

## Center for Vaccine Ethics and Policy

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### Vaccines and Global Health: The Week in Review 21 March 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 6,500 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](mailto:david.r.curry@centerforvaccineethicsandpolicy.org).*

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#### **EBOLA/EVD** [to 21 March 2015]

*Public Health Emergency of International Concern (PHEIC); "Threat to international peace and security" (UN Security Council)*

**WHO EVD Site** Unreachable: <http://www.who.int/sorry/en/>

*Service Temporarily Down*

*The service you were trying to reach is temporarily down. We apologize for the inconvenience and hope to have it up and running again soon.*

#### **UNMEER** [to 21 March 2015]

<https://ebolareponse.un.org/un-mission-ebola-emergency-response-unmeer>

:: **[UN Mission Situation Reports: 16-20 March 2015](#)**

[19 March 2015](#)

*Excerpt*

Response Efforts and Health

**2. In total, 24,666 confirmed, probable, and suspected cases of EVD have been reported in the three most affected countries. There have been 10,179 reported deaths.**

3. WHO reported a total of 150 new confirmed EVD cases in the week to 15 March, compared with 116 in the previous week. There were 95 new confirmed cases reported in Guinea: the highest weekly total for the country in 2015. Sierra Leone reported 55 new confirmed cases over the same period: the country's lowest weekly total since late June 2014. Liberia reported no new confirmed cases for the third consecutive week. A total of 12 districts in Guinea and Sierra Leone reported a confirmed case in the week to 15 March, all of which lie in a geographically contiguous arc in and around Conakry to the north and Freetown to the south.

4. In Guinea, from a total of 41 reported EVD deaths in the week to 15 March, over half were identified post-mortem in the community. In the week to 8 March, only 28% of confirmed cases arose from registered contacts and there were a reported 18 unsafe burials. Taken together, these indicators suggest that the outbreak in Guinea is still being driven by unknown chains of transmission.

5. In Sierra Leone, in the week to 8 March over two-thirds of confirmed cases came from registered contacts and in the week to 15 March, only 6 of 62 total EVD-confirmed deaths were identified post-mortem in the community. There was 1 reported unsafe burial over the same period. However, there are still areas where most new cases arise from unknown chains of transmission. Kambia, a district north of Freetown on the border with the Guinean prefecture of Forécariah, reported 7 new cases in the week to 8 March, 5 of which came from post-mortem testing of people who had died in the community and who were not known to be contacts of a previous case.

6. 11 new health worker infections were reported in the week to 15 March: 4 in Guinea (3 in Conakry and 1 in Forécariah) and 7 in Sierra Leone (4 in Bombali, and 3 in Port Loko). This brings the total number of health worker infections reported across the three most-affected countries since the start of the outbreak to 852, with 492 deaths...

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**WHO: [Vaccination must be scaled up in Ebola-affected countries](#)**

*News release*

20 March 2015 | GENEVA - A growing risk of outbreaks of measles, pertussis, and other vaccine-preventable diseases in countries affected by Ebola must be countered by urgent scaling up of routine immunization activities, according to the World Health Organization (WHO).

"We are calling for the intensification of routine immunization services in all areas, and for mass measles vaccination campaigns in areas that are free of Ebola transmission," says Dr Jean-Marie Okwo-Bele, Director of Immunization, Vaccines and Biologicals at WHO.

The Ebola outbreak, which has infected some 24,000 people and killed around 10,000 of them, has also reduced vaccination coverage in Guinea, Liberia and Sierra Leone, as health facilities and staff focus on halting the outbreak.

"Any disruption of immunization services, even for short periods, will result in an increase in the number of susceptible individuals, and will increase the likelihood of vaccine-preventable disease outbreaks," according to a WHO note sent to countries this week. The new guidance for immunization programmes in the African Region in the context of Ebola to help countries maintain or restart immunization services includes infection control precautions for health workers. The document notes that for countries not affected by Ebola, routine immunization and surveillance "should continue using the normal safe injection and waste disposal practices." Mass vaccination campaigns for measles in areas that are free of Ebola transmission should be implemented to reduce the risk of significant measles outbreaks, the guidance notes. During the Ebola outbreak, people infected with malaria have been unable to get treatment, either because they have been too afraid to seek help at health centres or because such facilities have been closed.

To rapidly reduce the malaria burden and the number of febrile people with malaria presenting at Ebola evaluation facilities, WHO recommended mass drug administration (MDA) of anti-malarial medicines to all eligible people in areas heavily affected by Ebola. MDA campaigns with first line anti-malaria drugs were carried out in Sierra Leone and Liberia from October 2014 to January 2015, reaching an estimated 3 million people through door-to-door distribution, reducing malaria and the risk of Ebola transmission to malaria patients.

"This focus on vaccinations and malaria is part of WHO's efforts to support countries in early recovery, including infection prevention and control in non-Ebola health care settings, strengthening of the health workforce, disease surveillance, and safe essential health services," says Dr Edward Kelley, director of Service Delivery and Safety at WHO.

Liberia has done 2 rounds of immunization against several diseases, and Guinea carried out similar activities in Ebola-free provinces in October and November 2014. Sierra Leone has put in place infection prevention precautions, and supported health facilities to scale up their routine service delivery. Liberia and Guinea have done measles outbreak response vaccination activities targeting under- five children in outbreak districts, and Guinea is putting together an outbreak response plan targeting 10 additional districts.

Before widespread vaccination, measles caused an estimated 2.6 million deaths each year. The disease remains one of the leading causes of death among young children globally; some 145 700 people died from measles in 2013 – mostly children under the age of 5. It is about 400 deaths every day or 16 deaths every hour.

Most measles-related deaths are caused by complications associated with the disease more commonly in children under the age of 5, or adults over the age of 20. Complications include blindness, encephalitis (an infection that causes brain swelling), severe diarrhoea and related dehydration or severe respiratory infections such as pneumonia.

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### [\*\*Sierra Leone to lock down Ebola hotspots next week - officials\*\*](#)

Reuters

March 20, 2015 2:39 AM

FREETOWN (Reuters) - Residents in Sierra Leone's remaining Ebola hotspots will be confined to their houses for three days next week, officials said, as the government tries to snuff out an outbreak that has killed over 10,200 people across West Africa.

The number of Ebola cases in the region has fallen in recent months, though a spike in Guinea highlights the risk of complacency, over a year into the worst outbreak on record.

Sidi Yaya Tunis, an official at Sierra Leone's National Ebola Response Centre, said health officials would carry out house-to-house searches from March 27-29 to identify the sick in the north and west, where the virus is spreading fastest.

Elsewhere, where transmission is lower, officials will focus on education and prevention, he said.

Health officials said a previous lockdown in Sierra Leone in September was a success and helped identify more than 100 cases.

"If we don't get on top of this before the rains come, it will be a horror show," said a Sierra Leone health official who asked not to be named because the details of the lockdown have not been made public. "Many people are still not following the basic rules."

The rains are due to begin in May. The World Health Organization has said they could greatly complicate the fight against Ebola by washing away roads and making it harder for aid and healthcare workers to get to affected areas...

### **Sierra Leone Ebola lockdown welcomed by Plan International**

20 March 2015: Plan International has welcomed the 3 day Ebola lockdown announced by Sierra Leone this week, but has emphasised the need to help families cope during the curfew. The children's rights organisation says the campaign at the end of March to try to stamp out the Ebola outbreak is a welcome measure, as long as appropriate mechanisms are put in place to support families and vulnerable children.

"We heartily welcome this campaign and fully support this move from the government to address the surge in Ebola cases," said Casely Coleman, Plan's Country Director in Sierra Leone.

"However, we believe that government should put adequate mechanisms in place to ensure families cope during this period of lockdown, so that the situation for vulnerable children and women does not worsen further.

"This should include early payment of salaries to enable families to buy essential supplies needed at home, and enough prior awareness raising through the media to ensure that citizens can make safety and security arrangements, and to enlist their support and cooperation during the period."..

### **Ebola case undermines Liberia disease-free hopes**

BBC - 20 March 2015 Last updated at 17:30 ET

Liberia has confirmed a new case of Ebola, undermining growing hopes in the country that it might soon be declared free of the disease.

There had not been a new case for 20 days until a woman tested positive on Friday in the capital, Monrovia.

The World Health Organization requires 42 days to elapse from the last known case before a country can be declared free of the virus..

**International Rescue Committee** [to 21 March 2015]

<http://www.rescue.org/press-release-index>

**[The IRC statement on confirmed case of Ebola in Liberia's capital](#)**

March 20, 2015 by The IRC

NEW YORK—Confirmation today of a new case of Ebola in Monrovia – the first in 17 days – re-emphasizes the need for strict infection prevention control at all health clinics and hospitals in Liberia. Health care workers at Redemption Hospital's emergency ward, managed by the International Rescue Committee, had the infection prevention and control resources they needed to respond to this case in a way that minimized the risk of infection. Such protection measures must be in place across the board.

The Montserrado Consortium, led by the IRC, has deployed contact tracers and case investigators to contact and monitor all of those who have come in contact with this patient so as to do everything they can to ensure that this remains an isolated case, without further risk of transmission

**NIH Watch** [to 21 March 2015]

<http://www.nih.gov/news/index.html>

**[Update on clinical status of patient with Ebola virus disease at the NIH Clinical Center](#)**

March 16, 2015 — Status changes from serious to critical condition.

**UNICEF Watch** [to 21 March 2015]

**[Ebola: Getting to zero – for communities, for children, for the future](#)**

UNICEF Report

March 2015 :: 19 pages

As slight hints of recovery begin to surface in West Africa, UNICEF is looking at the impact of Ebola on children and the response and work of the affected communities... The document traces some of the outbreak's history along with the stories of survivors, health care workers and those working to make things better on the ground. The report also helps map out the actions that urgently must continue to help build resiliency and resuscitate basic services and systems decimated by Ebola.

Pdf: [http://www.unicef.org/emergencies/ebola/75941\\_81198.html](http://www.unicef.org/emergencies/ebola/75941_81198.html)

**ICRC - International Committee of the Red Cross** [to 21 March 2015]

<http://www.icrc.org/eng/resources/index.jsp>

**[Ending Ebola requires continued resources and "the right words"](#)**

*News release*

20 March 2015

The Ebola epidemic in West Africa, which has affected thousands of people and left deep scars on whole communities and countries, was confirmed one year ago. The International Red Cross and Red Crescent Movement says complacency and silence are now the greatest enemies in defeating the disease, and today it is launching an international awareness-raising campaign centred on using "the right words" to help end the disease.

**['Ebola-proof' tablet device developed](#)**

BBC 19 March 2015 Last updated at 22:09 ET  
By Smitha Mundasad Health reporter, BBC News

A tablet device that can withstand being doused in chlorine has been developed to help medics caring for patients with Ebola.

Designed by technology volunteers and Google, it can be used even wearing gloves and in storms and high humidity.

Medecins Sans Frontieres put out a call for an Ebola-proof tablet to help teams record vital patient information.

At the height of the current outbreak, doctors were shouting patient notes across fences to avoid contamination...

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**POLIO** [to 21 March 2015]

*Public Health Emergency of International Concern (PHEIC)*

### **GPEI Update: Polio this week - As of 18 March 2015**

Global Polio Eradication Initiative

*[Editor's Excerpt and text bolding]*

Full report: <http://www.polioeradication.org/Dataandmonitoring/Poliothisweek.aspx>

:: As per risk assessment criteria set by the International Health Regulations (IHR) Emergency Committee on the international spread of wild poliovirus, Syria and Ethiopia have now been re-classified as countries 'no longer infected by wild poliovirus, but which remain vulnerable to international spread', following no detection of wild poliovirus in more than 12 months. **More**  
:: In Pakistan, efforts are continuing to tighten up strategies and ensure implementation of the 'low season' emergency operations plan. Strong coordination of activities by Emergency Operations Centres (EOCs) at federal and provincial level is helping to evaluate implementation and enable corrective measures as necessary. *See 'Pakistan' section below for more.*

#### ***Afghanistan***

:: Two WPV1 positive environmental samples were confirmed this week, from Hilmand and Kandahar (dates of collection: 25 and 26 January), confirming ongoing circulation of the virus in the country.

#### ***Pakistan***

:: Three new wild poliovirus type 1 (WPV1) cases were reported in the past week, one from Khyber in Federally Administered Tribal Areas (FATA) and two from Sindh, bringing the total number of WPV1 cases to 19 in 2015. The most recent case had onset of paralysis on 24 February (from Khyber, FATA). The total number of WPV1 cases in 2014 remains 306.

:: Efforts are ongoing to strengthen implementation of the 'low season' emergency operations plan.

:: Strong, functional Emergency Operations Centres (EOCs) are now operational both at the

:: Strategies are focusing on clearly identifying reasons for missed children, and putting in place area-specific mechanisms to overcome area-specific challenges.

:: Independent monitoring is strengthened and rolled out across wider geographic areas to provide a clearer assessment of quality and associated gaps.

:: Activities are focusing on known infected areas, but also areas deemed at high-risk but which have not reported polio cases. Environmental surveillance indicates widespread transmission of the virus, not just in known infected areas but also in areas without cases. Environmental

surveillance is proving to be an instrumental supplemental surveillance tool enabling a clearer epidemiological picture.

### **Millions of Afghan children reached in national polio immunization drive**

WHO Eastern Mediterranean Region EMRO

18 March 2015

Kabul 18 March 2015 - The first round of national immunization days (NIDs) in Afghanistan in 2015 was launched on 15 March by H. E. Dr Ferozuddin Feroz, Minister of Public Health of Afghanistan. The three-day NIDs campaign targeted over nine million children under five years of age in all of Afghanistan's 34 provinces. Over 60 000 district coordinators, cluster supervisors, campaign monitors and volunteers were involved in administering polio vaccines and vitamin A capsules to children...

### **Gunmen Kill Health Workers From Pakistan Polio Drive**

By THE NEW YORK TIMES MARCH 17, 2015

ISLAMABAD, Pakistan — Gunmen killed two female health workers and one police guard in northwestern Pakistan in the latest attack on people involved in a polio immunization campaign.

There was no immediate claim of responsibility for the attack, but the Pakistani Taliban have repeatedly targeted health workers on anti-polio drives, accusing them of being spies. The violence has seriously hindered the immunization campaign in Pakistan, one of three countries where polio remains endemic. Successive governments have vowed to ensure health workers' safety, but such efforts have been unsuccessful.

The attack Tuesday occurred in a remote, mountainous area of Mansehra district in Khyber-Pakhtunkhwa Province.

"The two-member team was administering polio drops in an Afghan refugee camp and its surrounding areas when two gunmen opened fire on them," the local police chief, Muhammad Ejaz Khan, was quoted as saying by Agence France-Presse.

The gunmen escaped...

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### **Measles prevention campaign underway in Vanuatu, amid fears of disease outbreak - UNICEF**

SUVA, 17 March 2015 – An emergency vaccination drive is under way in Vanuatu to protect children hit by Cyclone Pam, as fears grow of a serious measles outbreak.

UNICEF and the World Health Organisation (WHO) are supporting the Ministry of Health to reach children who are especially vulnerable to disease after the Category 5 Storm tore through the archipelago.

Vanuatu already has very low rates of routine immunisation and suffered an outbreak of measles – a potentially deadly disease - in early March.

