Vaccines and Global Health: The Week in Review
17 December 2016
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 http://centerforvaccineethicsandpolicy.wordpress.com/. This blog allows full-text searching of over 8,000 entries.*

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***Request an email version:** Vaccines and Global Health: The Week in Review is published as a single email summary, scheduled for release each Saturday evening before midnight (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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Editor's Note:
Vaccines and Global Health: The Week in Review will resume publication on 7 January 2017 following the end-of-year holiday period.

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Milestones :: Perspectives

CEPI Joint Coordination Group – First Meeting Report

Coalition for Epidemic Preparedness Innovations (CEPI**)**

The first meeting of the CEPI Joint Coordination Group was held in Geneva November 18, 2016 where members of the JCG and invited observers participated. The attending organizations contributed with expertise and experiences in furtherance of fulfilling the CEPI mission by discussing alignment of activities, and making recommendations for how CEPI can best coordinate vaccine development for EID along the 'end-to-end' spectrum.

:: Agenda
:: Summary of proceedings

High Level Summary

Purpose

Inform about the first JCG meeting, which intended to; clarify and discuss roles and responsibilities of the JCG, update stakeholders on CEPIs work and progress, get feedback on how CEPI should proceed and what considerations to take when working in the end-to-end spectrum.

Key considerations

:: More clarity on the regulatory pathway is sought, as fast approval during outbreak is crucial. CEPI should support and facilitate a regulatory harmonization, but not take on a normative or direct coordinating role. Others should fulfil the latter.
:: Funding and shared risks/rewards: Need guarantee for industry that no loss will incur by engaging. Some point at the necessity for allowing a small profit margin, in particular to ensure sustainability for smaller biotech companies, even if it might impede accessibility. Others disagree. Value-based pricing is discussed.
:: To securing a diverse preclinical pipeline, CEPI should focus on what others are not. Focus on platform technologies and lead head-to head comparisons. Benchmarking is important in several aspects, and standardization and reference labs should therefore be considered.
:: CEPI will play an important role in aligning investments and actors for clinical development and trials. Pull mechanisms, the use of prices and milestone payments should also be considered.
:: In preparedness phase, CEPI could create clinical trial centers of excellence and a network of investigator sites to build capacity and preparedness in LMIC. Consider doing efficacy trials outside of outbreaks.
:: Strong national level and community engagement necessary in countries when outbreaks occur. Ethical standards to be upheld.
:: Secure stockpiles for emergency use and containment of outbreak: aligning interest with procurement agencies will be important. Transparency is necessary for more accurate forecasting of stockpile needs. Consider mechanisms for reserved manufacturing capabilities.
:: Strong appetite for setting up working groups. No objections to reconstituting the JCG into a smaller and more technical group, possibly also extending with additional meetings.

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African Union [to 17 December 2016]
http://www.au.int/en/
November 30, 2016 *Press Releases*
Dr. John Nkengasong named first director of Africa CDC

Addis Ababa, Ethiopia - The Governing Board of the Africa Centers for Diseases Control and Prevention (Africa CDC) is pleased to announce that Dr. John Nkengasong, PhD, MSc, a seasoned virologist, has been named as the first Director of the Africa CDC effective January 1, 2017.

Dr. Nkengasong brings a wealth of public and global health experience to his new role. He currently serves as the Acting Deputy Principal Director for the Center for Global Health (CGH) at the United States Centers for Disease Control and Prevention (CDC) in Atlanta, GA. He joined CDC more than 20 years ago and has directed the laboratory programs for the Division of Global HIV and TB, and the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) to support diverse programs in partner's countries in several countries in Africa, South East Asia, Central America, and the Caribbean.

"The Africa CDC offers a monumental opportunity to strengthen public health capacity on the continent to respond to the threats we face. The institution will provide strategic direction and promote public health practices within Member States through capacity building, promotion of continuous quality improvement in the delivery of public health services as well in the prevention of public health emergencies and threats", said Professor Isaac Adewole, Minister of Health of the Federal Republic of Nigeria, who serves as the vice chair of the Governing Board…

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Emergencies

WHO Grade 3 Emergencies [to 17 December 2016]
Iraq
:: WHO welcomes US$ 5 million from Kuwait to provide life-saving health services to people in Mosul, Iraq

Baghdad, 12 December 2016— WHO welcomes the generous support of the State of Kuwait through a US$ 5 million donation to help people in the city of Mosul obtain greater medical assistance, particularly the most vulnerable — women, children, the injured and people with special needs.

The Syrian Arab Republic -
:: As thousands flee Aleppo, WHO and partners deliver health care

14 December 2016 – Tens of thousands of people have been displaced from eastern Aleppo as a result of the conflict.

WHO, as the health sector lead agency, together with UN agencies and national partners, is present in Aleppo providing health assistance to internally displaced people and to those living in newly accessible areas. The Organization coordinates the response with the Syrian Arab Red Crescent, mobile medical teams, UN agencies, national NGOs, and various health service providers in the area.
:: Aleppo health workers witness the worst day of their lives 12 December 2016

Nigeria -
:: Full impact of devastated health services in north-eastern Nigeria revealed by WHO report
14 December 2016 -- According to a report released today by WHO, one third of the remaining health facilities in Borno State, Nigeria, are no longer functioning. WHO has been working with the Borno State Ministry of Health to set up a Health Resources Availability Monitoring System (known as HeRAMS) to collect information on the availability of health resources and services in this humanitarian crisis.

South Sudan - *No new announcements identified.*
Yemen - *No new announcements identified.*

WHO Grade 2 Emergencies [to 17 December 2016]

Ethiopia -
:: Ethiopia needs major health support to stop devastation from El Niño
4 December 2015—With Ethiopia in the grip of its worst drought in 30 years due to El Niño, the World Health Organization (WHO) deployed an emergency response team to support the Ethiopian Ministry of Health and partners in coordinating the health sector response across the country.

Cameroon - *No new announcements identified.*
Central African Republic - *No new announcements identified.*
Democratic Republic of the Congo - *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 -
:: Germany supports WHO to provide lifesaving and essential health services in Ukraine
Kyiv, 9 December —Kseniya, 44, from the non-government controlled area of Luhansk, has diabetes. "I need to monitor blood glucose levels all the time, follow a diet and receive daily insulin injections. I should take medications, but do not have money to afford them," she said. "My salary barely covers food and utility payments." Now Kseniya can get insulin from the local clinics for free thanks to the recent humanitarian supplies. However, a few months ago it was not possible due to a lack of medications and screening tests in the non-government controlled areas in eastern Ukraine. For next few months she rests assured that lifesaving medicines are available.

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: Mosul Humanitarian Response Situation Report #11 (5 December - 11 December 2016) [EN/KU/AR]
:: Iraq: Humanitarian Bulletin, November 2016 | Issued on 10 December

Syria
:: WHO calls for urgent resumption of medical evacuations from besieged east Aleppo 16 Dec 2016
:: Syria Crisis Bi-Weekly Situation Report No. 19 (as of 12 December 2016)
]
Yemen
:: Yemen Humanitarian Bulletin Issue 18 (14 December 2016) 14 Dec 2016
[Excerpt]
Humanitarian actors help tackle a cholera outbreak

As of 29 November, the outbreak of cholera declared in early October, recorded 122 confirmed cases in 12 governorates, 10 confirmed deaths, and 72 suspected deaths. Additionally, more than 7,700 suspected cases were reported across 15 at-risk governorates. Women and children made up the majority of both suspected cases and deaths. The World Health Organisation (WHO) and the Ministry of Public Health and Population (MoPHP) estimate that 7.6 million people are at risk.

Containment and treatment activities are being undertaken by humanitarian partners in support of the Ministry of Health throughout Yemen. Some 24 Cholera Treatment Centres now help manage cholera cases, in 15 priority governorates across Yemen. Rapid response teams have also been deployed to ensure timely and effective epidemiological investigation and response. Water and sanitation interventions are helping contain the spread of the disease by chlorinating water and helping to manage waste. Funding for the cholera response includes a $ 4 million allocation from the Central Emergency Relief Fund (CERF) and Yemen Humanitarian Pooled Fund (YHPF) and some $3 million secured through reprogramming of resources by humanitarian partners.

The scale up of household water chlorination interventions to contain the outbreak in high-risk areas is on going; however, the lack of sufficient funding is limiting the reach of this intervention. Custom clearance delays for laboratory testing reagents into Yemen are also limiting the classification of cases. This is compounded by the limited laboratory facilities in Yemen and a collapsing health system, in which 55 per cent of health facilities are either not functioning or barely functioning.

Agreements have been reached with parties to the conflict to fast-track cholera response clearance requests. Consequently, deconfliction requests with the Saudi Arabian-led Coalition, which are required to ensure the safety of aid movements, are now being processed within 12 hours or less (instead of the regular 48 hours); similarly, the Ministry of Interior, in the national capital Sana'a, has been prioritizing the clearance of movement requests for supplies and staff related to the cholera response.

Corporate Emergencies
Haiti
Haiti: Hurricane Matthew - Situation Report No.28 (10 December)
Main Points
:: Active screening of children under five in most affected areas of Grand'Anse and Sud point to alarming levels of malnutrition and the need for immediate response.
:: Close to 98% of the 806,000 severely food insecure people in need of assistance have received food distributions. In addition, some 120,000 people have also received food as part of WFP's second round of distributions.
:: Concern over continued food insecurity into 2017 is growing as farming remains undermined by lack of seeds and debris clearance.

:: Cash programming reached 32,807 households in November, transferring just over $2 million in food security, shelter, early recovery and safe water programmes.
[No mention of status of cholera outbreak or OCV campaign]

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UNICEF [to 17 December 2016]
http://www.unicef.org/media/media_89711.html
11 December 2016
Across the Middle East and North Africa, conflict threatens decades of progress for children
AMMAN, 11 December 2016 – Nearly one in five children across the Middle East and North Africa is in need of immediate humanitarian assistance, according to UNICEF.

Over the past 70 years, countries across the region have made major strides in protecting children's rights and wellbeing. But, today, as UNICEF marks its 70th anniversary, violent conflict, poverty and displacement have created dire conditions for children, pushing almost 29 million boys and girls to the brink, and reversing decades of steady progress.

"Looking back on 70 years of UNICEF's work for children is a source of great pride. Every country in the region has ratified the Convention on the Rights of the Child, less children die before the age of five, and school enrolment rates have improved," said Geert Cappelaere, UNICEF Regional Director for the Middle East and North Africa. "But conflict risks reversing these gains for 157 million children across the region, making our mandate to protect them more crucial than ever."

After years of conflict across the Middle East and North Africa children have increasingly come under attack and suffer the brunt of war in half of the countries in the region.
:: An estimated 8.4 million Syrian children are in need of immediate assistance for shelter, food and water, compared to 500,000 in 2012. Nearly half a million children are living in besieged areas in Syria and have received little to no aid in almost two years.
:: Almost 10 million children in Yemen are affected by conflict and living in critical conditions, with nearly 400,000 at risk of severe acute malnutrition.
:: Extreme brutality against children is rife in Iraq. According to reports, nearly 400 child rights violations were recorded since January 2016. The ongoing military operation in Mosul has displaced nearly 74,000 people, almost half of them children.
:: In Sudan, Libya and the State of Palestine, conflict has pushed millions of children out of their homes and schools and denied them access to basic services.
:: The Middle East and North Africa is home to half the world's refugees and internally displaced people, but accounts for only five per cent of global population.

"These grim figures on our 70th anniversary should be an urgent wake up call to the world to work harder so that each and every child across the Middle East and North Africa can survive, thrive and be reach their full potential," said Cappelaere. "This is not a lost generation. History will judge us: we must invest more in the region's children today.

UNICEF is responding to the immediate and long-term needs of vulnerable children across the region through clean water and sanitation, basic health services, learning opportunities and

psycho-social support.
:: In Syria and neighbouring refugee-host countries, UNICEF has helped vaccinate over 21 million children against polio in 2016.
:: This year, over 82,000 children in Sudan have received psycho-social support through child-friendly spaces and home visits by social workers.
:: Since January, 4 million children in Yemen have received nutritional services with support from UNICEF, including micronutrient supplements, nutrition screening and treatment for severe acute malnutrition.
:: Through the "No Lost Generation" initiative, UNICEF has helped provide formal and informal learning opportunities for Syrian refugees in Egypt, Iraq, Jordan and Lebanon.

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Zika virus [to 17 December 2016]
http://www.who.int/emergencies/zika-virus/en/

Zika situation report – 15 December 2016
Full report: http://apps.who.int/iris/bitstream/10665/252533/1/zikasitrep15Dec2016-eng.pdf?ua=1
Key Updates
:: Countries and territories reporting mosquito-borne Zika virus infections for the first time in the past week:
… None
:: Countries and territories reporting microcephaly and other central nervous system (CNS) malformations potentially associated with Zika virus infection for the first time in the past week:
… Nicaragua
:: Countries and territories reporting Guillain-Barré syndrome (GBS) cases associated with Zika virus infection for the first time in the past week:
… None
:: A traveler returned from Angola to France and presented with clinical signs and symptoms and serologic signs compatible with Zika virus infection. However, previous yellow fever vaccination and sero-positivity for other flaviviruses preclude the conclusive diagnosis of Zika virus infection because of the possibility of cross-reaction. Further investigations to determine if there is ongoing Zika virus transmission in Angola are ongoing.
Analysis
:: Overall, the global risk assessment has not changed. Zika virus continues to spread geographically to areas where competent vectors are present. Although a decline in cases of Zika infection has been reported in some countries, or in some parts of countries, vigilance needs to remain high.

Zika Open [to 17 December 2016]
[Bulletin of the World Health Organization]
:: All papers available here
No new papers identified.

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POLIO [to 17 December 2016]
Public Health Emergency of International Concern (PHEIC)

Polio this week as of 14 December 2016
:: Summary of newly-reported viruses this week: three new wild poliovirus type 1 (WPV1) positive environmental samples from Pakistan. See 'Pakistan' section for more.

:: GCC Chairman Tony Adams retires: Dr Anthony Adams, Chair of the Global Commission for the Certification of Poliomyelitis Eradication (GCC), is stepping down from his post. Dr Adams, former Chief Medical Adviser for the Australian Commonwealth Department of Human Services and Health, has been an active GCC member since the Commission was established in 1995, and appointed its Chair in 2005 by the WHO Director-General. For many years he led the Australian delegation to both the World Health Assembly and the Regional Committee of the Western Pacific. Under his expert guidance and leadership, the regional and global criteria for polio eradication certification were established; three Regions were certified as polio-free (Europe, the Western Pacific and South-East Asia) and the global eradication of wild poliovirus type 2 (WPV2) was certified in 2015. The partners of the Global Polio Eradication Initiative (GPEI) would like to express its most heart-felt appreciation for Dr Adams' invaluable contribution and guidance to polio eradication, and wish him all the best for his future endeavours. Professor David Salisbury CB, a long-standing member of the GCC, previous chair of the Strategic Advisory Group of Experts on immunization (SAGE) and Associate Fellow for the Centre of Global Health Security at Chatham House in the UK, will replace Dr Adams as the new GCC Chair.

