**Vaccines and Global Health: The Week in Review**
**26 September 2015**
**Center for Vaccine Ethics & Policy (CVEP)**

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

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

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

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**EBOLA/EVD** **[**to 26 September 2015]
*Public Health Emergency of International Concern (PHEIC); "Threat to international peace and security" (UN Security Council)*

**Ebola Situation Report - 23 September 2015**
*[Excerpts]*

SUMMARY
There were 2 confirmed cases of Ebola virus disease (EVD) reported in the week to 20 September, both of which were in Guinea. Case incidence has remained below 10 cases per week since the end of July this year. Over the same period, transmission of the virus has been geographically confined...

## Inovio Receives $24 Million Option Grant From DARPA to Advance Ebola Program Development

*Clinical Trial Fully Enrolled; Vaccine Protected 100% of Monkeys in Ebola Virus Challenge*

PLYMOUTH MEETING, Pa., Sept. 21, 2015 (GLOBE NEWSWIRE) -- Inovio Pharmaceuticals, Inc. announced today that the U.S. Defense Advanced Research Projects Agency (DARPA) has exercised its option to provide an additional $24 million to support the Inovio-led development of multiple treatment and prevention approaches against Ebola. The option exercise, part of the $45 million Ebola program grant announced in April when Inovio received an initial $21 million award, was contingent upon Inovio successfully leading the completion of certain pre-clinical and clinical development milestones.

DARPA has funded this program to develop a DNA-based vaccine against Ebola, a therapeutic DNA-based monoclonal antibody product (dMAb™) to treat Ebola infection, and a conventional monoclonal antibody to treat Ebola…

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**POLIO** [to 26 September 2015]
*Public Health Emergency of International Concern (PHEIC)*

## GPEI Update: Polio this week - *As of 16 September 2015*

Global Polio Eradication Initiative
*[Editor's Excerpt and text bolding]*
Full report: http://www.polioeradication.org/Dataandmonitoring/Poliothisweek.aspx
:: In an important step towards a polio-free world, the Global Commission for the Certification of Poliomyelitis Eradication (GCC) has concluded that wild poliovirus type 2 (WPV2) has been eradicated worldwide. With WPV type 3 not being seen anywhere in the world for nearly three years, the programme is seeing exciting strides towards ending polio for good. Read more.
:: As progress continues to be made towards polio eradication, surveillance is increasingly one of the most important things the programme can do to protect children against every last poliovirus. Read more about how surveillance works here.
:: The Global Polio Eradication Initiative is proud to partner with the Global Citizen Festival on 26 September, featuring Beyonce, Ed Sheeran, Pearl Jam and other headliners to help fight extreme poverty and inequality around the world, and support approaches that will make life more sustainable for people and the planet.

## Global eradication of wild poliovirus type 2 declared

*Declaration further milestone for globally-coordinated vaccine switch in 2016*
20 September, Bali – In an important step towards a polio-free world, the Global Commission for the Certification of Poliomyelitis Eradication (GCC) today concluded that wild poliovirus type

2 (WPV2) has been eradicated worldwide. The GCC reached its conclusion after reviewing formal documentation submitted by Member States, global poliovirus laboratory network and surveillance systems. The last detected WPV2 dates to 1999, from Aligarh, northern India.

This announcement marks a major landmark in the global efforts to eradicate all three wild poliovirus serotypes: WPV1, WPV2 and WPV3. WPV3 has not been detected globally since November 2012 (in Nigeria); the only remaining endemic WPV1 strains are now restricted to Pakistan and Afghanistan.

The timing of this declaration of WPV2 eradication is also a significant step in preparation for the phased removal of oral polio vaccines (OPVs), beginning with the removal of type 2 oral polio vaccine requiring a switch from using trivalent OPV (containing all three serotypes) to bivalent OPV (containing only type 1 and 3 serotypes, but not type 2) in OPV-using countries, planned for April 2016.

*Meeting one prerequisite for the switch*
OPV contains attenuated (weakened) polioviruses. On extremely rare occasions, use of OPV can result in cases of polio due to vaccine-associated paralytic polio (VAPP) and circulating vaccine-derived polioviruses (cVDPVs). For this reason, the global eradication of polio requires the eventual cessation of all OPV. With WPV2 transmission already having been successfully interrupted, the only type 2 poliovirus which still, on very rare occasions, causes paralysis is the type 2 serotype component in trivalent OPV. The continues use of this vaccine component is therefore inconsistent with the goal of eliminating all paralytic polio disease.

The continued occurrence of polio cases caused by type 2 vaccine-derived poliovirus is the reason to implement the switch from trivalent OPV to bivalent OPV in routine immunization programmes, even before the remaining strains of wild poliovirus are eradicated. Following WPV1 and WPV3 eradication, use of all OPV in routine immunizations will subsequently be stopped. Recent new cVDPV outbreaks in Ukraine (type 1 cVDPV) and the Guinea/Mali border area (type 2 cVDPV) this year further underscore the need for the phased removal of OPVs beginning with type 2 next year.

The switch is expected to be associated with significant public health benefits. More than 90% of all cVDPV outbreaks are caused by the type 2 component of trivalent OPV. Also, up to 38% of all VAPP cases are estimated to be caused by this component. The disease burden due to type 2 vaccine viruses is expected to drop to zero after the planned switch is implemented globally.

To prepare for the switch in April 2016, a number of criteria must be met, as guided by the Strategic Advisory Group of Experts on immunization (SAGE), the independent expert body advising the World Health Organization (WHO) on all matters relating to immunization. These criteria include:
.1. introducing inactivated polio vaccine (IPV) in all routine immunization programmes to maintain immunity levels to type 2 polio (IPV is a trivalent vaccine manufactured from all three inactivated/killed vaccine strains, which are not associated with vaccine-associated paralysis);
.2. securing access to bivalent OPV licensed for use in routine immunization in OPV-using countries (bivalent is currently licensed primarily for supplementary immunization activities);

.3. ensuring global outbreak response capacity, including through a global stockpile of monovalent OPV type 2 (mOPV2), to rapidly enable a response should any vaccine-derived type 2 poliovirus still emerge following the switch;
.4. securing all WPV2 and Sabin type 2 viruses remaining in a small number of essential facilities under appropriate biocontainment levels to minimise the risk of re-introduction into a type 2 polio-free world; and,
.5. declaration by the independent Global Commission that WPV2 has been eradicated globally.

This week's declaration has satisfied the fifth criteria outlined above, removing a major hurdle and further paving the way for the trivalent OPV to bivalent OPV switch next year, as planned. SAGE will convene at end-October in Geneva, Switzerland, to further review countries' preparatory plans for next year's switch and offer additional guidance as needed. In the meantime, a major step towards securing a lasting world free of all polio paralysis, has been taken.

**WHO Removes Nigeria from Polio-Endemic List**
*Only 2 countries remain endemic to this paralysing disease*
*News release*
25 September 2015 ¦ GENEVA/NEW YORK - WHO announced today that polio is no longer endemic in Nigeria. This is the first time that Nigeria has interrupted transmission of wild poliovirus, bringing the country and the African region closer than ever to being certified polio-free.

The Global Polio Eradication Initiative (GPEI), the public-private partnership leading the effort to eradicate polio, called this a 'historic achievement' in global health. Nigeria has not reported a case of wild poliovirus since 24 July 2014, and all laboratory data have confirmed a full 12 months have passed without any new cases.

As recently as 2012, Nigeria accounted for more than half of all polio cases worldwide. Since then, a concerted effort by all levels of government, civil society, religious leaders and tens of thousands of dedicated health workers have resulted in Nigeria successfully stopping polio.

More than 200 000 volunteers across the country repeatedly immunized more than 45 million children under the age of 5 years, to ensure that no child would suffer from this paralysing disease. Innovative approaches, such as increased community involvement and the establishment of Emergency Operations Centres at the national and state level, have also been pivotal to Nigeria's success.

The interruption of wild poliovirus transmission in Nigeria would have been impossible without the support and commitment of donors and development partners. Their continued support, along with continued domestic funding from Nigeria, will be essential to keep Nigeria and the entire region polio-free.

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**MERS-CoV [**to 26 September 2015]

**Global Alert and Response (GAR) – Disease Outbreak News (DONs)**
:: Middle East respiratory syndrome coronavirus (MERS-CoV) – Kuwait
23 September 2015

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**WHO & Regionals** [to 26 September 2015]
**WHO Welcomes Sustainable Development Goals**
26 September 2015-- As 150 world leaders launch the new Sustainable Development Goal (SDGs), WHO's Global Strategy for Women's, Children's and Adolescents' Health 2015 aims to end all preventable deaths of women, children, and adolescents by 2030. Its' Noncommunicable Disease (NCD) Progress Monitor tracks the response of 194 countries. WHO's new partnership to support countries in improving primary health care also supports the 40 health targets within the SDGs.

**WHO responds to increasing health needs in Yemen as health facilities continue to shut down**
Sana'a, 22 September 2015 — WHO is delivering extensive health support in response to the crisis in Yemen, providing almost 200 tonnes of critical medical supplies and more than 745 000 litres of fuel to keep health services operational amidst intensifying fighting.

Yemen's 6-month conflict has left thousands of people in need of treatment, caused extensive damage to health facilities, and fanned a dengue fever outbreak. WHO warns that the numbers of people needing health care are likely to increase. Numerous health facilities are on the verge of collapsing under the weight of the conflict.

"The situation is alarming," says Dr Ahmed Shadoul, WHO Representative for Yemen. " The health crisis is deepening as more health facilities run out of basic supplies and more hospitals and blood-transfusion centres stop functioning. Health facilities are operating at minimum capacity. These supplies are a crucial lifeline. Without support, many hospitals would close down preventing millions of people from accessing health."…

**Ministry of Health, WHO and partners step up response to cholera outbreak in Iraq**
20 September 2015, Baghdad – Under the provision of the International Health Regulations (IHR 2005), the Ministry of Health of Iraq, in consultation with WHO, declared a cholera outbreak in governorates of Najaf, Diwaniya, and parts of west Baghdad on 15 September 2015, and announced a stepping up of measures to stop transmission and prevent further spread of the disease.

The declaration came after a sudden increase in the number of acute watery diarrhoea diseases cases. Laboratory tests conducted in the central public health laboratory confirmed the presence of Vibrio cholerae subtype 01 Inaba in 38 out of a total of 106 stool samples tested. A

cholera task force comprising officials from the Ministry of Health, WHO, and other United Nations partners has been set up to lead the response and coordinate with local health authorities in affected areas to control the disease which can, if not timely controlled, spread rapidly and widely.

"The Ministry of Health has been closely monitoring the situation and the implementation of the country cholera contingency plan has immediately been stepped up. We already started positioning and distributing medicines and other supplies for case management to locations where they are most needed," said Dr Adela Hamoud, Minister of Health, who added, "We expect the number of cases to increase within the coming days but we are working with WHO and other health partners to manage this situation and contain the spread of the bacteria to other high-risk governorates in the country"…

The **Weekly Epidemiological Record (WER) 25 September 2015,** vol. 90, 39 (pp. 505–516) includes -
:: Reducing pain at the time of vaccination: WHO position paper – September 2015
:: Rubella and congenital rubella syndrome control and elimination – global progress, 2000–2014

**WHO recommendations on reducing pain at the time of vaccination**

Geneva, 25 September - In a new position paper published in today's edition of the Weekly Epidemiological Record, WHO provides recommendations that can be taken to reduce pain and anxiety during vaccination which can be applied in all countries worldwide.

Pain during vaccination sessions is manageable and managing pain does not decrease the efficacy of the vaccine. There are general effective, feasible, non-costly, culturally acceptable, evidence-based strategies to mitigate pain at the time of vaccination such as:

:: Ensuring health-care personnel carrying out vaccination remain calm, collaborative, well informed and avoid using language that increases anxiety, and promotes distrust;

:: Ensuring proper positioning of the vaccine recipient according to age, for example infants and young children should be held by the caregiver and for older children and adults to be sitting upright;

::: When multiple vaccines are injected sequentially in the same session, they should be administered in order of increasing painfulness.

In addition to the above general strategies, several specific recommendations targeted at the different age groups were also identified such as breast-feeding for infants or distractions using breathing interventions for adults.

