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

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

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

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

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F. Media Watch

Updated data on immunization coverage published by WHO and UNICEF
Geneva, 16 July 2015*
The number of countries reaching and sustaining 90% coverage of children with routine life-saving vaccinations has doubled since 2000.
Updated data on the status of immunization worldwide in 2014 reveal that 129 countries, 6 more than in 2013, now immunize at least 90% of their children with the required 3 doses of diphtheria-tetanus-pertussis containing vaccines (DTP3).

In 2012, all 194 WHO Member States endorsed the Global Vaccine Action Plan (GVAP), and committed to ensuring no one misses out on vital immunizations, with a target of 90% DTP3 vaccination coverage in all countries by 2015. Earlier this year WHO warned that 5 of the 6 targets, including the DTP3 coverage target, contained in the GVAP were worryingly off-track, with only one target, for the introduction of under-utilized vaccines, showing sufficient progress. The new data highlight the fact that 65 countries will require game changing strategies in order to meet the GVAP goal. Among them, 6 countries with less than 50% coverage with DTP3: Central African Republic, Chad, Equatorial Guinea, Somalia, South Sudan and the Syrian Arab Republic.

Worldwide DTP3 immunization coverage stands at 86% for all 3 doses, with 91% of infants receiving at least 1 dose. In 2000, 21 million children did not receive even a first dose of DTP, a figure that has now dropped to 12 million.

Significantly, the updated estimates also show that India, the country with the largest number of unvaccinated children globally, has now achieved over 80% DTP3 coverage, through a revamping of the national immunization programme and effective use of the infrastructure built up to eradicate polio in the country.

The updated estimates show that coverage with some essential vaccines other than DTP, has also improved. The number of children protected from hepatitis B is high worldwide and increasing steadily. While just 30% of children received three doses of vaccine against the viral disease in 2000, this rose to 82% in 2014, although more needs to be done to ensure that infants receive their birth dose within the first 24 hours of life.

Haemophilus influenzae type b (Hib) vaccine is one of the newest recommended vaccines to fight Hib diseases in children globally and has been introduced in all countries except China and Thailand. Coverage, however, is still low at just 56%.

The number of countries using other new vaccines, such as rotavirus and pneumococcal conjugate vaccine, has increased. However, challenges remain. Only 19% of children are protected against rotavirus, despite the fact that some of the countries that have not introduced the vaccine have the largest share of diarrhoeal diseases.

*Data finalized 15 July, published on who.int 16 July
Data on WHO immunization coverage

EBOLA/EVD [to 18 July 2015]
Public Health Emergency of International Concern (PHEIC); "Threat to international peace and security" (UN Security Council)

SUMMARY
:: There were 30 confirmed cases of Ebola virus disease (EVD) reported in the week to 12 July: 13 in Guinea, 3 in Liberia, and 14 in Sierra Leone. Although the total number of confirmed cases is the same as the previous week, there has been a shift in the foci of transmission. For the first time in several months, most cases were reported from Conakry and Freetown, the capitals of Guinea and Sierra Leone, respectively. All 9 of the cases reported from Conakry and all 10 of the cases reported from Freetown were either registered contacts of a previous case or have an established epidemiological link to a known chain of transmission. One of the 30 cases reported in the week to 12 July arose from a yet unknown source of infection. However, a substantial proportion of cases (7 of 30: 23%) continue to be identified as EVD-positive only after post-mortem testing. This suggests that although improvements to case investigation are increasing our understanding of chains of transmission, contact tracing, which aims to minimise transmission by identifying symptoms among contacts at the earliest stage of infection, is still a challenge in several areas...

COUNTRIES WITH WIDESPREAD AND INTENSE TRANSMISSION
:: There have been a total of 27,642 reported confirmed, probable, and suspected cases of EVD in Guinea, Liberia and Sierra Leone (figure 1, table 1) up to 12 July, with 11,261 reported deaths (this total includes reported deaths among probable and suspected cases, although outcomes for many cases are unknown). A total of 13 new confirmed cases were reported in Guinea, 3 in Liberia, and 14 in Sierra Leone in the week to 12 July...

WHO Stories from Countries
Ebola diaries: Lessons from previous Ebola outbreaks help with the response in Guinea
15 July 2015
Getting back to work: Training health staff for life and work after Ebola
14 July 2015

Bavarian Nordic Announces that the Oxford Vaccines Group has Initiated a Phase 2 Study of the Ebola Prime-Boost Vaccine Regimen Combining MVA-BN® Filo and Janssen’s AdVac® Technology

COPENHAGEN, Denmark, July 15, 2015 – Bavarian Nordic A/S (OMX: BAVA, OTC: BVNRY) announced today that the Oxford Vaccines Group has initiated a Phase 2 clinical study of the Ebola prime-boost vaccine regimen that combines Bavarian Nordic’s MVA-BN® Filo vaccine with the Ad26.ZEBOV vaccine from the Janssen Pharmaceutical Companies of Johnson & Johnson (Janssen). The first volunteers have received their initial vaccine dose.

Preliminary data from the first-in-human Phase 1 study, presented by Janssen in May to a U.S. Food & Drug Administration Advisory Committee, indicated that the prime-boost vaccine regimen is immunogenic, regardless of the order of vaccine administration, and only provoked temporary reactions normally expected from vaccination.

The Phase 2 study, to take place in the UK and France, is a randomized, placebo-controlled, multicenter trial evaluating the safety, tolerability and immunogenicity of the heterologous
prime-boost regimen (Ad26.ZEBOV and MVA-BN-Filo) sponsored by Crucell Holland B.V., one of the Janssen Pharmaceutical Companies.

The study is part of the EBOVAC2 project, a collaborative program involving The University of Oxford, French Institute of Health and Medical Research (Inserm), London School of Hygiene & Tropical Medicine (LSHTM), La Centre Muraz (CM), Inserm Transfert (IT) and Janssen. The Innovative Medicines Initiative 2 Joint Undertaking is under grant agreement EBOVAC2 (grant no. 115861), part of the Ebola+ program launched in response to the Ebola virus disease outbreak.

The UK study site is led by the Oxford Vaccines Group, part of the University of Oxford, Department of Paediatrics. Additional sites in France will be coordinated by Inserm once all necessary approvals are received. In total, the studies will enroll 612 healthy adult volunteers in United Kingdom and France, who will be randomized into three cohorts, all receiving the Ad26.ZEBOV prime or placebo on day 1 and then the MVA-BN-Filo boost or placebo on days 29, 57 or 85. More information on the trial can be found at http://www.clinicaltrials.gov/ct2/show/NCT02416453.

A second Phase 2 study in 1,200 volunteers is planned to be initiated in Africa during third quarter of 2015.

Paul Chaplin, President & Chief Executive Officer of Bavarian Nordic, said: “We are pleased to report further progress in the clinical development of the prime-boost Ebola vaccine regimen which is being led by our partner Janssen. Vaccines play an essential role in outbreak situations, and both the clinical and the manufacturing experience we gain through this accelerated development represent an important piece of work in the combined efforts to ensure preparedness against Ebola, now and in the future.”

Two new trials of Ebola vaccines begin in Europe and Africa
Reuters, LONDON, July 15 | By Kate Kelland

Two new Ebola vaccine trials began on Wednesday with volunteers in Britain, France and Senegal getting "prime-boost" immunisations developed by Bavarian Nordic, GlaxoSmithKline and Johnson & Johnson.

The mid-stage, or Phase II, trials are designed primarily to test the vaccines' safety, but will also assess whether they provoke an immune response against the deadly virus...

"The current Ebola outbreak has reinforced that speed of response is crucial," said Egeruan Babatunde Imoukhuede, who is coordinating one of the trials in Senegal.

"Outbreak diseases spread quickly, so any vaccination approach must be able to keep up."....

...The trial of the Bavarian Nordic and J&J prime-boost combination initially aims to recruit more than 600 healthy adult volunteers in Britain and France.

Bavarian said it hoped to launch another later phase of this trial in Africa later this year involving 1,200 volunteers, but other large clinical trials have recently been thwarted by the drop in case numbers.

Previously planned trials of GSK, Merck and J&J shots in West Africa have been struggling to recruit volunteers with enough exposure to Ebola to prove whether their vaccines are doing the job and preventing infection.
The second trial will be conducted in Senegal and uses two vaccines tested first in people at Oxford University’s Jenner Institute and being developed in a partnership with GSK. The first, based on a chimpanzee adenovirus, is designed to stimulate, or prime, an initial immune response, while the second is designed to boost that response...

**Journal of Clinical Investigation**
http://www.jci.org/125/7
First published July 13, 2015

**Aerosolized Ebola vaccine protects primates and elicits lung-resident T cell responses**
Michelle Meyer1,2,3, Tania Garron1,2,3,4, Ndongala M. Lubaki1,2,3, Chad E. Mire2,3,4, Karla A. Fenton2,3,4, Curtis Klages2,3,5, Gene G. Olinger6, Thomas W. Geisbert2,3,4, Peter L. Collins7, and Alexander Bukreyev1,2,3,4,8
1Department of Pathology, 2Galveston National Laboratory, 3The University of Texas Medical Branch, 4Department of Microbiology and Immunology, and 5Animal Resources Center, Galveston, Texas, USA. 6Viral Pathogenesis and Immunology Branch, Virology Division, United States Army Institute for Infectious Diseases, Frederick, Maryland, USA., 7RNA Viruses Section, Laboratory of Infectious Diseases, National Institute of Allergy and Infectious Diseases, NIH, Bethesda, Maryland, USA., 8Sealy Center for Vaccine Development, Galveston, Texas, USA.

**Abstract**
Direct delivery of aerosolized vaccines to the respiratory mucosa elicits both systemic and mucosal responses. This vaccine strategy has not been tested for Ebola virus (EBOV) or other hemorrhagic fever viruses. Here, we examined the immunogenicity and protective efficacy of an aerosolized human parainfluenza virus type 3–vectored vaccine that expresses the glycoprotein (GP) of EBOV (HPIV3/EboGP) delivered to the respiratory tract. Rhesus macaques were vaccinated with aerosolized HPIV3/EboGP, liquid HPIV3/EboGP, or an unrelated, intramuscular, Venezuelan equine encephalitis replicon vaccine expressing EBOV GP. Serum and mucosal samples from aerosolized HPIV3/EboGP recipients exhibited high EBOV-specific IgG, IgA, and neutralizing antibody titers, which exceeded or equaled titers observed in liquid recipients. The HPIV3/EboGP vaccine induced an EBOV-specific cellular response that was greatest in the lungs and yielded polyfunctional CD8+ T cells, including a subset that expressed CD103 (αE integrin), and CD4+ T helper cells that were predominately type 1. The magnitude of the CD4+ T cell response was greater in aerosol vaccinees. The HPIV3/EboGP vaccine produced a more robust cell-mediated and humoral immune response than the systemic replicon vaccine. Moreover, 1 aerosol HPIV3/EboGP dose conferred 100% protection to macaques exposed to EBOV. Aerosol vaccination represents a useful and feasible vaccination mode that can be implemented with ease in a filovirus disease outbreak situation.

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**POLIO** [to 18 July 2015]

*Public Health Emergency of International Concern (PHEIC)*

**GPEI Update: Polio this week - As of 15 July 2015**

*Global Polio Eradication Initiative*

[Editor’s Excerpt and text bolding]
The National Emergency Action Plan (NEAP) for Pakistan has been officially endorsed by the Prime Minister, outlining the actions that must be taken to stop polio transmission. It is now vital that the commitment and efforts of the government, the partners, and the community as well as funding, be sustained throughout the coming months to keep cases of polio low during the high season for polio transmission.

In the first half of 2015 we have seen the lowest number of cases ever during this period, with just 33 cases in 2 countries as opposed to 122 cases in 9 countries at this time in 2014. This progress needs to be maintained through hard work to end transmission in endemic countries and to prevent future outbreaks.

Selected excerpts from Country-specific Reports

**Afghanistan**

One new polio case was reported in the past week in Balabuluk district of Farah province. This most recent case had onset of paralysis on 07 June 2015. The total number of WPV1 cases for 2015 is now five.

