Vaccines and Global Health: The Week in Review
22 November 2014
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.

Editor’s Note:
We continue to lead this weekly digest with extensive coverage of polio and EVD – both designated as Public Health Emergencies of International Concern (PHEIC). We note that an International Health Regulations (IHR) Emergency Committee of Experts recommended last week, and the WHO DG affirmed, an extension of this status for polio as detailed below. On EVD, there is an apparent shifting – and softening – of key, stated milestones. The new stated target is control of EVD by the "middle of 2015." Of course, these emergencies are playing out in a larger content of emergencies which we summarize here [some countries listed are involved in the EVD emergency]:

Emergencies Scorecard
UN OCHA: L3 Emergencies, [at 22 November 2014]
The UN and its humanitarian partners are currently responding to four 'L3' emergencies. This is
the UN classification for the most severe, large-scale humanitarian crises.

:: **Iraq** - The surge in violence between armed groups and government forces has displaced an
estimated 1.8 million people across Iraq and left hundreds of thousands of people in need of
assistance.

  OCHA Iraq>>

:: **Syria** - 10.8 million people, nearly half the population, are in need of humanitarian assistance.
An estimated 6.45 million people have been displaced inside the country.

  OCHA Syria>>

:: **CAR Central African Republic** - The violence that erupted in December 2013 has displaced
hundreds of thousands of people and left 2.5 million in urgent need of assistance.

  OCHA CAR>>

:: **South Sudan** - About 1.4 million people are internally displaced as the result of fighting that
began in December 2013. 3.8 million people need humanitarian assistance.

  OCHA South Sudan>>

**WHO**: **Grade 3 and Grade 2 emergencies** [at 22 November 2014]

:: **WHO Grade 3 emergencies**
  - Central African Republic
  - Guinea
  - Iraq
  - Liberia
  - Nigeria
  - Sierra Leone
  - South Sudan
  - The Syrian Arab Republic
  -

:: **WHO Grade 2 emergencies**
  - Democratic Republic of the Congo
  - Guinea
  - Mali
  - occupied Palestinian territories
  - Philippines
  - Ukraine

POLIO [to 22 November 2014]
*Public Health Emergency of International Concern (PHEIC)*

**GPEI Update: Polio this week - As of 19 November 2014**
Global Polio Eradication Initiative

[Editor's Excerpt and text bolding]

Full report: [http://www.polioeradication.org/Dataandmonitoring/Poliothisweek.aspx](http://www.polioeradication.org/Dataandmonitoring/Poliothisweek.aspx)

:: On 13 November, the Director-General of WHO accepted the recommendation of an
International Health Regulations (IHR) Emergency Committee of Experts on polio that the
international spread of polio continues to constitute a Public Health Emergency of International
Concern (PHEIC) under the IHR, and extended the existing Temporary Recommendations to
prevent the international spread of polio for countries affected by the disease for another 3 months. Recognizing the escalating wild poliovirus (WPV) transmission in Pakistan, additional Temporary Recommendations were provided to further reduce the risk of international spread from Pakistan. Read more below

In response to the recent outbreak of circulating vaccine-derived poliovirus (cVDPV) in Madagascar, supplementary immunization activities are scheduled in December in high risk areas and across the entire country in January to stop transmission of the virus.

This week, the Centers for Disease Control and Prevention (CDC), USA, released a report marking 2 years during which type 3 wild poliovirus has not been detected anywhere in the world. While the CDC report concludes that WPV3 transmission has possibly been interrupted, continued sensitive surveillance is needed before a final conclusion on WPV3 eradication can be made.

Afghanistan

Two new wild poliovirus type 1 (WPV1) cases were reported in the past week in Afghanistan. One was found in Nahr-E-Saraj district of Helmand province, and the second was reported from Zheray district of Kandahar province. Both areas had not reported WPV1 previously during 2014. The total number of WPV1 cases for 2014 in Afghanistan is now 20. The most recent WPV1 case had onset of paralysis on 20 October, from Kandahar province.

Nigeria

Five new type 2 circulating vaccine-derived poliovirus (cVDPV2) cases were reported in the past week, all in districts or states that had not reported cVDPV2 during 2014 to date. One case was in Guzamala district, Borno; 1 in Kura district, Kano; 1 in Barde district, Yobe; and 1 in each Dutse and Kiyawa districts, Jigawa. The total number of cVDPV2 cases for 2014 in Nigeria is now 26. The most recent cVDPV2 case had onset of paralysis on 16 October, in Barde district, Yobe state.

In selected high risk areas of Kano state, supplementary immunization activities (SIAs) using both inactivated polio vaccine (IPV) and oral polio vaccine (OPV) are taking place from 15 – 20 November. Large-scale Subnational Immunization Days (SNIDs) are planned for 13 – 16 December across northern Nigeria. The aim is to boost immunity to all strains of poliovirus, to rapidly interrupt circulation of both WPV1 and cVDPV2.

Pakistan

Ten new wild poliovirus type 1 (WPV1) cases were reported in the past week. Six were from the Federally Administered Tribal Areas (FATA), with 1 in South Waziristan, and 5 in Khyber Agency; 1 from Killa Abdullah district in Balochistan province; 1 from Mardin district in Khyber Pakhtunkhwa province; and 2 from Sindh province (1 in Bin Qasim town of Karachi city and 1 in Badin district, southern Sindh province). The total number of WPV1 cases in Pakistan in 2014 is now 246, compared to 63 at this time last year. The most recent WPV1 case had onset of paralysis on 1 November, from Khyber

Immunization activities are continuing with particular focus on known high-risk areas, in particular newly opened previously inaccessible areas of FATA. At exit and entry points of conflict-affected areas that are still inaccessible during polio campaigns, 100 permanent vaccination points are being used to reach internally displaced families as they move in and out of the inaccessible area. Over 1 million people have been vaccinated in the past few months at transit points and in host communities, including over 850,000 children under 10 years old.

Horn of Africa

Following confirmation of two cases of circulating vaccine derived poliovirus type 2 (cVDPV2) in a refugee camp area of Unity state, South Sudan, two weeks ago, preparations for outbreak response immunization activities are being finalized in the country. National Immunization Days
(NIDs) were implemented on 4–7 November, with further campaigns planned for December and January. The objective is to rapidly stop the cVDPV2 in the infected area, while further boosting immunity to type 1 polio and to minimize the risk of renewed outbreaks following virus re-introduction from infected countries and areas.

**WHO statement on the third meeting of the International Health Regulations Emergency Committee regarding the international spread of wild poliovirus**

WHO statement  
14 November 2014  
**[Excerpts]**  

The third meeting of the Emergency Committee under the IHR (2005) regarding the international spread of wild poliovirus in 2014 was convened by the Director-General through electronic correspondence from 2 through 7 November 2014.1 The following IHR States Parties submitted an update on the implementation of the Temporary Recommendations since the Committee last met on 31 July 2014: Cameroon, Equatorial Guinea, Pakistan and the Syrian Arab Republic.

The Committee noted that the international spread of wild poliovirus has continued since 31 July 2014, with at least 3 new exportations from Pakistan into neighbouring Afghanistan. There has been no other documented international spread of wild poliovirus since March 2014.

The risk of new international spread from Pakistan was assessed to have increased substantively since 31 July 2014, as cases have escalated during the current high transmission season and there has been no significant improvement in the underlying factors that are driving transmission in the country. The risk of new international spread from the other 9 currently infected States appears to have declined, with only 2 of those States having reported new cases since 31 July: Somalia (1 case) and Afghanistan (7 cases, most of which were due to imported virus).

The Committee remains concerned that implementation of the Temporary Recommendations is still incomplete, especially as immunization systems have continued to deteriorate in a number of the countries at greatest risk of new importations, particularly those affected by conflict...

...The Committee assessed that the event still constitutes a Public Health Emergency of International Concern and recommended the extension of the Temporary Recommendations for a further 3 months.

Recognizing the escalating wild poliovirus transmission in Pakistan, with more reported cases than at any time in the past 14 years and ongoing cross-border exportation of the virus, the Committee provided the following additional advice to the Director-General for her consideration to reduce further the risk of international spread of wild poliovirus:

- Pakistan should restrict at the point of departure the international travel of any resident lacking documentation of appropriate polio vaccination. These recommendations apply to international travellers from all points of departure, irrespective of the means of conveyance (e.g. road, air, sea);
- Pakistan should note that the recommendation stated previously for urgent travel remains valid (i.e. those undertaking urgent travel who have not received appropriate polio vaccination must receive a dose of polio vaccine at least by the time of departure and be provided with appropriate documentation of that dose);
- in advance of the next meeting of the Committee, Pakistan should provide to the Director-General a report on the implementation by month of the Temporary Recommendations on international travel, including the number of residents whose travel was restricted and the
number of travellers who were vaccinated and provided appropriate documentation at the point of departure.

If the existing and additional Temporary Recommendations for the vaccination of travellers from Pakistan cannot be fully implemented by the time the Committee next meets, the Committee will consider additional measures such as entry screening to reduce the risk of international spread.

The Director-General accepted the Committee’s assessment and declared that the international spread of wild poliovirus continued to constitute a PHEIC. The Director-General endorsed the Committee’s additional advice on reducing the risk of international spread from Pakistan...

**EBOLA/EVD** [to 22 November 2014]

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

**Heads of UN, World Bank Group, IMF & WHO on Global Ebola Response**

UN Chief Executives Board  
*video: 11:35*

On Friday, November 21, 2014, United Nations Secretary-General Ban Ki-moon, World Bank Group President Jim Yong Kim, and World Health Organization Director-General Margaret Chan held a brief press availability after the UN Chief Executive Board’s private session on the Ebola response.

**In Presidential Statement, Security Council Hails Successes of Scaled-up Ebola Response, Calls for Stronger Coordination to Identify Gaps, Trace Contacts**

UN Security Council  
21 November 2014  
SC/11663  
7318th Meeting (PM)  
The full text of presidential statement S/PRST/2014/24 reads as follows [Editor’s text bolding]:

“The Security Council reiterates its grave concern about the unprecedented extent of the Ebola outbreak in Africa, which constitutes a threat to international peace and security, and the impact of the Ebola virus on West Africa, in particular Liberia, Guinea and Sierra Leone. The Security Council expresses its appreciation for the crucial contributions and commitments made by the Member States of the region, to continue to lead the ground-level response against the Ebola outbreak, as well as to address the wider political, security, socioeconomic and humanitarian impact, including on food security, of the Ebola outbreak on communities and the need to plan for the longer term recovery in the region, including with the support of the Peacebuilding Commission. The Security Council underscores the continued need for robust contact tracing, social mobilization and community-level engagement efforts, especially outside of major urban areas in the most affected countries. “The Security Council stresses the importance for the United Nations Mission for Ebola Emergency Response (UNMEER) to continue to strengthen coordination with the Governments of Guinea, Liberia and Sierra Leone, and all national, regional and international actors, including bilateral partners and multilateral organizations, including the Mano River Union, African Union, Economic Community of West African States, European Union, World Bank Group and the
United Nations system, in order to more readily identify gaps in the response effort and to utilize all Ebola response assistance more fully and efficiently, particularly at the local level. In this regard, the Security Council requests that the Secretary-General accelerate efforts to scale-up UNMEER’s presence and activities at the district and prefecture level outside of the capital cities.