**Global Alert and Response (GAR) – Disease Outbreak News (DONs)**
:: Middle East respiratory syndrome coronavirus (MERS-CoV) – Kuwait 23 September 2015

**:: WHO Regional Offices**
**WHO African Region AFRO**
*No new digest content identified.*

**WHO Region of the Americas** **PAHO**
:: Brazil's "More Doctors" initiative has taken health care to 63 million people (09/22/2015)

**WHO South-East Asia Region** **SEARO**
:: Former top Indian bureaucrat appointed to WHO Advisory Group on emergency, outbreak response

New Delhi, 25 September 2015: A former top Indian bureaucrat and ex-Governor of Manipur and Mizoram states, Vinod Kumar Duggal, has been appointed to the World Health Organization's Advisory Group to strengthen response to outbreaks and emergencies with health and humanitarian consequences. He is the only representative from WHO South-East Asia Region in the Advisory Group to WHO Director General Dr Margaret Chan and will be serving the organization on an honorary basis…

**WHO European Region** **EURO**
:: New agenda for sustainable development: towards a healthier, equitable and peaceful future for all 25-09-2015
:: Refugees and migrants are more prone to foodborne diseases 24-09-2015
:: Europeans are living longer, but can it last? European health report 2015 23-09-2015

**WHO Eastern Mediterranean Region** **EMRO**
:: Months of health preparations in place as hajj pilgrimage begins
21 September 2015 – An estimated 2 million Muslims from 184 countries are taking part in the annual hajj gathering in Saudi Arabia's holy city of Mecca. The Government of Saudi Arabia has increased the number of health workers and health facilities for the hajj and has issued advice to pilgrims on health precautions, including immunization and personal hygiene.
:: WHO responds to increasing health needs in Yemen as health facilities continue to shut down
22 September 2015
:: Ministry of Health, WHO and partners step up response to cholera outbreak in Iraq
20 September 2015
:: Middle East respiratory syndrome (MERS) and the hajj
September 2015

**WHO Western Pacific Region**
:: Asia-Pacific countries pledge to eliminate parent-to-child transmission of HIV and syphilis
BEIJING, 24 September 2015 – Representatives from 20 countries agreed on ambitious new targets to eliminate parent-to-child transmission of HIV and syphilis at the 10th Asia Pacific Prevention of Parent-to-Child Transmission of HIV and Syphilis Task Force Meeting.
Read the joint news release

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**CDC/MMWR/ACIP Watch** [to 26 September 2015]
http://www.cdc.gov/media/index.html

**MMWR September 25, 2015 / Vol. 64 / No. 37**
:: Global Progress Toward Rubella and Congenital Rubella Syndrome Control and Elimination — 2000–2014

**ACIP Meeting – October 21, 2015 [one-day meeting]**
October 21, 2015[2 pages] Draft Agenda - September 9, 2015

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## Initiatives/Announcements/Milestones

**Gavi** [to 26 September 2015]
http://www.gavialliance.org/library/news/press-releases/
**Ngozi Okonjo-Iweala appointed Chair-elect of Gavi Board**
*Former Nigerian Minister of Finance joins Vaccine Alliance drive to reach every child with life-saving vaccines*
Geneva, 21 September 2015 - Internationally renowned development economist and former Nigerian Finance Minister Ngozi Okonjo-Iweala has been appointed Chair-elect of the Board of Gavi, the Vaccine Alliance. She will take up the position of Chair from January 2016.

Dr Okonjo-Iweala will bring more than 33 years of development and financial expertise to the Gavi Board at a critical period for immunisation in developing countries. Despite record coverage rates, every year around 19 million children are still missing out on a full course of the most basic vaccines. Additionally, more than 20 countries with growing economies are preparing to transition from Gavi support by 2020, meaning they will take on the full cost of their immunisation programmes…

"I am excited to be joining Gavi during this crucial time," said Dr Okonjo-Iweala. "Gavi has a well-earned reputation as one of the leading players in global health, providing services that underpin human and economic development. We must build on this solid foundation to create sustainable programmes that will drive down vaccine-preventable diseases, reach every child and provide them with a sound basis for their futures."…

In taking up the position of Board Chair, Dr Okonjo-Iweala will succeed Dagfinn Høybråten, a former Norwegian Minister of Health and current Secretary General of the Nordic Council of Ministers…

**Global Fund** [to 26 September 2015]
http://www.theglobalfund.org/en/mediacenter/newsreleases/
**Global Fund Welcomes Appointment of Ngozi Okonjo-Iweala as Gavi Chair**
22 September 2015

**Results Report 2015**
The Global Fund released its Results Report 2015, summarizing the remarkable gains made against HIV, tuberculosis and malaria by programs supported by the Global Fund partnership. It captures our collective determination to serve people affected by these diseases, to strive for social justice, and to achieve impact.

The top-line highlight is that 17 million lives have been saved, based on data through the end of 2014, and that we are on track to reach 22 million lives saved by the end of 2016. The report also highlights the broad achievement that the number of people dying from AIDS, TB and malaria has declined by more than one-third since 2002, when the Global Fund began investing to prevent, treat and care for people affected by the diseases.

The report also includes accounts of why it is critically important to build resilient and sustainable systems for health, creating substantial positive effects in countries where these diseases are rife, with a mutually reinforcing relationship between funding for disease-control programs and funding for cross-cutting systems. The report further outlines a focus on gender inequalities, which are major drivers of disease transmission, and the fact that in hardest-hit countries, girls account for more than 80 percent of all new HIV infections among adolescents.

A full copy of the report is available here.

**UNICEF** [to 26 September 2015]
http://www.unicef.org/media/media_78364.html
*Selected press release and news notes*

**World Health Organization removes Nigeria from polio-endemic list**
NEW YORK/GENEVA, 25 September 2015 – The World Health Organization announced today that polio is no longer endemic in Nigeria. This is the first time that Nigeria has interrupted transmission of wild poliovirus, bringing the country and the African region closer than ever to being certified polio-free.

**UNICEF and The Philips Foundation, together with partners, launch the Maternal and Newborn Health Innovations Project**
NEW YORK, 23 September 2015 – UNICEF and The Philips Foundation, together with Concern Worldwide, Maker and Gearbox, have launched the Maternal and Newborn Health Innovations Project, to help save lives and improve the health of pregnant women and children in Kenya.

**UN Agencies release new data on levels and trends in child malnutrition**
22 September 2015 - UNICEF, the World Health Organization and the World Bank Group today released updated estimates on child malnutrition, including stunting, wasting and excessive weight. These figures update the child malnutrition numbers in recently released 2015 Global Nutrition Report and today's new estimates include data from 62 new surveys from 57 countries.

**UNICEF ramps up mobile response for child refugees and migrants in Croatia, as numbers climb**
ZAGREB, Croatia/GENEVA, 22 September 2015 – UNICEF has established two mobile units of child protection and welfare experts in Croatia, as an estimated 10,000 women and child refugees and migrants have entered the country in the past week alone

**European Vaccine Initiative** [to 26 September 2015]
http://www.euvaccine.eu/news-events

**TRANSVAC project continues to produce results**
25 September 2015

Two years after the completion of the European Commission funded, EVI co-ordinated TRANSVAC project, results are still emerging, such as the recent article in PLOS neglected tropical diseases: Deep Sequencing Analysis of the Ixodes ricinus Haemocytome

**UNAIDS** [to 26 September 2015]
http://www.unaids.org/en/resources/presscentre/
**UNAIDS calls on governments and the pharmaceutical industry to maintain commitment to accessible and affordable medicines**
NEW YORK/GENEVA, 24 September 2015—As world leaders gather in New York to commit to the Sustainable Development Goals, including ambitious public health targets, UNAIDS has called on governments and the pharmaceutical industry to ensure that medicines remain accessible to all.

Dramatic increases in the prices of some medicines are raising concerns about their continued availability to patients as well as about the wider effects on public health.

"As world leaders commit to new public health targets as part of the Sustainable Development Goals, governments and the private sector have a responsibility to ensure that medicines remain accessible to everybody," said UNAIDS Executive Director Michel Sidibé. "The AIDS response is proof that access to affordable and effective medicines can halt and reverse an epidemic."

Generic competition in the pharmaceutical industry, fostered by the use of intellectual property flexibilities, has helped make prices for life-saving medicines much more affordable over the past 15 years and allowed the massive scale-up of HIV treatment programmes. More than 15 million people are today accessing life-saving antiretroviral medicines, compared with fewer than 700 000 people in 2000.

UNAIDS has set a new 90–90–90 treatment target for 2020 with the aim of ending AIDS as a public health threat by 2030. Countries around the world are adopting the 90–90–90 treatment target, whereby 90% of people living with HIV know their HIV status, 90% of people who know their HIV status are accessing treatment and 90% of people on treatment have suppressed viral loads.

"Everyone has the right to health, no matter where they are born or who they are," added Mr Sidibé.

**BMGF - Gates Foundation** [to 26 September 2015]
http://www.gatesfoundation.org/Media-Center/Press-Releases
**Statements on Alan Magill, Malaria Program Director**
SEATTLE (September 20, 2015)
*Statement by Sue Desmond-Hellmann, CEO and Trevor Mundel, President of the Global Health Program, Bill & Melinda Gates Foundation*
"It is with profound sadness that we share the news that Alan Magill passed away suddenly and unexpectedly on Saturday in Seattle.

Alan was an extraordinary leader in the global fight against malaria, as well as a friend, colleague, and mentor to many of you.

We all knew Alan to be passionate, super smart and deliberate, but he was also considerate, good humored and above all humble. He knew just how hard the task of ending malaria would be - but he also believed that every child deserves the opportunity to lead a healthy and productive life. He was convinced that no challenge is equal to the power of the human spirit. In his three years as Director of the Malaria Program of the Bill & Melinda Gates Foundation, Alan challenged his team to transform the vision of a malaria-free world into a reality. His death is a terrible loss, but we're confident that his incredible moral and intellectual example will inspire others to work even harder to get the job done…

**PATH** [to 26 September 2015]
http://www.path.org/news/index.php
*Announcement* | September 23, 2015
**PATH welcomes groundbreaking regulatory approval for contraceptive self-injection**
Decision marks important step in expanding family planning options for women worldwide

*Announcement* | September 21, 2015
**PATH honors Alan Magill, a visionary leader in the fight against malaria**

**NIH** [to 26 September 2015]
http://www.nih.gov/news/releases.htm
**NIH commits $36M to train junior faculty in Africa**
September 24, 2015 — Sub-Saharan Africa bears almost a quarter of the global disease burden, yet has only 3 percent of the world's health workforce.

**NIH researchers find role for soft palate in adaptation of transmissible influenza viruses**
September 23, 2015 — Study improves understanding of how flu viruses move efficiently between people.

**FDA** [to 26 September 2015]
http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/default.htm
**FDA awards 18 grants to stimulate product development for rare diseases**
September 21, 2015

The U.S. Food and Drug Administration today announced it has awarded 18 new research grants totaling more than $19 million to boost the development of products for patients with rare diseases, which affect the lives of nearly 30 million Americans. These new grants were awarded to principal investigators in ten states, with research spanning clinical sites domestically and internationally.

"The FDA is in a unique position to help those who suffer from rare diseases by offering important incentives to promote the development of products, one of which is our grants program," said Gayatri R. Rao, M.D., J.D., director of the FDA's Office of Orphan Product Development. "The grants awarded this year support much-needed research in 17 different rare diseases, many of which have little, or no, available treatment options."…

**European Medicines Agency** [to 26 September 2015]
http://www.ema.europa.eu/ema/

**European Commission, European Medicines Agency and World Health Organization step up cooperation to better protect global public health**

22/09/2015

*New working arrangement will allow timely sharing of non-public information*

The European Commission and the European Medicines Agency (EMA) have agreed with the World Health Organization (WHO) to share certain non-public information on the safety, quality and efficacy of medicines already authorised or under review in the European Union (EU), or pre-qualified or under review by WHO.

This cooperation will strengthen communication between the respective organisations and make it easier and quicker to take action to protect public health. The arrangement is expected to accelerate patients' access to new and innovative medicines in the EU, avoid duplication of assessments and improve the authorisation and safety of medicines by involving the best expertise from both sides.

