Vaccines and Global Health: The Week in Review
20 May 2017
Center for Vaccine Ethics & Policy (CVEP)

This weekly digest 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 https://centerforvaccineethicsandpolicy.net. This blog allows full-text searching of over 8,000 entries.*

Comments and suggestions should be directed to
David R. Curry, MS
Editor and
Executive Director
Center for Vaccine Ethics & Policy
david.r.curry@centerforvaccineethicsandpolicy.org

***Request an email version:** Vaccines and Global Health: The Week in Review is published as a single email summary, scheduled for release each Saturday evening before midnight (EST/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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Milestones :: Perspectives

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World Health Assembly

WHA70
22–31 May 2017, Geneva

Webcast
Watch WHA70 live
Starts at 09:30 CEST on 22 May 2017, Monday

Documentation
Preliminary Journal
Provisional agenda
All documents
Selected Documents:
A70/9 - Health emergencies: WHO response in severe, large-scale emergencies
A70/10 - Health emergencies: Research and development for potentially epidemic diseases
A70/14 - Poliomyelitis
A70/14 Add.1 - Polio transition planning
A70/17 - Review of the Pandemic Influenza Preparedness Framework
A70/20 - Addressing the global shortage of, and access to, medicines and vaccines
A70/25 - Global vaccine action plan

Themes
Medicines and health products
Noncommunicable diseases
Nutrition
Emergencies preparedness, response
Poliomyelitis (polio)
Antimicrobial resistance
Maternal, newborn, child and adolescent health

Election process for WHO Director-General
The process to elect the next Director-General of WHO is underway. An overview of the election process follows:
:: Names of candidates for the next Director-General nominated by Member States were announced on 23 September 2016.
:: In October 2016, Member States and candidates were given the opportunity to interact in a password-protected web forum hosted by WHO.
:: On 1–2 November 2016, a live forum was held, at which candidates presented their vision to Member States and were also able to answer questions on their candidacy. The candidates' forum was webcast on the WHO website in all official languages.

:: In January 2017, WHO's Executive Board drew up a short list of 5 candidates. Executive Board members then interviewed these candidates and selected 3 nominees to go forward to the World Health Assembly in May 2017.
:: At the Seventieth World Health Assembly, Member States will vote in a new Director-General, who will take office on 1 July 2017.

Nominees for the post of WHO Director-General
The WHO Executive Board selected by vote the following 3 candidates to be presented to World Health Assembly as nominees for the post of Director-General of WHO.
:: Tedros Adhanom Ghebreyesus
The Government of Ethiopia has submitted the nomination of Dr Tedros Adhanom Ghebreyesus.
: David Nabarro
The Government of the United Kingdom of Great Britain and Northern Ireland has submitted the nomination of Dr David Nabarro.
: Sania Nishtar
The Government of Pakistan has submitted the nomination of Dr Sania Nishtar.

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Italy makes 12 vaccinations compulsory for children
BBC 19 May 2017
The government in Italy has ruled that children must be vaccinated against 12 common illnesses before they can enrol for state-run schools.
Prime Minister Paolo Gentiloni blamed a decrease in vaccinations in part on a "spread of anti-scientific theories".
Italy has recorded nearly three times as many measles cases so far this year than for all of 2016.
If children are not vaccinated by the age of six, the school starting age, their parents will be fined…
In Italy, the number of two-year-olds vaccinated against measles has dropped from more than 90% to below 80%. This is well short of the World Health Organization's recommended coverage of 95% or more.
"The lack of appropriate measures over the years and the spread of anti-scientific theories, especially in recent months, has brought about a reduction in protection," Mr Gentiloni told a press conference on Friday.
The twelve conditions children must be immunised against are: polio; diphtheria; tetanus; hepatitis B; haemophilus influenzae B; meningitis B; meningitis C; measles; mumps; rubella whooping cough; chickenpox.
"We are sending a very strong message to the public," said Health Minister Beatrice Lorenzin…

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Major research funders and international NGOs to implement WHO standards on reporting clinical trial results

News release

18 May 2017 | GENEVA - Some of the world's largest funders of medical research and international non-governmental organizations today agreed on new standards that will require all clinical trials they fund or support to be registered and the results disclosed publicly.

Signatories to the] joint statement [below]…agreed to develop and implement policies within the next 12 months that require all trials they fund, co-fund, sponsor or support to be registered in a publicly-available registry. They also agreed that all results would be disclosed within specified timeframes on the registry and/or by publication in a scientific journal.

Today, about 50% of clinical trials go unreported, according to several studies, often because the results are negative. These unreported trial results leave an incomplete and potentially misleading picture of the risks and benefits of vaccines, drugs and medical devices, and can lead to use of suboptimal or even harmful products.

"Research funders are making a strong statement that there will be no more excuses on why some clinical trials remain unreported long after they have completed," said Dr Marie-Paule Kieny, Assistant Director-General for Health Systems and Innovation at WHO.

The signatories to the statement also agreed to monitor compliance with registration requirements and to endorse the development of systems to monitor results reporting:

Joint statement on public disclosure of results from clinical trials

Signatories on 18 May 2017
Indian Council of Medical Research
Inserm
Research Council of Norway
UK Medical Research Council
Médecins Sans Frontières
Epicentre
CEPI
PATH
Institut Pasteur
Drugs for Neglected Diseases Initiative (DNDi)
Bill and Melinda Gates Foundation
Wellcome Trust

Download as PDF (including footnotes) pdf, 531kb

[Text bolding from original]

Introduction

The current 2013 Declaration of Helsinki states that "Every research study involving human subjects must be registered in a publicly accessible database before recruitment of the first subject." and that "Researchers have a duty to make publicly available the results of their research .... Negative and inconclusive as well as positive results must be published or otherwise made publicly available". In addition to the ethical imperative, poor allocation of resources for product development and financing of available interventions, and suboptimal regulatory and public health recommendations may occur where decisions are based on only a subset of all completed clinical trials.

The signatories of this joint statement affirm that the prospective registration and timely public disclosure of results from all clinical trials is of critical scientific and ethical importance. Furthermore timely results disclosure reduces waste in research, increases value and efficiency

in use of funds and reduces reporting bias, which should lead to better decision-making in health.

Within 12 months of becoming a signatory of this statement, we each pledge to develop and implement a policy with mandated timeframes for prospective registration and public disclosure of the results of clinical trials that we fund, co-fund, sponsor or support. We each agree to monitor registration and endorse the development of systems to monitor results reporting on an ongoing basis. We agree to share challenges and progress in the monitoring of these policies. We agree that transparency is important and therefore the outputs from the monitoring process will be publicly available.

Benefits and costs of requiring public disclosure of results

The benefits of implementing and monitoring policies on public disclosure of results relate to access to more complete information about the results of clinical trials. The benefits are summarised below.

:: The current bias in the reporting of results will be reduced allowing for more informed decisions in the following areas:

: Licensure/marketing authorization (including risk-benefit assessments),
: Public health policy recommendation on use (including cost-effectiveness), and
: Financing decisions by public procurement bodies, and multilateral agencies
: Optimal implementation and delivery
: Individual treatment choices by doctors and patients

:: Research funding allocation will be more efficient (avoiding the current situation, whereby funds may be allocated to answer scientific questions that have already been answered in unreported clinical trials, and waste occurs because learning from previous trials cannot be taken into account in design of current trials)

:: The development of interventions will be more efficient

:: Ethical requirements for dissemination of information will be met, potentially increasing trust of trial participants in the utility of clinical research

:: The scientific state-of-the-art will be based on a more complete cross-section of clinical trial data; in particular the many negative clinical trials will be more available for assessments.

A further benefit is that doctors, professional bodies and the general public will be able to access the results from a larger proportion of clinical trials.

Finally patients seeking enrollment in clinical trials will be able to access results from previously completed clinical trials in their area, as they make decisions on which clinical trials they may wish to seek enrollment into.

There will be modest costs associated with public disclosure of clinical trial results. The costs of disseminating the results of research are a minor component of the overall costs of conducting such research, and results reporting is an essential component of the research enterprise. The resource allocation, public health and scientific benefits - together with the need to meet ethical imperatives - far outweigh the costs.

Proposed common elements of agencies' policies on results reporting
Principles that could be included in harmonized policies on results reporting include the following:

Registration of clinical trials
Before any clinical trial is initiated (at any Phase) its details must be registered in a publicly available, free to access, searchable clinical trial registry complying with WHO's international agreed standards (www.who.int/ictrp). The clinical trial registry entry must be made before the first subject receives the first medical intervention in the trial (or as soon as possible afterwards). Clinical trial registry records should be updated as necessary to include final enrolment numbers achieved, and the date of primary study completion (defined as the last data collection timepoint for the last subject for the primary outcome measure). If clinical trials are terminated, their status should be updated to note the date of termination, and to report the numbers enrolled up to the date of termination.

Completeness and accuracy of the clinical trial registry records can be a limiting factor for use of information from the registries, and it is encouraged that care is taken to ensure good quality registry entries.

Reporting timeframes for clinical trials
We jointly agree that summary results of clinical trials should be made publicly available in a timely manner following primary study completion. There are two main modalities for this to occur. By posting to the results section of the clinical trial registry and by journal publication. We will work towards a timeframe of 12 months from primary study completion (the last visit of the last subject for collection of data on the primary outcome) as the global norm for summary results disclosure . As timelines for publication in a journal are not fully within the control of the sponsor or investigator, this joint statement focuses on use of registries – such as clinicaltrials.gov and EU-CTR - to meet this results disclosure expectation. Publication in a journal is also an expectation, with an indicative timeframe of 24 months from study completion to allow for peer review etc. Access to a sufficiently detailed clinical trial protocol is necessary in order to be able to interpret summary results. Therefore we also encourage development of requirements that the protocols are made publicly available no later than the time of the summary results disclosure as part of the clinical trial registry summary results information (including amendments approved by ethics committees/institutional review boards, and either as uploaded electronic document formats such as pdfs or links to the pdf).

At the time of the initial grant submission, the plan for public disclosure of results should be included, including specific time bound commitments. Reasonable funds to enable compliance with these considerations is a cost eligible item in clinical trial budgets.

Trial ID in clinical trial publication
The Trial ID or registry identifier code/number should be included in all publications of clinical trials, and should be provided as part of the abstract to PubMed and other bibliographic search databases for easy linking of trial related publications with clinical trial registry site records. This is essential for linking journal publications with registry records.

Registration and reporting of past trials

Reporting of previous trials realises the value of funding; therefore the contribution made from reporting previous trials, whatever their results, will be considered in the assessment of a funding proposal. When a PI applies for new funding, they may be asked to provide a list of all previous trials on which they were PI within a specified timeframe and their reporting status, with an explanation where trials have remained unreported.

A note on sharing of individual participants' data
As trials are registered, this sets a basis for development of IPD sharing. The benefit of sharing individual participants' data (IPD) and the facilitation of research through greater access to primary datasets is a principle which we consider important. This statement is not directed towards sharing of IPD. However we are all actively engaged with initiatives related to IPD sharing, and support sharing of health research datasets whenever appropriate. We will continue to engage with partners in support of an enabling environment to allow data sharing to maximise the value of health research data. We will support activities that enable the development of explicit ethical and legal frameworks that govern data collection and use and enable development of international norms and standards for sharing of IPD from clinical trials.

A note on open access policies
We are all supporters of open access policies, and consider that publications describing clinical trial results should be open access from the date of publication, wherever possible. Open access fees should be included in clinical trial budget requests, if necessary.

A note on the scope of this statement
While this statement focuses on clinical trials, transparency and reduction of waste and reporting bias are important for other types of research including public health intervention studies, observational studies, implementation research and pre-clinical studies of experimental therapeutics and preventives.

We encourage formative work on development of possible transparency frameworks for these types of research, including how best to develop registries that publicly disclose research studies in the above categories.

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Emergencies

Public Health Emergencies of International Concern (PHEIC) [to 20 May 2017]

POLIO
Public Health Emergency of International Concern (PHEIC)
Polio this week as of 17 May 2017
:: The World Health Assembly (WHA) is meeting next week in Geneva, Switzerland. Ministers of Health and public health professionals from around the world will convene to discuss global public health issues, including the global drive to eradicate polio. Delegates are anticipated to review current status against each of the four objectives of the Polio Endgame Plan, including reviewing a report requested by the Executive Board (EB) in January 2017 on issues related to

transition planning. The Global Polio Eradication Initiative (GPEI) secretariat has prepared a status report, which will inform the discussions by Member States.

Country Updates [Selected Excerpts]
New cases or environmental samples reported across the monitored country/region settings: Afghanistan, Pakistan, Nigeria, Lake Chad Basin. Guinea and West Africa, and Lao People's Democratic Republic have been removed from the monitored geographies list.
:: No new country report of case activity or environmental samples.

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WHO Grade 3 Emergencies [to 20 May 2017]
Iraq - *No new announcements identified*
South Sudan - *No new announcements identified*
Yemen - *No new announcements identified*
Nigeria - *No new announcements identified*
The Syrian Arab Republic - *No new announcements identified*

WHO Grade 2 Emergencies [to 20 May 2017]
Cameroon - *No new announcements identified.*
Central African Republic - *No new announcements identified.*
Ethiopia - *No new announcements identified.*
Libya - *No new announcements identified.*
Myanmar - *No new announcements identified.*
Niger - *No new announcements identified.*
Ukraine - *No new announcements identified*

Democratic Republic of the Congo – *See Ebola coverage below*

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UN OCHA – L3 Emergencies
The UN and its humanitarian partners are currently responding to three 'L3' emergencies. This is the global humanitarian system's classification for the response to the most severe, large-scale humanitarian crises.
Iraq
:: Iraq - Alarming numbers of people fleeing western Mosul city [EN/KU/AR] 16 May 2017
:: Ethiopia Weekly Humanitarian Bulletin, 15 May 2017

Syrian Arab Republic - *No new announcements identified*
Yemen - *No new announcements identified*

UN OCHA – Corporate Emergencies
When the USG/ERC declares a Corporate Emergency Response, all OCHA offices, branches and sections provide their full support to response activities both at HQ and in the field.
Somalia

:: Somalia: Drought Response - Situation Report No. 8 (as of 16 May 2017)
:: Horn of Africa: Humanitarian Impacts of Drought – Issue 4 (15 May 2017)
:: Somalia: Drought Response - Situation Report No. 8 (as of 16 May 2017)

Ethiopia
:: Ethiopia Weekly Humanitarian Bulletin, 15 May 2017

Nigeria - *No new announcements identified*

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EBOLA/EVD [to 20 May 2017]
http://www.who.int/ebola/en/

Press briefing on Ebola virus disease in the Democratic Republic of the Congo
18 May 2017, audio recording

EVD – DRC: External Situation Report 5: 19 May 2017
1. Situation update
WHO, UN Agencies, International organizations, non-governmental organizations (NGOs) and partners continue to support the Ministry of Health in the Democratic Republic of Congo to rapidly investigate and respond to the outbreak of Ebola virus disease (EVD) in Likati Health Zone, Bas Uele Province located in the north-east of the country.