“The Security Council expresses its concern about the recent reported Ebola infections in Mali. The Security Council recognizes the important steps taken by the Government of Mali, including by appointing an Ebola Incident Coordinator to lead a whole-of-Government response. The Security Council affirms the importance of preparedness by all Member States to detect, prevent, respond to, isolate and mitigate suspected cases of Ebola within and across borders and of bolstering the preparedness of all countries in the region. The Security Council recalls the International Health Regulations (2005), which aim to improve the capacity of all countries to detect, assess, notify and respond to all public health threats.

“The Security Council welcomes the efforts undertaken by UNMEER to provide overall leadership and direction to the operational work of the United Nations system, as mandated by the United Nations General Assembly. The Security Council underscores the need for relevant United Nations System entities, including the United Nations peacekeeping operations and special political missions in West Africa, in close collaboration with UNMEER and within their existing mandates and capacities, to provide immediate assistance to the governments of the most affected countries.

“The Security Council lauds the critical, heroic and selfless efforts of the first-line responders to the Ebola outbreak in West Africa, including national health and humanitarian relief workers, educators and burial team members, as well as international health and humanitarian relief workers contributed by the Member States of diverse regions and non-governmental and inter-governmental organizations. The Security Council expresses its condolences to the families of the victims of the Ebola outbreak, including national and international first-line responders. The Security Council urges all Member States, non-governmental, inter-governmental and regional organizations to continue to respond to the outstanding need for medical personnel, as well as related critical gap areas, such as personnel with expertise in sanitation and hygiene.

“The Security Council underscores the critical importance of putting in place essential arrangements, including medical evacuation capacities and treatment and transport provisions, to facilitate the immediate, unhindered and sustainable deployment of health and humanitarian relief workers to the affected countries. The Security Council welcomes the steps announced by Member States and regional organizations to provide medical evacuation capacities for health and humanitarian relief workers, as well as other treatment options in situ.

“The Security Council notes the considerable efforts of the international community to scale-up its coordinated response to the Ebola outbreak and the important progress on the ground as a result of these contributions. In this regard, the Security Council commends those Member States, which, in concert with other actors on the ground, have opened Ebola treatment units and provided other crucial support in the affected countries. The Security Council urges all Member States, bilateral partners and multilateral organizations, to expedite the provision of resources and financial assistance, as well as mobile laboratories; field hospitals to provide non-Ebola-related medical care; dedicated and trained clinical personnel and services in Ebola treatment units and isolation units; therapies, vaccines and diagnostics to treat patients and limit or prevent further Ebola infection or transmission; and personal protective equipment for first-line responders. The Security Council calls on Member States, especially in the region, to facilitate immediately the delivery of such assistance, to the most affected countries.
“The Security Council emphasizes that the dynamic needs on the ground in the most affected countries require that the international community’s response remains flexible, in order to adapt to changing requirements and rapidly respond to new outbreaks.

“The Security Council strongly urges Member States, as well as airlines and shipping companies, while applying appropriate public health protocols, to maintain trade and transport links with the most affected countries to enable the timely utilization of all efforts aimed at containing the Ebola outbreak within and across borders of the region. **While recognizing the important role that appropriate screening measures can play in stopping the spread of the outbreak, the Security Council expresses its continued concern about the detrimental effect of the isolation of the affected countries as a result of trade and travel restrictions imposed on and to the affected countries, as well as acts of discrimination against the nationals of Guinea, Liberia, Mali and Sierra Leone, including Ebola survivors and their families or those infected with the disease.**”

November 19, 2014

[US Congress] **Health Subcommittee Convenes Hearing on Examining Medical Product Development in the Wake of the Ebola Epidemic**

Click [here](#) to watch the hearing

**WHO: Ebola Virus Disease (EVD)**

**Situation report - 14 November 2014** - ‘WHO Roadmap’

**HIGHLIGHTS**

:: There have been 15,351 reported Ebola cases in eight countries since the outbreak began, with 5,459 reported deaths.

:: Transmission remains intense in Guinea, Liberia, and Sierra Leone.

:: A total of 6 cases, all of whom have died, have been reported in Mali.

**WHO: Ebola situation assessments**

:: [Mali: Details of the additional cases of Ebola virus disease](#) 20 November 2014

**UPDATED:** This situation assessment was updated on 21 November to include new information received overnight, including improvements in contact tracing, the death of the sole surviving patient and more details about the last 3 cases in the transmission chain.

As of today (21 November), Mali has officially reported a cumulative total of 6 cases of Ebola virus disease, with 6 deaths. Of the 6 cases, 5 are laboratory confirmed and one remains probable as no samples were available for testing.

These numbers include the 2-year-old girl who initially imported the virus into Mali and died of the disease on 24 October.

Intensive tracing and monitoring of the child’s numerous contacts, including many who were monitored in hospital, failed to detect any additional cases. All 118 contacts, including family members, have now passed through the 21-day incubation period without developing symptoms.

The virus was almost certainly re-introduced into Mali by a 70-year-old Grand Imam from Guinea, who was admitted to Bamako’s Pasteur Clinic on 25 October and died on 27 October.

He has been reclassified as a Guinea case, as he developed symptoms in that country. No samples were available for testing.

**Pasteur Clinic: direct and indirect links**
All 5 cases in this new outbreak are linked, 4 directly and 1 indirectly, to the patient in the Pasteur Clinic.

:: Urgently needed: rapid, sensitive, safe and simple Ebola diagnostic tests 18 November 2014

The goal of interrupting chains of Ebola virus transmission depends heavily on laboratory support. This support is needed to confirm or discard suspected cases, guide triage and clinical decisions, aid contact tracing, and facilitate the early detection of cases in people with an exposure history. The WHO goal of aggressive case detection and isolation likewise depends on laboratory support.

Efforts to contain the Ebola outbreaks in West Africa are currently hampered by cumbersome, slow and complex diagnostic tests that impose a number of additional logistical challenges, including requirements for a high level of laboratory biosafety and staff expertise in using sophisticated machines.

The standard molecular assays currently used in mobile and other laboratories supporting the Ebola response include the reverse-transcriptase polymerase chain reaction, or RT-PCR test. The test, which involves a number of laborious procedures, provides very accurate results when performed by trained staff. Each test requires a full tube of blood, takes from 2 to 6 hours, and costs around $100. These requirements are difficult to meet in resource-constrained West African settings, thus severely limiting testing capacity...

:: WHO declares end of Ebola outbreak in the Democratic Republic of Congo 21 November 2014

UNMEER [UN Mission for Ebola Emergency Response] @UNMEER #EbolaResponse

UNMEER’s website is aggregating and presenting content from various sources, including its own External Situation Reports, press releases, statements and what it titles “developments.” We present a composite below from the week ending 22 November 2014.

UNMEER External Situation Reports
UNMEER External Situation Reports are issued daily (excepting Saturday) with content organized under these headings:
- Highlights
- Key Political and Economic Developments
- Human Rights
- Response Efforts and Health
- Logistics
- Outreach and Education
- Resource Mobilisation
- Essential Services
- Upcoming Events

The “Week in Review” will present highly-selected elements of interest from these reports. The full daily report is available as a pdf using the link provided by the report date.

21 November 2014 | Key Political and Economic Developments
1. UNMEER SRSG Anthony Banbury, accompanied by WHO Assistant Director-General Bruce Aylward, visited Mali in the past two days. The country is working hard to contain the spread of
EVD after an imam infected with the virus travelled from Guinea to its capital Bamako. In Mali, the SRSG met the president, Ibrahim Boubacar Keita, the health minister, and the national EVD response coordinator, offering UNMEER’s support in containing the virus while it is still in its early stages. The president and the SRSG agreed that Mali could benefit from the lessons learned in the three most affected countries, and that there was a chance to contain the virus if all involved acted fast. In Mali the SRSG also met with representatives of UN organizations and implementing partners.

2. Liberia will see its economy shrink by 0.4 percent this year, and 2015 could be even worse, its finance minister said on Thursday. The finance ministry had earlier projected growth of 5.9 percent this year. But that was before EVD struck the country, crippling agriculture and Liberia’s fast-growing mining sector in particular.

Response Efforts and Health

4. The spread of EVD remains intense in most of Sierra Leone even as things have improved somewhat in the two other countries hardest hit. Some 168 new confirmed cases emerged in a single week in Sierra Leone’s capital of Freetown recently, according to a WHO report. The report released late Wednesday indicated that Sierra Leone had the lowest percentage of EVD patients who had been isolated, only 13 percent. By comparison, that figure was 72 percent in Guinea. Health officials are aiming to isolate at least 70 percent of the sick, a target UNMEER ECM Amadu Kamara acknowledged was still far out of reach: "Progress is slow and we are falling short, and we need to accelerate our efforts".

5. France announced that it would deploy troops to Guinea to assist in the EVD response effort. France would also support the establishment of 3 additional Ebola treatment centers (ETCs) in Guinea in collaboration with partners Médecins sans frontières, Médecins du monde and the French Red Cross.

Resource Mobilisation

11. The OCHA Ebola Virus Outbreak Overview of Needs and Requirements, now totaling US$ 1.5 billion, has been funded for $ 740 million, which is around 49 per cent of the total ask.

Essential Services

18. In Liberia, self-quarantined Gleyansiasu Town in Gbarpolu county has reported ongoing food shortage and lack of some basic medical supplies. The County Task Force noted that the shortage was due to the bad condition of the access roads and the inaccessibility to the area.

20 November 2014 | Key Political and Economic Developments

1. The World Bank now expects the impact of the EVD epidemic on Sub-Saharan Africa's economy to be around US$ 3-4 billion, well below a previously outlined worst-case scenario of $32 billion. The risk of the highest case of economic impact of EVD has been reduced because of the success of containment in some countries, the bank said. In a report in October, the World Bank had said that if the virus spread significantly outside the three affected countries, this could potentially cost Africa tens of billions of dollars in disrupted cross-border trade, supply chains and tourism.

2. The UN called Wednesday for an end to defecation in the open, with fears growing that it has helped spread EVD in West Africa. Half the population of Liberia, the country worst hit by the epidemic, have no access to toilets, while in Sierra Leone nearly a third of people live without latrines. Nearly a billion people worldwide are forced to go to the toilet in the open. But the health risks of the practice are not confined to EVD. In sub-Saharan Africa, where the UN said a quarter of the population defecate outside, diarrhoea is the third biggest killer of children under five years old.
3. UNDP is working with Prisons Watch Sierra Leone, a local human rights NGO, to decongest prisons by speeding up legal processes, reducing the risk of EVD spreading there. Many inmates are without files or are detained for minor offences and remain unassisted. People represented include those who cannot afford a lawyer but face long detention if not assisted through the system. The initiative, which started in mid-October, led to the identification of 540 cases and discharge of 154 people.

Response Efforts and Health

6. UNMEER Liberia will lead on a Greater Monrovia Urban Operational Plan, which was adopted yesterday. Greater Monrovia represents over 50% of the EVD caseload and a wide variety of communities, originating from all over Liberia, and even the wider region. The virus keeps being imported and exported out of the capital and partners are in agreement that the virus needs to be ‘hunted down’ in the city to make national success a possibility. This requires a more focused and flexible approach, tailored to the specific challenges of the city, on which UNMEER will lead.

Essential Services

16. In Sierra Leone, UNDP has facilitated the first bi-monthly government payment to 20,000 EVD Response Workers (ERW) countrywide. UNDP is helping to address delays in payments and put in place a grievance mechanism/complaints resolution system. The process involves verifying government lists and matching them with individual IDs on the ground, as well as documenting grievances, requests and discrepancies. This payment system will also be used, over time, to support survivors and families of Ebola victims so they can recover from the crisis.