"Six teams were deployed throughout the reachable parts of Port Vila to start measles vaccination today," UNICEF Pacific Representative, Dr Karen Allen, said. "Santo and Port Vila remain high priorities in terms of measles given the previous number of confirmed and suspected cases."

Up to six additional teams are expected to be trained and to start by the end of this week. They will be vaccinating children, providing them with vital Vitamin A and handing out bednets to protect against malaria.

UNICEF and partners were able to restore the cold storage facility on Vanuatu – which keeps vaccines at the correct temperature and effective - after it was damaged in the Cyclone.

“Priority for vaccinations will be given to children in evacuation centres, with a schedule of administering the vaccines in the early evening when most people are there,” Dr Allen said. “Retired nurses and medical staff with the necessary skills have been hired to carry out the campaign.”

UNICEF is also distributing health supplies for children and families affected by Cyclone Pam in Vanuatu. These include basic health kits, oral rehydration salt sachets, zinc tablets, vitamin A capsules and de-worming tablets...

### **Equatorial Guinea Holds Malaria Vaccine Trial**

*Part of Government's Aggressive Fight Against the Disease*

[SOURCE: Republic of Equatorial Guinea]

MALABO, Equatorial Guinea, March 18, 2015 /PRNewswire-USNewswire/ -- Equatorial Guinea has held the first clinical trial of a new malaria vaccine known as PfSPZ. Three volunteers participated this month in the trial of the vaccine, which was developed by the American biotechnology company Sanaria. The trial took place at the La Paz Medical Center, the country's premier medical facility, located in Sipopo, just outside the capital.

The country's Ministry of Health and Social Welfare has partnered with the several organizations and companies to test the vaccine: Ifakara Health Institute (IHI), the La Paz Medical Center, Sanaria, Marathon Equatorial Guinea Production Limited, Noble Energy, and Medical Care Development International (MCDI), which trained local staff to assist with the preparation of malaria vaccine trial.

When the vaccine is applied, it can generate a strong immune response to protect the body against the parasite that causes malaria. In early tests, the drug has proven to be the safest and most effective possible vaccine to fight the disease.

Equatorial Guinea is the second country in Africa to sponsor a malaria vaccine clinical trial. The government of Equatorial Guinea has waged an aggressive fight against the disease, which is endemic in West and Central Africa, through spraying, education, and distribution of chemically treated mosquito nets. It invested approximately three million U.S. dollars in 2013 for the Program to Fight Malaria, which has significantly contributed to the reduction of the disease on the island of Bioko and has been recognized for its effort by the United Nations and the organization Roll Back Malaria.

According to the World Health Organization, in 2013 there were about 198 million cases of malaria worldwide. Many of which were fatal.

The first PfSPZ vaccine trial in Equatorial Guinea will continue over the next year, with additional doses and follow-up visits...

**GAVI** [to 21 March 2015]

<http://www.gavialliance.org/library/news/press-releases/>

:: **Children in Bangladesh to benefit from dual vaccine introduction**

*More than three million children to be protected against polio and the leading cause of pneumonia (joint press release Gavi, UNICEF, WHO, GPEI)*



Geneva/Dhaka, 20 March 2015 – Two new life-saving vaccines are being introduced tomorrow into Bangladesh’s national immunisation programme thanks to support from Gavi, UNICEF, WHO and the Global Polio Eradication Initiative (GPEI) partners.

More than three million children will benefit from pneumococcal vaccine (PCV), which protects against one of the leading causes of pneumonia, and the Inactivated Polio Vaccine (IPV) as part of the Polio Eradication & Endgame Strategic Plan 2013-2018.

“Pneumonia is one of the leading causes of child mortality in Bangladesh, accounting for 22 %1 of deaths of children under the age of five so the introduction of pneumococcal vaccine will have a major positive impact on child survival,” said Dr Seth Berkley, CEO of Gavi, the Vaccine Alliance.

Globally, pneumococcal disease takes the lives of half a million children under the age of five each year, the vast majority of whom live in developing countries.

“We strongly believe that introduction of PCV and IPV in the national immunisation schedule will have a major impact on the reduction of under-five mortality and morbidities. Given the commitment and determination shown by the Government and partners, UNICEF is confident that this momentous effort will make a significant and sustained contribution to child survival in Bangladesh through ensuring equitable access to all children,” said Edouard Beigbeder, UNICEF Representative, Bangladesh...

**IVI Watch** [to 21 March 2015]

<http://www.ivi.org/web/www/home>

:: **[IVI Director General meets Korean Press](#)**

15 Korean journalists gathered at IVI Headquarters on March 19 to meet with the new Director-General, Dr. Jerome Kim, to learn more about his thoughts on the Institute’s future direction and short-term plans to ensure and expand upon IVI’s achievements in vaccine science and its contributions to global health.

“IVI’s work in bringing the cholera vaccine from a laboratory concept to mass vaccinations of vulnerable communities is one of the few instances of successful vaccine development by a non-profit organization,” Dr. Kim noted. “The need for a safe, effective, and affordable vaccine against cholera, which kills 100,000 people annually, was met through the strength of our collaborations with industry, its partnership with the Bill and Melinda Gates Foundation, the support of the Governments of Korea and Sweden, and the team at IVI. Based on this model, I look forward to working closely with our donors, partners, and IVI team members to advance IVI to the next level of excellence in global health and vaccine sciences.”

This is Dr. Kim’s first meeting with the Korean media since he began his tenure as the Director –General at IVI this March.

**[IAVI: MARGIE MCGLYNN TO STEP DOWN AS PRESIDENT AND CEO; SEARCH FOR SUCCESSOR UNDERWAY](#)**

March 17, 2015

NEW YORK – Margaret McGlynn will step down after four years as President and CEO of the International AIDS Vaccine Initiative (IAVI). A search for her successor is underway, led by IAVI’s Board of Directors.

“Margie’s outstanding experience as head of Merck global vaccines and her unique blend of professionalism and dedication have strongly positioned IAVI to provide continued innovation and value to the field of AIDS vaccine research and development,” said IAVI Board Chair Alex

Coutinho. "The Board is working diligently to identify the best person to lead IAVI's next chapter."

McGlynn joined IAVI's Board in July 2010 and became President and CEO a year later. She will continue in her role until at least 1 July, and will continue to provide support as needed throughout the transition period.

"It has been a tremendous privilege to lead IAVI and to work alongside many of the world's most committed AIDS vaccine researchers, advocates and donors," said McGlynn, who plans to devote her time and energies to other interests including a rare-disease foundation she created in 2009. "The efforts of IAVI's talented and dedicated Board, management and staff are augmented by those of an equally impressive group of partners and supporters. Together, we will achieve a world without AIDS."

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**WHO & Regionals** [to 21 March 2015]

:: [\*\*WHO calls on the world to "Gear up to End TB"\*\*](#)

19 March 2013-- As countries mark World Tuberculosis Day on March 24, WHO is calling for "global solidarity and action" to support a new 20-year strategy which aims to end the global tuberculosis epidemic. Recent years have seen tremendous progress in the fight against TB, with over 37 million lives saved, but much more needs to be done.

[Read the news release on World Tuberculosis Day](#)

:: [\*\*Global Alert and Response \(GAR\): Disease Outbreak News \(DONs\)\*\*](#)

- [20 March 2015](#) Middle East respiratory syndrome coronavirus (MERS-CoV) – Saudi Arabia

- [17 March 2015](#) Typhoid fever – Uganda

:: The [\*\*Weekly Epidemiological Record \(WER\) 20 March 2015\*\*](#), vol. 90, 12 (pp. 109–120) includes:

- Antigenic and genetic characteristics of zoonotic influenza viruses and development of candidate vaccine viruses for pandemic preparedness

:: [\*\*WHO Highlights\*\*](#)

[Cholera coalition urges stepped-up support of water for Haiti](#)

March 2015— On World Water Day 2015, the Regional Coalition for Water and Sanitation to Eliminate Cholera in Hispaniola is calling for stepped-up support from the international community to help Haiti and the Dominican Republic end the cholera epidemic on their shared island.

[Comment on the Interim report of the Commission on Ending Childhood Obesity](#)

March 2015 -- The Interim Report of the Commission on Ending Childhood Obesity is now open for comments from relevant stakeholders from March to June 2015.

[People's health at the centre of new global blueprint to reduce disaster risks](#)

March 2015 -- Ten years since adopting the Hyogo Framework for Action shortly after the Indian Ocean Tsunami, government representatives have gathered in Sendai to negotiate a new framework for global action to reduce the risks of disasters.

## [Lassa fever](#)

March 2015 -- Lassa fever is an acute viral haemorrhagic illness that occurs in West Africa. It is difficult to distinguish from other viral haemorrhagic fevers such as Ebola virus disease, especially early in the course of the disease. Early supportive care with rehydration and symptomatic treatment improves survival. Read more in this updated fact sheet.

### :: **WHO Regional Offices**

**WHO African Region AFRO**[Dr Marie Puruehnce, Presidential Adviser for Health in Congo pays a courtesy call on Dr Matshidiso Moeti](#)

19 March 2015

### **WHO Region of the Americas PAHO**

:: [Cholera coalition urges stepped-up support of water for Haiti](#) (03/19/2015)

:: [PAHO/WHO initiative seeks to reduce maternal deaths from hemorrhage in the Americas](#) (03/18/2015)

:: [PAHO/WHO urges food processors to reduce salt in children's foods and cease advertising salty products to children](#) (03/17/2015)

### **WHO South-East Asia Region SEARO**

:: [World Water Day 2015: Water and Sustainable Development](#)

Every year, 22 March is observed as World Water Day to appreciate this precious resource and to recommit ourselves in preserving and sustaining water for current and future generations.

To recognize the transition from Millennium Development (MDG) to Sustainable Development Goals (SDG), the theme for 2015 is: 'Water and Sustainable Development'.

[RD's message on World Water Day 2015](#)

:: [Scale up TB control initiatives to reach the missing one million cases](#)

20 March 2015

### **WHO European Region EURO**

:: [Each day 1000 people fall sick with tuberculosis in the European Region](#) 17-03-2015

### **WHO Eastern Mediterranean Region EMRO**

:: [WHO Regional Director reviews health situation in Iraq and sounds alarm on diminishing health response due to limited funding](#)

Baghdad, Iraq, 16 March, 2015 – In his visit to Iraq, Dr Ala Alwan, WHO Regional Director for the Eastern Mediterranean, has been reviewing the health needs of populations affected by the conflict and describes the situation as alarming with 5 million currently in need of health services. Of the US\$ 314.2 million required by the health sector, only US\$ 95.5 million has been received (30.4%), leaving a critical funding gap of US\$ 218.7 million. WHO urges the international donor community to act immediately to support the work of WHO and health partners in Iraq.

[Millions of Afghan children reached in national polio immunization drive](#)

18 March 2015

[Tobacco use declining but major intensification efforts needed in reduction and control efforts](#)  
18 March 2015

[WHO recognizes H.H. Sheikh Al Qasimi for leadership in tobacco control](#)  
18 March 2015

**WHO Western Pacific Region**

:: [WHO responds to health needs caused by Cyclone Pam](#) 15 March 2015

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**CDC/MMWR Watch** [to 21 March 2015]  
<http://www.cdc.gov/media/index.html>

:: [MMWR Weekly March 20, 2015 / Vol. 64 / No. 10](#)

- [World TB Day — March 24, 2015](#)

- [Tuberculosis Trends — United States, 2014](#)

- [Notes from the Field: Fatal Yellow Fever Vaccine–Associated Viscerotropic Disease — Oregon, September 2014](#)

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**Global Fund** [to 21 March 2015]  
<http://www.theglobalfund.org/en/mediacenter/newsreleases/>  
20 March 2015  
[Honduras Aims for Malaria Elimination](#)

**PATH** [to 21 March 2015]  
<http://www.path.org/news/index.php>  
Press release | March 20, 2015  
[PATH names Mark Murray vice president for Global Engagement and Communications](#)  
*Murray to serve on executive leadership team and lead PATH's public engagement strategy*

**BMGF (Gates Foundation)** [to 21 March 2015]  
<http://www.gatesfoundation.org/Media-Center/Press-Releases>  
MARCH 18, 2015  
[New Chief Digital Officer Joins Bill & Melinda Gates Foundation](#)

SEATTLE, WA, USA (March 19, 2015) – The Bill & Melinda Gates Foundation today announced that Todd Pierce will join the organization in the newly created role of Chief Digital Officer. He comes to the foundation from salesforce.com where he served as Senior Vice President of the Healthcare and Life Sciences industry. Prior to salesforce.com, Pierce was Chief Information Officer at Genentech and for the County of Santa Clara, California, and held technology leadership roles at Roche and Veteran's Affairs. Additionally, he has held key positions on multiple non-profit and foundation boards.

**European Medicines Agency Watch** [to 21 March 2015]  
<http://www.ema.europa.eu/ema/>

20/03/2015

[EMA Management Board: highlights of March 2015 meeting](#)

*New Vice-Chair elected and joint strategy to 2020 for European medicines agencies network endorsed*

Election of new Vice-Chair

The European Medicines Agency's (EMA) Management Board elected Dr Christa Wirthumer-Hoche, the Head of the Austrian Medicines and Medical Devices Agency, as its Vice-Chair for a three-year period.

Dr Christa Wirthumer-Hoche succeeds Prof Dr Walter Schwerdtfeger, following his retirement from the German Federal Institute for Drugs and Medical Devices.

European medicines agencies network strategy to 2020 endorsed

The Board endorsed a draft strategy to 2020 developed together by EMA and national medicines regulatory authorities for both human and veterinary medicines in the Member States of the European Union (EU). The draft strategy will be released for a three-month public consultation shortly. The publication will be announced on the EMA and the Heads of Medicines Agencies (HMA) websites.

EMA and the national medicines regulatory authorities agreed for the first time on a joint high-level strategy for the EU medicines agencies network and key priorities for the next five years. An ever more coordinated approach and a strengthened collaboration are needed to address the multiple challenges and opportunities that the network is facing...

**Industry Watch** [to 21 March 2015]

:: [Emergent BioSolutions Signs Agreements With Oxford University, GlaxoSmithKline, and NIAID for the Production of an MVA Ebola Zaire Vaccine Candidate](#)

- Emergent has completed proof-of concept manufacturing of an MVA Ebola Zaire vaccine candidate anticipated for use in a Phase 1 clinical study in the UK
- 200L scale production leverages Emergent's unique expertise and capabilities in MVA-based vaccine product development and manufacturing

GAITHERSBURG, Md., March 16, 2015 (GLOBE NEWSWIRE) -- Emergent BioSolutions Inc. (NYSE:EBS) today announced that, under several agreements signed with the University of Oxford, GSK, and the National Institutes of Health's National Institute of Allergy and Infectious Diseases (NIAID) respectively, it has manufactured a modified vaccinia Ankara (MVA) Ebola Zaire vaccine candidate (MVA EBOZ) anticipated for use in a Phase 1 clinical study to be conducted by Professor Adrian Hill of the Jenner Institute. This clinical trial is being supported by a grant from the Wellcome Trust and the UK Department for International Development. The study, which will be conducted in the UK, will evaluate the safety of MVA EBOZ as a heterologous boost to GSK's Chimp Adenovirus type 3 (ChAd3) Ebola vaccine candidate. Data from an Ebola vaccine human clinical trial published recently in the New England Journal of Medicine suggest the use of an MVA vector as a potential option to boost the levels of ChAd-primed antibody and T-cell responses.