Intensive and strengthened supplementary immunization activities are planned in the coming months. National Immunization Days (NIDs) are scheduled on 16 to 18 August using bivalent oral polio vaccine (OPV). Subnational Immunization Days (SNIDs) will follow across the south of the country in September, and NIDs using trivalent OPV will take place in October.

**Pakistan**

Two new wild poliovirus type 1 (WPV1) cases were reported in the past week; one with onset of paralysis in Peshawar, Khyber Pakhtunkhwa and the second in a nearby district which is to be confirmed. The most recent case had onset of paralysis on 30 June. The total number of WPV1 cases for 2015 is now 28, compared to 94 at this time last year.

**Sustaining Achievements in Polio Eradication in Ethiopia and Africa**

ADDIS ABABA, Ethiopia, July 14, 2015/African Press Organization (APO)/ — Ethiopian Minister of Health Dr Kesetebirhan Admasu, World Health Organization (WHO) Director General Dr Margaret Chan, The Global Alliance for Vaccines and Immunization (GAVI) Chief Executive Officer Dr Seth Berkley and UNICEF Deputy Executive Director Ms Yoka Brandt participated in a high level polio vaccination event at Selam Health Centre in Addis Ababa. Also present at the event were UNAIDS Executive Director Mr Michel Sidibe, US Ambassador Ms Patricia M. Haslach, Brazil Ambassador Mrs Isabel Cristina, President and CEO of PATH Dr Davis Steve, and Rotary National Polio Plus Committee Chairperson PDG Dr Tadesse Alemu as well as national and international EPI partners, health workers and mothers with their children.

“Strong leadership, political will and coordination are key to sustaining the gains made in interrupting polio transmission in Ethiopia and Africa,” said Dr Margaret Chan, commending Ethiopia’s aggressive response to the 2013 outbreak of wild polio virus. “Horn of Africa countries should continue to immunize all at risk age groups until the threat drops to zero and eradication is achieved. And this is possible only through high quality immunization activities for all communities.”

When the wild polio virus outbreak in the Horn of Africa spread to Ethiopia in August 2013, the Government of Ethiopia intensified vigilance, surveillance and mass immunization campaigns, together with partners like WHO, UNICEF, USAID, the US Centers for Disease Control and
Prevention (CDC) and Rotary International. Fifteen supplementary immunization campaigns were implemented with a focus on high risk areas. Cross-border coordination was heightened, with Horn of Africa countries coming together to implement synchronized response activities.

It has been 18 months since the last case of wild polio virus was reported in Ethiopia, and 11 months since the last case in Africa.

Dr Kesetebirhan Admasu said, “We will focus on equity and quality for every child and mother in Ethiopia,” adding, “The Government of Ethiopia continues to be committed to eradicating polio from Ethiopia, and Africa.” He further affirmed that “The Government of Ethiopia will continue to engage communities for active participation in routine immunization, and will continue to build strong health partnerships.”...

MERS-CoV [to 18 July 2015]

Global Alert and Response (GAR) – Disease Outbreak News (DONs)
Middle East respiratory syndrome coronavirus (MERS-CoV) – Republic of Korea
17 July 2015
Middle East respiratory syndrome coronavirus (MERS-CoV) – Republic of Korea
14 July 2015

MERS-CoV cases in the Republic of Korea as of 17 July 2015 xlsx, 19kb

WHO & Regionals [to 18 July 2015]
The Weekly Epidemiological Record (WER) 17 July 2015, vol. 90, 29 (pp. 365–372) includes:
:: Global Advisory Committee on Vaccine Safety, 10–11 June 2015

WHO’s new guidelines on HIV testing services
17 July 2015 -- Globally only 51% of people living with HIV know of their status. The new guidelines provide a recommendation to support HIV testing services by trained lay providers and considers the potential of HIV self-testing to increase access to and coverage of HIV testing. The guidelines also address issues and elements for effective delivery of HIV testing services that are common in a variety of settings, contexts and diverse populations. Read the new guideline

Deworming campaign improves child health, school attendance in Rwanda
17 July 2015 -- Soil-transmitted helminth is one of the most common infections worldwide, with roughly 2 billion people affected, mostly in poor and deprived communities. WHO supported the
Ministry of Health in Rwanda to launch a deworming campaign, which has lowered the prominence of Soil-transmitted helminth by nearly 20% in the Musanze region. WHO aims to achieve 75% coverage, of all children, by 2020 against soil-transmitted helminth in the 10 most populous countries...

Global health workforce, finances remain low for mental health
14 July 2015 -- Worldwide, nearly 1 in 10 people have a mental health disorder, but only 1% of the global health workforce is working in mental health. This means, for example, that nearly half of the world’s population lives in a country where there is less than one psychiatrist per 100 000 people.

:: WHO Regional Offices
WHO African Region AFRO
:: Delegation from MERCK pays courtesy call to WHO Regional Office for Africa
Brazzaville, 16 July 2015 – A high level delegation from MERCK, a drug pharmaceutical company has paid a courtesy call to the World Health Organization Regional Office in Djoue, Brazzaville where they were received by Dr Matshidiso Moeti, Regional Director for Africa. Dr. Frank Stangenberg-Haverkamp, Chairman of the Board of partners of Merck KG was accompanied by Dr. Karim Bendhaou, President of Merck North West Africa Group, Mr. Frank Gotthardt, Head of public affairs, and the WHO Representative to Congo Dr Fatoumata Diallo. The purpose of the visit was to discuss the ongoing partnership between WHO and Merck, specifically the scaling up of deworming of school age children in the Region, and the control of schistosomiasis in the Republic of Congo...

WHO Region of the Americas PAHO
No new digest content identified.

WHO South-East Asia Region SEARO
:: Timor-Leste launches campaign to protect 500 000 children against Measles, Rubella and Polio
13 July 2015
H.E. Prime Minister of Timor-Leste, Dr Rui Maria de Araújo and H.E. Minister of Health, Dr Maria do Céu Sarmento Pina da Costa launched a National Measles, Rubella and Polio Immunization Campaign on July 13th 2015, supported by Measles and Rubella Initiative, WHO, UNICEF and global immunization partners. This campaign targets 500 000 children throughout the country.

WHO European Region EURO
:: Uzbekistan strengthens the safety and resilience of its hospitals 14-07-2015
:: New report: Investing in public health offers large gains in health, the economy and other sectors 14-07-2015
:: Building capacity for laboratory services 14-07-2015

WHO Eastern Mediterranean Region EMRO
:: WHO delivers urgently needed health supplies to Aden as part of United Nations convoy
13 July 2015, Sana’a, Yemen -- WHO has delivered 46.4 tonnes of medicines, medical supplies, and water and sanitation supplies to Aden in Yemen. Access to health care in Aden is
extremely limited due to fighting and most of the governorate’s 31 health facilities are non-functional due to critical shortages in medical supplies and fuel needed for generators. To date, WHO has distributed more than 175 tonnes of medicines and medical supplies in Yemen, reaching a total of almost 5 million people. 

Read more about the shipment

**WHO Western Pacific Region**

:: The Western Pacific Region scales up response to antimicrobial resistance

MANILA, 14 July 2015 - The World Health Organization (WHO) in the Western Pacific Region continues to scale-up efforts in the fight against antimicrobial resistance (AMR). Left unaddressed, antimicrobial resistance has the potential to increase the cost of health care, hamper the control of infectious diseases and damage trade and economies...

CDC/MMWR/ACIP Watch [to 18 July 2015]

http://www.cdc.gov/media/index.html

**New CDC study highlights burden of pneumonia hospitalizations among US adults**

TUESDAY, JULY 14, 2015

When U.S. adults are hospitalized with pneumonia, viruses are more often to blame than bacteria. However, despite current diagnostic tests, neither viruses nor bacteria are detected in the majority...

**MMWR July 17, 2015 / Vol. 64 / No. 27**

:: Pertussis and Influenza Vaccination Among Insured Pregnant Women — Wisconsin, 2013–2014

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**Announcements/Milestones**

**GAVI** [to 18 July 2015]


:: Global consensus on financing development provides platform for sustainable development goals

Gavi highlighted at Addis Ababa meeting.

Geneva, 17 July 2015 – Gavi, the Vaccine Alliance today welcomed progress towards financing the upcoming Sustainable Development Goals (SDGs) that world leaders are due to adopt in New York in September during the United Nations General Assembly.

The Addis Ababa Action Agenda, endorsed by the world’s governments at the Financing for Development conference yesterday, highlights key areas of development financing with the ultimate goal of ending extreme poverty by 2030. These include increases in domestic resources, urging donors meet their aid commitments and the use of innovative financing mechanisms and multi stakeholder partnerships to maximise impact of development funding.
In September, countries are expected to finalise the SDGs, which will replace the Millennium Development Goals. The agreement in Addis Ababa underpins the crucial need to fund health interventions such as immunisation.

The Action Agenda commits the world’s governments to “support research and development of vaccines and medicines, as well as preventive measures and treatments for the communicable and non-communicable diseases, in particular those that disproportionately impact developing countries”. It adds, “We will support relevant initiatives, such as Gavi, the Vaccine Alliance, which incentivizes innovation while expanding access in developing countries…

:: **Alwaleed Philanthropies to support childhood immunisation with US$ 1 million pledge**

*Funding will cover the costs of vaccines in six countries*

Geneva, 13 July 2015 – Alwaleed Philanthropies today committed to protecting the lives of children through immunisation by signing an agreement worth US$ 1 million with Gavi, the Vaccine Alliance.

The agreement, which was negotiated at the Gavi Pledging Conference in January, marks the first time Alwaleed Philanthropies has provided support to Gavi. The contribution will support all projected vaccine needs in Timor Leste, Kiribati, Armenia, Azerbaijan, Moldova, and Guyana for the 2016-2020 period...

**Sabin Vaccine Institute** [to 18 July 2015]

http://www.sabin.org/updates/pressreleases

:: **Sabin PDP Advances World’s First Human Hookworm Vaccine**

WASHINGTON, D.C. — July 13, 2015 — The Sabin Vaccine Institute (Sabin) today released updates on its product development partnership (Sabin PDP) and five Phase 1 clinical trials for two vaccine candidates for human hookworm, one of the most common neglected tropical diseases (NTDs).

These studies would not have been possible without broad collaboration across organizations and disciplines. Funding was provided by the Bill & Melinda Gates Foundation, the Dutch Ministry of Foreign Affairs and the European Commission FP7 Programme. The Infectious Disease Research Institute (IDRI), based in Seattle, manufactured the GLA-AF and CpG ODN 10104 adjuvants used in the trials. The CpG ODN 10104 adjuvant was originally developed by Pfizer. Aeras, based in Rockville, Md., manufactured the Na-GST-1 hookworm vaccine used in the studies, while Fraunhofer, based in Newark, Del., and the Walter Reed Army Institute of Research, based in Rockville, Md., manufactured the Na-APR-1 (M74) hookworm vaccine antigen...

**Aeras Announces New CEO and Leadership Structure**

*Jacqueline Shea will assume CEO role in August*

Rockville, MD., July 15, 2015 – Aeras announced today a new leadership structure for the nonprofit biotech organization with Jacqueline E. Shea, Ph.D., the current Chief Operating Officer (COO), assuming the role of Chief Executive Officer (CEO), effective August 12. Thomas G. Evans, M.D., will step down as CEO to become Acting Chief Scientific Officer (CSO). Ann M. Ginsberg, M.D., Ph.D., will continue as Chief Medical Officer.

Dr. Evans will serve as Acting CSO while Aeras considers how it wishes to fill the position permanently. “I am extremely happy that Dr. Shea will be leading Aeras as we continue our important work of tuberculosis (TB) vaccine development,” said Dr. Evans. “She is an
outstanding choice and I am tremendously pleased to know that Aeras leadership will be in her capable hands. This is the right time for me and the organization to make this change, after five years with Aeras first as CSO, then CEO. As Acting CSO, I will be able to focus on the work I most enjoy. There is much unfinished work for me to do in the science arena, and I am looking forward to having the time to concentrate on a number of exciting TB projects.”

