential
DOI:10.4161/21645515.2014.982998
Litjen Tana*
pages 2158-2166
Published online: 19 Jun 2015
Abstract
Each year, vaccine-preventable diseases kill thousands of adults, both in the United States and across the planet, causing a significant human toll and severe economic burden on the world's healthcare systems. In the United States, while immunization is recognized as one of the most effective primary prevention services that improves health and well-being, adult immunization rates remain low and large gaps exist between national adult immunization goals and actual adult immunization rates. Closing these gaps requires a commitment by national leaders to a multifaceted national strategy to: (1) establish the value of adult vaccines in the eyes of the public, payers, policy makers, and health care professionals; (2) improve access to recommended adult vaccinations by improving the adult vaccine infrastructure in the United States and developing public-private partnerships to facilitate effective immunization behaviors; and (3) ensure fair and appropriate payment for adult immunization. Many of the situations that result in low adult immunizations rates in the United States also exist in many other countries around the world. Successful strategies to improve adult immunization coverage rates will result in reductions in morbidity, mortality, and healthcare costs. All medical and public health stakeholders must now collaborate to realize the significant health benefits that come with a strong adult immunization program.

Humanitarian Exchange Magazine
Issue 64 June 2015

http://www.odihpn.org/humanitarian-exchange-magazine/issue-64
[Reviewed earlier]

Infectious Agents and Cancer
http://www.infectagentscancer.com/content
[Accessed 29 August 2015]
[No new relevant content]

Infectious Diseases of Poverty
http://www.idpjournal.com/content
[Accessed 29 August 2015]
[No new content]

International Health
Volume 7 Issue 5 September 2015
http://inthealth.oxfordjournals.org/content/current
Disease Elimination Special Issue
EDITORIAL
Eradication and elimination: facing the challenges, tempering expectations
David H. Molyneux
Extract

The words eradication, elimination and control have been regularly defined in attempts to avoid inappropriate use of terminology while addressing the realities and challenges of public health programmes.1,2

Whitty3 has recently outlined the dangers of raising expectations in the face of political, financial, biological and logistical efforts of eradication or elimination programmes, emphasising these risks in search of a holy grail. Bockarie et al.4 noted five categories that defined the elimination or endgame challenges—biological, socio-geographic, logistic, strategic and technical—providing examples from current programmes. These have created significant strategic and resource impediments to progress in implementation, requiring changes in approach often with significant financial implications.

A variety of strategies are used to reduce incidence and prevalence of infectious diseases: vaccination (smallpox, polio, measles), chemotherapy (onchocerciasis, lymphatic filariasis, schistosomiasis), vector control, (onchocerciasis, malaria, schistosomiasis) and provision of improved clean water and sanitation (trachoma, guinea worm, soil transmitted helminths, schistosomiasis). Such strategies are more effective when combined, for example, chemotherapy, vector control and behaviour change, thereby achieving proportionately greater and more rapid impact on transmission.

Eradication as a concept is specifically defined as a reduction to zero global incidence of a specific pathogen, not a disease, which results from such an infection. This represents a crucial distinction—the words disease and infection are often used interchangeably but incorrectly. Even WHO reporting recently on the yaws programme in India entitled their publication 'Eradication of yaws in India.' Thus, even WHO are unable to consistently use correct terminology. Another example is the call for the eradication of malaria. However, eradication is

defined as the removal from the planet of a specific infection; raising the question, which of the five human species of Plasmodium is to be targeted? This is yet to be specified…

Political, social and technical risks in the last stages of disease eradication campaigns

Christopher J. M. Whitty*
Author Affiliations
London School of Hygiene & Tropical Medicine, Keppel Street, London, UK

Abstract
Eradication of a disease is one of the greatest gifts any generation can give to subsequent ones, but most attempts have failed. The biggest challenges occur in the final stages of eradication and elimination campaigns. These include falling public support as a disease becomes less common; the emergence of groups who do not support eradication; spiralling costs; and the evolution of drug, vaccine or insecticide resistance. Mass campaigns become less effective as the disease fragments and modelling becomes less reliable. Optimism bias is the biggest risk to any eradication campaign and the long endgame must be planned for from the beginning.

From 'control to elimination': a strategic change to win the end game

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Author Affiliations
Mectizan Donation Programme, Atlanta, GA, USA

Abstract
Strategies for elimination evolve from early use of available tools, to elaboration of control strategies, through to 'elimination.' Onchocerciasis control in Africa demonstrates this evolution. Early strategies used vector control but later used mass distribution of ivermectin. Elimination in Africa though was not thought to be possible; however, with excellent coverage of ivermectin distribution it was demonstrated that treatment could be stopped on the Senegal Mali border stimulating a new policy of elimination of transmission where possible. This new policy must not be business as usual but will require redefining treatment areas, improving quality of data, and flexibility of strategies to fit the new paradigm.

Non-communicable disease training for public health workers in low- and middle-income countries: lessons learned from a pilot training in Tanzania

Evelyn P. Davilaa,*, Zubeda Suleimanb, Janneth Mghambab, Italia Rollec, Indu Ahluwaliad, Peter Mmbujib, Maximilian de Courtene, Andrea Baderf, S. Christine Zahniserg, Marlene Kragh and Bassam Jarrara
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fDeloitte Consulting, Atlanta, USA

gGEARS Inc., Atlanta, USA and Division of Reproductive Health, National Center for Chronic Disease Prevention and Health Promotion, CDC, USA
hCopenhagen School of Global Health, University of Copenhagen, Denmark
Abstract
Background
Non-communicable diseases (NCDs) are increasing worldwide. A lack of training and experience in NCDs among public health workers is evident in low- and middle- income countries.
Methods
We describe the design and outcomes of applied training in NCD epidemiology and control piloted in Tanzania that included a 2-week interactive course and a 6-month NCD field project. Trainees (n=14 initiated; n=13 completed) were epidemiology-trained Ministry of Health or hospital staff. We evaluated the training using Kirkpatrick's evaluation model for measuring reactions, learning, behavior and results using pre- and post-tests and closed-ended and open-ended questions.
Results
Significant improvements in knowledge and self-reported competencies were observed. Trainees reported applying competencies at work and supervisors reported improvements in trainees' performance. Six field projects were completed; one led to staffing changes and education materials for patients with diabetes and another to the initiation of an injury surveillance system. Workplace support and mentoring were factors that facilitated the completion of projects. Follow-up of participants was difficult, limiting our evaluation of the training's outcomes.
Conclusions
The applied NCD epidemiology and control training piloted in Tanzania was well received and showed improvements in knowledge, skill and self-efficacy and changes in workplace behavior and institutional and organizational changes. Further evaluations are needed to better understand the impact of similar NCD trainings and future trainers should ensure that trainees have mentoring and workplace support prior to participating in an applied NCD training.

International Journal of Epidemiology
Volume 44 Issue 3 June 2015
http://ije.oxfordjournals.org/content/current
[Reviewed earlier]

International Journal of Infectious Diseases
August 2015 Volume 37, p1
http://www.ijidonline.com/current
[Reviewed earlier]

JAMA
August 25, 2015, Vol 314, No. 8
http://jama.jamanetwork.com/issue.aspx
Viewpoint | August 25, 2015
Middle East Respiratory Syndrome - A Global Health Challenge
Lawrence O. Gostin, JD1; Daniel Lucey, MD, MPH2

Author Affiliations
JAMA. 2015;314(8):771-772. doi:10.1001/jama.2015.7646.
This Viewpoint discusses the importance of a well-trained and well-prepared health workforce in controlling outbreaks such as Middle East respiratory syndrome.

JAMA Pediatrics
August 2015, Vol 169, No. 8
http://archpedi.jamanetwork.com/issue.aspx
[Reviewed earlier]

Journal of Community Health
Volume 40, Issue 4, August 2015
http://link.springer.com/journal/10900/40/4/page/1
[Reviewed earlier]

Journal of Epidemiology & Community Health
August 2015, Volume 69, Issue 8
http://jech.bmj.com/content/current
[Reviewed earlier]

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Volume 11, Issue 2, 2015
http://www.tandfonline.com/toc/rjge20/.U2V-Elf4L0l#.VAJEj2N4WF8
[New issue; No relevant content identified]

Journal of Global Infectious Diseases (JGID)
July-September 2015 Volume 7 | Issue 3 Page Nos. 95-124
http://www.jgid.org/currentissue.asp?sabs=n
[New issue; No relevant content identified]

Journal of Health Care for the Poor and Underserved (JHCPU)
Volume 26, Number 3, August 2015
https://muse.jhu.edu/journals/journal_of_health_care_for_the_poor_and_underserved/toc/hpu.26.2A.html
Placing a Health Equity Lens on Non-communicable Diseases in sub-Saharan Africa
Helena E. Dagadu, Evelyn J. Patterson
pp. 967-989
Abstract
Deaths from non-communicable diseases are increasing worldwide. Low and middle-income countries, particularly those in sub-Saharan Africa (SSA), are projected to see the most rapid increase over the next two decades. While non-communicable diseases such as diabetes and cardiovascular disease increasingly contribute to mortality in SSA, communicable diseases such

as malaria and HIV/AIDS remain major causes of death in this region, leading to a double burden of disease. In this paper, we use World Health Organization data and life table techniques to: (1) delineate the magnitude and toll of the double burden of disease in four SSA countries: Ghana, Gabon, Botswana, and Kenya, and (2) scrutinize assumptions linking changes in disease patterns to economic development and modernization. Our findings suggest that non-communicable and communicable diseases warrant equal research attention and financial commitment in pursuit of health equity.

Mexican Immigrant Health: Health Insurance Coverage Implications
Henry Shelton Brown, Kimberly J. Wilson, Jacqueline L. Angel
pp. 990-1004
Abstract
A key facet of the Patient Protection and Affordable Care Act (PPACA) is the expansion of health insurance coverage. However, even with the PPACA, an estimated 11.2 million undocumented immigrants will remain uncovered. The majority of the remaining uncovered immigrant population is of Mexican origin. We assess the long-term benefits and short-term costs of providing coverage to male migrants from Mexico, employing data from the 2007–2011 Mexican Migration Project (MMP) and the 2009 Medical Expenditures Panel (MEPS) survey. Our results show that health status prior to migration, age at time of interview, emigrating from Central Mexico, and use of health services in the U.S. all predict declines in health at a significant level. We also find that having spent more than 10 cumulative years in the U.S. has borderline significance in predicting health decline (p=.052). Estimated coverage costs for health insurance for largely undocumented immigrants increase over time, but remain lower than those of comparable U.S.-born individuals. We conclude with several policy implications.