17. The World Bank says the impact of EVD on the three most affected economies has already been severe, hitting everything from food output to employment levels. In Liberia, nearly half of those working when the outbreak was first detected in March no longer have jobs as of early November, according to a World Bank report on Wednesday, based on surveys carried out via mobile phones. More than 90 percent of those surveyed in Liberia worried that their household would not have enough to eat.

19 November 2014

Key Political and Economic Developments

2. India has quarantined a man who was cured of EVD in Liberia but continued to show traces of the virus in samples of his semen after arriving in the country. The Indian man carried with him documents from Liberia that stated he had been cured. He will be kept in quarantine until the virus is no longer present in his body, the Indian health ministry said.

3. Sierra Leone's president has suspended his uncle from a prestigious position as a tribal chief for flouting laws designed to contain EVD. The uncle, head of the northern village of Yeli Sanda, is accused of covering up secret burials of victims who should have been reported to the authorities.

Human Rights

4. Guinea’s Ministry of Justice said its investigation into the September killings of EVD health workers and a journalist in a southeastern village is moving swiftly, with a trial expected by year's end. The team of health workers and a journalist were attacked in Wome as they traveled through the southeast to raise awareness about the virus. Justice Minister Cheick Sakho said that authorities are working swiftly on the legal case against those responsible for the murders. Sakho said 81 people have been indicted so far, and 39 are in custody. Police have 40 more arrest warrants to execute.

Response Efforts and Health
6. The Bill & Melinda Gates Foundation announced that it will be supporting efforts to scale up the production and evaluation of convalescent plasma and other convalescent blood products as potential therapies for people infected with EVD. Various drugs will also be evaluated, including the experimental antiviral drug brincidofovir. The foundation has committed US$ 5.7 million to the effort, and specific trials will be confirmed in coordination with national health authorities and WHO.

Resource Mobilisation

16. The World Bank announced a US$ 285 million grant to finance EVD containment efforts underway in Guinea, Liberia and Sierra Leone, as well as to help communities in the three countries cope with the socioeconomic impact of the crisis and rebuild and strengthen essential health services. The grant is part of the nearly US$ 1 billion previously announced by the World Bank for the countries hardest hit by EVD. The grant provides additional financing to the bank’s Ebola Emergency Response Project, including US$ 72 million for Guinea, US$ 115 million for Liberia and US$ 98 million for Sierra Leone, the three countries most affected by EVD.

18 November 2014

Key Political and Economic Developments

1. The US added Mali to the list of countries whose travelers face special EVD screening on arrival, along with Sierra Leone, Guinea and Liberia, the three most affected countries in the outbreak. The US Centers for Disease Control and Prevention and the Department of Homeland Security announced the provision, for roughly 15 daily arrivals out of Mali, saying that there have been a number of confirmed cases of EVD in Mali in recent days, and a large number of individuals may have been exposed to those cases. There are no direct flights from Mali to the US.

3. The EU on Monday announced € 12 million (US$ 15 million) in funding for Mali, Senegal and Ivory Coast "to help them prepare for the risk of an Ebola outbreak through early detection and public awareness measures". The funding was part of a new € 29 million package for West Africa as a whole, which comes on top of the € 1 billion previously announced by the EU and its member states. The remainder of the funding will go to transporting aid and equipment to Sierra Leone, Liberia and Guinea and for evacuating infected international aid workers to hospitals in Europe.

Essential Services

16. With implementing partners, UNICEF supports the identification of children with severe acute malnutrition at the community level in five districts in Sierra Leone (Bombali, Kambia, Kono, Moyamba, and Port Loko). Last week, 1,099 children were screened and referred for treatment, of which 662 were severely malnourished and 437 were moderately malnourished.

17 November 2014

Key Political and Economic Developments

1. Liberia has set a goal of having no new cases of EVD by December 25, president Ellen Johnson Sirleaf said in a radio address on Sunday, another sign that authorities believe they are getting on top of the virus. "We continue to combat the Ebola virus and strive to achieve our national objective of zero new cases by Christmas," Sirleaf said. She also announced a cabinet reshuffle, naming George Werner to replace Walter Gwenigale as health minister, a key position given the epidemic.

6. In a meeting in Monrovia on 14 November, UNMEER ECM Peter Graaff and WHO Assistant Director-General Bruce Aylward agreed with partners that the overall response to the EVD
epidemic needs to be revised: the EVD response has to become more county-focused, with strong emphasis on active case finding and contact tracing.

*Response Efforts and Health*

8. WHO has begun assessing more than 120 potential treatments for EVD patients but so far has found none that definitely work, and some that definitely do not. The apparent effect of ZMapp and other drugs may be a result of the care the patients received, or the fact that they were well-nourished before falling ill, or of other medicines. Because many patients received multiple drugs, it is impossible to conclude which drugs work. Among treatments touted in the three affected countries are silver, selenium, green tea and Nescafé. WHO aims to provide clarity by pooling knowledge about all potential treatments and educate people on which ones should definitely be ruled out.

10. A Chinese deployment of 160 health workers arrived in Liberia on Sunday. The Chinese doctors, epidemiologists and nurses will staff a US$ 41 million Ebola treatment unit which is being built and will be up and running in 10 days. The health workers have had previous experience in tackling SARS (Severe Acute Respiratory Syndrome) in Asia.

*Outreach and Education*

19. With UNICEF support, over 1.5 million subscribers of three leading mobile networks were reached through SMS messaging across Sierra Leone since mid-October. In addition, the president called on all 149 paramount chiefs to lead social mobilization activities in their respective chiefdoms.

*Essential Services*

20. The preliminary results of a nation-wide assessment in Sierra Leone conducted by FAO in partnership with the government and the Food Security Cluster, revealed that the EVD outbreak has caused shortage of labour for weeding, harvesting and other crucial activities. Disruption and closure of periodic markets has caused significant changes in prices of commodities. Urgent measures are needed to address the current food security gaps and rehabilitate key agricultural markets.

**UNMEER site: Press Releases**

*Ebola: 'We are seeing the curve bending in enough places to give us hope,' says Ban*

21 November 2014 Secretary-General Ban Ki-moon today said that by continuing to scale up the global fight against Ebola, there is hope the outbreak could be contained by mid-2015, but he emphasized that results to date are still uneven, and announced that the Organization’s top health officials will head to Mali, where the situation is still a cause of “deep concern.”

*Ban to take up fight against Ebola with heads of all UN organizations*

20 November 2014 On the eve of a meeting of United Nations agency chiefs to discuss ways to jointly tackle the Ebola outbreak, the World Bank reported today Liberia's labour sector has suffered a huge blow since the start of the crisis, as a “massive effort” was underway in Mali to halt the spread of the re-emerged virus.

*Ebola cases no longer rising in Guinea, Liberia, UN health agency reports*

19 November 2014 The United Nations World Health Organization (WHO) reported today that the number of Ebola cases is “no longer increasing nationally in Guinea and Liberia, but is still increasing in Sierra Leone”, and that preparedness teams have been sent this week to Benin, Burkina Faso, Gambia and Senegal.

*‘Insecurity on the march again’ in Africa’s Sahel region, UN relief official warns*
19 November 2014 Insecurity is on the march again in the countries of Africa’s Sahel belt, where extremists have displaced 1.5 million people in Nigeria and the threat of Ebola is exacerbating an already dire humanitarian crisis, the United Nations humanitarian regional coordinator said today.

Efforts by UN health agency under way to step up Ebola response in Mali
18 November 2014 The United Nations is intensifying its efforts to keep the Ebola outbreak from spreading in Mali by working to identify all chains of transmission and stepping up social mobilization campaigns to include a range of actors, from religious leaders to truck and bus drivers.

UNICEF [to 22 November 2014]
http://www.unicef.org/media/media_71724.html
In West Africa, countries at risk of Ebola remain on high alert: UNICEF

DAKAR/GENEVA/NEW YORK, 21 November 2014 – With new Ebola cases in Mali and a continuing surge in Sierra Leone, UNICEF is stepping up efforts to help other West African countries at risk prepare for potential outbreaks.

“The new cases in Mali remind us that no country in the region is immune to Ebola,” said Manuel Fontaine, UNICEF Regional Director for West and Central Africa. “We cannot wait for new cases in countries at risk before we take action. We must help communities today prepare for cases if they happen, when they happen, wherever they happen.”

In recent months, UNICEF has worked with all West and Central African countries to review their prevention and preparedness plans. In the 13 countries most at risk, focus has been on dispelling rumours, sharing life-saving information and providing supplies such as mattresses, soap, hydro-alcoholic gel, bleach, buckets, laser thermometers, gloves, diarrheal disease packages, syringes, tarpaulins and tents...

Scotland and England unite to protect children from Ebola
LONDON, UK, 16 November 2014 - An urgent television appeal to help protect children in danger from the deadliest ever Ebola outbreak will be broadcast during the England v Scotland international on Tuesday night to raise money for Unicef’s Emergency Ebola Appeal.

CDC/MMWR Watch [to 22 November 2014]
http://www.cdc.gov/media/index.html
:: CDC and USAID update on Liberia Ebola Response
    November 20, 2014 - Press Briefing Transcript – Audio only Audio recording[MP3, 10.3 MB]
:: Enhanced Airport Entry Screening to Begin for Travelers to the United States from Mali - Press Release - Sunday, November 16, 2014

MMWR  November 21, 2014 / Vol. 63 / No. 46
- Global Routine Vaccination Coverage, 2013
- Progress Toward Poliomyelitis Eradication — Nigeria, January 2013–September 2014
- Update: Ebola Virus Disease Epidemic — West Africa, November 2014
- Evidence for a Decrease in Transmission of Ebola Virus — Lofa County, Liberia, June 8–November 1, 2014
Evidence for Declining Numbers of Ebola Cases — Montserrado County, Liberia, June–October 2014

Ebola Virus Disease Cases Among Health Care Workers Not Working in Ebola Treatment Units — Liberia, June–August, 2014

Ebola Epidemic — Liberia, March–October 2014

Ebola Virus Disease Cluster in the United States — Dallas County, Texas, 2014

Response to Importation of a Case of Ebola Virus Disease — Ohio, October 2014

World Bank [to 22 November 2014]
Statement by Jim Yong Kim, President, World Bank Group Following the United Nations’ Chief Executives Board Meeting on Ebola
November 21, 2014
WASHINGTON, November 21, 2014 – World Bank Group President Jim Yong Kim issued the following statement after the United Nations’ Chief Executive Board Meeting on Ebola:

“I’m pleased that we had the opportunity today to bring the leaders of the United Nations system together, to assess the status of the global response to the Ebola epidemic, and to work toward a unified approach on the ground in West Africa.

“This is a pivotal moment in the world’s worst ever Ebola epidemic. There’s clear evidence of areas of progress, particularly in Liberia, where new cases have declined significantly. International support is making a difference. But there’s also evidence that is very worrisome, such as the increase in infections in Sierra Leone and the spreading of the outbreak to Mali.

“And our goal will be extraordinarily difficult: We must get to zero cases. Ebola is not a disease where you can leave a few cases and say you’ve done enough; look what happened in the early days of this epidemic, when it fell in Guinea and then exploded into Liberia and Sierra Leone.

“A key element in getting to zero cases will be to invest much more in effective health systems. These countries need community-based care facilities with well-trained health workers and strong triage, diagnostic, treatment and referral capabilities. They must be able to do the kind of extensive contact tracing of infected patients that enabled Nigeria and Senegal to get to zero cases. Doing so will require even more resources, more discipline, and more coordination among the affected governments and international agencies.