:: Call for nominations for Containment Advisory Group (CAG) – the CAG is being established to make recommendations on technical issues related to the implementation of GAPIII. WHO is looking for expertise in the following areas: Virology, laboratory science, biorisk management, biosecurity, Containment engineering and vaccine production. The application deadline is 9 January 2017.

Country Updates *[Selected Excerpts]*
Pakistan
:: Three new WPV1 positive environmental samples were reported in the past week, from Rawalpindi, Punjab (date of collection: 8 November); Killa Abdullah, Balochistan (date of collection: 15 November); and Quetta, Balochistan (date of collection: 20 November).

:: Strong progress continues to be achieved in Pakistan on implementation of the National Emergency Action Plan for polio eradication. It is encouraging that no wild poliovirus cases have occurred in the polio reservoir areas of the country since February 2016, though detection of positive environmental samples in greater Quetta and Peshawar suggests ongoing WPV circulation in these areas. The majority of the polio cases during the last six months were reported from non-reservoir areas, i.e. from 'tier 2, 3 and 4' districts (districts which are considered to be more vulnerable to polio re-infection or spread).

:: Meticulous preparations are underway through the national and provincial Emergency Operations Centres (EOCs) for high quality implementation of the last nationwide vaccination

round of 2016 and the January and February 2017 immunization campaigns, seen as critical to the country's polio eradication effort.

:: To ensure high quality, preparations are focusing on allocating adequate resources to the highest-risk areas; tailoring operational plans to identified reasons for area-specific missed children; validating vaccination teams' microplans, vaccinator selection/training and supervision; and enhancing local-level engagement with communities and community leaders.

:: The National EOC in coordination with Afghanistan's National programme has enhanced its direct oversight to improve cross-border coordination among the regional polio eradication teams of south Khyber Pakhtunkhwa / Federally Administered Tribal Areas (FATA) and south-eastern Afghanistan, with special focus on vaccinating mobile populations. Cross-border coordination efforts continue in the eastern (Greater Peshawar – eastern Afghanistan) and southern (Quetta Block – southern Afghanistan) WPV transmission corridors focusing on both immunization and surveillance activities…

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EBOLA/EVD [to 17 December 2016]
http://www.who.int/ebola/en/
"Threat to international peace and security" (UN Security Council)

Editor's Note:
We note that the Ebola tab - which had been listed along with Zika, Yellow Fever, MERS CoV and other emergencies - has been removed from the WHO "home page". We deduce that WHO has suspended issuance of new Situation Reports after resuming them for several weekly cycles. The most recent report posted is EBOLA VIRUS DISEASE – Situation Report - 10 JUNE 2016. We have not encountered any UN Security Council action changing its 2014 designation of Ebola as a "threat to international peace and security." We will continue to highlight key articles and other developments around Ebola in this space.

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Yellow Fever [to 17 December 2016]
http://www.who.int/emergencies/yellow-fever/en/

Editor's Note:
The last situation report was published 28 October 2016 here: Yellow fever situation report *We will maintain this section to monitor for additional updates and other announcement.*

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MERS-CoV [to 17 December 2016]
http://www.who.int/emergencies/mers-cov/en/

No new announcements identified.

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WHO & Regional Offices [to 17 December 2016]

Dr Halfdan T. Mahler, WHO's third Director-General, dies at 93

15 December 2016 – WHO is saddened by the death of Dr Halfdan T. Mahler on 14 December 2016. Dr Mahler served as Director-General of WHO from 1973-1988. As WHO's third Director-General, Dr Mahler will be remembered as a champion for primary care. He played a key leadership role shaping the Alma Ata Declaration that defined the Health for All by the Year 2000 strategy.
Statement

One third of health facilities are destroyed in Borno State, Nigeria

14 December 2016 – According to a report released today by WHO, of those facilities remaining, one third are not functioning at all. WHO has been working with the Borno State Ministry of Health to set up a Health Resources Availability Monitoring System (known as HeRAMS) to collect information on the availability of health resources and services in this humanitarian crisis.
News release

Highlights

UN General Assembly high-level meeting on tuberculosis to take place in 2018

WHO welcomes the United Nations General Assembly (UNGA) Resolution, calling for the UNGA to hold the first-ever high-level meeting on the fight against tuberculosis in 2018. WHO has been asked to work with the UN Secretary-General, in consultation with Member States, to conceptualize and plan the 2018 high-level meeting.

Consultation on action to address adolescent health opens

December 2016 – WHO in collaboration with other UN agencies and in consultation with youth, Member States and major partners, has drafted global implementation guidance for Accelerated Action for the Health of Adolescents (AA-HA! guidance). Input is now requested from governments, civil society, the private sector, academia, youth groups and citizens until 15 January 2017.

First WHO toolkit to strengthen Europe's health response to migration

December 2016 – Over one million refugees and migrants arrived in Europe by sea in 2015. 2016 has become the deadliest year ever for these travellers, with over 4700 people found dead or missing at sea so far. The WHO Regional Office for Europe has developed a toolkit – the first of its kind – to help countries analyse and improve their health capacity and first response to large-scale migration.

WHO issues new selected practice recommendations for contraceptive use

The new recommendations for contraceptive use published today is one of WHO's evidence-based guidance documents to support and strengthen national contraceptive/family planning programmes.

Weekly Epidemiological Record, 16 December 2016, vol. 91, 51/52 (pp. 601–624)
:: Index of countries/areas
:: Index, Volume 91, 2016, Nos. 1–52
:: Review of global influenza activity, October 2015–October 2016
:: Malaria control improves for vulnerable in Africa, but global progress off-track

:: WHO Regional Offices
Selected Press Releases, Announcements
WHO African Region AFRO
:: Immunization in Africa: Progress made – but it's time to up the game
Dakar, 14 December 2016 - Immunization experts have called for concrete actions to stem the tide of vaccine preventable diseases in the WHO African Region. The call came from the African Regional Immunization Technical Advisory Group (RITAG) which concluded its 2-day meeting on 14 December 2016 in Dakar, Senegal, to discuss the state of immunization in the region. The RITAG serves as the principal advisory group to the WHO Regional Director for Africa, Dr. Matshidiso Moeti, on regional immunization policies and programmes.
:: The African Region to initiate action towards the attainment of the Health SDGs by strengthening health systems - 12 December 2016

WHO Region of the Americas PAHO
No new announcements identified.

WHO South-East Asia Region SEARO
No new announcements identified.

WHO European Region EURO
:: International Migrants Day: working to achieve good health for all refugees and migrants in the European Region 16-12-2016
:: Dr Halfdan T. Mahler, WHO's third Director-General, dies at 93 15-12-2016
:: First WHO toolkit to strengthen Europe's health response to migration 15-12-2016
:: Day 2: new European platform for partnerships across sectors, United Nations agencies and civil society 13-12-2016

WHO Eastern Mediterranean Region EMRO
:: WHO steps up response in Aleppo and demands that health personnel be protected
13 December 2016 – Conditions in Aleppo continue to deteriorate as thousands of people flee violence. WHO alongside UN and other partners, is working to provide care in the midst of conflict and to assist internally displaced people (IDPs). The Organization strongly urges all parties to the conflict in Syria to abide by international humanitarian law and protect civilians trapped in the conflict. In particular, WHO demands that all patients and health workers, facilities and vehicles be protected from violence during times of conflict
:: WHO welcomes US$ 5 million from Kuwait to provide life-saving health services to people in Mosul, Iraq 12 December 2016
:: Aleppo health workers witness the worst day of their lives 12 December 2016

WHO Western Pacific Region
:: Rehabilitation: Key to creating enabling environments
13 DECEMBER 2016 - The World Health Organization (WHO) estimates that around 15% of the global population experience disability. This equates to around 270 million people in the Western Pacific Region. Many of these people encounter participation restrictions that significantly impact their ability to access health care and rehabilitation.

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CDC/ACIP [to 17 December 2016]
http://www.cdc.gov/media/index.html
https://www.cdc.gov/vaccines/acip/
Press Release
THURSDAY, DECEMBER 15, 2016
CDC Releases Preliminary Estimates of Birth Defects Following Zika Virus Infection in Pregnancy
In a new report published in the Journal of the American Medical Association, CDC scientists used preliminary data from the US Zika Pregnancy Registry (USZPR) to estimate that 6 percent...

Media Statement
WEDNESDAY, DECEMBER 14, 2016
CDC Issues Zika Virus Guidance for Brownsville, Texas
CDC has issued Zika-related travel and testing guidance for Brownsville, Cameron County, Texas, following reports from Texas public health officials of five cases spread locally by mosquitoes. This information suggests...

MMWR Weekly December 16, 2016 / No. 49
:: Assessing Change in Avian Influenza A(H7N9) Virus Infections During the Fourth Epidemic — China, September 2015–August 2016
:: Monitoring of Persons with Risk for Exposure to Ebola Virus — United States, November 3, 2014–December 27, 2015
:: Use of a 2-Dose Schedule for Human Papillomavirus Vaccination — Updated Recommendations of the Advisory Committee on Immunization Practices
:: Preliminary Report of Microcephaly Potentially Associated with Zika Virus Infection During Pregnancy — Colombia, January–November 2016

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Announcements

Global Fund [to 17 December 2016]
http://www.theglobalfund.org/en/news/?topic=&type=NEWS;&country=
15 December 2016
Global Fund Notifies Countries on 2017-2019 Allocations

GENEVA - The Global Fund to Fight AIDS, Tuberculosis and Malaria is notifying eligible countries how much funding is available for each country to access during the three-year period that begins in January 2017.

The Global Fund has adopted a refined allocation methodology to increase the impact of programs to prevent, treat and care for people affected by HIV, TB and malaria, and to build resilient and sustainable systems for health.

The allocation methodology drives more funding to higher burden, lower income countries to maximize impact. It specifically accounts for HIV epidemics among key populations, the threat of MDR-TB, and for malaria elimination efforts. It also provides sustainable and paced reductions where funding is decreasing.

Country programs receiving increases from their 2014-2016 funding levels have allocations 15 percent higher on average than current and projected levels of spending. More funding is directed towards country programs with severe and extreme burdens of HIV, TB and malaria, towards sub-Saharan Africa, towards countries with high HIV infection rates in women and girls, countries with a high burden of multi-drug-resistant tuberculosis and to the top 15 high burden malaria countries.

The total amount of funds currently available for the 2017-2019 allocation period is US$11.1 billion. That includes US$10.3 billion for country allocations and US$800 million for catalytic investments. Total available funding could increase over the coming years, as additional contributions are made to the Global Fund.

To learn more about the 2017-2019 Allocations go to our Allocations page .

12 December 2016
Partners Launch Equitable Access Initiative Report
[See Milestones/Perspectives section above for more detail]

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IVI [to 17 December 2016]
http://www.ivi.int/
December 13, 2016
IVI and WHO Host Global Consultation on Group A Streptococcal Vaccine Development
:: International meeting convenes leading scientists and experts to accelerate development of vaccines against group A Streptococcus (GAS)
:: GAS is a potentially deadly bacterial pathogen, causing rheumatic heart disease and invasive infection in developing countries

Seoul, Korea – The International Vaccine Institute (IVI) and the World Health Organization (WHO) are co-hosting the Global Stakeholder Consultation on Group A Streptococcal (GAS) Vaccine Development at the Sheraton Seoul Palace Gangnam Hotel from December 12-13.

The one-and-a-half-day meeting convenes international scientific experts, vaccine developers and funders to review evidence on GAS burden of disease and the need for a vaccine, and to discuss the feasibility and pathway for developing GAS vaccines. The meeting is in line with WHO's goal to accelerate the development and licensure of high-quality, safe and effective GAS vaccines for low-and middle-income countries…

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PATH [to 17 December 2016]
http://www.path.org/news/index.php
Announcement | December 14, 2016
PATH president and CEO gives keynote address at State Department event on global health security
Steve Davis calls for all sectors to prioritize efforts to better identify and stop outbreaks.
Full remarks from Steve Davis' keynote address

Announcement | December 14, 2016
PATH announces new leader for South Africa program
PATH has named Dr. Craig Friderichs its new country director for South Africa. Dr. Friderichs is based at PATH's Johannesburg office.
"Dr. Friderichs has a terrific background that spans health, technology, and business," said Kathy Cahill, PATH's vice president for International Development. "This includes extensive experience using mobile technologies to meet critical health needs in South Africa and around the world. I'm thrilled to welcome Dr. Friderichs to PATH."
In his new role, Dr. Friderichs is accountable for the quality and effectiveness of PATH's South Africa program, overseeing project planning, budget monitoring, donor reporting, and human resource management. He serves as PATH's primary point of contact for partners and other stakeholders in South Africa…

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FDA [to 17 December 2016]
http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/default.htm
What's New for Biologics
Influenza Virus Vaccine for the 2016-2017 Season
:: Statistical Review and Evaluation - FluLaval and FluLaval Quadrivalent (PDF - 150KB)
Posted: 12/15/2016
:: Statistical Review Assay - FluLaval and FluLaval Quadrivalent (PDF - 71KB)
Posted: 12/15/2016
:: Clinical Review - FluLaval and FluLaval Quadrivalent (PDF - 523KB)
Posted: 12/15/2016

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European Vaccine Initiative [to 17 December 2016]
http://www.euvaccine.eu/news-events
15 December 2016
EVI - ZIKAVAX project Press Release
EVI has expanded its portfolio in a new disease of poverty through the recently initiated ZIKAVAX project

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Coalition for Epidemic Preparedness Innovations (CEPI) [to 17 December 2016]
http://cepi.net/
12 December 2016

CEPI Newsletter 12 December 2016

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AERAS [to 17 December 2016]
http://www.aeras.org/pressreleases
No new digest content identified.

BMGF - Gates Foundation [to 17 December 2016]
http://www.gatesfoundation.org/Media-Center/Press-Releases
No new digest content identified.

EDCTP [to 17 December 2016]
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.

European Medicines Agency [to 17 December 2016]
http://www.ema.europa.eu/
No new digest content identified.

Fondation Merieux [to 17 December 2016]
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.

Gavi [to 17 December 2016]
http://www.gavi.org/library/news/press-releases/
No new digest content identified.

GHIT Fund [to 17 December 2016]
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 17 December 2016]
http://www.hillemanlabs.org/
No new digest content identified

Human Vaccines Project [to 17 December 2016]
http://www.humanvaccinesproject.org/media/press-releases/

No new digest content identified

IAVI – International AIDS Vaccine Initiative [to 17 December 2016]
https://www.iavi.org/
No new digest content identified

IFPMA [to 17 December 2016]
http://www.ifpma.org/resources/news-releases/
No new digest content identified

NIH [to 17 December 2016]
http://www.nih.gov/news-events/news-releases
December 1, 2016
No new digest content identified.

The Vaccine Confidence Project [to 17 December 2016]
http://www.vaccineconfidence.org/
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

Measuring the return from pharmaceutical innovation 2016 - Balancing the R&D Equation
Deloitte Center for Health Solutions
December 2016 :: 44 pages
PDF of report: https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/life-sciences-health-care/deloitte-uk-measuring-the-return-pharma-report-2016.pdf

The pharmaceutical industry continues to face regulatory and reimbursement hurdles weighing on the research and development returns of pharmaceutical firms this year.