Under these agreements, Emergent performed proof of concept work and manufactured the MVA EBOZ vaccine candidate at a 200L scale in an avian cell line, which had previously been licensed to the company. Manufacturing in this cell line has significant advantages including removing the requirement for eggs from the manufacturing process, consistency of manufactured vaccine lots, and increases in doses delivered. Manufacturing of the first clinical lot of the MVA EBOZ vaccine candidate is now complete and is undergoing acceptability and

release testing. The scalable process has the potential to meet the demand for multi-million doses in a few months.

"Emergent is pleased to be collaborating with the Jenner Institute, Oxford University, NIAID, and GSK to advance this MVA EBOZ vaccine candidate into a Phase 1 study," said Daniel J. Abdun-Nabi, president and chief executive officer of Emergent BioSolutions. "Emergent is well-positioned for this unique opportunity given our long standing expertise in MVA product development and our MVA manufacturing capabilities utilizing a proprietary avian cell line to which we hold rights. This is the first time an MVA EBOZ vaccine candidate has been produced at a 200L scale in an avian cell line and we look forward to continuing this collaborative effort to address this public health threat."

Emergent manufactured the MVA EBOZ vaccine candidate at its Bayview Campus, Baltimore, Maryland manufacturing facility, which is equipped with disposable manufacturing technology such as single use bioreactors that enable production of viral and non-viral products with a quick turnaround. In this facility, Emergent has successfully manufactured product candidates for the company's pipeline, including MVA based vaccines. This facility has also been designated by the U.S. Department of Health and Human Services as a Center for Innovation in Advanced Development and Manufacturing (CIADM) that helps facilitate advanced development and surge manufacturing of medical countermeasures to address public health threats.

#### :: **[Shantha will provide up to 37 million doses of Shan5™](#)**

- *Shan5™ pentavalent pediatric vaccine will protect children against 5 pediatric diseases -*

Lyon, France - March 17, 2015 - Sanofi Pasteur, the vaccines division of Sanofi, announced today that its affiliate Shantha Biotechnics, located in Hyderabad, India, has delivered the first 400,000 doses of its pediatric pentavalent vaccine Shan5™ to support the immunization of children in the cities of Gwalior and Jabalpur, both in the state of Madhya Pradesh, India.

In December 2014, following a two-year international tender, Shantha was awarded to supply global health organizations with a total of 37 million doses of Shan5™ in 2015 and 2016, in a ten-dose vial presentation. This tender provides the basis upon which purchase orders will be made for specific vaccine deliveries throughout the period, depending on country needs. The Shan5™ vaccine will be used in the routine immunization programs of a number of Gavi-supported countries, enabling up to ten million children to receive protection from five pediatric diseases.

"This supply illustrates how Shantha and Sanofi Pasteur meet public health needs", said Olivier Charmeil, Sanofi Pasteur President and CEO. "We are proud to contribute to making high-quality vaccines accessible to more children in developing countries."

"We are pleased to have obtained this first tender award since Shan5™ was registered and WHO-prequalified in April 2014", said Dr. Harish Iyer, CEO, Shantha. "As one of the strategic manufacturing platforms for Sanofi Pasteur, Shantha is delivering on its commitment to serve Indian health needs and provide access in underserved vaccine markets."

#### *About Shan5™*

Shan5™ is a fully-liquid five-in-one, convenient, safe and high-quality vaccine that provides effective protection for children from 6 weeks of age against five diseases: diphtheria, tetanus, pertussis, Hib and hepatitis B (DTP - HepB - Hib). Shan5™ vaccine has been developed and is produced at Shantha's state-of-the-art manufacturing facility in Hyderabad, India, and received Marketing Authorization in India in March 2014. In April 2014, Shan5™ was prequalified by the World Health Organization (WHO).

#### :: **[A New Therapeutic Vaccine Successfully Developed Against Rabies](#)**

Mar 16, 2015

Yisheng Biopharma Co., Ltd. ("Yisheng Biopharma"), a biopharmaceutical company focusing on the research, development, manufacturing, sales and marketing of vaccine products, announced that a new vaccine for the post exposure treatment of the rabies infection was entering human...

**Sabin Vaccine Institute Watch** [to 21 March 2015]

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

*No new digest content identified.*

**European Vaccine Initiative Watch** [to 21 March 2015]

<http://www.euvaccine.eu/news-events>

*No new digest content identified.*

**FDA Watch** [to 21 March 2015]

<http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/default.htm>

*No new digest content identified.*

**DCVMN / PhRMA / EFPIA / IFPMA / BIO Watch** [to 21 March 2015]

*No new digest content identified.*

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

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

**IOM Report: [Informed Consent and Health Literacy: Workshop Summary](#)**

Joe Alper, Rapporteur; Roundtable on Health Literacy

March 2015 :: 192 pages

ISBN: 978-0-309-31727-6

Pdf: [http://download.nap.edu/cart/download.cgi?&record\\_id=19019](http://download.nap.edu/cart/download.cgi?&record_id=19019)

*Description*

Informed consent - the process of communication between a patient or research subject and a physician or researcher that results in the explicit agreement to undergo a specific medical intervention - is an ethical concept based on the principle that all patients and research subjects should understand and agree to the potential consequences of the clinical care they receive. Regulations that govern the attainment of informed consent for treatment and research are crucial to ensuring that medical care and research are conducted in an ethical manner and with the utmost respect for individual preferences and dignity. These regulations, however, often require - or are perceived to require - that informed consent documents and related materials contain language that is beyond the comprehension level of most patients and study participants.

### **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](mailto:david.r.curry@centerforvaccineethicsandpolicy.org)*

### **The American Journal of Bioethics**

Volume 15, Issue 3, 2015

<http://www.tandfonline.com/toc/uajb20/current>

[No relevant content identified]

### **American Journal of Infection Control**

March 2015 Volume 43, Issue 3, p199-312

<http://www.ajicjournal.org/current>

[Reviewed earlier]

### **American Journal of Preventive Medicine**

March 2015 Volume 48, Issue 3, p241-364, e1-e4

<http://www.ajpmonline.org/current>

[Reviewed earlier]

### **American Journal of Public Health**

Volume 105, Issue 3 (March 2015)

<http://ajph.aphapublications.org/toc/ajph/current>

[Reviewed earlier]

### **American Journal of Tropical Medicine and Hygiene**

March 2015; 92 (3)

<http://www.ajtmh.org/content/current>

[Reviewed earlier]

### **Annals of Internal Medicine**

17 March 2015, Vol. 162. No. 6

<http://annals.org/issue.aspx>

[New issue; No relevant content]



## **BMC Health Services Research**

<http://www.biomedcentral.com/bmchealthservres/content>

(Accessed 21 March 2015)

*Research article*

### **[Evaluating the implementation of the 13-valent pneumococcal vaccine supplementary dose program in Australian primary health care settings](#)**

Kirsten F Ward<sup>1\*</sup>, Marianne Trent<sup>2</sup>, Brynley P Hull<sup>1</sup>, Helen E Quinn<sup>1,3</sup>, Aditi Dey<sup>1,3</sup> and Robert I Menzies<sup>1,3</sup>

#### **Author Affiliations**

BMC Health Services Research 2015, 15:109 doi:10.1186/s12913-015-0738-y

Published: 18 March 2015

*Abstract* (provisional)

#### **Background**

The availability of new pneumococcal conjugate vaccines covering a broader range of serotypes, has seen many countries introduce these into their national immunisation program. When transitioning from 7-valent to 13-valent pneumococcal conjugate vaccines, Australia is one of a small number of countries that included a supplementary dose of the 13-valent pneumococcal conjugate vaccine to offer protection against additional serotypes to an expanded age group of children. An evaluation of the implementation and uptake of the 13-valent pneumococcal conjugate vaccine supplementary dose was undertaken in two local health districts (LHDs) in New South Wales, Australia. Methods A self-administered postal survey of immunisation providers in the Northern New South Wales and Mid North Coast LHDs. Trends in vaccine ordering were examined. Coverage was assessed using data from the Australian Childhood Immunisation Register (ACIR).

#### **Results**

Of the 177 surveys sent, 125 were returned (70%). Almost all providers (96%) were aware of the 13vPCV supplementary dose program though took an opportunistic approach to program promotion and parental reminders. Supplementary doses of 13vPCV were ordered for 37% of the eligible cohort, mostly in the program's first six months. Coverage as recorded on the ACIR was 27%, though was lower in older children and those not due for scheduled childhood vaccines. Of the children who received the 13vPCV supplementary dose, 3% received it at the same time as vaccines due at 12-months of age, and 44% at the time of those due at 18-months of age.

#### **Conclusion**

Despite the high awareness of the program, reported coverage was lower than that for other PCV supplementary dose programs in Australia and internationally. This may be influenced by providers' largely opportunistic approach to implementation, under-reporting to the ACIR or vaccine uptake. Lessons learned from this evaluation are relevant for future time-limited childhood vaccination programs. Prior to commencement, providers should be informed about the importance of catch-up/supplementary vaccination for their patients and their active role in promoting this. They should also receive program information before parents. An understanding of parental reasons for non-receipt of time-limited childhood vaccines and evaluation of the effect of aligning supplementary (or catch up) vaccination programs with the NIP schedule would be useful to inform future programs.

## **BMC Infectious Diseases**

<http://www.biomedcentral.com/bmcinfectdis/content>

(Accessed 21 March 2015)

*Research article*

## **[Application of the screening method to monitor influenza vaccine effectiveness among the elderly in Germany](#)**

Cornelius Remschmidt<sup>1\*</sup>, Thorsten Rieck<sup>1,2</sup>, Birte Bödeker<sup>1</sup> and Ole Wichmann<sup>1</sup>

Author Affiliations

BMC Infectious Diseases 2015, 15:137 doi:10.1186/s12879-015-0882-3

Published: 20 March 2015

*Abstract* (provisional)

Background

Elderly people are at increased risk for severe influenza illness and constitute therefore a major target-group for seasonal influenza vaccination in most industrialized countries. The aim of this study was to estimate influenza vaccine effectiveness (VE) among individuals aged 60+ years over three seasons and to assess if the screening method is a suitable tool to monitor influenza VE in this particular target-group in Germany.

Methods

We identified laboratory-confirmed influenza cases aged 60+ years through the national communicable disease reporting system for seasons 2010/11, 2011/12 and 2012/13. Vaccination coverage (VC) data were retrieved from a database of health insurance claims representing ~85% of the total German population. We applied the screening method to calculate influenza subtype-specific VE and compared our results with VE estimates from other observational studies in Europe.

Results

In total, 7,156 laboratory-confirmed influenza cases were included. VE against all influenza types ranged between 49% (95% confidence interval [CI]: 39–56) in 2011/12 and 80% (95%CI: 76–83%) in 2010/11. In 2010/11 subtype-specific VE against influenza A(H1N1)pdm and B was 76% and 84%, respectively. In the following seasons, VE against influenza A(H1N1)pdm, A(H3N2) and B was 87%, -9% , 74% (2011/12), and 74%, 39%, 73% (2012/13). VE was higher among hospitalized compared to non-hospitalized influenza A cases. Seventeen observational studies from Europe reporting subtype-specific VE among the elderly were identified for the respective seasons (all applying the test-negative design) and showed comparable subtype-specific VE estimates.

Conclusions

According to our study, influenza vaccination provided moderate protection against laboratory-confirmed influenza A(H1N1)pdm and B in individuals aged 60+ but no or only little protection against A(H3N2). Higher VE among hospitalized cases might indicate higher protection against severe influenza disease. Based on the available data, the screening method allowed us to assess subtype-specific VE in hospitalized and non-hospitalized elderly persons. Since controlling for several important confounders was not possible, the applied method only provided crude VE estimates. However, given the precise VC-data and the large number of cases, the screening method provided results being in line with VE estimates from other observational studies in Europe that applied a different study design.

**BMC Medical Ethics**

(Accessed 21 March 2015)

<http://www.biomedcentral.com/bmcmedethics/content>

[No new relevant content]

### **BMC Public Health**

(Accessed 21 March 2015)

<http://www.biomedcentral.com/bmcpublichealth/content>

*Research article*

#### **Impact of socioeconomic status and medical conditions on health and healthcare utilization among ageing Ghanaians**

Bashiru II Saeed<sup>1,2\*</sup>, Zhao Xicang<sup>1</sup>, Alfred Edwin Yawson<sup>3</sup>, Samuel Blay Nguah<sup>4</sup> and Nicholas NN Nsawah-Nuamah<sup>5</sup>

Author Affiliations

BMC Public Health 2015, 15:276 doi:10.1186/s12889-015-1603-y

Published: 20 March 2015

*Abstract* (provisional)

Background

This study attempts to examine the impact of socioeconomic and medical conditions in health and healthcare utilization among older adults in Ghana. Five separate models with varying input variables were estimated for each response variable.

Methods

Data (Wave 1 data) were drawn from the World Health Organization Global Ageing and Adult Health (SAGE) conducted during 2007–2008 and included a total of 4770 respondents aged 50+ and 803 aged 18–49 in Ghana. Ordered logits was estimated for self-rated health, and binary logits for functional limitation and healthcare utilization.

Results

Our results show that the study provides enough grounds for further research on the interplay between socioeconomic and medical conditions on one hand and the health of the aged on the other. Controlling for socioeconomic status substantially contributes significantly to utilization. Also, aged women experience worse health than men, as shown by functioning assessment, self-rated health, chronic conditions and functional limitations. Women have higher rates of healthcare utilization, as shown by significantly higher rates of hospitalization and outpatient encounters.

Conclusion

Expansion of the national health insurance scheme to cover the entire older population- for those in both formal and informal employments- is likely to garner increased access and improved health states for the older population.

### **BMC Research Notes**

(Accessed 21 March 2015)

<http://www.biomedcentral.com/bmcresearchnotes/content>

[No new relevant content]

### **BMJ Open**

2015, Volume 5, Issue 3

<http://bmjopen.bmj.com/content/current>

[Reviewed earlier]

## **British Medical Journal**

21 March 2015(vol 350, issue 8000)

<http://www.bmj.com/content/350/8000>

*Editor's Choice*

### **[New rules of consent: the patient decides](#)**

BMJ 2015; 350 doi: <http://dx.doi.org/10.1136/bmj.h1534> (Published 19 March 2015) Cite this as: BMJ 2015;350:h1534

Fiona Godlee, editor in chief, The BMJ

*Excerpt*

How much information should patients be given about the risks of treatment? And who decides what a patient needs to know? Until now, in the United Kingdom, doctors have been allowed to decide this, and the 30 year old Bolam test specified that their conduct would be considered acceptable if it would be supported by a responsible body of medical opinion.

But this has all just changed. Last week the UK's Supreme Court judged that it was for patients to decide whether the risks of treatment and alternative options have been adequately communicated. Nadine Montgomery, who has diabetes, was not told of the risks of shoulder dystocia to her baby boy, who subsequently developed cerebral palsy (doi:[10.1136/bmj.h1414](https://doi.org/10.1136/bmj.h1414)). Her obstetrician justified holding back this information on the grounds that it might have discouraged her from having a vaginal delivery.

This will no longer do. As Daniel Sokol explains (doi:[10.1136/bmj.h1481](https://doi.org/10.1136/bmj.h1481)), the Montgomery ruling means that doctors will have to take "reasonable care to ensure that the patient is aware of any material risks involved in any recommended treatment and of any reasonable alternative or variant treatments." Sokol advises doctors to make extra sure that the discussion is fully documented.