On 19 May 2017, three new EVD cases were reported, including one probable case in Ngayi and two suspected cases in a new health area called Ngabatala. The suspected cases are being investigated and will be classified accordingly. As of 19 May 2017, a total of 32 EVD cases [two confirmed, three probable and 27 suspected] have been reported. To date, four deaths have been reported, giving a case fatality rate of 13%. The reported cases are from five health areas, namely Nambwa (11 cases and two deaths), Muma (three cases and one death), Ngayi (14 cases and one death), Azande (two cases and no deaths), and Ngabatala (two cases and no deaths). Most of the cases presented with fever, vomiting, bloody diarrhoea and other bleeding symptoms and signs. The outbreak currently remains confined to Likati Health Zone. According to available information at this stage, no healthcare workers have been affected.

Out of the five blood samples analysed at the national reference laboratory, Institut National de Recherche Biomédicale (INRB) in Kinshasa, two were confirmed Zaire ebolavirus. At least 416 close contacts have been registered in Likati Health Zone and are being monitored.
This EVD outbreak in the Democratic Republic of Congo was notified to WHO by the Ministry of Health (MOH) on 11 May 2017. The cluster of cases and deaths of previously unidentified illness have been reported since late April 2017. Likati Health Zone shares borders with two provinces in the Democratic Republic of the Congo and with the Central African Republic (Fig. 1). The affected areas are remote and hard to reach, with limited communication and transport networks. The current outbreak is the eighth EVD outbreak in the Democratic Republic of Congo since the disease was first discovered in 1976 in Yambuku (then Zaire)…

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CEPI – Coalition for Epidemic Preparedness Innovations [to 20 May 2017]
http://cepi.net/
[Undated]
Ebola outbreak in DRC
CEPI is closely following the current outbreak of Ebola Zaire in DRC.

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PATH statement on the Ebola outbreak in the Democratic Republic of the Congo
Announcement | May 17, 2017

…A statement from PATH President and CEO Steve Davis follows:

"In a fast-moving public health emergency like this, a rapid response is critical to contain and control the outbreak. Our thoughts are with the individuals, families, and communities directly affected by this outbreak and with the many dedicated health workers who have responded to it so quickly.

Together with key partners like WHO, CDC, Médecins Sans Frontières, and the University of California, Los Angeles-DRC Research program, PATH was one of the first organizations on the ground to respond to this outbreak with technologies, data, and support for the DRC government, which is leading the response.

Working closely with the Ministry, PATH has quickly mobilized support for disease surveillance and outbreak response efforts, created data-sharing procedures, and provided immediate funding so the Ministry could deploy a team of investigators to the affected area.

Within 24 hours of learning about the outbreak, PATH also mobilized a cross-sector group of international partners to support the government with high-resolution satellite imagery, geospatial mapping capabilities, GPS-enabled smart phones, and other tools to help map and investigate the outbreak.

Improving epidemic preparedness and prevention are urgent priorities in our increasingly interconnected world. Heading off outbreaks before they become epidemics or pandemics depends on our ability to connect innovation end to end—from research and development of new vaccines, diagnostics, and other tools to the logistic capabilities critical to delivering innovative health solutions where they are needed.

America's leadership in international health security is vital to preventing and containing future threats. Continued US investment in epidemic preparedness protects the health and safety of Americans as well as citizens of other nations.

PATH remains committed to doing all we can to support the DRC, and we urge other governments, international organizations, and the private sector to join with the DRC government on a coordinated response to stop this outbreak as quickly as possible."

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Editor's Note:
We will cluster these recent emergencies as below and continue to monitor the WHO webpages for updates and key developments.

MERS-CoV [to 20 May 2017]
http://www.who.int/emergencies/mers-cov/en/

May 2017

WHO Target Product Profiles for MERS-CoV Vaccines

Purpose of the document

Selected disease areas are identified as WHO priorities for research and product development. In the case of MERS-CoV, target product profile development followed prioritization of MERS-CoV as part of the WHO R&D Blueprint for Action to Prevent Epidemics. The target audience includes vaccine scientists, product developers, manufacturers and funding agencies…

Modelling of the potential impact of MERS-CoV vaccines with different efficacy profiles and administered using different immunization strategies is a high priority to further refine desired characteristics. Modelling of both camel and human vaccination would be helpful. For certain vaccine characteristics, additional footnotes are provided on the rationale and assumptions made.

Yellow Fever [to 20 May 2017]
http://www.who.int/emergencies/yellow-fever/en/
[See op-ed by Seth Berkley in Media Watch below – New York Times]

Zika virus [to 20 May 2017]
http://www.who.int/emergencies/zika-virus/en/
[No new digest content identified]

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WHO & Regional Offices [to 20 May 2017]

Keynote speech at the G20 Health Ministers' Meeting

19 May 2017 -- "I am honoured to address this G20 meeting of health ministers as you consider ways to strengthen global health security, especially as these meetings can have such a strong impact on international policies." Dr Chan, WHO Director-General.

World Health Statistics: Cause of almost half of all deaths recorded

17 May 2017 – Almost half of all deaths globally are now recorded with a cause, new data from WHO show, highlighting improvements countries have made on collecting vital statistics and monitoring progress towards the Sustainable Development Goals (SDGs). WHO's World Health Statistics compiles data from the organization's 194 Member States on 21 health-related SDG targets, providing a snapshot of both gains and threats to the health of the world's people.

More than 1.2 million adolescents die every year

16 May 2017 – More than 3000 adolescents die every day, totalling 1.2 million deaths a year, from largely preventable causes, according to a new report from WHO and partners. In 2015, more than two thirds of these deaths occurred in low- and middle-income countries in Africa and South-East Asia. Road traffic injuries, lower respiratory infections, and suicide are the biggest causes of death among adolescents.

Highlights

Double-duty actions for ending malnutrition within a decade

May 2017 – Malnutrition has many forms. Undernutrition can see children dangerously thin for their height (wasting), or their growth permanently impeded (stunting). Inadequate intake of key nutrients may weaken immune systems, impair brain development, and worsen the risk of conditions such as anaemia and blindness.

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Weekly Epidemiological Record, 19 May 2017, vol. 92, 20 (pp. 269–292)

:: Dracunculiasis eradication: global surveillance summary, 2016
:: Fact sheet on Ebola virus disease (updated May 2017)

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WHO Regional Offices

Selected Press Releases, Announcements

WHO African Region AFRO

:: WHO Regional Director for Africa, Dr Matshidiso Moeti arrives in Kinshasa to discuss response to Ebola outbreak - 13 May 2017

WHO Region of the Americas PAHO

:: Countries of the Americas show benefits of initiative to reduce cardiovascular risk through the control of hypertension (05/17/2017)
:: PAHO Encourages Caribbean Countries to Tax Tobacco, Alcohol and Sugar-Sweetened Beverages to Reduce Burden of Noncommunicable Disease (05/16/2017)

WHO South-East Asia Region SEARO

[No new digest content identified]

WHO European Region EURO

:: eHealth and public health – a beautiful marriage 19-05-2017
:: Engaging policy-makers and youth in Malta to slow down and save lives 18-05-2017
:: New WHO study on health and well-being of Europe's youth reveals that obesity continues to rise 17-05-2017
:: Historic 20th meeting of the Joint Task Force on the Health Aspects of Air Pollution 16-05-2017

WHO Eastern Mediterranean Region EMRO

:: Fourth UN Global Road Safety Week: speed management key to saving lives
Cairo, Sunday 14 May 2017 –

WHO Western Pacific Region

[No new digest content identified]

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CDC/ACIP [to 20 May 2017]

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

Updated Recommendations for Use of MenB-FHbp Serogroup B Meningococcal Vaccine — Advisory Committee on Immunization Practices, 2016

If vaccinating with MenB-FHbp – including during serogroup B meningococcal disease outbreaks – ACIP recommends that three doses of MenB-FHbp be administered at 0, 1–2, and 6 months for people at increased risk of meningococcal disease. ACIP recommends that two doses of MenB-FHbp should be administered at 0 and 6 months when given to healthy adolescents who are not at increased risk for meningococcal disease. Recommendations regarding use of MenB-4C vaccine (Bexsero) are unchanged. Either MenB vaccine can be used when indicated; however, they are not interchangeable and the same product must be used for all doses in a series. Two serogroup B meningococcal (MenB) vaccines are currently licensed for use among people aged 10–25 years in the United States: MenB-FHbp (trade name, Trumenba) and MenB-4C (trade name, Bexsero). Changes to the dosage and administration of MenB-FHbp vaccines were recently approved by FDA to include both a three-dose series (administered at 0, 1–2, and 6 months) and a two-dose series (administered at 0 and 6 months). For people at increased risk for meningococcal disease and for use during serogroup B meningococcal disease outbreaks, ACIP recommends that three doses of MenB-FHbp be administered at 0, 1–2, and 6 months. When given to healthy adolescents who are not at increased risk for meningococcal disease, ACIP recommends that 2 doses of MenB-FHbp should be administered at 0 and 6 months.

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Announcements

Gavi [to 20 May 2017]
http://www.gavi.org/library/news/press-releases/
13 May 2017

India's most vulnerable children to get access to new vaccine against pneumonia

Pneumococcal vaccine will reach 2.1 million children in the first year.

Geneva, 13 May 2017 – For the first time, millions of children in India will receive protection for free against the leading cause of pneumonia – which kills more children under the age of five than any other infectious disease in the world – thanks to the launch of the pneumococcal conjugate vaccine (PCV).

PCV is being introduced to India's Universal Immunization Program (UIP) with support from Gavi, the Vaccine Alliance, a move that will help to reduce the number of under-five pneumonia deaths in India, the highest in the world.

Currently, almost 200,000 children under five die from pneumonia in India each year. Until now PCV, a relatively new vaccine, has only been made available in the private market, putting it beyond the reach of most of the population. With this phased introduction, nearly 2.1 million children in Himachal Pradesh, Bihar and Uttar Pradesh will be vaccinated with PCV. This coverage will be expanded across the entire country in the coming years.

"This is a huge milestone because it means that, for the first time, India's most vulnerable children will be protected against one of India's most deadly diseases," said Gavi CEO Seth

Berkley. "India is not only the largest Gavi-supported country, but it also has the single largest number of under-immunised children in the world. This vaccine will save many lives."…

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UNICEF [to 20 May 2017]
https://www.unicef.org/media/media_94367.html
17 May 2017
Five-fold increase in number of refugee and migrant children traveling alone since 2010 – UNICEF

NEW YORK, 17 May 2017 – The global number of refugee and migrant children moving alone has reached a record high, increasing nearly five-fold since 2010, UNICEF said today in a new report. At least 300,000 unaccompanied and separated children were recorded in some 80 countries in the combined years of 2015 and 2016, up from 66,000 in 2010 and 2011.

UNICEF joins tech giants in artificial intelligence group

New York, 17 May 2017 – UNICEF joins the Partnership on Artificial Intelligence (AI) founded by Amazon, Apple, Google/DeepMind, Facebook, IBM and Microsoft.

At least one in four children live in poverty in the Middle East and North Africa

RABAT, 15 May 2017 – According to a recent UNICEF analysis covering 11 countries in the Middle East and North Africa[1], poverty continues to impact at least 29 million children – one in four children in the region. These children are deprived of the minimum requirements in two or more of the most basic life necessities including basic education, decent housing, nutritious food, quality health care, safe water, sanitation and access to information.

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IAVI – International AIDS Vaccine Initiative [to 20 May 2017]
https://www.iavi.org/
May 18, 2017
Canadian Researcher Wins Grant to Explore Promising HIV Vaccine Candidate
Canadian Institutes of Health Research funds Gary Kobinger to develop HIV vaccine in partnership with IAVI.
The Canadian Institutes of Health Research (CIHR) has awarded a new CA$3.99 million grant to Dr. Gary Kobinger of Université Laval for work on a vaccine to prevent HIV infection.

This three-year grant supports a scientific collaboration between Kobinger and the Design and Development Lab, a state-of-the-art research facility in Brooklyn, New York, operated by the International AIDS Vaccine Initiative (IAVI). Led by Kobinger and IAVI's Dr. Chris Parks, the respective Canadian and U.S. research teams aim to improve upon a promising HIV vaccine candidate designed by Parks, with the goal of advancing the candidate to clinical testing in human volunteers.

"We are encouraged by this support of Gary Kobinger's work and the prospects of his collaboration with IAVI's Design and Development Lab," said Mark Feinberg, IAVI CEO. "The innovative work of the Kobinger lab provides a great illustration of how creative and insightful science can advance the global response to emerging infectious diseases, and exemplifies ways

in which the benefits of research progress in one disease area can be translated to another, in this case, from an understanding of how to develop an effective Ebola vaccine to the ongoing search for an AIDS vaccine."

Using a modified animal virus called Vesicular Stomatitis Virus (VSV) that does not cause disease in humans, the IAVI vaccine candidate delivers copies of a protein taken from HIV's surface. Once inside the body, the protein stimulates protective immune defenses against HIV infection. Studies in animals to date have yielded encouraging results.

Kobinger's team will further modify the IAVI candidate vaccine for greater efficacy and clinical testing. An expert in the Ebola virus, Kobinger helped develop the Ebola (rVSV-ZEBOV) vaccine, which to date has proven the most effective at preventing Ebola infection, and which also uses a VSV backbone…

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NIH [to 20 May 2017]
http://www.nih.gov/news-events/news-releases
May 18, 2017
NIH statement on HIV Vaccine Awareness Day - 2017
— Anthony S. Fauci, M.D., Director, NIAID and Carl W. Dieffenbach, Ph.D., Director, Division of AIDS, NIAID.
Much progress has been made in HIV/AIDS research since the disease was first recognized in 1981. Today, lifesaving antiretroviral therapies allow those living with HIV to enjoy longer, healthier lives — an outcome that once seemed unattainable. Research supported by the National Institute of Allergy and Infectious Diseases (NIAID), part of the National Institutes of Health (NIH), has proven that when antiretroviral therapy durably keeps HIV at undetectable levels, the risk that the treated individual will sexually transmit the virus to an HIV-negative partner is negligible. When implemented in communities, treatment as prevention is remarkably successful at preventing the spread of HIV infection. Pre-exposure prophylaxis, or PrEP, is another prevention strategy in which HIV-negative people take one pill a day to reduce their risk of acquiring the virus. This intervention is highly effective when individuals adhere to the drug regimen.