The arrangement further strengthens the collaboration between WHO, the European Commission and EMA who have a long history of scientific and technical collaboration in the context of the International Conference on Harmonisation and the International Pharmaceutical Regulators Forum.

**WMO** World Meteorological Organization [to 26 September 2015]
https://www.wmo.int/media/?q=news

**WMO and partners prepare health sector for El Niño**

22 September 2015

Preparedness efforts to limit the impact of this year's El Niño are gaining momentum in South America, with a special focus on sectors which are most vulnerable to extreme climate conditions.

A mature and strong El Niño is now present in the tropical Pacific Ocean and is likely to intensify further. It is the strongest since 1997-1998 and is potentially among the four strongest events since 1950, according to the latest WMO Update.

Since the release of the WMO Update, meteorological services around the world have been busy informing decision makers of the national and local impacts, which include extreme rainfall and flooding, drought and heatwaves.

Specifically, the International Center for the Investigation of the El Niño Phenomenon, CIIFEN, has organized briefings for policy makers and representatives from disaster risk management, agriculture and food production, health, tourism and other industries in South America.

The briefings form part of a much wider mobilization, coordination and information campaign designed to maximize public safety and keep economic and material losses to a minimum. The disastrous 1997-98 El Niño caused drought and flooding in different parts of South America. In the Andean region alone, the estimated cost in terms of lost production, damage to infrastructure and services was more than US$7.5 billion…

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**Aeras** [to 26 September 2015]
http://www.aeras.org/pressreleases
*No new digest content identified*

**IAVI** International AIDS Vaccine Initiative [to 26 September 2015]
http://www.iavi.org/press-releases/2015
*No new digest content identified*

**IVI** [to 26 September 2015]
http://www.ivi.org/web/www/home
*No new digest content identified*

**Sabin Vaccine Institute** [to 26 September 2015]
http://www.sabin.org/updates/pressreleases

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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

### UN Agencies release new data on levels and trends in child malnutrition

22 September 2015 - UNICEF, the World Health Organization and the World Bank Group today released updated estimates on child malnutrition, including stunting, wasting and excessive weight. These figures update the child malnutrition numbers in recently released 2015 Global Nutrition Report and today's new estimates include data from 62 new surveys from 57 countries.

The key new figures reflect the downward trend reported on in the GNR:
:: The new 2014 data reveals that 159 million children are stunted, 50 million are wasted and 41 million are overweight. [1]
:: Major forms of malnutrition in children under the age of five all pose a threat to the long and short-term development of the child, families, communities and nations.

Today's report explains the methodology behind the estimates, and contains several charts, graphs and maps available for downloading. Download the report at: full report The charts and graphs in the report are available in vector files here: https://www.dropbox.com/sh/9ugtb9175to84am/AADWM7ThpVJSxdtzNbqLAe5ta?oref=e&n=166060185

## Rethinking the Global Health System

Research Paper

Marco Schäferhoff, Elina Suzuki, Philip Angelides, Steven Hoffman
Centre on Global Health Security | Chatham House September 2015

*Summary*

:: Current deliberations on global health in the post-Millennium Development Goals era have largely focused on what will be needed to achieve the new health targets set out in the Sustainable Development Goals (SDGs), but more is needed now on how to respond to the challenges post-2015.

:: Strong, resilient and equitable systems that enable all people to live healthy lives are required at country level – the global health architecture should be rethought in a way that best supports the building of these systems.

:: A fundamental shift affecting global health is the rising burden of non-communicable diseases (NCDs). The ageing of the population – a key driver in the rise of NCDs – represents a significant challenge to global health. Low-income and lower-middle-income countries that are still battling infectious diseases are faced with a 'double burden' of disease that in many cases overstretches already weak health systems.

:: The recent Ebola crisis in West Africa has shown that weak health systems make countries more vulnerable, and underscores the importance of strengthening these systems to protect global health security. There is a need for enhanced global disease surveillance and detection capacities, as well as improved international coordination in responding to emerging health threats.

:: Many low- and middle-income countries are projected to experience substantial economic growth into the next decade, which should enable them to spend more on health themselves.

:: The capacity of the global architecture should be strengthened to support countries in expanding their fiscal space for, and commitment to, financing for health and health systems, and to increase public funding for poor and vulnerable populations – particularly women and children.

:: Global health funders must continue to explore how their strategies can address the rising challenges of poor populations and pockets of high disease burden in middle-income countries. Supporting fragile states more effectively will also be critical in the SDG era, as their populations are disproportionally affected by major health problems.

:: Insufficient financing and weak incentives currently exist for investment in research and development (R&D) to tackle neglected and poverty-related diseases. Expanding R&D financing and the range of incentives for investing in R&D is a priority area for action.

:: There is a need for stronger leadership in global health. One proposal involves the creation of a new organization, termed UN-HEALTH. This would bring together, based on a common results framework, all UN agencies with health-related mandates. Alternatively, a UN Health Commission could be set up to improve coordination without the radical changes to the architecture required for a UN-HEALTH.

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## ***Journal Watch***

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

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

**The American Journal of Bioethics**
Volume 15, Issue 9, 2015
http://www.tandfonline.com/toc/uajb20/current
[Reviewed earlier]

**American Journal of Infection Control**
September 2015 Volume 43, Issue 9, p905-1026, e47-e59
http://www.ajicjournal.org/current
[Reviewed earlier]

**American Journal of Preventive Medicine**
September 2015 Volume 49, Issue 3 , Supplement 2, S125-S218
http://www.ajpmonline.org/current
***Theme: Evidence-Based Behavioral Counseling Interventions as Clinical Preventive Services: Perspectives of Researchers, Funders, and Guideline Developers***
Edited by Robert J. McNellis, Susan J. Curry
[Reviewed earlier]

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

**American Journal of Tropical Medicine and Hygiene**
September 2015; 93 (3)
http://www.ajtmh.org/content/current
[Reviewed earlier]

**Annals of Internal Medicine**
15 September 2015, Vol. 163. No. 6
http://annals.org/issue.aspx

[Reviewed earlier]

**BMC Health Services Research**
http://www.biomedcentral.com/bmchealthservres/content
(Accessed 26 September 2015)
*Research article*
**The prevalence of self-reported underuse of medications due to cost for the elderly: results from seven European urban communities**
Aurima Stankuniene, Mindaugas Stankunas, Mark Avery, Jutta Lindert, Rita Mikalauskiene, Maria Melchiorre, Francisco Torres-Gonzalez, Elisabeth Ioannidi-Kapolou, Henrique Barros, Arūnas Savickas, Raimondas Radziunas, Joaquim Soares
BMC Health Services Research 2015, 15:419 (26 September 2015)

*Research article*
**Comparing efficiency of health systems across industrialized countries: a panel analysis**
Bianca Frogner, H.E. Frech, Stephen Parente
BMC Health Services Research 2015, 15:415 (25 September 2015)

*Research article*
**A scoping review of cost-effectiveness of screening and treatment for latent tubercolosis infection in migrants from high-incidence countries**
Lorenzo Zammarchi, Gianluigi Casadei, Marianne Strohmeyer, Filippo Bartalesi, Carola Liendo, Alberto Matteelli, Maurizio Bonati, Eduardo Gotuzzo, Alessandro Bartoloni, the COHEMI project study group
BMC Health Services Research 2015, 15:412 (24 September 2015)

**BMC Infectious Diseases**
http://www.biomedcentral.com/bmcinfectdis/content
(Accessed 26 September 2015)
*Research article*
**Managing the risk of circulating vaccine-derived poliovirus during the endgame: oral poliovirus vaccine needs**
Radboud Duintjer Tebbens, Kimberly Thompson
BMC Infectious Diseases 2015, 15:390 (24 September 2015)
*Abstract*
Background
The Global Polio Eradication Initiative plans for coordinated cessation of oral poliovirus vaccine (OPV) use, beginning with serotype 2-containing OPV (i.e., OPV2 cessation) followed by the remaining two OPV serotypes (i.e., OPV13 cessation). The risk of circulating vaccine-derived poliovirus (cVDPV) outbreaks after OPV cessation of any serotype depends on the serotype-specific population immunity to transmission prior to its cessation.
Methods
Based on an existing integrated global model of poliovirus risk management policies, we estimate the serotype-specific OPV doses required to manage population immunity for a strategy of intensive supplemental immunization activities (SIAs) shortly before OPV cessation

of each serotype. The strategy seeks to prevent any cVDPV outbreaks after OPV cessation, although actual events remain stochastic.
Results
Managing the risks of OPV cessation of any serotype depends on achieving sufficient population immunity to transmission to transmission at OPV cessation. This will require that countries with sub-optimal routine immunization coverage and/or conditions that favor poliovirus transmission conduct SIAs with homotypic OPV shortly before its planned coordinated cessation. The model suggests the need to increase trivalent OPV use in SIAs by approximately 40 % or more during the year before OPV2 cessation and to continue bOPV SIAs between the time of OPV2 cessation and OPV13 cessation.
Conclusions
Managing the risks of cVDPVs in the polio endgame will require serotype-specific OPV SIAs in some areas prior to OPV cessation and lead to demands for additional doses of the vaccine in the short term that will affect managers and manufacturers.

*Research article*
**An economic analysis of poliovirus risk management policy options for 2013–2052**
Radboud Duintjer Tebbens, Mark Pallansch, Stephen Cochi, Steven Wassilak, Kimberly Thompson
BMC Infectious Diseases 2015, 15:389 (24 September 2015)
*Abstract*
Background
The Global Polio Eradication Initiative plans for coordinated cessation of oral poliovirus vaccine (OPV) after interrupting all wild poliovirus (WPV) transmission, but many questions remain related to long-term poliovirus risk management policies.
Methods
We used an integrated dynamic poliovirus transmission and stochastic risk model to simulate possible futures and estimate the health and economic outcomes of maintaining the 2013 status quo of continued OPV use in most developing countries compared with OPV cessation policies with various assumptions about global inactivated poliovirus vaccine (IPV) adoption.
Results
Continued OPV use after global WPV eradication leads to continued high costs and/or high cases. Global OPV cessation comes with a high probability of at least one outbreak, which aggressive outbreak response can successfully control in most instances. A low but non-zero probability exists of uncontrolled outbreaks following a poliovirus reintroduction long after OPV cessation in a population in which IPV-alone cannot prevent poliovirus transmission. We estimate global incremental net benefits during 2013–2052 of approximately $16 billion (US$2013) for OPV cessation with at least one IPV routine immunization dose in all countries until 2024 compared to continued OPV use, although significant uncertainty remains associated with the frequency of exportations between populations and the implementation of long term risk management policies.
Conclusions
Global OPV cessation offers the possibility of large future health and economic benefits compared to continued OPV use. Long-term poliovirus risk management interventions matter (e.g., IPV use duration, outbreak response, containment, continued surveillance, stockpile size and contents, vaccine production site requirements, potential antiviral drugs, and potential safer vaccines) and require careful consideration. Risk management activities can help to ensure a low risk of uncontrolled outbreaks and preserve or further increase the positive net benefits of

OPV cessation. Important uncertainties will require more research, including characterizing immunodeficient long-term poliovirus excretor risks, containment risks, and the kinetics of outbreaks and response in an unprecedented world without widespread live poliovirus exposure.

**BMC Medical Ethics**
http://www.biomedcentral.com/bmcmedethics/content
(Accessed 26 September 2015)
[No new content]

**BMC Pregnancy and Childbirth**
http://www.biomedcentral.com/bmcpregnancychildbirth/content
(Accessed 26 September 2015)
[No new relevant content identified]

**BMC Public Health**
http://www.biomedcentral.com/bmcpublichealth/content
(Accessed 26 September 2015)
[No new relevant content identified]

**BMC Research Notes**
http://www.biomedcentral.com/bmcresnotes/content
(Accessed 26 September 2015)
[No new relevant content identified]

**BMJ Open**
2015, Volume 5, Issue 9
http://bmjopen.bmj.com/content/current
[Reviewed earlier]

**British Medical Journal**
23 September 2015 (vol 351, issue 8026)
http://www.bmj.com/content/351/8026
*Editorials*
**The FDA's new clothes**
BMJ 2015; 351 doi: http://dx.doi.org/10.1136/bmj.h4897 (Published 23 September 2015) Cite this as: BMJ 2015;351:h4897
Donald W Light, professor1,
Joel Lexchin, professor2
Author affiliations
*The FDA does not protect patients from harmful or ineffective drugs, but approves both*

The Vioxx disaster in the early 2000s triggered a crisis of mistrust in the US Food and Drug Administration (FDA), as evidence emerged that it had downplayed or ignored evidence of serious cardiovascular harm associated with Vioxx (rofecoxib), a cyclo-oxygenase-2 selective non-steroidal anti-inflammatory drug.