Dr. Shea joined Aeras as COO in April 2014, with more than 20 years of experience in the life sciences. “I came to Aeras last year to be part of the global effort to develop critically needed TB vaccines,” said Dr. Shea. “I’ve enjoyed working with Tom and the entire Aeras team and am looking forward to the challenge of this enhanced leadership role, expanding on Tom’s great work.”...

European Medicines Agency  [to 18 July 2015]
:: FDA, European Commission and EMA reinforce collaboration to advance medicine development and evaluation
14/07/2015
US and EU regulators aim to enhance trust in quality, safety and efficacy of medicines Senior leaders from the United States Food and Drug Administration (FDA), the European Commission and the European Medicines Agency (EMA) reviewed their ongoing cooperative activities and discussed strategic priorities for the next two years at their regular bilateral meeting held on 19 June 2015, at FDA Headquarters in Silver Spring, Maryland, USA.
Over the past years, EMA and FDA have significantly increased their level of collaboration and sharing of information to advance regulatory excellence worldwide. There are now daily interactions, most of them structured around scientific and regulatory working groups or “clusters”. The focus of the cluster reviews during this bilateral was pharmacovigilance, biosimilars, paediatrics and veterinary medicines....
:: Call for civil society members of EMA Management Board
14/07/2015
Expressions of interest to be submitted to European Commission by 20 September 2015.
:: How to improve the availability of veterinary vaccines in Europe
13/07/2015
EMA publishes workshop report on requirements for the authorisation of vaccines...
:: Meeting highlights from the Pharmacovigilance Risk Assessment Committee (PRAC) 6-9 July 2015
13/07/2015
EMA to further clarify safety profile of human papillomavirus (HPV) vaccines
The Pharmacovigilance Risk Assessment Committee (PRAC) has started a review of HPV vaccines to further clarify aspects of their safety profile. Like all medicines the safety of these vaccines is monitored by the PRAC. The review will look at available data with a focus on rare reports of two conditions: complex regional pain syndrome and postural orthostatic tachycardia syndrome. The review does not question that the benefits of HPV vaccines outweigh their risks.
Article-20 procedure: Human papillomavirus (HPV) vaccines
:: Review started
:: Referral notification
:: PRAC list of questions
:: Timetable for the procedure
European Vaccine Initiative  [to 18 July 2015]
http://www.euvaccine.eu/news-events

New EDCTP Executive Director from January 2016
16 July 2015

Dr. Michael Makanga will replace Professor Charles Mgone as Executive Director of The European & Developing Countries' Clinical Trials Partnership (EDCTP) in January 2016.

Dr. Makanga comes from a position as Head of EDCTP Africa Office in Cape Town, which he has held since 2008...

PATH  [to 18 July 2015]
Press release / July 13, 2015
:: 30 innovations that could transform global health: introducing the Innovation Countdown 2030 report

PATH leads global initiative to crowdsource and assess innovations with the potential to save millions of lives by 2030


2015 marks a seminal moment in global health as world leaders coalesce around new global goals that will determine the international development agenda and health investments over the next 15 years. Innovative technologies and approaches that make health care more affordable, more effective, and easier to access are key to reaching the new health goals by 2030. Reimagining Global Health is the result of a yearlong process to identify, evaluate, and showcase some of those high-potential health technologies and ideas, with the goal of catalyzing investment and support.

Two innovations found to have exceptional potential are a simple, low-cost antiseptic to prevent newborn infections and new technologies for small-scale water treatment at the community level. These two innovations alone, with expanded use, could save the lives of 2.5 million newborns and children by 2030.

Tapping innovation around the world
PATH sought ideas from experts, innovators, and technology developers worldwide, crowdsourcing solutions with great promise to accelerate progress toward reaching the 2030 health targets.

People in nearly 50 countries nominated more than 500 innovations for consideration. Dozens of independent health experts then assessed and ranked them, selecting the 30 innovations featured in the report.

"Innovation is the essential ingredient in empowering communities with solutions they can use to transform their own health," said Steve Davis, PATH President and CEO. "To achieve the 2030 health targets, we must focus our brightest minds, collective resources, and shared aspirations on accelerating innovations with the most potential for impact."

"World leaders are coming together in 2015 around new global goals that can ensure good health and equal opportunity for all. By prioritizing and coordinating investments in innovations that can deliver the greatest health value for money, we can create financially sustainable
solutions that reach the millions of people who have yet to share in the gains of our progress,” said Mr. Borge Brende, Minister of Foreign Affairs, Norway.

The initiative is supported by the Norwegian Agency for Development Cooperation, the Bill & Melinda Gates Foundation, and the US Agency for International Development.

Innovations to tackle the world’s most urgent health issues

The 30 selected innovations cover four health areas:

:: Maternal, newborn, and child health, an area featuring innovations such as a uterine balloon tamponade to manage excessive bleeding after childbirth, the leading cause of maternal death; portable devices that measure oxygen levels in the blood to improve detection of pneumonia, the top killer of young children; and new treatments for severe diarrhea, another major cause of child deaths.

:: Infectious diseases, where key innovations include malaria vaccine candidates, long-acting injectable drugs to treat HIV infection, and a novel multidrug treatment regimen to shorten the treatment for tuberculosis.

:: Reproductive health, where new injectable contraceptives and expanded access to long-acting, reversible contraceptives such as intrauterine devices may have great impact.

:: Noncommunicable diseases, where potentially transformative innovations include the use of a low-cost polypill to prevent cardiovascular disease and the use of mobile devices for chronic disease prevention and management.

“IC2030 identifies health solutions that have the potential to make a catalytic impact in global health over the next 15 years,” said Chris Elias, President of Global Development, Bill & Melinda Gates Foundation. “By finding and amplifying promising ideas and strengthening the capacity of low-resource countries to develop, introduce, and share innovation, we can accelerate progress so that every person has an equal chance for a healthy and productive life.”

Global Fund [to 18 July 2015]
http://www.theglobalfund.org/en/mediacenter/newsreleases/

:: Ethiopia Moves Forward with Major New Grants
16 July 2015

ADDIS ABABA, Ethiopia - The Government of Ethiopia and the Global Fund partnership today signed four new grants for US$551.6 million to fight HIV, tuberculosis, and malaria and to build resilient and sustainable systems for health.

The financial resources provided through the Global Fund come from many sources and partners, represented today by the UK Department for International Development, the European Union, the Italian Development Cooperation, the United States, GAVI, the Vaccine Alliance, UNICEF and WHO, among others.

"With a focus on equity and quality, going forward, Global Fund resources will be used, as in the past, to fulfill our vision for healthy, productive and prosperous Ethiopians... a population free of HIV, malaria and tuberculosis," said Kesetebirhan Admasu, Ethiopia’s Minister of Health...

:: Linking Health and Education
15 July 2015

ADDIS ABABA, Ethiopia - Global development partners meeting at the Financing for Development conference today called for stronger linkages between investments in health and education in low- and middle-income countries.

In an event, co-hosted by the governments of Ethiopia and the United States together with the Global Fund to Fight AIDS, Tuberculosis and Malaria, UNAIDS and the Global Partnership on
Education, participants called for ambitious investments that strive for a world where everyone has access to quality health and education…

:: **Results Show Strong Progress Against HIV, TB and Malaria**

15 July 2015

GENEVA – As world leaders met in Addis Ababa to discuss financing for the Sustainable Development Goals, the Global Fund announced mid-year results that demonstrate strong progress against HIV, tuberculosis and malaria.

The results show that 8.1 million people are receiving antiretroviral treatment for HIV through programs supported by Global Fund grants, a 22 percent increase since the same time last year.

For malaria, 548 million mosquito nets have been distributed to protect children and families from the disease, an annual increase of 32 percent. The number of tuberculosis cases detected and treated increased by 11 percent, with 13.2 million people assisted.

The Global Fund partnership values the strong contributions to these results made by governments, civil society, the private sector and people affected by HIV, TB and malaria.

Other key results of Global Fund-supported programs include:

:: A 55 percent increase in the number of people treated for multi-drug resistant tuberculosis, rising to 210,000 treatments.
:: A 20 percent increase in the number of HIV-positive pregnant women receiving medication to prevent transmission to their child, or 3.1 million women.
:: The number of people receiving counselling and testing for HIV increased by 18 percent, to 423 million.
:: The number of tuberculosis cases successfully treated increased 12 percent to 10.7 million, while the number of malaria cases treated was up 19 percent to 515 million...

:: **Accelerating Domestic Investments in Health**

13 July 2015

ADDIS ABABA, Ethiopia - Efforts to increase domestic investment in health programs have taken a prominent spot at the Financing for Development conference in Addis Ababa, Ethiopia, this week.

African leaders, including Ethiopian Prime Minister, Hailemariam Desalegn, addressed a session today focused on the need to invest more in health, attended by Dr. Nkosazana Dlamini-Zuma, Chair of the Africa Union Commission, and others.

"African countries must find more ways to invest more into health," said Prime Minister Hailemariam Desalegn. "This is fundamental. The transformation of our economies and our countries will never be complete without claiming victory over diseases."...
2016 influenza ("flu") season have been released by the U.S. Food and Drug Administration (FDA) for shipment.

**IVI** [to 18 July 2015]
http://www.ivi.org/web/www/home
:: **IVI Leadership Change Announcement** [undated]

Mr. John Morahan is stepping down as IVI’s Chief Operating Officer (COO), effective July 17, 2015. He is resigning for personal reasons.

A recruitment process has been implemented for John’s successor.

John joined IVI in August, 2011 as the Chief Financial Officer and Deputy Director General of Finance & Administration. During his tenure, the Enterprise Resource Planning (ERP) system was launched, and systems, internal control and financial management were strengthened. John served as Acting Director General in 2014 after the departure of Dr. Christian Loucq as IVI’s Director General, and led the Institute during the transition process until a new Director General was appointed. Following the appointment of Dr. Jerome Kim as IVI’s Director General, John became the Chief Operating Officer (COO) in early 2015.

IVI’s leadership and the Board of Trustees recognize that John’s tenure as CFO, COO and Acting Director General, occurring at a difficult and critical time in IVI’s history, has provided leadership, stability and a foundation for future growth. We thank John for his contributions and wish him all the best in his endeavors.

**IAVI** International AIDS Vaccine Initiative [to 18 July 2015]
:: **AIDS Vaccine R&D Funding – Latest Data Shows Concerning Trends**
July 17, 2015

NEW YORK – The latest data from the HIV Vaccines and Microbicides Resource Tracking Working Group highlights concerning trends in funding for vaccine-related research and development. Among the report’s key findings:

:: There’s a flat trend in AIDS vaccine R&D investment.
While funding for crucial HIV treatment and prevention programs in low- and middle-income countries is rising, vaccine R&D funding has essentially stayed flat for the past seven years.
:: The vaccine R&D donor pool is shrinking and needs greater diversity.
The majority of investment is coming from fewer large funders, raising risks to sustainability: 84% of vaccine R&D funding comes from just two sources: the United States government and the Bill & Melinda Gates Foundation.
The number of philanthropic donors who funded overall HIV prevention R&D in 2014 (16) was about half what it was in 2010 (30).
More than 99% of philanthropic funding for AIDS vaccine R&D in particular comes from just three sources: the Bill & Melinda Gates Foundation (87%), the Ragon Foundation (approx. 8%) and Wellcome Trust (approx. 5%).
:: AIDS vaccine R&D has been getting ever more dependent on US government funding. US government investments account for 70% of all funding for AIDS vaccine R&D.
Only 4.8% of HIV vaccine funding comes from European sources, a drop of 10% in 2014 over 2013 and of more than half from its 2006 height.
BRICS countries (Brazil, Russia, India, China and South Africa) provide 1.3% of funding.
Vanderbilt University Medical Center Joins Human Vaccines Project as First Scientific Hub
July 13, 2015
Vanderbilt University Medical Center (VUMC), the Human Vaccines Project and the International AIDS Vaccine Initiative (IAVI) are pleased to announce that VUMC has become the Project’s first scientific hub.