Journal of Immigrant and Minority Health
Volume 17, Issue 4, August 2015
http://link.springer.com/journal/10903/17/4/page/1
[Reviewed earlier]

Journal of Immigrant & Refugee Studies
Volume 13, Issue 2, 2015
http://www.tandfonline.com/toc/wimm20/current#.VQS0KOFnBhW
Special Issue: Implementing Human Rights: Civil Society and Migration Policies
[Reviewed earlier]

Journal of Infectious Diseases
Volume 212 Issue 3 August 1, 2015
http://jid.oxfordjournals.org/content/current
[Reviewed earlier]

The Journal of Law, Medicine & Ethics
Summer 2015 Volume 43, Issue 2 Pages 174–430
http://onlinelibrary.wiley.com/doi/10.1111/jlme.2015.43.issue-1/issuetoc

Special Issue: SYMPOSIUM: Intersections in Reproduction: Perspectives on Abortion and Assisted Reproductive Technologies
[New issue; No relevant content identified]

Journal of Medical Ethics
August 2015, Volume 41, Issue 8
http://jme.bmj.com/content/current
[Reviewed earlier]

Journal of Medical Internet Research
Vol 17, No 5 (2015): May
http://www.jmir.org/2015/5
[Reviewed earlier]

Journal of Medical Microbiology
Volume 64, Issue 7, July 2015
http://jmm.sgmjournals.org/content/journal/jmm/64/7
[Reviewed earlier]

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Volume 2, Issue 3 (2015)
http://digitalrepository.aurorahealthcare.org/jpcrr/
[Reviewed earlier]

Journal of the Pediatric Infectious Diseases Society (JPIDS)
Volume 4 Issue 3 September 2015
http://jpids.oxfordjournals.org/content/current
[Reviewed earlier]

Journal of Pediatrics
August 2015 Volume 167, Issue 2, p219-502
http://www.jpeds.com/current
[Reviewed earlier]

Journal of Public Health Policy
Volume 36, Issue 3 (August 2015)
http://www.palgrave-journals.com/jphp/journal/v36/n3/index.html
Commentary: How useful is 'burden of disease' to set public health priorities for infectious diseases?
The authors use the example of Nipah virus to question the use of 'burden of disease' for setting priorities for controlling infectious diseases.

Ruth Berkelman and James LeDuc
J Public Health Pol 36: 283-286; advance online publication, April 30, 2015;
doi:10.1057/jphp.2015.15

Middle east respiratory syndrome corona virus (MERS CoV): The next steps
Supplemental surveillance is urgently needed to detect MERS CoV when it arrives in a country carried by people who have worked in the Middle East.
Iype Joseph
J Public Health Pol 36: 318-323; advance online publication, March 26, 2015;
doi:10.1057/jphp.2015.9

Journal of the Royal Society – Interface
06 August 2015; volume 12, issue 109
http://rsif.royalsocietypublishing.org/content/current
[Reviewed earlier]

Journal of Virology
August 2015, Volume 89, Issue 15
http://jvi.asm.org/content/current
[Reviewed earlier]

The Lancet
Aug 29, 2015 Volume 386 Number 9996 p829-930
http://www.thelancet.com/journals/lancet/issue/current
Editorial
An Ebola vaccine: first results and promising opportunities
The Lancet
Published Online: 03 August 2015
DOI: http://dx.doi.org/10.1016/S0140-6736(15)61177-1

Today, The Lancet publishes the first results from a phase 3 cluster randomised trial of a novel Ebola virus vaccine. The study, sponsored and led by WHO, is a remarkable scientific and logistical achievement. In the midst of an extreme public health emergency, researchers, health workers, and community facilitators in Guinea included 7651 people in a trial to test the efficacy of a recombinant, replication-competent vesicular stomatitis virus-based vaccine expressing a surface glycoprotein of Ebola (Zaire). The authors conclude that their interim analysis indicates the vaccine "might be highly efficacious and safe".

The technique used in the trial was "ring vaccination". This method involves identifying a newly diagnosed person with Ebola, and then tracking down their contacts and contacts of contacts. This procedure is not without its challenges (it was the same approach used to eradicate smallpox). To identify this often complex network of contacts required the help of family and friends in many small and dispersed communities across the most affected parts of the country. That such a trial was even possible is a testament not only to the skill of the research teams but also to the commitment of communities to defeating an epidemic that has devastated their nation. Over 90% of the study's staff were from Guinea. Before this work, no clinical trial on this scale had ever been performed in the country.

This study will be the subject of intense scientific scrutiny and debate. But what do the results mean for those most at risk of Ebola virus infection in west Africa? The vaccine is not yet licensed. More data on efficacy are needed before it can be widely deployed. But if the evidence proves sufficient for licensing, a Global Ebola Vaccine Implementation Team, also under WHO's leadership, has been preparing the ground for its introduction—creating guidelines for the vaccine's use, strategies for community engagement, and mechanisms to expand country capacity for the vaccine's distribution and delivery. In addition, the GAVI Alliance has approved substantial funding for the procurement and deployment of the vaccine.

One important message goes beyond even Ebola—the power of multilateralism and inclusive partnership to devise and execute critical clinical research. Ebola has been a catastrophe for west Africa. But out of this epidemic has come the opportunity to build unprecedented collaborations to generate evidence to advance health. There have been few better examples to prove the value and importance of WHO to strengthen global health security.

Articles

Efficacy and effectiveness of an rVSV-vectored vaccine expressing Ebola surface glycoprotein: interim results from the Guinea ring vaccination cluster-randomised trial

Ana Maria Henao-Restrepo, Ira M Longini, Matthias Egger, Natalie E Dean, W John Edmunds, Anton Camacho, Miles W Carroll, Moussa Doumbia, Bertrand Draguez, Sophie Duraffour, Godwin Enwere, Rebecca Grais, Stephan Gunther, Stefanie Hossmann, Mandy Kader Kondé, Souleymane Kone, Eeva Kuisma, Myron M Levine, Sema Mandal, Gunnstein Norheim, Ximena Riveros, Aboubacar Soumah, Sven Trelle, Andrea S Vicari, Conall H Watson, Sakoba Kéïta, Marie Paule Kieny, John-Arne Røttingen

Published Online: 03 August 2015
DOI: http://dx.doi.org/10.1016/S0140-6736(15)61117-5

Summary

Background

A recombinant, replication-competent vesicular stomatitis virus-based vaccine expressing a surface glycoprotein of Zaire Ebolavirus (rVSV-ZEBOV) is a promising Ebola vaccine candidate. We report the results of an interim analysis of a trial of rVSV-ZEBOV in Guinea, west Africa.

Methods

For this open-label, cluster-randomised ring vaccination trial, suspected cases of Ebola virus disease in Basse-Guinée (Guinea, west Africa) were independently ascertained by Ebola response teams as part of a national surveillance system. After laboratory confirmation of a new case, clusters of all contacts and contacts of contacts were defined and randomly allocated 1:1 to immediate vaccination or delayed (21 days later) vaccination with rVSV-ZEBOV (one dose of 2 × 107 plaque-forming units, administered intramuscularly in the deltoid muscle). Adults (age ≥18 years) who were not pregnant or breastfeeding were eligible for vaccination. Block randomisation was used, with randomly varying blocks, stratified by location (urban vs rural) and size of rings (≤20 vs >20 individuals). The study is open label and masking of participants and field teams to the time of vaccination is not possible, but Ebola response teams and laboratory workers were unaware of allocation to immediate or delayed vaccination. Taking into account the incubation period of the virus of about 10 days, the prespecified primary outcome was laboratory-confirmed Ebola virus disease with onset of symptoms at least 10 days after randomisation. The primary analysis was per protocol and compared the incidence of Ebola virus disease in eligible and vaccinated individuals in immediate vaccination clusters with the

incidence in eligible individuals in delayed vaccination clusters. This trial is registered with the Pan African Clinical Trials Registry, number PACTR201503001057193.
Findings
Between April 1, 2015, and July 20, 2015, 90 clusters, with a total population of 7651 people were included in the planned interim analysis. 48 of these clusters (4123 people) were randomly assigned to immediate vaccination with rVSV-ZEBOV, and 42 clusters (3528 people) were randomly assigned to delayed vaccination with rVSV-ZEBOV. In the immediate vaccination group, there were no cases of Ebola virus disease with symptom onset at least 10 days after randomisation, whereas in the delayed vaccination group there were 16 cases of Ebola virus disease from seven clusters, showing a vaccine efficacy of 100% (95% CI 74·7–100·0; p=0·0036). No new cases of Ebola virus disease were diagnosed in vaccinees from the immediate or delayed groups from 6 days post-vaccination. At the cluster level, with the inclusion of all eligible adults, vaccine effectiveness was 75·1% (95% CI −7·1 to 94·2; p=0·1791), and 76·3% (95% CI −15·5 to 95·1; p=0·3351) with the inclusion of everyone (eligible or not eligible for vaccination). 43 serious adverse events were reported; one serious adverse event was judged to be causally related to vaccination (a febrile episode in a vaccinated participant, which resolved without sequelae). Assessment of serious adverse events is ongoing.
Interpretation
The results of this interim analysis indicate that rVSV-ZEBOV might be highly efficacious and safe in preventing Ebola virus disease, and is most likely effective at the population level when delivered during an Ebola virus disease outbreak via a ring vaccination strategy.
Funding
WHO, with support from the Wellcome Trust (UK); Médecins Sans Frontières; the Norwegian Ministry of Foreign Affairs through the Research Council of Norway; and the Canadian Government through the Public Health Agency of Canada, Canadian Institutes of Health Research, International Development Research Centre, and Department of Foreign Affairs, Trade and Development.