The result was a renewed emphasis on drug safety throughout a product's lifecycle. At the same time, drug companies, which provide most of the funds for the FDA's review of their drugs, kept pushing for faster approvals and new uses for old drugs, supposedly so that more patients could benefit. Any possible risks in getting new drugs to market more quickly would be offset by more intensive monitoring once they were being prescribed.

Two linked papers (doi:10.1136/bmj.h4633, 10.1136/bmj.h4679) provide valuable accounts of how the FDA is using faster reviews for what it deems to be important new drugs and using supplemental approvals for existing drugs more widely.[1] [2] This is just what patients and their doctors are said to want—more patients benefiting from taking more new drugs sooner, generating revenue for the companies to fund more breakthrough research.

Put in the context of the FDA's larger record, however, these studies give cause for concern about whether most new drugs are any more effective than existing products or whether their safety has been adequately assessed. The term "safe and effective" misleads patients and prescribers. Although the US Congress and the FDA require "substantial evidence of effectiveness" to approve new drugs, they require no evidence of substantial effectiveness.[3] Companies provide substantial evidence of effectiveness through trials that in most cases prove only that the product being tested has a non-zero level of effectiveness. The result is that independent reviews find that 85-90% of new drugs provide few or no advantages for patients.[4] The FDA's flexible criteria and low threshold for approval do not reward more research for breakthroughs but instead reward more research for minor variations that can clear this low threshold.

The growing number and widening application of expedited review programs are accompanied by evidence that many of the clinical trials accepted by an industry compliant FDA have features that contribute to biased results and compromised science (see box).[5] [6] As a consequence, these trials are incapable of providing patients or doctors with valid information on what new clinical benefits a drug provides. The result is an ever larger number of drugs approved on the basis of weaker evidence and in shorter time periods. We documented this for cancer drugs,[5] and a much more comprehensive review comes to similar conclusions across many areas of medicine overseen by the FDA.[6] Yet both of the linked studies point out that Congress is poised to advocate for still more accelerated reviews based on even less evidence.

*Some features of trials that make drugs look safer and more effective than they are*
:: Random samples from biased populations that exclude people more likely to have adverse reactions or less likely to generate positive outcomes; prescribing to patients in actual clinical practice often produces weaker, less consistent outcomes and more adverse reactions
:: Non-randomized trials in unrepresentative populations
:: Benefits often measured with surrogate endpoints rather than real clinical outcomes that matter to patients
:: Trials primarily designed to measure benefits, not harms
:: Trials lacking a comparator or control arm (single arm)

:: Trials not blinded or easily unblinded
:: High doses used to generate evidence of benefit for the drug under evaluation
:: Trials too short to pick up adverse reactions to high doses but long enough to pick up the benefits
:: Poor measurement and reporting of the number needed to treat and number needed to harm
:: Trials stopped early because results look beneficial at that point in time; this prevents full evaluation and reporting of harms and benefits

Do patients and doctors really want medicines for cancer and other life threatening conditions approved this way—quickly, with marginal evidence of real benefit? Do they know that faster reviews are associated with a significant increase in serious safety problems[7] and the risk of patients being admitted to hospital with or dying from adverse reactions?[8] Canadian data show that faster review increases the chances of harm serious enough to warrant a severe warning or market withdrawal from one in five to one in three.[9]

In most drug research, harm is called "safety" or "safety events," a fig leaf of pharmaceutical English covering up the real thing. The "risk-benefit ratio" can also obscure the real chance of serious harm. When the possibility of benefit declines, the chance of being harmed stays the same, so the ratio of harms to benefits increases.[10] Prescription drugs are the fourth leading cause of death in the United States and the third leading cause in Europe, according to one authority.[11] [12]

These twin studies are part of a series drawing on impressive datasets assembled under Kesselheim's direction at Harvard University. However, these data are hard to abstract and collate and require searches through multiple FDA databases, along with Freedom of Information Act requests. Wang and Kesselheim could not locate the FDA medical reviews containing the clinical evidence for the basis of approval for 80% of the supplemental applications. Just one medical review was available among the 66 approvals in 2013-14. Only slightly more than 30% of supplemental approvals were supported by trials against active comparators, and more than 70% of approvals were based on trials using surrogate endpoints. Effectively, the FDA has been granting most supplemental approvals without evidence of meaningful clinical benefit.

FDA data on drug withdrawals are equally lacking. A recent review of safety warnings finally concludes that, "Remarkably, no comprehensive source of information on black-box warnings and withdrawals is available."[13]

The United States and other countries need an alternative paradigm—one in which research focuses on better medicines for patients rather than for profits, where clinical trials with low risk of bias look for real benefits and faithfully report harms. Such a paradigm of ethical, open, not for profit research already exists at research institutes such as the Mario Negri Institute for Pharmacological Research.[14] Although this institute accepts funding from drug companies, it operates under rules and practices for keeping drug research independent, transparent, and accountable. The institute's leaders have long advocated for publicly funded regulators whose deliberations are transparent and accountable. With so much misdirected investment, biased science, and harm resulting from industry directed research, with little offsetting benefit, perhaps it is time to consider the Mario Negri public health model for developing better medicines for patients.

*Research*

**Characteristics of efficacy evidence supporting approval of supplemental indications for prescription drugs in United States, 2005-14: systematic review**

BMJ 2015; 351 :h4679 (Published 23 September 2015)
Open Access

**Trends in utilization of FDA expedited drug development and approval programs, 1987-2014: cohort study**

BMJ 2015; 351 :h4633 (Published 23 September 2015)
Open Access

**Defining safe criteria to diagnose miscarriage: prospective observational multicentre study**

BMJ 2015; 351 :h4579 (Published 23 September 2015)
Open Access

**Frequency of discrepancies in retracted clinical trial reports versus unretracted reports: blinded case-control study**

BMJ 2015; 351 :h4708 (Published 20 September 2015)
Open Access

**Bulletin of the World Health Organization**
Volume 93, Number 9, September 2015, 589-664
http://www.who.int/bulletin/volumes/93/9/en/
[Reviewed earlier]

**Clinical Infectious Diseases** (CID)
Volume 61 Issue 8 October 15, 2015
http://cid.oxfordjournals.org/content/current

**Editorial Commentary: Toward a Better Malaria Vaccine: Understanding How Antibodies to Malaria Protect Against Disease**

Chandy C. John
Author Affiliations
Ryan White Center for Pediatric Infectious Disease and Global Health, Indiana University School of Medicine, Indianapolis

*Initial text*

It is generally accepted that a vaccine against malaria will be a critical component in the campaign to eradicate this disease. Other interventions, notably insecticide-treated bed nets, indoor residual insecticide spraying, and the use of more effective antimalarial therapy, have resulted in significant decreases in malaria incidence in many sites, and interventions such as mass drug administration and genetically modified vectors inhospitable to the parasite also hold promise. However, many of these interventions are under the constant threat of insecticide or drug resistance and may not, by themselves, lead to complete elimination of malaria in highly endemic sites, so development of a highly effective vaccine or vaccines remains a goal in ongoing work to reduce and eventually eliminate malaria.

A major focus of vaccine efforts is a vaccine against Plasmodium falciparum, the malaria parasite that causes the most disease and deaths worldwide. One P. falciparum vaccine, the RTS,S vaccine, has reduced uncomplicated and severe malaria by approximately 30%–50% in different large vaccine trials to date [1–3]. The development of this vaccine, the first successful vaccine against parasites in humans, is an extraordinary accomplishment. However, its efficacy is far lower than that of the standard childhood vaccines against bacterial and viral illnesses that are currently in global use. Thus, the search continues for more effective malaria vaccines…

**Acquisition of Functional Antibodies That Block the Binding of Erythrocyte-Binding Antigen 175 and Protection Against Plasmodium falciparum Malaria in Children**
Vashti Irani, Paul A. Ramsland, Andrew J. Guy, Peter M. Siba, Ivo Mueller, Jack S. Richards, and James G. Beeson
Clin Infect Dis. (2015) 61 (8): 1244-1252 doi:10.1093/cid/civ525
Antibodies that inhibit binding of the merozoite invasion ligand EBA-175 are acquired by children exposed to Plasmodium falciparum and associated with protection from malaria. This identifies an important target and mechanism of antibody-mediated immunity to malaria, relevant to vaccine development.

**Clinical Therapeutics**
September 2015 Volume 37, Issue 9, p1873-2150
http://www.clinicaltherapeutics.com/current
[Reviewed earlier]

**Complexity**
September/October 2015 Volume 21, Issue 1 Pages C1–C1, 1–386
http://onlinelibrary.wiley.com/doi/10.1002/cplx.v21.1/issuetoc
[New issue; No relevant content identified]

**Conflict and Health**
http://www.conflictandhealth.com/
[Accessed 26 September 2015]
[No new content]

**Contemporary Clinical Trials**
Volume 44, In Progress (September 2015)
http://www.sciencedirect.com/science/journal/15517144/44
[No new relevant content]

**Cost Effectiveness and Resource Allocation**
http://www.resource-allocation.com/
(Accessed 26 September 2015)
[No new content]

**Current Opinion in Infectious Diseases**
October 2015 - Volume 28 - Issue 5 pp: v-vi,397-496
http://journals.lww.com/co-infectiousdiseases/pages/currenttoc.aspx
[Reviewed earlier]

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

**Development in Practice**
Volume 25, Issue 7, 2015
http://www.tandfonline.com/toc/cdip20/current
[Reviewed earlier]

**Emerging Infectious Diseases**
Volume 21, Number 9—September 2015
http://wwwnc.cdc.gov/eid/
**THEME ISSUE – Emerging Infections Program**
[Reviewed earlier]

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

**Epidemiology and Infection**
Volume 143 - Issue 14 - October 2015
http://journals.cambridge.org/action/displayIssue?jid=HYG&tab=currentissue
http://www.sciencedirect.com/science/journal/17554365
[Reviewed earlier]

**The European Journal of Public Health**
Volume 25, Issue 5, 1 October 2015
http://eurpub.oxfordjournals.org/content/25/5
**Evidence on the effectiveness of public health practice: how should we proceed?**
Sijmen A. Reijneveld
DOI: http://dx.doi.org/10.1093/eurpub/ckv003 752-753 First published online: 25 September 2015
*Extract*

Evidence on effectiveness is pivotal for public health practice and policy making. Despite, the journal publishes pretty few papers on effectiveness research, and this holds for other major public health journals as well. This paradox should be solved. To jump to my conclusion: the return on investments leading to evidence on public health interventions should be increased, both for researchers and for developers. I provide some considerations, also based on personal experiences with this type of research.

**Eurosurveillance**
Volume 20, Issue 38, 24 September 2015
http://www.eurosurveillance.org/Public/Articles/Archives.aspx?PublicationId=11678
*Rapid Communications*
**Knowledge, attitudes and practices concerning Middle East respiratory syndrome among Umrah and Hajj pilgrims in Samsun, Turkey, 2015**
by MK Sahin, S Aker, E Kaynar Tuncel
*Abstract*
We performed a questionnaire study to determine knowledge, attitudes and practices concerning Middle East respiratory syndrome (MERS) among people intending to participate in the Hajj or Umrah Muslim pilgrimages. Of the 381 respondents aged between 17 and 85 years, 55% had never heard of MERS, while only one in three knew that it is a respiratory disease. Approximately half were insufficiently informed about protective measures. Prospective pilgrims do not seem prepared to take such precautions.