The seventh annual pharmaceutical innovation study by the Deloitte UK Centre for Health Solutions looks at the challenges the industry faces in generating returns from its R&D investments while highlighting the key strategies to help increase pipeline value while reduce R&D costs to generate sustainable R&D returns.

Key findings
After reviewing the estimated returns of 12 leading biopharma companies and comparing their performance with four mid- to large-cap companies, the study finds:
:: Annual projected pharma R&D returns continue to decline to 3.7 percent

:: Peak sales per asset fall 11.4 percent year-on-year since 2010
:: Costs to bring a product to market stabilise, from $1,576 Million in 2015 to $1,539 Million in 2016
:: Smaller pharma companies have seen a decline in overall performance, but on average they continue to outperform their larger counterparts, generating returns up to three times higher

Main factors influencing R&D returns
:: Maintaining a consistent focus on a specific therapy area (disease): can deliver stronger returns. When a company focuses its attention on a particular therapy area in order to treat a disease or illness, this is linked to higher peak sales.
:: End of the blockbuster: This has led to a situation with blockbuster costs without balancing blockbuster revenues, an equation which does not add up for long-term stakeholder value.
:: Smaller companies remain more effective: There is a negative correlation between the size of the company and both predicted returns, and cost per product. Lessons can be learned from smaller companies—as they are able to achieve higher R&D productivity.
:: Increase of M&A: Since 2013 there has been a steady decrease in the proportion of projected late-stage pipeline revenue derived from externally sourced products. This is a trend which has accelerated in 2016 as more of the products acquired as part of large-scale M&A in the late 2000s' leave the late-stage pipelines. The decrease in returns highlights how companies are struggling to replace pipeline value through self-originated products.

Balancing the R&D equation
The following key lessons can be applied to help increase commercial success and reduce the cost to launch.
Increasing commercial success
:: Aim for therapy area focus
:: Target populations where value can be maximised
:: Adhere to robust target product profile
:: Generate evidence to support all stakeholder needs
:: Align end-to-end decision making across the organisation

Increasing R&D productivity
:: Think small, win big decision making
:: Strike the right balance of staff and resource
:: Lift the burden of data complexity

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The Equitable Access Initiative Report - 2016

The Equitable Access Initiative Report represents a collaborative effort by nine convening organisations - Gavi, the Vaccine Alliance; The Global Fund; UNAIDS; UNICEF; UNDP; UNITAID; UNFPA; WHO; and the World Bank - together with a high-level Expert Panel and Technical Working Group1, chaired by Pascal Lamy Donald Kaberuka.
12 December 2016 :: 42 pages
PDF of full report: Equitable Access Initiative Report
:: Terms of Reference for the Equitable Access Initiative
:: Equitable Access Initiative Expert Panel and Technical Working Group Members

:: Meeting Report: 23 February 2015

Executive Summary

For two decades, the World Bank has classified countries as low-, middle- or high-income based on Gross National Income (GNI) per capita. As a standardised and simple proxy for factors such as wealth, the capacity of governments to provide services to their citizens, and national levels of development, GNI has been an influential yardstick to determine the eligibility of lower income countries for concessional external financing from multilateral and bilateral partners.

For decades, the classification was straightforward. A majority of newly independent countries receiving external financial development support were low-income countries — the countries that had the greatest needs were also the poorest. But in recent years the rapid increase in economic growth and inequality around the world, coupled with the rebasing of GNI by some countries, and fresh domestic economic pressures among many funding bodies and donor agencies, is creating new complications. Countries that until recently were considered low-income risk losing external support as they grow into middle-income status, even though they are still home to most of the world's poorest citizens with unmet health needs.

Presently, 105 countries are considered middle-income, but many are characterized by high-levels of inequity and are home to more than 75 per cent of the world's poor. From a global health perspective, the largest share of disease burden is now concentrated in middle-income rather than low-income countries, a reality that GNI per capita alone cannot capture. As a result, there is an increasing concern over the potential mismatch between GNI per capita and the extent of a country's health needs suggesting that policies based on income classification alone overlook important dimensions of development, such as poverty and inequality.

The recently adopted Sustainable Development Goals (SDGs) and the final communiqué from the Financing for Development summit in 2015, call for achieving ambitious development and health goals with an explicit focus on equity. The SDGs embody a renewed commitment to equality, non-discrimination and "leaving no one behind" and this requires an explicit focus on the poorest and most vulnerable. One of the unique features of the SDGs is in their relevance for all countries regardless of economic standing. But there is also a renewed commitment to "shared responsibility" in investing toward a more equitable and egalitarian world, and achieving these goals through a human-rights based approach that is rooted in giving all people the opportunity to achieve their right to life and dignity. For external health financing this could mean a greater focus on the social determinants of health, reducing health disparities and the rights of vulnerable groups and key populations.

Given such rapid socio-economic and political change, and continued global health commitments, there is need for a debate that while GNI continues to be relevant, it may be inadequate as the principal basis for classifying countries and their eligibility for external financial support for development.

The Equitable Access Initiative (EAI) was launched in early 2015 by the heads of multilateral organizations engaged in global health: GAVI, the Global Fund, UNAIDS, UNDP, UNFPA, UNICEF, UNITAID, the World Bank and WHO. The purpose was to consider alternatives to GNI as a framework to assess countries' need for external financial support for health. Currently, the

convening organizations use GNI in different ways to determine key policies, including eligibility and co-financing policies.

A high level panel was established with co-chairs Pascal Lamy, former head of the World Trade Organisation, and Donald Kaberuka, former head of the African Development Bank. At the first EAI Expert Panel Meeting in February 2015, Panel members and the nine convening organisations were in agreement that the World Bank's GNI per capita country classification system, designed for World Bank lending decisions, was being used far more broadly in health-related decisions. The conveners of the Initiative commissioned four expert academic groups to develop options for a new health framework.

Based on the analyses of the four analytical teams and the co-convenors, as well as extensive consultations, this report explores a health framework that can account for health need, income levels, and health funding considerations, which could inform different stages of decision-making by the convening organizations' governing bodies or other bilateral and multilateral organizations involved in external financial support for health.

Key Findings

The analyses find that policymaking should not rely on a single variable to inform complex health financing polices on the eligibility for and the prioritisation of investments. It is proposed that policymakers consider a more comprehensive framework for decision making that accounts for countries' position on a health development continuum, based on the analysis of countries' needs, fiscal capacity and policies. 5

For instance, eligibility policies should not only consider the level of wealth in a society, as measured by GNI per capita, but account for health need relative to income as well as mitigate the effects of discrete thresholds that render a country ineligible for support once it passes a certain GNI per capita level. Further, in order to prioritize investments, a government's resources and policies to meet this health need should be taken into account. Finally, the analyses highlight the need to account for equity considerations, particularly within country inequity, suggesting that context-specific analyses are relevant when assessing the level and type of support to be provided.

Based on the analyses and findings of the EAI analytical work, a conceptual framework to guide policymaking in external financing for health is proposed that accounts for the following considerations:

Recommendations

:: To **inform complex external health financing decisions** such as eligibility and the prioritisation of investments with **a multi-criteria framework** that takes into account income levels and health needs, in addition to domestic capacity and policies, where relevant.

:: To **inform eligibility policies by health need relative to income**, and to design complimentary policies that allow for a planned gradual transition, in order to mitigate the risk of a country losing gains in health when external financing decreases rapidly in spite of significant health needs and/or limited fiscal space.2

:: To **consider domestic fiscal capacity characteristics when prioritising investments** and to develop policies that favour improved health outcomes and increased domestic finance.

2 While there was consensus among EAI members that where discrete thresholds are used that render a country ineligible for support once it passes a certain GNI per capita level, the risk of negative impacts on overall health financing should be mitigated by allowing for a gradual and planned transition; an additional recommendation to avoid discrete thresholds for low- and middle-income countries was not supported by the entire EAI.

Long-term actions

:: To **consider greater investments** in data collection systems towards developing a more nuanced, comprehensive framework that captures sub-national equity considerations, including the needs of key populations and vulnerable groups, through better quality and more reliable data that support the inclusion of relevant indicators.

Way Forward

A key issue that goes beyond what is explored in this report, would be to consider health impact and efficiency indicators in guiding operational and programme decision-making and to promote incentives that improve health outcomes and reduce health needs. This would be another critical element for a more comprehensive and strategic approach.

The Initiative in general and the report in particular is not focused on the implications of these findings and recommendations for specific eligibility, allocation, or co-financing policies, since this is beyond the purview of a multi-convener Initiative, nor on implications for high-income countries. The analysis, findings and recommendations may serve however as a starting point for discussions on these policies. It is recommended that as a first step, this report - and where relevant, the individual analytical groups' reports - be shared with the governance bodies of health and development organisations to inform policy and strategy deliberations.

Finally, while the analysis and recommendations are specific to health, the fundamental approach and characteristics could have relevance for other areas of development. The idea of accounting for need relative to income levels and fiscal space could be relevant to any lens that focuses on the socio-economic dimensions of development, including agriculture, education, health, nutrition, gender, and social inclusion. Further, the recommendation that thresholds and sharp cut-offs in assistance should be avoided could apply to any development area where there are high levels of need across the income spectrum and limited domestic capacity to address it.

It could therefore be of significant value to consider how a more refined and comprehensive framework that in addition to income levels, accounts for need, fiscal capacity and policies across key development sectors could be developed. While some countries may have relatively equal standing across areas of development, assessing each sector by similar factors could contribute to a more coherent analytical framework to help understand countries position along the development spectrum, and to provide better guidance for domestic and external finance towards achieving maximum impact.

Since many health organizations, multilateral and bilateral, have limited expertise or mandate in areas related to fiscal policies and domestic financing capacity characteristics, the analysis

highlights the importance and need for a wider collaborative approach among development partners to jointly develop the analytical tools to inform such policies. Similarly, investments in global public goods such as national data systems and data quality require greater coordination and alignment in order to avoid duplication and achieve efficiencies.

Again, these issues highlight the need for stronger partnership and collaboration across development organizations to maximally support countries as they move along the development continuum.

Press Release
Partners Launch Equitable Access Initiative Report
WHO, World Bank, Gavi, UNAIDS, UNICEF, UNDP, UNFPA, UNITAID and the Global Fund, with support from the Bill & Melinda Gates Foundation and the Wellcome Trust
12 December 2016
GENEVA - A group of leading organizations today launched the Equitable Access Initiative report, a new policy framework designed to better inform decision making on health and development. The new guidance takes into account countries' needs and capacities in a changing landscape affected by economic growth, rising inequality and shifts in burdens of disease… and development nexus has greatly changed and increased in complexity in the last decades," said Pascal Lamy, the former Director General of the World Trade Organization who co-chaired the initial meeting on the Equitable Access Initiative in February 2015.
"The Sustainable Development Goals call on all partners to adapt their thinking and their investments to the new landscape, and to come up with frameworks that better reflect countries' needs. Successfully addressing these changes will be critical to better succeed in fighting against infectious diseases," Lamy said.

For decades, international development and financing institutions have used Gross National Income (GNI) as the economic yardstick to assess eligibility, allocation and co-financing policies of countries for development assistance.

However, there is common agreement among partners that policies based on income overlook vital dimensions of health and social development, such as poverty, inequality and the needs of key and vulnerable populations, particularly as the largest share of disease burden is today concentrated in middle-income countries that are also home to most of the world's poor.

The report provides a big picture view of the changing health and development landscape, and offers a more comprehensive and nuanced framework than the traditional country classification by income. It identifies areas that will be critical to achieving better health outcomes, such as domestic financing and health needs of key and vulnerable populations.

The report concludes that policymaking should not rely on a single variable to inform complex health financing policies on the eligibility for and the prioritization of investments. GNI per capita as an indicator is not designed to measure or capture health needs or government's capacity to invest in health, it said. Health financing policies should be informed by a more comprehensive framework, based on the analysis of countries' needs, domestic capacity and policies…

* * * *

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
December 2016 Volume 44, Issue 12, p1445-1764, e283-e286
http://www.ajicjournal.org/current
[Reviewed earlier]

American Journal of Preventive Medicine
December 2016 Volume 51, Issue 6, p865-1090, e155-e186
http://www.ajpmonline.org/current
[Reviewed earlier]

American Journal of Public Health
Volume 106, Issue 12 (December 2016)
http://ajph.aphapublications.org/toc/ajph/current
[Reviewed earlier]

American Journal of Tropical Medicine and Hygiene
December 2016; 95 (6)
http://www.ajtmh.org/content/current
[Reviewed earlier]

Annals of Internal Medicine
6 December 2016 Vol: 165, Issue 11
http://annals.org/issue.aspx
[Reviewed earlier]

BMC Cost Effectiveness and Resource Allocation
http://resource-allocation.biomedcentral.com/
(Accessed 17 December 2016)
[No new relevant content]

BMC Health Services Research
http://www.biomedcentral.com/bmchealthservres/content
(Accessed 17 December 2016)
Research article
Quantitative evaluation of essential medicines lists: the South African case study
The South African (SA) health system has employed an Essential Medicines List (EML) with Standard Treatment Guidelines (STGs) since 1996. This is the first study in SA to investigate changes in National EMLs over time in relation to molecules, dosage forms and therapeutic classes. It is also the first to compare the latest SA STG/EMLs to the WHO Model lists. The results therefore provide insight into the trends and SA STG/EML processes over time.
Velisha Ann Perumal-Pillay and Fatima Suleman
BMC Health Services Research 2016 16:687
Published on: 12 December 2016

BMC Infectious Diseases
http://www.biomedcentral.com/bmcinfectdis/content
(Accessed 17 December 2016)
Research article
Estimation of Zika virus prevalence by appearance of microcephaly
There currently is a severe Zika Virus (ZIKV) epidemic in Brazil and other South American countries. By the first detection of a microcephaly case, a sizable fraction of the population will have been infected by ZIKV. It is thus clear that adequate surveillance, isolation, and quarantine are needed in susceptible import regions to stop the dissemination of a Zika epidemic.
C. M. Saad-Roy, P. van den Driessche and Junling Ma
BMC Infectious Diseases 2016 16:754
Published on: 12 December 2016

BMC Medical Ethics
http://www.biomedcentral.com/bmcmedethics/content
(Accessed 17 December 2016)
[No new content]

BMC Medicine
http://www.biomedcentral.com/bmcmed/content
(Accessed 17 December 2016)
Research article
Cumulative subgroup analysis to reduce waste in clinical research for individualised medicine
Fujian Song and Max O. Bachmann
BMC Medicine 2016 14:197
Published on: 15 December 2016
Abstract

Background
Although subgroup analyses in clinical trials may provide evidence for individualised medicine, their conduct and interpretation remain controversial.
Methods
Subgroup effect can be defined as the difference in treatment effect across patient subgroups. Cumulative subgroup analysis refers to a series of repeated pooling of subgroup effects after adding data from each of related trials chronologically, to investigate the accumulating evidence for subgroup effects. We illustrated the clinical relevance of cumulative subgroup analysis in two case studies using data from published individual patient data (IPD) meta-analyses. Computer simulations were also conducted to examine the statistical properties of cumulative subgroup analysis.
Results
In case study 1, an IPD meta-analysis of 10 randomised trials (RCTs) on beta blockers for heart failure reported significant interaction of treatment effects with baseline rhythm. Cumulative subgroup analysis could have detected the subgroup effect 15 years earlier, with five fewer trials and 71% less patients, than the IPD meta-analysis which first reported it. Case study 2 involved an IPD meta-analysis of 11 RCTs on treatments for pulmonary arterial hypertension that reported significant subgroup effect by aetiology. Cumulative subgroup analysis could have detected the subgroup effect 6 years earlier, with three fewer trials and 40% less patients than the IPD meta-analysis. Computer simulations have indicated that cumulative subgroup analysis increases the statistical power and is not associated with inflated false positives.
Conclusions
To reduce waste of research data, subgroup analyses in clinical trials should be more widely conducted and adequately reported so that cumulative subgroup analyses could be timely performed to inform clinical practice and further research.