While these and other prevention tools have the power to dramatically decrease the incidence of HIV infection, a safe and effective vaccine would be transformative. More than two million new HIV infections occurred worldwide in 2015 alone, and this rate of infection has declined only slightly since 2010. A new National Institutes of Health-funded modeling study (link is external) suggests that a 50-percent effective preventative vaccine could reduce the number of people living with HIV by 36 percent globally over a period of 15 years. Together with the other medical and behavioral prevention modalities that have been proven to decrease the risk of acquiring HIV, a vaccine could change the epidemic's trajectory, dramatically reducing the number of people who become infected with HIV.

Developing a safe and effective HIV vaccine is one of the most formidable challenges facing scientists today. HIV mutates rapidly, evading immune responses and thwarting the attempts of scientists to develop an effective vaccine. Only a minority of individuals living with HIV develop broadly neutralizing antibodies, a powerful type of antibody that can fight an array of HIV

strains by binding to key sites on the virus. In those individuals who do develop such antibodies, they generally appear only after several years of infection, when the virus has already gained a strong foothold in the body.

Despite these challenges, scientists are working to develop a vaccine that may reduce the spread of HIV. On World AIDS Day 2016, NIAID and its partners launched HVTN 702, a phase 2b/3 HIV vaccine efficacy trial. This trial is the first HIV vaccine efficacy study to launch in 7 years, and is currently enrolling 5,400 men and women in South Africa between the ages of 18 and 35. This study will test an experimental vaccine regimen to see if it can extend and amplify the modest success of the vaccine candidate tested in RV144, a clinical trial in Thailand that showed a modest degree of efficacy in 2009.

Another component of the HIV vaccine research effort focuses on inducing the immune system to make the kind of broadly neutralizing antibodies that may protect people from HIV. The NIAID Vaccine Research Center and several NIAID grantees are at the vanguard of this effort. Two multinational clinical trials testing an investigational anti-HIV broadly neutralizing antibody for preventing HIV infection began last year. Known as the AMP Studies, for antibody-mediated prevention, the trials will test whether giving people a broadly neutralizing HIV antibody as an intravenous infusion every 8 weeks is safe, tolerable and effective at preventing HIV infection among the study participants. With a projected enrollment of 4,200 men and women across three continents, the trials are designed to answer fundamental scientific questions for the fields of HIV prevention and vaccine research.

While the pursuit of a safe and effective HIV vaccine is challenging, this prevention strategy holds lifesaving potential and is NIAID's highest priority for AIDS research. On this HIV Vaccine Awareness Day, we recognize and thank the thousands of HIV vaccine clinical trial volunteers, researchers, health professionals, activists and others who work together with us toward this goal.

May 18, 2017
Antibodies from Ebola survivor protect mice and ferrets against related viruses
— NIAID-funded study could lead to broad, versatile treatments for many different Ebolaviruses.

FDA-approved drug helps treat rare immunologic disease, study finds
May 17, 2017 — NIH co-funded clinical trial tested alternative treatment for eosinophilic syndrome.

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UNAIDS [to 20 May 2017]
http://www.unaids.org/
Selected Press Releases & Updates
Update
Myanmar launches new HIV strategic plan
The Ministry of Health and Sports of Myanmar launched the country's latest five-year HIV plan on 17 May. The plan provides a road map on how to Fast-Track the national HIV response...

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PhRMA [to 20 May 2017]
http://www.phrma.org/press-room
May 15, 2017
ICYMI: New study shows medicines advance life expectancy for HIV patients

… A new study from the Antiretroviral Therapy Cohort Collaboration (ART-CC) found that HIV patients in Europe and North America treated with a combination of three or more antiretroviral therapy (ART) medicines can achieve the same life expectancy of people without HIV. ART-CC estimates that a 20-year-old patient who began treatment with ART between 2008 and 2010 could now live to age 78 – the same life expectancy for the general U.S. population.

In a recent article in STAT, reflecting on the new research, Dr. Anthony Fauci, director of the National Institute of Allergy and Infectious Diseases, commented on the study: "We're just getting better at what we do….We have better drugs… People are adhering better because they know these drugs really work."…

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European Vaccine Initiative [to 20 May 2017]
http://www.euvaccine.eu/news-events
18 May 2017
Workshop on universal influenza vaccines

The EDUFLUVAC partners, as part of their work programme on the development of a broadly reactive influenza vaccine, are planning a workshop in close collaboration with the FLUTCORE and UNISEC consortia entitled: "Four years of European research on the development of universal influenza vaccines: what have we learnt and how can we move forward?".

The workshop will be held in Brussels, Belgium on 12-14 June 2017…

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IFPMA [to 20 May 2017]
http://www.ifpma.org/resources/news-releases/
18 May 2017
New Alliance to Drive and Measure Industry Progress to Curb Antimicrobial Resistance

:: New Industry Alliance brings together research-based pharmaceutical companies, generics, biotech and diagnostic companies, to drive and measure industry progress to curb antimicrobial resistance.

:: The AMR Industry Alliance will ensure that signatories collectively deliver on the commitments made in the Declaration (January 2016) and the Roadmap (September 2016) and will measure industry's progress in the fight against AMR.

:: The Alliance will develop a reporting mechanism to track progress, identify gaps and set targets for the future. Its progress reports will also help to assess what are the key hurdles impeding actions outside of industry's sole control on reducing antimicrobial resistance and facilitate collaboration between the public and private sector.

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Wellcome Trust [to 20 May 2017]
https://wellcome.ac.uk/news
Opinion / Published: 19 May 2017
Drug-resistant infections: the clock is ticking

This week marks a year since the publication of the International Review on Antimicrobial Resistance (opens in a new tab), a review led by Lord Jim O'Neill and supported by Wellcome and the UK Department of Health.

It set out a plan for governments to tackle the growing problem of drug-resistant infections. Writing in The Guardian today, Ed Whiting, Wellcome's Head of Policy and Chief of Staff, looks at what has happened since the review's publication and explains why without action on antibiotics, medicine will return to the dark ages (opens in a new tab).

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FDA [to 20 May 2017]
http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/default.htm
What's New for Biologics
:: May 16, 2017 Approval Letter - MMR II (PDF - 55KB) Posted: 5/17/2016
:: Meeting Transcript for the Public Workshop: Emerging Tick-Borne Diseases and Blood Safety (PDF - 429KB) Posted: 5/16/2017
:: May 16, 2017 Approval Letter - PROQUAD (PDF - 56KB) Posted: 5/16/2017

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European Medicines Agency [to 20 May 2017]
http://www.ema.europa.eu/ema/
19/05/2017
Meeting highlights from the Committee for Medicinal Products for Human Use (CHMP) 15-18 May 2017
Eleven medicines recommended for approval, including one advanced therapy medicine

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Global Fund [to 20 May 2017]
http://www.theglobalfund.org/en/news/?topic=&type=NEWS;&country=
News
Global Fund Rates Highly in Australian Aid Review
15 May 2017

The Global Fund scored a top rating for its effective investment of donor money to respond to HIV, tuberculosis and malaria in a newly released Multilateral Performance Assessment published in the Performance of Australian Aid Report by the Department of Foreign Affairs and Trade. The assessment confirmed the Global Fund as a strong, results-driven partner, giving consistent ratings of 5 out of 6 across its six criteria.

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PATH [to 20 May 2017]

http://www.path.org/news/index.php
Announcement | May 18, 2017
PATH joins world leaders in defining global health and development priorities at 70th World Health Assembly
PATH leaders are slated to deliver remarks at Assembly Committee meetings and to lend their expertise to several events on the formal agenda, as well as key side events covering issues including research and development, global health security, noncommunicable diseases, access to essential medicines and health technologies, and planning for polio eradication.

Announcement | May 17, 2017
PATH statement on the Ebola outbreak in the Democratic Republic of the Congo
[See Ebola/EVD above for full statement]

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AERAS [to 20 May 2017]
http://www.aeras.org/pressreleases
No new digest content identified.

BIO [to 20 May 2017]
https://www.bio.org/insights
No new digest content identified.

BMGF - Gates Foundation [to 20 May 2017]
http://www.gatesfoundation.org/Media-Center/Press-Releases
No new digest content identified.

DCVMN – Developing Country Vaccine Manufacturers Network [to 20 May 2017]
http://www.dcvmn.org/
No new digest content identified

EDCTP [to 20 May 2017]
http://www.edctp.org/
The European & Developing Countries Clinical Trials Partnership (EDCTP) aims to accelerate the development of new or improved drugs, vaccines, microbicides and diagnostics against HIV/AIDS, tuberculosis and malaria as well as other poverty-related and neglected infectious diseases in sub-Saharan Africa, with a focus on phase II and III clinical trials
No new digest content identified.

Fondation Merieux [to 20 May 2017]
http://www.fondation-merieux.org/news
Mission: Contribute to global health by strengthening local capacities of developing countries to reduce the impact of infectious diseases on vulnerable populations.
No new digest content identified.

GHIT Fund [to 20 May 2017]
https://www.ghitfund.org/

GHIT was set up in 2012 with the aim of developing new tools to tackle infectious diseases that devastate the world's poorest people. Other funders include six Japanese pharmaceutical companies, the Japanese Government and the Bill & Melinda Gates Foundation.
No new digest content identified.

Hilleman Laboratories [to 20 May 2017]
http://www.hillemanlabs.org/
No new digest content identified.

Human Vaccines Project [to 20 May 2017]
http://www.humanvaccinesproject.org/media/press-releases/
No new digest content identified.

Sabin Vaccine Institute [to 20 May 2017]
http://www.sabin.org/updates/pressreleases
No new digest content identified.

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

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

IVI [to 20 May 2017]
http://www.ivi.int/
May 15, 2017
World must join forces to prevent infectious diseases
Op-ed by Dr. Jerome Kim, Director General, IVI
The Dong-A Ilbo (Business Section)
Imagine a world where the emergence of Ebola was rapidly terminated by vaccines that had been developed and stockpiled in anticipation of a crisis. Over 11,000 lives lost and 6 billion dollars later, a year after the Ebola outbreak started, we had the first hint of an effective vaccine. Bill Gates, Co-chair of the Bill and Melinda Gates Foundation, notes, "Ebola and Zika showed that the world is tragically unprepared to detect local outbreaks and respond quickly enough to prevent them from becoming global pandemics. Without investments in research and development, the world will remain unequipped when we face the next threat."

The launch of a global coalition that will support development of new vaccines for emerging infectious diseases, was announced at the World Economic Forum in Davos, Switzerland in January. The Coalition for Epidemic Preparedness Innovations (CEPI) has already raised almost half of the $1billion it needs for its first five years. The governments of Germany, Japan and Norway joined forces with the Bill & Melinda Gates Foundation and the Wellcome Trust to make

an initial investment of US $460 million. India is considering a major investment. The coalition would welcome other leading scientific countries including Korea to join this partnership, and benefit from it.

There is an already precedent of successful global public-private partnerships that have developed new vaccines, laboratory tests and drugs for global health. As independent Gates Foundation funded projects, organizations like the Foundation for Innovative New Diagnostics (FIND), International Vaccine Institute (IVI), and the Medicines for Malaria Venture (MMV) have work with Korean companies to make products for global health – new tests for rapid diagnosis of infectious diseases, a new vaccine against the disease called cholera, or a medication that works against malaria. In a similar way, but targeting those epidemic diseases that threaten us all, CEPI will be proactive, collective defense through vaccine development, and stockpiling.

CEPI is already receiving proposals from researchers and companies around the world to support the development of vaccines for the initial set of emerging diseases: MERS, Lassa fever and Nipah. Companies can be incentivized for the development of outbreak vaccines and to offset their investments with CEPI funding. Korean biotechnology companies, large and small, have an opportunity, and the Korean government's plans for the future growth and development of the vaccines industry could be leveraged against CEPI's funding.

After MERS, and the recent outbreaks of avian influenza and hoof-and-mouth disease, Korea knows the human and economic cost of epidemic disease (animal and human). The US National Academy of Sciences estimated that the average yearly cost of pandemic disease in the 21st century was 60 billion US dollars. Against this cost to the global society, GAVI, the Vaccine Alliance estimates that vaccines provide a return on investment (ROI) of 16:1, in other words, 16 dollars of benefit for every dollar spent!.

Infectious diseases do not respect borders. These are potentially lingering problems for Korea but they are also global problems and can be more efficiently addressed collectively by the world. CEPI's funders commit to the collaborative identification and prioritization of threats, the development of vaccine solutions, and the stockpiling of vaccines against the inevitable outbreaks. To meet these goals, CEPI will need significant additional investment. Korea as the current chair of the Global Health Security Agenda should show leadership by funding CEPI and challenging other nations to do the same.

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Journal Watch

Vaccines and Global Health: The Week in Review continues its weekly scanning of key peer-reviewed journals to identify and cite articles, commentary and editorials, books reviews and other content supporting our focus on vaccine ethics and policy. Journal Watch is not intended to be exhaustive, but indicative of themes and issues the Center is actively tracking. We selectively provide full text of some editorial and comment articles that are specifically relevant to our work. Successful access to some of the links provided may require subscription or other access arrangement unique to the publisher.