Incubated by IAVI, the Human Vaccines Project is a new public-private partnership that brings together leading academic research centers, industry, governments and nonprofits to accelerate the development of vaccines and immunotherapies against infectious diseases and cancers by decoding the human immune system.

“We are delighted that Vanderbilt University Medical Center will bring its world-class vaccine research and human immunology expertise to the Human Vaccines Project,” said Wayne C. Koff, IAVI Chief Scientific Officer and the Project’s Founder.

Under the collaboration announced today, VUMC has pledged a multi-year commitment toward the Project which will include a large-scale global effort to decipher the “Human Immunome,” the basic components of the human immune system, to enhance design of next-generation vaccines and immunotherapies...

BMGF (Gates Foundation) [to 18 July 2015]
http://www.gatesfoundation.org/Media-Center/Press-Releases
No new digest content identified

FDA [to 18 July 2015]
http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/default.htm
No new digest content identified

NIH [to 18 July 2015]
No new digest content identified

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 content identified.
**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*

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**The American Journal of Bioethics**
Volume 15, Issue 7, 2015
http://www.tandfonline.com/toc/uajb20/current
[Reviewed earlier]

**American Journal of Infection Control**
http://www.ajicjournal.org/current
[Reviewed earlier]

**American Journal of Preventive Medicine**
August 2015  Volume 49, Issue 2, p161-334, e9-e12
http://www.ajpmonline.org/current

*Theme: Reduce Cervical Cancer Incidence Using Evidence-Based Programs in Community Settings*

Guest Editors: Richard A. Crosby and Margaret L. McGladre

**Implementation and Evaluation of a School-Based Human Papillomavirus Vaccination Program in Rural Kentucky**
p317–323

**Abstract**

Introduction

Human papillomavirus (HPV) vaccination rates remain marginal across the U.S., including Kentucky, a state recognized for increased HPV-related cancer burden. School-based HPV immunization programs may be a viable approach to improving vaccination initiation and completion rates among youth. Therefore, the purpose of this study was to design, implement,
and evaluate a school-based HPV vaccination program conducted in rural south-central Kentucky.

Methods
Guided by evidence-based approaches to increasing immunization rates, the practical expertise of school nursing staff, and a detailed study protocol, academic and health department–based investigators implemented an HPV vaccination project in two high schools during the 2012–2013 academic year; data were analyzed in 2013–2014. Rates of returned parental consent forms, parental consent/declination, and HPV vaccination rates were documented.

Results
At the beginning of the school year, all 935 students at the two schools were given HPV vaccination parental consent forms. Five hundred eleven students returned consent forms (55% return rate), and 447 of these students were HPV vaccine naïve (87%). Of these students, 315 (70%) initiated the vaccine series, with 276 (62%) completing the entire three-dose series, so that 88% of students initiating the vaccine series successfully completed the series. In estimating rates for the entire school body, 45% of students had received all three doses by the end of the project.

Conclusions
Despite study design limitations, results of this project provide further evidence about school-based immunization programs as an effective strategy for improving HPV vaccination rates among Kentucky and U.S. adolescents.
Steven J. Hoffman, John-Arne Røttingen, Julio Frenk

Abstract
We have presented an analytic framework and 4 criteria for assessing when global health treaties have reasonable prospects of yielding net positive effects.

First, there must be a significant transnational dimension to the problem being addressed. Second, the goals should justify the coercive nature of treaties. Third, proposed global health treaties should have a reasonable chance of achieving benefits. Fourth, treaties should be the best commitment mechanism among the many competing alternatives.

Applying this analytic framework to 9 recent calls for new global health treaties revealed that none fully meet the 4 criteria. Efforts aiming to better use or revise existing international instruments may be more productive than is advocating new treaties.

HIV Treatment Scale-Up and HIV-Related Stigma in Sub-Saharan Africa: A Longitudinal Cross-Country Analysis
Brian T. Chan, Alexander C. Tsai, Mark J. Siedner
BMC Pregnancy and Childbirth
http://www.biomedcentral.com/bmcpregnancychildbirth/content
(Accessed 18 July 2015)
[No new relevant content identified]

BMC Public Health
http://www.biomedcentral.com/bmcpublichealth/content
(Accessed 18 July 2015)
Research article
Perceptions of Sudanese women of reproductive age toward HIV/AIDS and services for Prevention of Mother-to-Child Transmission of HIV
Ibrahim Elsheikh, Rik Crutzen, H.W. Van den Borne
BMC Public Health 2015, 15:674 (17 July 2015)
Research article
Pilot to evaluate the feasibility of measuring seasonal influenza vaccine effectiveness using surveillance platforms in Central-America, 2012
Abstract
Background
Since 2004, the uptake of seasonal influenza vaccines in Latin America and the Caribbean has markedly increased. However, vaccine effectiveness (VE) is not routinely measured in the region. We assessed the feasibility of using routine surveillance data collected by sentinel hospitals to estimate influenza VE during 2012 against laboratory-confirmed influenza hospitalizations in Costa-Rica, El Salvador, Honduras and Panama. We explored the completeness of variables needed for VE estimation.
Methods
We conducted the pilot case–control study at 23 severe acute respiratory infections (SARI) surveillance hospitals. Participant inclusion criteria included children 6 months–11 years and adults ≥60 years targeted for vaccination and hospitalized for SARI during January–December 2012. We abstracted information needed to estimate target group specific VE (i.e., date of illness onset and specimen collection, preexisting medical conditions, 2012 and 2011 vaccination status and date, and pneumococcal vaccination status for children and adults) from SARI case-reports and for children ≤9 years, inquired about the number of annual vaccine doses given. A case was defined as an influenza virus positive by RT-PCR in a person with SARI, while controls were RT-PCR negative. We recruited 3 controls per case from the same age group and month of onset of symptoms.
Results
We identified 1,186 SARI case-patients (342 influenza cases; 849 influenza-negative controls), of which 994 (84 %) had all the information on key variables sought. In 893 (75 %) SARI case-patients, the vaccination status field was missing in the SARI case-report forms and had to be completed using national vaccination registers (36 %), vaccination cards (30 %), or other sources (34 %). After applying exclusion criteria for VE analyses, 541 (46 %) SARI case-
patients with variables necessary for the group-specific VE analyses were selected (87 cases, 236 controls among children; 64 cases, 154 controls among older adults) and were insufficient to provide precise regional estimates (39 % for children and 25 % for adults of minimum sample size needed).

Conclusions
Sentinel surveillance networks in middle income countries, such as some Latin American and Caribbean countries, could provide a simple and timely platform to estimate regional influenza VE annually provided SARI forms collect all necessary information.

Research article
Double burden of malnutrition: increasing overweight and obesity and stall underweight trends among Ghanaian women
David Doku, Subas Neupane

Research article
Latin American and Caribbean countries’ baseline clinical and policy guidelines for responding to intimate partner violence and sexual violence against women
Donna Stewart, Raquel Aviles, Alessandra Guedes, Ekaterina Riazantseva, Harriet MacMillan

Research article
Does introducing an immunization package of services for migrant children improve the coverage, service quality and understanding? An evidence from an intervention study among 1548 migrant children in eastern China
Yu Hu, Shuying Luo, Xuewen Tang, Linqiao Lou, Yaping Chen, Jing Guo, Bing Zhang

Abstract
Background
An EPI (Expanded Program on Immunization) intervention package was implemented from October 2011 to May 2014 among migrant children in Yiwu, east China. This study aimed to evaluate its impacts on vaccination coverage, maternal understanding of EPI and the local immunization service performance.

Methods
A pre- and post-test design was used. The EPI intervention package included: (1) extending the EPI service time and increasing the frequency of vaccination service; (2) training program for vaccinators; (3) developing a screening tool to identify vaccination demands among migrant clinic attendants; (4) Social mobilization for immunization. Data were obtained from random sampling investigations, vaccination service statistics and qualitative interviews with vaccinators and mothers of migrant children. The analysis of quantitative data was based on a “before and after” evaluation and qualitative data were analyzed using content analysis.

Results
The immunization registration (records kept by immunization clinics) rate increased from 87.4 to 91.9 % (P = 0.016) after implementation of the EPI intervention package and the EPI card holding (EPI card kept by caregivers) rate increased from 90.9 to 95.6 % (P = 0.003). The coverage of fully immunized increased from 71.5 to 88.6 % for migrant children aged 1–4 years (P < 0.001) and increased from 42.2 to 80.5 % for migrant children aged 2–4 years (P < 0.001). The correct response rates on valid doses and management of adverse events among vaccinators were over 90 % after training. The correct response rates on immunization among mothers of migrant children were 86.8–99.3 % after interventions.

Conclusion
Our study showed a substantial improvement in vaccination coverage among migrant children in Yiwu after implementation of the EPI intervention package. Further studies are needed to evaluate the cost-effectiveness of the interventions, to identify individual interventions that make the biggest contribution to coverage, and to examine the sustainability of the interventions within the existing vaccination service delivery system in a larger scale settings or in a longer term.

Research article

Improved stove interventions to reduce household air pollution in low and middle income countries: a descriptive systematic review
Emma Thomas, Kremlin Wickramasinghe, Shanthi Mendis, Nia Roberts, Charlie Foster

BMC Research Notes
http://www.biomedcentral.com/bmcresearchnotes/content
(Accessed 18 July 2015)
Research article

Level of mother’s knowledge about neonatal danger signs and associated factors in North West of Ethiopia: a community based study

Abstract

BMJ Open
2015, Volume 5, Issue 7
http://bmjopen.bmj.com/content/current
Protocol article

Protocol for a systematic review of the effects of interventions to inform or educate caregivers about childhood vaccination in low and middle-income countries
Lungeni A Lukusa, Nyanyiwe N Mbeye, Folasade B Adeniyi, Charles S Wiysonge

Abstract

Introduction
Despite their proven effectiveness in reducing childhood infectious diseases, the uptake of vaccines remains suboptimal in low and middle-income countries. Identifying strategies for transmitting accurate vaccine information to caregivers would boost childhood vaccination coverage in these countries. The purpose of this review is to assess the effects on childhood vaccination coverage of interventions for informing or educating caregivers about the importance of vaccines in low and middle-income countries, as defined by the World Bank.

Methods and analysis
Eligible study designs include randomised controlled trials (RCTs) as well as non-randomised controlled trials (non-RCTs). We will conduct a comprehensive search of both peer-reviewed and grey literature available up to 31 May 2015. We will search PubMed, Scopus, Cochrane Central Register of Controlled Trials, Web of Science, Cumulative Index of Nursing and Allied Health, prospective trial registries and reference lists of relevant publications. Two authors will independently screen the search output, retrieve full texts of potentially eligible studies and assess the latter against predefined inclusion criteria. Disagreements between the two authors
will be resolved through consensus and arbitration by a third author. We will pool data from studies with homogenous interventions and outcomes, using random-effects meta-analysis. We will assess statistical heterogeneity using the χ² test of homogeneity (with significance defined at the 10% α-level) and quantify it using Higgins’ inconsistency index. We will explore the cause of any observed statistical heterogeneity using subgroup analysis, with subgroups defined by study design (RCTs vs non-RCTs) and type of intervention (information vs educational interventions).

Ethics and dissemination
The proposed systematic review will collect and analyse secondary data that are not associated with individuals. The review will make a significant contribution to the knowledge base of interventions for improving childhood vaccination coverage in low and middle-income countries. Protocol registration number PROSPERO, CRD42014010141.

British Medical Journal
18 July 2015 (vol 351, issue 8017)
http://www.bmj.com/content/351/8017
[New issue; No relevant content identified]

Bulletin of the World Health Organization
Volume 93, Number 7, July 2015, 437-512
http://www.who.int/bulletin/volumes/93/7/en/
[Reviewed earlier]

Clinical Infectious Diseases (CID)
Volume 61 Issue 3 August 1, 2015
http://cid.oxfordjournals.org/content/current
Immunogenicity, Safety, and Tolerability of 13-Valent Pneumococcal Conjugate Vaccine Followed by 23-Valent Pneumococcal Polysaccharide Vaccine in Recipients of Allogeneic Hematopoietic Stem Cell Transplant Aged ≥2 Years: An Open-Label Study
Catherine Cordonnier, Per Ljungman, Christine Juergens, Johan Maertens, Dominik Selleslag, Vani Sundaraiyer, Peter C. Giardina, Keri Clarke, William C. Gruber, Daniel A. Scott, and Beate Schmoele-Thoma for the 3003 Study Group
Abstract
OPEN ACCESS
Severe Streptococcus pneumoniae infections are frequent complications after hematopoietic stem cell transplant (HSCT). A 3-dose regimen of 13-valent pneumococcal conjugate vaccine, starting 3–6 months after HSCT and followed by a booster dose, may be required for adequate protection.