“Even as we focus intensely on the immediate health response, we also must begin planning to help the affected countries back on the road to economic recovery and development. As soon as possible, we need to get children back in school, farmers back in their fields, businesses back up and running, and investors back into these countries.

“Today, we must stand more united and committed than ever as an international community. We must accelerate and adapt the response to changing conditions on the ground as we also prepare for the recovery. We know this deadly virus has a history of resurgence, so we all must remain vigilant even where things look promising. This epidemic is not close to being over. Our end game is not near. The Ebola-affected countries face a very difficult road ahead, and they can count on our continuing support as development partners.”

Nearly Half of Liberia’s Workforce No Longer Working since Start of Ebola Crisis
Negative Economic Impacts of Virus Seen Throughout the Country, with Serious Consequences for the Poor and Vulnerable
WASHINGTON, November 19, 2014—Ebola has substantially impacted all sectors of employment in the Liberian economy, in both affected and non-affected counties, according to the most recent round of mobile phone surveys conducted by the World Bank Group in partnership with the Liberian Institute of Statistics and Geo-Information Services and the Gallup Organization. In all, nearly half of those working in Liberia when the Ebola outbreak began are no longer working as of early November 2014. “Even those living in the most remote communities in Liberia, where Ebola has not been detected, are suffering the economic side effects of this terrible disease,” said Ana Revenga, Senior Director of the Poverty Global Practice at the World Bank Group.

Date: November 19, 2014

World Bank Group Approves US$285 Million Grant for Ongoing Ebola Crisis Response
November 18, 2014
WASHINGTON, November 18, 2014—The World Bank Group’s Board of Executive Directors today approved a US$285 million grant to finance Ebola-containment efforts underway in Guinea, Liberia and Sierra Leone, as well as to help communities in the three countries cope with the socioeconomic impact of the crisis and rebuild and strengthen essential health services.

The grant is part of the nearly US$1 billion previously announced by the World Bank Group for the countries hardest hit by the Ebola crisis.

The grant provides additional financing to the Ebola Emergency Response Project approved by the WBG’s Board on September 16, 2014, including US$72 million for Guinea, US$115 million for Liberia and US$98 million for Sierra Leone, the three countries most-affected by Ebola.

Today’s announcement brings the total financing approved so far from the World Bank Group’s International Development Association (IDA)* Crisis Response Window (CRW) for the Ebola response to US$390 million. The CRW is designed to help low-income IDA countries recover from severe disasters and crises...

BMGF - Gates Foundation Watch  [to 22 November 2014]
http://www.gatesfoundation.org/Media-Center/Press-Releases
NOVEMBER 18, 2014
Gates Foundation Announces Support to Ebola-Affected Countries To Accelerate the Evaluation of Potential Treatments

SEATTLE (November 18, 2014) – The Bill & Melinda Gates Foundation today announced that it will be supporting efforts in Guinea and other Ebola-affected countries to scale up the production and evaluation of convalescent plasma and other convalescent blood products as potential therapies for people infected with the Ebola virus. Various drug candidates will also be evaluated, including the experimental antiviral drug brincidofovir.

The foundation has committed $5.7 million to launch the effort, and specific trial designs and locations will be confirmed in coordination with national health authorities and the World Health Organization.

“We are committed to working with Ebola-affected countries to rapidly identify and scale up potential lifesaving treatments for Ebola,” said Dr. Papa Salif Sow, a senior program officer and infectious diseases expert with the foundation’s Global Health Program. “The Gates Foundation is focusing its R&D investments on treatments, diagnostics, and vaccines that we believe could be quickly produced and delivered to those who need them if they demonstrate efficacy in stopping the disease.”
[The press release lists 27 partners involved in the efforts including companies, foundations, and academic and research centers.]

Global Emerging Pathogen Treatment Consortium Formed To Study Potential Of Immune Plasma Treatment In The Fight Against Ebola

African-led Group of Clinicians, Blood Banks and Social Science Experts, in Collaboration with U.S.-based Clinical RM and United States Army Medical Research Institute of Infectious Diseases, Work to Identify a Better Understanding and Solutions to Ebola Outbreak

HINCKLEY, Ohio, Nov. 19, 2014 /PRNewswire/ -- An African-led scientific team in collaboration with U.S.-based Clinical Research Management, Inc. (ClinicalRM), and the United States Army Medical Research Institute of Infectious Diseases (USAMRIID) today announced the assembly of the Global Emerging Pathogens Therapy/Treatment (GET) Consortium.

This group of medical and project management experts from all the geopolitical regions of Africa, Europe, Asia and the United States, is pooling resources to assess the efficacy of immune plasma collected from survivors of Ebola Virus Disease (EVD) in West Africa. The Consortium, whose plan is closely aligned with the WHO position paper on collection and use of convalescent plasma or serum as an element in Filovirus outbreak response, expects to begin clinical trials in November 2014. Members from the GET Consortium are also acting as key scientific advisors for the effort in West Africa related to convalescent plasma for the treatment of Ebola virus disease recently announced by the Bill & Melinda Gates Foundation...

[end of Ebola/EVD coverage]

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WHO & Regionals  [to 22 November 2014]

WHO Director-General addresses the Second International Conference on Nutrition
19 November 2014

Global Alert and Response (GAR) - Disease Outbreak News (DONs)
:: Plague – Madagascar 21 November 2014

[Excerpt]

21 November 2014 - On 4 November 2014, WHO was notified by the Ministry of Health of Madagascar of an outbreak of plague. The first case, a male from Soamahatamana village in the district of Tsiranoamandidy, was identified on 31 August. The patient died on 3 September. As of 16 November, a total of 119 cases of plague have been confirmed, including 40 deaths. Only 2% of reported cases are of the pneumonic form.

Cases have been reported in 16 districts of seven regions. Antananarivo, the capital and largest city in Madagascar, has also been affected with 2 recorded cases of plague, including 1 death. There is now a risk of a rapid spread of the disease due to the city’s high population density and the weakness of the healthcare system. The situation is further complicated by the high level of resistance to deltamethrin (an insecticide used to control fleas) that has been observed in the country.

Public health response

The national task force has been activated to manage the outbreak. With support from partners – including WHO, the Pasteur Institute of Madagascar, the “Commune urbaine d’Antananarivo” and the Red Cross – the government of Madagascar has put in place effective
strategies to control the outbreak. Thanks to financial assistance from the African Development Bank, a 200,000 US dollars response project has been developed. WHO is providing technical expertise and human resources support. Measures for the control and prevention of plague are being thoroughly implemented in the affected districts. Personal protective equipment, insecticides, spray materials and antibiotics have been made available in those areas...

:: Middle East respiratory syndrome coronavirus (MERS-CoV) – Saudi Arabia 21 November 2014
:: Human infection with avian influenza A(H7N9) virus – China 18 November 2014

News releases
:: Worldwide action needed to address hidden crisis of violence against women and girls
21 November 2014
:: Countries vow to combat malnutrition through firm policies and actions 19 November 2014
:: UN reveals major gaps in water and sanitation – especially in rural areas 19 November 2014

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

WHO Region of the Americas PAHO
:: ‘No child should die from a preventable cause,’ says PAHO/WHO on Universal Children’s Day
In the Americas, under-5 mortality has fallen more than two-thirds since 1990, but not all children have benefited equally from this progress
Washington, D.C., 19 November, 2014 (PAHO/WHO) — Despite impressive progress in child survival in the Americas over the past quarter-century, vulnerable children—especially those from indigenous, rural and low-income families—remain more likely to die before age 5 than other children.
On Universal Children’s Day, celebrated on November 20 each year, the Pan American Health Organization/World Health Organization (PAHO/WHO) is calling on its member countries to address inequities in child health so that no child dies from a preventable cause, regardless of their ethnicity, their family’s income level, or where they live...
:: PAHO, OAS and IDB explore joint action on outbreak response in the Americas
Washington, D.C., 18 November 2014 (PAHO/WHO) – The Director of the Pan American Health Organization/World Health Organization (PAHO/WHO), Dr. Carissa F. Etienne, met this week with Secretary-General of the OAS José Miguel Insulza and President of the Inter-American Development Bank Luis Alberto Moreno to explore joint action to strengthen the capacity of countries in the Americas to respond to disease outbreaks and epidemics.
In their meeting, at IDB headquarters in Washington, D.C., the heads of the three inter-American organizations discussed the health and economic challenges posed to the region by new diseases such as chikungunya, which was first detected in the Caribbean in December 2013, and Ebola, which to date has only been reported in one country of the Western Hemisphere, the United States.
The leaders agreed to explore the possible establishment of an inter-American fund for outbreak preparedness, which would support strengthening for surveillance systems and health services to ensure rapid and effective response to outbreaks in the region.
They also agreed that the three organizations would contribute to strengthening country capacities to respond to disease and other health risks in the framework of the International Health Regulations (IHR), an international legal instrument that has been signed by WHO
Member States to help prevent and respond to public health risks that can cross borders and threaten countries around the world...

WHO South-East Asia Region SEARO
World Toilet Day 2014
Inadequate sanitation is impacting health and economies of countries in South-East Asia. Good sanitation is proven to prevent water sources being contaminated, protect the environment, prevent infectious diseases and help reduce malnutrition, stunting and mental stress.
- The health and economic cost of poor sanitation - Dr Poonam Khetrapal Singh
- World Toilet Day 2014 - Improving sanitation would deliver enormous economic benefits

WHO European Region EURO
:: Consultation on sustainable access to vaccines in middle-income countries 24–25 November 2014, Istanbul, Turkey
:: Workshop on immunization financing and graduation from GAVI support 25–28 November 2014, Istanbul, Turkey

WHO Eastern Mediterranean Region EMRO
:: Haemophilus influenzae vaccine introduced in all national immunization programmes 20 November 2014

WHO Western Pacific Region WPRO
:: Let's use antibiotics responsibly
ANILA, 21 November 2014 - Antimicrobial resistance (AMR) is a global public health threat. The rapid rise and spread of AMR—especially antibiotic resistance—places the well-being of the Western Pacific Region's 1.8 billion people at risk. During Antibiotic Awareness Week (17–23 November 2014), the World Health Organization (WHO) urges everyone to use antibiotics responsibly, so these drugs can continue to protect our families and communities from harmful bacteria...
:: WHO leads meeting to strengthen health security in the Pacific
20 November 2014 SUVA, Fiji – Health leaders from 21 Pacific island countries and areas will meet in Nadi, Fiji to discuss progress in the implementation of the International Health Regulations (IHR) in the Pacific. Preparedness to respond to the deadly Ebola virus, should the virus be imported into the Pacific region by a traveller returning from West Africa, will be a key item for discussion...