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

American Journal of Infection Control
May 01, 2017 Volume 45, Issue 5, p463-582, e45-e52
http://www.ajicjournal.org/current
[Reviewed earlier]

American Journal of Preventive Medicine
June 2017 Volume 52, Issue 6, p691-894, e157-e182
http://www.ajpmonline.org/current
Research Articles
A Comparison of Parent- and Provider-Reported Human Papillomavirus Vaccination of Adolescents
Eric Adjei Boakye, Betelihem B. Tobo, Nosayaba Osazuwa-Peters, Kahee A. Mohammed, Christian J. Geneus, Mario Schootman
p742–752
Published online: November 24, 2016
Abstract
Introduction
There is considerable effort at the state and national levels to monitor human papillomavirus (HPV) vaccine uptake and understand the factors that influence who gets vaccinated. Accurate measurement of vaccination coverage is critical for monitoring HPV vaccination. This study aimed to determine comparability between parent- and provider-reported HPV vaccination status for a sample of adolescents in the U.S.
Methods
Data from the 2014 National Immunization Survey–Teen were analyzed in 2016 for 20,827 adolescents. Information on HPV vaccine uptake (initiation [one or more dose] and completion [three or more doses]) was obtained using parental (recall) and provider reports (electronic medical records). Sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), and κ-coefficient were computed to determine how comparable parental and provider (ref group) reports were for HPV vaccination.
Results
Prevalence of HPV vaccine initiation was comparable between parental and provider report (51.3% vs 50.0%) and for completion (30.7% vs 27.3%). Compared with provider report, parent-reported HPV vaccine initiation had high sensitivity (86.0%), specificity (87.4%), PPV (87.5%), NPV (85.9%), and acceptable κ-coefficient (0.73). Compared with provider report, parent-reported HPV vaccine completion had a sensitivity of 71.5%, specificity of 91.1%, PPV of 78.5%, NPV of 87.6%, and κ-coefficient of 0.64. Similar characteristics—adolescent age, sex, number of doctor visits, and region—were associated with HPV vaccine uptake using parental and provider reports.
Conclusions
Parental recall is comparable to provider report in monitoring HPV vaccine uptake for adolescents, although parental recall is less comparable for HPV vaccine completion.

American Journal of Public Health
107(6), June 2017

http://ajph.aphapublications.org/toc/ajph/current
ZIKA
Zika's Long Haul: Tackling the Causes of Human Vulnerability to Mosquito-Borne Viruses
Laura C. Rodrigues
107(6), pp. 831–833

INFECTIOUS DISEASES
Public Health Surveillance for Communicable Diseases: From Rigid and Static to Flexible and Innovative
David L. Heymann
107(6), pp. 845–846

GLOBAL SURVEILLANCE
Evolution of Public Health Surveillance: Status and Recommendations
Howard S. Burkom
107(6), pp. 848–850

ZIKA
The Zika Virus Outbreak in Brazil: Knowledge Gaps and Challenges for Risk Reduction
Claudia Garcia Serpa Osorio-de-Castro, Elaine Silva Miranda, Carlos Machado de Freitas, Kenneth Rochel de Camargo Jr and Hilarie Hartel Cranmer
107(6), pp. 960–965

American Journal of Tropical Medicine and Hygiene
Volume 96, Issue 5, 2017
http://www.ajtmh.org/content/current
[Reviewed earlier]

Annals of Internal Medicine
16 May 2017 Vol: 166, Issue 10
http://annals.org/aim/issue
Research and Reporting Methods
Clinical Trials of Therapeutics for the Prevention of Congenital Zika Virus Disease: Challenges and Potential Solutions
Alex P. Salam, MBChB, MSc; Amanda Rojek, MBBS, MSc; Jake Dunning, MBBS, PhD; Peter W. Horby, MBBS PhD
Abstract
Zika virus (ZIKV) infection in pregnancy is associated with adverse fetal outcomes, such as microcephaly and other congenital malformations. No therapeutic options are available to pregnant women with ZIKV infection to prevent these effects. Drug trials in pregnancy raise several scientific, ethical, and logistic challenges, which are compounded further in ZIKV because of limited knowledge of the disease pathophysiology and a product development pipeline in its infancy. We evaluate the major challenges in choosing therapeutics to prevent congenital ZIKV disease and conducting clinical trials of these treatments, with a focus on

preventing congenital central nervous system malformations. These challenges must be characterized and planned for now so that clinical trials can progress expediently and effectively in the future.

BMC Cost Effectiveness and Resource Allocation
http://resource-allocation.biomedcentral.com/
(Accessed 20 May 2017)
[No new digest content identified]

BMJ Global Health
January 2017; volume 2, issue 1
http://gh.bmj.com/content/2/1?current-issue=y
[Reviewed earlier]

BMC Health Services Research
http://www.biomedcentral.com/bmchealthservres/content
(Accessed 20 May 2017)
Research article
Cervical cancer treatment costs and cost-effectiveness analysis of human papillomavirus vaccination in Vietnam: a PRIME modeling study
Hoang Van Minh, Nguyen Thi Tuyet My and Mark Jit
BMC Health Services Research 2017 17:353
Published on: 15 May 2017
Abstract
Background
Cervical cancer is currently the leading cause of cancer mortality among women in South Vietnam and the second leading cause of cancer mortality in North Vietnam. Human papillomavirus (HPV) vaccination has the potential to substantially decrease this burden. The World Health Organization (WHO) recommends that a cost-effectiveness analysis of HPV vaccination is conducted before nationwide introduction.
Methods
The Papillomavirus Rapid Interface for Modeling and Economics (PRIME) model was used to evaluate the cost-effectiveness of HPV vaccine introduction. A costing study based on expert panel discussions, interviews and hospital case note reviews was conducted to explore the cost of cervical cancer care.
Results
The cost of cervical cancer treatment ranged from US$368 – 11400 depending on the type of hospital and treatment involved. Under Gavi-negotiated prices of US$4.55, HPV vaccination is likely to be very cost-effective with an incremental cost per disability-adjusted life year (DALY) averted in the range US$780 - 1120. However, under list prices for Cervarix and Gardasil in Vietnam, the incremental cost per DALY averted for HPV vaccination can exceed US$8000.
Conclusion
HPV vaccine introduction appears to be economically attractive only if Vietnam is able to procure the vaccine at Gavi prices. This highlights the importance of initiating a nationwide vaccination programme while such prices are still available

BMC Infectious Diseases
http://www.biomedcentral.com/bmcinfectdis/content
(Accessed 20 May 2017)
Research article
Estimation of the burden of varicella in Europe before the introduction of universal childhood immunization
Varicella is generally considered a mild disease. Disease burden is not well known and country-level estimation is challenging. As varicella disease is not notifiable, notification criteria and rates vary between...
Margarita Riera-Montes, Kaatje Bollaerts, Ulrich Heininger, Niel Hens, Giovanni Gabutti, Angel Gil, Bayad Nozad, Grazina Mirinaviciute, Elmira Flem, Audrey Souverain, Thomas Verstraeten and Susanne Hartwig
BMC Infectious Diseases 2017 17:353
Published on: 18 May 2017

TECHNICAL ADVANCE
A framework for evaluating epidemic forecasts
Over the past few decades, numerous forecasting methods have been proposed in the field of epidemic forecasting. Such methods can be classified into different categories such as deterministic vs. probabilistic...
Farzaneh Sadat Tabataba, Prithwish Chakraborty, Naren Ramakrishnan, Srinivasan Venkatramanan, Jiangzhuo Chen, Bryan Lewis and Madhav Marathe
BMC Infectious Diseases 2017 17:345
Published on: 15 May 2017

BMC Medical Ethics
http://www.biomedcentral.com/bmcmedethics/content
(Accessed 20 May 2017)
Research article
A qualitative study on acceptable levels of risk for pregnant women in clinical research
Healthcare professionals, RECs, regulators and pregnant women are all risk adverse in practice, possibly explaining the continuing underrepresentation of pregnant women in clinical research. Determining the acceptable levels of risk on a universal level alone is insufficient, because the individual perception of risk also influences behaviour towards pregnant women in clinical research. Therefore, bioethicists and researchers might be interested in changing the perception of risk, which could be achieved by education and awareness about the actual benefits and harms of inclusion and exclusion of pregnant women.
Indira S. E. van der Zande, Rieke van der Graaf, Martijn A. Oudijk and Johannes J. M. van Delden
Published on: 15 May 2017

BMC Medicine
http://www.biomedcentral.com/bmcmed/content

(Accessed 20 May 2017)
[No new digest content identified]

BMC Pregnancy and Childbirth
http://www.biomedcentral.com/bmcpregnancychildbirth/content
(Accessed 20 May 2017)
[No new digest content identified]

BMC Public Health
http://bmcpublichealth.biomedcentral.com/articles
(Accessed 20 May 2017)
Research article
Avian influenza A/H7N9 risk perception, information trust and adoption of protective behaviours among poultry farmers in Jiangsu Province, China
Poultry farmers are at high-risk from avian influenza A/H7N9 infection due to sustained occupational exposures to live poultry. This study examined factors associated with poultry farmers' adoption of personal...
Bin Cui, Qiuyan Liao, Wendy Wing Tak Lam, Zong Ping Liu and Richard Fielding
BMC Public Health 2017 17:463
Published on: 18 May 2017

BMC Research Notes
http://www.biomedcentral.com/bmcresnotes/content
(Accessed 20 May 2017)
[No new digest content identified]

BMJ Open
May 2017 - Volume 7 - 5
http://bmjopen.bmj.com/content/current
Protocol
Post-authorisation passive enhanced safety surveillance of seasonal influenza vaccines: protocol of a pilot study in England
Simon de Lusignan, Gaël Dos Santos, Ana Correa, François Haguinet, Ivelina Yonova, Florence Lair, Rachel Byford, Filipa Ferreira, Karen Stuttard, Tom Chan

Bulletin of the World Health Organization
Volume 95, Number 5, May 2017, 313-388
http://www.who.int/bulletin/volumes/95/5/en/
[Reviewed earlier]

Child Care, Health and Development
May 2017 Volume 43, Issue 3 Pages 323–461

http://onlinelibrary.wiley.com/doi/10.1111/cch.v43.3/issuetoc
[Reviewed earlier]

Clinical and Experimental Vaccine Research
2017 Jan;6(1):31-37. English.
http://ecevr.org/
[Reviewed earlier]

Clinical Therapeutics
April 2017 Volume 39, Issue 4, p665-872
http://www.clinicaltherapeutics.com/issue/S0149-2918(17)X0004-0
[Reviewed earlier]

Complexity
November/December 2016 Volume 21, Issue S2 Pages 1–642
http://onlinelibrary.wiley.com/doi/10.1002/cplx.v21.S2/issuetoc
[Reviewed earlier]

Conflict and Health
http://www.conflictandhealth.com/
[Accessed 20 May 2017]
[No new digest content identified]

Contemporary Clinical Trials
Volume 56, Pages 1-52 (May 2017)
http://www.sciencedirect.com/science/journal/15517144/56
[Reviewed earlier]

Current Opinion in Infectious Diseases
June 2017 - Volume 30 - Issue 3
http://journals.lww.com/co-infectiousdiseases/pages/currenttoc.aspx
[Reviewed earlier]

Developing World Bioethics
April 2017 Volume 17, Issue 1 Pages 1–60
http://onlinelibrary.wiley.com/doi/10.1111/dewb.2017.17.issue-1/issuetoc
[Reviewed earlier]

Development in Practice
Volume 27, Issue 3

http://www.tandfonline.com/toc/cdip20/current
[Reviewed earlier]

Disasters
April 2017 Volume 41, Issue 2 Pages 209–426
http://onlinelibrary.wiley.com/doi/10.1111/disa.2017.41.issue-2/issuetoc
[Reviewed earlier]

EMBO Reports
01 May 2017; volume 18, issue 5
http://embor.embopress.org/front.current-issue
[Reviewed earlier]

Emerging Infectious Diseases
Volume 23, Number 5—May 2017
http://wwwnc.cdc.gov/eid/
[Reviewed earlier]

Epidemics
Volume 18, Pages 1-112 (March 2017)
http://www.sciencedirect.com/science/journal/17554365
Multi-model comparisons for neglected tropical diseases - validation and projection
Edited by Déirdre Hollingsworth and Graham Medley
[Reviewed earlier]

Epidemiology and Infection
Volume 145 - Issue 8 - June 2017
https://www.cambridge.org/core/journals/epidemiology-and-infection/latest-issue
[New issue; No digest content identified]

The European Journal of Public Health
Volume 27, Issue 2, 20 May 2017
https://academic.oup.com/eurpub/issue/27/2
[Reviewed earlier]

Global Health Action
Volume 10, 2017 - Issue 1
http://www.tandfonline.com/toc/zgha20/10/1?nav=tocList
[Reviewed earlier]

Global Health: Science and Practice (GHSP)
March 24, 2017, 5 (1)
http://www.ghspjournal.org/content/current
[Reviewed earlier]

Global Public Health
Volume 12, 2017 Issue 7
http://www.tandfonline.com/toc/rgph20/current
[New issue; No digest content identified]

Globalization and Health
http://www.globalizationandhealth.com/
[Accessed 20 May 2017]
[No new digest content identified]

Health Affairs
May 2017; Volume 36, Issue 5
http://content.healthaffairs.org/content/current
Issue Focus: ACA Coverage, Access, Medicaid & More
[Reviewed earlier]

Health and Human Rights
Volume 18, Issue 2, December 2016
http://www.hhrjournal.org/
Special Section: Universal Health Coverage and Human Rights
[Reviewed earlier]

Health Economics, Policy and Law
Volume 12 - Issue 2 - April 2017
https://www.cambridge.org/core/journals/health-economics-policy-and-law/latest-issue
Special Issue: Towards a Global Framework for Health Financing
[Reviewed earlier]

Health Policy and Planning
Volume 32, Issue 5 June 2017
http://heapol.oxfordjournals.org/content/current
[Reviewed earlier]

Health Research Policy and Systems
http://www.health-policy-systems.com/content
[Accessed 20 May 2017]

[No new digest content identified]

Humanitarian Exchange Magazine
Number 68 January 2017
http://odihpn.org/magazine/the-crisis-in-south-sudan/
The crisis in South Sudan
[Reviewed earlier]

Human Vaccines & Immunotherapeutics (formerly Human Vaccines)
Volume 13, Issue 4, 2017
http://www.tandfonline.com/toc/khvi20/current
[Reviewed earlier]

Infectious Agents and Cancer
http://www.infectagentscancer.com/content
[Accessed 20 May 2017]
[No new digest content identified]

Infectious Diseases of Poverty
http://www.idpjournal.com/content
[Accessed 20 May 2017]
[No new digest content identified]

International Health
Volume 9, Issue 2 March 2017
http://inthealth.oxfordjournals.org/content/current
[Reviewed earlier]

International Journal of Community Medicine and Public Health
Vol 4, No 5 (2017) May 2017
http://www.ijcmph.com/index.php/ijcmph/issue/view/24
[Reviewed earlier]

International Journal of Epidemiology
Volume 46, Issue 1 February 2017
http://ije.oxfordjournals.org/content/current
[Reviewed earlier]

International Journal of Infectious Diseases
May 2017 Volume 58, p1-118

http://www.ijidonline.com/issue/S1201-9712(17)X0005-2
[Reviewed earlier]