Clinical Therapeutics
June 2015 Volume 37, Issue 6, p1147-1378
http://www.clinicaltherapeutics.com/current
[Reviewed earlier]

Complexity
July/August 2015  Volume 20, Issue 6  Pages C1–C1, 1–97
[New issue; No relevant content identified]

Conflict and Health
[Accessed 18 July 2015]
http://www.conflictandhealth.com/
[No new relevant content identified]

Contemporary Clinical Trials
Volume 43,  In Progress  (July 2015)
http://www.sciencedirect.com/science/journal/15517144/42
[Reviewed earlier]

Cost Effectiveness and Resource Allocation
http://www.resource-allocation.com/
(Accessed 18 July 2015)
[No new relevant content identified]

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
April 2015 Volume 15, Issue 1 Pages ii–iii, 1–57
[Reviewed earlier]

Development in Practice
Volume 25, Issue 5, 2015
http://www.tandfonline.com/toc/cdip20/current
[Reviewed earlier]

Emerging Infectious Diseases
Volume 21, Number 7—July 2015
http://wwwnc.cdc.gov/eid/
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 3, 01 June 2015
http://eurpub.oxfordjournals.org/content/25/3
[Reviewed earlier]

Eurosurveillance
http://www.eurosurveillance.org/Public/Articles/Archives.aspx?PublicationId=11678
Rapid communications
Targeted vaccination of teenagers following continued rapid endemic expansion of a single meningococcal group W clone (sequence type 11 clonal complex), United Kingdom 2015
by H Campbell, V Saliba, R Borrow, M Ramsay, SN Ladhani
Research articles
Estimating influenza vaccine effectiveness in Spain using sentinel surveillance data
by S Jiménez-Jorge, S de Mateo, C Delgado-Sanz, F Pozo, I Casas, M García-Cenoz, J Castilla, C Rodriguez, T Vega, C Quiñones, E Martínez, JM Vanrell, J Giménez, D Castrillejo, JM Alzíbar, F Carril, JM Ramos, MC Serrano, A Martínez, N Torner, E Pérez, V Gallardo, A Larrauri, on behalf of the Spanish Influenza Sentinel Surveillance System

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/qhg/category/complete-issues/spring-autumn-2014/
[Accessed 18 July 2015]
[No new relevant content]
Global Public Health
Volume 10, Issue 5-6, 2015
http://www.tandfonline.com/toc/rgph20/current
*Special Issue: Circumcision and HIV prevention: Emerging debates in science, policies and programs*
[Reviewed earlier]

Globalization and Health
http://www.globalizationandhealth.com/
[Accessed 18 July 2015]
[No new relevant content identified]

Health Affairs
July 2015; Volume 34, Issue 7
http://content.healthaffairs.org/content/current
*Focus: Medicaid’s Evolving Delivery Systems*
[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
July 2015 30 (6)
http://heapol.oxfordjournals.org/content/current
[Reviewed earlier]

Health Research Policy and Systems
http://www.health-policy-systems.com/content
[Accessed 18 July 2015]
[No new relevant content]
The Ebola crisis in West Africa

This edition of Humanitarian Exchange focuses on the humanitarian crisis created in West Africa by the Ebola outbreak, the largest and most complex since the virus was discovered in 1976. More than 11,000 people are believed to have died and over 26,300 cases have been reported. While Liberia was declared Ebola-free on 9 May 2015, Sierra Leone and Guinea are still struggling to contain the disease and assess the social and economic impact of the crisis.

In her lead article, Florika Fink-Hooijer analyses the weaknesses and inefficiencies in global humanitarian health governance revealed by the Ebola crisis.

Aspects of humanitarian–military engagement are discussed by André Heller Pérache in the context of Médecins Sans Frontières (MSF)’s unprecedented call for biohazard containment teams.

Josiah Kaplan and Evan Easton-Calabria highlight how humanitarians are using innovations in military medicine to combat Ebola.

Clea Kahn argues that characterising the outbreak as a public health crisis resulted in a failure to adequately consider the dignity and humanity of affected people.

Chukwu-Emeka Chikezie sheds light on the role of the Sierra Leonean diaspora in the response.

Catherine Meredith and her co-authors report on Oxfam’s bottom-up approach to the response.

Craig Dean and Kelly Hawrylyshyn look at the role of children’s and youth groups.

Liz Hughes and Nick McWilliam explore how GIS mapping has been used in planning and targeting interventions.

Jean-Martin Bauer and his co-authors report on the innovative use of mobile technology for monitoring food security.

Articles by Lisa Reilly and Raquel Vazquez Llorente and Clara Hawkshaw highlight risk management and training approaches to the crisis.

Lisa Guppy reflects on the benefits and challenges of carrying out research during the outbreak.

The edition ends with an article by Nadia Berger and Grace Tang on the importance of translation in the response.
This study reports on the changes to the vaccination recommendations by the US Centers for Disease Control and Prevention Advisory Committee on Immunization Practices and the status of implementation of requirements by the states.

Eight years after human papillomavirus (HPV) vaccines were first recommended in the United States, vaccination coverage is substantially below the Healthy People 2020 target of 80%. Data from the US Centers for Disease Control and Prevention (CDC) show that 37.6% of adolescent girls and 13.9% of adolescent boys had completed the 3-dose series in 2013. Recent efforts to address these deficits emphasize that HPV vaccines should not be viewed or treated differently than other routinely recommended vaccines...

The JAMA Forum

Critical Choices for the WHO After the Ebola Epidemic

Lawrence O. Gostin, JD

In the aftermath of an unconscionably inadequate response to the Ebola epidemic in West Africa, this year’s World Health Assembly was seen as critically important to the future of the World Health Organization (WHO). The assembly, the WHO’s decision-making forum, attended by delegations from all WHO member states, offered a historic opportunity for fundamental...
reform of the organization. A failure to decisively shore up its epidemic response leadership risked the loss of confidence in the WHO for a generation.

When the 68th World Health Assembly convened on May 18, 2015, the WHO was experiencing a crisis of confidence. The assembly took 3 key steps to address the organization’s global health security capacities: it combined the secretariat’s outbreak and emergency response programs, developed a new global health emergency workforce, and created a $100 million emergency contingency fund (http://bit.ly/1SHuWjX). What the assembly did not do was address the deep structural problems that have plagued the WHO, undermining its effectiveness.

Margaret Chan, MD, DSc, director-general of the WHO, announced during the assembly that she plans to combine the existing outbreak and emergency response programs into a single program for health emergencies. This new unit will be designed for speed and flexibility, she said, with program performance benchmarks “showing what must happen within 24, 48, and 72 hours, not months” (http://bit.ly/1Hz64rk). The program will partner with United Nations agencies, states, and nongovernmental organizations (NGOs), such as Médecins Sans Frontières (MSF) (http://bit.ly/1hsReV1).

From an organizational perspective, the new unit will be more rational and designed for rapid response. Yet, there are no new funding sources to support outbreak and emergency response. If Chan diverts significant resources to its epidemic response, she risks further weakening already badly underfunded programs, such as for noncommunicable diseases and mental health.

The absence of a robust domestic workforce represented a signal failure of the West African Ebola response. The 3 most-affected countries—Guinea, Liberia, and Sierra Leone—had among the world’s lowest health worker-to-patient ratios, and lost more than 500 doctors, nurses, and other health workers to the epidemic (http://bit.ly/1HjtET1). Although NGOs such as MSF and foreign workers filled some of the gap, the paucity of human resources significantly impeded the response.

Although the WHO is doing very little to build human resource capacities in low- and middle-income countries, Chan announced in a report to the assembly that the agency does plan to launch a global health emergency workforce (http://bit.ly/1SHuWjX) by January 2016, drawn from existing networks including the Global Outbreak Alert and Response Network (GOARN) (http://bit.ly/1eEgbyN) the Global Health Cluster (http://bit.ly/1FkxD1u) foreign medical teams, (http://bit.ly/1Azif59), and NGOs, and coordinated by the new outbreak and emergency response unit. Chan also announced that the WHO is strengthening its own emergency staff, adding logisticians, medical anthropologists, and experts in risk communication. The assembly welcomed both of Director-General Chan’s proposals to establish for a global health workforce and to strengthen the WHO’s emergency response unit (http://bit.ly/1FSsNwi).

The Ebola response vividly demonstrated that effective action requires a range of human resources, including clinicians and community health workers, as well as public health professionals to conduct surveillance, laboratory analysis, and contact tracing. Other experts in communications, culture, and behavior are needed to gain insight into local belief systems. These skills should be ensured through comprehensive training and certification, which will be crucial WHO functions.
Although a global workforce reserve requires intensive training, medical equipment, and logistical acumen, the WHO is implementing the emergency workforce without any new resources. It is hard to conceive how such a vital operation can be conducted without a major injection of sustainable resources.

In 2011, after the influenza A(H1N1) pandemic, the independent WHO International Health Regulations (IHR) Review Committee found that the world is “ill-prepared” for a major epidemic and proposed a $100 million contingency fund (http://bit.ly/1KD9oCD). But the WHO never adopted the committee’s recommendation. Chan’s strategy was to mobilize international funding when an emergency strikes, believing that rich states and philanthropists would react quickly to exigent circumstances (http://bit.ly/1teeXhl).

However, as the WHO should have realized, once a rapidly moving infectious disease emerges, it may be too late to first begin resource mobilization. That turned out to be the case with Ebola, as the WHO’s funding appeals took too long to materialize. During the World Health Assembly, delegates approved the creation of a $100 million contingency fund, financed by flexible voluntary contributions (http://bit.ly/1ITTGAI).

Director-General Chan was heavily criticized for delays in declaring a Public Health Emergency of International Concern (PHEIC) under the IHR. Wisely, release of the contingency fund will not be tied to a PHEIC declaration. After a WHO committee discussed the more flexible approach of using the principles of the Emergency Response Framework grading system (http://bit.ly/1FJ8uQJ) as the trigger for tapping the contingency fund (http://bit.ly/1AzjnWt), the assembly ultimately left the decision to release funds at the director-general’s discretion.

The clear goal of a WHO contingency fund should be to prevent an event from escalating into a PHEIC or an even lesser-grade emergency. Yet at $100 million, the fund’s size is incommensurate with the need when one considers the billions of dollars in humanitarian assistance and the loss of approximately 12% of the GDP in the countries most affected by the epidemic (http://bit.ly/1Gq0mrm). It also requires voluntary contributions from member states or other donors. Adding it to WHO core funding through mandatory assessed dues would have been more viable and sustainable.

None of 5 proposals for structural reform of the WHO that I suggested in a previous JAMA Forum were on the assembly agenda in a meaningful form (http://bit.ly/1ADeoUf). In particular, member states did not significantly increase the assessed dues of WHO member states to give the agency the funding and control it needs to meet its worldwide mandate. The lack of coherence between headquarters and its regional offices remains unaddressed. And although the secretariat is exploring new ways to harness the creativity of civil society and avoid conflicts with vested business interests, there was nothing on the assembly agenda to bring NGOs closer into the WHO’s governance (http://bit.ly/1GKm1t8).

Finally, and most importantly, the WHO has not developed a plan to build the core capacities of low- and middle-income countries for sustainable health systems. The idea of an international health systems fund to accomplish this was not on the agenda (http://bit.ly/1GKmo7h).

The WHO is too important to be sidelined or weakened further, but the organization’s ability to provide meaningful leadership is not assured (http://bit.ly/1PrWhSG). To be sure, the WHO has
improved its ability to put out fires in the form of rapidly emerging infectious diseases. Although there is a better fire brigade, the assembly has yet to take action to prevent fires from erupting with increasing frequency in every region of the globe.