Sabin Vaccine Institute Watch [to 22 November 2014]
http://www.sabin.org/updates/pressreleases
Statement by Amb. Michael Marine, CEO of the Sabin Vaccine Institute, on the Passing of Morton P. Hyman
Morton P. Hyman, a renowned philanthropic and public health leader and Chairman of the Sabin Vaccine Institute Board of Trustees, passed away peacefully yesterday surrounded by his family and loved ones. Sabin CEO, Ambassador Michael W. Marine, reflecting on the profound difference that Mort made during his lifetime, released a statement..
**IDRI Announces $11.9M Contract To Develop Thermostable TB Vaccine**

*Using freeze-drying process to overcome cold-chain transportation issues*

SEATTLE, Nov. 19, 2014 /PRNewswire-USNewswire/ -- With the goal of developing a thermostable tuberculosis vaccine that is resistant to damage from excessive heat or cold, IDRI (Infectious Disease Research Institute) today announces it has been awarded a contract from the National Institute of Allergy and Infectious Diseases, a part of the National Institutes of Health. The contract (HHSN272201400041C) has a base award of $3.6 million and could be worth up to $11.9 million if all milestone-driven options are exercised. The contract provides funding for a team of IDRI scientists – led by Christopher Fox, Ph.D. – to develop, produce and test a thermostable lyophilized formulation of its vaccine candidate to prevent tuberculosis. TB-causing bacteria infect an estimated one-third of the global population, and, in 2013, approximately nine million people developed active cases of TB illness...

**SRA Wins $18 Million Contract to Support Vaccine Adverse Event Reporting System**

FAIRFAX, Va., Nov. 17, 2014 /PRNewswire/ -- SRA International, Inc...was awarded a contract to support the Vaccine Adverse Event Reporting System (VAERS) co-sponsored by the Centers for Disease Control and Prevention and the Food and Drug Administration. The contract includes a base year plus four option years and is valued at $18 million if all options are exercised.

VAERS “is a national vaccine safety surveillance program that collects reports from vaccine manufacturers, providers, and recipients about possible side effects, or adverse events, that occur after the administration of vaccines licensed for use in the United States. VAERS searches the reports to: 1) detect new, unusual, or rare vaccine adverse events; 2) monitor increases in known adverse events; 3) identify potential patient risk factors for particular types of adverse events; 4) identify vaccine lots with increased numbers or types of reported adverse events; and 5) assess the safety of newly licensed vaccines.”

Under the contract, SRA will apply a wide range of skills and expertise to support the system including application development and maintenance, data processing/management, medical coding, clinical research, information technology and outreach to the public, vaccine manufacturers and immunization programs...

**Global Fund Watch [to 22 November 2014]**

:: [Global Fund Board Considers Strategy, Governance, Ethics]

21 November 2014

MONTREUX, Switzerland – The Board of the Global Fund to Fight AIDS, Tuberculosis and Malaria convened a week-long gathering including a retreat on strategy, governance and ethics, followed by extensive constituency meetings and a formal meeting attended by 20 Board members and nearly 200 delegates and observers from all over the world.

The Board meets twice a year to exercise its responsibility of monitoring and oversight, and to make decisions that guide nearly US$4 billion of funding each year for programs in more than 140 countries that are accelerating the end of HIV, TB and malaria as epidemics.

At the meeting, Board members consistently stressed the importance of focusing on gender, human rights and strengthening health and community systems – each of them critical factors in achieving impact against HIV, TB and malaria. Board members also cited the Ebola outbreak as an instance of global concern where joint action by partners and health systems strengthening is essential.
This year, the Global Fund began full implementation of a new funding model that is designed to better serve people affected by HIV, TB and malaria by improving the process of devising grants with flexible timing, better alignment with national strategies and active engagement with implementers and partners.

The Board reviewed several aspects of the new approach to funding. More than 100 concept notes have already been submitted for the 2014-2016 allocation period. Many eligible countries are still developing concept notes and expect to submit them in the coming months...

NIH Watch [to 22 November 2014]
:: HHS and NIH take steps to enhance transparency of clinical trial results

The U.S. Department of Health and Human Services today issued a Notice of Proposed Rulemaking (NPRM), which proposes regulations to implement reporting requirements for clinical trials that are subject to Title VIII of the Food and Drug Administration Amendments Act of 2007 (FDAAA). The proposed rule clarifies requirements to clinical researchers for registering clinical trials and submitting summary trial results information to ClinicalTrials.gov, a publicly accessible database operated by the National Library of Medicine, part of the National Institutes of Health. A major proposed change from current requirements is the expansion of the scope of clinical trials required to submit summary results to include trials of unapproved, unlicensed, and uncleared products.

“Medical advances would not be possible without participants in clinical trials,” said NIH Director Francis S. Collins, M.D., Ph.D. “We owe it to every participant and the public at large to support the maximal use of this knowledge for the greatest benefit to human health. This important commitment from researchers to research participants must always be upheld.”...

FDA Watch [to 22 November 2014]
http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/default.htm
No new digest content identified.

European Medicines Agency Watch [to 22 November 2014]
No new digest content identified.

European Vaccine Initiative [to 22 November 2014]
http://www.euvaccine.eu/news-events
No new digest content identified.

GAVI Watch [to 22 November 2014]
No new digest content identified.

IVI Watch [to 22 November 2014]
http://www.ivi.org/web/www/home
No new digest content identified.

PATH Watch [to 22 November 2014]
http://www.path.org/news/
No new digest content identified.

**Industry Watch** [to 22 November 2014]
Selected media releases and other selected content from industry.
:: Sanofi Names Chief Scientific Officer Gary Nabel as Sanofi Ebola Response Coordinator
   Nov. 18, 2014 Former Director of the NIH Vaccine Research Center to Spearhead Sanofi Efforts, and Contribution to Global Fight against Ebola

**DCVMN / PhRMA / EFPIA / IFPMA Watch** [to 22 November 2014]
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

**Cost to Develop and Win Marketing Approval for a New Drug Is $2.6 Billion**
   BOSTON – Nov. 18, 2014 – Developing a new prescription medicine that gains marketing approval, a process often lasting longer than a decade, is estimated to cost $2,558 million, according to a new study by the Tufts Center for the Study of Drug Development.
   The $2,558 million figure per approved compound is based on estimated:
:: Average out-of-pocket cost of $1,395 million
:: Time costs (expected returns that investors forego while a drug is in development) of $1,163 million
:: Estimated average cost of post-approval R&D—studies to test new indications, new formulations, new dosage strengths and regimens, and to monitor safety and long-term side effects in patients required by the U.S. Food and Drug Administration as a condition of approval—of $312 million boosts the full product lifecycle cost per approved drug to $2,870 million. All figures are expressed in 2013 dollars.
   The new analysis, which updates similar Tufts CSDD analyses, was developed from information provided by 10 pharmaceutical companies on 106 randomly selected drugs that were first tested in human subjects anywhere in the world from 1995 to 2007.
   “Drug development remains a costly undertaking despite ongoing efforts across the full spectrum of pharmaceutical and biotech companies to rein in growing R&D costs,” said Joseph A. DiMasi, director of economic analysis at Tufts CSDD and principal investigator for the study.
   He added, “Because the R&D process is marked by substantial technical risks, with expenditures incurred for many development projects that fail to result in a marketed product, our estimate links the costs of unsuccessful projects to those that are successful in obtaining marketing approval from regulatory authorities.”
   In a study published in 2003, Tufts CSDD estimated the cost per approved new drug to be $802 million (in 2000 dollars) for drugs first tested in human subjects from 1983 to 1994, based on average out-of-pocket costs of $403 million and capital costs of $401 million.
The $802 million, equal to $1,044 million in 2013 dollars, indicates that the cost to develop and win marketing approval for a new drug has increased by 145% between the two study periods, or at a compound annual growth rate of 8.5%.

According to DiMasi, rising drug development costs have been driven mainly by increases in out-of-pocket costs for individual drugs and higher failure rates for drugs tested in human subjects.

Factors that likely have boosted out-of-pocket clinical costs include increased clinical trial complexity, larger clinical trial sizes, higher cost of inputs from the medical sector used for development, greater focus on targeting chronic and degenerative diseases, changes in protocol design to include efforts to gather health technology assessment information, and testing on comparator drugs to accommodate payer demands for comparative effectiveness data.

Lengthening development and approval times were not responsible for driving up development costs, according to DiMasi.

“In fact,” DiMasi said, “changes in the overall time profile for development and regulatory approval phases had a modest moderating effect on the increase in R&D costs. As a result, the time cost share of total cost declined from approximately 50% in previous studies to 45% for this study.”

The study was authored by DiMasi, Henry G. Grabowski of the Duke University Department of Economics, and Ronald W. Hansen at the Simon Business School at the University of Rochester.

Journal Watch

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

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

The American Journal of Bioethics

Volume 14, Issue 12, 2014
http://www.tandfonline.com/toc/uajb20/current
[Reviewed earlier]

American Journal of Infection Control

Volume 42, Issue 11, p1141-1254 November 2014
http://www.ajicjournal.org/current
[Reviewed earlier]

American Journal of Preventive Medicine

Volume 47, Issue 5, p531-6822 November 2014
American Journal of Public Health
Volume 104, Issue 12 (December 2014)
http://ajph.aphapublications.org/toc/ajph/current

Transforming Public Health Delivery Systems With Open Science Principles
Glen P. Mays, PhD, MPH, and F. Douglas Scutchfield, MD
Glen Mays is with the National Coordinating Center for Public Health Services and Systems Research, Department of Health Management and Policy, College of Public Health, The University of Kentucky, Lexington. F. Douglas Scutchfield is with the Colleges of Medicine and Public Health, The University of Kentucky.

[No abstract]

The Effects of the State of Tennessee Immunization Policy Change of 2011–2012 on Vaccination Uptake in East Tennessee
Margaret A. Knight, Anne D. Kershenbaum, Martha Buchanan, Janet Ridley, Paul C. Erwin

[No abstract]

The Texas Children’s Hospital Immunization Forecaster: Conceptualization to Implementation
Rachel M. Cunningham, MPH, Leila C. Sahni, MPH, G Brady Kerr, BSN, Laura L. King, MSN, Nathan A. Bunker, BS, and Julie A. Boom, MD
Rachel M. Cunningham, Leila C. Sahni, G. Brady Kerr, Laura L. King, and Julie A. Boom are with the Immunization Project, Texas Children’s Hospital, Houston. Nathan A. Bunker is with Dandelion Software & Research, Inc., Toquerville, UT.

Abstract
Objectives. Immunization forecasting systems evaluate patient vaccination histories and recommend the dates and vaccines that should be administered. We described the conceptualization, development, implementation, and distribution of a novel immunization forecaster, the Texas Children’s Hospital (TCH) Forecaster.

Methods. In 2007, TCH convened an internal expert team that included a pediatrician, immunization nurse, software engineer, and immunization subject matter experts to develop the TCH Forecaster. Our team developed the design of the model, wrote the software, populated the Excel tables, integrated the software, and tested the Forecaster. We created a table of rules that contained each vaccine’s recommendations, minimum ages and intervals, and contraindications, which served as the basis for the TCH Forecaster.

Results. We created 15 vaccine tables that incorporated 79 unique dose states and 84 vaccine types to operationalize the entire United States recommended immunization schedule. The TCH Forecaster was implemented throughout the TCH system, the Indian Health Service, and the Virginia Department of Health. The TCH Forecast Tester is currently being used nationally.

Conclusions. Immunization forecasting systems might positively affect adherence to vaccine recommendations. Efforts to support health care provider utilization of immunization forecasting systems and to evaluate their impact on patient care are needed.