Opinion
Achieving development goals for HIV, tuberculosis and malaria in sub-Saharan Africa through integrated antenatal care: barriers and challenges
The global health community is currently transitioning from the Millennium Development Goals (MDGs) to the Sustainable Development Goals (SDGs). Unfortunately, progress towards maternal, newborn and infant hea...
Freya J. I. Fowkes, Bridget L. Draper, Margaret Hellard and Mark Stoové
BMC Medicine 2016 14:202
Published on: 12 December 2016

BMC Pregnancy and Childbirth
http://www.biomedcentral.com/bmcpregnancychildbirth/content
(Accessed 17 December 2016)
[No new relevant content]

BMC Public Health
http://bmcpublichealth.biomedcentral.com/articles
(Accessed 17 December 2016)
[No new relevant content]

BMC Research Notes
http://www.biomedcentral.com/bmcresnotes/content
(Accessed 17 December 2016)
[No new relevant content]

BMJ Open
2016, Volume 6, Issue 12
http://bmjopen.bmj.com/content/current
[Reviewed earlier]

Bulletin of the World Health Organization
Volume 94, Number 12, December 2016, 861-936
http://www.who.int/bulletin/volumes/94/11/en/
[Reviewed earlier]

Child Care, Health and Development
November 2016 Volume 42, Issue 6 Pages 775–955
http://onlinelibrary.wiley.com/doi/10.1111/cch.v42.6/issuetoc
[Reviewed earlier]

Clinical Therapeutics
November 2016 Volume 38, Issue 11, p2325-2508
http://www.clinicaltherapeutics.com/issue/S0149-2918(16)X0011-2
[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 17 December 2016]
[No new content]

Contemporary Clinical Trials
Volume 51, Pages 1-98 (November 2016)
http://www.sciencedirect.com/science/journal/15517144/51
[Reviewed earlier]

Current Opinion in Infectious Diseases
December 2016 - Volume 29 - Issue 6 pp: v-v,539-662
http://journals.lww.com/co-infectiousdiseases/pages/currenttoc.aspx
[Reviewed earlier]

Developing World Bioethics
December 2016 Volume 16, Issue 3 Pages 121–180
http://onlinelibrary.wiley.com/doi/10.1111/dewb.2016.16.issue-2/issuetoc
Special Issue: Ethics of Health Systems Research in Low and Middle Income Countries
[Reviewed earlier]

Development in Practice
Volume 24, Number 8
http://www.developmentinpractice.org/journals/volume-24-number-8
[Reviewed earlier]

Disasters
January 2017 Volume 41, Issue 1 Pages 1–208
http://onlinelibrary.wiley.com/doi/10.1111/disa.2017.41.issue-1/issuetoc
[Reviewed earlier]

Emerging Infectious Diseases
Volume 22, Number 12—December 2016
http://wwwnc.cdc.gov/eid/
[Reviewed earlier]

Epidemics
Volume 17, In Progress (December 2016)
http://www.sciencedirect.com/science/journal/17554365
[Reviewed earlier]

Epidemiology and Infection
Volume 145 - Issue 1 - January 2017
http://journals.cambridge.org/action/displayIssue?jid=HYG&tab=currentissue
[Reviewed earlier]

The European Journal of Public Health
Volume 26, Issue 5, 1 October 2016
http://eurpub.oxfordjournals.org/content/26/5

[Reviewed earlier]

Global Health: Science and Practice (GHSP)
September 2016 | Volume 4 | Issue 3
http://www.ghspjournal.org/content/current
[Reviewed earlier]

Global Public Health
Volume 12, 2017 Issue 2
http://www.tandfonline.com/toc/rgph20/current
Article
Reproductive decisions in the lives of West Bank Palestinian women: Dimensions and contradictions
Pages: 135-155
Published online: 10 Mar 2016
Stephanie Pell

Article
Inequality and ethics in paediatric HIV remission research: From Mississippi to South Africa and back
Pages: 220-235
Johanna T. Crane & Theresa M. Rossouw

Book Review
Vaccine nation: America's changing relations with immunization
Pages: 266-267
Published online: 25 Jul 2016
Gaëtan Thomas

Globalization and Health
http://www.globalizationandhealth.com/
[Accessed 17 December 2016]
[No new content]

Health Affairs
November 2016; Volume 35, Issue 11
http://content.healthaffairs.org/content/current
Issue Focus: Culture Of Health
[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 1 - January 2017
https://www.cambridge.org/core/journals/health-economics-policy-and-law/latest-issue
[Reviewed earlier]

Health Policy and Planning
Volume 31 Issue 17 December 2016
http://heapol.oxfordjournals.org/content/current
[Reviewed earlier]

Health Research Policy and Systems
http://www.health-policy-systems.com/content
[Accessed 17 December 2016]
Commentary
Harmonisation and standardisation of health sector and programme reviews and evaluations – how can they better inform health policy dialogue?
Health sector and programme performance assessments provide a rich source of contextual data directly linked to implementation of programmes and can inform health policy dialogue, planning and resource allocat...
Juliet Nabyonga-Orem, Prosper Tumusiime, Jennifer Nyoni and Aku Kwamie
Health Research Policy and Systems 2016 14:87
Published on: 16 December 2016

Humanitarian Exchange Magazine
Number 67 September 2016
http://odihpn.org/magazine/humanitarian-innovation/
Refugees and vulnerable migrants in Europe
[Reviewed earlier]

Human Vaccines & Immunotherapeutics (formerly Human Vaccines)
Volume 12, Issue 11, 2016
http://www.tandfonline.com/toc/khvi20/current
[Reviewed earlier]

Infectious Agents and Cancer
http://www.infectagentscancer.com/content
[Accessed 17 December 2016]
[No new content]

Infectious Diseases of Poverty
http://www.idpjournal.com/content
[Accessed 17 December 2016]
[No new relevant content]

International Health
Volume 8 Issue 6 November 2016
http://inthealth.oxfordjournals.org/content/current
[Reviewed earlier]

International Journal of Community Medicine and Public Health
2016, Volume: 3, Issue: 12
http://www.scopemed.org/?iid=2016-3-12.000&&jid=109&lng=
[Reviewed earlier]

International Journal of Epidemiology
Volume 45 Issue 5 October 2016
http://ije.oxfordjournals.org/content/current
[Reviewed earlier]

International Journal of Infectious Diseases
November 2016 Volume 52, In Progress
http://www.ijidonline.com/issue/S1201-9712(16)X0010-0
[Reviewed earlier]

JAMA
December 13, 2016, Vol 316, No. 22, Pages 2325-2440
http://jama.jamanetwork.com/issue.aspx
Viewpoint
Enhancing the Scientific Integrity and Safety of Clinical Trials - Recommendations for Data Monitoring Committees
Roger J. Lewis, MD, PhD; Karim A. Calis, PharmD, MPH; David L. DeMets, PhD
JAMA. 2016;316(22):2359-2360. doi:10.1001/jama.2016.16070
This Viewpoint discusses the roles of data monitoring committees (DMCs) in providing oversight *of clinical trials and summarizes recommendations from the Clinical Trials Transformation Initiative for improving this oversight as a means of improving DMC processes and effectiveness.*
Abstract
The risks of participating in a clinical trial cannot be predicted with certainty at the time of trial design, especially when evaluating novel therapies. Accordingly, once the trial is initiated, periodic and ongoing review of accumulating study data is necessary to ensure the continued appropriateness of enrolling and treating patients in the trial. This oversight activity is often

conducted by a data monitoring committee (DMC), also known as a data and safety monitoring board, generally composed of scientific, medical, statistical, and other experts. Ideally, this oversight process ensures that a clinical trial is stopped if the benefit-risk balance for participants or the expected value to society no longer justifies continuing.

Editorial

Understanding County-Level, Cause-Specific Mortality - The Great Value—and Limitations—of Small Area Data

Cheryl R. Clark, MD, ScD; David R. Williams, PhD, MPH
JAMA. 2016;316(22):2363-2365. doi:10.1001/jama.2016.12818

Abstract

In this issue of JAMA, Dwyer-Lindgren and colleagues1 present advanced methods and applications of small area estimation techniques to produce county-level summary measures of cause-specific mortality rates across the United States and estimates of temporal trends in these rates. The study used validated redistribution methods to recapture mortality data that would have been lost to so-called garbage coding, the practice of assigning potentially noninformative mechanisms of mortality (eg, cardiopulmonary arrest) rather than underlying disease codes (eg, congestive heart failure) to death certificates. The authors used enhanced generalized linear mixed-effects regression models to incorporate information on geographic spatial patterns, time and age associations, and relevant population-level covariates, to achieve valid cause-specific mortality rate estimates from the National Vital Statistics System (NVSS) without pooling data across years for counties with small sample sizes.

Editorial

Two vs Three Doses of Human Papillomavirus Vaccine - New Policy for the Second Decade of the Vaccination Program

Lauri E. Markowitz, MD; Elissa Meites, MD, MPH; Elizabeth R. Unger, PhD, MD
JAMA. 2016;316(22):2370-2372. doi:10.1001/jama.2016.16393

Abstract

This year marks the 10th year of the human papillomavirus (HPV) vaccination program in the United States. In 2006, the first HPV vaccine, quadrivalent HPV vaccine, was licensed by the US Food and Drug Administration and recommended by the Advisory Committee on Immunization Practices and the US Centers for Disease Control and Prevention (CDC). In subsequent years, 2 additional HPV vaccines were licensed, bivalent HPV vaccine in 2009 and 9-valent HPV vaccine in 2014.1 All 3 vaccines were initially licensed and recommended for use in a 3-dose series. In 2006, vaccination was recommended for girls at the age of 11 or 12 years with catch-up vaccination through the age of 26 years; in 2011, the United States was the first country to include boys and men in the routine HPV vaccination program. Following national introductions of HPV vaccination, significant declines in vaccine-type HPV prevalence, genital warts, and cervical precancers have been observed in the United States and other countries.2

Immunogenicity of the 9-Valent HPV Vaccine Using 2-Dose Regimens in Girls and Boys vs a 3-Dose Regimen in Women

Ole-Erik Iversen, MD, PhD; Maria Jose Miranda, MD; Angels Ulied, MD; et al.
JAMA. 2016;316(22):2411-2421. doi:10.1001/jama.2016.17615

This noninferiority trial compares human papillomavirus (HPV) type–specific antibody responses among girls and boys aged 9 to 14 years given 2 doses of HPV vaccine vs adolescent girls and young women aged 16 to 26 years given 3 doses.

Key Points

Question

Are 2 doses of the 9-valent human papillomavirus (HPV) vaccine in girls and boys aged 9 to 14 years noninferior to 3 doses in adolescent girls and young women aged 16 to 26 years?

Findings

In this international, open-label, noninferiority trial involving 1518 participants, antibody responses measured 4 weeks after the last dose in girls and boys given 2 doses separated by 6 or 12 months were noninferior to responses in adolescent girls and young women given 3 doses.

Meaning

Short-term immune responses after 2 doses of 9-valent HPV vaccine in girls and boys aged 9 to 14 years were noninferior to immune responses after 3 doses in adolescent girls and young women. Persistence of response and clinical outcomes need to be studied.

Abstract

Importance

Human papillomavirus (HPV) infections cause anogenital cancers and warts. The 9-valent HPV vaccine provides protection against 7 high-risk types of HPV responsible for 90% of cervical cancers and 2 other HPV types accounting for 90% of genital warts.

Objective

To determine whether HPV type–specific antibody responses would be noninferior among girls and boys aged 9 to 14 years after receiving 2 doses of the 9-valent HPV vaccine compared with adolescent girls and young women aged 16 to 26 years receiving 3 doses.

Design, Setting, and Participants

Open-label, noninferiority, immunogenicity trial conducted at 52 ambulatory care sites in 15 countries. The study was initiated on December 16, 2013, with the last participant visit for this report on June 19, 2015. Five cohorts were enrolled: (1) girls aged 9 to 14 years to receive 2 doses 6 months apart (n=301); (2) boys aged 9 to 14 years to receive 2 doses 6 months apart (n=301); (3) girls and boys aged 9 to 14 years to receive 2 doses 12 months apart (n=301); (4) girls aged 9 to 14 years to receive 3 doses over 6 months (n=301); and (5) a control group of adolescent girls and young women aged 16 to 26 years to receive 3 doses over 6 months (n=314).

Interventions Two doses of the 9-valent HPV vaccine administered 6 or 12 months apart or 3 doses administered over 6 months.

Main Outcomes and Measures

The primary end point was prespecified as the antibody response against each HPV type assessed 1 month after the last dose using a competitive immunoassay. Each of the three 2-dose regimens was compared with the standard 3-dose schedule in adolescent girls and young women using a noninferiority margin of 0.67 for the ratio of the antibody geometric mean titers.

Results

Of the 1518 participants (753 girls [mean age, 11.4 years]; 451 boys [mean age, 11.5 years]; and 314 adolescent girls and young women [mean age, 21.0 years]), 1474 completed the study and data from 1377 were analyzed. At 4 weeks after the last dose, HPV antibody responses in girls and boys given 2 doses were noninferior to HPV antibody responses in adolescent girls and young women given 3 doses ($P < .001$ for each HPV type). Compared with adolescent girls and young women who received 3 doses over 6 months, the 1-sided 97.5% CIs for the ratio of HPV antibody geometric mean titers at 1 month after the last dose across the 9 HPV subtypes ranged from 1.36 to ∞ to 2.50 to ∞ for girls who received 2 doses 6 months apart; from 1.37

to ∞ to 2.55 to ∞ for boys who received 2 doses 6 months apart; and from 1.61 to ∞ to 5.36 to ∞ for girls and boys who received 2 doses 12 months apart.
Conclusions and Relevance
Among girls and boys aged 9 to 14 years receiving 2-dose regimens of a 9-valent HPV vaccine separated by 6 or 12 months, immunogenicity 4 weeks after the last dose was noninferior to a 3-dose regimen in a cohort of adolescent girls and young women. Further research is needed to assess persistence of antibody responses and effects on clinical outcomes.
Trial Registration
clinicaltrials.gov Identifier: NCT01984697

JAMA Pediatrics
December 1, 2016, Vol 170, No. 12, Pages 1127-1236
http://archpedi.jamanetwork.com/issue.aspx
[Reviewed earlier]

Journal of Community Health
Volume 41, Issue 6, December 2016
http://link.springer.com/journal/10900/41/6/page/1
[Reviewed earlier]

Journal of Epidemiology & Community Health
December 2016, Volume 70, Issue 12
http://jech.bmj.com/content/current
[Reviewed earlier]

Journal of Global Ethics
Volume 12, Issue 3, 2016
http://www.tandfonline.com/toc/rjge20/current
These Issue: Refugee Crisis: The Borders of Human Mobility
Article
Introduction to the thematic issue 'Refugee Crisis: The Borders of Human Mobility'
Pages: 245-251
Published online: 14 Dec 2016
Melina Duarte, Kasper Lippert-Rasmussen, Serena Parekh & Annamari Vitikainen
ABSTRACT
This introduction discusses some of the background assumptions and recent developments of the current refugee crisis. In this issue, the crisis is not viewed as a primarily European, Western or even Syrian, Afghan, or Iraqi crisis, but as a global crisis that raises complex ethical and political challenges for all humanity. The contributions to this thematic issue discuss a variety of questions relating to the rights and duties of different actors involved in the refugee crisis, and assess some of the suggested responses to handling the crisis.