Articles

ReEBOV Antigen Rapid Test kit for point-of-care and laboratory-based testing for Ebola virus disease: a field validation study

Mara Jana Broadhurst, John Daniel Kelly, Ann Miller, Amanda Semper, Daniel Bailey, Elisabetta Groppelli, Andrew Simpson, Tim Brooks, Susan Hula, Wilfred Nyoni, Alhaji B Sankoh, Santigi Kanu, Alhaji Jalloh, Quy Ton, Nicholas Sarchet, Peter George, Mark D Perkins, Betsy Wonderly, Megan Murray, Nira R Pollock

Summary
Background
At present, diagnosis of Ebola virus disease requires transport of venepuncture blood to field biocontainment laboratories for testing by real-time RT-PCR, resulting in delays that complicate patient care and infection control efforts. Therefore, an urgent need exists for a point-of-care rapid diagnostic test for this disease. In this Article, we report the results of a field validation of the Corgenix ReEBOV Antigen Rapid Test kit.
Methods
We performed the rapid diagnostic test on fingerstick blood samples from 106 individuals with suspected Ebola virus disease presenting at two clinical centres in Sierra Leone. Adults and children who were able to provide verbal consent or assent were included; we excluded patients with haemodynamic instability and those who were unable to cooperate with fingerstick or

venous blood draw. Two independent readers scored each rapid diagnostic test, with any disagreements resolved by a third. We compared point-of-care rapid diagnostic test results with clinical real-time RT-PCR results (RealStar Filovirus Screen RT-PCR kit 1·0; altona Diagnostics GmbH, Hamburg, Germany) for venepuncture plasma samples tested in a Public Health England field reference laboratory (Port Loko, Sierra Leone). Separately, we performed the rapid diagnostic test (on whole blood) and real-time RT-PCR (on plasma) on 284 specimens in the reference laboratory, which were submitted to the laboratory for testing from many clinical sites in Sierra Leone, including our two clinical centres.

Findings

In point-of-care testing, all 28 patients who tested positive for Ebola virus disease by RT-PCR were also positive by fingerstick rapid diagnostic test (sensitivity 100% [95% CI 87·7–100]), and 71 of 77 patients who tested negative by RT-PCR were also negative by the rapid diagnostic test (specificity 92·2% [95% CI 83·8–97·1]). In laboratory testing, all 45 specimens that tested positive by RT-PCR were also positive by the rapid diagnostic test (sensitivity 100% [95% CI 92·1–100]), and 214 of 232 specimens that tested negative by RT-PCR were also negative by the rapid diagnostic test (specificity 92·2% [88·0–95·3]). The two independent readers agreed about 95·2% of point-of-care and 98·6% of reference laboratory rapid diagnostic test results. Cycle threshold values ranged from 15·9 to 26·3 (mean 22·6 [SD 2·6]) for the PCR-positive point-of-care cohort and from 17·5 to 26·3 (mean 21·5 [2·7]) for the reference laboratory cohort. Six of 16 banked plasma samples from rapid diagnostic test-positive and altona-negative patients were positive by an alternative real-time RT-PCR assay (the Trombley assay); three (17%) of 18 samples from individuals who were negative by both the rapid diagnostic test and altona test were also positive by Trombley.

Interpretation

The ReEBOV rapid diagnostic test had 100% sensitivity and 92% specificity in both point-of-care and reference laboratory testing in this population (maximum cycle threshold 26·3). With two independent readers, the test detected all patients who were positive for Ebola virus by altona real-time RT-PCR; however, this benchmark itself had imperfect sensitivity.

Funding

Abundance Foundation.

Viewpoint

Public health, universal health coverage, and Sustainable Development Goals: can they coexist?

Harald Schmidt, Lawrence O Gostin, Ezekiel J Emanuel

Published Online: 29 June 2015
DOI: http://dx.doi.org/10.1016/S0140-6736(15)60244-6

The Lancet Global Health
Sep 2015 Volume 3 Number 9 e501-e576
http://www.thelancet.com/journals/langlo/issue/current
[Reviewed earlier]

The Lancet Infectious Diseases
Aug 2015 Volume 15 Number 8 p863-986
http://www.thelancet.com/journals/laninf/issue/current

[Reviewed earlier]

Maternal and Child Health Journal
Volume 19, Issue 8, August 2015
http://link.springer.com/journal/10995/19/8/page/1
[Reviewed earlier]

Medical Decision Making (MDM)
August 2015; 35 (6)
http://mdm.sagepub.com/content/current
[New issue; No relevant content identified]

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
[Reviewed earlier]

Nature
Volume 524 Number 7566 pp387-510 27 August 2015
http://www.nature.com/nature/current_issue.html
[New issue; No relevant content identified]

12 August 2015
Can randomized trials eliminate global poverty?
A new generation of economists is trying to transform global development policy through the power of randomized controlled trials.
Jeff Tollefson

In 70 local health clinics run by the Indian state of Haryana, the parents of a child who starts the standard series of vaccinations can walk away with a free kilogram of sugar. And if the parents make sure that the child finishes the injections, they also get to take home a free litre of cooking oil.

These simple gifts are part of massive trial testing whether rewards can boost the stubbornly low immunization rates for poor children in the region. Following the model of the randomized controlled trials (RCTs) that are commonly used to test the effectiveness of drugs, scientists randomly assigned clinics in the seven districts with the lowest immunization rates to either give the gifts or not. Initial results are expected next year. But smaller-scale experiments suggest that the incentives have a good chance of working. In a pilot study conducted in India and published in 2010, the establishment of monthly medical camps saw vaccination rates triple, and adding on incentives that offered families a kilogram of lentils and a set of plates increased completion rates by more than sixfold[1].

"We have learned something about why immunization rates are low," says Esther Duflo, an economist at the Massachusetts Institute of Technology (MIT) in Cambridge, who was involved in the 2010 experiment and is working with Haryana on its latest venture. The problem is not

necessarily that people are opposed to immunization, she says. It is that certain obstacles, such as lack of time or money, are making it difficult for them to attend the clinics. "And you can balance that difficulty with a little incentive," she says.

This is one of a flood of insights from researchers who are revolutionizing the field of economics with experiments designed to rigorously test how well social programmes work. Their targets range from education programmes to the prevention of traffic accidents. Their preferred method is the randomized trial. And so they have come to be known as the 'randomistas'…

Nature Medicine
August 2015, Volume 21 No 8 pp828-961
http://www.nature.com/nm/journal/v21/n8/index.html
[Reviewed earlier]

Nature Reviews Immunology
July 2015 Vol 15 No 7
http://www.nature.com/nri/journal/v15/n7/index.html
[Reviewed earlier]

New England Journal of Medicine
August 27, 2015 Vol. 373 No. 9
http://www.nejm.org/toc/nejm/medical-journal
Perspective
Shifting Vaccination Politics — The End of Personal-Belief Exemptions in California
Michelle M. Mello, J.D., Ph.D., David M. Studdert, L.L.B., Sc.D., and Wendy E. Parmet, J.D.
N Engl J Med 2015; 373:785-787
August 27, 2015
DOI: 10.1056/NEJMp1508701

It's not often that California, West Virginia, and Mississippi are politically aligned, but that unlikely trio formed on June 25, 2015, when California Governor Jerry Brown signed into law Senate Bill (SB) 277, substantially narrowing exceptions to school-entry vaccination mandates. With that law, California becomes the third state to disallow exemptions based on both religious and philosophical beliefs; only medical exemptions remain. The move represents a stunning victory for public health that affects not only California schoolchildren but also the prospects for strengthening vaccination requirements nationwide.

In 2014, California tightened its personal-belief exemption by requiring parents seeking such exemptions to obtain a physician's attestation that they had received information about vaccine-preventable illnesses and the benefits and risks of immunization. Just 18 months later, the legislature decided that that wasn't sufficient. The new law applies to elementary and secondary schools and day-care centers both public and private, exempting only home-schooled students. It prohibits these institutions from unconditionally admitting children who are not up to date on vaccinations against a prescribed list of diseases (see Vaccines Required for Unconditional Entry into Schools, Child-Care Centers, Day Nurseries, Nursery Schools, Family Day-Care Homes, and

Development Centers in California) unless they have a medical exemption. The law also allows the state Department of Public Health (DPH) to add diseases to the list but, anomalously, permits personal-belief exemptions for any such additions.

The passage of SB 277 was anything but a foregone conclusion. Although California's predominantly liberal populace generally tolerates assertive public health policies, a vocal libertarian minority ardently opposes vaccination mandates. The bill's opponents mobilized fiercely against it, attending hearings with toddlers in tow and organizing strident protests. The pediatrician-senator who sponsored the bill received death threats.

Nevertheless, four factors converged to enable its passage. First, legislative supporters showed extraordinary backbone in resisting pressure to abandon the measure. Second, the DPH publicized data showing that rates of personal-belief exemptions in California have doubled since 2007,[1] and analysts noted that vaccination coverage is low enough to jeopardize herd immunity in a quarter of schools.[2] Third, the widely publicized Disneyland measles outbreak brought home the risks posed by lost herd immunity. Researchers swiftly concluded that "substandard vaccination compliance is likely to blame for the 2015 measles outbreak."[3] The outbreak created a political opening and energized legislators, parents, and interest groups that aren't ordinarily activated around vaccination issues.

Fourth, the bill's proponents focused on the specific threat to schoolchildren who are too medically fragile to receive vaccinations, effectively framing vaccine refusal as a decision that endangers others rather than a purely "personal" one. For this argument, they found an appealing poster child in 7-year-old Rhett Krawitt, a patient with leukemia who made headlines when he and his parents asked his school to bar unvaccinated children and testified in support of SB 277.

The legislation still faces substantial challenges. An effort is already under way to collect signatures for a referendum to repeal it.[4] Constitutional challenges have also been threatened — but are unlikely to succeed.

In 1890, the Supreme Court of California upheld a state law requiring vaccination to attend school (Abeel v. Clark). Fifteen years later in Jacobson v. Massachusetts, the U.S. Supreme Court rejected a claim that a Massachusetts vaccination mandate not linked to school entry violated the constitutional right to due process of law. Later, the Court applied Jacobson in Zucht v. King (1922) to reject a challenge to school-entry mandates in Texas.

Despite these precedents, SB 277 challengers are apt to argue that the lack of a religious exemption violates their First Amendment right to free exercise of religion. Although individuals are generally permitted to decline medical treatment when it conflicts with their religious beliefs, the First Amendment does not require the state to exempt believers from generally applicable laws that protect the health of others. The U.S. Supreme Court has never directly evaluated a First Amendment claim regarding vaccination, but it has written in the context of other parental-rights claims that religious freedom "does not include liberty to expose the community or the child to communicable disease" (Prince v. Massachusetts, 1944). More recently, two appellate courts concluded that the First Amendment does not require religious exemptions for vaccination mandates (Phillips v. City of New York, 2nd Cir., 2015; Workman v.

Mingo Cnty Bd. of Educ., 4th Cir., 2011). Somewhat paradoxically, the strongest constitutional arguments may arise in states that allow exemptions for religious but not secular reasons.

Mississippi's Supreme Court ruled that such a distinction violated the U.S. Constitution's Equal Protection Clause by favoring religious over philosophical objectors (Brown v. Stone, 1979). Challengers may also claim that SB 277 violates children's right to education. The U.S. Supreme Court has never recognized a federal constitutional right to education, but 16 state constitutions (including California, West Virginia, and Mississippi) elevate education to the status of a fundamental right. Litigation to enforce this right has focused mainly on states' obligations to provide a public education system and prevent large resource disparities among school districts (Serrano v. Priest, Cal. 1976; Butt v. State, Cal. 1992). In the leading right-to-education case discussing vaccination, New York's high court held that the state's constitutional right to attend public schools may be subordinated to "restrictions and limitations in the interest of the public health" (Viemeister v. White, N.Y. 1904).