JAMA Pediatrics
July 2015, Vol 169, No. 7
http://archpedi.jamanetwork.com/issue.aspx
[Reviewed earlier]

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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 1, 2015
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[Reviewed earlier]

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April-June 2015 Volume 7 | Issue 2 Page Nos. 53-94
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[Reviewed earlier]

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Volume 26, Number 2, May 2015 Supplement
https://muse.jhu.edu/journals/journal_of_health_care_for_the_poor_and Underserved/toc/hpu.26.2A.html
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[Reviewed earlier]

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Volume 17, Issue 3 – June 2015
http://link.springer.com/journal/10903/17/3/page/1
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[Reviewed earlier]

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Volume 13, Issue 2, 2015
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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
Spring 2015 Volume 43, Issue 1 Pages 6–166
[Reviewed earlier]

Journal of Medical Ethics
July 2015, Volume 41, Issue 7
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 6, June 2015
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[Reviewed earlier]

Journal of Patient-Centered Research and Reviews
http://digitalrepository.aurorahealthcare.org/jpcrr/
[Reviewed earlier]

Journal of the Pediatric Infectious Diseases Society (JPIDS)
Comment

Measuring the SDGs: a two-track solution
Austen Davis, Zoe Matthews, Sylvia Szabo, Helga Fogstad
DOI: http://dx.doi.org/10.1016/S0140-6736(15)61081-9

Summary
The Millennium Development Goals (MDGs) expire in 2015 and substantial effort is being put into the negotiation of a new set of Sustainable Development Goals (SDGs). The SDG agenda is broader and goes further than that of the MDGs, and critics claim that it is unmeasurable and unmanageable. On the positive side, the consultation process has been far more inclusive and credible than for the MDGs. The resultant Open Working Group (OWG) proposal provides a global agenda for action that is relevant to all nations.

Comment

Universal health coverage: progressive taxes are key
Robert Yates
Published Online: 14 May 2015
Open Access
Financing universal health coverage—effects of alternative tax structures on public health systems: cross-national modelling in 89 low-income and middle-income countries

Dr Aaron Reeves, PhD, Yannis Gourtsoyannis, MD, Sanjay Basu, PhD, David McCoy, DrPH, Prof Martin McKee, MD, Prof David Stuckler, PhD

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DOI: http://dx.doi.org/10.1016/S0140-6736(15)60574-8

Open access funded by Wellcome Trust

Summary

Background

How to finance progress towards universal health coverage in low-income and middle-income countries is a subject of intense debate. We investigated how alternative tax systems affect the breadth, depth, and height of health system coverage.

Methods

We used cross-national longitudinal fixed effects models to assess the relationships between total and different types of tax revenue, health system coverage, and associated child and maternal health outcomes in 89 low-income and middle-income countries from 1995–2011.

Findings

Tax revenue was a major statistical determinant of progress towards universal health coverage. Each US$100 per capita per year of additional tax revenues corresponded to a yearly increase in government health spending of $9·86 (95% CI 3·92–15·8), adjusted for GDP per capita. This association was strong for taxes on capital gains, profits, and income ($16·7, 9·16 to 24·3), but not for consumption taxes on goods and services (−$4·37, −12·9 to 4·11). In countries with low tax revenues (<$1000 per capita per year), an additional $100 tax revenue per year substantially increased the proportion of births with a skilled attendant present by 6·74 percentage points (95% CI 0·87–12·6) and the extent of financial coverage by 11·4 percentage points (5·51–17·2). Consumption taxes, a more regressive form of taxation that might reduce the ability of the poor to afford essential goods, were associated with increased rates of post-neonatal mortality, infant mortality, and under-5 mortality rates. We did not detect these adverse associations with taxes on capital gains, profits, and income, which tend to be more progressive.

Interpretation

Increasing domestic tax revenues is integral to achieving universal health coverage, particularly in countries with low tax bases. Pro-poor taxes on profits and capital gains seem to support expanding health coverage without the adverse associations with health outcomes observed for higher consumption taxes. Progressive tax policies within a pro-poor framework might accelerate progress toward achieving major international health goals.

Funding

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

Maternal Education and Immunization Status Among Children in Kenya
Elijah O. Onsomu, Benta A. Abuya, Irene N. Okech, DaKysha Moore, Janice Collins-McNeil

Abstract
Child morbidity and mortality due to infectious diseases continues to be a major threat and public health concern worldwide. Although global vaccination coverage reached 90% for diphtheria, tetanus and pertussis (DTP3) across 129 countries, Kenya and other sub-Saharan countries continue to experience under-vaccination. The purpose of this study was to examine the association between maternal education and child immunization (12–23 months) in Kenya. This study used retrospective cross-sectional data from the 2008–2009 Kenya Demographic and Health Survey for women aged 15–49, who had children aged 12–23 months, and who answered questions about vaccination in the survey (n = 1,707). The majority of the children had received vaccinations, with 77% for poliomyelitis, 74% for measles, 94% for tuberculosis, and 91% for diphtheria, whooping cough (pertussis), and tetanus. After adjusting for other covariates, women with primary, secondary, and college/university education were between 2.21 (p < 0.01) and 9.10 (p < 0.001) times more likely to immunize their children than those who had less than a primary education. Maternal education is clearly crucial in ensuring good health outcomes among children, and integrating immunization knowledge with maternal and child health services is imperative. More research is needed to identify factors influencing immunization decisions among less-educated women in Kenya.

A Review of e-Health Interventions for Maternal and Child Health in Sub-Sahara Africa
Oluwaseun Ireti Obasola, Iyabo Mabawonku, Ikeoluwa Lagunju

Abstract
To review e-health interventions for maternal and child health (MCH) and to explore their influence on MCH practices in sub-Sahara Africa (SSA). Keyword searches were used to retrieve articles from four databases and the websites of organisations involved in e-health projects for MCH in SSA. A total of 18 relevant articles were retrieved using inclusion and exclusion criteria. The researchers reveal the prevalence of the application of mobile phones for MCH care and the influence of the use of information and communication technology (ICT) for delivering MCH information and services to target populations. There is a need to move the application of ICT for MCH care from pilot initiatives to interventions involving all stakeholders on a sub-regional scale. These interventions should also adopt an integrated approach that takes care of the information needs at every stage along the continuum of care. It is anticipated that the study would be useful in the evolution and implementation of future ICT-based programmes for MCH in the region.
Medical Decision Making (MDM)
July 2015; 35 (5)
http://mdm.sagepub.com/content/current
[Reviewed earlier]

The Milbank Quarterly
A Multidisciplinary Journal of Population Health and Health Policy
June 2015 Volume 93, Issue 2 Pages 223–445
[Reviewed earlier]

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Volume 523 Number 7560 pp255-376 16 July 2015
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July 2015, Volume 21 No 7 pp655-827
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July 2015 Vol 15 No 7
http://www.nature.com/nri/journal/v15/n7/index.html
[New issue; No relevant content identified]

New England Journal of Medicine
July 16, 2015 Vol. 373 No. 3
http://www.nejm.org/toc/nejm/medical-journal
Perspective
The Trans-Pacific Partnership — Is It Bad for Your Health?
Amy Kapczynski, J.D.

Pediatrics
July 2015, VOLUME 136 / ISSUE 1
http://pediatrics.aappublications.org/current.shtml
[Reviewed earlier]

Pharmaceutics
Volume 7, Issue 2 (June 2015), Pages 10-
Abstract
Background
Currently, the predominant onchocerciasis control strategy in Africa is annual mass drug administration (MDA) with ivermectin. However, there is a consensus among the global health community, supported by mathematical modelling, that onchocerciasis in Africa will not be eliminated within proposed time frameworks in all endemic foci with only annual MDA, and novel and alternative strategies are urgently needed. Furthermore, use of MDA with ivermectin is already compromised in large areas of central Africa co-endemic with Loa loa, and there are areas where suboptimal or atypical responses to ivermectin have been documented. An onchocerciasis vaccine would be highly advantageous in these areas.
Methodology/Principal Findings
We used a previously developed onchocerciasis transmission model (EPIONCHO) to investigate the impact of vaccination in areas where loiasis and onchocerciasis are co-endemic and ivermectin is contraindicated. We also explore the potential influence of a vaccination programme on infection resurgence in areas where local elimination has been successfully achieved. Based on the age range included in the Expanded Programme on Immunization (EPI), the vaccine was assumed to target 1 to 5 year olds. Our modelling results indicate that the
deployment of an onchocerciasis vaccine would have a beneficial impact in onchocerciasis–
loiasis co-endemic areas, markedly reducing microfilarial load in the young (under 20 yr) age
groups.

Conclusions/Significance
An onchocerciasis prophylactic vaccine would reduce the onchocerciasis disease burden in
populations where ivermectin cannot be administered safely. Moreover, a vaccine could
substantially decrease the chance of re-emergence of Onchocerca volvulus infection in areas
where it is deemed that MDA with ivermectin can be stopped. Therefore, a vaccine would
protect the substantial investments made by present and past onchocerciasis control
programmes, decreasing the chance of disease recrudescence and offering an important
additional tool to mitigate the potentially devastating impact of emerging ivermectin resistance.

Author Summary
Novel and alternative strategies are required to meet the demanding control and elimination (of
infection) goals for human onchocerciasis (river blindness) in Africa. Due to the overlapping
distribution of onchocerciasis and loiasis (African eye worm) in forested areas of central Africa,
millions of people living in such areas are not well served by current interventions because they
cannot safely receive the antiparasitic drug ivermectin that is distributed en masse to treat
onchocerciasis elsewhere in Africa. The Onchocerciasis Vaccine for Africa—TOVA—Initiative has
been established to develop and trial an onchocerciasis vaccine. We model the potential impact
of a hypothetical childhood vaccination programme rolled out in areas where co-endemicity of
onchocerciasis and African eye worm makes mass distribution of ivermectin difficult and
potentially unsafe for treating, controlling and eliminating river blindness. We find that, 15 years
into the programme, a vaccine would substantially reduce infection levels in children and young
adults, protecting them from the morbidity and mortality associated with onchocerciasis. Most
benefit would be reaped from a long-lived vaccine, even if only partially protective. We also
discuss how a vaccine could substantially reduce the risk of re-emergence of onchocerciasis in
areas freed from infection after years of successful intervention.

PLoS One
http://www.plosone.org/
[Accessed 18 July 2015]
Tuberculous Meningitis in Children and Adults: A 10-Year Retrospective
Comparative Analysis Egidia G. Miftode, Olivia S. Dorneanu, Daniela A. Leca, Gabriela
Juganariu, Andra Teodor, Miheea Hurmuzache, Eduard V. Nastase, Dana T. Anton-Paduraru
Research Article | published 17 Jul 2015 | PLOS ONE 10.1371/journal.pone.0133477

Acceptability and Feasibility of Delivering Pentavalent Vaccines in a Compact,
Prefilled, Autodisable Device in Vietnam and Senegal
Elise Guillermet, Hamadou M. Dicko, Le Thi Phuong Mai, Mamadou N'Diaye, Fatoumata Hane,
Seydina Ousmane Ba, Khadidjatou Gomis, Nguyen Thi Thi Tho, Nguyen Thi Phuong Lien, Phan
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The French Connection: The First Large Population-Based Contact Survey in France
Relevant for the Spread of Infectious Diseases
Guillaume Béraud, Sabine Kazmercziak, Philippe Beutels, Daniel Levy-Brühl, Xavier Lenne,
Nathalie Mielcarek, Yazdan Yazdanpanah, Pierre-Yves Boëlle, Niel Hens, Benoit Dervaux
Do Maternal Living Arrangements Influence the Vaccination Status of Children Age 12–23 Months? A Data Analysis of Demographic Health Surveys 2010–11 from Zimbabwe
Rodolfo Rossi
Research Article | published 15 Jul 2015 | PLOS ONE 10.1371/journal.pone.0133203

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(Accessed 18 July 2015)
[No new relevant content identified]

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Volume 77, In Progress (August 2015)
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[Reviewed earlier]

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07 May 2015; volume 282, issue 1806
http://rspb.royalsocietypublishing.org/content/282/1806?current-issue=y[Reviewed earlier]
[Reviewed earlier]

Public Health Ethics
Volume 8 Issue 2 July 2015
http://phe.oxfordjournals.org/content/current
Special Symposium: Migrant Health
[Reviewed earlier]

Qualitative Health Research
Abstract
To estimate the effects of a policy change, analysts must often rely on available data as time and resource constraints limit their ability to commission new primary research. Research synthesis methods—including systematic review, meta-analysis, and expert elicitation—play an important role in ensuring that this evidence is appropriately weighed and considered. We present the conclusions of a multidisciplinary Harvard Center for Risk Analysis project that evaluated and applied these methods, and introduce the resulting series of articles. The first step in any analysis is to clearly define the problem to be addressed; the second is a systematic review of the literature. Whether additional analysis is needed depends on the quality and relevance of the available data to the policy question, and the likely effect of uncertainty on the policy decision. Meta-analysis promotes understanding the variation between studies and may be used to combine the estimates to develop values for application in policy analysis. Formal, structured expert elicitation promotes careful consideration of the evidence when data are limited or inconsistent, and aids in extrapolating to the policy context. Regardless of the methods used, clear communication of the approach, assumptions, and uncertainty is essential.