Article
The ethics of people smuggling

Pages: 311-326
Published online: 14 Dec 2016
Javier Hidalgo

Article
Who owes what to war refugees
Pages: 327-346
Published online: 14 Dec 2016
Jennifer Kling

Article
What do we owe refugees: jus ad bellum, duties to refugees from armed conflict zones and the right to asylum
Pages: 347-364
Published online: 14 Dec 2016
Jovana Davidovic

Article
Human security and the international refugee crisis
Pages: 365-379
Published online: 14 Dec 2016
Aramide Odutayo

Article
The duty to bring children living in conflict zones to a safe haven
Pages: 380-397
Published online: 14 Dec 2016
Gottfried Schweiger

Journal of Global Infectious Diseases (JGID)
October-December 2016 Volume 8 | Issue 4 Page Nos. 127-162
http://www.jgid.org/currentissue.asp?sabs=n
[Reviewed earlier]

Journal of Health Care for the Poor and Underserved (JHCPU)
Volume 27, Number 4, November 2016
https://muse.jhu.edu/issue/35214
[Reviewed earlier]

Journal of Immigrant and Minority Health
Volume 18, Issue 6, December 2016
http://link.springer.com/journal/10903/18/5/page/1
[Reviewed earlier]

Journal of Immigrant & Refugee Studies
Volume 14, Issue 4, 2016
http://www.tandfonline.com/toc/wimm20/current
[Reviewed earlier]

Journal of Infectious Diseases
Volume 214 Issue 11 December 1, 2016
http://jid.oxfordjournals.org/content/current
[Reviewed earlier]

The Journal of Law, Medicine & Ethics
Winter 2015 Volume 43, Issue 4 Pages 673–913
http://onlinelibrary.wiley.com/doi/10.1111/jlme.2015.43.issue-4/issuetoc
Special Issue: SYMPOSIUM: Harmonizing Privacy Laws to Enable International Biobank Research: Part I
[14 articles]
[Reviewed earlier]

Journal of Medical Ethics
December 2016, Volume 42, Issue 12
http://jme.bmj.com/content/current
[Reviewed earlier]

Journal of Medical Internet Research
Vol 18, No 12 (2016): December
http://www.jmir.org/2016/12
Web-based and Mobile Health Interventions
An eHealth Project on Invasive Pneumococcal Disease: Comprehensive Evaluation of a Promotional Campaign
J Med Internet Res 2016 (Dec 02); 18(12):e316
Donatella Panatto, Alexander Domnich, Roberto Gasparini, Paolo Bonanni, Giancarlo Icardi, Daniela Amicizia, Lucia Arata, Stefano Carozzo, Alessio Signori, Angela Bechini, Sara Boccalini
ABSTRACT
Background: The recently launched Pneumo Rischio eHealth project, which consists of an app, a website, and social networking activity, is aimed at increasing public awareness of invasive pneumococcal disease (IPD). The launch of this project was prompted by the inadequate awareness of IPD among both laypeople and health care workers, the heavy socioeconomic burden of IPD, and the far from optimal vaccination coverage in Italy, despite the availability of safe and effective vaccines.
Objective: The objectives of our study were to analyze trends in Pneumo Rischio usage before and after a promotional campaign, to characterize its end users, and to assess its user-rated quality.
Methods: At 7 months after launching Pneumo Rischio, we established a 4-month marketing campaign to promote the project. This intervention used various approaches and channels,

including both traditional and digital marketing strategies. To highlight usage trends, we used different techniques of time series analysis and modeling, including a modified Mann-Kendall test, change-point detection, and segmented negative binomial regression of interrupted time series. Users were characterized in terms of demographics and IPD risk categories. Customer-rated quality was evaluated by means of a standardized tool in a sample of app users.
Results: Over 1 year, the app was accessed by 9295 users and the website was accessed by 143,993 users, while the project's Facebook page had 1216 fans. The promotional intervention was highly effective in increasing the daily number of users. In particular, the Mann-Kendall trend test revealed a significant ($P \leq .01$) increasing trend in both app and website users, while change-point detection analysis showed that the first significant change corresponded to the start of the promotional campaign. Regression analysis showed a significant immediate effect of the intervention, with a mean increase in daily numbers of users of 1562% (95% CI 456%-4870%) for the app and 620% (95% CI 176%-1777%) for the website. Similarly, the postintervention daily trend in the number of users was positive, with a relative increase of 0.9% (95% CI 0.0%-1.8%) for the app and 1.4% (95% CI 0.7%-2.1%) for the website. Demographics differed between app and website users and Facebook fans. A total of 69.15% (10,793/15,608) of users could be defined as being at risk of IPD, while 4729 users expressed intentions to ask their doctor for further information on IPD. The mean app quality score assigned by end users was approximately 79.5% (397/500).
Conclusions: Despite its specific topic, Pneumo Rischio was accessed by a considerable number of users, who ranked it as a high-quality project. In order to reach their target populations, however, such projects should be promoted.

Infodemiology and Infoveillance
Applying Multiple Data Collection Tools to Quantify Human Papillomavirus Vaccine Communication on Twitter
J Med Internet Res 2016 (Dec 05); 18(12):e318
Philip M Massey, Amy Leader, Elad Yom-Tov, Alexandra Budenz, Kara Fisher, Ann C Klassen

Applying Multiple Data Collection Tools to Quantify Human Papillomavirus Vaccine Communication on Twitter
J Med Internet Res 2016 (Dec 05); 18(12):e318
Philip M Massey, Amy Leader, Elad Yom-Tov, Alexandra Budenz, Kara Fisher, Ann C Klassen

Journal of Medical Microbiology
Volume 65, Issue 11, November 2016
http://jmm.microbiologyresearch.org/content/journal/jmm/65/11
[New issue; No relevant content identified]

Journal of Patient-Centered Research and Reviews
Volume 3, Issue 4 (2016)
http://digitalrepository.aurorahealthcare.org/jpcrr/
[Reviewed earlier]

Journal of the Pediatric Infectious Diseases Society (JPIDS)

Volume 5 Issue 17 December 2016
http://jpids.oxfordjournals.org/content/current
[Reviewed earlier]

Journal of Pediatrics
December 2016 Volume 179, p1-278
http://www.jpeds.com/current
[New issue; No relevant content identified]

Journal of Public Health Policy
Volume 37, Issue 2 Supplement, November 2016
http://link.springer.com/journal/41271/37/1/suppl/page/1
[Reviewed earlier]

Journal of the Royal Society – Interface
01 November 2016; volume 13, issue 124
http://rsif.royalsocietypublishing.org/content/current
[Reviewed earlier]

Journal of Travel Medicine
Volume 24, Issue 1, July 2016
http://jtm.oxfordjournals.org/content/24/1
[Reviewed earlier]

Journal of Virology
December 2016, volume 90, issue 24
http://jvi.asm.org/content/current
[New issue; No relevant content identified]

The Lancet
Dec 17, 2016 Volume 388 Number 10063 p2959-3086 e28-e36
http://www.thelancet.com/journals/lancet/issue/current
Editorial
2017: The unifying power of health
The Lancet
Summary
For many readers of The Lancet, 2016 will be viewed as a dark year. As highlighted elsewhere in this issue (p 2971), ongoing civil conflict has led to record numbers of displaced people (around 65 million, just under 1% of the world's population). The aftershocks of democratic political revolutions on both sides of the Atlantic still resonate, with no clear path ahead and few grounds for optimism. Yet, by contrast, 2016 has also seen some striking successes in health: polio eradication has come tantalisingly close, with only 34 cases reported this year in three

countries; and 30 million people were successfully vaccinated against a raging yellow fever outbreak in DR Congo and Angola, a remarkable effort from the many agencies involved.

Editorial

Predicting pandemics

The Lancet

Summary

"The world is ill prepared to respond to a severe influenza pandemic or to any similarly global, sustained and threatening public-health emergency", concluded an investigation into WHO's response to the 2009 H1N1 pandemic. In 2014, this unpreparedness was again exposed when the Ebola virus struck west Africa and claimed more than 11 000 lives. The continuing Zika virus epidemic highlights that lessons still need to be learned.

Articles

Global, regional, and national causes of under-5 mortality in 2000–15: an updated systematic analysis with implications for the Sustainable Development Goals

Li Liu, Shefali Oza, Dan Hogan, Yue Chu, Jamie Perin, Jun Zhu, Joy E Lawn, Simon Cousens, Colin Mathers, Robert E Black

3027

Open Access

Summary

Background

Despite remarkable progress in the improvement of child survival between 1990 and 2015, the Millennium Development Goal (MDG) 4 target of a two-thirds reduction of under-5 mortality rate (U5MR) was not achieved globally. In this paper, we updated our annual estimates of child mortality by cause to 2000–15 to reflect on progress toward the MDG 4 and consider implications for the Sustainable Development Goals (SDG) target for child survival.

Methods

We increased the estimation input data for causes of deaths by 43% among neonates and 23% among 1–59-month-olds, respectively. We used adequate vital registration (VR) data where available, and modelled cause-specific mortality fractions applying multinomial logistic regressions using adequate VR for low U5MR countries and verbal autopsy data for high U5MR countries. We updated the estimation to use Plasmodium falciparum parasite rate in place of malaria index in the modelling of malaria deaths; to use adjusted empirical estimates instead of modelled estimates for China; and to consider the effects of pneumococcal conjugate vaccine and rotavirus vaccine in the estimation.

Findings

In 2015, among the 5·9 million under-5 deaths, 2·7 million occurred in the neonatal period. The leading under-5 causes were preterm birth complications (1·055 million [95% uncertainty range (UR) 0·935–1·179]), pneumonia (0·921 million [0·812 −1·117]), and intrapartum-related events (0·691 million [0·598 −0·778]). In the two MDG regions with the most under-5 deaths, the leading cause was pneumonia in sub-Saharan Africa and preterm birth complications in southern Asia. Reductions in mortality rates for pneumonia, diarrhoea, neonatal intrapartum-related events, malaria, and measles were responsible for 61% of the total reduction of 35 per 1000 livebirths in U5MR in 2000–15. Stratified by U5MR, pneumonia was the leading cause in countries with very high U5MR. Preterm birth complications and pneumonia were both important in high, medium high, and medium child mortality countries; whereas congenital abnormalities was the most important cause in countries with low and very low U5MR.

Interpretation
In the SDG era, countries are advised to prioritise child survival policy and programmes based on their child cause-of-death composition. Continued and enhanced efforts to scale up proven life-saving interventions are needed to achieve the SDG child survival target.
Funding
Bill & Melinda Gates Foundation, WHO.

Lancet Global Health
Dec 2016 Volume 4 Number 12 e872-e995
http://www.thelancet.com/journals/langlo/issue/current
[Reviewed earlier]

The Lancet Infectious Diseases
Dec 2016 Volume 16 Number 12 p1305-1430 e276-e314
http://www.thelancet.com/journals/laninf/issue/current
[Reviewed earlier]

Maternal and Child Health Journal
Volume 20, Issue 12, December 2016
http://link.springer.com/journal/10995/20/11/page/1
Special Issue: Mountain MCH
[Reviewed earlier]

Medical Decision Making (MDM)
January 2017; 37 (1)
http://mdm.sagepub.com/content/current
[Reviewed earlier]

The Milbank Quarterly
A Multidisciplinary Journal of Population Health and Health Policy
September 2016 Volume 94, Issue 3 Pages 437–694
http://onlinelibrary.wiley.com/doi/10.1111/milq.2016.94.issue-3/issuetoc
[Reviewed earlier]

Nature
Volume 540 Number 7633 pp315-476 15 December 2016
http://www.nature.com/nature/current_issue.html
Editorials
Corporate culture spreads to Scandinavian institutes
The trend of turning universities into businesses is limiting research freedoms in traditionally liberal institutes in northern Europe. It is time for scientists to regain lost ground.

Nature Medicine
December 2016, Volume 22 No 12 pp1369-1502
http://www.nature.com/nm/journal/v22/n12/index.html
News and Views
Understanding immune responses to the influenza vaccine - pp1387 - 1388
Richard Webby
doi:10.1038/nm.4248
The quest to improve influenza vaccines is aided by research into the immune response that they generate. Two recent studies have focused their attention on the specificities of antibodies induced after vaccination with conventional inactivated influenza vaccines.

Diversity and collaboration for effective immunotherapy - pp1390 - 1391
Karolina Palucka & Jacques Banchereau
doi:10.1038/nm.4249
Tumors continue to escape therapies that target single signaling pathways. A recent study in mice shows that combination immunotherapy involving different arms of immune response can overcome this and cure intractable tumors.

Articles
Eradication of large established tumors in mice by combination immunotherapy that engages innate and adaptive immune responses - pp1402 - 1410
Kelly D Moynihan, Cary F Opel, Gregory L Szeto, Alice Tzeng, Eric F Zhu, Jesse M Engreitz, Robert T Williams, Kavya Rakhra, Michael H Zhang, Adrienne M Rothschilds, Sudha Kumari, Ryan L Kelly, Byron H Kwan, Wuhbet Abraham, Kevin Hu, Naveen K Mehta, Monique J Kauke, Heikyung Suh, Jennifer R Cochran, Douglas A Lauffenburger, K Dane Wittrup & Darrell J Irvine
doi:10.1038/nm.4200
An immunotherapy consisting of a tumor-antigen targeting antibody, PD-1 blocking antibody, extended half-life recombinant IL-2 and a lymph-node-targeted T cell vaccine mobilized innate and adaptive immunity and eradicated large established tumors in a variety of mouse models.

Human antibody repertoire after VSV-Ebola vaccination identifies novel targets and virus-neutralizing IgM antibodies - pp1439 - 1447
Surender Khurana, Sandra Fuentes, Elizabeth M Coyle, Supriya Ravichandran, Richard T Davey Jr & John H Beigel
doi:10.1038/nm.4201
Surender Khurana and colleagues analyzed the antibody repertoire in healthy individuals after vaccination against Ebola virus using a VSV-Ebola vaccine and identify a strong contribution of IgM antibodies to the virus-neutralizing response.