Enforcement, not legal attack, is likely to be the greater challenge for SB 277. Like many states, California puts schools and day-care centers in charge of verifying students' receipt of required vaccinations. They can and do allow students to begin school despite being out of compliance, as long as parents pledge to obtain missing vaccinations. However, many commitments are not kept, and educational institutions do not face penalties for failing to ensure follow-through. SB 277 does not change this situation.

Reposing responsibility for enforcement in schools and day-care centers allows information about immunizations to be readily collected along with other paperwork required at school entry. But forcing school administrators and day-care directors to act against the educational interest of their charges and convert trusting relationships with parents into adversarial ones is bad policy. We believe that state laws should instead task health departments with enforcement responsibility for vaccination mandates. When children are permitted to enroll with incomplete vaccinations, schools and day-care centers could notify the health department, which could conduct the necessary follow-up.

Another enforcement-related issue is whether a cadre of "willing providers" will step forward to serve the antivaccination community by providing "medical" exemptions. Vaccination opponents are well connected, and if even a small number of physicians begin to broadly interpret the criteria for medical exemptions, the law's objectives may be undermined.

Finally, it remains to be seen how many parents will respond by home-schooling, choosing nannies over day care, or moving out of state to avoid unwanted immunizations. Home-schooling decisions would not thwart one goal of SB 277 — keeping schools and day-care centers safe for children too young or medically fragile to be fully vaccinated. Such choices might, however, undercut the goal of safeguarding the population's herd immunity.

California's legislative victory may embolden other states to eliminate philosophical and religious exemptions or increase the barriers to obtaining them. Eighteen states allow both types of exemptions, and legislation has been introduced in many to tighten the requirements. Although California politics may be distinctive, its experience with SB 277 indicates that even strong opposition can be overcome with the right combination of astute public education, political strategy, and legislative fortitude.

There is persuasive evidence that stringent vaccination mandates reduce the risk of vaccine-preventable illness.5 Less clear is the effect California's move will have on the politics of vaccination. Will it fortify antivaccination sentiment, leading objecting parents to more extreme tactics to shield their children? Or will it serve to normalize vaccination and marginalize opposition? Time will tell. What is clear is that California's experience will be closely watched. Fewer vaccination exemptions and vaccine-preventable illnesses would be accomplishments that other states would find difficult to ignore.

*Vaccines Required for Unconditional Entry into Schools, Child-Care Centers, Day Nurseries, Nursery Schools, Family Day-Care Homes, and Development Centers in California.**
Diphtheria
Haemophilus influenzae type b
Measles
Mumps
Pertussis
Poliomyelitis
Rubella
Tetanus
Hepatitis type B
Varicella
"Any other disease deemed appropriate by the [State Department of Public Health], taking into consideration the recommendations of the Advisory Committee on Immunization Practices of the United States Department of Health and Human Services, the American Academy of Pediatrics, and the American Academy of Family Physicians."
* From Senate Bill (SB) 277, Section 2.

Perspective
Community Trust and the Ebola Endgame
Ranu S. Dhillon, M.D., and J. Daniel Kelly, M.D.
N Engl J Med 2015; 373:787-789 August 27, 2015
DOI: 10.1056/NEJMp1508413
[Free full text]

Perspective
Ebola in the United States — Public Reactions and Implications
Gillian K. SteelFisher, Ph.D., Robert J. Blendon, Sc.D., and Narayani Lasala-Blanco, Ph.D.
N Engl J Med 2015; 373:789-791 August 27, 2015
DOI: 10.1056/NEJMp1506290
[Free full text]

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August 2015, VOLUME 136 / ISSUE 2
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Volume 7, Issue 2 (June 2015), Pages 10-
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Volume 33, Issue 8, August 2015
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(Accessed 29 August 2015)
[No new content]

PLoS Medicine
http://www.plosmedicine.org/
(Accessed 29 August 2015)
The Impact of a One-Dose versus Two-Dose Oral Cholera Vaccine Regimen in Outbreak Settings: A Modeling Study
Andrew S. Azman, Francisco J. Luquero, Iza Ciglenecki, Rebecca F. Grais, David A. Sack, Justin Lessler
Research Article | published 25 Aug 2015 | PLOS Medicine
10.1371/journal.pmed.1001867
Abstract
Background
In 2013, a stockpile of oral cholera vaccine (OCV) was created for use in outbreak response, but vaccine availability remains severely limited. Innovative strategies are needed to maximize the health impact and minimize the logistical barriers to using available vaccine. Here we ask under what conditions the use of one dose rather than the internationally licensed two-dose protocol may do both.
Methods and Findings
Using mathematical models we determined the minimum relative single-dose efficacy (MRSE) at which single-dose reactive campaigns are expected to be as or more effective than two-dose campaigns with the same amount of vaccine. Average one- and two-dose OCV effectiveness was estimated from published literature and compared to the MRSE. Results were applied to recent outbreaks in Haiti, Zimbabwe, and Guinea using stochastic simulations to illustrate the potential impact of one- and two-dose campaigns. At the start of an epidemic, a single dose must be 35%–56% as efficacious as two doses to avert the same number of cases with a fixed amount of vaccine (i.e., MRSE between 35% and 56%). This threshold decreases as vaccination is delayed. Short-term OCV effectiveness is estimated to be 77% (95% CI 57%–88%) for two doses and 44% (95% CI −27% to 76%) for one dose. This results in a one-dose relative efficacy estimate of 57% (interquartile range 13%–88%), which is above conservative MRSE estimates. Using our best estimates of one- and two-dose efficacy, we projected that a single-dose reactive campaign could have prevented 70,584 (95% prediction interval [PI] 55,943–

86,205) cases in Zimbabwe, 78,317 (95% PI 57,435–100,150) in Port-au-Prince, Haiti, and 2,826 (95% PI 2,490–3,170) cases in Conakry, Guinea: 1.1 to 1.2 times as many as a two-dose campaign. While extensive sensitivity analyses were performed, our projections of cases averted in past epidemics are based on severely limited single-dose efficacy data and may not fully capture uncertainty due to imperfect surveillance data and uncertainty about the transmission dynamics of cholera in each setting.

Conclusions

Reactive vaccination campaigns using a single dose of OCV may avert more cases and deaths than a standard two-dose campaign when vaccine supplies are limited, while at the same time reducing logistical complexity. These findings should motivate consideration of the trade-offs between one- and two-dose campaigns in resource-constrained settings, though further field efficacy data are needed and should be a priority in any one-dose campaign.

Editors' Summary

Background

Cholera—a bacterial gut infection caused by Vibrio cholerae—is a major global killer. Every year, epidemics (outbreaks) of cholera make 2 to 3 million people ill and kill about 100,000 people. People get cholera by eating food or drinking water contaminated with feces from an infected person, so cholera epidemics occur in places with poor sanitation such as slums and refugee camps. Earthquakes, floods, and other natural disasters that disrupt water and sanitation systems can also trigger cholera epidemics. Most people who become infected with V. cholerae have no or mild symptoms, but they may shed bacteria in their feces for up to two weeks. Other infected individuals develop severe diarrhea, producing profuse watery feces. The standard treatment for cholera is replacement of the fluids and salts lost through diarrhea by drinking an oral rehydration fluid or, in the worst cases, by fluid replacement directly into a vein. With prompt treatment, less than 1% of patients die, but untreated patients with severe cholera can die from dehydration within hours of developing symptoms.

Why Was This Study Done?

The best way to control cholera is to ensure that everyone has access to safe water and good sanitation, but this is often impossible in poor countries, in refugee camps, or after natural disasters. In 2013, the World Health Organization created a global stockpile of an oral cholera vaccine (a preparation given by mouth that stimulates the immune system to attack V. cholerae) for use in cholera outbreaks. The licensed protocol for the currently stockpiled vaccine requires two doses of the vaccine to be given two weeks apart, but it can be difficult to ensure that everyone at risk of infection receives two doses. Moreover, the stockpile contains only one to two million doses of vaccine, which would have been insufficient to protect every individual at risk of infection in several recent cholera outbreaks. Here, the researchers use mathematical modeling to investigate whether one dose of oral cholera vaccine, rather than two doses, could be used to maximize the health impact of cholera vaccination and minimize logistical barriers to cholera vaccination during cholera outbreaks.

What Did the Researchers Do and Find?

The researchers used cholera transmission models to determine the "minimum relative single-dose efficacy" (MRSE), the threshold at which single-dose vaccination campaigns begun after an outbreak has started (reactive vaccination) are expected to be as or more effective than two-dose campaigns with the same amount of vaccine. The researchers report that, at the start of an epidemic, the MRSE is between 35% and 56%. That is, a single dose of vaccine must be at least 35%–56% as efficacious as two doses to avert the same number of cases with a fixed amount of vaccine. By searching the literature, the researchers estimated that the short-term protection against infection provided by oral cholera vaccines is 77% for two doses and 44% for

one dose—a one-dose relative efficacy of 57%, which is above the MRSE estimate. Finally, the researchers used their models to project that, in three recent cholera outbreaks, a single-dose campaign could have prevented between 1.1 and 1.2 times more cases of cholera than a two-dose campaign using the same amount of vaccine.

What Do These Findings Mean?

The finding that the relative single-dose efficacy of oral cholera vaccination is above the estimated MRSE suggests that one-dose reactive vaccination campaigns might avert more cases and deaths than a standard two-dose campaign when vaccine supplies are limited. The accuracy of this and other study findings is limited, however, by the assumptions used to build the mathematical models and by the quality of the data used to run them. In particular, a lack of data on the efficacy of single-dose vaccination limits the ability to apply these findings. Thus, before one-dose campaigns are used widely, more data on the effectiveness on one-dose vaccination must be obtained. Notably, by increasing herd immunity (the vaccination of a significant portion of a population provides some protection for individuals in the population who have not been vaccinated), one-dose campaigns are likely to provide better population-level protection than two-dose campaigns. On the other hand, the individual who is given one rather than two vaccine doses is more vulnerable to cholera illness if exposed to cholera-causing bacteria. Strategies that balance the trade-off between individual- and population-level benefits must be carefully considered to ensure the best future use of the oral cholera vaccine stockpile. Moreover, every effort should be made to increase the size and availability of this stockpile.