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

**Global Health Governance**
http://blogs.shu.edu/ghg/category/complete-issues/spring-autumn-2014/
[Accessed 26 September 2015]
[No new content]

**Global Public Health**
Volume 10, Issue 9, 2015
http://www.tandfonline.com/toc/rgph20/current
[Reviewed earlier]

**Globalization and Health**
http://www.globalizationandhealth.com/
[Accessed 26 September 2015]
[No new content]

**Health Affairs**
September 2015; Volume 34, Issue 9
http://content.healthaffairs.org/content/current
**Issue Theme: Noncommunicable Diseases: The Growing Burden**
[Reviewed earlier]

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

**Health Economics, Policy and Law**
Volume 10 - Special Issue 04 - October 2015
http://journals.cambridge.org/action/displayIssue?jid=HEP&tab=currentissue
**SPECIAL ISSUE: 10th Anniversary Issue**

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

**Health Research Policy and Systems**
http://www.health-policy-systems.com/content
[Accessed 26 September 2015]
*Research*
**From market access to patient access: overview of evidence-based approaches for the reimbursement and pricing of pharmaceuticals in 36 European countries**
Dimitra Panteli, Helene Eckhardt, Alexandra Nolting, Reinhard Busse, Michael Kulig Health Research Policy and Systems 2015, 13:39 (25 September 2015)
*Abstract*
Background
Coverage decisions determining the benefit baskets of health systems have been increasingly relying on evidence regarding patient benefit and costs. Relevant structures, methodologies, and processes have especially been established for pharmaceuticals but approaches differ. The objective of this work was thus to identify institutions in a broad range of European countries (n = 36) in charge of determining the value of pharmaceuticals for pricing and reimbursement purposes and to map their decision-making process; to examine the different approaches and consider national and supranational possibilities for best practice.
Methods
Institutions were identified through websites of international networks, ministries, and published literature. Details on institutional practices were supplemented with information from institution websites and linked online sources.

Results
The type and extent of information available varied considerably across countries. Different types of public regulatory bodies are involved in pharmaceutical coverage decisions, assuming a range of responsibilities. As a rule, the assessment of scientific evidence is kept structurally separate from its appraisal. Recommendations on value are uniformly issued by specific committees within or commissioned by responsible institutions; these institutions often also act as decision-makers on reimbursement status and level or market price. While effectiveness and costs are important criteria in all countries, the latter are often considered on a case-by-case basis. In all countries, manufacturer applications, including relevant evidence, are used as one of the main sources of information for the assessment.
Conclusion
Transparency of evidence-based coverage decisions should be enhanced. International collaboration can facilitate knowledge exchange, improve efficiency of information production, and strengthen new or developing systems.

**Human Vaccines & Immunotherapeutics** (formerly Human Vaccines)
Volume 11, Issue 9, 2015
http://www.tandfonline.com/toc/khvi20/current
[Reviewed earlier]

**Humanitarian Exchange Magazine**
Issue 64 June 2015
http://www.odihpn.org/humanitarian-exchange-magazine/issue-64
[Reviewed earlier]

**Infectious Agents and Cancer**
http://www.infectagentscancer.com/content
[Accessed 26 September 2015]
[No new relevant content]

**Infectious Diseases of Poverty**
http://www.idpjournal.com/content
[Accessed 26 September 2015]
[No new relevant content]

**International Health**
Volume 7 Issue 26 September 2015
http://inthealth.oxfordjournals.org/content/current
[Reviewed earlier]

**International Journal of Epidemiology**
Volume 44 Issue 3 June 2015

http://ije.oxfordjournals.org/content/current
[Reviewed earlier]

**International Journal of Infectious Diseases**
September 2015 Volume 38, In Progress
[Reviewed earlier]

**JAMA**
September 22/29, 2015, Vol 314, No. 12
http://jama.jamanetwork.com/issue.aspx
*Viewpoint* | September 22/29, 2015
**Measles Outbreak as a Catalyst for Stricter Vaccine Exemption Legislation**
Y. Tony Yang, ScD, LLM, MPH1; Leila Barraza, JD, MPH2; Kim Weidenaar, JD3
Author Affiliations
JAMA. 2015;314(12):1229-1230. doi:10.1001/jama.2015.9579.
*Extract*

This Viewpoint discusses how a recent measles outbreak may lead to tightening of US school immunization laws and describes the recent passage of such a law in California as an example other states might follow.

Following a multistate measles outbreak that began in Disneyland, California legislators responded to the outbreak by passing legislation repealing exemptions for philosophical and religious beliefs.1 Although the legislation retains medical exemptions, it makes California the largest state to have such strict childhood vaccination requirements, joining only West Virginia and Mississippi. Beginning in the 2016-2017 school year, children whose parents refuse vaccination and are unable to secure a medical exemption must be homeschooled.1 School-aged children who currently claim a nonmedical exemption can maintain it until the time they enter kindergarten or seventh grade, the state's 2 vaccine checkpoints.1 The law applies to both public and private schools, as well as day care facilities.1

**JAMA Pediatrics**
September 2015, Vol 169, No. 9
http://archpedi.jamanetwork.com/issue.aspx
[Reviewed earlier]

**Journal of Community Health**
Volume 40, Issue 5, October 2015
http://link.springer.com/journal/10900/40/4/page/1
[Reviewed earlier]

**Journal of Epidemiology & Community Health**
October 2015, Volume 69, Issue 10
http://jech.bmj.com/content/current
[Reviewed earlier]

**Journal of Global Ethics**
Volume 11, Issue 2, 2015
http://www.tandfonline.com/toc/rjge20/.U2V-Elf4L0I#.VAJEj2N4WF8
[Reviewed earlier]

**Journal of Global Infectious Diseases (JGID)**
July-September 2015 Volume 7 | Issue 3 Page Nos. 95-124
http://www.jgid.org/currentissue.asp?sabs=n
[Reviewed earlier]

**Journal of Health Care for the Poor and Underserved (JHCPU)**
Volume 26, Number 3, August 2015
https://muse.jhu.edu/journals/journal_of_health_care_for_the_poor_and_underserved/toc/hpu.26.3.html
[Reviewed earlier]

**Journal of Immigrant and Minority Health**
Volume 17, Issue 5, October 2015
http://link.springer.com/journal/10903/17/4/page/1
[Reviewed earlier]

**Journal of Immigrant & Refugee Studies**
Volume 13, Issue 3, 2015
http://www.tandfonline.com/toc/wimm20/current#.VQS0KOFnBhW
**Special Issue: Social Work and Migration in Europe** [Reviewed earlier]
[Reviewed earlier]

**Journal of Infectious Diseases**
Volume 212 Issue 7 October 1, 2015
http://jid.oxfordjournals.org/content/current
[Reviewed earlier]

**The Journal of Law, Medicine & Ethics**
Summer 2015 Volume 43, Issue 2 Pages 174–430
http://onlinelibrary.wiley.com/doi/10.1111/jlme.2015.43.issue-2/issuetoc
***Special Issue: SYMPOSIUM: Intersections in Reproduction: Perspectives on Abortion and Assisted Reproductive Technologies***
[Reviewed earlier]

**Journal of Medical Ethics**
September 2015, Volume 41, Issue 9
http://jme.bmj.com/content/current
[Reviewed earlier]

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

**Journal of Medical Microbiology**
Volume 64, Issue 9, September 2015
http://jmm.sgmjournals.org/content/journal/jmm/64/9
[New issue; No relevant content identified]

**Journal of Patient-Centered Research and Reviews**
Volume 2, Issue 3 (2015)
http://digitalrepository.aurorahealthcare.org/jpcrr/
[Reviewed earlier]

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

**Journal of Pediatrics**
October 2015 Volume 167, Issue 4 , Supplement, S1-S50
http://www.jpeds.com/current
***Recommended Iron Levels for Nutritional Formulas for Infants (0 – 12 months)***
Edited by Ronald E. Kleinman

**Journal of Public Health Policy**
Volume 36, Issue 3 (August 2015)
http://www.palgrave-journals.com/jphp/journal/v36/n3/index.html
[Reviewed earlier]

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

**Journal of Virology**
October 2015, volume 89, issue 19
http://jvi.asm.org/content/current
[New issue; No relevant content identified]

**The Lancet**
Sep 26, 2015 Volume 386 Number 10000 p1211-1310
http://www.thelancet.com/journals/lancet/issue/current
*Comment*
**From MDG to SDG: good news for global child health?**
Sebastian Taylor, Bhanu Williams, Dan Magnus, Anu Goenka, Neena Modi
*Summary*
In the last months of 2015, the Millennium Development Goals (MDGs), introduced in 1990, will be declared at an end, and the Sustainable Development Goals (SDGs), running to 2030, will be launched.1 The reduced representation of health, from three of eight MDGs to one of 17 SDGs, has been met with disappointment by the global health community. However, we suggest that the SDGs offer substantial, and possibly strengthened, opportunities to improve child health worldwide and in the UK.

*Comment*
**Reframing NCDs and injuries for the poorest billion: a Lancet Commission**
Gene Bukhman, Ana Olga Mocumbi, Richard Horton
*Summary*
In the post-2015 era, the Sustainable Development Goals have come to include non-communicable diseases (NCDs). And yet the world's poorest people are still unlikely to benefit from this expanded focus. Despite efforts by WHO and many others, the development community has mainly understood NCDs as a problem linked to ageing, urbanisation, affluence, and lifestyle choices.1 This perspective is also reflected in some of the agreed global targets for NCD control.2

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

**The Lancet Infectious Diseases**
Sep 2015 Volume 15 Number 9 p987-1114
http://www.thelancet.com/journals/laninf/issue/current
[Reviewed earlier]

**Maternal and Child Health Journal**
Volume 19, Issue 9, September 2015
http://link.springer.com/journal/10995/19/9/page/1

[Reviewed earlier]

**Medical Decision Making (MDM)**
October 2015; 35 (7)
http://mdm.sagepub.com/content/current
[Reviewed earlier]

**The Milbank Quarterly**
A Multidisciplinary Journal of Population Health and Health Policy
September 2015 Volume 93, Issue 3 Pages 447–649
http://onlinelibrary.wiley.com/doi/10.1111/milq.2015.93.issue-3/issuetoc
[Reviewed earlier]

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Volume 525 Number 7570 pp425-558 24 September 2015
http://www.nature.com/nature/current_issue.html
[New issue; No relevant content identified]

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September 2015, Volume 21 No 9 pp963-1101
http://www.nature.com/nm/journal/v21/n9/index.html
[Reviewed earlier]

**Nature Reviews Immunology**
September 2015 Vol 15 No 9
http://www.nature.com/nri/journal/v15/n9/index.html
[Reviewed earlier]

**New England Journal of Medicine**
September 24, 2015 Vol. 373 No. 13
http://www.nejm.org/toc/nejm/medical-journal
*Perspective*
**Politics and Universal Health Coverage — The Post-2015 Global Health Agenda**
Vin Gupta, M.D., Vanessa B. Kerry, M.D., Eric Goosby, M.D., and Robert Yates, M.B.A.
N Engl J Med 2015; 373:1189-1192
September 24, 2015
DOI: 10.1056/NEJMp1508807
When the United Nations summit for the adoption of the post-2015 development agenda begins on September 25, the attainment of universal health coverage (UHC) is expected to garner substantial attention. Bolstered by increasing evidence that UHC improves health outcomes,[1] countries are seeking to build health-related goals around the concept of health care for all. Yet

many lower- and middle-income countries (LMICs) have not created UHC systems. How can the global community translate vision into policy, especially in the face of complicated politics?

To elucidate some of the political dynamics involved, we developed a conceptual model describing sociopolitical factors that have helped catalyze reform in selected countries. We focused on trends over time in these variables during the lead-up to major health care legislation. Based on interviews with high-level former policymakers, civil-society members, and academics who oversaw the successful implementation of UHC initiatives in LMICs, our framework draws on information from Chile, Mexico, China, Thailand, Turkey, and Indonesia — countries with emerging economies that have recently instituted UHC schemes.

We sought to understand how each country's political landscape evolved to support UHC, examining how key factors had changed in the years preceding health care reform. We aimed to highlight the dominant sociopolitical forces that influenced debates on welfare expansion, rather than including all potential variables. Moreover, since several of these variables are challenging to define quantitatively, we tried to characterize patterns of change — whether the condition or characteristic was increasing or decreasing during the years immediately preceding reform. We hope that illumination of these political roadmaps can help other LMICs address complicated domestic politics and relevant social ills in pursuing legislative change.