Nature Reviews Immunology
December 2016 Vol 16 No 12
http://www.nature.com/nri/journal/v16/n12/index.html
Comment:
Prime–boost strategies to embrace diversity and inclusion in immunology
Cherie L. Butts, Irelene P. Ricks & Avery August
p715 | doi:10.1038/nri.2016.122

Immunologists appreciate the need for creative approaches to tackle complex scientific questions, which can involve not only the use of novel technologies but also the experience of scientists from diverse backgrounds. Here, we highlight measures to prime for the inclusion of women and underrepresented individuals in science to boost immunology research.

New England Journal of Medicine
December 15, 2016 Vol. 375 No. 24
http://www.nejm.org/toc/nejm/medical-journal

Perspective

NIH Policy on Single-IRB Review — A New Era in Multicenter Studies

Ann-Margret Ervin, Ph.D., M.P.H., Holly A. Taylor, Ph.D., M.P.H., and Stephan Ehrhardt, M.D., M.P.H.

N Engl J Med 2016; 375:2315-2317 December 15, 2016 DOI: 10.1056/NEJMp1608766

The new National Institutes of Health policy on review of multicenter studies by a single institutional review board ushers in new responsibilities for investigators. Public comments have highlighted several challenges to streamlining ethics review in this way.

Original Article

Zika Virus Infection in Pregnant Women in Rio de Janeiro

Patrícia Brasil, M.D., Ph.D., José P. Pereira, Jr., M.D., M. Elisabeth Moreira, M.D., Ph.D., Rita M. Ribeiro Nogueira, M.D., Ph.D., Luana Damasceno, Pharm.D., Mayumi Wakimoto, M.D., Ph.D., Renata S. Rabello, D.V.M., Ph.D., Stephanie G. Valderramos, M.D., Ph.D., Umme-Aiman Halai, M.D., Tania S. Salles, M.D., Ph.D., Andrea A. Zin, M.D., Ph.D., Dafne Horovitz, M.D., Ph.D., Pedro Daltro, M.D., Ph.D., Marcia Boechat, M.D., Ph.D., Claudia Raja Gabaglia, M.D., Ph.D., Patrícia Carvalho de Sequeira, Ph.D., José H. Pilotto, M.D., Ph.D., Raquel Medialdea-Carrera, Ph.D., Denise Cotrim da Cunha, M.D., Liege M. Abreu de Carvalho, M.D., Marcos Pone, M.D., André Machado Siqueira, M.D., Ph.D., Guilherme A. Calvet, M.D., Ph.D., Ana E. Rodrigues Baião, M.D., Elizabeth S. Neves, M.D., Ph.D., Paulo R. Nassar de Carvalho, M.D., Renata H. Hasue, Ph.D., Peter B. Marschik, Ph.D., Christa Einspieler, Ph.D., Carla Janzen, M.D., Ph.D., James D. Cherry, M.D., Ana M. Bispo de Filippis, Ph.D., and Karin Nielsen-Saines, M.D.

N Engl J Med 2016; 375:2321-2334 December 15, 2016 DOI: 10.1056/NEJMoa1602412

Abstract

Background

Zika virus (ZIKV) has been linked to central nervous system malformations in fetuses. To characterize the spectrum of ZIKV disease in pregnant women and infants, we followed patients in Rio de Janeiro to describe clinical manifestations in mothers and repercussions of acute ZIKV

Methods

We enrolled pregnant women in whom a rash had developed within the previous 5 days and tested blood and urine specimens for ZIKV by reverse-transcriptase–polymerase-chain-reaction assays. We followed women prospectively to obtain data on pregnancy and infant outcomes.

Results

A total of 345 women were enrolled from September 2015 through May 2016; of these, 182 women (53%) tested positive for ZIKV in blood, urine, or both. The timing of acute ZIKV infection ranged from 6 to 39 weeks of gestation. Predominant maternal clinical features included a pruritic descending macular or maculopapular rash, arthralgias, conjunctival injection, and headache; 27% had fever (short-term and low-grade). By July 2016, a total of 134 ZIKV-affected pregnancies and 73 ZIKV-unaffected pregnancies had reached completion,

with outcomes known for 125 ZIKV-affected and 61 ZIKV-unaffected pregnancies. Infection with chikungunya virus was identified in 42% of women without ZIKV infection versus 3% of women with ZIKV infection (P<0.001). Rates of fetal death were 7% in both groups; overall adverse outcomes were 46% among offspring of ZIKV-positive women versus 11.5% among offspring of ZIKV-negative women (P<0.001). Among 117 live infants born to 116 ZIKV-positive women, 42% were found to have grossly abnormal clinical or brain imaging findings or both, including 4 infants with microcephaly. Adverse outcomes were noted regardless of the trimester during which the women were infected with ZIKV (55% of pregnancies had adverse outcomes after maternal infection in the first trimester, 52% after infection in the second trimester, and 29% after infection in the third trimester).
Conclusions
Despite mild clinical symptoms in the mother, ZIKV infection during pregnancy is deleterious to the fetus and is associated with fetal death, fetal growth restriction, and a spectrum of central nervous system abnormalities. (Funded by Ministério da Saúde do Brasil and others.)

Review Article
The Human Intestinal Microbiome in Health and Disease
Susan V. Lynch, Ph.D., and Oluf Pedersen, M.D., D.M.Sc.
N Engl J Med 2016; 375:2369-2379 December 15, 2016 DOI: 10.1056/NEJMra1600266
The large majority of studies on the role of the microbiome in the pathogenesis of disease are correlative and preclinical; several have influenced clinical practice.

Pediatrics
December 2016, VOLUME 138 / ISSUE 6
http://pediatrics.aappublications.org/content/138/5?current-issue=y
[Reviewed earlier]

Pharmaceutics
Volume 8, Issue 3 (September 2016)
http://www.mdpi.com/1999-4923/8/3
[Reviewed earlier]

PharmacoEconomics
Volume 34, Issue 12, December 2016
http://link.springer.com/journal/40273/34/11/page/1
[Reviewed earlier]

PLOS Currents: Disasters
http://currents.plos.org/disasters/
[Accessed 17 December 2016]
[No new content]

PLoS Currents: Outbreaks

http://currents.plos.org/outbreaks/
[Accessed 17 December 2016]

Epidemic Potential for Local Transmission of Zika Virus in 2015 and 2016 in Queensland, Australia

December 13, 2016 · Research Article

Introduction: Zika virus could be transmitted in the state of Queensland, Australia, in parts of the state where the mosquito vectors are established.

Methods: We assessed the epidemic potential of Zika in Queensland from January 2015 to August 2016, and estimate the epidemic potential from September to December 2016, by calculating the temperature-dependent relative vectorial capacity (rVc), based on empirical and estimated parameters.

Results: Through 2015, we estimated a rVc of 0.119, 0.152, 0.170, and 0.175, respectively in the major cities of Brisbane, Rockhampton, Cairns, and Townsville. From January to August 2016, the epidemic potential trend was similar to 2015, however the highest epidemic potential was in Cairns. During September to November 2016, the epidemic potential is consistently the highest in Cairns, followed by Townsville, Rockhampton and Brisbane. Then, from November to December 2016, Townsville has the highest estimated epidemic potential.

Discussion: We demonstrate using a vectorial capacity model that ZIKV could have been locally transmitted in Queensland, Australia during 2015 and 2016. ZIKV remains a threat to Australia for the upcoming summer, during the Brazilian Carnival season, when the abundance of vectors is relatively high. Understanding the epidemic potential of local ZIKV transmission will allow better management of threats to blood safety and assessment of public health risk.

PLoS Medicine

http://www.plosmedicine.org/
(Accessed 17 December 2016)
[No new relevant content]

PLoS Neglected Tropical Diseases

http://www.plosntds.org/
(Accessed 17 December 2016)
[No new relevant content]

PLoS One

http://www.plosone.org/
[Accessed 17 December 2016]
Research Article

Impact of Refugees on Local Health Systems: A Difference-in-Differences Analysis in Cameroon

Lambed Tatah, Tefera Darge Delbiso, Jose Manuel Rodriguez-Llanes, Julita Gil Cuesta, Debarati Guha-Sapir
Research Article | published 16 Dec 2016 PLOS ONE
http://dx.doi.org/10.1371/journal.pone.0168820

Assessing the State of Knowledge Regarding the Effectiveness of Interventions to Contain Pandemic Influenza Transmission: A Systematic Review and Narrative Synthesis
Patrick Saunders-Hastings, Jane Reisman, Daniel Krewski
Research Article | published 15 Dec 2016 PLOS ONE
http://dx.doi.org/10.1371/journal.pone.0168262

Safety, Immunogenicity and Efficacy of Prime-Boost Vaccination with ChAd63 and MVA Encoding ME-TRAP against Plasmodium falciparum Infection in Adults in Senegal
Victorine A. Mensah, Aly Gueye, Magatte Ndiaye, Nick J. Edwards, Danny Wright, Nicholas A. Anagnostou, Massamba Syll, Amy Ndaw, Annie Abiola, Carly Bliss, Jules-François Gomis, Ines Petersen, Caroline Ogwang, Tandakha Dieye, Nicola K. Viebig, Alison M. Lawrie, Rachel Roberts, Alfredo Nicosia, Babacar Faye, Oumar Gaye, Odile Leroy, Egeruan B. Imoukhuede, Katie J. Ewer, Philip Bejon, Adrian V. S. Hill, Badara Cisse, MVVC group
Research Article | published 15 Dec 2016 PLOS ONE
http://dx.doi.org/10.1371/journal.pone.0167951

Effect of Influenza Vaccination of Children on Infection Rate in Hutterite Communities: Follow-Up Study of a Randomized Trial
Biao Wang, Margaret L. Russell, Lorraine Moss, Kevin Fonseca, David J. D. Earn, Fred Aoki, Gregory Horsman, Paul Van Caeseele, Khami Chokani, Mark Vooght, Lorne Babiuk, Richard Webby, Stephen D. Walter, Mark Loeb
Research Article | published 15 Dec 2016 PLOS ONE
http://dx.doi.org/10.1371/journal.pone.0167281

Impact and Effectiveness of 10 and 13-Valent Pneumococcal Conjugate Vaccines on Hospitalization and Mortality in Children Aged Less than 5 Years in Latin American Countries: A Systematic Review
Lucia Helena de Oliveira, Luiz Antonio B. Camacho, Evandro S. F. Coutinho, Martha S. Martinez-Silveira, Ana Flavia Carvalho, Cuauhtemoc Ruiz-Matus, Cristiana M. Toscano
Research Article | published 12 Dec 2016 PLOS ONE
http://dx.doi.org/10.1371/journal.pone.0166736

PLoS Pathogens
http://journals.plos.org/plospathogens/
(Accessed 17 December 2016)
[No new relevant content]

PNAS - Proceedings of the National Academy of Sciences of the United States of America
http://www.pnas.org/content/early/
[Accessed 17 December 2016]
Social Sciences - Psychological and Cognitive Sciences:
Childhood poverty and adult psychological well-being
Gary W. Evans

PNAS 2016 ; published ahead of print December 12, 2016, doi:10.1073/pnas.1604756114
Significance
Childhood poverty in a prospective, longitudinal design is linked to deficits in adult memory; greater psychological distress, including a behavioral marker of helplessness; and elevated levels of chronic physiological stress. These findings extend prior cross-sectional data during childhood and are largely parallel to existing life course work on physical health sequelae of childhood poverty.
Abstract
Childhood disadvantage has repeatedly been linked to adult physical morbidity and mortality. We show in a prospective, longitudinal design that childhood poverty predicts multimethodological indices of adult (24 y of age) psychological well-being while holding constant similar childhood outcomes assessed at age 9. Adults from low-income families manifest more allostatic load, an index of chronic physiological stress, higher levels of externalizing symptoms (e.g., aggression) but not internalizing symptoms (e.g., depression), and more helplessness behaviors. In addition, childhood poverty predicts deficits in adult short-term spatial memory.

Prehospital & Disaster Medicine
Volume 31 - Issue 6 - December 2016
https://www.cambridge.org/core/journals/prehospital-and-disaster-medicine/latest-issue
[Reviewed earlier]

Preventive Medicine
Volume 93, Pages 1-226 (December 2016)
http://www.sciencedirect.com/science/journal/00917435/93
[Reviewed earlier]

Proceedings of the Royal Society B
12 October 2016; volume 283, issue 1840
http://rspb.royalsocietypublishing.org/content/283/1824?current-issue=y
[Reviewed earlier]

Public Health Ethics
Volume 9 Issue 17 December 2016
http://phe.oxfordjournals.org/content/current
[Reviewed earlier]

Public Health Reports
November/December 2016; 131 (6)
http://phr.sagepub.com/content/current
[Reviewed earlier]

Qualitative Health Research
December 2016; 26 (14)
http://qhr.sagepub.com/content/current
Special Issue: General
[Reviewed earlier]

Reproductive Health
http://www.reproductive-health-journal.com/content
[Accessed 17 December 2016]
[No relevant content identified]

Revista Panamericana de Salud Pública/Pan American Journal of Public Health (RPSP/PAJPH)
Recently Published Articles - November
http://www.paho.org/journal/index.php?option=com_content&view=featured&Itemid=101
[Reviewed earlier]

Risk Analysis
October 2016 Volume 36, Issue 10 Pages 1827–2027
http://onlinelibrary.wiley.com/doi/10.1111/risa.2016.36.issue-10/issuetoc
[Reviewed earlier]

Risk Management and Healthcare Policy
Volume 9, 2016
https://www.dovepress.com/risk-management-and-healthcare-policy-archive56
[Reviewed earlier]

Science
16 December 2016 Vol 354, Issue 6318
http://www.sciencemag.org/current.dtl
[New issue; No new relevant content identified]

Science Translational Medicine
14 December 2016 Vol 8, Issue 369
http://stm.sciencemag.org/
[New issue; No new relevant content identified]

Social Science & Medicine
Volume 170, Pages 1-254 (December 2016)
http://www.sciencedirect.com/science/journal/02779536/170
[Reviewed earlier]

Travel Medicine and Infectious Diseases
November-December, 2016 Volume 14, Issue 6
http://www.travelmedicinejournal.com/
Articles in Press
Refugees and antimicrobial resistance: A systematic review
Allard Willem de Smalen, Hatem Ghorab, Moataz Abd El Ghany, Grant A. Hill-Cawthorne
Publication stage: In Press Accepted Manuscript
Preview
There is a large increase in the numbers of refugees and asylum seekers worldwide and a lack of data on the carriage of antimicrobial resistance in refugee/asylum seeking groups.