Research Synthesis and the Value per Statistical Life (pages 1086–1100)
Lisa A. Robinson and James K. Hammitt
Article first published online: 7 APR 2015 | DOI: 10.1111/risa.12366

Science
17 July 2015 vol 349, issue 6245, pages 209-340
http://www.sciencemag.org/current.dtl
[New issue; No relevant content identified]
Discounting in the evaluation of the cost-effectiveness of a vaccination programme: A critical review
Review Article
Pages 3788-3794
Mark Jit, Walter Mibeii

Abstract
Discounting future costs and health benefits usually has a large effect on results of cost-effectiveness evaluations of vaccination because of delays between the initial expenditure in the programme and the health benefits from averting disease. Most guidelines currently recommend discounting both costs and health effects at a positive, constant, common rate back to a common point in time. A review of 84 published economic evaluations of vaccines found that most of them apply these recommendations. However, both technical and normative arguments have been presented for discounting health at a different rate to consumption (differential discounting), discounting at a rate that changes over time (non-constant discounting), discounting intra-generational and inter-generational effects at a different rate (two-stage discounting), and discounting the health gains from an intervention to a different discount year from the time of intervention (delayed discounting). These considerations are particularly acute for vaccines, because their effects can occur in a different generation from the one paying for them, and because the time of vaccination, of infection aversion, and of disease aversion usually differ. Using differential, two-stage or delayed discounting in model-based cost-effectiveness evaluations of vaccination raises technical challenges, but mechanisms have been proposed to overcome them.

Estimating the herd immunity effect of rotavirus vaccine
Review Article
Pages 3795-3800

Abstract
Introduction
Diarrhea is one of the leading causes of death in children under 5, and an estimated 39% of these deaths are attributable to rotavirus. Currently two live, oral rotavirus vaccines have been introduced on the market; however, the herd immunity effect associated with rotavirus vaccine has not yet been quantified. The purpose of this meta-analysis was to estimate the herd immunity effects associated with rotavirus vaccines.

Methods
We performed a systematic literature review of articles published between 2008 and 2014 that measured the impact of rotavirus vaccine on severe gastroenteritis (GE) morbidity or mortality. We assessed the quality of published studies using a standard protocol and conducted meta-analyses to estimate the herd immunity effect in children less than one year of age across all years presented in the studies. We conducted these analyses separately for studies reporting a rotavirus-specific GE outcome and those reporting an all-cause GE outcome.

Results
In studies reporting a rotavirus-specific GE outcome, four of five of which were conducted in the United States, the median herd effect across all study years was 22% [19–25%]. In studies reporting an all-cause GE outcome, all of which were conducted in Latin America, the median herd effect was 24.9% [11–30%].

Conclusions
There is evidence that rotavirus vaccination confers a herd immunity effect in children under one year of age in the United States and Latin American countries. Given the high variability in vaccine efficacy across regions, more studies are needed to better examine herd immunity effects in high mortality regions.

Three randomized trials of maternal influenza immunization in Mali, Nepal, and South Africa: Methods and expectations
Review Article
Pages 3801-3812
Saad B. Omer, Jennifer L. Richards, Shabir A. Madhi, Milagritos D. Tapia, Mark C. Steinhoff, Anushka R. Aqil, Niteen Wairagkar, for the BMGF Supported Maternal Influenza Immunization Trials Investigators Group

Abstract
Influenza infection in pregnancy can have adverse impacts on maternal, fetal, and infant outcomes. Influenza vaccination in pregnancy is an appealing strategy to protect pregnant women and their infants. The Bill & Melinda Gates Foundation is supporting three large, randomized trials in Nepal, Mali, and South Africa evaluating the efficacy and safety of maternal immunization to prevent influenza disease in pregnant women and their infants <6 months of age. Results from these individual studies are expected in 2014 and 2015. While the results from the three maternal immunization trials are likely to strengthen the evidence base regarding the impact of influenza immunization in pregnancy, expectations for these results should be realistic. For example, evidence from previous influenza vaccine studies – conducted in general, non-pregnant populations – suggests substantial geographic and year-to-year variability in influenza incidence and vaccine efficacy/effectiveness. Since the evidence generated from the three maternal influenza immunization trials will be complementary, in this paper we present a side-by-side description of the three studies as well as the similarities and differences between these trials in terms of study location, design, outcome evaluation, and laboratory and epidemiological methods. We also describe the likely remaining knowledge gap after the results from these trials become available along with a description of the analyses that will be conducted when the results from these individual data are pooled. Moreover, we
highlight that additional research on logistics of seasonal influenza vaccine supply, surveillance and strain matching, and optimal delivery strategies for pregnant women will be important for informing global policy related to maternal influenza immunization.

**Attitudes and perceptions among the pediatric health care providers toward influenza vaccination in Qatar: A cross-sectional study**

Original Research Article
Pages 3821-3828
Ahmed Alhammadi, Mohamed Khalifa, Hatem Abdulrahman, Eman. Almuslemani, Abdullah Alhothi, Mohamed Janahi

*Abstract*

**Background**

Influenza is a communicable but preventable viral illness. Despite safe and effective vaccine availability, compliance rates are globally low. Neither local data on percentage of vaccination nor reasons for poor compliance among pediatric health providers are available in Qatar.

**Aim**

To estimate the percentage of vaccinated health care providers at pediatrics department and know their perception and attitudes toward influenza vaccinations.

**Methods**

Cross-sectional survey, conducted on 300 pediatrics healthcare professionals from January through April 2013 at the main tertiary teaching hospital in Qatar, included details of demographics, frequency, perceptions and suggestive ways to improve the compliance.

**Finding**

From among 230 respondents, 90 physicians and 133 allied health care professionals participated in this survey. Our study showed that percentages of participants who received flu vaccination were 67.7% and those who did not receive vaccination were 32.3%. Allied HCPs (69%) are more likely to get the vaccine compared to the physicians (66%). flu vaccination was approximately 5 times likely to be higher in the age group more than 40 years ($P = 0.002$) compared to age less than or equals 40 years. Overall 70% healthcare providers were willing to recommend immunization to colleagues and patients compared to 30%, who were not willing. The reasons for noncompliance included fear of side effects, contracting the flu, vaccine safety and lack of awareness about the effectiveness. In order to promote immunization, participants believe that use of evidence-based statement, participating in an educational campaign, provides no cost/on site campaigns and leadership support is the most practical interventions.

**Conclusions**

In the present study, the vaccine coverage among pediatrics HCPs seems higher than previously reported rates. Despite their positive attitude toward influenza vaccination, low acceptance and misconceptions of seasonal influenza vaccination by pediatric HCPs may have a negative effect on the successful immunization delivery and children immunization rate. Our findings would be useful for designing and implementing educational programs targeted to improve vaccination coverage rates.

**Reasons for low influenza vaccination coverage among adults in Puerto Rico, influenza season 2013–2014**

Original Research Article
Pages 3829-3835
Carmen S. Arriola, Melissa C. Mercado-Crespo, Brenda Rivera, Ruby Serrano-Rodriguez, Nora Macklin, Angel Rivera, Samuel Graitelcer, Mayra Lacen, Carolyn B. Bridges, Erin D. Kennedy

*Abstract*

**Background**
Influenza vaccination is recommended annually for all persons 6 months and older. Reports of increased influenza-related morbidity and mortality during the 2013–2014 influenza season raised concerns about low adult influenza immunization rates in Puerto Rico. In order to inform public health actions to increase vaccination rates, we surveyed adults in Puerto Rico regarding influenza vaccination-related attitudes and barriers.

Methods
A random-digit-dialing telephone survey (50% landline: 50% cellphone) regarding influenza vaccination, attitudes, practices and barriers was conducted November 19–25, 2013 among adults in Puerto Rico. Survey results were weighted to reflect sampling design and adjustments for non-response.

Results
Among 439 surveyed, 229 completed the survey with a 52% response rate. Respondents’ median age was 55 years; 18% reported receiving 2013–2014 influenza vaccination. Among 180 unvaccinated respondents, 38% reported barriers associated with limited access to vaccination, 24% reported they did not want or need influenza vaccination, and 20% reported safety concerns. Vaccinated respondents were more likely to know if they were recommended for influenza vaccination, to report greater perceived risk of influenza illness, and to report being less concerned about influenza vaccine safety (p-value < 0.05). Of the 175 respondents who saw a healthcare provider (HCP) since July 1, 2013, 38% reported their HCP recommended influenza vaccination and 17% were offered vaccination. Vaccination rates were higher among adults who received a recommendation and/or offer of influenza vaccination (43% vs. 14%; p-value < 0.01).

Conclusions
Failure of HCP to recommend and/or offer influenza vaccination and patient attitudes (low perceived risk of influenza virus infection) may have contributed to low vaccination rates during the 2013–2014 season. HCP and public health practitioners should strongly recommend influenza vaccination and provide vaccinations during clinical encounters or refer patients for vaccination.

Risk perceptions, sexual attitudes, and sexual behavior after HPV vaccination in 11–12 year-old girls
Original Research Article
Pages 3907-3912
Tanya L. Kowalczyk Mullins, Lea E. Widdice, Susan L. Rosenthal, Gregory D. Zimet, Jessica A. Kahn

Abstract
Objectives
Among 11–12 year-old girls who received the human papillomavirus (HPV) vaccine, we explored, over the subsequent 30 months: (1) trajectories of knowledge about HPV/HPV vaccines and vaccine-related risk perceptions; (2) whether knowledge and risk perceptions impacted sexual attitudes and sexual experience; (3) whether mothers, clinicians, and media influenced girls’ risk perceptions, attitudes, and behavior.

Methods
Girls and mothers (n = 25 dyads) completed separate, semi-structured interviews within 2 days of, and 6, 18, and 30 months after, their first HPV vaccine dose. Knowledge, risk perceptions related to HPV and other sexually transmitted infections (STIs), and attitudes about sexual behaviors were assessed. Sexual experience was assessed at girls’ 30 month interviews. Clinicians completed interviews at baseline. Transcribed interviews were analyzed using framework analysis.
Results
Girls’ baseline knowledge was poor but often improved with time. Most girls (n = 18) developed accurate risk perceptions about HPV but only half (n = 12) developed accurate risk perceptions about other STIs by 30 months. The vast majority of girls thought that safer sex was still important, regardless of knowledge, risk perceptions, or sexual experience. Girls whose HPV knowledge was high at baseline or increased over time tended to articulate accurate risk perceptions; those who were able to articulate accurate risk perceptions tended to report not having initiated sexual activity. Girls whose mothers demonstrated higher knowledge and/or communication about HPV vaccination tended to articulate accurate risk perceptions, whereas clinicians and media exposure did not appear to influence risk perceptions.