PLoS Neglected Tropical Diseases

http://www.plosntds.org/

(Accessed 29 August 2015)

Building Research and Development Capacity for Neglected Tropical Diseases Impacting Leishmaniasis in the Middle East and North Africa: A Case Study

Sima Rafati, Shaden Kamhawi, Jesus G. Valenzuela, Mostafa Ghanei

Editorial | published 27 Aug 2015 | PLOS Neglected Tropical Diseases

10.1371/journal.pntd.0003695

PLoS One

http://www.plosone.org/

[Accessed 29 August 2015]

A Multi-Site Knowledge Attitude and Practice Survey of Ebola Virus Disease in Nigeria

Garba Iliyasu, Dimie Ogoina, Akan A. Otu, Farouq M. Dayyab, Bassey Ebenso, Daniel Otokpa, Stella Rotifa, Wisdom T. Olomo, Abdulrazaq G. Habib

Research Article | published 28 Aug 2015 | PLOS ONE

10.1371/journal.pone.0135955

Has Wild Poliovirus Been Eliminated from Nigeria?

Michael Famulare

Research Article | published 28 Aug 2015 | PLOS ONE

10.1371/journal.pone.0135765

Gender Determinants of Vaccination Status in Children: Evidence from a Meta-Ethnographic Systematic Review

Sonja Merten, Adriane Martin Hilber, Christina Biaggi, Florence Secula, Xavier Bosch-Capblanch, Pem Namgyal, Joachim Hombach

Research Article | published 28 Aug 2015 | PLOS ONE

10.1371/journal.pone.0135222

Abstract

Using meta-ethnographic methods, we conducted a systematic review of qualitative research to understand gender-related reasons at individual, family, community and health facility levels why millions of children in low and middle income countries are still not reached by routine vaccination programmes. A systematic search of Medline, Embase, CINAHL, Cochrane Library, ERIC, Anthropological Lit, CSA databases, IBSS, ISI Web of Knowledge, JSTOR, Soc Index and Sociological Abstracts was conducted. Key words were built around the themes of immunization, vaccines, health services, health behaviour, and developing countries. Only papers, which reported on in-depth qualitative data, were retained. Twenty-five qualitative studies, which investigated barriers to routine immunisation, were included in the review. These studies were conducted between 1982 and 2012; eighteen were published after 2000. The studies represent a wide range of low- to middle income countries including some that have well known coverage challenges. We found that women's low social status manifests on every level as a barrier to accessing vaccinations: access to education, income, as well as autonomous decision-making about time and resource allocation were evident barriers. Indirectly, women's lower status made them vulnerable to blame and shame in case of childhood illness, partly reinforcing access problems, but partly increasing women's motivation to use every means to keep their children healthy. Yet in settings where gender discrimination exists most strongly, increasing availability and information may not be enough to reach the under immunised. Programmes must actively be designed to include mitigation measures to facilitate women's access to immunisation services if we hope to improve immunisation coverage. Gender inequality needs to be addressed on structural, community and household levels if the number of unvaccinated children is to substantially decrease.

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(Accessed 29 August 2015)

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(Accessed 29 August 2015)

[No new digest content identified]

Pneumonia

Vol 6 (2015)

https://pneumonia.org.au/index.php/pneumonia/issue/current

[Reviewed earlier]

Prehospital & Disaster Medicine
Volume 30 - Issue 04 - August 2015
https://journals.cambridge.org/action/displayIssue?jid=PDM&tab=currentissue
Original Research
Pneumonia Prevention during a Humanitarian Emergency: Cost-effectiveness of Haemophilus Influenzae Type B Conjugate Vaccine and Pneumococcal Conjugate Vaccine in Somalia
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a2 Division of Bacterial Diseases, National Center of Immunization and Respiratory Diseases, Centers for Disease Control and Prevention, Atlanta, Georgia USA
Abstract
Background Pneumonia is a leading cause of death among children less than five years old during humanitarian emergencies. Haemophilus influenzae type b (Hib) and Streptococcus pneumoniae are the leading causes of bacterial pneumonia. Vaccines for both of these pathogens are available to prevent pneumonia.
Problem This study describes an economic analysis from a publicly funded health care system perspective performed on a birth cohort in Somalia, a country that has experienced a protracted humanitarian emergency.
Methods An impact and cost-effectiveness analysis was performed comparing: no vaccine, Hib vaccine only, pneumococcal conjugate vaccine 10 (PCV10) only, and both together administered through supplemental immunization activities (SIAs). The main summary measure was the incremental cost per disability-adjusted life-years (DALYs) averted. One-way sensitivity analysis was conducted for uncertainty in parameter values.
Results Each SIA would avert a substantial number of cases and deaths. Compared with no vaccine, the DALYs averted by two SIAs for two doses of Hib vaccine was US $202.93 (lower and upper limits: $121.80-$623.52), two doses of PCV10 was US $161.51 ($107.24-$227.21), and two doses of both vaccines was US $152.42 ($101.20-$214.42). Variables that influenced the cost-effectiveness for each strategy most substantially were vaccine effectiveness, case fatality rates (CFRs), and disease burden.
Conclusions The World Health Organization (WHO) defines a cost-effective intervention as costing one to three times the per capita gross domestic product (GDP; in 2011, for Somalia=US $112). Based on the presented model, Hib vaccine alone, PCV10 alone, or Hib vaccine and PCV10 given together in SIAs are cost-effective interventions in Somalia. The WHO/Strategic Advisory Group of Experts decision-making factors for vaccine deployment appear to have all been met: the disease burden is large, the vaccine-related risk is low, prevention in this setting is more feasible than treatment, the vaccine duration probably is sufficient for the vulnerable period of the child's life, cost is reasonable, and herd immunity is possible.

Original Research
The Development of a Humanitarian Health Ethics Analysis Tool
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Abstract
Introduction Health care workers (HCWs) who participate in humanitarian aid work experience a range of ethical challenges in providing care and assistance to communities affected by war, disaster, or extreme poverty. Although there is increasing discussion of ethics in humanitarian health care practice and policy, there are very few resources available for humanitarian workers seeking ethical guidance in the field. To address this knowledge gap, a Humanitarian Health Ethics Analysis Tool (HHEAT) was developed and tested as an action-oriented resource to support humanitarian workers in ethical decision making.
While ethical analysis tools increasingly have become prevalent in a variety of practice contexts over the past two decades, very few of these tools have undergone a process of empirical validation to assess their usefulness for practitioners.
Methods A qualitative study consisting of a series of six case-analysis sessions with 16 humanitarian HCWs was conducted to evaluate and refine the HHEAT.
Results Participant feedback inspired the creation of a simplified and shortened version of the tool and prompted the development of an accompanying handbook.
Conclusion The study generated preliminary insight into the ethical deliberation processes of humanitarian health workers and highlighted different types of ethics support that humanitarian workers might find helpful in supporting the decision-making process.

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Volume 8 Issue 2 July 2015
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August 2015; 25 (8)
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June 2015 Vol. 37, No. 6
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Volume 33, Issue 37, Pages 4659-4736 (8 September 2015)
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Edited by Marcel B.M. Teunissen and Darin Zehrung

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WHO articles

Implementation workshop of WHO guidelines on evaluation of malaria vaccines: Current regulatory concepts and issues related to vaccine quality, Pretoria, South Africa 07 Nov 2014
Pages 4359-4364
Mei Mei Ho, Maria Baca-Estrada, Christoph Conrad, Eric Karikari-Boateng, Hye-Na Kang

The NITAG Resource Centre (NRC): One-stop shop towards a collaborative platform
Pages 4365-4367
Alex Adjagba, Louise Henaff, Philippe Duclos

Strengthening the influenza vaccine virus selection and development process: Report of the 3rd WHO Informal Consultation for Improving Influenza Vaccine Virus Selection held at WHO headquarters, Geneva, Switzerland, 1–3 April 2014
Pages 4368-4382
William K. Ampofo, Eduardo Azziz-Baumgartner, Uzma Bashir, Nancy J. Cox, Rodrigo Fasce, Maria Giovanni, Gary Grohmann, Sue Huang, Jackie Katz, Alla Mironenko, Talat Mokhtari-Azad, Pretty Multihartina Sasono, Mahmudur Rahman, Pathom Sawanpanyalert, Marilda Siqueira, Anthony L. Waddell, Lillian Waiboci, John Wood, Wenqing Zhang, Thedi Ziegler, WHO Writing Group, et al.

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Pages 4383-4384

Safety monitoring in the Vaccine Adverse Event Reporting System (VAERS)
Review Article
Pages 4398-4405
Tom T. Shimabukuro, Michael Nguyen, David Martin, Frank DeStefano

Landscaping the structures of GAVI country vaccine supply chains and testing the effects of radical redesign
Original Research Article
Pages 4451-4458
Bruce Y. Lee, Diana L. Connor, Angela R. Wateska, Bryan A. Norman, Jayant Rajgopal, Brigid E. Cakouros, Sheng-I. Chen, Erin G. Claypool, Leila A. Haidari, Veena Karir, Jim Leonard, Leslie E. Mueller, Proma Paul, Michelle M. Schmitz, Joel S. Welling, Yu-Ting Weng, Shawn T. Brown

Abstract
Background
Many of the world's vaccine supply chains do not adequately provide vaccines, prompting several questions: how are vaccine supply chains currently structured, are these structures closely tailored to individual countries, and should these supply chains be radically redesigned?
Methods
We segmented the 57 GAVI-eligible countries' vaccine supply chains based on their structure/morphology, analyzed whether these segments correlated with differences in country characteristics, and then utilized HERMES to develop a detailed simulation model of three sample countries' supply chains and explore the cost and impact of various alternative structures.

Results
The majority of supply chains (34 of 57) consist of four levels, despite serving a wide diversity of geographical areas and population sizes. These four-level supply chains loosely fall into three clusters [(1) 18 countries relatively more bottom-heavy, i.e., many more storage locations lower in the supply chain, (2) seven with relatively more storage locations in both top and lower levels, and (3) nine comparatively more top-heavy] which do not correlate closely with any of the country characteristics considered. For all three cluster types, our HERMES modeling found that simplified systems (a central location shipping directly to immunization locations with a limited number of Hubs in between) resulted in lower operating costs.
Conclusion
A standard four-tier design template may have been followed for most countries and raises the possibility that simpler and more tailored designs may be warranted.