What counts as a material risk? Here the Supreme Court has landed a clear and crucial blow to medical paternalism. Instead of a responsible body of medical opinion, the judgment now rests with "a reasonable person in the patient's position."...

*Observations*

*Ethics Man*

### **[Update on the UK law on consent](#)**

BMJ 2015; 350 doi: <http://dx.doi.org/10.1136/bmj.h1481> (Published 16 March 2015) Cite this as: BMJ 2015;350:h1481

Daniel K Sokol, practising barrister and medical ethicist, 12 King's Bench Walk, London

## **Bulletin of the World Health Organization**

Volume 93, Number 3, March 2015, 133-208

<http://www.who.int/bulletin/volumes/93/3/en/>

[Reviewed earlier]

## **Clinical Infectious Diseases (CID)**

Volume 60 Issue 6 March 15, 2015

<http://cid.oxfordjournals.org/content/current>

[Reviewed earlier]

## **Clinical Therapeutics**

February 2015 Volume 37, Issue 2, p243-480

<http://www.clinicaltherapeutics.com/current>

[Reviewed earlier]

## **Complexity**

March/April 2015 Volume 20, Issue 4 Pages C1–C1, 1–80

<http://onlinelibrary.wiley.com/doi/10.1002/cplx.v20.4/issuetoc>

[No new relevant content identified]

## **Conflict and Health**

[Accessed 21 March 2015]

<http://www.conflictandhealth.com/>

[No new relevant content]

## **Contemporary Clinical Trials**

Volume 42, *In Progress* (May 2015)

<http://www.sciencedirect.com/science/journal/15517144/42>

### **[Design of a large outcome trial for a multivalent human papillomavirus L1 virus-like particle vaccine](#)**

Original Research Article

Pages 18-25

Alain Luxembourg, Oliver Bautista, Erin Moeller, Michael Ritter, Joshua Chen

*Abstract*

Background

The 9-valent human papillomavirus (HPV) (9vHPV) vaccine targets the four HPV types (6/11/16/18) covered by the licensed quadrivalent HPV (qHPV) vaccine and five additional types (31/33/45/52/58). A large outcome trial of 9vHPV vaccine was conducted.

Methods

An active control (qHPV vaccine) was used because a placebo is not ethically acceptable. Since qHPV vaccine is (and 9vHPV vaccine was anticipated to be) highly efficacious against HPV 6/11/16/18, low incidence of HPV 6/11/16/18-associated disease was expected. Consequently, an efficacy comparison of 9vHPV versus qHPV vaccine for HPV 6/11/16/18 would have been prohibitively large in size. Moreover, no minimum antibody level predicting protection against infection or disease is defined for HPV vaccination. As an alternative approach, the two vaccines were compared using immunogenicity bridging for HPV 6/11/16/18 and clinical efficacy for HPV 31/33/45/52/58.

Results

The two co-primary objectives were to demonstrate: (1) non-inferior anti-HPV 6/11/16/18 antibody response; and (2) superior efficacy in HPV 31/33/45/52/58-related clinical outcome, for 9vHPV vaccine versus qHPV vaccine. For HPV 6/11/16/18, supportive analyses included a non-inferiority assessment of the percent risk reduction (compared to historical placebo) for 9vHPV versus qHPV vaccine.

Conclusions

A Phase III study of 9vHPV vaccine was successfully implemented. Experience from this study design may be applicable when developing a multivalent vaccine covering the same serotypes as an existing vaccine plus additional serotypes and there is no immune correlate of protection. Also, this study established that efficacy of a new HPV vaccine may be demonstrated using immunogenicity endpoints, which may open new options in HPV vaccine development.

### **Cost Effectiveness and Resource Allocation**

(Accessed 21 March 2015)

<http://www.resource-allocation.com/>

[No new relevant content]

### **Current Opinion in Infectious Diseases**

April 2015 - Volume 28 - Issue 2 pp: v-v,117-198

<http://journals.lww.com/co-infectiousdiseases/pages/currenttoc.aspx>

[Reviewed earlier]

### **Developing World Bioethics**

April 2015 Volume 15, Issue 1 Pages ii–iii, 1–57

<http://onlinelibrary.wiley.com/doi/10.1111/dewb.2015.15.issue-1/issuetoc>

[Reviewed earlier]

### **Development in Practice**

Volume 25, Issue 2, 2015

<http://www.tandfonline.com/toc/cdip20/current>

[Reviewed earlier]

### **Emerging Infectious Diseases**

Volume 21, Number 3—March 2015

<http://wwwnc.cdc.gov/eid/>

[Reviewed earlier]

### **Epidemics**

Volume 11, *In Progress* (June 2015)

<http://www.sciencedirect.com/science/journal/17554365>

[Reviewed earlier]

### **Epidemiology and Infection**

Volume 143 - Issue 06 - April 2015

<http://journals.cambridge.org/action/displayIssue?jid=HYG&tab=currentissue>

[Reviewed earlier]

## **The European Journal of Public Health**

Volume 25, Issue 1, 01 February 2015

[http://eurpub.oxfordjournals.org/content/25/suppl\\_1](http://eurpub.oxfordjournals.org/content/25/suppl_1)

*Theme: Unwarranted variations in health care performance across Europe: Lessons from the ECHO Project*

[Reviewed earlier]

## **Eurosurveillance**

Volume 20, Issue 11, 19 March 2015

<http://www.eurosurveillance.org/Public/Articles/Archives.aspx?PublicationId=11678>

*Editorials*

### **[Progressing towards tuberculosis elimination in the European Union and European Economic Area](#)**

by MJ van der Werf, D Antoine

*Rapid communications*

### **[Excess mortality among the elderly in European countries, December 2014 to February 2015](#)**

by K Mølbak, L Espenhain, J Nielsen, K Tersago, N Bossuyt, G Denissov, A Baburin, M Virtanen, A Fouillet, T Sideroglou, K Gkolfinopoulou, A Paldy, J Bobvos, L van Asten, M de Lange, B Nunes, S da Silva, A Larrauri, IL Gómez, A Tsoumanis, C Junker, H Green, R Pebody, J McMenamin, A Reynolds, A Mazick

Since December 2014 and up to February 2015, the weekly number of excess deaths from all-causes among individuals  $\geq 65$  years of age in 14 European countries have been significantly higher than in the four previous winter seasons. The rise in unspecified excess mortality coincides with increased proportion of influenza detection in the European influenza surveillance schemes with a main predominance of influenza A(H3N2) viruses seen throughout Europe in the current season, though cold snaps and other respiratory infections may also have had an effect.

*Research articles*

### **[Impact of the BCG vaccination policy on tuberculous meningitis in children under 6 years in metropolitan France between 2000 and 2011](#)**

by T Van Bui, D Lévy-Bruhl, D Che, D Antoine, V Jarlier, J Robert

## **Global Health: Science and Practice (GHSP)**

March 2015 | Volume 3 | Issue 1

<http://www.ghspjournal.org/content/current>

[Reviewed earlier]

## **Global Health Governance**

[Accessed 21 March 2015]

<http://blogs.shu.edu/ghg/category/complete-issues/summer-2013/>

[No new relevant content]

## **Global Public Health**

Volume 10, Issue 4, 2015

<http://www.tandfonline.com/toc/rgph20/current#.VPudJy5nBhU>

[Reviewed earlier]

## **Globalization and Health**

[Accessed 21 March 2015]

<http://www.globalizationandhealth.com/>

*Review*

### **[Health in the sustainable development goals: ready for a paradigm shift?](#)**

Kent Buse<sup>1</sup> and Sarah Hawkes<sup>2\*</sup>

Author Affiliations

Globalization and Health 2015, 11:13 doi:10.1186/s12992-015-0098-8

Published: 21 March 2015

*Abstract* (provisional)

The Millennium Development Goals (MDGs) galvanized attention, resources and accountability on a small number of health concerns of low- and middle-income countries with unprecedented results. The international community is presently developing a set of Sustainable Development Goals as the successor framework to the MDGs. This review examines the evidence base for the current health-related proposals in relation to disease burden and the technical and political feasibility of interventions to achieve the targets. In contrast to the MDGs, the proposed health agenda aspires to be universally applicable to all countries and is appropriately broad in encompassing both communicable and non-communicable diseases as well as emerging burdens from, among other things, road traffic accidents and pollution. We argue that success in realizing the agenda requires a paradigm shift in the way we address global health to surmount five challenges: 1) ensuring leadership for intersectoral coherence and coordination on the structural (including social, economic, political and legal) drivers of health; 2) shifting the focus from treatment to prevention through locally-led, politically-smart approaches to a far broader agenda; 3) identifying effective means to tackle the commercial determinants of ill-health; 4) further integrating rights-based approaches; and 5) enhancing civic engagement and ensuring accountability. We are concerned that neither the international community nor the global health community truly appreciates the extent of the shift required to implement this health agenda which is a critical determinant of sustainable development.

*Research*

### **[Tracking development assistance for health to fragile states: 2005–2011](#)**

Casey M Graves, Annie Haakenstad and Joseph L Dieleman\*

Author Affiliations

Globalization and Health 2015, 11:12 doi:10.1186/s12992-015-0097-9

Published: 19 March 2015

*Abstract* (provisional)

Background

Development assistance for health (DAH) has grown substantially, totaling more than \$31.3 billion in 2013. However, the degree that countries with high concentrations of armed conflict, ethnic violence, inequality, debt, and corruption have received this health aid and how that assistance might be different from the funding provided to other countries has not been assessed.

Methods



We combine DAH estimates and a multidimensional fragile states index for 2005 through 2011. We disaggregate and compare total DAH disbursed for fragile states versus stable states.

#### Results

Between 2005 and 2011, DAH per person in fragile countries increased at an annualized rate of 5.4%. In 2011 DAH to fragile countries totaled \$6.2 billion, which is \$5.05 per person. This is 43% of total DAH that is traced to a country. Comparing low-income countries, funding channeled to fragile countries was \$7.22 per person while stable countries received \$11.15 per person. Relative to stable countries, donors preferred to provide more funding to low-income fragile countries that have refugees or ongoing external intervention but tended to avoid providing funding to countries with political gridlock, flawed elections, or economic decline. In 2011, Ethiopia received the most health aid of all fragile countries, while the United States provided the most funds to fragile countries.

#### Conclusions

In 2011, 1.2 billion people lived in fragile countries. DAH can bolster health systems and might be especially valuable in providing long-term stability in fragile environments. While external health funding to these countries has increased since 2005, it is, in per person terms, almost half as much as the DAH provided to stable countries of comparable income levels.

### **Health Affairs**

March 2015; Volume 34, Issue 3

<http://content.healthaffairs.org/content/current>

[Reviewed earlier]

### **Health and Human Rights**

Volume 16, Issue 2 December 2014

<http://www.hhrjournal.org/volume-16-issue-2/>

*Papers in Press: Special Issue on Health Rights Litigation*

[Reviewed earlier]

### **Health Economics, Policy and Law**

Volume 10 - Issue 02 - April 2015

<http://journals.cambridge.org/action/displayIssue?jid=HEP&tab=currentissue>

[Reviewed earlier]

### **Health Policy and Planning**

Volume 30 Issue 2 March 2015

<http://heapol.oxfordjournals.org/content/current>

[Reviewed earlier]

### **Health Research Policy and Systems**

<http://www.health-policy-systems.com/content>

[Accessed 21 March 2015]

[Reviewed earlier]

**Human Vaccines & Immunotherapeutics** (formerly Human Vaccines)

Volume 11, Issue 1, 2015

<http://www.tandfonline.com/toc/khvi20/11/1#.VPJsQS5nBhU>

[Reviewed earlier]

**Infectious Agents and Cancer**

[Accessed 21 March 2015]

<http://www.infectagentscancer.com/content>

[No new relevant content]

**Infectious Diseases of Poverty**

[Accessed 21 March 2015]

<http://www.idpjournal.com/content>

[No new relevant content]

**International Health**

Volume 7 Issue 2 March 2015

<http://inthealth.oxfordjournals.org/content/current>

*Special issue: Digital methods in epidemiology*

[Reviewed earlier]

**International Journal of Epidemiology**

Volume 44 Issue 1 February 2015

<http://ije.oxfordjournals.org/content/current>

[Reviewed earlier]

**International Journal of Infectious Diseases**

April 2015 Volume 33, p1

<http://www.ijidonline.com/current>

[Reviewed earlier]

**JAMA**

March 17, 2015, Vol 313, No. 11

<http://jama.jamanetwork.com/issue.aspx>

*Viewpoint* | March 17, 2015

[\*\*Law, Ethics, and Public Health in the Vaccination Debates - Politics of the Measles Outbreak\*\*](#) FREE

Lawrence O. Gostin, JD1

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JAMA. 2015;313(11):1099-1100. doi:10.1001/jama.2015.1518.

*[Concluding text]*

## A TRAGEDY OF THE COMMONS

Parental decisions to opt out of immunizations can have a rational basis. Unvaccinated children avoid rare adverse effects, such as a serious allergic reaction. Moreover, if most children in the community in which they live are immunized, the unvaccinated child also benefits from herd immunity. The dilemma is that if a sufficient number parents act in their own interests by opting out of having their children immunized, then everyone is worse off.

Parents objecting to vaccines often claim the right to informed consent, which is an important medicolegal value. However, consent should not override the rights of others to live safely in their communities. Unvaccinated children put the wider public at risk, violating a basic ethical principle of not imposing harms on others. If an individual's right ends at the point that its exercise jeopardizes the safety of others, then should states allow parents to opt out? Certainly, states should continue to grant medical exemptions for children particularly susceptible to vaccine adverse effects. However, states do not have to grant philosophical and religious exemptions. The main consideration is whether eliminating exemptions could inflame public opinion, thus undermining vaccine policy.

States would be unwise to overreact to the current measles outbreak by fining or imprisoning parents, or subjecting them to tort litigation, if they fail to vaccinate their children. Harsh penalties could fuel public opposition to vaccine policy. It may not even be necessary to entirely eliminate nonmedical exemptions. The wiser course could be to require a rigorous process for claiming the exemption, relying on behavioral economics to encourage compliance. There are good models of tougher standards, including requiring counseling; explaining the benefits of vaccines; requiring parents to sign an affidavit stating the reasons for opting out; and requiring health department approval. Placing a higher burden on the exemption process would make it more difficult for parents to impose risks on their children's friends and schoolmates without their agreement.

If exemptions were truly rare, as they should be, then herd immunity would operate. Everyone would be safer. The current system of generous opt outs virtually ensures that infectious disease outbreaks will continue, perhaps increasing in frequency and geographic scope. Childhood diseases that were once common but now rare could gain a foothold, becoming endemic once again.

*Research Letter* | March 17, 2015

### [Reporting of Noninferiority Trials in ClinicalTrials.gov and Corresponding Publications](#)

Anand D. Gopal, BS, BA1; Nihar R. Desai, MD2; Tony Tse, PhD3; Joseph S. Ross, MD, MHS2  
[+] [Author Affiliations](#)

JAMA. 2015;313(11):1163-1165. doi:10.1001/jama.2015.1697.