The first variable we identified, social solidarity, is perhaps the hardest to measure; it reflects the willingness of a citizenry to support expansion of the welfare state. Historically, quantitative metrics have been used to show that greater social cohesion is associated with low levels of income inequality, crime, government corruption, and rising per-capita gross domestic product. By such measures, Chile would appear to have the most cohesive society of the six countries we studied, since it has used its comparative wealth to nurture an educated citizenry with free access to media, information, and other resources. Turkey and Mexico are also comparatively affluent countries with moderate income inequality and growing rates of literacy and skilled labor as measured, for instance, by the Knowledge Index (see the Supplementary Appendix, available with the full text of this article at NEJM.org).

We found no evidence, however, that economic strength necessarily translated into strong societal solidarity. Representatives of Chile, Mexico, Turkey, and China note that the heterogeneity of their peoples' political beliefs, cultural values, and religious affiliations create clear societal fault lines that would be expected to hinder expansion of a public good such as UHC. Assessments based on formal metrics such as the Global Peace Index, which measures societal cohesion, corroborate these observations.[2] Indeed, expansion of social welfare programs is often viewed as a zero-sum proposition: the quality of medical care is expected to decline, or budgetary resources to be sapped, as health coverage expands. Chilean officials cite the frequency of protests against the governing regime, and experts on Turkey and Mexico note racial, sex-based, and socioeconomic disparities that have resulted in fractious societies. In China, authoritarian policies are considered the primary cause of poor social solidarity. By contrast, observers in Thailand and Indonesia perceive considerable social harmony attributable to the near-universality of Buddhism and Islam, respectively, in those countries; religion is a socially unifying force despite their relative poverty.

The second factor, economic growth, was present in all six countries when they adopted UHC in the early-to-mid-2000s. Julio Frenk, Mexico's minister of health during its implementation of

Seguro Popular, told us how strong financial health not only permitted the government to finance welfare expansion but tempered objections from members of the finance ministry who favored greater austerity.

The third variable, legislative decorum, is meant to capture the relative ease of ensuring that the political agenda of an incumbent party or regime becomes law. This variable depends on the functionality and power of a country's legislature. In Thailand, for example, the executive and legislative branches unwaveringly support extant UHC schemes despite an otherwise contentious political climate. Most of the other countries may face disagreements on implementation but no ongoing efforts to repeal UHC policies. In China and Turkey, the lack of opposition may be attributable to political systems that thwart opposition of any kind. In Mexico and Indonesia, health care reform efforts have been spearheaded by popular presidents such as Vicente Fox and Joko Widodo. Although Fox didn't run on welfare-state expansion nearly to the extent that Widodo did, his appointees pushed UHC forward aggressively in the early 2000s, and Seguro Popular arguably became his most enduring legacy. Populism holds strong appeal in emerging democratic economies, and supporting expansion of social welfare policies such as UHC is a proven electoral strategy.

The final two variables may be the most vulnerable to change over time. Public disaffection refers to a consensus that an incumbent regime is not competent to provide government services such as health coverage or social assistance. In an interview, Harvard's Rifat Atun, an expert on Turkey's path to UHC, described how a decade of dysfunctional governments and social outrage after the 1999 Marmara earthquake precipitated the election of a populist, Recep Tayyip Erdoğan, who promoted UHC as a central campaign promise. In Mexico, Frenk helped to cultivate public outrage in the rural provinces by drawing attention to the inequities of the Mexican health system. In China, according to Harvard's William Hsiao, fears of grassroots revolution contributed to the Communist Party decision to expand the welfare state.

Finally, five of the six countries had a transformative leader who was elected with a populist mandate; only China lacked such a leader. The near-universality of this factor suggests that countries require charismatic and committed leadership to attain UHC. (Indeed, even UHC systems in high-income countries in Europe and North America have been associated with political champions — Bismarck in Germany, Obama in the United States, Douglas in Canada, and Bevan in the United Kingdom.)

We offer this model as a first step in elucidating the politics that have shaped some UHC movements. We focused on trends, not current status alone, among sociopolitical conditions that have promoted reform. Elements of the model have been considered by others. For example, U.S. Senators Ron Wyden (D-OR) and Michael Bennett (D-CO) have described the importance of both popular will and a functional legislature working in a bipartisan manner to pass UHC.[3] European health policy experts have remarked on the importance of charismatic and committed leadership in bolstering European UHC movements.[4] Perhaps the most well-established factor is the influence of mass media and the Internet in framing debates on a regime's welfare policies.[5] As experience in Mexico and Turkey highlights, mass-media campaigns using powerful language to define a UHC movement can rally the public behind an otherwise failing and unpopular incumbent.

Of course, it is difficult to determine the extent to which each variable contributed to successful legislation, what the most crucial ingredient was, and to what degree it was modifiable; further work is needed to elucidate these subtleties. We hope, however, that the framework generates discussion within LMICs such as Bolivia, Nigeria, Turkmenistan, and Venezuela, which have some of the necessary political ingredients to pursue UHC but have thus far failed to achieve it. What gaps exist in these countries, and are the relevant conditions changeable? As the global health and development community embarks on new goals, a better understanding of the links between health and politics could help foster durable changes that increase access to health care.

*Original Article*

**Efficacy and Long-Term Safety of a Dengue Vaccine in Regions of Endemic Disease**

Sri Rezeki Hadinegoro, M.D., Ph.D., Jose Luis Arredondo-García, M.D., Maria Rosario Capeding, M.D., Carmen Deseda, M.D., Tawee Chotpitayasunondh, M.D., Reynaldo Dietze, M.D., H.I. Hj Muhammad Ismail, M.B., B.S., Humberto Reynales, M.D., Ph.D., Kriengsak Limkittikul, M.D., Doris Maribel Rivera-Medina, M.D., Huu Ngoc Tran, M.D., Ph.D., Alain Bouckenooghe, M.D., Danaya Chansinghakul, M.D., Margarita Cortés, M.D., Karen Fanouillere, M.Sc., M.P.H., Remi Forrat, M.D., Carina Frago, M.D., Sophia Gailhardou, Pharm.D., Nicholas Jackson, Ph.D., Fernando Noriega, M.D., Eric Plennevaux, Ph.D., T. Anh Wartel, M.D., Betzana Zambrano, M.D., and Melanie Saville, M.B., B.S. for the CYD-TDV Dengue Vaccine Working Group

N Engl J Med 2015; 373:1195-1206
September 24, 2015
DOI: 10.1056/NEJMoa1506223

*Abstract*

Background

A candidate tetravalent dengue vaccine is being assessed in three clinical trials involving more than 35,000 children between the ages of 2 and 16 years in Asian–Pacific and Latin American countries. We report the results of long-term follow-up interim analyses and integrated efficacy analyses.

Full Text of Background...

Methods

We are assessing the incidence of hospitalization for virologically confirmed dengue as a surrogate safety end point during follow-up in years 3 to 6 of two phase 3 trials, CYD14 and CYD15, and a phase 2b trial, CYD23/57. We estimated vaccine efficacy using pooled data from the first 25 months of CYD14 and CYD15.

Full Text of Methods...

Results

Follow-up data were available for 10,165 of 10,275 participants (99%) in CYD14 and 19,898 of 20,869 participants (95%) in CYD15. Data were available for 3203 of the 4002 participants (80%) in the CYD23 trial included in CYD57. During year 3 in the CYD14, CYD15, and CYD57 trials combined, hospitalization for virologically confirmed dengue occurred in 65 of 22,177 participants in the vaccine group and 39 of 11,089 participants in the control group. Pooled relative risks of hospitalization for dengue were 0.84 (95% confidence interval [CI], 0.56 to 1.24) among all participants, 1.58 (95% CI, 0.83 to 3.02) among those under the age of 9 years, and 0.50 (95% CI, 0.29 to 0.86) among those 9 years of age or older. During year 3, hospitalization for severe dengue, as defined by the independent data monitoring committee criteria, occurred in 18 of 22,177 participants in the vaccine group and 6 of 11,089 participants in the control group. Pooled rates of efficacy for symptomatic dengue during the first 25 months

were 60.3% (95% CI, 55.7 to 64.5) for all participants, 65.6% (95% CI, 60.7 to 69.9) for those 9 years of age or older, and 44.6% (95% CI, 31.6 to 55.0) for those younger than 9 years of age.
Full Text of Results...
Conclusions
Although the unexplained higher incidence of hospitalization for dengue in year 3 among children younger than 9 years of age needs to be carefully monitored during long-term follow-up, the risk among children 2 to 16 years of age was lower in the vaccine group than in the control group. (Funded by Sanofi Pasteur; ClinicalTrials.gov numbers, NCT00842530, NCT01983553, NCT01373281, and NCT01374516.)

*Editorial*
**A Candidate Dengue Vaccine Walks a Tightrope**
Cameron P. Simmons, Ph.D.
N Engl J Med 2015; 373:1263-1264
September 24, 2015
DOI: 10.1056/NEJMe1509442
*Initial text*
The most advanced candidate vaccine against dengue viruses, called CYD-TDV, is progressing toward potential registration and review by the World Health Organization (WHO) in 2016. CYD-TDV is a formulation of four chimeric yellow fever 17D vaccine viruses, each one engineered to express the surface envelope and prM (membrane) proteins from one of the four serotypes of dengue virus. The surface envelope protein is a target of virus-neutralizing antibodies. The safety and efficacy of CYD-TDV after the administration of three doses over a 12-month period was recently measured in two pediatric phase 3 trials in Latin America[1] and Southeast Asia.[2] The short-term safety profile was encouragingly benign. However, the efficacy profile during 25 months of disease surveillance was complex. The most striking benefit to vaccinees was a large reduction (by 67 to 80%) in dengue hospitalizations. On the other hand, efficacy against any disease caused by serotype 2 viruses ranged from 35 to 50% and was lower still for vaccine recipients who were seronegative at baseline (i.e., those with no serologic evidence of previous dengue virus infection).

Hadinegoro et al. now provide in the Journal[3] updated efficacy results from the third year of hospital-based surveillance from two phase 3 trials (CYD14 and CYD15) and the third and fourth years of one phase 2b trial (CYD23/57). Most eye-catching is the suggestion that CYD-TDV vaccination was associated with an elevated risk of hospitalization for dengue among children younger than 9 years of age (but most markedly, among those 2 to 5 years of age) when they were naturally infected in the third year after vaccination. There is some comfort in the fact that CYD-TDV vaccination did not increase the frequency of genuinely severe, life-threatening complications (e.g., dengue shock syndrome)…

**Pediatrics**
September 2015, VOLUME 136 / ISSUE 3
http://pediatrics.aappublications.org/current.shtml
[Reviewed earlier]

**Pharmaceutics**
Volume 7, Issue 3 (September 2015), Pages 90-362
http://www.mdpi.com/1999-4923/7/3
*Review*
**Transdermal Delivery of Drugs with Microneedles—Potential and Challenges**
by Kevin Ita
Pharmaceutics 2015, 7(3), 90-105; doi:10.3390/pharmaceutics7030090
Received: 7 May 2015 / Revised: 24 June 2015 / Accepted: 24 June 2015 / Published: 29 June 2015

**Pharmacoeconomics**
Volume 33, Issue 9, September 2015
http://link.springer.com/journal/40273/33/9/page/1 \
[Reviewed earlier]

**PLOS Currents: Disasters**
http://currents.plos.org/disasters/
[Accessed 26 September 2015]
[No new content]

**PLoS Currents: Outbreaks**
http://currents.plos.org/outbreaks/
(Accessed 26 September 2015)
[No new content]

**PLoS Medicine**
http://www.plosmedicine.org/
(Accessed 26 September 2015)
**Four Proposals to Help Improve the Medical Research Literature**
David Moher, Douglas G. Altman
Essay | published 22 Sep 2015 | PLOS Medicine
10.1371/journal.pmed.1001864
*Summary Points*
:: The evidence base underpinning clinical practice is deeply flawed.
:: There must be better value gained from resources invested in medical research.
:: We make four proposals: (1) introducing publications officers; (2) developing core competencies for editors and peer reviewers, around which (3) training can be tailored; and (4) training authors to write articles fit for purpose.
:: All of these ideas need to be piloted and evaluated, and implemented if proven effective.
:: We suggest dedicated funding for initiatives aimed at understanding and improving the way that research is conducted and published.
:: Academic institutions, funders, publishers, and others should support and implement effective processes to improve the reliability of the medical research literature.