Efficacy and immunogenicity of high-dose influenza vaccine in older adults by age, comorbidities, and frailty
Original Research Article
Pages 4565-4571
Carlos A. DiazGranados, Andrew J. Dunning, Corwin A. Robertson, H. Keipp Talbot, Victoria Landolfi, David P. Greenberg
Abstract
Background
A randomized trial demonstrated that a high-dose inactivated influenza vaccine (IIV-HD) was 24.2% more efficacious than a standard-dose vaccine (IIV-SD) against laboratory-confirmed influenza illness in adults ≥65 years. To evaluate the consistency of IIV-HD benefits, supplemental analyses explored efficacy and immunogenicity by baseline characteristics of special interest.
Methods
Double-blind, randomized, active-controlled, multicenter trial. Adults ≥65 years were randomized 1:1 to receive IIV-HD or IIV-SD and followed for 6–8 months postvaccination for the occurrence of influenza. One third of participants were randomly selected to provide sera for measurement of hemagglutination inhibition antibody (HAI) titers. Efficacy (IIV-HD vs. IIV-SD) against laboratory-confirmed, protocol-defined influenza-like illness (PD-ILI) and HAI geometric mean titer (GMT) ratios (IIV-HD/IIV-SD) were evaluated by age, and number of high-risk comorbid and frailty conditions.
Results
Efficacy (95% confidence intervals) of IIV-HD relative to IIV-SD against laboratory-confirmed PD-ILI was 19.7% (0.4%; 35.4%) for participants 65–74 years, 32.4% (8.1%; 50.6%) for those ≥75 years, 22.1% (3.9%; 37.0%) for participants with ≥1 high-risk comorbidity, 23.6% (−3.2%; 43.6%) for those with ≥2 high-risk comorbidities, 27.5% (0.4%; 47.4%) for persons with 1 frailty condition, 23.9% (−9.0%; 47.2%) for those with 2 frailty conditions, and 16.0% (−16.3%; 39.4%) for those with ≥3 frailty conditions. There was no evidence of vaccine efficacy heterogeneity within age, comorbidity, and frailty strata (P-values 0.351, 0.875, and 0.838, respectively). HAI GMT ratios were significantly higher among IIV-HD recipients for all strains and across all subgroups.
Conclusions
Estimates of relative efficacy consistently favored IIV-HD over IIV-SD. There was no significant evidence that baseline age, comorbidity, or frailty modified the efficacy of IIV-HD relative to IIV-SD. IIV-HD significantly improved HAI responses for all strains and in all subgroups. IIV-HD

is likely to provide benefits beyond IIV-SD for adults ≥65 years, irrespective of age and presence of comorbid or frailty conditions.

Exploring the heterogeneity among partially vaccinated children in a population-based cohort

Original Research Article
Pages 4572-4578
Christopher A. Bell, Kimberley A. Simmonds, Shannon E. MacDonald

Abstract
Introduction
Vaccination status is often categorized as complete or not-complete. This ignores the potentially important heterogeneity in children whose vaccinations are not-complete. We sought to subcategorize not-completely vaccinated children and determine whether characteristics differed among these subgroups.
Methods
This retrospective cohort study assessed vaccination status at 2 years of age for 43,965 children in the 2008 Alberta (Canada) birth cohort who were registered with provincial vital statistics records. Children were categorized (based on the five routinely scheduled childhood vaccines) as complete, incomplete, selective, or non-vaccination status. Characteristics derived from administrative health databases were used to determine factors associated with vaccination status.
Results
Population-level vaccination status at 2 years of age was found to be: 71.1% complete and 28.9% not complete (21.9% incomplete, 2.0% selective, and 5.1% non-vaccinated). Midwife delivery at home, compared to physician delivery in hospital, was strongly associated with non-vaccination status (adjusted odds ratio [aOR] 51.70, 95% CI 37.10–72.10). Factors that might pose barriers to vaccination, such as single marital status (aOR 1.58, 95% CI 1.49–1.67), large number of household children (≥4 vs. 1) (aOR 3.24, 95% CI 2.95–3.54), and multiple household moves (≥3 vs. 0) (aOR 1.69, 95% CI 1.35–2.10), were all strongly associated with incomplete vaccination status.
Conclusions
Of the children who were not completely vaccinated at age 2, the vast majority had started but not completed the vaccination series, while a smaller number were selectively vaccinated or not vaccinated at all. Distinct differences are present among these groups that require attention when addressing vaccine coverage.

Cost-effectiveness of Haemophilus influenzae type b vaccine in Vietnam

Original Research Article
Pages 4639-4646
Phuc Le, Ulla K. Griffiths, Dang Duc Anh, Luisa Franzini, Wenyaw Chan, J. Michael Swint

Abstract
Background
With GAVI support, Vietnam introduced Haemophilus influenzae type b (Hib) vaccine in 2010 without evidence on cost-effectiveness. We aimed to analyze the cost-effectiveness of Hib vaccine from societal and governmental perspectives.
Method
We constructed a decision-tree cohort model to estimate the costs and effectiveness of Hib vaccine versus no Hib vaccine for the 2011 birth cohort. The disease burden was estimated

from local epidemiologic data and literature. Vaccine delivery costs were calculated from governmental reports and 2013 vaccine prices. A prospective cost-of-illness study was conducted to estimate treatment costs. The human capital approach was employed to estimate productivity loss. The incremental costs of Hib vaccine were divided by cases, deaths, and disability-adjusted life years (DALY) averted. We used the WHO recommended cost-effectiveness thresholds of an intervention being highly cost-effective if incremental costs per DALY were below GDP per capita.
Result
From the societal perspective, incremental costs per discounted case, death and DALY averted were US$ 6252, US$ 26,476 and US$ 1231, respectively; the break-even vaccine price was US$ 0.69/dose. From the governmental perspective, the results were US$ 6954, US$ 29,449, and US$ 1373, respectively; the break-even vaccine price was US$ 0.48/dose. Vietnam's GDP per capita was US$ 1911 in 2013. In deterministic sensitivity analysis, morbidity and mortality parameters were among the most influential factors. In probabilistic sensitivity analysis, Hib vaccine had an 84% and 78% probability to be highly cost-effective from the societal and governmental perspectives, respectively.
Conclusion
Hib vaccine was highly cost-effective from both societal and governmental perspectives. However, with GAVI support ending in 2016, the government will face a six-fold increase in its vaccine budget at the 2013 vaccine price. The variability of vaccine market prices adds an element of uncertainty. Increased government commitment and improved resource allocation decision making will be necessary to retain Hib vaccine.

Immunogenicity and persistence from different 3-dose schedules of live and inactivated polio vaccines in Chinese infants

Original Research Article
Pages 4653-4658
Li Lu, Xiaomei Li, Herun Zhang, Donglei Liu, Zhujiazi Zhang, Haihong Wang, Fang Liu, Zhaoqi Ning, Juan Li, Xinghuo Pang
Abstract
Background
OPV is the only poliovirus vaccine used in the China EPI system, although IPV is available in the private market. We compared immunigencity and persistence among different schedules of IPV and OPV.
Methods
536 Chinese infants were enrolled into 4 groups receiving different schedules administered at 2, 3, and 4 months of age: IPV–OPV–OPV, IPV–IPV–OPV, IPV–IPV–IPV, and OPV–OPV–OPV. The I–I–I group received an 18-month IPV booster dose. Blood samples were collected before the first dose, after the third dose, and at 18 months for all groups, and also after the booster dose for the I–I–I group. Polio neutralizing antibody titers were assessed, and seroprotection rates were calculated after primary immunization and at 18 months of age.
Results
Before the first dose, GMTs of the 4 groups ranged from 2.96 to 6.89, and seroprotection rates ranged from 17.6% to 54.3%. After 3 doses, the GMT of the I–O–O and I–I–O groups ranged from 901.09 to 1,110.12, and the GMT of the I–I–I group range was 212.02 to 537.52, significantly lower than for the 2 sequential schedules ($P < 0.001$). Seroprotection rates were 98.1% to 100%, with no significant differences among groups. At 18 months of age, the GMTs

declined to a range of 527.00 to 683.44 in the I–O–O and I–I–O groups, and declined to 150.04 to 239.89 in the I–I–I group, significantly lower than for the other 3 groups (P < 0.001).
Conclusions
The sequential schedules achieved high GMTs and seroprotection. The IPV-only schedule achieved high seroprotection but with lower GMTs. Sequential schedules are suitable for China. With the 2 sequential schedules, GMTs remained high at 18 months of age and were not inferior to the OPV-only schedule. Thus, with a sequential schedule, the booster dose could be given at 4 years of age, the same age as the current OPV booster dose.

Vaccines — Open Access Journal
http://www.mdpi.com/journal/vaccines
(Accessed 29 August 2015)
Review: **Nanoparticle Drug Delivery Systems Designed to Improve Cancer Vaccines and Immunotherapy**
by Yuchen Fan and James J. Moon
Vaccines **2015**, *3*(3), 662-685; doi:10.3390/vaccines3030662 - published 27 August 2015
Abstract:
Recent studies have demonstrated great therapeutic potential of educating and unleashing our own immune system for cancer treatment. However, there are still major challenges in cancer immunotherapy, including poor immunogenicity of cancer vaccines, off-target side effects of immunotherapeutics, as well as suboptimal outcomes of adoptive T cell transfer-based therapies. Nanomaterials with defined physico-biochemical properties are versatile drug delivery platforms that may address these key technical challenges facing cancer vaccines and immunotherapy. Nanoparticle systems have been shown to improve targeted delivery of tumor antigens and therapeutics against immune checkpoint molecules, amplify immune activation via the use of new stimuli-responsive or immunostimulatory materials, and augment the efficacy of adoptive cell therapies. Here, we review the current state-of-the-art in nanoparticle-based strategies designed to potentiate cancer immunotherapies, including cancer vaccines with subunit antigens (e.g., oncoproteins, mutated neo-antigens, DNA and mRNA antigens) and whole-cell tumor antigens, dendritic cell-based vaccines, artificial antigen-presenting cells, and immunotherapeutics based on immunogenic cell death, immune checkpoint blockade, and adoptive T-cell therapy.