JAMA
May 16, 2017, Vol 317, No. 19, Pages 1927-2028
http://jama.jamanetwork.com/issue.aspx
[New issue; No digest content identified]

JAMA Pediatrics
May 2017, Vol 171, No. 5, Pages 407-500
http://archpedi.jamanetwork.com/issue.aspx
[Reviewed earlier]

JBI Database of Systematic Review and Implementation Reports
May 2017 - Volume 15 - Issue 5
http://journals.lww.com/jbisrir/Pages/currenttoc.aspx
[New issue; No digest content identified]

Journal of Community Health
Volume 42, Issue 3, June 2017
http://link.springer.com/journal/10900/42/3/page/1
[Reviewed earlier]

Journal of Epidemiology & Community Health
May 2017 - Volume 71 - 5
http://jech.bmj.com/content/current
[New issue; No digest content identified]

Journal of Global Ethics
Volume 12, Issue 3, 2016
http://www.tandfonline.com/toc/rjge20/current
Theme Issue: Refugee Crisis: The Borders of Human Mobility
[Reviewed earlier]

Journal of Global Infectious Diseases (JGID)
January – March 2017 Vol 9 Issue 1 Pages 1-37
http://www.jgid.org/currentissue.asp?sabs=n
[Reviewed earlier]

Journal of Health Care for the Poor and Underserved (JHCPU)

Volume 28, Number 2 Supplement, May 2017
https://muse.jhu.edu/issue/36192
The Power of Prevention: Reaching At-Risk Emerging Adults to Reduce Substance Abuse and HIV
Guest Editors: Lorece Edwards, DrPH, MHS, Morgan State University and Ronald L. Braithwaite, PhD, Morehouse School of Medicine
[Reviewed earlier]

Journal of Immigrant and Minority Health
Volume 19, Issue 3, June 2017
http://link.springer.com/journal/10903/19/3/page/1
[Reviewed earlier]

Journal of Immigrant & Refugee Studies
Volume 15, Issue 1, 2017
http://www.tandfonline.com/toc/wimm20/current
[Reviewed earlier]

Journal of Infectious Diseases
Volume 215, Issue 7 1 April 2017
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[Reviewed earlier]

Journal of Medical Ethics
May 2017 - Volume 43 - 5
http://jme.bmj.com/content/current
[Reviewed earlier]

Journal of Medical Internet Research
Vol 19, No 5 (2017): May
http://www.jmir.org/2017/5
Editorial
Using mHealth to Predict Noncommunicable Diseases: A Public Health Opportunity for Low- and Middle-Income Countries
Ellen Rosskam, Adnan A Hyder
J Med Internet Res 2017 (May 05); 19(5):e129
Nearly 70% of the 56 million deaths that took place globally in 2012 were due to noncommunicable diseases (NCDs), in particular, cardiovascular diseases, cancers, chronic respiratory diseases, and diabetes, and nearly two-thirds of all NCD deaths took place in low- and middle-income countries (LMICs) [1]. If effective steps are not taken to curb the epidemic, deaths due to NCDs are projected to rise exponentially in the coming decade [2]. Key risk factors responsible for a majority of NCDs include tobacco use, unhealthy diet, sedentary lifestyle, and excessive use of alcohol. With targeted action, these behavioral risk factors have

demonstrated potential to be modified [3] to reduce NCDs and improve population health. Reducing NCDs, particularly in the world's poorest countries, can lead to increases in equity and socioeconomic development while reducing poverty due to ill health and promoting sustainable development and social justice.

Key to global efforts to prevent and control NCDs is national surveillance. A promising approach increasingly being explored for public health surveillance involves mobile phones. A nascent yet emergent field, mHealth, describes medical and public health activities that leverage the global proliferation of cellular networks and mobile phone ownership or access to improve population health outcomes. There are nearly 7.5 billion wireless phone subscriptions globally, with the majority (78%) in LMICs [4]. Global connectivity to cellular networks can make large proportions of a population accessible through their mobile phones. In response to the increasing NCD disease burden, the intersecting need for NCD data in LMICs and the near-universal population access to mobile phones in a growing number of countries presents an opportunity for public health.

This special Theme Issue of JMIR offers a step forward in documenting what is known about surveillance of risk factors for NCDs in LMICs using mobile phone surveys (MPS). The evidence illustrates that the state-of-the-art is sufficient to roll out population-level surveys in LMICs using mobile phone platforms while paying careful attention to issues such as ethics, methodology, and turning results into practice. The results offer guidance for policy and practice.

The article, "Noncommunicable Disease Risk Factors and Mobile Phones: A Proposed Research Agenda," proposes a research and development agenda for NCD risk factors and MPS [5]. The goal of the proposed agenda is to help standardize operating procedures for MPS, which will allow for comparisons of NCD risk factors within and across sites and over time. The potential is explored for MPS to collect such data, review key research issues, and introduce a multicountry effort that seeks to partly respond to this public health challenge. It is hoped that the proposed research agenda will catalyze a global dialogue and action to enhance the use of MPS for NCDs and potentially other public health risk factor surveillance.

Limited evidence exists on the comparative effectiveness of MPS modalities in LMICs although a variety of options are available. "Mobile Phone Surveys for Collecting Population-Level Estimates in Low- and Middle-Income Countries: A Literature Review" reviews the current landscape of MPS being used for population-level data collection in LMICs, specifically through the use of short message service, interactive voice response (IVR), and computer-assisted telephone interview survey modalities [6]. From the articles identified of MPS use to collect population estimates across a range of topics, results reveal that the state of MPS to collect population-level estimates of health and other indicators is a nascent field, indicating the need for more research.

The methodological approach used to test the use of MPS for NCDs is described in "Evaluation of Mechanisms to Improve Performance of Mobile Phone Surveys: A Research Protocol" [7]. Using microtrials, a set of future studies that will help enhance the efficiency and technical effectiveness of MPS is proposed for LMICs. The authors assess the effect of factors such as incentive timing and structure, survey introduction characteristics, different sampling frames,

and survey modality on key survey metrics such as survey response, completion, and attrition rates.

Further investigating the literature, "Building the Evidence Base for Remote Data Collection in Low- and Middle-Income Countries: Comparing Reliability and Accuracy Across Survey Modalities" reviews findings that compare a mode of remote data collection to at least one other mode [8]. The synthesis examines MPS mode effects on the reliability and accuracy of results. Findings show, for example, that remote data collection consistently elicited higher reports of socially nondesirable behaviors compared to in-person data collection. The review reveals the need for additional studies that compare reliability and construct validity across survey modalities.

IVR has the potential to expand current surveillance coverage and data collection. Two rounds of IVR pilot testing in Baltimore, Maryland, revealed that most participants felt this type of survey would lead to more honest, accurate responses than face-to-face questionnaires, especially for sensitive topics. In the pilot tests, participants indicated a clear comprehension of the IVR-administered questionnaire and that the IVR platform was user-friendly. Described in "The Development of an Interactive Voice Response Survey for Noncommunicable Disease Risk Factor Estimation: Technical Assessment and Cognitive Testing," the authors conclude that formative research and cognitive testing of the questionnaire are needed for deployment in LMICs [9].

The near-ubiquitous ownership of phones in LMICs, high population mobility, and low cost demand a reexamination of statistical recommendations for MPS, especially when surveys are automated. In "Health surveys using mobile phones in developing countries: automated active strata monitoring and other statistical considerations for improving precision and reducing biases," methods are proposed to reduce estimate bias and to adjust for selectivity due to mobile ownership [10]. The authors describe using automated active strata monitoring (AASM) to improve representativeness of the sample distribution to that of the source population. They conclude that although some statistical challenges remain, MPS represents a promising emerging means for population-level data collection in LMICs.

The increasing use of MPS in LMICs brings forth a cluster of ethical challenges. The existing literature regarding the ethics of mobile or digital health, however, mainly focuses on the use of technologies in high-income countries and does not consider the specific ethical issues associated with the conduct of MPS for NCD risk factor surveillance in LMICs. In "Ethics Considerations in Global Mobile Phone-Based Surveys of Noncommunicable Diseases: A Conceptual Exploration," the authors explored central ethics issues in this domain, including identifying the nature of the activity, stakeholder engagement, appropriate design, anticipating and managing potential harms and benefits, consent, reaching intended respondents, data ownership, access and use, and ensuring LMIC sustainability [11]. The authors call for future work to develop a broad conceptual framework for the ethical, legal, and societal issues associated with MPS for NCD risk factors. They further point to the need for guidance documents to identify key issues, outline pros and cons of options available to stakeholders for each issue, review additional points to consider, and provide references to resources relevant to each issue. In order to begin to address the various needs, the researchers hope to establish a global working group inclusive of experts in ethics, mHealth survey implementation, regulatory oversight and policy, public health, social science, and MPS platform development.

The article, "Moving the Agenda on Noncommunicable Diseases: Policy Implications of Mobile Phone Surveys in Low- and Middle-Income Countries," presents the special challenges for policy makers [12]. The article discusses potential benefits of MPS for developing, implementing, and evaluating NCD prevention and control policies. It includes an overview of major global commitments to NCD prevention and control as well as an exploration of how countries can translate these commitments into policy action at the national level. Potential benefits of MPS are discussed, including cost benefits of MPS for informing NCD policy actions compared to using traditional household surveys, timeliness of assessments to feed into policy and planning cycles, tracking progress of interventions, timely course correction for suboptimal or noneffective interventions, and assessing fairness in financial contribution and financial risk protection for those affected by NCDs in the spirit of universal health coverage, inter alia. The authors demonstrate how MPS can become a powerful tool for collecting population-based data to inform policies that address key public health challenges such as NCDs. Further research in real-life settings will help to provide additional realistic world experiences.

This special issue of JMIR offers a step forward in benchmarking what is known and what is possible to know using MPS for data collection and surveillance systems. These results offer guidance for research expectations and opportunities to understand and curb the rise of NCDs in LMICs. Additional next steps are foreseen to continue documenting empirical experiences of MPS use in LMICs to collect risk factor data on NCDs, engaging with global bodies toward the development of a research agenda, establishing a global working group of experts to address the ethical issues surrounding MPS use in LMICs, and working with international and national level policy-makers to create a comparative framework for turning results into policy and practice.

Guest Editorial

Leveraging Mobile Phones for Monitoring Risks for Noncommunicable Diseases in the Future
Jennifer A Ellis
J Med Internet Res 2017 (May 05); 19(5):e137

Ethics Considerations in Global Mobile Phone-Based Surveys of Noncommunicable Diseases: A Conceptual Exploration
Joseph Ali, Alain B Labrique, Kara Gionfriddo, George Pariyo, Dustin G Gibson, Bridget Pratt, Molly Deutsch-Feldman, Adnan A Hyder
J Med Internet Res 2017 (May 05); 19(5):e110

Health Surveys Using Mobile Phones in Developing Countries: Automated Active Strata Monitoring and Other Statistical Considerations for Improving Precision and Reducing Biases
Alain Labrique, Emily Blynn, Saifuddin Ahmed, Dustin Gibson, George Pariyo, Adnan A Hyder
J Med Internet Res 2017 (May 05); 19(5):e121

Mobile Phone Surveys for Collecting Population-Level Estimates in Low- and Middle-Income Countries: A Literature Review

Dustin G Gibson, Amanda Pereira, Brooke A Farrenkopf, Alain B Labrique, George W Pariyo, Adnan A Hyder
J Med Internet Res 2017 (May 05); 19(5):e139

Knowledge, Attitude, Behavior, and Practices Regarding HIV, Viral Hepatitis, and Sexually Transmitted Infections Among Migrants From Sub-Saharan Africa Living in Germany: A Multicenter Survey Protocol
Claudia Santos-Hövener, Carmen Koschollek, Anna Kuehne, Adama Thorlie, Viviane Bremer
JMIR Res Protoc 2017 (May 02); 6(5):e80

Journal of Medical Microbiology
Volume 66, Issue 4, April 2017
http://jmm.microbiologyresearch.org/content/journal/jmm/66/4
[Reviewed earlier]

Journal of Patient-Centered Research and Reviews
Volume 4, Issue 2 (2017)
http://digitalrepository.aurorahealthcare.org/jpcrr/
[Reviewed earlier]

Journal of the Pediatric Infectious Diseases Society (JPIDS)
Volume 6, Issue 2 1 June 2017
http://jpids.oxfordjournals.org/content/current
Editor's Choice
Evaluation of the Impact of Pneumococcal Conjugate Vaccine on Pediatric Community-Acquired Pneumonia Using an Emergency Database System
Guilhem Noel; Gilles Viudes; Remi Laporte; Philippe Minodier

ORIGINAL ARTICLES AND COMMENTARIES
Tolerability of Japanese Encephalitis Vaccine in Pediatric Patients
Shauna Butler; Deena Sutter; Ashley Maranich

Journal of Pediatrics
May 2017 Volume 184, p1-246
http://www.jpeds.com/current
[Reviewed earlier]

Journal of Public Health Policy
Volume 38, Issue 1, February 2017
http://link.springer.com/journal/41271/38/1/page/1
[Reviewed earlier]

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01 May 2017; volume 14, issue 130
http://rsif.royalsocietypublishing.org/content/current
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Volume 24, Issue 2, March/April 2017
https://academic.oup.com/jtm/issue/24/2
[Reviewed earlier]

Journal of Virology
May 2017, volume 91, issue 10
http://jvi.asm.org/content/current
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The Lancet
May 20, 2017 Volume 389 Number 10083 p1953-2080
http://www.thelancet.com/journals/lancet/issue/current
Editorial
WHO: Director-General campaign closes amid anxiety and hope
The Lancet
The current race to replace Margaret Chan, outgoing Director-General of WHO, has been a different kind of contest. The unprecedented level of transparency and accountability in the election campaign is to be welcomed—voting by member states and not only by the agency's executive board, publication and scrutiny of candidate manifestos, and public debates. But will the final decision making, to take place next week at the World Health Assembly in Geneva, also be different? The vote remains a secret ballot, member states can pledge their support to one candidate but vote for another, and, in the end, the choice of WHO's next leader, still the world's top international health post, will be as political as ever.

The election comes at a time of unparalleled uncertainty for WHO. Meeting the expectations of the Sustainable Development Goals demands political legitimacy and courageous leadership. Yet the landscape of global health initiatives has never been more complex, narrowing opportunities for WHO to play a decisive part in shaping the future of health. And WHO's finances are terrifyingly limited. The agency is in an unenviable position: vastly more is expected of WHO while its role is contested and constrained.