Noninferiority clinical trials are designed to determine whether an intervention is not inferior to a comparator by more than a prespecified difference, known as the noninferiority margin. Selection of an appropriate margin is fundamental to noninferiority trial validity, yet a point of frequent ambiguity.<sup>1,2</sup> Given the increasing use of noninferiority trial designs, maintaining high standards for conduct and reporting is a priority.<sup>3,4</sup> Publicly accessible trial registries and results databases promote transparency and accountability by requiring specification of research designs and end points and disclosure of summary results.<sup>1,5</sup>

**JAMA Pediatrics**

March 2015, Vol 169, No. 3

<http://archpedi.jamanetwork.com/issue.aspx>

[Reviewed earlier]

*Online First*

Research Letter | March 16, 2015

**[Substandard Vaccination Compliance and the 2015 Measles Outbreak](#)** ONLINE FIRST

Maimuna S. Majumder, MPH<sup>1,2</sup>; Emily L. Cohn, MPH<sup>2</sup>; Sumiko R. Mekar, DVM, PhD<sup>2</sup>; Jane E. Huston, MPH<sup>2</sup>; John S. Brownstein, PhD<sup>2,3</sup>

Author Affiliations

JAMA Pediatr. Published online March 16, 2015. doi:10.1001/jamapediatrics.2015.0384

The ongoing measles outbreak linked to the Disneyland Resort in Anaheim, California, shines a glaring spotlight on our nation's growing antivaccination movement and the prevalence of vaccination-hesitant parents. Although the index case has not yet been identified, the outbreak likely started sometime between December 17 and 20, 2014.<sup>1,2</sup> Rapid growth of cases across the United States indicates that a substantial percentage of the exposed population may be susceptible to infection due to lack of, or incomplete, vaccination. Herein, we attempt to analyze existing, publicly available outbreak data to assess the potential role of suboptimal vaccination coverage in the population.

...*Discussion*

This preliminary analysis indicates that substandard vaccination compliance is likely to blame for the 2015 measles outbreak. Our study estimates that MMR vaccination rates among the exposed population in which secondary cases have occurred might be as low as 50% and likely no higher than 86%. Given the highly contagious nature of measles, vaccination rates of 96% to 99% are necessary to preserve herd immunity and prevent future outbreaks.<sup>3</sup> Even the highest estimated vaccination rates from our model fall well below this threshold. While data on MMR vaccination rates are available, coverage is often calculated at the state or county level and may not be granular enough to assess risk in an outbreak situation; this is especially the case for outbreaks originating at a tourist destination, where vaccination coverage among visitors is highly heterogeneous. Clearly, MMR vaccination rates in many of the communities that have been affected by this outbreak fall below the necessary threshold to sustain herd immunity, thus placing the greater population at risk as well.

### **Journal of Community Health**

Volume 40, Issue 2, April 2015

<http://link.springer.com/journal/10900/40/2/page/1>

[Reviewed earlier]

### **Journal of Epidemiology & Community Health**

April 2015, Volume 69, Issue 4

<http://jech.bmj.com/content/current>

[New issue; No relevant content]

### **Journal of Global Ethics**

Volume 10, Issue 3, 2014

<http://www.tandfonline.com/toc/rjge20/.U2V-Elf4L0l#.VAJEj2N4WF8>

*Tenth Anniversary Forum: The Future of Global Ethics*

[Reviewed earlier]

**Journal of Global Infectious Diseases (JGID)**

January-March 2015 Volume 7 | Issue 1 Page Nos. 1-50

<http://www.jgid.org/currentissue.asp?sabs=n>

[Reviewed earlier]

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

Volume 26, Number 1, February 2015

[http://muse.jhu.edu/journals/journal\\_of\\_health\\_care\\_for\\_the\\_poor\\_and\\_underserved/toc/hpu.26.1.html](http://muse.jhu.edu/journals/journal_of_health_care_for_the_poor_and_underserved/toc/hpu.26.1.html)

[Reviewed earlier]

**Journal of Immigrant and Minority Health**

Volume 17, Issue 1, February 2015

<http://link.springer.com/journal/10903/17/1/page/1>

*Special Focus: Food, Diet, and Nutrition*

- 39 articles covering these themes in different ethnic and national contexts

**Journal of Immigrant & Refugee Studies**

Volume 13, Issue 1, 2015

<http://www.tandfonline.com/toc/wimm20/current#.VQS0KOFnBhW>

[Reviewed earlier]

**Journal of Infectious Diseases**

Volume 211 Issue 5 March 1, 2015

<http://jid.oxfordjournals.org/content/current>

[Reviewed earlier]

**The Journal of Law, Medicine & Ethics**

Winter 2014 Volume 42, Issue 4 Pages 408–602

<http://onlinelibrary.wiley.com/doi/10.1111/jlme.2014.42.issue-4/issuetoc>

*Special Issue: SYMPOSIUM: The Buying and Selling of Health Care*

[Reviewed earlier]

**Journal of Medical Ethics**

March 2015, Volume 41, Issue 3

<http://jme.bmj.com/content/current>

[Reviewed earlier]

### **Journal of Medical Internet Research**

Vol 17, No 3 (2015): March

<http://www.jmir.org/2015/3>

#### **[Patient Use of Email for Health Care Communication Purposes Across 14 European Countries: An Analysis of Users According to Demographic and Health-Related Factors](#)**

Nikki Newhouse, Francisco Lupiáñez-Villanueva, Cristiano Codagnone, Helen Atherton

J Med Internet Res 2015 (Mar 06); 17(3):e58

#### **[Web-Based Psychotherapy for Posttraumatic Stress Disorder in War-Traumatized Arab Patients: Randomized Controlled Trial](#)**

Christine Knaevelsrud, Janine Brand, Alfred Lange, Jeroen Ruwaard, Birgit Wagner

J Med Internet Res 2015 (Mar 20); 17(3):e71

#### **[Stories From the Field: The Use of Information and Communication Technologies to Address the Health Needs of Underserved Populations in Latin America and the Caribbean](#)**

Nasim Farach, Gladys Faba, Soroya Julian, Felipe Mejía, Báltica Cabieses, Marcelo D'Agostino, Andrea A Cortinois

JMIR Public Health Surveill 2015 (Mar 17); 1(1):e1

#### **[The Digital Distribution of Public Health News Surrounding the Human Papillomavirus Vaccination: A Longitudinal Infodemiology Study](#)**

L Meghan Mahoney, Tang Tang, Kai Ji, Jessica Ulrich-Schad

JMIR Public Health Surveill 2015 (Mar 18); 1(1):e2

### **Journal of Medical Microbiology**

March 2015; 64 (Pt 3)

<http://jmm.sgmjournals.org/content/current>

[New issue; No relevant content]

### **Journal of the Pediatric Infectious Diseases Society (JPIDS)**

Volume 4 Issue 1 March 2015

<http://jpids.oxfordjournals.org/content/current>

[Reviewed earlier]

### **Journal of Pediatrics**

March 2015 Volume 166, Issue 3, p507-782

<http://www.jpeds.com/current>

[Reviewed earlier]

### **Journal of Public Health Policy**

Volume 36, Issue 1 (February 2015)

<http://www.palgrave-journals.com/jphp/journal/v36/n1/index.html>

[Reviewed earlier]

## **Journal of the Royal Society – Interface**

06 April 2015; volume 12, issue 105

<http://rsif.royalsocietypublishing.org/content/current>

[Reviewed earlier]

## **Journal of Virology**

April 2015, volume 89, issue 7

<http://jvi.asm.org/content/current>

[Reviewed earlier]

## **The Lancet**

Mar 21, 2015 Volume 385 Number 9973 p1045-1150 e23-e24

<http://www.thelancet.com/journals/lancet/issue/current>

*Editorial*

### **[Hepatitis C: only a step away from elimination?](#)**

The Lancet

DOI: [http://dx.doi.org/10.1016/S0140-6736\(15\)60584-0](http://dx.doi.org/10.1016/S0140-6736(15)60584-0)

Globally, an estimated 185 million people are infected with hepatitis C virus (HCV). Acute HCV infections are usually asymptomatic. However, about 75% of patients develop chronic infection, which can lead to liver cirrhosis and hepatocellular carcinoma. 700 000 deaths worldwide could be attributed to HCV in 2013. While most people affected live in low-income and middle-income countries in Asia, Africa, and the Middle East, in the UK an estimated 200 000 individuals are infected with HCV, and annual deaths from HCV have quadrupled since 1996. These figures are appalling, surely. But the extraordinary recent developments in treatment for hepatitis C offer substantial grounds for optimism. A series of new drugs—more effective in viral clearance with fewer side-effects—are changing the landscape for hepatitis C.

Today's *Lancet* gives a sense of the remarkable past few years it has been for hepatitis C. As described in Paul Webster and colleagues' comprehensive Seminar, until recently interferon in combination with ribavirin was the main treatment for hepatitis C, but eligibility, safety, tolerability, and effectiveness were limited. The development of direct-acting antiviral drugs towards NS3/4A protease, NS5B polymerase, and NS5A replication complex has progressed tremendously and now allows for interferon-free therapies. Four clinical trials with new regimens are published in today's issue. The C-WORTHY trial assessed a single-tablet once-daily regimen of grazoprevir (protease inhibitor) and elbasivir (NS5A inhibitor) with or without ribavirin for patients with HCV genotype 1. Eric Lawitz and colleagues report a sustained virological response (SVR) at 12 weeks, irrespective of ribavirin and duration of treatment. Similarly, Mark Sulkowski and colleagues report very encouraging results (SVR at 12 weeks: 87–97%) in patients co-infected with HIV. With about 25% of individuals infected with HIV being co-infected with HCV, inclusion of this group of patients in trials is also of utmost importance. In the PHOTON-2 trial, Jean-Michel Molina and colleagues specifically assessed the recently approved regimen sofosbuvir (NS5B inhibitor) plus ribavirin in patients infected with HCV genotypes 1–4 co-infected with HIV. They confirm the pan-genotypic potential of sofosbuvir (SVR 12 weeks: 84–89%), offering HIV co-infected patients a useful interferon-free option. The fourth trial published in today's issue goes a step further and assesses whether the addition of a

third direct-acting antiviral drug to an interferon-free, ribavirin-free combination (sofosbuvir and ledipasvir) would allow shorter treatment duration—an important factor for a patient population in which treatment compliance and adherence can be an issue.

These trials are important because they offer new effective treatment options for HCV infection. “An opportunity now exists to almost eliminate this infection from the UK”, wrote Roger Williams and colleagues in *The Lancet Commission* on Addressing liver disease in the UK. Highly effective new antiviral drugs not only can cure those treated but also can reduce transmission of HCV and therefore its prevalence. The Commission estimated that with these new antiviral drugs we could contemplate the “eradication of infections from chronic hepatitis C virus in the UK by 2030”. Indeed, modelling studies for England showed that increasing diagnostic and number of people treated by 27 times would result in a 95% reduction in the prevalence of HCV infection, an 80% reduction in hepatocellular carcinoma, and avert 5200 deaths by 2030.

While new drugs offer new opportunities, new challenges also arise. Scaling-up treatment—in any country—will face important cost issues. But the high costs of these new medicines, which should be robustly scrutinised and, where appropriate, challenged, must not inhibit a careful and comprehensive analysis of the broader benefits they might bring. For example, as Melanie Calvert and colleagues argue this week, patient-reported outcomes offer the opportunity to have the patient's voice more forcefully heard in health policy decision making. The self-reported benefits to patients from these new anti-HCV regimens might prove to be substantial. And the financial returns from reduced health-care costs and higher economic activity might easily outweigh the expense of the medicines themselves. This kind of broader cost-effectiveness work needs to be urgently completed.

Next month, *The Lancet Infectious Diseases* is hosting its inaugural Viral Hepatitis Summit in Shanghai (April 10–12). We look forward to this meeting addressing the increasingly urgent need for a global plan to eliminate hepatitis C. With no vaccine in sight, if we are truly to contemplate elimination of hepatitis C by 2030, ensuring that treatments reach marginalised groups and are accessible to all those living with HCV will be crucial.

## **The Lancet Global Health**

Apr 2015 Volume 3 Number 4 e178-e239

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

*Comment*

### **[Think big, World Bank: time for a public health safeguard](#)**

Richard Seifman, Sarah Kornblet, Claire Standley, Erin Sorrell, Julie Fischer, Rebecca Katz

Published Online: 09 February 2015

*Summary*

Sometimes great changes result from small actions. Technical advances might grab headlines, but changes to administrative processes can potentially have an equally important effect on how public health actions are carried out on the ground. In the past six decades, the World Bank's increasingly diverse portfolio has grown to include more than US\$1 billion in annual commitments for health, nutrition, and population activities—about a quarter of all its [projects](#).<sup>1</sup> That is why it is so essential that the global community pays attention to the discussion and any proposed decisions about safeguards against any unintended social and environmental effects of World Bank policies and investments.



*Comment*

**[A call for international accountability—preserving hope amid false protection](#)**

Agnes Binagwaho, Corine Karema

Published Online: 23 February 2015

*Summary*

Today's struggle to control the Ebola outbreak in west Africa is a reminder that trust within health systems is absolutely crucial to fight disease—not only locally, but also globally. We describe Rwanda's experience with a breakdown of communication, accountability, and trust that threatened the great strides in malaria control made over the past decade.

*Articles*

**[Association between breastfeeding and intelligence, educational attainment, and income at 30 years of age: a prospective birth cohort study from Brazil](#)**

Cesar G Victora, Bernardo Lessa Horta, Christian Loret de Mola, Luciana Quevedo, Ricardo Tavares Pinheiro, Denise P Gigante, Helen Gonçalves, Fernando C Barros

**[The consequences of tobacco tax on household health and finances in rich and poor smokers in China: an extended cost-effectiveness analysis](#)**

Stéphane Verguet, Cindy L Gauvreau, Sujata Mishra, Mary MacLennan, Shane M Murphy, Elizabeth D Brouwer, Rachel A Nugent, Kun Zhao, Prabhat Jha, Dean T Jamison

**[Effect of a comprehensive programme to provide universal access to care for sputum-smear-positive multidrug-resistant tuberculosis in China: a before-and-after study](#)**

Renzhong Li, Yunzhou Ruan, Qiang Sun, Xiexiu Wang, Mingting Chen, Hui Zhang, Yanlin Zhao, Jin Zhao, Cheng Chen, Caihong Xu, Wei Su, Yu Pang, Jun Cheng, Junying Chi, Qian Wang, Yunting Fu, Shitong Huan, Lixia Wang, Yu Wang, Daniel P Chin

**[Geographical and socioeconomic inequalities in women and children's nutritional status in Pakistan in 2011: an analysis of data from a nationally representative survey](#)**

Mariachiara Di Cesare, Zaid Bhatti, Sajid B Soofi, Lea Fortunato, Majid Ezzati, Zulfiqar A Bhutta

**The Lancet Infectious Diseases**

Mar 2015 Volume 15 Number 3 p249-360

<http://www.thelancet.com/journals/laninf/issue/current>

[Reviewed earlier]

**Maternal and Child Health Journal**

Volume 19, Issue 4, April 2015

<http://link.springer.com/journal/10995/19/4/page/1>

**[Influenza Vaccination of Pregnant Women: Attitudes and Behaviors of Oregon Physician Prenatal Care Providers](#)**

Robert F. Arao, Kenneth D. Rosenberg, Shannon McWeeney, Katrina Hedberg

*Abstract*

In spite of increased risk of influenza complications during pregnancy, only half of US pregnant women get influenza vaccination. We surveyed physician prenatal care providers in Oregon to assess their knowledge and behaviors regarding vaccination of pregnant women. From September through November 2011, a state-wide survey was mailed to a simple random sample (n = 1,114) of Oregon obstetricians and family physicians. The response rate was

44.5 %. Of 496 survey respondents, 187 (37.7 %) had provided prenatal care within the last 12 months. Of these, 88.5 % reported that they routinely recommended influenza vaccine to healthy pregnant patients. No significant differences in vaccine recommendation were found by specialty, practice location, number of providers in their practice, physician gender or years in practice. In multivariable regression analysis, routinely recommending influenza vaccine was significantly associated with younger physician age [adjusted odds ratio (AOR) 2.01, 95 % confidence interval (CI) 1.29–3.13] and greater number of pregnant patients seen per week (AOR 1.95, 95 % CI 1.25–3.06). Among rural physicians, fewer obstetricians (90.3 %) than family physicians (98.5 %) had vaccine-appropriate storage units ( $p = 0.001$ ). Most physician prenatal care providers understand the importance of influenza vaccination during pregnancy. To increase influenza vaccine coverage among pregnant women, it will be necessary to identify and address patient barriers to receiving influenza vaccination during pregnancy.