Value in Health
July 2015 Volume 18, Issue 5, p549-738
http://www.valueinhealthjournal.com/current
[Reviewed earlier]

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

Sexually Transmitted Infections
Published Online First 21 August 2015
Predictors of provider recommendation for HPV vaccine among young adult men and women: findings from a cross-sectional survey
Mary A Gerend1,2, Melissa A Shepherd3, Mia Liza A Lustria4, Janet E Shepherd5
Abstract
Background
Although physician recommendation is one of the strongest predictors of human papillomavirus (HPV) vaccination, it is unclear for whom physicians are recommending the vaccine. To help guide intervention efforts, this study investigated predictors of participant-reported physician recommendation for HPV vaccine among young adults in the USA.
Methods
Women and men (N=223) aged 18–26 years were recruited online through Craigslist, a popular classified advertisements website. Ads were posted in the 25 largest US cities from September 2013 to March 2014. Participants completed a survey that assessed demographic and sociopolitical characteristics, sexual history, HPV vaccination history, and whether they had ever received a recommendation for HPV vaccine from a physician or healthcare provider.
Results
Fifty-three per cent reported receiving a recommendation for HPV vaccine and 45% had received ≥1 dose of HPV vaccine. Participants who received a recommendation were over 35 times more likely to receive ≥1 dose of HPV vaccine relative to participants without a recommendation. Bivariable and multivariable correlates of provider recommendation were identified. Results from the multivariable model indicated that younger (aged 18–21 years), female, White participants with health insurance (ie, employer-sponsored or some other type such as military-sponsored) were more likely to report receiving a recommendation for HPV vaccine.
Conclusions
Results suggest that physician recommendation practices for HPV vaccination vary by characteristics of the patient. Findings underscore the key role of the healthcare provider in promoting HPV vaccination and have important implications for future HPV vaccine interventions with young adults.

Journal of Clinical Virology
September 2015 Volume 70, Supplement 1, S1-S132
http://www.journalofclinicalvirology.com/current?page=3
Abstracts of the 18th Annual Meeting of European Society for Clinical Virology, 9th–12th September 2015, Edinburgh
Evaluating the impact of a national rotavirus vaccine programme on circulating strain types and identifying possible vaccine failures
A. Smith-Palmer, H. Murdoch, A. Hunt, I. Mukhopadhya, G. Hold, C. Cameron
Background: Rotavirus is a leading cause of gastroenteritis in children worldwide. In Scotland, most children will have had at least one rotavirus infection by age five years, with a number requiring hospitalisation for dehydration. To date at least 19 G and 27 P genotypes have been characterised in human rotaviruses. However, five strains are commonly detected worldwide namely G1P[8], G2P[4],G3P[8], G4P[8] and G9P[8]. In July 2013 Rotarix®, a live attenuated

oral vaccine was introduced into the routine infant immunisation schedule with doses at two and three months.

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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 29 August 2015
[No new, unique, relevant content]

The Atlantic
http://www.theatlantic.com/magazine/
Accessed 29 August 2015
[No new, unique, relevant content]

BBC
http://www.bbc.co.uk/
Accessed 29 August 2015
[No new, unique, relevant content]

Brookings
http://www.brookings.edu/
Accessed 29 August 2015
[No new, unique, relevant content]

Center for Global Development
http://www.cgdev.org/
Accessed 29 August 2015
[No new, unique, relevant content]

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

Accessed 29 August 2015
Backgrounder
Global Efforts to Eradicate Polio
by Danielle Renwick August 12, 2015
Though polio had nearly been eradicated, the virus is on the rise amid an increase in violence against vaccine workers in conflict zones. This Backgrounder examines the challenges to eradicating the disease.

The Economist
http://www.economist.com/
Accessed 29 August 2015
[No new, unique, relevant content]

Financial Times
http://www.ft.com/hme/uk
Accessed 29 August 2015
[No new, unique, relevant content]

Forbes
http://www.forbes.com/
Accessed 29 August 2015
NOVA's 'Calling The Shots' On Autism And Vaccines
"There is so much evidence, none of which shows any link between vaccines and autism, that you have to say, "Enough!"
Emily Willingham, Contributor Aug 26, 2015

NIH Director Follows The Facts To Fight Ebola And AIDS
Dr. Anthony Fauci, director of the National Institute of Allergy and Infectious Diseases at the National Institutes of Health, shares some of his experiences leading the national fight against HIV/AIDS, and most recently the Ebola epidemic that swept across West Africa. We discuss the future of infectious disease research, misinformation on [...]
Josh Wolfe, Forbes/Wolfe Emerging Tech Report Aug 26, 2015

Foreign Affairs
http://www.foreignaffairs.com/
Accessed 29 August 2015
Essay September/October 2015 Issue West Africa Health
Ebola's Lessons - How the WHO Mishandled the Crisis
By Laurie Garrett

Foreign Policy
http://foreignpolicy.com/
Accessed 29 August 2015
As Saudi Arabia Grapples With MERS Outbreak, a Vaccine Is in Sight
By Thomas Stackpole
August 21, 2015 - 5:02 pm

The Guardian

http://www.guardiannews.com/
Accessed 29 August 2015
[No new, unique, relevant content]

The Huffington Post
http://www.huffingtonpost.com/
Accessed 29 August 2015
Republican candidate Carly Fiorina's Fuzzy Vaccine Claims Debunked - Huffington Post

Los Angeles Times
http://www.latimes.com/
Accessed 29 August 2015
Doctors learn to push back, gently, against anti-vaccination movement
25 August 2015
The doctors shifted nervously in their seats as the sharp-tongued questioner scanned the room.
Dr. Paul Offit, a University of Pennsylvania pediatrician and the nation's most outspoken childhood vaccine proponent, had come to the UCLA lecture hall to subject several dozen physicians to a faux parental grilling.
He wanted to give them the kind of pushback doctors have come to expect in affluent parts of Los Angeles and California, where increasing numbers of parents are refusing to inoculate their kids against contagious, even life-threatening diseases for fear of complications.
For many of the pediatricians in the audience, taking a hard line on the immunization schedule can mean potentially alienating well-intentioned, if misinformed, parents.
If Offit, a rock star in his field, could give these doctors more factual ammunition — and a little practice on their delivery — could they help convince resistant parents that science is simply not on their side?...

Mail & Guardian
http://mg.co.za/
Accessed 29 August 2015
[No new, unique, relevant content]

New Yorker
http://www.newyorker.com/
Accessed 29 August 2015
[No new, unique, relevant content]

New York Times
http://www.nytimes.com/
Accessed 29 August 2015
The Opinion Pages | Editorial
Children Die Because People Are Wrongly Afraid of Vaccines
By THE EDITORIAL BOARD AUG. 20, 2015
Of all the threats to human life confronted by international health workers, few cause as heavy a toll as what is termed "vaccine hesitancy" — the delay or refusal by misinformed people to accept vaccination for themselves and their children. An estimated one in five children

went without lifesaving vaccines globally last year, adding to the grim toll of 1.5 million children who die annually for lack of immunization, according to the World Health Organization.

This problem is only compounded by the challenge workers face in convincing skeptical publics to put aside what science shows are local myths and dangerous indifference. Citing the fight against Ebola, Dr. Philippe Duclos, senior adviser for the W.H.O.'s immunization programs, noted how "engaging with communities and persuading individuals to change their habits and behaviors is a linchpin of public health success." Unfortunately, there is no easy prescription for how to change these habits.

The resistance to vaccines is worldwide, encompassing rural ethnic minorities opposed to needles to wealthy urbanites with suspicions about whether vaccines cause autism. At one extreme is the vicious use of force by Taliban gunmen who murder polio vaccination workers, thereby assuring that hundreds of children were crippled last year. No less insidiously, even greater numbers died globally from a wide range of diseases encouraged by the ignorance of adults who failed to accept immunization for their families.

Religious or philosophical objections play a role, according to experts who have found that not even a higher level of education is a guarantee against vaccine hesitancy. All of this only compounds the subtle challenges of enforcement and education that health care workers and governments have no choice but to pursue, since the lives of millions of children remain at risk.

Health

Vaccinations Bring Hope, Bracelets Deliver Reminders

New York Times AUG. 22, 2015

Because of the vaccine alliance Gavi, United Nations agencies, the World Bank, the Bill & Melinda Gates Foundation and other donors, immunizations have soared in developing countries over the last 15 years. As a result, an estimated seven million children have survived infancy who before the year 2000 would have died young.

But vaccine schedules are increasingly complex, and young mothers often forget to take children in for shots on time.

A clever solution occurred to Lauren Braun, a former Cornell pre-med student, when she spent a summer working in Peru, traveling to villages to remind mothers to take children to clinics for immunizations.

Her nonprofit company, Alma Sana, makes flexible silicon bracelets — like the yellow Livestrong bands so popular a decade ago. But hers come in pink or blue, fit around a newborn's ankle, and serve as tiny calendars.

For example, beneath the number 4 on the bracelet — four months of age — are a triangle, a circle, an X and a square. They represent the vaccines against polio, pneumonia and rotavirus, as well as the pentavalent shot, which protects against five diseases.

As the baby receives each one, a nurse uses a hole punch to puncture the appropriate mark. When every mark on the bracelet is punched, the baby is fully protected.

Ms. Braun received a grant from the Gates Foundation to test the bracelets, which cost only 10 cents each, in clinics in Peru and Ecuador. She surveyed 150 mothers; 91 percent said the bracelets helped them remember, and all the nurses praised them.

She has now started a video fund-raising campaign to support a randomized, controlled trial involving 5,000 mothers and infants in Nigeria, Pakistan and Colombia.

If she can raise enough money to prove her idea works, Ms. Braun said, she would like to offer mothers more options, such as bracelets in bigger sizes to fit growing children, bracelets that read right to left for Asian cultures, and even bracelets in colors other than pink or blue. The blue-for-boys, pink-for-girls stereotype was invented by an American marketer a century ago and, she said, is "kind of a westernized idea

TED Talk
25 August 2015
Seth Berkley: The troubling reason why vaccines are made too late ... if they're made at all
It seems like we wait for a disastrous disease outbreak before we get serious about making a vaccine for it. Seth Berkley lays out the market realities and unbalanced risks behind why we aren't making vaccines for the world's biggest diseases.

Wall Street Journal
http://online.wsj.com/home-page?_wsjregion=na,us&_homepage=/home/us
Accessed 29 August 2015
Vaccine Injury Payouts Rise
The U.S. government is about to make it easier for claimants to be compensated when vaccinations are improperly injected
By Ianthe Jeanne Dugan
Aug. 24, 2015 11:38 a.m. ET

Washington Post
http://www.washingtonpost.com/
Accessed 29 August 2015
The end of polio in Africa?
By Editorial Board
August 20, 2015

AFRICA HAS reported some genuinely good news in the battle to eradicate polio. Late last month , Nigeria passed a full year without a case of wild poliovirus. As of Aug. 11, it has been a year since the last case was detected anywhere on the continent (it was in Somalia). These anniversaries are unofficial milestones, but they point toward continued progress against polio, a scourge that once claimed hundreds of thousands of lives each year. Unfortunately, polio has shown a fierce tendency to return. Hopefully this time will be different.