**PLoS Neglected Tropical Diseases**
http://www.plosntds.org/
(Accessed 26 September 2015)

**Ebola and Its Global Research Architecture—Need for an Improvement**
David Quarcoo, Dörthe Brüggmann, Doris Klingelhöfer, David A. Groneberg
Research Article | published 25 Sep 2015 | PLOS Neglected Tropical Diseases
10.1371/journal.pntd.0004083

*Abstract*
The current Ebola outbreak poses a threat to individual and global public health. Although the disease has been of interest to the scientific community since 1976, an effective vaccination approach is still lacking. This fact questions past global public health strategies, which have not foreseen the possible impact of this infectious disease. To quantify the global research activity in this field, a scientometric investigation was conducted. We analyzed the research output of countries, individual institutions and their collaborative networks. The resulting research architecture indicated that American and European countries played a leading role regarding output activity, citations and multi- and bilateral cooperations. When related to population numbers, African countries, which usually do not dominate the global research in other medical fields, were among the most prolific nations. We conclude that the field of Ebola research is constantly progressing, and the research landscape is influenced by economical and infrastructural factors as well as historical relations between countries and outbreak events.
*Author Summary*
For the first time in the history of the disease, the Ebola virus left its local setting and affected people not only in isolated rural areas, but reached larger towns and cities leading to worldwide repercussions. This development prompted a joint global response to this health threat. This encompassed not only immediate relief efforts, but also an up search in global research work. In this study, the scientific output in Ebola research available in one of the mayor medical search platforms was characterized. We studied among others the origin of research, the collaboration between countries and the research topics. Partly, the obtained data was weighted against economic parameters. We attained a detailed map of the research activities from the discovery of Ebola in 1976 up to today. Our research provides the first overview of the worldwide Ebola research output. It might help stakeholders in Ebola research to better plan investigations with a global perspective.

**Vaccine Science Diplomacy: Expanding Capacity to Prevent Emerging and Neglected Tropical Diseases Arising from Islamic State (IS)–Held Territories**
Peter J. Hotez
Viewpoints | published 24 Sep 2015 | PLOS Neglected Tropical Diseases
10.1371/journal.pntd.0003852

*Introduction [excerpt]*
War and the ensuing health system breakdowns in the Islamic State (IS)–occupied Syria and Iraq significantly increase the risk of a new wave of infectious disease epidemics in the Middle East and North Africa (MENA). Proactive engagement to enable health system capacity and resilience—including expanding immunization programs and building biotechnology capacity for vaccines that specifically target diseases in the region—would help minimize the impact if and when outbreaks occur. A program of vaccine science diplomacy with selected countries in the MENA region could help to avert an international public health crisis possibly similar in scope and magnitude to the 2014 Ebola virus outbreak in West Africa…

**PLoS One**
http://www.plosone.org/
[Accessed 26 September 2015]
**Influenza-Associated Disease Burden in Kenya: A Systematic Review of Literature**
Gideon O. Emukule, John Paget, Koos van der Velden, Joshua A. Mott
Research Article | published 23 Sep 2015 | PLOS ONE
10.1371/journal.pone.0138708

**Vaccine Induced Herd Immunity for Control of Respiratory Syncytial Virus Disease in a Low-Income Country Setting**
Timothy M. Kinyanjui, Thomas A. House, Moses C. Kiti, Patricia A. Cane, David J. Nokes, Graham F. Medley
Research Article | published 21 Sep 2015 | PLOS ONE
10.1371/journal.pone.0138018

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http://journals.plos.org/plospathogens/
(Accessed 26 September 2015)
[No new digest content identified]

**PNAS - Proceedings of the National Academy of Sciences of the United States of America**
http://www.pnas.org/content/early/
(Accessed 26 September 2015)
[No new digest content identified]

**Pneumonia**
Vol 6 (2015)
https://pneumonia.org.au/index.php/pneumonia/issue/current
[Reviewed earlier]

**Prehospital & Disaster Medicine**
Volume 30 - Issue 04 - August 2015
https://journals.cambridge.org/action/displayIssue?jid=PDM&tab=currentissue
[Reviewed earlier]

**Preventive Medicine**
Volume 78, Pages 1-122 (September 2015)
http://www.sciencedirect.com/science/journal/00917435/78
[Reviewed earlier]

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

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

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October 2015; 25 (10)
http://qhr.sagepub.com/content/current
[Reviewed earlier]

**Revista Panamericana de Salud Pública/Pan American Journal of Public Health (RPSP/PAJPH)**
June 2015 Vol. 37, No. 6
http://www.paho.org/journal/
[Reviewed earlier]

**Risk Analysis**
August 2015 Volume 35, Issue 8 Pages 1389–1592
http://onlinelibrary.wiley.com/doi/10.1111/risa.2015.35.issue-8/issuetoc
[Reviewed earlier]

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25 September 2015 vol 349, issue 6255, pages 1409-1580
http://www.sciencemag.org/current.dtl
***Special Issue:*** **Mutation and Human Disease**
[New issue; No relevant content identified]

**Social Science & Medicine**
Volume 140, Pages 1-146 (September 2015)
http://www.sciencedirect.com/science/journal/02779536/140
[Reviewed earlier]

**Tropical Medicine and Health**
Vol. 43(2015) No. 2

https://www.jstage.jst.go.jp/browse/tmh/43/0/_contents
[Reviewed earlier]

**Tropical Medicine & International Health**
October 2015 Volume 20, Issue 10 Pages 1257–1404
http://onlinelibrary.wiley.com/doi/10.1111/tmi.2015.20.issue-7/issuetoc
[Reviewed earlier]

**Vaccine**
Volume 33, Issue 41, Pages 5333-5488 (5 October 2015)
http://www.sciencedirect.com/science/journal/0264410X/33/41
**Wheeze as an adverse event in pediatric vaccine and drug randomized controlled trials: A systematic review**
Review Article
Pages 5333-5341
Diana Marangu, Stephanie Kovacs, Judd Walson, Jan Bonhoeffer, Justin R. Ortiz, Grace John-Stewart, David J. Horne
*Abstract*
Introduction
Wheeze is an important sign indicating a potentially severe adverse event in vaccine and drug trials, particularly in children. However, there are currently no consensus definitions of wheeze or associated respiratory compromise in randomized controlled trials (RCTs).
Objective
To identify definitions and severity grading scales of wheeze as an adverse event in vaccine and drug RCTs enrolling children <5 years and to determine their diagnostic performance based on sensitivity, specificity and inter-observer agreement.
Methods
We performed a systematic review of electronic databases and reference lists with restrictions for trial settings, English language and publication date ≥1970. Wheeze definitions and severity grading were abstracted and ranked by a diagnostic certainty score based on sensitivity, specificity and inter-observer agreement.
Results
Of 1205 articles identified using our broad search terms, we identified 58 eligible trials conducted in 38 countries, mainly in high-income settings. Vaccines made up the majority (90%) of interventions, particularly influenza vaccines (65%). Only 15 trials provided explicit definitions of wheeze. Of 24 studies that described severity, 11 described wheeze severity in the context of an explicit wheeze definition. The remaining 13 studies described wheeze severity where wheeze was defined as part of a respiratory illness or a wheeze equivalent. Wheeze descriptions were elicited from caregiver reports (14%), physical examination by a health worker (45%) or a combination (41%). There were 21/58 studies in which wheeze definitions included combined caregiver report and healthcare worker assessment. The use of these two methods appeared to have the highest combined sensitivity and specificity.
Conclusion
Standardized wheeze definitions and severity grading scales for use in pediatric vaccine or drug trials are lacking. Standardized definitions of wheeze are needed for assessment of possible adverse events as new vaccines and drugs are evaluated.

## Comparative acceptance of pertussis and influenza immunization among health-care personnel

Original Research Article
Pages 5350-5356
Anna-Julia Ryser, Ulrich Heininger
*Abstract*
Background
Pertussis and influenza immunization in health-care professionals (HCP) has been shown to lead to significant reduction of nosocomial infections. Parallel campaigns of pertussis and seasonal influenza immunization gave us a unique opportunity to compare attitudes towards influenza and pertussis immunization among HCP and to determine acceptance rates for both or either one of the two immunizations or refusal of both.
Methods
A questionnaire was sent to HCP to anonymously obtain demographic data, profession, numbers of previous influenza immunizations, acceptance of influenza immunization in the current 2012/13 season, pertussis immunization currently or within the last 10 years, and reasons for acceptance or decline of pertussis and influenza vaccination.
Results
Of 638 HCP with patient contact, 314 (49%) responded and 303 (47%) were included in the analysis. Immunization acceptance rates were 33% for influenza, 57% for pertussis; 24% accepted both immunizations and 34% none of both. Acceptance of influenza immunization was significantly higher in those with one or more previous influenza vaccinations ($p < 0.005$). Among 130 HCP who declined pertussis immunization, missed opportunity (28%) was the dominant reason. Of 204 HCP who declined influenza immunization, the most frequently stated reason was "lack of influenza immunization is not considered an issue" (36%).
Conclusions
Misconceptions about the efficacy and necessity of pertussis and especially influenza immunization continue to prevail among HCP. Active promotion, personal encouragement, providing more immunization opportunities and other incentives are measures that should be considered to increase the rate of immunization among HCP.

## Targeted vaccination in healthy school children – Can primary school vaccination alone control influenza?

Original Research Article
Pages 5415-5424
Dominic Thorrington, Mark Jit, Ken Eames
*Abstract*
Background
The UK commenced an extension to the seasonal influenza vaccination policy in autumn 2014 that will eventually see all healthy children between the ages of 2–16 years offered annual influenza vaccination. Models suggest that the new policy will be both highly effective at reducing the burden of influenza as well as cost-effective. We explore whether targeting vaccination at either primary or secondary schools would be more effective and/or cost-effective than the current strategy.
Methods
An age-structured deterministic transmission dynamic SEIR-type mathematical model was used to simulate a national influenza outbreak in England. Costs including GP consultations,

hospitalisations due to influenza and vaccinations were compared to potential gains in quality-adjusted life years achieved through vaccinating healthy children. Costs and benefits of the new JCVI vaccination policy were estimated over a single season, and compared to the hypothesised new policies of targeted and heterogeneous vaccination.
Findings and conclusion
All potential vaccination policies were highly cost-effective. Influenza transmission can be eliminated for a particular season by vaccinating both primary and secondary school children, but not by vaccinating only one group. The most cost-effective policy overall is heterogeneous vaccination coverage with 48% uptake in primary schools and 34% in secondary schools. The Joint Committee on Vaccination and Immunisation can consider a modification to their policy of offering seasonal influenza vaccinations to all healthy children of ages 2–16 years.

## Knowledge and attitiudes of pregnant women and their providers towards recommendations for immunization during pregnancy

Original Research Article
Pages 5445-5451
C. Mary Healy, Marcia A. Rench, Diana P. Montesinos, Nancy Ng, Laurie S. Swaim
*Abstract*
Objectives
Tetanus, diphtheria and acellular pertussis (Tdap) and influenza vaccination is recommended during each pregnancy but uptake is suboptimal. We evaluated knowledge and acceptance of vaccination recommendations among pregnant women.
Methods
Prospective, convenience survey of pregnant women presenting for antenatal care at the Pavilion for Women, Texas Children's Hospital, Houston, and their healthcare providers.
Results
796 of 825 (96.5%) of women and 63 of 87 (72.4%) providers completed surveys. Mean age of pregnant women was 30.2 (18–45) years. Self-identified race/ethnicity was 45% white, 26% Hispanic, 13% black, 12% Asian and 4% other. Most women had college degrees (84%) and private health insurance (83%). Mean gestation was 28.5 weeks with 4.8%, 37.8% and 57.4%, in the 1st, 2nd and 3rd trimesters, respectively. Women used various sources for pregnancy information (personal contacts, providers, print, audiovisual and online media) but 89.1% cited a provider as their most trusted source, predominantly (85.8%) their physician. 668 (84%) knew vaccines are recommended during pregnancy, specifically influenza (77%) and Tdap (61%) vaccines. 659 (83%) were willing to receive vaccines if recommended by their physician. Factors impacting vaccination decisions included safety for baby, safety for mother and sufficient information, scoring 4.7, 4.5 and 4.2, respectively, on a 5-point scale; less important were additional visit time (2.6), cost (1.9) or needle phobia (1). Women surveyed in the 3rd trimester showed greater acceptance than those earlier in gestation (87% vs 78%; P0.003). Maternal education, ethnicity, insurance, multiple gestation or history of serious illness in a prior infant did not affect willingness to receive vaccines.
Conclusions
Pregnant women are willing to accept vaccination in pregnancy if recommended by their physician and if sufficient discussion of safety and rationale occurs. Strong physician recommendation, as reported for pediatric vaccination, is essential to optimizing uptake of vaccines during pregnancy.