### **Medical Decision Making (MDM)**

April 2015; 35 (3)

<http://mdm.sagepub.com/content/current>

#### **[An Emerging Field of Research - Challenges in Pediatric Decision Making](#)**

[Ellen A. Lipstein](#), MD, MPH, [William B. Brinkman](#), MD, MEd, MSc, [Alexander G. Fiks](#), MD, MSCE  
[Kristin S. Hendrix](#), PhD, [Jennifer Kryworuchko](#), PhD, RN, [Victoria A. Miller](#), PhD, [Lisa A. Prosser](#),  
PhD, [Wendy J. Ungar](#), MSc, PhD, [David Fox](#), MD

#### *Abstract*

There is growing interest in pediatric decision science, spurred by policies advocating for children's involvement in medical decision making. Challenges specific to pediatric decision research include the dynamic nature of child participation in decisions due to the growth and development of children, the family context of all pediatric decisions, and the measurement of preferences and outcomes that may inform decision making in the pediatric setting. The objectives of this article are to describe each of these challenges, to provide decision researchers with insight into pediatric decision making, and to establish a blueprint for future research that will contribute to high-quality pediatric medical decision making. Much work has been done to address gaps in pediatric decision science, but substantial work remains. Understanding and addressing the challenges that exist in pediatric decision making may foster medical decision-making science across the age spectrum.

### **The Milbank Quarterly**

*A Multidisciplinary Journal of Population Health and Health Policy*

March 2015 Volume 93, Issue 1 Pages 1–222

[http://onlinelibrary.wiley.com/journal/10.1111/\(ISSN\)1468-0009/currentissue](http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1468-0009/currentissue)

[Reviewed earlier]

### **Nature**

Volume 519 Number 7543 pp261-382 19 March 2015

[http://www.nature.com/nature/current\\_issue.html](http://www.nature.com/nature/current_issue.html)

*World View*

**[Share the risks of Ebola vaccine development](#)**

*Ebola vaccines have little in the way of commercial markets, so the risks should be shared between governments and industry, says Seth Berkley.*

18 March 2015

There are hundreds of infectious diseases out there that people could catch. More than 300 such conditions were discovered in the second half of the twentieth century alone. And how many of these diseases can scientists and clinicians protect against with a licenced vaccine? Fewer than 30.

Those are not always the biggest killers, or the most terrifying. Vaccine development is driven not by the risk that a pathogen poses to people, but by the economic pay-off. Given the difficulty of the science involved, how much money will it take to develop the vaccine? And given the size of the market, how much money can we make by selling it?

That helps to explain why, more than a year on from the first confirmed cases of the ongoing Ebola outbreak in West Africa, no vaccine is available, even though work started towards one more than a decade ago. Phase III trials for two vaccines have now been launched in Liberia and Guinea, and we have great hope for them, assuming that there are still enough cases developing to test the vaccines for efficacy. But for the more than 10,000 people who have lost their lives, and countless others who have suffered and will continue to suffer, these trials have come too late.

Our inability to protect people against Ebola is part of what makes the disease so frightening. In most cases, it is not what a disease is capable of that scares us, but that we can do so little about it.

But why is this the case for Ebola? We have known about the disease since 1976, and the first vaccine candidate was developed more than a decade ago. Ebola is not hypervariable like influenza or HIV, constantly changing and finding new ways to evade our immune systems, so we have had ample time to develop a vaccine or effective treatment during any one of the previous 23 outbreaks. Why were we caught by surprise this time?

The short answer is that we were not, but that the development of a vaccine was considered too financially risky. With a disease such as Ebola, which kills ferociously but occurs sporadically and usually in remote areas, there is simply no commercial market. Who would buy it? Outbreaks usually involve only a couple of hundred cases and occur every few years in poor rural communities in Africa. This leaves little in the way of incentives for manufacturers to invest the hundreds of millions of dollars it takes to develop a vaccine and get it clinically approved.

“We need to stop waiting until we see evidence of a disease becoming a global threat before we treat it like one.”

It is childish to blame the drug industry for failing to develop an Ebola vaccine — a product with no market. Instead, governments, public funders and private donors should be stepping up and investing.

We must work on a strategy that allows meaningful quantities of proven vaccines to be quickly produced and distributed when an outbreak occurs — of Ebola or other infectious diseases.

A first step is to identify the biggest threats, and that demands better disease surveillance. More and better-equipped laboratories, as well as trained epidemiologists, in developing countries would improve our ability to quickly detect and investigate outbreaks of commonly occurring diseases, as well new threats.

The vast amount of data produced by this kind of surveillance network would have an added bonus. With the right smart data-mining algorithms, the information could be used to radically increase our understanding of how pathogens travel and mutate, and then how our immune systems respond to these changes.

When an outbreak occurs and vaccines are needed, it would help significantly to have vectors ready to deliver them. With the right investment, these vectors, typically a harmless virus or bacterium, could be prepared and tested in advance. Crucially, they could be pressed into service to tackle a range of diseases. Four of the five Ebola vaccines currently going through clinical trials use vectors developed and tested for HIV.

Such generic vectors would, in effect, modularize the vaccine development process — conducting much of the safety testing and ironing out manufacturing processes for different vectors ready for the addition of a 'payload' antigen. By developing such mechanisms in advance, and pre-testing them for safety and dose, we can save significant amounts of money and time by having stockpiles frozen and ready for use or efficacy testing as soon as an outbreak occurs.

This is similar to the way in which technology developed using public funds through NASA has reduced the cost of placing scientific probes, telescopes and satellites into space. Same rocket, different payload.

It demands a different attitude to disease control. We need to stop waiting until we see evidence of a disease becoming a global threat before we treat it like one. Vaccine development is expensive, but the United States currently spends at least US\$11 billion a year to keep fleets of nuclear-armed submarines patrolling the oceans to protect people from a threat that will almost certainly never happen. That is 60 times more than the World Health Organization puts into global disease preparedness.

Governments and donors need to invest in public-health capability, and they need to take on more of the risk of investing in vaccine development. We must view vaccines as the ultimate deterrent: make sure they are there, and pray that we never have to use them.

*Comment*

### **[Agriculture: Increase water harvesting in Africa](#)**

Meeting global food needs requires strategies for storing rainwater and retaining soil moisture to bridge dry spells, urge Johan Rockström and Malin Falkenmark.

*Letters*

### **[Tetanus toxoid and CCL3 improve dendritic cell vaccines in mice and glioblastoma patients](#)**

Duane A. Mitchell, Kristen A. Batich, Michael D. Gunn, Min-Nung Huang, Luis Sanchez-Perez + et al.

A clinical trial in patients with glioblastoma shows increased immune and anti-tumour responses to dendritic cell vaccination after pre-conditioning the site of vaccination with tetanus toxoid (Td); similar results are also seen in mice in part due to the actions of the chemokine CCL3, and the findings may represent new ways to improve the efficacy of anti-cancer vaccines.

### **Nature Medicine**

March 2015, Volume 21 No 3 pp199-294

<http://www.nature.com/nm/journal/v21/n3/index.html>

[Reviewed earlier]

### **Nature Reviews Immunology**

March 2015 Vol 15 No 3

<http://www.nature.com/nri/journal/v15/n3/index.html>

[New issue; No relevant content]

### **New England Journal of Medicine**

March 19, 2015 Vol. 372 No. 12

<http://www.nejm.org/toc/nejm/medical-journal>

*Perspective*

#### **[Having and Fighting Ebola — Public Health Lessons from a Clinician Turned Patient](#)**

Craig Spencer, M.D., M.P.H.

N Engl J Med 2015; 372:1089-1091 March 19, 2015 DOI: 10.1056/NEJMp1501355

*Original Article*

#### **[Polysaccharide Conjugate Vaccine against Pneumococcal Pneumonia in Adults](#)**

Marc J.M. Bonten, M.D., Ph.D., Susanne M. Huijts, M.D., Marieke Bolkenbaas, M.D., Chris Webber, M.D., Scott Patterson, Ph.D., Samantha Gault, M.B.A., Cornelis H. van Werkhoven, M.D., Anna M.M. van Deursen, M.D., Elisabeth A.M. Sanders, M.D., Ph.D., Theo J.M. Verheij, M.D., Ph.D., Michael Patton, B.Sc., Anne McDonough, M.P.H., Anita Moradoghli-Haftvani, B.Sc., Helen Smith, B.Sc., Tracey Mellelieu, B.Sc., Michael W. Pride, Ph.D., Graham Crowther, Ph.D., Beate Schmoele-Thoma, M.D., Daniel A. Scott, M.D., Kathrin U. Jansen, Ph.D., Rita Lobatto, M.D., Bas Oosterman, Ph.D., Nils Visser, M.Sc., Esther Caspers, M.Sc., Andre Smorenburg, M.Sc., Emilio A. Emini, Ph.D., William C. Gruber, M.D., and Diederick E. Grobbee, M.D., Ph.D.

N Engl J Med 2015; 372:1114-1125 March 19, 2015 DOI: 10.1056/NEJMoa1408544

*Abstract*

Background

Pneumococcal polysaccharide conjugate vaccines prevent pneumococcal disease in infants, but their efficacy against pneumococcal community-acquired pneumonia in adults 65 years of age or older is unknown.

Methods

In a randomized, double-blind, placebo-controlled trial involving 84,496 adults 65 years of age or older, we evaluated the efficacy of 13-valent polysaccharide conjugate vaccine (PCV13) in preventing first episodes of vaccine-type strains of pneumococcal community-acquired pneumonia, nonbacteremic and noninvasive pneumococcal community-acquired pneumonia, and invasive pneumococcal disease. Standard laboratory methods and a serotype-specific

urinary antigen detection assay were used to identify community-acquired pneumonia and invasive pneumococcal disease.

#### Results

In the per-protocol analysis of first episodes of infections due to vaccine-type strains, community-acquired pneumonia occurred in 49 persons in the PCV13 group and 90 persons in the placebo group (vaccine efficacy, 45.6%; 95.2% confidence interval [CI], 21.8 to 62.5), nonbacteremic and noninvasive community-acquired pneumonia occurred in 33 persons in the PCV13 group and 60 persons in the placebo group (vaccine efficacy, 45.0%; 95.2% CI, 14.2 to 65.3), and invasive pneumococcal disease occurred in 7 persons in the PCV13 group and 28 persons in the placebo group (vaccine efficacy, 75.0%; 95% CI, 41.4 to 90.8). Efficacy persisted throughout the trial (mean follow-up, 3.97 years). In the modified intention-to-treat analysis, similar efficacy was observed (vaccine efficacy, 37.7%, 41.1%, and 75.8%, respectively), and community-acquired pneumonia occurred in 747 persons in the PCV13 group and 787 persons in placebo group (vaccine efficacy, 5.1%; 95% CI, -5.1 to 14.2). Numbers of serious adverse events and deaths were similar in the two groups, but there were more local reactions in the PCV13 group.

#### Conclusions

Among older adults, PCV13 was effective in preventing vaccine-type pneumococcal, bacteremic, and nonbacteremic community-acquired pneumonia and vaccine-type invasive pneumococcal disease but not in preventing community-acquired pneumonia from any cause. (Funded by Pfizer; CAPITA ClinicalTrials.gov number [NCT00744263](https://clinicaltrials.gov/ct2/show/study/NCT00744263).)

#### **Pediatrics**

March 2015, VOLUME 135 / ISSUE 3

<http://pediatrics.aappublications.org/current.shtml>

[Reviewed earlier]

#### **Pharmaceutics**

Volume 7, Issue 1 (March 2015), Pages 1-

<http://www.mdpi.com/1999-4923/6/4>

[No new relevant content]

#### **Pharmacoeconomics**

Volume 33, Issue 3, March 2015

<http://link.springer.com/journal/40273/33/3/page/1>

[No relevant content]

#### **PLoS Currents: Outbreaks**

<http://currents.plos.org/outbreaks/>

(Accessed 21 March 2015)

[No new relevant content]

#### **PLoS Medicine**

(Accessed 21 March 2015)

<http://www.plosmedicine.org/>

### **[Role of Acute HIV Infection in Driving HIV Transmission: Implications for HIV Treatment as Prevention](#)**

Laith J. Abu-Raddad

Perspective | published 17 Mar 2015 | PLOS Medicine 10.1371/journal.pmed.1001803

### **PLoS Neglected Tropical Diseases**

<http://www.plosntds.org/>

(Accessed 21 March 2015)

*Viewpoints*

### **[Neglected Tropical Disease Control and Elimination: Is Human Displacement an Achilles Heel?](#)**

Kaylee Myhre Errecaborde, William Stauffer, Martin Cetron

Published: March 19, 2015

DOI: 10.1371/journal.pntd.0003535

*[Initial text]*

The United Nations High Commission for Refugees (UNHCR) has estimated that over 40 million people [1] are currently displaced and have variable access to health care in the country in which they reside. Populations displaced by conflict are largely disenfranchised, and high prevalence of neglected tropical diseases (NTDs) has been documented [2]. NTDs generally affect the least advantaged people in poor societies—populations with little voice or representation. These already susceptible people become even more vulnerable when forced from their communities as internally displaced persons (IDPs), refugees, or forced migrants. To further complicate matters, many of these people of concern are under 18 years old. Children experience the greatest risk and suffer the most consequences of NTDs. As marginalized populations flee from conflict or environmental catastrophe, they are often burdened with insidious NTDs ranging from asymptomatic to overt and debilitating disease. Many suffer from chronic consequences such as malnutrition, growth stunting and developmental delays, inhibiting chances for sustainable livelihoods and making it less likely that they will successfully overcome the adversity of displacement.

The World Health Organization (WHO) has defined 17 key neglected diseases, but several others exist [3]. These diseases are highlighted in Millennium Development Goal (MDG) 6, which aims to combat HIV/AIDS and “other diseases,” of which the NTDs are discussed at length [4,5]. It is the intent of these authors to raise the awareness of readers, and argue that inclusion of these displaced populations in preventive chemotherapy (PCT) programs and multi-model community-based interventions is not only necessary for sustained success of NTD control but is also a moral imperative...