Nigeria's accomplishment is impressive. The country suffered a major setback in the struggle against the disease more than a decade ago when a state governor and religious leaders in the predominantly Islamic north put into effect a year-long vaccination ban, claiming that the vaccines were contaminated by the West to spread sterility and HIV/AIDS among Muslims. This led to a wider outbreak of the virus, which is highly contagious, largely strikes children under 5 years old and can cause permanent paralysis. Another effort by Nigeria to come to grips with polio in 2009 seemed to falter when the militant group Boko Haram carried out a wave of violent attacks in the north that disrupted vaccination. The oral vaccine is effective if it can be given to enough children to prevent and interrupt transmission. As recently as 2012, Nigeria had 122 cases — and it now is down to zero.

A valuable lesson from Nigeria is that containing polio requires a multifaceted campaign that goes beyond dispensing vaccines. One important tactic was to address head-on the rumors and myths about the vaccine that undermined earlier campaigns. Local volunteers were brought in to build trust. Health teams used "hit and run" tactics to enter a dangerous area quickly, vaccinate and then exit. Yet another approach was to offer "health camps" that provided a wide array of everyday medical treatments, not just for polio, which gave parents an incentive to bring their children for vaccination. Nigeria also benefited from the determined focus of organizations such as Rotary International, which invested $207 million to fight polio in the

country, as well as the Bill and Melinda Gates Foundation, UNICEF, the Centers for Disease Control and Prevention, the World Health Organization and others.

Africa must be free of the virus for two more years, under rigorous surveillance, before the WHO can declare it polio-free. The progress so far is fragile, but real, and attention should now be focused on campaigns against polio in Pakistan and Afghanistan, the last two nations where it is endemic. Pakistan is making a fresh attempt to corral the virus, and so far this year has only 29 cases, compared with 115 at the same time last year (and a year-end total of 306). Everyone ought to draw from Nigeria's experience, which showed that battling polio is not only about the vaccinations but also about waging a complex war of logistics and, ultimately, winning over the hearts and minds of people.

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WHO Director-General addresses the Review Committee of the International Health Regulations focused on the Ebola response

Dr Margaret Chan
Director-General of the World Health Organization
Opening remarks at the Review Committee on the role of the International Health Regulations in the Ebola outbreak and response
[Full text]
Geneva, Switzerland
24 August 2015

Mr Chair, distinguished members of the Review Committee, ladies and gentlemen,
Good morning, and a very warm welcome to Geneva. Thank you for giving us your time and your expertise.

You are asked to provide a critical review of how the International Health Regulations performed during the outbreak of Ebola virus disease in West Africa.

The review takes place at a time of nearly universal agreement that the international response to the outbreak was inadequate. When the number of cases in Guinea, Liberia, and Sierra Leone began to increase exponentially, all responders, including WHO, were overwhelmed. Since Ebola first emerged in 1976, WHO and its partners have responded to 22 previous outbreaks of this disease. Even the largest were contained within four to six months.

In West Africa, WHO, and many others, were late in recognizing the potential of the outbreak to grow so explosively. Some warning signals were missed. Why?

Our challenge now is to look for improvements that leave the world better prepared for the next inevitable outbreak.

Managing the global regime for controlling the international spread of disease is a central and historical responsibility of the World Health Organization. We need to pinpoint the reasons why

the response fell short,. We need to learn the lessons. We need to put in place corrective strategies just as quickly as possible.

The IHR is a principal instrument for doing so. These regulations are the only internationally-agreed set of rules governing the timely and effective response to outbreaks of infectious diseases and other public health emergencies.

If its legally-binding obligations on States Parties are not being met, change is urgently needed. If WHO is not exercising its full authority under the regulations, change is urgently needed. Your job is not an easy one. Emerging and re-emerging infectious diseases have become a much larger menace under the unique conditions of the 21st century, with its unprecedented volume and speed of international travel and the radically increased interdependence among nations.

Every day, nearly 100,000 flights carry 8.6 million passengers and $17.5 billion of goods to their destinations.

The dynamics of virus spread in West Africa had many exceptional features. But it would be a mistake to forget that many other countries also have extremely weak health systems and infrastructures, a history of conflict and civil unrest, highly mobile populations, and entrenched high-risk cultural practices.

Ebola in West Africa was the largest, longest, and most deadly event in the nearly four-decade history of this disease. But it was not a worst-case scenario.

Preparedness for the future means preparedness for a very severe disease that spreads via the airborne route or can be transmitted during the incubation period, before an infected person shows tell-tale signs of illness.

Ladies and gentlemen,
As you undertake this review, you have the views and recommendations of three expert groups as guidance.

First, the review committee that assessed IHR performance during the 2009 influenza pandemic. Second, the review committee that looked at IHR core capacities. And most recently, the report of the Ebola interim assessment panel, chaired by Dame Barbara Stocking. These expert groups have identified three main weaknesses in the performance of the IHR.

First, compliance with the obligation to build core capacities for event detection and response has been dismal. Eight years after the IHR entered into force, fewer than a third of WHO Member States meet the minimum requirements for core capacities to implement the IHR. Why? Is this because health security is not a priority for governments and the international community? Is this because SARS was contained within less than four months, and the long-dreaded influenza pandemic turned out to be so mild? Did everyone relax?

Or is it a matter of not having sufficient financial and human resources? As you know, the IHR wording, that "States Parties shall utilize existing national structures and resources to meet their

core capacity requirements," places resource responsibilities squarely on the shoulders of individual governments.

Are the minimum requirements set out in the IHR too demanding? Should we lower the bar? Surely not.

But perhaps we should change our whole approach to the way progress is supported and monitored.

I have heard broad agreement that the practice of relying on self-assessments needs to be replaced with a more rigorous and objective mechanism. You may want to further explore options for doing so.

Many factors have been cited as contributing to this poor compliance with core capacities.

In a number of countries, implementation of the IHR is regarded as the sole responsibility of ministries of health, with very little engagement from other relevant ministries, such as those responsible for finance, trade, tourism, agriculture, and animal health.

National focal points often have limited authority and very little access to a country's true power base. Misunderstanding of the IHR as a rigid, legal process further constrains compliance.

Ladies and gentlemen,
At the very least, the Ebola outbreak in West Africa provides dramatic proof of the importance of having minimum capacities and infrastructures in place before a severe disease becomes established in a population.

Ebola in Guinea, Liberia, and Sierra Leone was an extreme stress test that saw the virtual collapse of health services.

The national responses in Nigeria, Senegal, and Mali show the good results possible when health officials are on high alert and the health system is well-prepared. But overall, national and international responses show how far the world is from achieving global health security. Overall, these experiences provide a stunning example of all that was missing, all that can go wrong.

The IHR call for national capacity "to detect events involving disease or death above expected levels for the particular time and place in all areas within the territory".

But how can countries that routinely experience deaths from diseases like malaria, Lassa fever, yellow fever, typhoid fever, dengue, and cholera recognize an unusual event in the midst of all this background noise from difficult and demanding diseases?

Maybe this is another truly fundamental problem that keeps the IHR from working as intended. The Ebola virus circulated in Guinea for three months, undetected, off every radar screen, with no alarms sounding, misdiagnosed as cholera, then thought to be Lassa fever.

Even in Sierra Leone, where health officials were on high alert, the virus spread undetected for at least a month, sparking numerous chains of transmission that rapidly multiplied.
The earliest cases to reach the health system were managed as gastroenteritis, again with a diagnosis of cholera presumed.

Within six weeks, three hotspots of intense virus transmission were firmly established.
As we learned, cases at the start of an outbreak, when containment has the best chance of success, will be missed in the absence of sensitive surveillance, rapid laboratory support, and good information systems shared by the public health and clinical sectors. If the two arms of the health system are not talking or sharing information to raise awareness and take rapid action, we have seen what can happen.

As I always say, what gets measured gets done. What can't be seen can't be measured or managed.

As we learned, when new cases occur that cannot be linked to a known chain of transmission, an outbreak is out of control.

Ladies and gentlemen,
As a second weakness, many countries imposed measures, such as restrictions on travel or trade, that went well beyond the temporary recommendations issued by the Emergency Committee last August.

These measures isolated the three countries and vastly increased economic hardship for some of the world's poorest people. All three ran short of food and fuel.

Just as important, travel restrictions, including the many airlines that suspended flights to West Africa, impeded the arrival of desperately needed response teams and equipment.

If countries are punished in this way, where is the incentive for rapid and transparent reporting?

Whether and under what circumstances countries should be permitted to implement health measures beyond those recommended by WHO was a politically charged issue when the IHR were negotiated.

At present, WHO does not have a mechanism for enforcing compliance with its recommended measures. This has to change.

A third weakness is the absence of a formal alert level of health risk other than the declaration of a public health emergency of international concern, or PHEIC. This is a recommendation from the Stocking report for you to consider.

Establishing a formal intermediate level of alert of health risk would require an amendment to the IHR.

Another option is illustrated by the Emergency Committee convened to assess the MERS situation.

Although many meetings under this Committee were held, none declared a PHEIC, yet their reports consistently set out advice aimed at reducing the number of cases and preventing further international spread.

Ladies and gentlemen,
Some other recommendations from the expert groups would also require amendments. The IHR has provisions for making amendments. But as this is a matter of international law, the procedures are strict and they take time.

In the best possible case, any amendments proposed now would take several years to come into force. Is this what you want? I defer to your suggestions.

Other options can be used to move forward much more quickly. Nor are you in any way obliged to consider only those recommendations made by the three expert groups.

Let me also share with you what I have been hearing. Some analysts have argued that a risk approach to capacity development might support more rapid progress.

For example, we may need to be smarter in identifying where improved surveillance and response capacities are most badly needed.

Systematic studies conducted over decades have shown that the emergence of new diseases follows a non-random global pattern.

From these studies, we also know that nearly 72% of all new human pathogens originate in wildlife, and most frequently at lower latitudes. Can mapping of geography, climate, and cultural behaviours pinpoint hotspots for the emergence of new diseases?

Can we give the international community a list of priority countries ranked as likely to experience outbreaks? Some countries may see this as stigmatizing.

In other words, not lower the bar for core capacities, but narrow the list of countries in urgent need of support.

As WHO knows from its experience with vaccines for yellow fever and epidemic meningitis, the promise of assistance can be a powerful incentive for building surveillance and reporting capacity.

The aftermath of the Ebola outbreak likely represents our best chance ever to transform the world's response to epidemics and other health emergencies.

The image of people dying on the grounds of overflowing hospitals should have left an indelible mark on the world's collective conscience. This is also a window of political opportunity.

I ask you to be critical in your assessment, bold in your thinking, and far-reaching in your recommendations.

I value your expertise, and your advice, and I wish you every success in your deliberations. Thank you.

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