A tall order for the remaining candidates, Tedros Adhanom Ghebreyesus, David Nabarro, and Sania Nishtar, who have each proved to be strong, credible, and hard working. All have participated in countless discussions and interviews, and travelled around the world competing for country votes, showcasing their particular strengths and priorities. At this juncture in the history of WHO it feels right that there are two candidates from low and middle income countries, and one a woman.

Tedros has been credited with transforming the Ethiopian health system and his country's population health. He also has deep and valuable experience of several key global health initiatives that sometimes compete with WHO. As potentially the first Director-General from sub-Saharan Africa, his ascent to WHO's leadership would be a major win for the continent. That said, Tedros has had to contend with considerable political mudslinging. He was Health Minister and Foreign Minister until November, 2016, leading to concerns being raised over his links with an Ethiopian regime guilty of extensive violations of human rights. Some of this criticism has been openly discussed, and also refuted, in social media. Furthermore, Tedros strenuously denies the damaging accusations (made by an adviser to his closest competitor, David Nabarro) that he covered up cholera epidemics in Ethiopia while Health Minister, branding it a smear campaign.

David Nabarro has wide experience on the front lines of global health and in the UN system, where he has spent much of his career. He has strong and proven managerial skills. And he has led and coordinated important global programmes, ranging from nutrition to Ebola. But Nabarro is supported by a present and likely future UK Government sceptical of multilateralism, distracted by Brexit, and lacking the enthusiasm of past administrations for health as an important foreign policy issue. Added to which, some member states may question whether now is the right time to be appointing a UN insider. Does WHO need fresh and more radical thinking, they might ask.

Sania Nishtar has her origins firmly rooted in civil society. A highly successful campaigner to address the abject international neglect of non-communicable diseases, she has also gained experience, albeit briefly, as Pakistan's Health Minister, among other portfolios. She has successfully chaired important global health working groups, and she has shown an impressive independence of thinking—suggesting, for example, that she might only serve one term as Director-General to free her to take the tough decisions she believes WHO needs to take. But some observers may ask whether her high-level organisational experience is sufficient to lead WHO at such a critical moment in its history.

Each candidate has strengths. And each has weaknesses. The Lancet has, at various times, worked closely with all three. We can attest to their commitment to WHO and its values. But that is not enough. To achieve genuine internal reforms and to restore public confidence might seem to favour Tedros and Nishtar. The complex management and diplomacy requirements could favour Nabarro. The new campaign process has succeeded in enhancing transparency about the qualities and attributes of the candidates. But, as in any election, unpredictability reigns. We encourage member states to vote for the candidate who they believe mixes proven managerial competence with a clear and deliverable vision for WHO's next 5 years. No empty promises. Just realisable results. And, perhaps most importantly, someone with the skills to handle the unexpected.

Articles

Evolution and patterns of global health financing 1995–2014: development assistance for health, and government, prepaid private, and out-of-pocket health spending in 184 countries

Global Burden of Disease Health Financing Collaborator Network

Open Access

Interpretation

Health spending remains disparate, with low-income and lower-middle-income countries increasing spending in absolute terms the least, and relying heavily on OOP spending and development assistance. Moreover, tremendous variation shows that neither time nor economic development guarantee adequate prepaid health resources, which are vital for the pursuit of universal health coverage.

Future and potential spending on health 2015–40: development assistance for health, and government, prepaid private, and out-of-pocket health spending in 184 countries

Global Burden of Disease Health Financing Collaborator Network

Open Access

Interpretation

Health spending is associated with economic development but past trends and relationships suggest that spending will remain variable, and low in some low-resource settings. Policy change could lead to increased health spending, although for the poorest countries external support might remain essential.

Lancet Global Health

Jun 2017 Volume 5 Number 6 e556-e632

http://www.thelancet.com/journals/langlo/issue/current

Articles

Community engagement and integrated health and polio immunisation campaigns in conflict-affected areas of Pakistan: a cluster randomised controlled trial

Muhammad Atif Habib, Sajid Soofi, Simon Cousens, Saeed Anwar, Najib ul Haque, Imran Ahmed, Noshad Ali, Rehman Tahir, Zulfiqar A Bhutta

Summary

Background

Pakistan faces huge challenges in eradicating polio due to widespread poliovirus transmission and security challenges. Innovative interventions are urgently needed to strengthen community buy-in, to increase the coverage of oral polio vaccine (OPV) and other routine immunisations, and to enhance immunity through the introduction of inactivated polio vaccine (IPV) in combination with OPV. We aimed to evaluate the acceptability and effect on immunisation coverage of an integrated strategy for community engagement and maternal and child health immunisation campaigns in insecure and conflict-affected polio-endemic districts of Pakistan.

Methods

We did a community-based three-arm cluster randomised trial in healthy children aged 1 month to 5 years that resided within the study sites in three districts of Pakistan at high risk of polio. Clusters were randomly assigned by a computer algorithm using restricted randomisation in blocks of 20 by an external statistician (1:1:1) to receive routine polio programme activities (control, arm A), additional interventions with community outreach and mobilisation using an enhanced communication package and provision of short-term preventive maternal and child health services and routine immunisation (health camps), including OPV (arm B), or all interventions of arm B with additional provision of IPV delivered at the maternal and child health camps (arm C). An independent team conducted surveys at baseline, endline, and after each round of supplementary immunisation activity for acceptability and effect. The primary outcome measures for the study were coverage of OPV, IPV, and routine extended programme

on immunisation vaccines and changes in the proportion of unvaccinated and fully vaccinated children. This trial is registered with ClinicalTrials.gov, number NCT01908114.

Findings

Between June 4, 2013, and May 31, 2014, 387 clusters were randomised (131 to arm A, 127 to arm B, and 129 to arm C). At baseline, 28 760 children younger than 5 years were recorded in arm A, 30 098 in arm B, and 29 126 in arm C. 359 clusters remained in the trial until the end (116 in arm A, 120 in arm B, and 123 in arm C; with 23 334 children younger than 5 years in arm A, 26 110 in arm B, and 25 745 in arm C). The estimated OPV coverage was 75% in arm A compared with 82% in arm B (difference vs arm A 6·6%; 95% CI 4·8–8·3) and 84% in arm C (8·5%, 6·8–10·1; overall p<0·0001). The mean proportion of routine vaccine doses received by children younger than 24 months of age was 43% in arm A, 52% in arm B (9%, 7–11) and 54% in arm C (11%, 9–13; overall p<0·0001). No serious adverse events requiring hospitalisation were reported after immunisation.

Interpretation

Despite the challenges associated with the polio end-game in high-risk, conflict-affected areas of Pakistan, a strategy of community mobilisation and targeted community-based health and immunisation camps during polio immunisation campaigns was successful in increasing vaccine coverage, including polio vaccine coverage.

Funding

Bill & Melinda Gates Foundation.

Lancet Infectious Diseases
May 2017 Volume 17 Number 5 p461-562 e128-e165
http://www.thelancet.com/journals/laninf/issue/current
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Lancet Public Health
May 2017 Volume 2 Number 5 e202-e246
http://thelancet.com/journals/lanpub/issue/current
[Reviewed earlier]

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May 2017 Volume 5 Number 5 p361-456 e16-e19
http://www.thelancet.com/journals/lanres/issue/current
[Reviewed earlier]

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Volume 21, Issue 5, May 2017
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Volume 37, Issue 4, May 2017

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A Multidisciplinary Journal of Population Health and Health Policy
March 2017 Volume 95, Issue 1 Pages 1–209
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[Reviewed earlier]

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Volume 545 Number 7654 pp265-380 18 May 2017
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May 2017, Volume 23 No 5 pp527-643
http://www.nature.com/nm/journal/v23/n5/index.html
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Nature Reviews Immunology
May 2017 Vol 17 No 5
http://www.nature.com/nri/journal/v17/n4/index.html
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New England Journal of Medicine
May 18, 2017 Vol. 376 No. 20
http://www.nejm.org/toc/nejm/medical-journal
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May 2017, VOLUME 139 / ISSUE 5
http://pediatrics.aappublications.org/content/139/5?current-issue=y
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Volume 9, Issue 2 (June 2017)
http://www.mdpi.com/1999-4923/9/2
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PharmacoEconomics

Volume 35, Issue 5, May 2017
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http://currents.plos.org/outbreaks/
[Accessed 20 May 2017]
[No new digest content identified]

PLoS Medicine
http://www.plosmedicine.org/
(Accessed 20 May 2017)
Research Article
Ebola exposure, illness experience, and Ebola antibody prevalence in international responders to the West African Ebola epidemic 2014–2016: A cross-sectional study
Catherine F. Houlihan, Catherine R. McGowan, Steve Dicks, Marc Baguelin, David A. J. Moore, David Mabey, Chrissy h. Roberts, Alex Kumar, Dhan Samuel, Richard Tedder, Judith R. Glynn
| published 16 May 2017 PLOS Medicine

PLoS Neglected Tropical Diseases
http://www.plosntds.org/
(Accessed 20 May 2017)
Viewpoints
NTD policy priorities: Science, values, and agenda setting
Ana S. Ilt s, Kirstin R. W. Matthews
| published 18 May 2017 PLOS Neglected Tropical Diseases
https://doi.org/10.1371/journal.pntd.0005431
…*Conclusion*
Eliminating NTD epidemics by 2030 requires setting an agenda to meet specific and actionable NTD targets over time. If we focus on all diseases and methods simultaneously, only marginal impact can be attained. Selecting priorities will facilitate more significant achievements. NTD policy aimed at specific targets requires decisions about the balance between funding research, development, treatments, and preventative measures; which diseases to focus on, in what order, how much attention to pay to each; what constraints the agenda must respect; and who will have a voice in agenda setting. Scientists ought to acknowledge the need to set priorities to achieve goals; the importance of collaborating with public health experts, policy makers and communities to make substantial progress toward eliminating NTDs; and the inherently value-laden nature of priority setting. Only through explicitly setting priorities will effective and sustainable policies be achieved over time.

PLoS One
http://www.plosone.org/
[Accessed 20 May 2017]
Research Article
Modelling the transmission and control strategies of varicella among school children in Shenzhen, China
Xiujuan Tang, Shi Zhao, Alice P. Y. Chiu, Hanwu Ma, Xu Xie, Shujiang Mei, Dongfeng Kong, Yanmin Qin, Zhigao Chen, Xin Wang, Daihai He
Research Article | published 18 May 2017 PLOS ONE
https://doi.org/10.1371/journal.pone.0177514

Research Article
Effect of early measles vaccine on pneumococcal colonization: A randomized trial from Guinea-Bissau
Nadja Skadkær Hansen, Stine Byberg, Lars Hervig Jacobsen, Morten Bjerregaard-Andersen, Aksel Karl Georg Jensen, Cesario Martins, Peter Aaby, Jørgen Skov Jensen, Christine Stabell Benn, Hilton Whittle
Research Article | published 17 May 2017 PLOS ONE
https://doi.org/10.1371/journal.pone.0177547

PLoS Pathogens
http://journals.plos.org/plospathogens/
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[No new digest content identified]

PNAS - Proceedings of the National Academy of Sciences of the United States of America
http://www.pnas.org/content/early/
[Accessed 20 May 2017]
Biological Sciences - Ecology:
Essential information: Uncertainty and optimal control of Ebola outbreaks
Shou-Li Li, Ottar N. Bjørnstad, Matthew J. Ferrari, Riley Mummah, Michael C. Runge, hristopher J. Fonnesbeck, Michael J. Tildesley, illiam J. M. Probert, and Katriona Shea
PNAS 2017 ; published ahead of print May 15, 2017, doi:10.1073/pnas.1617482114
Significance
The 2014 Ebola outbreak illustrates the complexities of decision making in the face of explosive epidemics; management interventions must be enacted, despite imperfect or missing information. The wide range in projected caseload generated attention as a source of uncertainty, but debate did not address whether uncertainty affected choice of action. By reevaluating 37 published models, we show that most models concur that reducing funeral transmission and reducing community transmission are robust and effective management actions to minimize projected caseload. Although models disagreed about absolute caseload, this measure has little relevance for evaluating candidate interventions. Our study highlights the

importance of projecting the impact of interventions and is applicable to management of other epidemic outbreaks where rapid decision making is critical.

Abstract

Early resolution of uncertainty during an epidemic outbreak can lead to rapid and efficient decision making, provided that the uncertainty affects prioritization of actions. The wide range in caseload projections for the 2014 Ebola outbreak caused great concern and debate about the utility of models. By coding and running 37 published Ebola models with five candidate interventions, we found that, despite this large variation in caseload projection, the ranking of management options was relatively consistent. Reducing funeral transmission and reducing community transmission were generally ranked as the two best options. Value of information (VoI) analyses show that caseloads could be reduced by 11% by resolving all model-specific uncertainties, with information about model structure accounting for 82% of this reduction and uncertainty about caseload only accounting for 12%. Our study shows that the uncertainty that is of most interest epidemiologically may not be the same as the uncertainty that is most relevant for management. If the goal is to improve management outcomes, then the focus of study should be to identify and resolve those uncertainties that most hinder the choice of an optimal intervention. Our study further shows that simplifying multiple alternative models into a smaller number of relevant groups (here, with shared structure) could streamline the decision-making process and may allow for a better integration of epidemiological modeling and decision making for policy.

Social Sciences - Economic Sciences - Biological Sciences - Population Biology:

Impact of International Monetary Fund programs on child health

Adel Daoud, Elias Nosrati, Bernhard Reinsberg, Alexander E. Kentikelenis, Thomas H. Stubbs, and Lawrence P. King

PNAS 2017 ; published ahead of print May 15, 2017, doi:10.1073/pnas.1617353114

Significance

This study adds to the state of the art by analyzing the impact of International Monetary Fund (IMF) programs on children's health, mediated by their parents' education. It is the first to combine macrodata and microdata to address this issue systematically across five dimensions of child health: water, malnutrition, shelter, sanitation, and health care access. The sample represents about 2.8 billion (about 50%) of the world's population in year 2000. Using multilevel models, we find that, although IMF programs do not correlate directly with child health indicators, they reduce the protective effect of parental education on child health, especially in rural areas, and have a mixed impact across the five dimensions of urban child health.