### **PLoS One**

[Accessed 21 March 2015]

<http://www.plosone.org/>

*Research Article*

### **[Mechanisms of Immunity in Post-Exposure Vaccination against Ebola Virus Infection](#)**

Steven B. Bradfute, Scott M. Anthony, Kelly S. Stuthman, Natarajan Ayithan, Prafullakumar Tailor, Carl I. Shaia, Mike Bray, Keiko Ozato, Sina Bavari

Published: March 18, 2015

DOI: 10.1371/journal.pone.0118434

### *Abstract*

Ebolaviruses can cause severe hemorrhagic fever that is characterized by rapid viral replication, coagulopathy, inflammation, and high lethality rates. Although there is no clinically proven vaccine or treatment for Ebola virus infection, a virus-like particle (VLP) vaccine is effective in mice, guinea pigs, and non-human primates when given pre-infection. In this work, we report that VLPs protect Ebola virus-infected mice when given 24 hours post-infection. Analysis of cytokine expression in serum revealed a decrease in pro-inflammatory cytokine and chemokine levels in mice given VLPs post-exposure compared to infected, untreated mice. Using knockout mice, we show that VLP-mediated post-exposure protection requires perforin, B cells, macrophages, conventional dendritic cells (cDCs), and either CD4+ or CD8+ T cells. Protection was Ebola virus-specific, as marburgvirus VLPs did not protect Ebola virus-infected mice. Increased antibody production in VLP-treated mice correlated with protection, and macrophages were required for this increased production. However, NK cells, IFN-gamma, and TNF-alpha were not required for post-exposure-mediated protection. These data suggest that a non-replicating Ebola virus vaccine can provide post-exposure protection and that the mechanisms of immune protection in this setting require both increased antibody production and generation of cytotoxic T cells.

### **[Impact of Ten-Valent Pneumococcal Conjugate Vaccination on Invasive Pneumococcal Disease in Finnish Children – A Population-Based Study](#)**

Jukka Jokinen, Hanna Rinta-Kokko, Lotta Siira, Arto A. Palmu, Mikko J. Virtanen, Hanna Nohynek, Anni Virolainen-Julkunen, Maija Toropainen, J. Pekka Nuorti

Research Article | published 17 Mar 2015 | PLOS ONE 10.1371/journal.pone.0120290

### *Research Article*

### **[A New Approach to Improving Healthcare Personnel Influenza Immunization Programs: A Randomized Controlled Trial](#)**

Larry W. Chambers, Lois Crowe, Po-Po Lam, Donna MacDougall, Shelly McNeil, Virginia Roth, Kathryn Suh, Catherine Dalzell, Donna Baker, Hilary Ramsay, Sarah DeCoutere, Heather L. Hall, Anne E. McCarthy

Published: March 17, 2015

DOI: 10.1371/journal.pone.0118368

### *Abstract*

#### Background

Healthcare personnel influenza immunization rates remain sub-optimal. Following multiple studies and expert consultations, the “Successful Influenza Immunization Programs for Healthcare Personnel: A Guide for Program Planners” was produced. This trial assessed the impact of the Guide with facilitation in improving healthcare personnel influenza immunization rates in Canadian healthcare organizations.

#### Methods

A sample of 26 healthcare organizations across six Canadian provinces (ON, MB, NS, BC, SK, NL) was randomized to Intervention (n=13) or Control groups (n=13). Baseline influenza immunization rates were obtained for 2008–2009; the study groups were followed over two subsequent influenza seasons. The Intervention group received the Guide, facilitation support through workshops for managers and ongoing support. The Control groups conducted programs



as usual. The Groups were compared using their reported influenza healthcare personnel influenza immunization rates and scores from a program assessment questionnaire.

#### Findings

Twenty-six organizations agreed to participate. 35% (9/26) of sites were acute care hospitals, 19% (5/26) continuing care, long-term care organizations or nursing homes, and 46% (12/26) were mixed acute care hospitals and long-term care or regional health authorities. The median rate of influenza immunization among healthcare personnel for the Intervention group was 43%, 44%, and 51% at three points in time respectively, and in the Control group: 62%, 57%, and 55% respectively. No significant differences were observed between the groups at the three points in time. However, there was a 7% increase in the median rates between the Baseline Year and Year Two in the Intervention group, and a 6% decrease in the Control group over the same time period, which was statistically significant (0.071 versus -0.058,  $p < 0.001$ ).

#### Interpretation

This pragmatic randomized trial of the Guide with facilitation of its implementation improved healthcare personnel immunization rates, but these rates continued to be sub-optimal and below rates achievable in programs requiring personnel to be immunized.

#### Trial Registration

ClinicalTrials.gov [NCT01207518](https://clinicaltrials.gov/ct2/show/study/NCT01207518)

## PLoS Pathogens

<http://journals.plos.org/plospathogens/>

(Accessed 21 March 2015)

[No new relevant content]

## PNAS - Proceedings of the National Academy of Sciences of the United States of America

(Accessed 21 March 2015)

<http://www.pnas.org/content/early/>

### [Global trends in antimicrobial use in food animals](#)

[Thomas P. Van Boeckela](#),<sup>1</sup>, [Charles Brower](#)<sup>b</sup>, [Marius Gilbert](#)<sup>c,d</sup>, [Bryan T. Grenfell](#)<sup>e,f</sup>, [Simon A. Levin](#)<sup>g,h,1</sup>, [Timothy P. Robinson](#)<sup>i</sup>, [Aude Teillant](#)<sup>e</sup>, and [Ramanan Laxminarayan](#)<sup>b,e,j,1</sup>

#### [Author Affiliations](#)

Contributed by Simon A. Levin, February 18, 2015 (sent for review November 21, 2014; reviewed by Delia Grace and Lance B. Price)

#### *Significance*

Antimicrobials are used in livestock production to maintain health and productivity. These practices contribute to the spread of drug-resistant pathogens in both livestock and humans, posing a significant public health threat. We present the first global map (228 countries) of antibiotic consumption in livestock and conservatively estimate the total consumption in 2010 at 63,151 tons. We project that antimicrobial consumption will rise by 67% by 2030, and nearly double in Brazil, Russia, India, China, and South Africa. This rise is likely to be driven by the growth in consumer demand for livestock products in middle-income countries and a shift to large-scale farms where antimicrobials are used routinely. Our findings call for initiatives to preserve antibiotic effectiveness while simultaneously ensuring food security in low- and lower-middle-income countries.

#### *Abstract*

Demand for animal protein for human consumption is rising globally at an unprecedented rate. Modern animal production practices are associated with regular use of antimicrobials, potentially increasing selection pressure on bacteria to become resistant. Despite the significant potential consequences for antimicrobial resistance, there has been no quantitative measurement of global antimicrobial consumption by livestock. We address this gap by using Bayesian statistical models combining maps of livestock densities, economic projections of demand for meat products, and current estimates of antimicrobial consumption in high-income countries to map antimicrobial use in food animals for 2010 and 2030. We estimate that the global average annual consumption of antimicrobials per kilogram of animal produced was 45 mg·kg<sup>-1</sup>, 148 mg·kg<sup>-1</sup>, and 172 mg·kg<sup>-1</sup> for cattle, chicken, and pigs, respectively. Starting from this baseline, we estimate that between 2010 and 2030, the global consumption of antimicrobials will increase by 67%, from 63,151 ± 1,560 tons to 105,596 ± 3,605 tons. Up to a third of the increase in consumption in livestock between 2010 and 2030 is imputable to shifting production practices in middle-income countries where extensive farming systems will be replaced by large-scale intensive farming operations that routinely use antimicrobials in subtherapeutic doses. For Brazil, Russia, India, China, and South Africa, the increase in antimicrobial consumption will be 99%, up to seven times the projected population growth in this group of countries. Better understanding of the consequences of the uninhibited growth in veterinary antimicrobial consumption is needed to assess its potential effects on animal and human health.

### **Pneumonia**

Vol 6 (2015)

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

[Reviewed earlier]

### **Proceedings of the Royal Society B**

07 March 2015; volume 282, issue 1802

<http://rspb.royalsocietypublishing.org/content/282/1802?current=y>

[No relevant content]

### **Public Health Ethics**

Volume 7 Issue 3 November 2014

<http://phe.oxfordjournals.org/content/current>

*Special Symposium on Dual Loyalties: Health Providers Working for the State*

[Reviewed earlier]

### **Qualitative Health Research**

April 2015; 25 (4)

<http://qhr.sagepub.com/content/current>

*Special Issue: Perceptions of Caregivers*

[Reviewed earlier]

**Revista Panamericana de Salud Pública/Pan American Journal of Public Health (RPSP/PAJPH)**

December 2014 Vol. 36, No. 6

[http://www.paho.org/journal/index.php?option=com\\_content&view=article&id=151&Itemid=266&lang=en](http://www.paho.org/journal/index.php?option=com_content&view=article&id=151&Itemid=266&lang=en)

[Reviewed earlier]

**Risk Analysis**

February 2015 Volume 35, Issue 2 Pages 179–344

<http://onlinelibrary.wiley.com/doi/10.1111/risa.2015.35.issue-2/issuetoc>

*Current Topics*

**[The Role of Risk Analysis in Understanding Ebola](#)**

Charles N. Haas\*

Article first published online: 19 MAR 2015

DOI: 10.1111/risa.12361

[No abstract]

*Original Research Article*

**[Risk Management for Development—Assessing Obstacles and Prioritizing Action](#)**

Stéphane Hallegatte<sup>1,\*</sup> and Jun Rentschler<sup>1,2</sup>

Article first published online: 25 AUG 2014

DOI: 10.1111/risa.12269

*Abstract*

Throughout the process of economic and social development, decisionmakers from the household to the state level are confronted with a multitude of risks: from health and employment risks, to financial and political crises, as well as environmental damages and from the local to global level. The World Bank's 2014 World Development Report (WDR) provides an in-depth analysis of how the management of such risks can be improved. In particular, it argues that a proactive and integrated approach to risk management can create opportunities for fighting poverty and achieving prosperity—but also acknowledges substantial obstacles to its implementation in practice. This article presents and discusses these obstacles with respect to their causes, consequences, interlinkages, and solutions. In particular, these include obstacles to individual risk management, the obstacles that are beyond the control of individuals and thus require collective action, and, finally, the obstacles that affect the ability of governments and public authorities to manage risks. From these obstacles, this article derives a policy roadmap for the development of risk management strategies that are designed not only around the risk they have to cope with, but also around the practical obstacles to policy implementation.

**Science**

20 March 2015 vol 347, issue 6228, pages 1285-1388

<http://www.sciencemag.org/current.dtl>

*In Depth*

*Infectious Diseases*

**[MERS surges again, but pandemic jitters ease](#)**

Kai Kupferschmidt

The number of infections of the deadly Middle East respiratory syndrome virus surges again in Saudi Arabia, but scientists are less worried that the virus will cause a pandemic than they were

3 years ago. Still, many details about the virus discovered in 2012 and harbored by camels are unclear. New research suggests that many more people than previously thought may have been infected with no or little symptoms. The best way to protect people may be a camel vaccine, and experiments to test two candidate vaccines in camels have just been finished in the United States and Europe.

### **Social Science & Medicine**

Volume 131, *In Progress* (April 2015)

<http://www.sciencedirect.com/science/journal/02779536/131>

[Reviewed earlier]

### **Tropical Medicine and Health**

Vol. 43(2015) No. 1

[https://www.jstage.jst.go.jp/browse/tmh/43/0/\\_contents](https://www.jstage.jst.go.jp/browse/tmh/43/0/_contents)

[Reviewed earlier]

### **Tropical Medicine & International Health**

March 2015 Volume 20, Issue 3 Pages 251–406

<http://onlinelibrary.wiley.com/doi/10.1111/tmi.2014.20.issue-1/issuetoc>

[Reviewed earlier]

### **Vaccine**

Volume 33, Issue 14, Pages 1629-1756 (30 March 2015)

<http://www.sciencedirect.com/science/journal/0264410X/33/14>

[\*\*Development and release of a national immunization app for Canada \(ImmunizeCA\)\*\*](#)

Pages 1629-1632

Kumanan Wilson, Katherine M. Atkinson, Greg Penney

*Abstract*

Digital technology has created an opportunity to envision the traditional immunization paper record. We describe our experience developing a government endorsed mobile immunization record in Canada. The smartphone app, ImmunizeCA is designed to assist individuals in managing their own health information. It allows individuals to store their and their family's immunization records on their smartphone. The app, which is populated by data provided by the user, contains all 13 provincial and territorial schedules, immunization information and outbreak alerts on vaccine preventable diseases. Our experience suggests mobile apps can serve as a mechanism to empower users, increase participation in the process of immunization, potentially improve immunization rates and address jurisdictional obstacles. Key measures of success will include long term uptake, acceptability as an official record, enabling data flow permitting integration with immunization information systems and the ability to rapidly iterate to address changes to both immunization practice and mobile technology.

[\*\*Choosing between 7-, 10- and 13-valent pneumococcal conjugate vaccines in childhood: A review of economic evaluations \(2006–2014\)\*\*](#)

Review Article

Pages 1633-1658

David Bin-Chia Wu, Nathorn Chaiyakunapruk, Huey-Yi Chong, Philippe Beutels

### *Abstract*

#### Background

Seven-valent pneumococcal conjugate vaccines (PCV7) have been used in children for more than a decade. Given the observed increase in disease caused by pneumococcal serotypes not covered by PCV7, an increasing number of countries are switching from 7-valent to 10- and 13-valent PCVs ("PCV10" and "PCV13"). Economic evaluations are important tools to inform decisions and price negotiations to make such a switch.

#### Objective

This review aims to provide a critical assessment of economic evaluations involving PCV10 or PCV13, published since 2006.

#### Methods

We searched Scopus, ISI Web of Science (SCI and SSCI) and Pubmed to retrieve, select and review relevant studies, which were archived between 1st January 2006 and 31st January 2014. The review protocol involved standard extraction of assumptions, methods, results and sponsorships from the original studies.

#### Results

Sixty-three economic evaluations on PCVs published since January 2006 were identified. About half of these evaluated PCV10 and/or PCV13, the subject of this review. At current prices, both PCV13 and PCV10 were likely judged preferable to PCV7. However, the combined uncertainty related to price differences, burden of disease, vaccine effectiveness, herd and serotype replacement effects determine the preference base for either PCV10 or PCV13. The pivotal assumptions and results of these analyses also depended on which manufacturer sponsored the study.

#### Conclusion

A more thorough exploration of uncertainty should be made in future analyses on this subject, as we lack understanding to adequately model herd and serotype replacement effects to reliably predict the population impact of PCVs. The introduction of further improved PCVs in an environment of evolving antibiotic resistance and under the continuing influence of previous PCVs implies that the complexity and data requirements for relevant analyses will further increase. Decision makers using these analyses should not just rely on an analysis from a single manufacturer.

### **[Low uptake of influenza vaccine among university students: Evaluating predictors beyond cost and safety concerns](#)**

Original Research Article

Pages 1659-1663

Robert A. Bednarczyk, Samantha L. Chu, Heather Sickler, Jana Shaw, Jessica A. Nadeau, Louise-Anne McNutt

### *Abstract*

#### Introduction

Annual influenza vaccine coverage for young adults (including college students) remains low, despite a 2011 US recommendation for annual immunization of all people 6 months and older. College students are at high risk for influenza morbidity given close living and social spaces and extended travel during semester breaks when influenza circulation typically increases. We evaluated influenza vaccine uptake following an on-campus vaccine campaign at a large, public New York State university.