Tropical Medicine & International Health
December 2016 Volume 21, Issue 12 Pages 1489–1611
http://onlinelibrary.wiley.com/doi/10.1111/tmi.2016.21.issue-12/issuetoc
Editorial
Predictable threats to public health through delaying universal access to innovative medicines for hepatitis C: a pharmaceutical standpoint (pages 1490–1495)
Raffaella Ravinetto, Anja De Weggheleire, Thomas P.C. Dorlo, Sven Francque, An Sokkab, Corinne Pouget, Bruno Meessen, Patricia Tabernero, Paul N. Newton and Lut Lynen
Version of Record online: 17 OCT 2016 | DOI: 10.1111/tmi.12784

Vaccine
Volume 34, Issue 52, Pages 6653-6714 (20 December 2016)
http://www.sciencedirect.com/science/journal/0264410X/34/52
The Changing Face of Vaccines and Vaccination
Edited by Peter L. Stern, José I. Santos, Lawrence R. Stanberry and Anthony L. Cunningham
The changing face of vaccines and vaccination
Pages 6653-6654
Peter L. Stern
Open Access Open Access Article
Abstract
In the 21st century, an array of microbiological and molecular allow antigens for new vaccines to be specifically identified, designed, produced and delivered with the aim of optimising the induction of a protective immune response against a well-defined immunogen. New knowledge about the functioning of the immune system and host pathogen interactions has stimulated the rational design of vaccines. The design toolbox includes vaccines made from whole pathogens, protein subunits, polysaccharides, pathogen-like particles, use of viral/bacterial vectors, plus adjuvants and conjugation technology to increase and broaden the immune response. Processes such as recombinant DNA technology can simplify the complexity of manufacturing and facilitate consistent production of large quantities of antigen. Any new vaccine development is greatly enhanced by, and requires integration of information concerning:
1. Pathogen life-cycle & epidemiology. Knowledge of pathogen structure, route of entry, interaction with cellular receptors, subsequent replication sites and disease-causing mechanisms are all important to identify antigens suitable for disease prevention. The demographics of

infection, specific risk groups and age-specific infection rates determine which population to immunise, and at what age.

2. Immune control & escape. Interactions between the host and pathogen are explored, with determination of the relative importance of antibodies, T-cells of different types and innate immunity, immune escape strategies during infection, and possible immune correlates of protection. This information guides identification and selection of antigen and the specific immune response required for protection.

3. Antigen selection & vaccine formulation. The selected antigen is formulated to remain suitably immunogenic and stable over time, induce an immune response that is likely to be protective, plus be amenable to eventual scale-up to commercial production.

4. Vaccine preclinical & clinical testing. The candidate vaccine must be tested for immunogenicity, safety and efficacy in preclinical and appropriately designed clinical trials.

This review considers these processes using examples of differing pathogenic challenges, including human papillomavirus, malaria, and ebola.

Vaccine development: From concept to early clinical testing
Original Research Article
Pages 6655-6664
Anthony L. Cunningham, Nathalie Garçon, Oberdan Leo, Leonard R. Friedland, Richard Strugnell, Béatrice Laupèze, Mark Doherty, Peter Stern
Highlights
:: Detailed knowledge of the pathogen is a pre-requisite for antigen selection.
:: Disease epidemiology and clinical manifestations influence vaccine requirements.
:: Increasing knowledge and new technologies drive innovative vaccine design.
:: Manufacture and delivery of vaccine antigens must be practicably achievable.
Open Access Open Access Article

Vaccine provision: Delivering sustained & widespread use
Original Research Article
Pages 6665-6671
Scott Preiss, Nathalie Garçon, Anthony L. Cunningham, Richard Strugnell, Leonard R. Friedland
Highlights
:: 100–500 different Quality Control tests assess vaccine safety, potency and purity.
:: 70% of time needed for manufacturing is dedicated to Quality Control activities.
:: Vaccine development typically takes 10–30 years but can be expedited in emergencies.
:: Single-dose vials avoid preservatives but significantly impact on supply and cost.
:: Most vaccines require strict temperature control (cold chain) for continued potency.
Open Access Open Access Article

Vaccine safety evaluation: Practical aspects in assessing benefits and risks
Original Research Article
Pages 6672-6680
Alberta Di Pasquale, Paolo Bonanni, Nathalie Garçon, Lawrence R. Stanberry, Mostafa El-Hodhod, Fernanda Tavares Da Silva
Highlights
:: Vaccine safety is assessed from inception through the entire duration of its use.
:: The vaccine safety label is continuously reviewed based on ongoing surveillance; when needed, actions are taken and communicated promptly to the community.

:: Monitoring vaccine safety is a shared responsibility.
:: Healthcare providers are encouraged to report all adverse events after immunisation.
:: Verification of causality is critical to maintaining public confidence in vaccines.
Open Access Open Access Article

Vaccination of special populations: Protecting the vulnerable
Review Article
Pages 6681-6690
Mark Doherty, Ruprecht Schmidt-Ott, Jose Ignacio Santos, Lawrence R. Stanberry, Annika M. Hofstetter, Susan L. Rosenthal, Anthony L. Cunningham
Highlights
:: Various special groups are at increased risk of vaccine-preventable diseases.
:: Vaccination strategies are in place for special groups to address disease risk.
:: Preterm infants and pregnant women often do not receive recommended vaccines.
:: Many people who are immunocompromised due to disease or aging are under-vaccinated.
:: Healthcare providers' adherence to national recommendations needs to be improved.
Open Access Open Access Article

Vaccine strategies: Optimising outcomes
Original Research Article
Pages 6691-6699
Karin Hardt, Paolo Bonanni, Susan King, Jose Ignacio Santos, Mostafa El-Hodhod, Gregory D. Zimet, Scott Preiss
Highlights
:: Many components must come together for delivery of effective immunisation services.
:: Less developed countries may lack the appropriate healthcare infrastructure.
:: Vaccination strategies must be feasible and acceptable to the target population.
:: Experience and research have shown which vaccine strategies work well.
:: Tailored, culturally-appropriate local approaches usually encourage success.
Open Access Open Access Article

Vaccine hesitancy and healthcare providers
Original Research Article
Pages 6700-6706
Pauline Paterson, François Meurice, Lawrence R. Stanberry, Steffen Glismann, Susan L. Rosenthal, Heidi J. Larson
Open Access Open Access Article

Vaccine impact: Benefits for human health
Original Research Article
Pages 6707-6714
Mark Doherty, Philippe Buchy, Baudouin Standaert, Carlo Giaquinto, David Prado- Cohrs
Highlights
:: Vaccines have a broad impact on health extending beyond the vaccinated individual.
:: Vaccines can positively impact health, cognitive development and productivity.
:: Broader success requires vaccine coverage sufficient to interrupt transmission.
:: Immunisation can modify disease epidemiology requiring changes in vaccine strategies.
:: Ensuring the continued success of immunisation is a shared responsibility.

Vaccine
Volume 34, Issue 51, Pages 6449-6652 (12 December 2016)
http://www.sciencedirect.com/science/journal/0264410X/34/51
Regular papers

Minimization of hepatitis B infection among children in Jiangsu, China, 12 years after integration of hepatitis B vaccine into the expanded program on immunization

Original Research Article
Pages 6458-6463
Xiaoqian Lin, Jishi Yang, Huixia Lu, Yulin Zhou, Guiping Zhou, Huiyi Wu, Chenyu Xu, Qiaozhen Wu, Jingli Liu, Shanshan Chen, Muyi Yang, Guangyu Gu, Yali Hu, Yi-Hua Zhou
Abstract
Background
China has integrated hepatitis B vaccine into the Expanded Program on Immunization since 2002. We aimed to survey the seroprevalence of and immunity to hepatitis B virus (HBV) in children born from 2002 to 2014 in Jiangsu, China.
Methods
Totally 3442 children (M:F = 2072:1370) at the age of 7 months to 12 years (5.5 ± 3.6), from five cities and rural areas across Jiangsu province, were enrolled. Blood samples were measured for HBV markers by ELISA and quantitative microparticle enzyme immunoassay. HBV DNA was tested by real-time PCR and S region was amplified by nested PCR.
Results
Twelve (0.35%) children were positive for hepatitis B surface antigen (HBsAg) and 34 (0.99%) were HBsAg negative and positive for antibody against hepatitis B core antigen (anti-HBc). Totally 2542 (73.85%) children had anti-HBs levels ⩾10 mIU/ml and 535 (15.54%) with 2–9.9 mIU/ml. All 12 HBsAg-positive children had detectable HBV DNA with a mean level of 6.1 ± 1.7 log IU/ml (3.3–8.1 log IU/ml); 8 were genotype C and 4 were genotype B. No mutation was detected in the a determinant of HBsAg. HBV DNA was not detected in all the 34 children with positive anti-HBc and negative HBsAg.
Conclusion
HBsAg prevalence among children in Jiangsu born after the introduction of universal vaccination against hepatitis B has significantly decreased. No mutation of S gene is associated with vaccine failure in the cohort of children.

Estimating the burden of rubella virus infection and congenital rubella syndrome through a rubella immunity assessment among pregnant women in the Democratic Republic of the Congo: Potential impact on vaccination policy

Original Research Article
Pages 6502-6511
Mary M. Alleman, Kathleen A. Wannemuehler, Lijuan Hao, Ludmila Perelygina, Joseph P. Icenogle, Emilia Vynnycky, Franck Fwamba, Samuel Edidi, Audry Mulumba, Kassim Sidibe, Susan E. Reef
Abstract
Background
Rubella-containing vaccines (RCV) are not yet part of the Democratic Republic of the Congo's (DRC) vaccination program; however RCV introduction is planned before 2020. Because documentation of DRC's historical burden of rubella virus infection and congenital rubella

syndrome (CRS) has been minimal, estimates of the burden of rubella virus infection and of CRS would help inform the country's strategy for RCV introduction.
Methods
A rubella antibody seroprevalence assessment was conducted using serum collected during 2008–2009 from 1605 pregnant women aged 15–46 years attending 7 antenatal care sites in 3 of DRC's provinces. Estimates of age- and site-specific rubella antibody seroprevalence, population, and fertility rates were used in catalytic models to estimate the incidence of CRS per 100,000 live births and the number of CRS cases born in 2013 in DRC.
Results
Overall 84% (95% CI 82, 86) of the women tested were estimated to be rubella antibody seropositive. The association between age and estimated antibody seroprevalence, adjusting for study site, was not significant ($p = 0.10$). Differences in overall estimated seroprevalence by study site were observed indicating variation by geographical area ($p \leqslant 0.03$ for all). Estimated seroprevalence was similar for women declaring residence in urban (84%) versus rural (83%) settings ($p = 0.67$). In 2013 for DRC nationally, the estimated incidence of CRS was 69/100,000 live births (95% CI 0, 186), corresponding to 2886 infants (95% CI 342, 6395) born with CRS.
Conclusions
In the 3 provinces, rubella virus transmission is endemic, and most viral exposure and seroconversion occurs before age 15 years. However, approximately 10–20% of the women were susceptible to rubella virus infection and thus at risk for having an infant with CRS. This analysis can guide plans for introduction of RCV in DRC. Per World Health Organization recommendations, introduction of RCV should be accompanied by a campaign targeting all children 9 months to 14 years of age as well as vaccination of women of child bearing age through routine services.

Risk factors for measles in children aged 8 months–14 years in China after nationwide measles campaign: A multi-site case-control study, 2012–2013
Original Research Article
Pages 6545-6552
Lixin Hao, Chao Ma, Kathleen A. Wannemuehler, Qiru Su, Zhijie An, Lisa Cairns, Linda Quick, Lance Rodewald, Yuanbao Liu, Hanqing He, Qing Xu, Yating Ma, Wen Yu, Ningjing Zhang, Li Li, Ning Wang, Huiming Luo, Huaqing Wang, Christopher J. Gregory
Abstract
Introduction
Endemic measles persists in China, despite >95% reported coverage of two measles-containing vaccine doses and nationwide campaign that vaccinated more than 100 million children in 2010. In 2011, almost half of the 9943 measles cases in China occurred in children eligible for measles vaccination. We conducted a case-control study during 2012–2013 to identify risk factors for measles infection in children aged 8 months–14 years.
Methods
Children with laboratory-confirmed measles were age- and neighborhood-matched with three controls. We interviewed parents of case and control infants on potential risk factors for measles. We calculated adjusted matched odds ratios and 95% confidence intervals of risk factors. We calculated attributable fractions for risk factors that could be interpreted as causal and vaccine efficacy (VE) for the measles containing vaccine (MCV) used in the Chinese immunization program.
Results

In all, 969 case-patients and 2845 controls were enrolled. In multivariable analysis, lack of measles vaccination both overall (mOR 22.7 [16.6, 31.1] and when stratified by region (east region, mOR 74.2 [27.3, 202]; central/western regions mOR 17.4 [12.5, 24.3]), hospital exposure (mOR 63.0, 95% CI [32.8, 121]), and migration among counties (overall mOR 3.0 [2.3, 3.9]) were significant risk factors. The calculated VE was 91.9–96.1% for a single dose of MCV and 96.6–99.5% for 2 doses.
Conclusions
Lack of vaccination was the leading risk factor for measles infection, especially in children born since the 2010 supplementary immunization activity. Reducing missed vaccination opportunities, improving immunization access for migrant children, and strengthening school/kindergarten vaccine checks are needed to strengthen the routine immunization program and maintain progress toward measles elimination in China.

Vaccine: Development and Therapy
https://www.dovepress.com/vaccine-development-and-therapy-archive111
(Accessed 17 December 2016)
[No new content]

Vaccines — Open Access Journal
http://www.mdpi.com/journal/vaccines
(Accessed 17 December 2016)
Latest Articles
An Overview of Vaccination Strategies and Antigen Delivery Systems for Streptococcus agalactiae Vaccines in Nile Tilapia (Oreochromis niloticus)
Vaccines 2016, 4(4), 48; doi:10.3390/vaccines4040048 - 13 December 2016by
Hetron Mweemba Munang'andu, Joydeb Paul and Øystein Evensen
Abstract
Streptococcus agalactiae is an emerging infectious disease adversely affecting Nile tilapia (Niloticus oreochromis) production in aquaculture. Research carried out in the last decade has focused on developing protective vaccines using different strategies, although no review has been carried out to evaluate

Value in Health
December 2016 Volume 19, Issue 8, p909-1074
http://www.valueinhealthjournal.com/current
Featured Articles
Themed Section: Economics of Making Choices on the Journey to Universal Health Care Coverage
How to Get Cost-Effectiveness Analysis Right? The Case of Vaccine Economics in Latin America
Amanda Glassman, Oscar Cañón, Rachel Silverman
Published in issue: December 2016
Open Access
Abstract
Background

In middle-income countries, vaccines against pneumococcal disease, rotavirus, and human papilloma virus are in general more costly, not necessarily cost saving, and less consistently cost-effective than earlier generation vaccines against measles, diphtheria, tetanus, and pertussis. Budget impact is also substantial; public spending on vaccines in countries adopting new vaccines is, on average, double the amount of countries that have not adopted. Policymakers must weigh the costs and benefits of the adoption decision carefully, given the low coverage of other kinds of cost-effective health and nonhealth interventions in these same settings and relatively flat overall public spending on health as a share of gross domestic product (GDP) over time.
Objective
This paper considers lessons learned from recent vaccine cost-effectiveness analyses and subsequent adoption decisions in Latin America a, largely under the auspices of the Pro Vac Initiative.
Results
The paper illustrates how small methodological choices and seemingly minor technical limitations of cost-effectiveness models can have major implications for the studies' conclusions, potentially influencing countries' subsequent vaccine adoption decisions.
Methods
We evaluate the ProVac models and technical outputs against the standards and framework set out by the International Decision Support Initiative Reference Case for economic evaluation and consider the practical effects of deviations from those standards.
Conclusions
Lessons learned are discussed, including issues of appropriate comparators, GDP-based thresholds, and use of average versus incremental cost-effectiveness ratios as a convention are assessed. The article ends with recommendations for the future.