Abstract

Parental education is located at the center of global efforts to improve child health. In a developing-country context, the International Monetary Fund (IMF) plays a crucial role in determining how governments allocate scarce resources to education and public health interventions. Under reforms mandated by IMF structural adjustment programs, it may become harder for parents to reap the benefits of their education due to wage contraction, welfare retrenchment, and generalized social insecurity. This study assesses how the protective effect of education changes under IMF programs, and thus how parents' ability to guard their children's health is affected by structural adjustment. We combine cross-sectional stratified data (countries, 67; children, 1,941,734) from the Demographic and Health Surveys and the Multiple Indicator Cluster Surveys. The sample represents ∼2.8 billion (about 50%) of the world's population in year 2000. Based on multilevel models, our findings reveal that programs reduce

the protective effect of parental education on child health, especially in rural areas. For instance, in the absence of IMF programs, living in an household with educated parents reduces the odds of child malnourishment by 38% [odds ratio (OR), 0.62; 95% CI, 0.66–0.58]; in the presence of programs, this drops to 21% (OR, 0.79; 95% CI, 0.86–0.74). In other words, the presence of IMF conditionality decreases the protective effect of parents' education on child malnourishment by no less than 17%. We observe similar adverse effects in sanitation, shelter, and health care access (including immunization), but a beneficial effect in countering water deprivation.

Prehospital & Disaster Medicine
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https://www.cambridge.org/core/journals/prehospital-and-disaster-medicine/latest-issue
[Reviewed earlier]

Preventive Medicine
Volume 98, Pages 1-44 (May 2017)
http://www.sciencedirect.com/science/journal/00917435/98
Special Issue: Emerging Paradigms in Cervical Cancer Screening
Edited by Mark Schiffman
[Reviewed earlier]

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17 May 2017; volume 284, issue 1854
http://rspb.royalsocietypublishing.org/content/284/1854?current-issue=y
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Public Health Ethics
Volume 10, Issue 1 April 2017
http://phe.oxfordjournals.org/content/current
[Reviewed earlier]

Public Health Reports
Volume 132, Issue 3, May/June 2017
http://phr.sagepub.com/content/current
[Reviewed earlier]

Qualitative Health Research
Volume 27, Issue 6, May 2017
http://qhr.sagepub.com/content/current
Special Issue: Phenomenology/Qualitative Evaluation
[Reviewed earlier]

Reproductive Health
http://www.reproductive-health-journal.com/content
[Accessed 20 May 2017]
[No new digest content identified]

Revista Panamericana de Salud Pública/Pan American Journal of Public Health (RPSP/PAJPH)
http://www.paho.org/journal/index.php?option=com_content&view=featured&Itemid=101
This issue is focused on health reform In Ecuador and its implications.
Editorial
Health systems reform in the quest for universal health [La reforma de los sistemas de salud en la búsqueda de la cobertura universal]
Carissa F. Etienne
Published 15 May

Editorial
La reforma en salud del Ecuador [Health reform in Ecuador]
Verónica Espinosa, Cecilia Acuña , Daniel de la Torre, Gina Tambini
Published 15 May |

Risk Analysis
April 2017 Volume 37, Issue 4 Pages 599–844
http://onlinelibrary.wiley.com/doi/10.1111/risa.2017.37.issue-4/issuetoc
[New issue: No digest content identified]

Risk Management and Healthcare Policy
Volume 10, 2017
https://www.dovepress.com/risk-management-and-healthcare-policy-archive56
[No new digest content identified]

Science
19 May 2017 Vol 356, Issue 6339
http://www.sciencemag.org/current.dtl
[New issue: No digest content identified]

Science Translational Medicine
17 May 2017 Vol 9, Issue 390
http://stm.sciencemag.org/
[New issue; No new digest content identified]

Social Science & Medicine

Volume 180, Pages 1-196 (May 2017)
http://www.sciencedirect.com/science/journal/02779536/180
Review article

Tolerance of uncertainty: Conceptual analysis, integrative model, and implications for healthcare

Review Article
Pages 62-75
Marij A. Hillen, Caitlin M. Gutheil, Tania D. Strout, Ellen M.A. Smets, Paul K.J. Han
Abstract
Rationale
Uncertainty tolerance (UT) is an important, well-studied phenomenon in health care and many other important domains of life, yet its conceptualization and measurement by researchers in various disciplines have varied substantially and its essential nature remains unclear.
Objective
The objectives of this study were to: 1) analyze the meaning and logical coherence of UT as conceptualized by developers of UT measures, and 2) develop an integrative conceptual model to guide future empirical research regarding the nature, causes, and effects of UT.
Methods
A narrative review and conceptual analysis of 18 existing measures of Uncertainty and Ambiguity Tolerance was conducted, focusing on how measure developers in various fields have defined both the "uncertainty" and "tolerance" components of UT—both explicitly through their writings and implicitly through the items constituting their measures.
Results
Both explicit and implicit conceptual definitions of uncertainty and tolerance vary substantially and are often poorly and inconsistently specified. A logically coherent, unified understanding or theoretical model of UT is lacking. To address these gaps, we propose a new integrative definition and multidimensional conceptual model that construes UT as the set of negative and positive psychological responses—cognitive, emotional, and behavioral—provoked by the conscious awareness of ignorance about particular aspects of the world. This model synthesizes insights from various disciplines and provides an organizing framework for future research. We discuss how this model can facilitate further empirical and theoretical research to better measure and understand the nature, determinants, and outcomes of UT in health care and other domains of life.
Conclusion
Uncertainty tolerance is an important and complex phenomenon requiring more precise and consistent definition. An integrative definition and conceptual model, intended as a tentative and flexible point of departure for future research, adds needed breadth, specificity, and precision to efforts to conceptualize and measure UT.

Regular articles

The effects of women's education on maternal health: Evidence from Peru

Original Research Article
Pages 1-9
Abigail Weitzman
Abstract
This article examines the causal effect of women's education on maternal health in Peru, a country where maternal mortality has declined by more than 70% in the last two and a half decades. To isolate the effects of education, the author employs an instrumented regression

discontinuity that takes advantage of an exogenous source of variation—an amendment to compulsory schooling laws in 1993. The results indicate that extending women's years of schooling reduced the probability of several maternal health complications at last pregnancy/birth, sometimes by as much as 29%. Underlying these effects, increasing women's education is found to decrease the probability of short birth intervals and unwanted pregnancies (which may result in unsafe abortions) and to increase antenatal healthcare use, potentially owing to changes in women's cognitive skills, economic resources, and autonomy. These findings underscore the influential role of education in reducing maternal morbidity and highlight the contributions of women's education to population health and health transitions.

Regular articles

Reduced burden of childhood diarrheal diseases through increased access to water and sanitation in India: A modeling analysis

Original Research Article
Pages 181-192
Arindam Nandi, Itamar Megiddo, Ashvin Ashok, Amit Verma, Ramanan Laxminarayan

Abstract
Each year, more than 300,000 children in India under the age of five years die from diarrheal diseases. Clean piped water and improved sanitation are known to be effective in reducing the mortality and morbidity burden of diarrhea but are not yet available to close to half of the Indian population. In this paper, we estimate the health benefits (reduced cases of diarrheal incidence and deaths averted) and economic benefits (measured by out-of-pocket treatment expenditure averted and value of insurance gained) of scaling up the coverage of piped water and improved sanitation among Indian households to a near-universal 95% level. We use IndiaSim, a previously validated, agent-based microsimulation platform to model disease progression and individual demographic and healthcare-seeking behavior in India, and use an iterative, stochastic procedure to simulate health and economic outcomes over time. We find that scaling up access to piped water and improved sanitation could avert 43,352 (95% uncertainty range [UR] 42,201–44,504) diarrheal episodes and 68 (95% UR 62–74) diarrheal deaths per 100,000 under-5 children per year, compared with the baseline. We estimate a saving of (in 2013 US$) $357,788 (95% $345,509–$370,067) in out-of-pocket diarrhea treatment expenditure, and $1646 (95% UR $1603–$1689) in incremental value of insurance per 100,000 under-5 children per year over baseline. The health and financial benefits are highly progressive, i.e. they reach poorer households more. Thus, scaling up access to piped water and improved sanitation can lead to large and equitable reductions in the burden of childhood diarrheal diseases in India.

Travel Medicine and Infectious Diseases
March-April, 2017 - Volume 16
http://www.travelmedicinejournal.com/
[Reviewed earlier]

Tropical Medicine & International Health
May 2017 Volume 22, Issue 5 Pages 513–654
http://onlinelibrary.wiley.com/doi/10.1111/tmi.2017.22.issue-5/issuetoc
[Reviewed earlier]

Vaccine
Volume 35, Issue 24, Pages 3153-3280 (31 May 2017)
http://www.sciencedirect.com/science/journal/0264410X/35/24
Reviews
Cost-effectiveness analysis of vaccinations and decision makings on vaccination programmes in Hong Kong: A systematic review
Review Article
Pages 3153-3161
Carlos K.H. Wong, Qiuyan Liao, Vivian Y.W. Guo, Yiqiao Xin, Cindy L.K. Lam
Abstract
Objectives
To describe and systematically review the modelling and reporting of cost-effectiveness analysis of vaccination in Hong Kong, and to identify areas for quality enhancement in future cost-effectiveness analyses.
Methods
We conducted a comprehensive and systematic review of cost-effectiveness studies related to vaccination and government immunisation programmes in Hong Kong published from 1990 to 2015, through database search of Pubmed, Web of Science, Embase, and OVID Medline. Methodological quality of selected studies was assessed using Consolidated Health Economic Evaluation Reporting Standards checklist (CHEERS). Decision making of vaccination was obtained from Scientific Committee on Vaccine Preventable Diseases (SCVPD) and Department of Health in Hong Kong.
Results
Nine eligible studies reporting twelve comparative cost-effectiveness comparisons of vaccination programme for influenza (n = 2), pneumococcal disease (n = 3), influenza plus pneumococcal disease (n = 1), chickenpox (n = 2), Haemophilus influenzae b (n = 1), hepatitis A (n = 1), cervical cancer (n = 1) and rotavirus (n = 1) were identified. Ten comparisons (83.3%) calculated the incremental cost-effectiveness ratio (ICER) of a vaccination strategy versus status quo as outcomes in terms of cost in USD per life-years, cost per quality-adjusted life-years, or cost per disability-adjusted life-years. Among those 10 comparisons in base-case scenario, 4 evaluated interventions were cost-saving relative to status quo while the ICER estimates in 3 of the 6 remaining comparisons were far below commonly accepted threshold and WHO willingness-to-pay threshold, suggestive of very cost-effective. Seven studies were of good quality based on the CHEERS checklist; one was of moderate quality; and one was of excellent quality. The common methodological problems were characterisation of heterogeneity and reporting of study parameters.
Conclusions
There was a paucity of cost-effectiveness models evaluating vaccination targeted to the Hong Kong population. All evaluated vaccinations and immunisation interventions in Hong Kong, except for Haemophilus influenzae b, hepatitis A and HPV vaccinations, were considered either cost-saving or very cost-effective when compared to status quo.

No association between influenza vaccination during pregnancy and adverse birth outcomes
Original Research Article
Pages 3186-3190

Ousseny Zerbo, Sharareh Modaressi, Berwick Chan, Kristin Goddard, Ned Lewis, Karin Bok, Bruce Fireman, Nicola P. Klein, Roger Baxter

Abstract

Background

Pregnant women are recommended to receive inactivated influenza vaccination anytime during pregnancy. Studies have investigated the impact of influenza vaccination during pregnancy on birth outcomes and results on preterm birth have been inconsistent.

Methods

We conducted a retrospective cohort study among children born at a gestational age ≥ 24 weeks from January 1, 2010 to December 31, 2015 at Kaiser Permanente Northern California facilities (KPNC). We evaluated the association between maternal influenza vaccination during pregnancy and risk of preterm birth, small and large for gestational age, admission to the neonatal intensive care unit (NICU), respiratory distress syndrome, low birth weight, and low Apgar score. We ascertained the dates of maternal influenza vaccination, conception, and delivery, as well as birth outcomes from KPNC inpatient and outpatient databases. Conditional multivariate Cox regression and logistic regression analyses were used to determine the association between maternal vaccination during pregnancy and risk of each birth outcome.

Results

The study included 145,869 children. Maternal influenza vaccination during pregnancy was not associated with risk of small or large for gestational age births, preterm birth, need for mechanical ventilation at birth, respiratory distress syndrome, admission to the NICU, low birth weight, or low Apgar score. However, when we did not control for immortal time bias, the risk of preterm birth (odds ratio [OR] = 0.69, 95% confidence interval [CI] 0.66–0.72) was lower among infants of vaccinated mothers.

Conclusion

We found no association between maternal influenza vaccination during pregnancy and adverse birth outcomes. When investigating preterm birth outcome in association with vaccination during pregnancy, immortal time bias should be taken into account in the analysis.

Needle adapters for intradermal administration of fractional dose of inactivated poliovirus vaccine: Evaluation of immunogenicity and programmatic feasibility in Pakistan

Original Research Article

Pages 3209-3214

Ali Faisal Saleem, Ondrej Mach, Mohammad T. Yousafzai, Asia Khan, William C. Weldon, M. Steven Oberste, Roland W. Sutter, Anita K.M. Zaidi

Abstract

Administration of 1/5th dose of Inactivated poliovirus vaccine intradermally (fIPV) provides similar immune response as full-dose intramuscular IPV, however, fIPV administration with BCG needle and syringe (BCG NS) is technically difficult. We compared immune response after one fIPV dose administered with BCG NS to administration with intradermal devices, referred to as Device A and B; and assessed feasibility of conducting a door-to-door vaccination campaign with fIPV. In Phase I, 452 children 6–12 months old from Karachi were randomized to receive one fIPV dose either with BCG NS, Device A or Device B in a health facility. Immune response was defined as seroconversion or fourfold rise in polio neutralizing antibody titer 28 days after fIPV among children whose baseline titer ≤362. In Phase II, fIPV was administered during one-day door-to-door campaign to assess programmatic feasibility by evaluating vaccinators'

experience. For all three poliovirus (PV) serotypes, the immune response after BCG NS and Device A was similar, however it was lower with Device B (34/44 (77%), 31/45 (69%), 16/30 (53%) respectively for PV1; 53/78 (68%), 61/83 (74%), 42/80 (53%) for PV2; and; 58/76 (76%), 56/80 (70%), 43/77 (56%) for PV3; $p < 0.05$ for all three serotypes). Vaccinators reported problems filling Device B in both Phases; no other operational challenges were reported during Phase II. Use of fIPV offers a dose-saving alternative to full-dose IPV.