A Public Health Achievement Under Adversity: The Eradication of Poliomyelitis From Peru, 1991
Deepak Sobti, MD, Marcos Cueto, PhD, and Yuan He, BS

Abstract
The fight to achieve global eradication of poliomyelitis continues. Although native transmission of poliovirus was halted in the Western Hemisphere by the early 1990s, and only a few cases have been imported in the past few years, much of Latin America’s story remains to be told. Peru conducted a successful flexible, or flattened, vertical campaign in 1991. The initial disease-oriented programs began to collaborate with community-oriented primary health care systems, thus strengthening public–private partnerships and enabling the common goal of poliomyelitis eradication to prevail despite rampant terrorism, economic instability, and political turmoil. Committed leaders in Peru’s Ministry of Health, the Pan American Health Organization, and Rotary International, as well as dedicated health workers who acted with missionary zeal, facilitated acquisition of adequate technologies, coordinated work at the local level, and increased community engagement, despite sometimes being unable to institutionalize public health improvements.

American Journal of Tropical Medicine and Hygiene
November 2014; 91 (5)
http://www.ajtmh.org/content/current
[Reviewed earlier]

Annals of Internal Medicine
http://annals.org/issue.aspx
Ideas and Opinions | 18 November 2014
Ebola, Ethics, and Public Health: What Next?
Nancy Kass, ScD
FREE

Ebola virus disease has ignited some of our worst fears in a globalized world. The disease spreads quickly, with high mortality, and is crossing borders. More than half of infected persons have died (1). The confirmed cases include 2 Americans who have become the focus of public attention because of their heroism and for the extraordinary measures taken to ensure that they received optimum medical care.

With this attention, 3 ethics questions are being asked: Should the 2 Americans have been airlifted out of Liberia when others were not? Should they have been given a highly experimental treatment? And if treating them was appropriate, should the hundreds of Africans with Ebola also be treated?

Despite codes of ethics requiring physicians not to abandon sick patients (2), few health professionals would probably volunteer to care for patients with Ebola in West Africa today. Sound medical ethics is one thing, but traveling to help patients with an illness both highly contagious and usually fatal is what ethics calls "supererogatory"—above and beyond usual norms of good ethical conduct.

When a health care provider is willing to work amidst Ebola (or the severe acute respiratory syndrome or pandemic influenza), we, as a society, must fulfill our end of the bargain. It would be unconscionable to send physicians and nurses to Africa now without hazardous material suits, and it would be equally unconscionable not to assure them that, should they contract Ebola, they would be airlifted home to receive the best care available. It would clearly be better for persons in at-risk areas if they, too, had access to protective equipment and airlifts. The
tragedy of people dying in Africa from this killer virus does not make our special treatment of the physicians and nurses who fly in to help them unfair...

BMC Health Services Research
(Accessed 22 November 2014)
http://www.biomedcentral.com/bmchealthservres/content
[No new relevant content]

BMC Infectious Diseases
(Accessed 22 November 2014)
http://www.biomedcentral.com/bmcinfectdis/content
Research article
Tuberculosis care for pregnant women: a systematic review
Hang Thanh Nguyen1*, Chiara Pandolfini1, Peter Chiodini2 and Maurizio Bonati1
Author Affiliations
Published: 19 November 2014
Abstract
Background
Tuberculosis (TB) during pregnancy may lead to severe consequences affecting both mother and child. Prenatal care could be a very good opportunity for TB care, especially for women who have limited access to health services. The aim of this review was to gather and evaluate studies on TB care for pregnant women.
Methods
We used a combination of the terms “tuberculosis” and “pregnancy”, limited to human, to search for published articles. Studies reflecting original data and focusing on TB care for pregnant women were included. All references retrieved were collected using the Reference Manager software (Version 11).
Results
Thirty five studies were selected for review and their data showed that diagnosis was often delayed because TB symptoms during pregnancy were not typical. TB prophylaxis and anti-TB therapy appeared to be safe and effective for pregnant women and their babies when suitable follow up and early initiation were present, but the compliance rate to TB prophylaxis is still low due to lack of follow up and referral services. TB care practices in the reviewed studies were in line in principle with the WHO International Standards for Tuberculosis Care (ISTC).
Conclusions
Integration of TB care within prenatal care would improve TB diagnosis and treatment for pregnant women. To improve the quality of TB care, it is necessary to develop national level guidelines based on the ISTC with detailed guidelines for pregnant women.

BMC Medical Ethics
(Accessed 22 November 2014)
http://www.biomedcentral.com/bmcmedethics/content
Research article
Consenting for current genetic research: is Canadian practice adequate?
Iris Jaitovich Groisman, Nathalie Egalite and Beatrice Godard
Author Affiliations
Published: 20 November 2014
Abstract (provisional)
Background
In order to ensure an adequate and ongoing protection of individuals participating in scientific research, the impacts of new biomedical technologies, such as Next Generation Sequencing (NGS), need to be assessed. In this light, a necessary reexamination of the ethical and legal structures framing research could lead to requisite changes in informed consent modalities. This would have implications for Institutional Review Boards (IRBs), who bear the responsibility of guaranteeing that participants are verifiably informed, and in sufficient detail, to understand the reality of genetic research as it is practiced now. Current literature allowed the identification of key emergent themes related to the consent process when NGS was used in a research setting.
Methods
We examined the subjects of secondary use, sharing of materials and data, and recontacting participants as outlined in the Canadian Informed Consent templates and the accompanying IRB instructions for the conduct of genetic research. The research ethics policy applied by the three Canadian research agencies (Tri-Council Policy Statement, 2nd Edition) was used to frame our content analysis. We also obtained IRB-approved consent forms for genetic research projects on brain and mental health disorders as an example of a setting where participants might present higher-than-average vulnerability.
Results
Eighty percent of documents addressed different modalities for the secondary use of material and/or data, although the message was not conveyed in a systematic way. Information on the sharing of genetic sequencing data in a manner completely independent of the material from which it originated was absent. Grounds for recontacting participants were limited, and mainly mentioned to obtain consent for secondary use. A feature of the IRB-approved consent documents for genetic studies on brain and mental health disorders using NGS technologies, offered a complete explanation on sharing material and data and the use of databases.
Conclusions
The results of our work show that in Canada, many NGS research needs are already dealt with. Our analysis led us to propose the addition of well-defined categories for future use, adding options on the sharing of genetic data, and widening the grounds on which research participants could consent to be recontacted.

BMC Public Health
(Accessed 22 November 2014)
http://www.biomedcentral.com/bmcpublichealth/content
Research article
Determinants of vaccination coverage and adherence to the Greek national immunization program among infants aged 2-24 months at the beginning of the economic crisis (2009-2011)
Papaevangelou Vassiliki, Koutsoumbari Ioanna, Vintila Artemis, Klinaki Eleni, Zellos Aglaia, Achilleas Attilakos, Tsolia Maria and Kafetzis Dimitris
Author Affiliations
Abstract (provisional)

Background
Childhood immunization has significantly reduced the incidence of vaccine preventable diseases. Parental mistrust over vaccine safety has been associated with vaccine refusal creating barriers on vaccine coverage. Recently, economic crisis has imposed additional impediment.

Methods
Study aim was to evaluate vaccine coverage among infants 2-24 months old in the Athens metropolitan area at the beginning of the economic crisis (2009-2011).

Results
Overall, 1,667 infants were enrolled (mean age 13 months). Less than 5% of parents admitted omitting or postponing vaccination secondary to their beliefs. Although vaccination coverage was acceptable for most vaccines, lower rates of immunization were found for some newer vaccines such as hepatitis A and rotavirus. Multiple regression analysis indicated that parental age, occupational, educational statuses and family size were independently associated with immunization coverage at 6 and 12 months. Interestingly, lack of insurance was not associated with missed vaccine doses.

Conclusion
Incomplete vaccination coverage was associated with socioeconomic factors. It becomes apparent, that reassessing vaccination priorities under the current economic situation may be needed.

Research article

Geographic information analysis and web-based geoportals to explore malnutrition in Sub-Saharan Africa: a systematic review of approaches

Sabrina Marx, Revati Phalkey, Clara Aranda, Jörn Profe, Rainer Sauerborn and Bernhard Höfle

Author Affiliations


Published: 20 November 2014

Abstract (provisional)

Background
Childhood malnutrition is a serious challenge in Sub-Saharan Africa (SSA) and a major underlying cause of death. It is the result of a dynamic and complex interaction between political, social, economic, environmental and other factors. As spatially oriented research has been established in health sciences in recent years, developments in Geographic Information Science (GIScience) provide beneficial tools to get an improved understanding of malnutrition.

Methods
In order to assess the current state of knowledge regarding the use of geoinformation analyses for exploring malnutrition in SSA, a systematic literature review of peer-reviewed literature is conducted using Scopus, ISI Web of Science and PubMed. As a supplement to the review, we carry on to investigate the establishment of web-based geoportals for providing freely accessible malnutrition geodata to a broad community. Based on these findings, we identify current limitations and discuss how new developments in GIScience might help to overcome impending barriers.

Results
563 articles are identified from the searches, from which a total of nine articles and eight geoportals meet inclusion criteria. The review suggests that the spatial dimension of malnutrition is analyzed most often at the regional and national level using geostatistical analysis methods. Therefore, heterogeneous geographic information at different spatial scales
and from multiple sources is combined by applying geoinformation analysis methods such as spatial interpolation, aggregation and downscaling techniques. Geocoded malnutrition data from the Demographic and Health Survey Program are the most common information source to quantify the prevalence of malnutrition on a local scale and are frequently combined with regional data on climate, population, agriculture and/or infrastructure. Only aggregated geoinformation about malnutrition prevalence is freely accessible, mostly displayed via web map visualizations or downloadable map images. The lack of detailed geographic data at household and local level is a major limitation for an in-depth assessment of malnutrition and links to potential impact factors.

Conclusions
We propose that the combination of malnutrition-related studies with most recent GIScience developments such as crowd-sourced geodata collection, (web-based) interoperable spatial health data infrastructures as well as (dynamic) information fusion approaches are beneficial to deepen the understanding of this complex phenomenon.

Research article
Implementing effective hygiene promotion: lessons from the process evaluation of an intervention to promote handwashing with soap in rural India
Divya Rajaraman, Kiruba Sankar Varadharajan, Katie Greenland, Val Curtis, Raja Kumar, Wolf-Peter Schmidt, Robert Aunger and Adam Biran

Author Affiliations
Published: 19 November 2014

Abstract (provisional)
Background
An intervention trial of the 'SuperAmma' http://www.superamma.org/ village-level intervention to promote handwashing with soap (HWWS) in rural India demonstrated substantial increases in HWWS amongst the target population. We carried out a process evaluation to assess the implementation of the intervention and the evidence that it had changed the perceived benefits and social norms associated with HWWS. The evaluation also aimed to inform the design of a streamlined shorter intervention and estimate scale up costs.

Methods
Intervention implementation was observed in 7 villages. Semi-structured interviews were conducted with the implementation team, village leaders and representatives of the target population. A questionnaire survey was administered in 174 households in intervention villages and 171 households in control villages to assess exposure to intervention activities, recall of intervention components and evidence that the intervention had produced changes in perceptions that were consistent with the intervention core messages. Costs were estimated for the intervention as delivered, as well as for a hypothetical scale-up to 1,000 villages.

Results
We found that the intervention was largely acceptable to the target population, maintained high fidelity (after some starting problems), and resulted in a high level of exposure to most components. There was a high recall of most intervention activities and subjects in the intervention villages were more likely than those in control villages to cite reasons for HWWS that were in line with intervention messaging and to believe that HWWS was a social norm. There were no major differences between socio-economic and caste groups in exposure to intervention activities. Reducing the intervention from 4 to 2 contact days, in a scale up scenario, cut the estimated implementation cost from $2,293 to $1,097 per village.
Conclusions
The SuperAmma intervention is capable of achieving good reach across men and women of varied social and economic status, is affordable, and has the potential to be effective at scale provided that sufficient attention is given to ensuring the quality of intervention delivery.