Conclusions
Higher knowledge about HPV vaccines among mothers and girls was linked with more accurate risk perceptions among girls. Clinicians may play an important role in providing education about HPV vaccines to mothers and girls.

Influenza vaccine: Delayed vaccination schedules and missed opportunities in children under 2 years old

Original Research Article
Pages 3913-3917
A. Gentile, M. Juárez, S. Hernandez, A. Moya, J. Bakir, M. Lucion

Abstract
Introduction
In Argentina respiratory disease is the third leading cause of death in children under 5 years. In 2011 influenza vaccination was included in the National Calendar for children between 6 and 24 months (two doses schedule). Influenza vaccine coverage for second dose was 46.1% in 2013. The aim was to determine the proportion of delayed schedules and missed opportunities, to assess the characteristics of missed opportunities for vaccination and to explore the perception of influenza disease and vaccination from the parents of children between 6 and 24 months in different regions of Argentina in 2013.

Methods
Analytical observational multicenter cross-sectional study. Structured surveys were carried out to the children's parents who were between 6 and 24 months of age during the influenza virus vaccination season (April–October 2013). Chi-Square test was used to assess association and differences between proportions and categorical variables. A logistic regression model was built to identify delay predictor variables in the vaccination schedules. Missed opportunities for vaccination were characterized through the estimation of proportions.

Results
1350 surveys were conducted in the three centers. We detected 65% (884/1340) of delayed influenza vaccination schedules, 97% of them associated with missed opportunities of vaccination. The independent protective factors associated with a decreases risk of delayed schedules were: (a) perception of the importance of influenza vaccination (OR = 0.42(0.18–0.94); p = 0.035), (b) having less than one year of age (OR = 0.75(0.59–0.96); p = 0.022), (c) to have received information in pediatric visits or in any media (OR = 0.71(0.56–0.90); p = 0.004). There was 38% of MOIV in 1st dose and 63.4% in 2nd dose. The main cause of MOIV in 1st dose was not detecting the need for vaccination (39%) and in 2nd dose the unknowledge of the vaccination schedule (35.3%). No cultural reasons were detected.

Conclusions
High frequency of delayed vaccination schedules and missed opportunities were detected. Parents had little concern about the safety of influenza vaccine.
Effect of rotavirus vaccine on childhood diarrhea mortality in five Latin American countries
Original Research Article
Pages 3923-3928
Angel Paternina-Caicedo, Umesh D. Parashar, Nelson Alvis-Guzmán, Lucia Helena De Oliveira, Andres Castaño-Zuluaga, Karol Cotes-Cantillo, Oscar Gamboa-Garay, Wilfrido Coronell-Rodríguez, Fernando De la Hoz-Restrepo

Abstract
Background
The aim of this study was to estimate the association between rotavirus vaccine (RV) introduction and reduction of all-cause diarrhea death rates among children in five Latin American countries that introduced RV in 2006.
Methods
Diarrhea mortality data was gathered from 2002 until 2009 from the Pan American Health Organization Mortality Database for five “vaccine adopter” countries (Brazil, El Salvador, Mexico, Nicaragua, and Panama) that introduced RV in 2006 and four “control” countries (Argentina, Chile, Costa Rica, and Paraguay) that did not introduce RV by 2009. Time trend analyses were carried out, and effects and 95% confidence intervals (CI) were estimated.
Results
Each of the five vaccine adopter countries, except Panama, showed a significant trend in declining mortality rates during the post-vaccine period from 2006 to 2009, whereas no decline was seen in control countries during these years. Furthermore, trends of reduction of all-cause diarrhea mortality in both children <1 year of age and <5 years of age were greater in the post-vaccination period compared with the pre-vaccine period in all vaccine adopter countries (except for Nicaragua), whereas in control countries, a reverse pattern was seen with greater reduction in the early years from 2002 to 2005 versus 2006–2009. An estimated total of 1777 of annual under-5 deaths were avoided in Brazil, El Salvador, Mexico, and Nicaragua during the post-vaccination period.
Conclusion
All vaccine adopter countries, except Panama, showed a significant decrease in all-cause diarrhea-related deaths after RV implementation, even after adjusting for declining trends over time in diarrhea mortality. These data strongly support continuous efforts to increase vaccination coverage of RV vaccines, particularly in countries with high levels of child mortality from diarrhea.

Vaccines — Open Access Journal
(Accessed 18 July 2015)
http://www.mdpi.com/journal/vaccines
Article:
Addressing the Vaccine Hesitancy Continuum: An Audience Segmentation Analysis of American Adults Who Did Not Receive the 2009 H1N1 Vaccine
by Shoba Ramanadhan, Ezequiel Galarce, Ziming Xuan, Jaclyn Alexander-Molloy and Kasisomayajula Viswanath
Abstract:
Understanding the heterogeneity of groups along the vaccine hesitancy continuum presents an opportunity to tailor and increase the impact of public engagement efforts with these groups.
Audience segmentation can support these goals, as demonstrated here in the context of the 2009 H1N1 vaccine. In March 2010, we surveyed 1569 respondents, drawn from a nationally representative sample of American adults, with oversampling of racial/ethnic minorities and persons living below the United States Federal Poverty Level. Guided by the Structural Influence Model, we assessed knowledge, attitudes, and behaviors related to H1N1; communication outcomes; and social determinants. Among those who did not receive the vaccine (n = 1166), cluster analysis identified three vaccine-hesitant subgroups. Disengaged Skeptics (67%) were furthest from vaccine acceptance, with low levels of concern and engagement. The Informed Unconvinced (19%) were sophisticated consumers of media and health information who may not have been reached with information to motivate vaccination. The Open to Persuasion cluster (14%) had the highest levels of concern and motivation and may have required engagement about vaccination broadly. There were significant sociodemographic differences between groups. This analysis highlights the potential to use segmentation techniques to identify subgroups on the vaccine hesitancy continuum and tailor public engagement efforts accordingly.

**Review**

*Systems Biology Approach for Cancer Vaccine Development and Evaluation*

by Luisa Cirelli, Annacarmen Petrizzo, Maria Tagliamonte, Maria Lina Tornesello, Franco M. Buonaguro and Luigi Buonaguro


**Abstract:** Therapeutic cancer vaccines do not hold promise yet as an effective anti-cancer treatment. Lack of efficacy or poor clinical outcomes are due to several antigenic and immunological aspects that need to be addressed in order to reverse such trends and significantly improve cancer vaccines’ efficacy. The newly developed high throughput technologies and computational tools are instrumental to this aim allowing the identification of more specific antigens and the comprehensive analysis of the innate and adaptive immunities. Here, we review the potentiality of systems biology in providing novel insights in the mechanisms of the action of vaccines to improve their design and effectiveness.

**Value in Health**

June 2015 Volume 18, Issue 4, p355-548

http://www.valueinhealthjournal.com/current

[Reviewed earlier]

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

**Pediatric Infectious Disease Journal**

*Published Ahead-of-Print*

*An Overview of Quadrivalent Human Papillomavirus Vaccine Safety - 2006 to 2015.*
Abstract
Background: A quadrivalent human papillomavirus (HPV4) type 6/11/16/18 vaccine (GARDASIL/SILGARD(R)) has been licensed in many countries around the world for the prevention of cervical, vulvar, vaginal, and anal cancers and pre-cancers, as well as external genital warts causally related to HPV types 6/11/16/18. Across 7 phase 3 clinical trials involving more than 29,000 males and females ages 9-45, vaccination was generally well tolerated. Because of its expected public health benefit in reducing cervical cancer and other HPV-related diseases, the vaccine has been implemented in the national vaccination programs of several countries, with over 178 million doses distributed worldwide.
Methods: Extensive efforts to assess the safety of the vaccine in routine practice have been conducted over the past 8 years since licensure, including more than 15 studies in more than one million pre-adolescents, adolescents, and adults from various countries. Most have been performed in the general population though there have been some in special populations (pregnant women, human immunodeficiency virus infected individuals, and those with Systemic Lupus Erythematosus).
Results: We present a summary of the published, post-licensure safety data from active and passive surveillance. Only syncope, and possibly skin infections were associated with vaccination in the post-licensure setting. Serious adverse events such as adverse pregnancy outcomes, autoimmune diseases (including Guillain-Barre Syndrome and multiple sclerosis), anaphylaxis, venous thromboembolism, and stroke, were extensively studied, and no increase in the incidence of these events was found compared with background rates.
Conclusions: These results, along with the safety data from the pre-licensure clinical trials, confirm that the HPV4 vaccine has a favorable safety profile. Key policy, medical, and regulatory organizations around the world have independently reviewed these data and continue to recommend routine HPV vaccination.

The Cochrane Library
Published Online: 3 JUL 2015
Qualitative Protocol
Parents' and informal caregivers' views and experiences of routine early childhood vaccination communication: qualitative evidence synthesis
Heather MR Ames1,*, Claire Glenton1, Simon Lewin1,2
Assessed as up-to-date: 1 JUL 2015
DOI: 10.1002/14651858.CD011787
Abstract
This is the protocol for a review and there is no abstract. The objectives are as follows: The specific objectives of the review are to identify, appraise and synthesise qualitative studies exploring:
Parents’ and informal caregivers’ views and experiences regarding communication about childhood vaccinations and the manner in which it is communicated

The influence that vaccination communication has on parents’ and informal caregivers’ decisions regarding childhood vaccination

Western Pacific Surveillance and Response Journal
2015, 6(3).

An assessment of measles vaccine effectiveness, Australia, 2006–2012
Alexis Pillsburyab and Helen Quinnac
a National Centre for Immunisation Research and Surveillance of Vaccine Preventable Diseases, The Children’s Hospital at Westmead and the University of Sydney, New South Wales, Australia.
b National Centre for Epidemiology and Population Health, Australian National University, Canberra, Australia.
c Discipline of Paediatrics and Child Health, University of Sydney, The Children’s Hospital at Westmead, Westmead, New South Wales, Australia.

Abstract
Objective: Vaccine effectiveness analysis serves as a critical evaluation for immunization programmes and vaccination coverage. It also contributes to maintaining public confidence with the vaccine providers. This study estimated measles vaccine effectiveness at the population level using Australian national notifications data between 2006 and 2012.

Methods: Notification data were obtained from the National Notifiable Diseases Surveillance System. Vaccination status was classified according to whether a case had received zero, one or two doses of measles-containing vaccine. Cases aged less than 1 year and those with unknown vaccination status were excluded. All children with disease onset between 1 January 2006 and 31 December 2012 who were born after 1996 were included. Cases were matched to controls extracted from the Australian Childhood Immunisation Register according to date of birth and jurisdiction of residence. Vaccine effectiveness was estimated by conditional logistic regression. Sensitivity analyses were conducted to test data robustness.

Results: Vaccine effectiveness was estimated at 96.7% (95% confidence interval [CI]: 94.5–98.0%) for one dose and 99.7% (95% CI: 99.2–99.9%) for two doses of measles vaccine. For at least one dose, effectiveness was estimated at 98.7% (95% CI: 97.9–99.2%). Sensitivity analyses did not significantly alter the base estimates.

Discussion: Vaccine effectiveness estimates suggested that the measles vaccine was protective at the population level between 2006 and 2012. However, vaccination coverage gaps may have contributed to recent measles outbreaks and may represent a serious barrier for Australia to maintain measles elimination status.

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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 18 July 2015
[No new, unique, relevant content]

**The Atlantic**
http://www.theatlantic.com/magazine/
Accessed 18 July 2015
[No new, unique, relevant content]

**BBC**
http://www.bbc.co.uk/
Accessed 18 July 2015
[No new, unique, relevant content]

**Brookings**
http://www.brookings.edu/
Accessed 18 July 2015
[No new, unique, relevant content]

**Center for Global Development**
http://www.cgdev.org/
Accessed 18 July 2015
[No new, unique, relevant content]

**Council on Foreign Relations**
http://www.cfr.org/
Accessed 18 July 2015
[No new, unique, relevant content]

**The Economist**
http://www.economist.com/
Accessed 18 July 2015
[No new, unique, relevant content]
Washington Post
http://www.washingtonpost.com/
Accessed 18 July 2015
[No new, unique, relevant content]