#### Methods

Consecutive students visiting the University Health Center were recruited for a self-administered, anonymous, written survey. Students were asked about recent influenza vaccination, barriers to influenza vaccination, and willingness to get vaccinated to protect other vulnerable individuals they may encounter. Frequencies and proportions were evaluated.

#### Results

Of 653 students approached, 600 completed surveys (92% response proportion); respondents were primarily female (61%) and non-Hispanic white (59%). Influenza vaccine coverage was low (28%). Compared to coverage among non-Hispanic white students (30%), coverage was similar among Hispanic (30%) and other race/ethnicity students (28%) and lowest among non-Hispanic black students (17%). Among the unvaccinated, the most commonly selected vaccination barriers were "Too lazy to get the vaccine" (32%) and "Don't need the vaccine because I'm healthy" (29%); 6% of unvaccinated students cited cost as a barrier. After being informed that influenza vaccination of young, healthy people can protect other vulnerable individuals (e.g., infants, elderly), 71% of unvaccinated students indicated this would increase their willingness to get vaccinated.

#### Conclusions

Influenza vaccine uptake among college students is very low. While making vaccine easily obtained may increase vaccine uptake, college students need to be motivated to get vaccinated. Typically healthy students may not perceive a need for influenza vaccine. Education about vaccinating healthy individuals to prevent the spread of influenza to close contacts, such as vulnerable family members, may provide this motivation to get vaccinated.

### **[Organization and quality of HPV vaccination programs in Europe](#)**

Original Research Article

Pages 1673-1681

K. Miriam Elfström, Joakim Dillner, Lisen Arnheim-Dahlström

#### *Abstract*

##### Background

HPV vaccination is underway in most European countries, but there are limited efforts toward optimization and standardization of organization, monitoring and evaluation. Our Europe-wide survey sought to identify how programs are currently organized, the costs associated with the organizing and ensuring quality of the program and how quality and effectiveness measurements are carried out.

##### Methods

A comprehensive questionnaire was developed through systematic literature review and the European guidelines for quality assurance in cervical screening. The survey was piloted in a sub-set of countries and then sent to program organizers, Ministries of Health, and key experts in 34 EU and EFTA countries (including countries within the UK). Detailed information on program organization and target population, monitoring and evaluation (including indicators used for evaluating the impact of vaccination), and associated costs were collected. In addition, documentation of program guidelines, protocols, and publications were requested.

##### Results

Of the 34 countries contacted, 27 responded. The majority of countries had some level of vaccination activity, with approximately half of the countries reporting an organized vaccination program. Centralized vaccine registries were in place in the majority of countries with an organized program, allowing for monitoring of key indicators at the national level. Costs of organization and monitoring were difficult to estimate and varied significantly, as some countries were able to use existing infrastructures while others had to create new systems, incurring greater costs.

## Conclusions

The organization and quality of HPV vaccination programs differ across countries and, in some instances, even across regions within the same country. The monitoring being performed varies across programs with regard to level of detail but engagement in the survey from the participating countries demonstrates that there is strong interest in reflecting on and improving program performance. This survey could serve as a basis for strengthening surveillance of HPV vaccination programs.

## [Influenza vaccination perception and coverage among patients with malignant disease](#)

Original Research Article

Pages 1682-1687

Wolfgang Poepl, Heimo Lagler, Markus Raderer, Wolfgang R. Sperr, Christoph Zielinski, Harald Herkner, Heinz Burgmann

### *Abstract*

#### Background

Patients with malignancies are at increased risk of serious influenza related complications with higher rates of hospitalization and mortality than healthy cohorts. Although annual vaccination against influenza infection is recommended, vaccination rates among cancer patients are apparently low. The reasons for the low compliance to influenza vaccine and the influenza vaccination rate among Austrian cancer patients have not been studied in detail yet.

#### Patients and methods

From July 1, 2013 to October 31, 2013, 444 patients treated in the outpatient departments of the Clinical Division of Oncology and the Clinical Division of Haematology and Haemostaseology of the General Hospital Vienna participated in a survey on different aspects of influenza vaccination.

#### Results

In total, only 80 out of 444 patients (18%) had received influenza vaccination in the previous year. The influenza vaccination rate was higher amongst patients with haematological malignancies (22%) compared to patients with solid tumours (13%). Higher age was significantly associated with a higher probability for being vaccinated. Collecting information about influenza vaccination primarily from media or the internet was not significantly associated with influenza vaccination status. Information through a medical consultation or a recommendation by the attending physician resulted in significant higher influenza vaccination coverage rates. Only 199 out of the 444 patients (44.8%) were informed by a physician about influenza vaccination and only 18 out of 337 patients (5.3%) with a diagnosis of a malignant disease were informed by their treating oncologist. The main reasons for influenza vaccination denial were concerns about interaction with the malignant disease and potential side-effects.

#### Conclusion

Information about influenza vaccination during a medical consultation and a clear recommendation by the attending physician are highly predictive for acceptance of influenza vaccination. Increased awareness among physicians, especially oncologists is of utmost importance to effectively improve IVR in patients with malignant disease.

## [Vaccination coverage in India: A small area estimation approach](#)

Original Research Article

Pages 1731-1738

Santanu Pramanik, Nithiyananthan Muthusamy, Rajeev Gera, Ramanan Laxminarayan

### *Abstract*

Information on population health indicators in India come from a number of surveys that vary in periodicity, scope and detail. In the case of immunization, the most recent coverage indicators are derived from the first round of Annual Health Survey (AHS-1, 2010-11), but these were conducted only in 9 of 35 states and union territories. The most recent national surveys of immunization coverage were conducted in 2009 (Coverage Evaluation Survey) by UNICEF. Therefore, reliable immunization coverage data for the entire country since 2009 is lacking. We used an established approach of small area estimation to predict coverage rates of several vaccinations for the remaining 26 states (not covered by AHS-1) in 2011. In our method, we considered a linear mixed model that combines data from five cross sectional surveys representing five different time points. Our model encompasses sampling error of the survey estimates, area specific random effects, autocorrelated area by time random effects and hence, borrows strength across areas and time points both. Model-based estimates for 2011 are almost identical to the AHS-1 estimates for the nine states, suggesting that our model provides reliable prediction of vaccination coverage as AHS-1 estimates are highly precise because of their large sample size. Results indicate that coverage inequality between rural and urban areas has been reduced significantly for most states in India. The National Rural Health Mission has had both supply side and demand side effects on the immunization programme in rural India. In combination, these effects may have contributed to the reduction of vaccination coverage gaps between urban and rural areas.

### **[Vaccine hesitancy among parents of adolescents and its association with vaccine uptake](#)**

Original Research Article

Pages 1748-1755

James R. Roberts, David Thompson, Brianna Rogacki, Jessica J. Hale, Robert M. Jacobson, Douglas J. Opel, Paul M. Darden

#### *Abstract*

##### Background

Addressing parental vaccine hesitancy may increase adolescent vaccination acceptance. However, no validated measure exists to identify parents hesitant toward adolescent vaccines.

##### Objective

To determine if a modified version of the Parent Attitudes about Childhood Vaccines (PACV) survey, a previously validated tool to identify parental hesitancy toward vaccines in infants, predicts adolescent vaccine uptake at office visits.

##### Methods

We modified the PACV for use in the adolescent setting and distributed it to a convenience sample of parents of adolescents aged 11 to 17 presenting for care at a diverse group of six pediatric practices in Oklahoma and South Carolina. We determined the vaccination status of the parents' adolescents for 3 vaccines (Tetanus–diphtheria–acellular pertussis [Tdap], meningococcal conjugate [MCV4], and human papillomavirus [HPV] vaccines). We used Fisher's exact tests to compare vaccination status with each survey item and with an overall general hesitancy scale that we constructed.

##### Results

We analyzed 363 surveys. At the time of the visit, vaccination coverage was 84% for Tdap, 73% for MCV, and 45% for any dose of HPV. Thirty-nine percent of parents expressed concern about vaccine efficacy and 41% expressed concern about side effects. Forty-five percent of parents disagreed with the statement that "teens can get all of the vaccines that are due at a single visit." Two individual items were associated with not receiving a dose of HPV vaccine that



was due. The overall modified PACV score failed to predict adolescent vaccine uptake at an office visit.

#### Conclusion

Several individual items were associated with vaccine uptake. The cumulative modified PACV, a general measure of vaccine hesitancy, was not associated with vaccination status despite illuminating parental hesitancy. We need to better understand vaccine-specific concerns for the adolescent population.

### **Vaccines — Open Access Journal**

(Accessed 21 March 2015)

<http://www.mdpi.com/journal/vaccines>

Article:

#### **[Comparison of Current Regulatory Status for Gene-Based Vaccines in the U.S., Europe and Japan](#)**

by [Yoshikazu Nakayama](#) and [Atsushi Aruga](#)

Vaccines 2015, 3(1), 186-202; doi:[10.3390/vaccines3010186](https://doi.org/10.3390/vaccines3010186) - published 18 March 2015

Review:

#### **[Emerging Influenza Strains in the Last Two Decades: A Threat of a New Pandemic?](#)**

by [Claudia Trombetta](#), [Simona Piccirella](#), [Daniele Perini](#), [Otfried Kistner](#) and [Emanuele Montomoli](#)

Vaccines 2015, 3(1), 172-185; doi:[10.3390/vaccines3010172](https://doi.org/10.3390/vaccines3010172) - published 18 March 2015

### **Value in Health**

March 2015 Volume 18, Issue 2, p137-354

<http://www.valueinhealthjournal.com/current>

[Reviewed earlier]

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

#### **BMC Pregnancy and Childbirth**

(2015) 15:40

STUDY PROTOCOL - Open Access

#### **[Designs of two randomized, community-based trials to assess the impact of influenza immunization during pregnancy on respiratory illness among pregnant women and their infants and reproductive outcomes in rural Nepal](#)**

James M Tielsch<sup>1\*</sup>, Mark Steinhoff<sup>2</sup>, Joanne Katz<sup>3</sup>, Janet A Englund<sup>4</sup>, Jane Kuypers<sup>5</sup>, Subarna K Khatry<sup>6</sup>, Laxman Shrestha<sup>7</sup> and Steven C LeClerq<sup>3</sup>

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7 Department of Pediatrics and Child Health, Institute of Medicine, Tribhuvan University, Kathmandu, Nepal

### *Abstract*

#### Background:

Among the most important causes of illness and death in both pregnant women and their newborn infants are respiratory infections including influenza. Pregnant women in North America have a 4 to 5 fold excess rate of hospitalization compared to non-pregnant women. Rates of infant hospitalization associated with influenza are much higher than in their mothers. Fully half of children hospitalized for influenza in the US are in the age group 0–5 months, a group where no vaccine is licensed. Data on influenza are much fewer in low income countries where the risks of serious morbidity and mortality are much higher. A recent trial in Bangladesh suggested that influenza immunization in pregnant women could have important protective effects against influenza in both mothers and their infants. These trials were designed to provide additional evidence about the effect of influenza vaccination in pregnancy in settings where influenza may circulate for up to ten months/year.

#### Methods/Design:

We conducted a consecutive pair of community-based, placebo-controlled, randomized trials of influenza vaccination of pregnant women in a rural district in southern Nepal. Two trials were conducted to insure, as much as possible, the match of circulating strains with those included in the vaccine. Eligible women included all who were or became pregnant over a one year period. Each trial included a one year cohort of pregnant women who were individually randomized to the influenza vaccine available at the time of their enrollment or placebo. Exclusions included a history of allergy to vaccine components, prior influenza vaccine receipt, and for the second trial, participation in the first trial. Morbidity was assessed on a weekly basis for women throughout pregnancy and through 180 days post-partum. Infants were followed weekly through 180 days. Primary outcomes included: 1) incidence of influenza like illness in women, 2) incidence of laboratory confirmed influenza illness in infants, and 3) birthweight among newborn infants.

#### Discussion:

We have presented the design and methods of two randomized trials of influenza immunization of pregnant women.

#### Trial registration:

Clinicaltrials.gov: (NCT01034254)

\* \* \* \*

### **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 21 March 2015*

[No new, unique, relevant content]

### **Associated Press**

*Accessed 21 March 2015*

[5 key findings from AP's story on WHO and the Ebola outbreak](#)

By MARIA CHENG and RAPHAEL SATTER

March 20, 2015 8:13 AM

GENEVA (AP) — In the aftermath of the world's biggest outbreak of Ebola, the World Health Organization acknowledged it was too slow to act, blaming factors including a lack of real-time information and the unprecedented nature of the epidemic.

But an investigation by The Associated Press has revealed the U.N. health agency knew from the start how unusual the outbreak was. Here are five key findings about WHO's response to Ebola in West Africa:

1. WHO officials privately floated the idea of declaring an international health emergency in early June, more than a month before the agency maintains it got its first sign the outbreak merited one — in late July — and two months before the declaration was finally made on August 8, 2014.

2. WHO blamed its slow response partly on a lack of real-time information and the surprising characteristics of the epidemic. In fact it had accurate field reports — including scientists asking for backup — and it identified the unprecedented features of the outbreak. The agency was also hobbled by a shortage of funds and a lack of clear leadership over its country and regional offices.

3. Politics appear to have clouded WHO's willingness to declare an international emergency. Internal emails and documents suggest the U.N. health agency was afraid of provoking conflict with the Ebola-stricken countries and wary that a declaration could interfere with the economy and the Muslim pilgrimage to Mecca.

4. An Ebola-infected WHO consultant in Sierra Leone violated WHO health protocols, creating a rift with Doctors Without Borders that was only resolved when WHO was thrown out of a shared hotel.

5. Despite WHO's pledges to reform, many of the proposed changes are recycled suggestions from previous outbreaks that have never taken hold. Any meaningful reform to the organization would likely require countries to rewrite the constitution, a prospect many find unpalatable.

### **The Atlantic**

<http://www.theatlantic.com/magazine/>

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### **BBC**

<http://www.bbc.co.uk/>

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### **Brookings**

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### **Council on Foreign Relations**

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### **The Economist**

<http://www.economist.com/>

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### **Financial Times**

<http://www.ft.com/home/uk>

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### **Foreign Policy**

<http://foreignpolicy.com/>

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[China Has Its Own Anti-Vaxxers. Blame the Internet.](#)

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### **The Guardian**

<http://www.guardiannews.com/>

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### **The Huffington Post**

<http://www.huffingtonpost.com/>

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<http://mg.co.za/>

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<http://online.wsj.com/home-page? wsjregion=na,us& homepage=/home/us>

Accessed 21 March 2015

### **Washington Post**

<http://www.washingtonpost.com/>

Accessed 21 March 2015

[Deep in the jungle, hunting for the next Ebola outbreak](#)

By Kevin Sieff March 19

NOUABALE-NDOKI NATIONAL PARK, Congo Republic — More than 3,000 miles from the fading Ebola crisis in West Africa, a team of U.S.-funded researchers is hunting deep in a remote rain forest for the next outbreak.

They aren't looking for infected people. They're trying to solve one of science's great mysteries: Where does Ebola hide between human epidemics?

The answer appears to lie in places such as this — vast tracts of African jungle where gorillas, bats and other animals suspected of spreading the virus share a shrinking ecosystem. If scientists can pinpoint the carriers, and how Ebola is transmitted between them, future epidemics will be easier to anticipate — or even prevent...

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