Research article

Descriptive characterization of the 2010 cholera outbreak in Nigeria
Mahmood Muazu Dalhat1, Aisha Nasiru Isa1, Patrick Nguku1, Sani-Gwarzo Nasir2, Katharina Urban1, Mohammed Abdulaziz1, Raymond Salanga Dankoli1, Peter Nsubuga3 and Gabriele Poggensee1

Author Affiliations
Published: 16 November 2014

Abstract
Background
In 2010, 18 States of Nigeria reported cholera outbreaks with a total of 41,787 cases including 1,716 deaths (case-fatality rate [CFR]: 4.1%). This exceeded the mean overall CFR of 2.4% reported in Africa from 2000–2005 and the WHO acceptable rate of 1%. We conducted a descriptive analysis of the 2010 cholera outbreak to determine its epidemiological and spatio-temporal characteristics.

Methods
We conducted retrospective analysis of line lists obtained from 10 of the 18 states that submitted line lists to the Federal Ministry of Health (FMOH). We described the outbreak by time, place and person and calculated the attack rates by state as well as the age- and sex-specific CFR from cholera cases for whom information on age, sex, place of residence, onset of symptoms and outcome were available.

Results
A total of 21,111 cases were reported with an overall attack rate and CFR of 47.8 cases/100,000 population and 5.1%, respectively. The CFR ranged in the states between 3.8% and 8.9%. The age-specific CFR was highest among individuals 65 years and above (14.6%). The epidemiological curve showed three peaks with increasing number of weekly reported cases. A geographical clustering of LGAs reporting cholera cases could be seen in all ten states. During the third peak which coincided with flooding in five states the majority of newly affected LGAs were situated next to LGAs with previously reported cholera cases, only few isolated outbreaks were seen.

Conclusion
Our study showed a cholera outbreak that grew in magnitude and spread to involve the whole northern part of the country. It also highlights challenges of suboptimal surveillance and response in developing countries as well as potential endemicity of cholera in the northern part of Nigeria. There is the need for a harmonized, coordinated approach to cholera outbreaks through effective surveillance and response with emphasis on training and motivating front line health workers towards timely detection, reporting and response. Findings from the report should be interpreted with caution due to the high number of cases with incomplete information, and lack of data from eight states.

BMC Research Notes
(Accessed 22 November 2014)
http://www.biomedcentral.com/bmcresearchnotes/content
Cost Effectiveness and Resource Allocation
(Accessed 22 November 2014)
http://www.resource-allocation.com/

Review
Health research priority setting in selected high income countries: a narrative review of methods used and recommendations for future practice
Jamie Bryant, Rob Sanson-Fisher, Justin Walsh and Jessica Stewart
Author Affiliations
Published: 18 November 2014
Abstract (provisional)
Research priority setting aims to gain consensus about areas where research effort will have wide benefits to society. While general principles for setting health research priorities have been suggested, there has been no critical review of the different approaches used. This review aims to: (i) examine methods, models and frameworks used to set health research priorities; (ii)
identify barriers and facilitators to priority setting processes; and (iii) determine the outcomes of priority setting processes in relation to their objectives and impact on policy and practice.

Medline, Cochrane, and PsycINFO databases were searched for relevant peer-reviewed studies published from 1990 to March 2012. A review of grey literature was also conducted. Priority setting exercises that aimed to develop population health and health services research priorities conducted in Australia, New Zealand, North America, Europe and the UK were included. Two authors extracted data from identified studies. Eleven diverse priority setting exercises across a range of health areas were identified. Strategies including calls for submission, stakeholder surveys, questionnaires, interviews, workshops, focus groups, roundtables, the Nominal Group and Delphi technique were used to generate research priorities. Nine priority setting exercises used a core steering or advisory group to oversee and supervise the priority setting process. None of the models conducted a systematic assessment of the outcomes of the priority setting processes, or assessed the impact of the generated priorities on policy or practice. A number of barriers and facilitators to undertaking research priority setting were identified. The methods used to undertake research priority setting should be selected based upon the context of the priority setting process and time and resource constraints. Ideally, priority setting should be overseen by a multi-disciplinary advisory group, involve a broad representation of stakeholders, utilise objective and clearly defined criteria for generating priorities, and be evaluated.

**Current Opinion in Infectious Diseases**
http://journals.lww.com/co-infectiousdiseases/pages/currenttoc.aspx
[Reviewed earlier]

**Developing World Bioethics**
December 2014 Volume 14, Issue 3 Pages ii–iii, 111–167
[Reviewed earlier]

**Development in Practice**
Volume 24, Issue 8, 2014
http://www.tandfonline.com/toc/cdip20/current
[Reviewed earlier]

**Emerging Infectious Diseases**
Volume 20, Number 11—November 2014
http://wwwnc.cdc.gov/eid/
[Reviewed earlier]

**Epidemics**
Volume 9, In Progress (December 2014)
http://www.sciencedirect.com/science/journal/17554365
[Reviewed earlier]
**Epidemiology and Infection**
Volume 142 - Issue 12 - December 2014
http://journals.cambridge.org/action/displayIssue?jid=HYG&tab=currentissue
[Reviewed earlier]

**The European Journal of Public Health**
Volume 24, Issue suppl 2, 01 October 2014
http://eurpub.oxfordjournals.org/content/24/suppl_2
Supplement: 7th European Public Health Conference

*Introduction to Glasgow 2014*

We are delighted to introduce this supplement to the European Journal of Public Health which contains the abstracts of papers to be presented at the 7th European Public Health Conference. It includes abstracts for the main part of the conference: plenary sessions; oral sessions (including workshops); pitch sessions; and poster walks.

For Glasgow 2014, we have received a new record in abstracts and workshops: 1025 single abstracts and 75 workshops from 68 countries worldwide. This new record posed an extra challenge to the International Scientific Committee, responsible for the reviewing of the abstracts. The International Scientific Committee of the Glasgow 2014 conference consisted of 59 experts from 20 countries and was chaired by Martin McKee from the UK. We are extremely grateful to them for the hard work this involved. The members of the International Scientific ...

**Eurosurveillance**
Volume 19, Issue 46, 20 November 2014
http://www.eurosurveillance.org/Public/Articles/Archives.aspx?PublicationId=11678
[New issue; No Relevant content]

**Global Health: Science and Practice (GHSP)**
August 2014 | Volume 2 | Issue 3
http://www.ghspjournal.org/content/current
[Reviewed earlier]

**Global Health Governance**
[Accessed 22 November 2014]
http://blogs.shu.edu/ghg/category/complete-issues/summer-2013/
[No new relevant content]

**Global Public Health**
Volume 9, Supplement 1, 2014
http://www.tandfonline.com/toc/rqph20/2014/1

*This Special Supplement is dedicated to all the Afghan and international health workers who sacrificed their lives during the rebuilding of the Afghan health system.*
Globalization and Health
[Accessed 22 November 2014]
http://www.globalizationandhealth.com/

Debate

Contract Research Organizations (CROs) in China: integrating Chinese research and development capabilities for global drug innovation
Yun-Zhen Shi, Hao Hu* and Chunming Wang

Author Affiliations
State Key Laboratory of Quality Research in Chinese Medicine, Institute of Chinese Medical Sciences, University of Macau, Macao, China

Abstract
The significance of R&D capabilities of China has become increasingly important as an emerging force in the context of globalization of pharmaceutical research and development (R&D). While China has prospered in its R&D capability in the past decade, how to integrate the rising pharmaceutical R&D capability of China into the global development chain for innovative drugs remains challenging. For many multinational corporations and research organizations overseas, their attempt to integrate China’s pharmaceutical R&D capabilities into their own is always hindered by policy constraints and reluctance of local universities and pharmaceutical firms. In light of the situation, contract research organizations (CROs) in China have made great innovation in value proposition, value chain and value networking to be at a unique position to facilitate global and local R&D integration. Chinese CROs are now being considered as the essentially important and highly versatile integrator of local R&D capability for global drug discovery and innovation.

Health Affairs
November 2014; Volume 33, Issue 11
http://content.healthaffairs.org/content/current

Collaborating For Community Health
[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 9 - Issue 04 - October 2014
http://journals.cambridge.org/action/displayIssue?jid=HEP&tab=currentissue
[Reviewed earlier]
Health Policy and Planning
Volume 29 Issue 7  October 2014
http://heapol.oxfordjournals.org/content/current
[Reviewed earlier]

Health Research Policy and Systems
http://www.health-policy-systems.com/content
[Accessed 22 November 2014]
[No new relevant content]

Human Vaccines & Immunotherapeutics (formerly Human Vaccines)
September 2014  Volume 10, Issue 9
http://www.landesbioscience.com/journals/vaccines/toc/volume/10/issue/9/
[Reviewed earlier]

Infectious Agents and Cancer
[Accessed 22 November 2014]
http://www.infectagentscancer.com/content
[No new relevant content]

Infectious Diseases of Poverty
[Accessed 22 November 2014]
http://www.idpjournal.com/content

International Health
Volume 6 Issue 3  September 2014
http://inthehealth.oxfordjournals.org/content/6/3.toc
[Reviewed earlier]

International Journal of Epidemiology
Volume 43 Issue 5 October 2014
http://ije.oxfordjournals.org/content/current
[Reviewed earlier]

International Journal of Infectious Diseases
Volume 29, p1 December 2014
http://www.ijidonline.com/current
[Reviewed earlier]
The emergence of Ebola as a global health security threat: From 'lessons learned' to coordinated multilateral containment efforts

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2 University of Florida, Jacksonville, Florida, USA
3 The Ohio State University College of Medicine, Columbus, Ohio, USA
4 SUNY Downstate Medical Center, Brooklyn, New York, USA

Abstract

First reported in remote villages of Africa in the 1970s, the Ebolavirus was originally believed to be transmitted to people from wild animals. Ebolavirus (EBOV) causes a severe, frequently fatal hemorrhagic syndrome in humans. Each outbreak of the Ebolavirus over the last three decades has perpetuated fear and economic turmoil among the local and regional populations in Africa.
Until now it has been considered a tragic malady confined largely to the isolated regions of the African continent, but it is no longer so. The frequency of outbreaks has increased since the 1970s. The 2014 Ebola outbreak in Western Africa has been the most severe in history and was declared a public health emergency by the World Health Organization. Given the widespread use of modern transportation and global travel, the EBOV is now a risk to the entire Global Village, with intercontinental transmission only an airplane flight away. Clinically, symptoms typically appear after an incubation period of approximately 11 days. A flu-like syndrome can progress to full hemorrhagic fever with multiorgan failure, and frequently, death. Diagnosis is confirmed by detection of viral antigens or Ribonucleic acid (RNA) in the blood or other body fluids. Although historically the mortality of this infection exceeded 80%, modern medicine and public health measures have been able to lower this figure and reduce the impact of EBOV on individuals and communities. The treatment involves early, aggressive supportive care with rehydration. Core interventions, including contact tracing, preventive initiatives, active surveillance, effective isolation and quarantine procedures, and timely response to patients, are essential for a successful outbreak control. These measures, combined with public health education, point-of-care diagnostics, promising new vaccine and pharmaceutical efforts, and coordinated efforts of the international community, give new hope to the Global effort to eliminate Ebola as a public health threat. Here we present a review of EBOV infection in an effort to further educate medical and political communities on what the Ebolavirus disease entails, and what efforts are recommended to treat, isolate, and eventually eliminate it.
In their landmark article on measles prevention in emergency settings, Toole and colleagues recommended in 1989 that all children aged 6 months to 5 years should be immunized with measles vaccine at the time they enter an organized camp or settlement [1]. In 2000, Salama and colleagues documented substantial mortality during a famine emergency in Ethiopia, with measles and malnutrition as major contributing factors. In a retrospective study of mortality, measles alone, or in combination with wasting, accounted for 35 (22.0%) of 159 deaths among children younger than 5 years and for 12 (16.7%) of 72 deaths among children aged 5–14 years. The setting was a rural population without routine childhood immunization and exposure to natural measles virus infection [2]. The authors concluded that measles vaccination, in combination with vitamin A distribution, should be implemented in all types of complex emergencies. Vaccination coverage should be 90% and extended to children up to age 12–15 years [2]. A vaccination age range up to 14 years was included in the World Health Organization (WHO)/United Nations Children's Fund (UNICEF) statement to reduce measles mortality in emergencies [3], and the revised SPHERE project guidelines [4]. However, since then, the discussion about target age groups has increasingly included the potential need to vaccinate adults. As early as 2000–2001, Kamugisha and colleagues documented 21% of measles cases that were 16 years and older in a major outbreak in Tanzanian camps with refugees from Burundi [5]. The authors concluded that in some emergency settings, achieving population immunity adequate to prevent virus transmission may require vaccinating persons older than 15 years, and the selection of ...