Country-Level Cost-Effectiveness Thresholds: Initial Estimates and the Need for Further Research

Beth Woods, Paul Revill, Mark Sculpher, Karl Claxton
Published in issue: December 2016
Abstract
Background
Cost-effectiveness analysis can guide policymakers in resource allocation decisions. It assesses whether the health gains offered by an intervention are large enough relative to any additional costs to warrant adoption. When there are constraints on the health care system's budget or ability to increase expenditures, additional costs imposed by interventions have an "opportunity cost" in terms of the health foregone because other interventions cannot be provided. Cost-effectiveness thresholds (CETs) are typically used to assess whether an intervention is worthwhile and should reflect health opportunity cost. Nevertheless, CETs used by some decision makers—such as the World Health Organization that suggested CETs of 1 to 3 times the gross domestic product (GDP) per capita—do not.
Objectives
To estimate CETs based on opportunity cost for a wide range of countries.
Methods
We estimated CETs based on recent empirical estimates of opportunity cost (from the English National Health Service), estimates of the relationship between country GDP per capita and the value of a statistical life, and a series of explicit assumptions.
Results

CETs for Malawi (the country with the lowest income in the world), Cambodia (with borderline low/low-middle income), El Salvador (with borderline low-middle/upper-middle income), and Kazakhstan (with borderline high-middle/high income) were estimated to be $3 to $116 (1%–51% GDP per capita), $44 to $518 (4%–51%), $422 to $1967 (11%–51%), and $4485 to $8018 (32%–59%), respectively.
Conclusions
To date, opportunity-cost-based CETs for low-/middle-income countries have not been available. Although uncertainty exists in the underlying assumptions, these estimates can provide a useful input to inform resource allocation decisions and suggest that routinely used CETs have been too high.

Economic Evaluation
Cost-Effectiveness of Quadrivalent versus Trivalent Influenza Vaccine in the United States
Pieter T. de Boer, Pascal Crépey, Richard J. Pitman, Bérengère Macabeo, Ayman Chit, Maarten J. Postma
Published online: July 14, 2016
Open Access
Abstract
Background
Designed to overcome influenza B mismatch, new quadrivalent influenza vaccines (QIVs) contain one additional B strain compared with trivalent influenza vaccines (TIVs).
Objective
To examine the expected public health impact, budget impact, and incremental cost-effectiveness of QIV versus TIV in the United States.
Methods
A dynamic transmission model was used to predict the annual incidence of influenza over the 20-year-period of 2014 to 2034 under either a TIV program or a QIV program. A decision tree model was interfaced with the transmission model to estimate the public health impact and the cost-effectiveness of replacing TIV with QIV from a societal perspective. Our models were informed by published data from the United States on influenza complication probabilities and relevant costs. The incremental vaccine price of QIV as compared with that of TIV was set at US $5.40 per dose.
Results
Over the next 20 years, replacing TIV with QIV may reduce the number of influenza B cases by 27.2% (16.0 million cases), resulting in the prevention of 137,600 hospitalizations and 16,100 deaths and a gain of 212,000 quality-adjusted life-years (QALYs). The net societal budget impact would be US $5.8 billion and the incremental cost-effectiveness ratio US $27,411/QALY gained. In the probabilistic sensitivity analysis, 100% and 96.5% of the simulations fell below US $100,000/QALY and US $50,000/QALY, respectively.
Conclusions
Introducing QIV into the US immunization program may prevent a substantial number of hospitalizations and deaths. QIV is also expected to be a cost-effective alternative option to TIV.

* * * *

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

Open Forum Infectious Diseases
Volume 3, Issue suppl 1
10.1093/ofid/ofw172.659
Severe Complications of Varicella in Persons Vaccinated With Varicella Vaccine (Breakthrough Varicella): A Systematic Literature Review
J Leung, K Broder, M Marin
Abstract
Background.
Live, attenuated varicella vaccines introduced during the 1990s are safe and effective with >140 million doses distributed in the United States alone. Varicella may occur among vaccinated persons (breakthrough varicella). Breakthrough varicella is generally mild, but severe cases have been reported. Understanding the clinical presentations of breakthrough varicella (i.e. vaccine failure) is important for evaluating the vaccination program.
Methods.
Systematic review of articles published during 1977–2015 using specific search terms. Breakthrough varicella is defined as varicella ≥42 days after varicella vaccination. We defined severe breakthrough as varicella that resulted in 1) disseminated varicella-zoster virus (VZV) infection to other organs besides skin, 2) any hospitalization in addition to cases that met the first criterion, and 3) death.
Results
Of the 877 articles identified, 34 were included: 25 described breakthrough varicella with disseminated VZV infection to other organs besides skin and 11 described hospitalized breakthrough varicella without internal organ involvement. The severe complications, not mutually exclusive, described in the articles included: neurologic (11 articles), hematologic (9), secondary infection with bacteremia or sepsis (7), pneumonia (5), ocular (5), hepatic (4) and renal (2). No articles indicated severe breakthrough varicella with disseminated VZV infection to other organs besides skin in persons who received 2 doses of varicella vaccine. Two articles reported hospitalized breakthrough varicella cases without other organ involvement in 4 patients who received 2 doses of varicella vaccine. There were 6 reports of fatal breakthrough varicella, all among 1-dose vaccine recipients; 5 occurred in persons with altered immunocompetence.
Conclusion.
Severe complications with organ involvement besides skin among breakthrough varicella cases do occur but appear rare. Most common severe complications involving disseminated VZV among vaccinated persons were similar to those seen in unvaccinated persons. No severe complications involving disseminated VZV infection were reported among 2-dose vaccine recipients.

Gynecology Obstetrics & Reproductive Medicine
2016; 22 [Article in P{ress]
HPV Vaccines: Current Status
ME Sarı, MM Meydanlı
Abstract

Cervical cancer is the fourth most common cancer in women worldwide, and the main cause is Human Papillomavirus (HPV) infection. HPV vaccines have had dramatic impacts on the prevalence of targeted HPV types (6,11,16 and 18), genital warts and precancerous cervical lesions. The World Health Organization (WHO) and Centers for Disease Control and Prevention (CDC) have confirmed the safety of HPV vaccines after >250 million doses were administered worldwide. WHO approved the two-dose-schedule of HPV vaccines in females younger than 15 years of age, with ≥6 month intervals. Extension of vaccination to men could further reduce the population prevalence of HPV and provide direct protection of men against genital warts and anal, penile and oropharyngeal cancers. The nine-valent HPV vaccine has demonstrated equivalent protection against the four types in the quadrivalent vaccine and high efficacy against the next five commonest causes of cervical cancer (HPV types 31,33,45,52 and 58). The Advisory Committee on Immunization Practices (ACIP) recommends the nine-valent vaccine and it has been approved by the FDA in 2014 for both genders between 11–12 years of age.

BMC Malaria Journal
201615:593
DOI: 10.1186/s12936-016-1635-5
The economics of malaria control and elimination: a systematic review
Rima Shretta, Anton L. V. Avanceña and Arian Hatefi
Abstract
Background
Declining donor funding and competing health priorities threaten the sustainability of malaria programmes. Elucidating the cost and benefits of continued investments in malaria could encourage sustained political and financial commitments. The evidence, although available, remains disparate. This paper reviews the existing literature on the economic and financial cost and return of malaria control, elimination and eradication.
Methods
A review of articles that were published on or before September 2014 on the cost and benefits of malaria control and elimination was performed. Studies were classified based on their scope and were analysed according to two major categories: cost of malaria control and elimination to a health system, and cost-benefit studies. Only studies involving more than two control or elimination interventions were included. Outcomes of interest were total programmatic cost, cost per capita, and benefit-cost ratios (BCRs). All costs were converted to 2013 US$ for standardization.
Results
Of the 6425 articles identified, 54 studies were included in this review. Twenty-two were focused on elimination or eradication while 32 focused on intensive control. Forty-eight per cent of studies included in this review were published on or after 2000. Overall, the annual per capita cost of malaria control to a health system ranged from $0.11 to $39.06 (median: $2.21) while that for malaria elimination ranged from $0.18 to $27 (median: $3.00). BCRs of investing in malaria control and elimination ranged from 2.4 to over 145.
Conclusion
Overall, investments needed for malaria control and elimination varied greatly amongst the various countries and contexts. In most cases, the cost of elimination was greater than the cost of control. At the same time, the benefits of investing in malaria greatly outweighed the costs. While the cost of elimination in most cases was greater than the cost of control, the benefits greatly outweighed the cost. Information from this review provides guidance to national malaria

programmes on the cost and benefits of malaria elimination in the absence of data. Importantly, the review highlights the need for more robust economic analyses using standard inputs and methods to strengthen the evidence needed for sustained financing for malaria elimination.

The Lancet Neurology

Online First

Safety and immunogenicity of the tau vaccine AADvac1 in patients with Alzheimer's disease: a randomised, double-blind, placebo-controlled, phase 1 trial

P Novak, R Schmidt, E Kontsekova, N Zilka et al

DOI: http://dx.doi.org/10.1016/S1474-4422(16)30331-3

Summary

Background

Neurofibrillary pathology composed of tau protein is a main correlate of cognitive impairment in patients with Alzheimer's disease. Immunotherapy targeting pathological tau proteins is therefore a promising strategy for disease-modifying treatment of Alzheimer's disease. We have developed an active vaccine, AADvac1, against pathological tau proteins and assessed it in a phase 1 trial.

Methods

We did a first-in-man, phase 1, 12 week, randomised, double-blind, placebo-controlled study of AADvac1 with a 12 week open-label extension in patients aged 50–85 years with mild-to-moderate Alzheimer's disease at four centres in Austria. We randomly assigned patients with a computer-generated sequence in a 4:1 ratio overall to receive AADvac1 or placebo. They received three subcutaneous doses of AADvac1 or placebo from masked vaccine kits at monthly intervals, and then entered the open-label phase, in which all patients were allocated to AADvac1 treatment and received another three doses at monthly intervals. Patients, carers, and all involved with the trial were masked to treatment allocation. The primary endpoint was all-cause treatment-emergent adverse events, with separate analyses for injection site reactions and other adverse events. We include all patients who received at least one dose of AADvac1 in the safety assessment. Patients who had a positive IgG titre against the tau peptide component of AADvac1 at least once during the study were classified as responders. The first-in-man study is registered with EU Clinical Trials Register, number EudraCT 2012-003916-29, and ClinicalTrials.gov, number NCT01850238; the follow-up study, which is ongoing, is registered with EU Clinical Trials Register, number EudraCT 2013-004499-36, and ClinicalTrials.gov, number NCT02031198.

Findings

This study was done between June 9, 2013, and March 26, 2015. 30 patients were randomly assigned in the double-blind phase: 24 patients to the AADvac1 group and six to the placebo group. A total of 30 patients received AADvac1. Two patients withdrew because of serious adverse events. The most common adverse events were injection site reactions after administration (reported in 16 [53%] vaccinated patients [92 individual events]). No cases of meningoencephalitis or vasogenic oedema occurred after administration. One patient with pre-existing microhaemorrhages had newly occurring microhaemorrhages. Of 30 patients given AADvac1, 29 developed an IgG immune response. A geometric mean IgG antibody titre of 1:31415 was achieved. Baseline values of CD3+ CD4+ lymphocytes correlated with achieved antibody titres.

Interpretation

AADvac1 had a favourable safety profile and excellent immunogenicity in this first-in-man study. Further trials are needed to corroborate the safety assessment and to establish proof of clinical efficacy of AADvac1.
Funding
AXON Neuroscience SE.

Epidemiology and infection
2016 Dec 8:1-12. [Epub ahead of print]
Factors associated with influenza vaccine uptake in older adults living in the community in Singapore.
LW Ang, J Cutter, L James, KT Goh
Abstract
In Singapore, influenza vaccination is recommended for persons at higher risk of complications of seasonal influenza, including those with chronic medical conditions and the elderly (individuals aged ⩾65 years). We investigated the factors associated with influenza vaccine uptake based on a nationally representative sample of community-dwelling adults aged >50 years. The data for this study were obtained from the National Health Surveillance Survey (NHSS) 2013. The association between influenza vaccine uptake and socio-demographic and health-related variables was analysed using univariable and multivariable logistic regression models. Of 3700 respondents aged ⩾50 years in the NHSS, 15·2% had received seasonal influenza vaccination in the past year. Older age, single marital status and economic inactivity were the socio-demographic variables independently associated with vaccine uptake. Health-related factors which were predictive of influenza vaccine uptake were sufficient total physical activity, better self-rated health, having at least one medical condition at risk of influenza complications and a regular family doctor/general practitioner. Influenza vaccine uptake in community-dwelling older adults was low. Our findings are of relevance in the formulation of public health policies and targeted health promotion strategies to increase vaccine uptake in this population group.

* * * *

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 17 December 2016
[No new, unique, relevant content]

BBC
http://www.bbc.co.uk/
Accessed 17 December 2016
[No new, unique, relevant content]

The Economist
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Returns on big pharma research and development hit six-year low
13 December 2016
Returns from research and development among the world's biggest drugmakers have fallen to their lowest levels in six years and are set to continue deteriorating, according to a Deloitte report. The survey by the professional services company highlights the growing difficulties for the industry, which is compelled to spend hundreds of billions of dollars on R&D in order to develop new drugs and stay competitive, while at the same time facing criticism from politicians over high charges. Projected returns for the world's top 12 spenders on R&D have fallen to 3.7 per cent in 2016, down from a high of 10.1 per cent in 2010 when the study was first compiled. The cost of developing a drug in that period has risen from an average of just under $1.2bn to more than $1.5bn today.

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How data maps are transforming the fight against malaria in Zambia
15 December 2016
Experts from Seattle, Silicon Valley, Atlanta and beyond are donating their time to develop technology that could help eliminate malaria by 2020
By Jeff Bernson, Director of results management, measurement and learning at PATH

New Yorker
http://www.newyorker.com/
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http://www.nytimes.com/
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Halfdan Mahler, Who Shifted W.H.O.'s Focus to Primary Care, Dies at 93
15 December 2016
Halfdan Mahler, a Danish physician who led the World Health Organization as it shifted its focus to primary care but acknowledged that its response to the AIDS crisis had been far too slow, died on Wednesday in Geneva. He was 93… Dr. Mahler was behind a major shift in priorities in 1978 toward primary care and away from communicable diseases, on which the organization, founded in 1948, had focused for decades, he explained in an interview in 2008. During those Cold War years, the two main superpowers had competed to combat disease: The United States took the lead on malaria, and the Soviet Union on smallpox. In 1977, Dr. Mahler declared smallpox to be largely eradicated…

Why Doctors Still Worry About Measles
12 December 2016
…Nowadays, pediatricians worry that we've lost our collective memory and therefore some of our healthy fear of the disease and its serious complications — at least until an exposure happens and people start to panic.
Indeed, measles is a disease with a very specific character, and it still infects and kills children across the world. And a study presented in October suggested that one of the most feared later complications of measles is actually more common than we knew, and while it's still rare, it reminds us of the urgency of protecting young children…

Wall Street Journal
http://online.wsj.com/home-page?_wsjregion=na,us&_homepage=/home/us
Accessed 17 December 2016
Zika Virus Threat Pushes DNA Vaccines Forward
Dec. 9, 2016 10:10 am ET

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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].

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

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