Targeted outreach hepatitis B vaccination program in high-risk adults: The fundamental challenge of the last mile

Original Research Article

Pages 3215-3221

M.-J.J. Mangen, H. Stibbe, A. Urbanus, E.C. Siedenburg, Q. Waldhober, G.A. de Wit, J.E. van Steenbergen, on behalf of the National Working Group of hepatitis B behavioural risk-groups vaccination program

Abstract

Background

The aim of this study was to evaluate the cost-effectiveness of the on-going decentralised targeted hepatitis B vaccination program for behavioural high-risk groups operated by regional public health services in the Netherlands since 1-November-2002. Target groups for free vaccination are men having sex with men (MSM), commercial sex workers (CSW) and hard drug users (HDU). Heterosexuals with a high partner change rate (HRP) were included until 1-November-2007.

Methods

Based on participant, vaccination and serology data collected up to 31-December-2012, the number of participants and program costs were estimated. Observed anti-HBc prevalence was used to estimate the probability of susceptible individuals per risk-group to become infected with hepatitis B virus (HBV) in their remaining life. We distinguished two time-periods: 2002–2006 and 2007–2012, representing different recruitment strategies and target groups. Correcting for observed vaccination compliance, the number of future HBV-infections avoided was estimated per risk-group. By combining these numbers with estimates of life-years lost, quality-of-life losses and healthcare costs of HBV-infections - as obtained from a Markov model-, the benefit of the program was estimated for each risk-group separately.

Results

The overall incremental cost-effectiveness ratio of the program was €30,400/QALY gained, with effects and costs discounted at 1.5% and 4%, respectively. The program was more cost-effective in the first period (€24,200/QALY) than in the second period (€42,400/QALY). In particular, the cost-effectiveness for MSM decreased from €20,700/QALY to €47,700/QALY.

Discussion and conclusion

This decentralised targeted HBV-vaccination program is a cost-effective intervention in certain unvaccinated high-risk adults. Saturation within the risk-groups, participation of individuals with less risky behaviour, and increased recruitment investments in the second period made the program less cost-effective over time. The project should therefore discus how to reduce costs per risk-group, increase effects or when to integrate the vaccination in regular healthcare.

Vaccine: Development and Therapy

https://www.dovepress.com/vaccine-development-and-therapy-archive111

(Accessed 20 May 2017)

[No new content]

Vaccines — Open Access Journal
http://www.mdpi.com/journal/vaccines
(Accessed 20 May 2017)
[No new digest content identified]

Value in Health
May 2017 Volume 20, Issue 5
http://www.valueinhealthjournal.com/current
[No new digest content identified]

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

Pediatric Drugs
First Online: 16 May 2017
Review Article
Immunization During Pregnancy: Impact on the Infant
KP Perrett, TM Nolan -
Abstract
Maternal immunization has undergone a paradigm shift in recent years, as women and healthcare providers accept and recognize the benefits of this strategy not only for the pregnant woman but also for the developing fetus and young infant. This article reviews the evidence for active immunization during pregnancy, with an emphasis on perinatal and infant outcomes. Current recommendations for immunization during pregnancy are presented, with particular focus on the routinely recommended vaccines during pregnancy: influenza and Tdap (tetanus, diphtheria, and pertussis). We discuss future research directions, maternal vaccines in development, and considerations for optimizing and advancing this underutilized strategy.

Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences
Volume 64, August 2017, Pages 11–21
Biotechnology and the transformation of vaccine innovation: The case of the hepatitis B vaccines 1968–2000
F Huzair, S Sturdy
Highlights
:: The recombinant hepatitis B vaccines rehabilitated vaccines as commercially interesting pharmaceutical products.
:: The recombinant hepatitis B vaccines helped substantially to establish the commercial viability of the biotech sector.

:: The commercial success of the recombinant hepatitis B vaccines was largely unanticipated.
:: The recombinant hepatitis vaccines helped establish a two-tier global vaccine innovation system.

Abstract
The approval, from 1986, of a series of recombinant hepatitis B vaccines was a landmark both in the growth of biotechnology and in the development of the vaccine innovation system. In this paper, we show how the early development of the hepatitis B vaccines was shaped by a political and economic context that newly favoured commercialisation of academic research, including the appropriation and management of intellectual property; we elucidate the contingent interests and motivations that led new biotechnology companies and established pharmaceutical businesses to invest in developing recombinant vaccines specifically against hepatitis B; and we show how these and other factors combined to make those vaccines an unexpected commercial success. Broadening the scope of our analysis to include not just North America and Europe but also low- and middle-income countries, we show how the development of the hepatitis B vaccines facilitated the emergence of a two-tier innovation system structured by tensions between the demands for commercial profitability on the one hand, and the expectation of public health benefit for low- and middle-income countries on the other.

American Journal of Epidemiology
2017 May 6. doi: 10.1093/aje/kwx048. [Epub ahead of print]

Imputing direct and indirect vaccine effectiveness of childhood pneumococcal conjugate vaccine against invasive disease by surveying temporal changes in nasopharyngeal pneumococcal colonization

SA Nzenze, SA Madhi, T Shiri, KP Klugman…

Abstract
The limited capabilities in most low-middle income countries to study the bebfit of pneumococcal conjugate vaccine (PCV) against invasive pneumococcal disease (IPD), calls for alternate strategies to assess this. We used a mathematical model, to predict the direct and indirect effectiveness of PCV by analyzing serotype specific colonization prevalence and IPD incidence prior to and following childhood PCV immunization in South Africa. We analyzed IPD incidence from 2005-2012 and colonization studies undertaken in HIV-uninfected and HIV-infected child-mother dyads from 2007-2009 (pre-PCV era), in 2010 (7-valent PCV era) and 2012 (13-valent PCV era). We compared the model-predicted to observed changes in IPD incidence, stratified by HIV-status in children >3 months to 5 years and also in women aged >18-45 years. We observed reductions in vaccine-serotype colonization and IPD due to vaccine serotypes among children and women after PCV introduction. Using the changes in vaccine-serotype colonization data, the model-predicted changes in vaccine-serotype IPD incidence rates were similar to the observed changes in PCV-unvaccinated children and adults, but not among children <24 months. Surveillance of colonization prior and following PCV use can be used to impute PCVs' indirect associations in unvaccinated age groups, including in high HIV-prevalence settings.

* * * *

Media/Policy Watch

This watch section is intended to alert readers to substantive news, analysis and opinion from the general media and selected think tanks and similar organizations 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.

The Atlantic
http://www.theatlantic.com/magazine/
Accessed 20 May 2017
[No new, unique, relevant content]

BBC
http://www.bbc.co.uk/
Accessed 20 May 2017
Italy makes 12 vaccinations compulsory for children
19 May 2017
[See Milestones above for more detail]

The Economist
http://www.economist.com/
Accessed 20 May 2017
[No new, unique, relevant content]

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

Forbes
http://www.forbes.com/
Accessed 20 May 2017
The Anti-Vaccine And Anti-GMO Movements Are Inextricably Linked And Cause Preventable Suffering
18 May 2017

Millions Of U.S. Travelers Might Be At Risk For Importing Measles Because They Skipped The Vaccine

May 16, 2017 Rita Rubin, Contributor

In a study of people who visited travel health clinics before departing the United States, more than half of thoe who should have been vaccinated against measles didn't get immunized, leaing them vulnerable to becoming infected overseas and bringing the disease back home.

Foreign Affairs
http://www.foreignaffairs.com/
Accessed 20 May 2017
[No new, unique, relevant content]

Foreign Policy
http://foreignpolicy.com/
Accessed 20 May 2017
[No new, unique, relevant content]

The Guardian
http://www.guardiannews.com/
Accessed 20 May 2017
Vaccination in adults – a change in attitude could help prevent serious disease
Kim Thomas Thursday 18 May 2017 1
Many of us take a lot of care over our diet and make sure we take regular exercise – yet we neglect to get ourselves vaccinated. Experts say this needs to change …

New Yorker
http://www.newyorker.com/
Accessed 20 May 2017
[No new, unique, relevant content]

New York Times
http://www.nytimes.com/
Accessed 20 May 2017
The Opinion Pages | Op-Ed Contributor
Seth Berkley: The Looming Threat of Yellow Fever
14 May 2017
Three years ago, the West African Ebola epidemic set off a worldwide panic and the biggest global-health security crisis in years. Then Zika struck and the reality of those transmittable disease threats was brought even closer to home in the United States, with more than 5,000 cases reported and America still on high alert. Yet today, an even greater potential threat to the world is sweeping across Brazil.

The disease, yellow fever, is a deadly virus that spreads as rapidly as Zika, with symptoms that can be as horrific as Ebola. It is transmitted by certain species of mosquito, including the same Aedes aegypti that carries Zika. Up to 15 percent of those bitten become severely ill, with symptoms that include black vomit and bleeding from the nose, mouth and eyes. For up to half of those who develop severe symptoms, yellow fever ends in a painful death.

Until about a century ago, the disease regularly caused urban epidemics in the United States, including one in Philadelphia that killed 10 percent of the population in 1793, forcing President George Washington and others in his administration to flee what was then the nation’s capital.

Now, with Brazil facing an unusually large outbreak of yellow fever — there are 715 confirmed cases, more than 820 suspected cases and 240 confirmed deaths — another global health crisis looms. So far, the outbreaks have largely been confined to sparsely populated jungle areas. There is serious concern, however, that if the virus starts spreading in a major city, health authorities will be ill equipped to contain it. Rio de Janeiro, for one, is aggressively vaccinating its citizens in hopes of inoculating 12 million by the end of the year.

Yellow fever already kills upward of 30,000 people a year worldwide, though in 2013 as many as 60,000 might have died from the disease. With the threat of yellow fever returning to regions where it was once expunged, that number could rise significantly. What is particularly worrying is the possibility of yellow fever taking hold in previously unaffected parts of the world like Asia. The combination of Aedes aegypti being prevalent there and about 1.8 billion unvaccinated people living in densely populated parts of that continent makes for a potential disaster.

While there is no cure for yellow fever, a licensed vaccine has long been available that is safe, affordable and highly effective, providing lifetime protection with just one dose.

Last year, Angola's capital, Luanda, endured the world's largest outbreak of yellow fever in three decades. A surge in demand resulted in vaccine shortages, particularly when the disease spread to the neighboring Democratic Republic of Congo and farther afield to Kenya. With a large Chinese work force in Angola, many whom were unvaccinated, 11 cases reached China. Miraculously those were contained without further spread.

The shortages made the situation so desperate that the World Health Organization and Unicef had to resort to fractional dosing in Kinshasa, capital of the Democratic Republic of Congo, administrating one-fifth of a normal dose. We got lucky: The Brazilian manufacturer made available up to 2.5 million doses of the vaccine, and the outbreak was curbed.

Now, the situation has reversed. Having already distributed 15 million vaccine doses since the outbreak began in December, Brazil has been forced to request 3.5 million doses from the International Coordinating Group on Vaccine Provision, which oversees emergency stocks financed by Gavi, the Vaccine Alliance, the nonprofit group I manage. With a global emergency stockpile of six million doses and about 12 million people living in and around Rio, it is easy to see why public health experts are worried. If Rio and one other major city experience an outbreak, it is doubtful whether stocks could be replenished fast enough to keep up with demand.

The proportion of people living in urban areas, where diseases can spread far more rapidly than in rural areas with scattered populations, is forecast to rise from one-third of the planet's population in 1950 to two-thirds by 2050. Clearly, we need to revise our risk assessments for infectious diseases to reflect this trend. But just how large should vaccine stockpiles be? And for how many cities should we prepare?

And while these emergency stockpiles are essential, if we have to call upon them we have in some way already failed. They should be our last line of defense. Instead, if we want to avoid a return of the kind of urban epidemic that killed 5,000 people in Philadelphia two centuries ago, we need to prevent outbreaks from occurring in the first place. That means improving mosquito

control and simultaneously increasing immunity against yellow fever through routine immunization and pre-emptive vaccination campaigns.

With winter arriving next month in South America, the outbreak will most likely be brought to heel. But as mosquito season approaches in the north, control measures will be essential if we want to avoid yellow fever following Zika's path, making its way north through Latin America to southern states in the United States like Florida.

And if, or when, it arrives, awareness will also be critical to prevent its spread, especially because very few doctors in the United States have ever seen a case and hardly anyone is vaccinated. As things stand, shortages are already affecting the availability of yellow fever travel vaccines in the United States.

History has shown that preventive approaches can be highly effective at controlling yellow fever, but if they are to work we first need to recognize there is a problem. To quote a long-ago Philadelphian, Benjamin Franklin, "an ounce of prevention is worth a pound of cure."

Wall Street Journal
http://online.wsj.com/home-page?_wsjregion=na,us&_homepage=/home/us
Accessed 20 May 2017
[No new, unique, relevant content]

Washington Post
http://www.washingtonpost.com/
Accessed 20 May 2017
Health & Science
Doctors worry as Texas lawmakers OK vaccine restrictions
By Paul J. Weber | AP May 19
AUSTIN, Texas — Texas moved closer Friday to restricting emergency immunizations given to children removed from troubled homes, worrying doctors and handing a political victory for vaccination opponents in a state where the number of families forgoing shots is soaring. Vaccination critics are trying to build a foothold in Texas, and the state's Republican-controlled House has now signed off on prohibiting doctors from administering any immediate immunizations— other than for tetanus — for children newly taken into state custody. Doctors argue there are real implications…

Think Tanks et al

Brookings
http://www.brookings.edu/
Accessed 20 May 2017
[No new relevant content]

Center for Global Development
http://www.cgdev.org/page/press-center
Accessed 20 May 2017
[No new relevant content]

Council on Foreign Relations
http://www.cfr.org/
Accessed 20 May 2017
[No new relevant content]

CSIS
https://www.csis.org/
Accessed 20 May 2017
[No new relevant content]

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CVEP is a program of the GE2P2 Global Foundation – whose purpose and mission is to advance ethical and scientific rigor in research and evidence generation for governance, policy and practice in health, human rights action, humanitarian response, heritage stewardship, education and sustainable development – serving governments, international agencies, INGOs, civil society organizations (CSOs), commercial entities, consortia and alliances. CVEP maintains an academic affiliation with the Division of Medical Ethics, NYU School of Medicine, and an operating affiliation with the Vaccine Education Center of Children's Hospital of Philadelphia [CHOP].

Support for this service is provided by the Bill & Melinda Gates Foundation; Aeras; IAVI; PATH; the International Vaccine Institute (IVI); and industry resource members Janssen/J&J, Pfizer, PRA Health Sciences, Sanofi Pasteur U.S.,Takeda, Valera (list in formation), and the Developing Countries Vaccine Manufacturers Network (DCVMN).

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

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