**TRANSVAC research infrastructure – Results and lessons learned from the European network of vaccine research and development**
Original Research Article
Pages 5481-5487
Mark J. Geels, Regitze L. Thøgersen, Carlos A. Guzman, Mei Mei Ho, Frank Verreck, Nicolas Collin, James S. Robertson, Samuel J. McConkey, Stefan H.E. Kaufmann, Odile Leroy
*Abstract*
TRANSVAC was a collaborative infrastructure project aimed at enhancing European translational vaccine research and training. The objective of this four year project (2009–2013), funded under the European Commission's (EC) seventh framework programme (FP7), was to support European collaboration in the vaccine field, principally through the provision of transnational access (TNA) to critical vaccine research and development (R&D) infrastructures, as well as by improving and harmonising the services provided by these infrastructures through joint research activities (JRA). The project successfully provided all available services to advance 29 projects and, through engaging all vaccine stakeholders, successfully laid down the blueprint for the implementation of a permanent research infrastructure for early vaccine R&D in Europe.

**Vaccine**
Volume 33, Issue 40, Pages 5237-5332 (29 September 2015)
http://www.sciencedirect.com/science/journal/0264410X/33/40
***Systems Vaccinology: How Big Data Can Accelerate Vaccine Development***
Edited by Stefan H.E. Kaufmann, Helen E. Fletcher, Carlos A. Guzmán and Tom H.M. Ottenhoff
**Big Data in Vaccinology: Introduction and section summaries**
Pages 5237-5240
Stefan H.E. Kaufmann, Helen A. Fletcher, Carlos A. Guzmán, Tom H.M. Ottenhoff
[No abstract]
Section 1: Iteration between vaccine studies and computational biology (Guest Editor: S.H.E. Kaufmann)
Section 2: Learning from the host response to infection and vaccination (Guest Editor: T.H.M. Ottenhoff)
Section 3: Identification of molecular and cellular signatures of protective immunity (Guest Editor: C.A. Guzmán)
Section 4: Transcriptional profiling in tuberculosis and malaria clinical vaccine trials (Guest Editor: H.A. Fletcher)

**Vaccines — Open Access Journal**
http://www.mdpi.com/journal/vaccines
(Accessed 26 September 2015)
[No new relevant content identified]

**Value in Health**
September 2015 Volume 18, Issue 6, p739-940
http://www.valueinhealthjournal.com/current
**ISPOR Task Force For Clinical Outcomes Assessment: Clinical Outcome Assessments: Conceptual Foundation—Report of The ISPOR Clinical Outcomes Assessment – Emerging Good Practices For Outcomes Research Task Force**

Karin S. Coyne, PhD, MPH, Kathleen W. Wyrwich, PhD
Evidera, Bethesda, MD, USA
DOI: http://dx.doi.org/10.1016/j.jval.2015.09.2863
*Abstract*
The International Society for Pharmacoeconomics and Outcomes Research (ISPOR) Task Force for Clinical Outcome Assessments (COAs) has presented a clear conceptual foundation for the development of precise clinical trial instruments and end points. This article reinforces the "begin with the end in mind" thought processes for clinical trial development, highlighting the need to match clinical outcomes with the concept of interest (COI) and the context of use (COU) to maximize the potential to demonstrate a meaningful treatment benefit.

## Clinical Outcome Assessments: Conceptual Foundation—Report of the ISPOR Clinical Outcomes Assessment – Emerging Good Practices for Outcomes Research Task Force

Marc K. Walton, John H. Powers III, Jeremy Hobart, Donald Patrick, Patrick Marquis, Spiros Vamvakas, Maria Isaac, Elizabeth Molsen, Stefan Cano, Laurie B. Burke
p741–752
Published online: August 24 2015
*Abstract*
An outcome assessment, the patient assessment used in an endpoint, is the measuring instrument that provides a rating or score (categorical or continuous) that is intended to represent some aspect of the patient's health status. Outcome assessments are used to define efficacy endpoints when developing a therapy for a disease or condition. Most efficacy endpoints are based on specified clinical assessments of patients. When clinical assessments are used as clinical trial outcomes, they are called clinical outcome assessments (COAs). COAs include any assessment that may be influenced by human choices, judgment, or motivation. COAs must be well-defined and possess adequate measurement properties to demonstrate (directly or indirectly) the benefits of a treatment. In contrast, a biomarker assessment is one that is subject to little, if any, patient motivational or rater judgmental influence. This is the first of two reports by the ISPOR Clinical Outcomes Assessment – Emerging Good Practices for Outcomes Research Task Force. This report provides foundational definitions important for an understanding of COA measurement principles. The foundation provided in this report includes what it means to demonstrate a beneficial effect, how assessments of patients relate to the objective of showing a treatment's benefit, and how these assessments are used in clinical trial endpoints. In addition, this report describes intrinsic attributes of patient assessments and clinical trial factors that can affect the properties of the measurements. These factors should be considered when developing or refining assessments. These considerations will aid investigators designing trials in their choice of using an existing assessment or developing a new outcome assessment. Although the focus of this report is on the development of a new COA to define endpoints in a clinical trial, these principles may be applied more generally. A critical element in appraising or developing a COA is to describe the treatment's intended benefit as an effect on a clearly identified aspect of how a patient feels or functions. This aspect must have importance to the patient and be part of the patient's typical life. This meaningful health aspect can be measured directly or measured indirectly when it is impractical to evaluate it directly or when it is difficult to measure. For indirect measurement, a concept of interest (COI) can be identified. The COI must be related to how a patient feels or functions. Procedures are then developed to measure the COI. The relationship of these measurements with how a patient feels or functions in the intended setting and manner of use of the COA (the context of use) could then be

defined. A COA has identifiable attributes or characteristics that affect the measurement properties of the COA when used in endpoints. One of these features is whether judgment can influence the measurement, and if so, whose judgment. This attribute defines four categories of COAs: patient reported outcomes, clinician reported outcomes, observer reported outcomes, and performance outcomes. A full description as well as explanation of other important COA features is included in this report. The information in this report should aid in the development, refinement, and standardization of COAs, and, ultimately, improve their measurement properties.

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

**Malaria Journal**
2015, 14:355
**Assessment of parental perception of malaria vaccine in Tanzania**
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5 Commision for Science and Technology (COSTEC), Dar Es Salaam, Tanzania
doi:10.1186/s12936-015-0889-7
*Abstract*
Background
Clinical trials of the RTS,S malaria vaccine have completed Phase III and the vaccine is on track for registration. Before making decisions about implementation, it is essential to prepare the ground for introducing the vaccine by assessing awareness and willingness to use malaria vaccines and to provide policy makers with evidence-based information on the best strategies to engage communities to manage the introduction of malaria vaccine in Tanzania.
Methods
In November 2011, as part of a large cross-sectional study of all 23 regions of Tanzania (mainland Tanzania and Zanzibar) was conducted during Tanzanian Integrated Measles Campaign (IMC) survey. In this study, the variables of interests were awareness and willingness to use a malaria vaccine. The main outcome measure was willingness to use a malaria vaccine. Logistic regression was used to examine the influence of predictive factors.
Results
A representative sample of 5502 (out of 6210) women, aged 18 years or older and with children under 11 months old, was selected to participate, using random sampling probability. Awareness of the forthcoming malaria vaccine, 11.8 % of participants in mainland Tanzania responded affirmatively, compared to 3.4 % in Zanzibar (p value <0.0001). 94.5 % of all

respondents were willing to vaccinate their children against malaria, with a slight difference between mainland Tanzania (94.3 %) and Zanzibar (96.8 %) (p value = 0.0167).
Conclusions
Although mothers had low awareness and high willingness to use malaria vaccine, still availability of malaria vaccine RTS,S will compliment other existing malaria interventions and it will be implemented through the Immunization, Vaccines and Biologicals (IVB) programme (formerly EPI). The information generated from this study can aid policy makers in planning and setting priorities for introducing and implementing the malaria vaccine.

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## ***Media/Policy Watch***

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

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

**Al Jazeera**
http://america.aljazeera.com/search.html?q=vaccine
*Accessed 26 September 2015*
[No new, unique, relevant content]

**The Atlantic**
http://www.theatlantic.com/magazine/
*Accessed 26 September 2015*
[No new, unique, relevant content]

**BBC**
http://www.bbc.co.uk/
*Accessed 26 September 2015*
[No new, unique, relevant content]

**Brookings**
http://www.brookings.edu/
*Accessed 26 September 2015*
[No new, unique, relevant content]

**Council on Foreign Relations**

http://www.cfr.org/
*Accessed 26 September 2015*
*Backgrounder*
Sustainable Development Goals
by Danielle Renwick September 24, 2015
The UNa's sweeping new development agenda aims to provide the overarching narrative of sustainable growth for the next fifteen years, yet critics say the Sustainable Development goals are broad, unfocused, and unrealistic.

**The Economist**
http://www.economist.com/
*Accessed 26 September 2015*
[No new, unique, relevant content]

**Financial Times**
http://www.ft.com/hme/uk
*Accessed 26 September 2015*
[No new, unique, relevant content]

**Forbes**
http://www.forbes.com/
*Accessed 26 September 2015*
Donald Trump Spouts Dangerous Anti-Vaccine Nonsense. Ben Carson's Response Is Worse.
Donald Trump claimed vaccines cause autism in the recent Republication Presidential debate. Ben Carson had a golden opportunity to refute Trump, and he completely failed. Instead, he repeated anti-vaccine misinformation that he should have known was false.
Steven Salzberg, Contributor Sep 20, 2015

**Foreign Affairs**
http://www.foreignaffairs.com/
*Accessed 26 September 2015*
[No new, unique, relevant content]

**Foreign Policy**
http://foreignpolicy.com/
*Accessed 26 September 2015*
[No new, unique, relevant content]

**The Guardian**
http://www.guardiannews.com/
*Accessed 26 September 2015*
[No new, unique, relevant content]

**The Huffington Post**
http://www.huffingtonpost.com/
Accessed 26 September 2015

**Mail & Guardian**

http://mg.co.za/
*Accessed 26 September 2015*
[No new, unique, relevant content]

**New Yorker**
http://www.newyorker.com/
*Accessed 26 September 2015*
September 22, 2015
The Dangerous Doctors of the G.O.P.
By Michael Specter
Ben Carson's sins against science during last week's Republican Presidential debate may have been even more outrageous than Donald Trump's.

**New York Times**
http://www.nytimes.com/
*Accessed 26 September 2015*
Dr. William E. Paul, Who Helped AIDS Research Save Millions of Lives, Dies at 79
September 24, 2015 - By SAM ROBERTS -
Iowa Company Gets First USDA License for Bird Flu Vaccine
DES MOINES, Iowa — The first license to develop a bird flu vaccine has been awarded by the U.S. Department of Agriculture, a crucial step toward preventing another devastating outbreak like the one that led to the destruction of
September 21, 2015 - By THE ASSOCIATED PRESS

**Wall Street Journal**
http://online.wsj.com/home-page?_wsjregion=na,us&_homepage=/home/us
*Accessed 26 September 2015*
[No new, unique, relevant content]

**Washington Post**
http://www.washingtonpost.com/
*Accessed 26 September 2015*
Novartis CEO talks about drug costs, paying doctors and 'doing the right thing'
A conversation with Joe Jimenez, the CEO of Novartis.
Lillian Cunningham | on-leadership | Sep 24, 2015

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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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