**Measles Outbreak Response Among Adolescent and Adult Somali Refugees Displaced by Famine in Kenya and Ethiopia, 2011**

Carlos Navarro-Colorado1, Abdirahman Mahamud1,a, Ann Burton2,a, Christopher Haskew3, Gidraf K. Maina4, John B. Wagacha2, Jamal A. Ahmed5,a, Sharmila Shetty1,a, Susan Cookson1, James L. Goodson1, Marian Schilperoord3 and Paul Spiegel3

**Author Affiliations**

1Centers for Disease Control and Prevention (CDC), Atlanta, Georgia
2United Nations High Commissioner for Refugees (UNHCR), Nairobi, Kenya
Abstract
Background
The refugee complexes of Dadaab, Kenya, and Dollo-Ado, Ethiopia, experienced measles outbreaks during June–November 2011, following a large influx of refugees from Somalia.

Methods
Line-lists from health facilities were used to describe the outbreak in terms of age, sex, vaccination status, arrival date, attack rates (ARs), and case fatality ratios (CFRs) for each camp. Vaccination data and coverage surveys were reviewed.

Results
In Dadaab, 1370 measles cases and 32 deaths (CFR, 2.3%) were reported. A total of 821 cases (60.1%) were aged ≥15 years, 906 (82.1%) arrived to the camps in 2011, and 1027 (79.6%) were unvaccinated. Camp-specific ARs ranged from 212 to 506 cases per 100 000 people. In Dollo-Ado, 407 cases and 23 deaths (CFR, 5.7%) were reported. Adults aged ≥15 years represented 178 cases (43.7%) and 6 deaths (26.0%). Camp-specific ARs ranged from 21 to 1100 cases per 100 000 people. Immunization activities that were part of the outbreak responses initially targeted children aged 6 months to 14 years and were later expanded to include individuals up to 30 years of age.

Conclusions
The target age group for outbreak response–associated immunization activities at the start of the outbreaks was inconsistent with the numbers of cases among unvaccinated adolescents and adults in the new population. In displacement of populations from areas affected by measles outbreaks, health authorities should consider vaccinating adults in routine and outbreak response activities.
Case-Control Studies to Assess the Effectiveness of Vaccines
Eugene D. Shapiro

Extract
Before a vaccine is approved for general use, its protective efficacy must be demonstrated, usually in a double-blind, randomized clinical trial, the gold standard for scientific validity [1]. Randomization assures lack of bias in allocation of the exposure (vaccine), whereas blinding assures lack of bias in ascertainment of the outcome (infection). Nevertheless, there are a number of disadvantages, both practical and scientific, to randomized clinical trials to assess the efficacy of vaccines [2]. Because large samples and relatively prolonged follow-up may be necessary for adequate statistical power, these studies are extremely expensive. To limit costs, they often are conducted in select populations with an unusually high incidence of the infection of interest. These and other factors, such as the carefully controlled conditions of an experimental study, may lead to questions about the generalizability of the results of such trials to target populations that differ from that in which the trial was conducted. In addition, because clinical trials of experimental vaccines usually are conducted for only a relatively short period, the efficacy of the vaccine over time rarely is assessed...

Vaccination Rates for Measles, Mumps, Rubella, and Influenza Among Children Presenting to a Pediatric Emergency Department in New York City
Philip Zachariah1,2, Amanda Posner1, Melissa S. Stockwell1,2,3, Peter S. Dayan1, F. Meredith Sonnett1, Philip L. Graham1,2,4,5 and Lisa Saiman2,4

Abstract
We compared measles, mumps, rubella (MMR), and influenza vaccination rates of children presenting to a Pediatric Emergency Department (PED) in New York City with rates from national assessments. MMR and influenza vaccination rates in this PED population were generally comparable to community rates, but lower than Healthy People 2020 targets.

Journal of Pediatrics
Ethical considerations of experimental interventions in the Ebola outbreak

Dr Annette Rid MD a, Prof Ezekiel J Emanuel MD b

[Free full text]

Background

The outbreak of Ebola virus raging in west Africa is special in two respects. First, with more than 2100 infections and 1100 deaths, it has already become the most severe and largest documented Ebola outbreak. It is also occurring in some of the world’s least developed countries, and is therefore extremely complex to address. Second, experimental interventions that are still in the preclinical trial phase—and hence untested in human beings—were first given to health-care workers from high-income countries, focusing extensive attention and controversy on investigational treatments and vaccines for Ebola.

The rapidly evolving situation raises three fundamental questions: how much emphasis should the international community place on experimental interventions in response to the Ebola epidemic; what are the ethical considerations if experimental treatments or vaccines are deployed; and if any interventions prove safe and effective, how can they be made more widely available?...

For debate: a new wave in public health improvement

Sally C Davies MBChB a, Eleanor Winpenny PhD b, Sarah Ball PhD b, Tom Fowler PhD a c d, Jennifer Rubin PhD b, Dr Ellen Nolte PhD b

Summary

The rising burden of chronic disease poses a challenge for all public health systems and requires innovative approaches to effectively improve population health. Persisting inequalities...
in health are of particular concern. Disadvantage because of education, income, or social position is associated with a larger burden of disease and, in particular, multimorbidity. Although much has been achieved to enhance population health, challenges remain, and approaches need to be revisited. In this paper, we join the debate about how a new wave of public health improvement might look. We start from the premise that population health improvement is conditional on a health-promoting societal context. It is characterised by a culture in which healthy behaviours are the norm, and in which the institutional, social, and physical environment support this mindset. Achievement of this ambition will require a positive, holistic, eclectic, and collaborative effort, involving a broad range of stakeholders. We emphasise three mechanisms: maximisation of the value of health and incentives for healthy behaviour; promotion of healthy choices as default; and minimisation of factors that create a culture and environment which promote unhealthy behaviour. We give examples of how these mechanisms might be achieved.

**The Lancet Global Health**  
Nov 2014 Volume 2 Number 11 e616 – 671  
http://www.thelancet.com/journals/langlo/issue/current  
[Reviewed earlier]

**The Lancet Infectious Diseases**  
Nov 2014 Volume 14 Number 11 p1023 - 1162  
http://www.thelancet.com/journals/laninf/issue/current  
[Reviewed earlier]

**Maternal and Child Health Journal**  
Volume 18, Issue 9, November 2014  
http://link.springer.com/journal/10995/18/9/page/1  
[Reviewed earlier]

**Medical Decision Making (MDM)**  
November 2014; 34 (8)  
http://mdm.sagepub.com/content/current  
[New issue; No relevant content]

**The Milbank Quarterly**  
*A Multidisciplinary Journal of Population Health and Health Policy*  
September 2014 Volume 92, Issue 3 Pages 407–631  
[Reviewed earlier]

**Nature**  
Volume 515 Number 7527 pp311-458 20 November 2014
The governors of a number of states, including New York and New Jersey, recently imposed 21-day quarantines on health care workers returning to the United States from regions of the world where they may have cared for patients with Ebola virus disease. We understand their motivation for this policy — to protect the citizens of their states from contracting this often-fatal illness. This approach, however, is not scientifically based, is unfair and unwise, and will impede essential efforts to stop these awful outbreaks of Ebola disease at their source, which is the only satisfactory goal. The governors’ action is like driving a carpet tack with a sledgehammer: it gets the job done but overall is more destructive than beneficial.

Health care professionals treating patients with this illness have learned that transmission arises from contact with bodily fluids of a person who is symptomatic — that is, has a fever, vomiting, diarrhea, and malaise. We have very strong reason to believe that transmission occurs when the viral load in bodily fluids is high, on the order of millions of virions per microliter. This recognition has led to the dictum that an asymptomatic person is not contagious; field experience in West Africa has shown that conclusion to be valid. Therefore, an asymptomatic health care worker returning from treating patients with Ebola, even if he or she were infected, would not be contagious. Furthermore, we now know that fever precedes the contagious stage, allowing workers who are unknowingly infected to identify themselves before they become a threat to their community. This understanding is based on more than clinical observation: the sensitive blood polymerase-chain-reaction (PCR) test for Ebola is often
negative on the day when fever or other symptoms begin and only becomes reliably positive 2 to 3 days after symptom onset. This point is supported by the fact that of the nurses caring for Thomas Eric Duncan, the man who died from Ebola virus disease in Texas in October, only those who cared for him at the end of his life, when the number of virions he was shedding was likely to be very high, became infected. Notably, Duncan's family members who were living in the same household for days as he was at the start of his illness did not become infected.

A cynic would say that all these "facts" are derived from observation and that it pays to be 100% safe and to isolate anyone with a remote chance of carrying the virus. What harm can that approach do besides inconveniencing a few health care workers? We strongly disagree. Hundreds of years of experience show that to stop an epidemic of this type requires controlling it at its source. Médecins sans Frontières, the World Health Organization, the U.S. Agency for International Development (USAID), and many other organizations say we need tens of thousands of additional volunteers to control the epidemic. We are far short of that goal, so the need for workers on the ground is great. These responsible, skilled health care workers who are risking their lives to help others are also helping by stemming the epidemic at its source. If we add barriers making it harder for volunteers to return to their community, we are hurting ourselves.

In the end, the calculus is simple, and we think the governors have it wrong. The health care workers returning from West Africa have been helping others and helping to end the epidemic that has killed thousands of people and scared millions. At this point the public does need assurances that returning workers will have their temperatures and health status monitored according to a set, documented protocol. In the unlikely event that they become febrile, they can follow the example of Craig Spencer, the physician from New York who alerted public health officials of his fever. As we continue to learn more about this virus, its transmission, and associated illness, we must continue to revisit our approach to its control and treatment. We should be guided by the science and not the tremendous fear that this virus evokes. We should be honoring, not quarantining, health care workers who put their lives at risk not only to save people suffering from Ebola virus disease in West Africa but also to help achieve source control, bringing the world closer to stopping the spread of this killer epidemic.

The Pediatric Infectious Disease Journal
http://journals.lww.com/pidj/pages/currenttoc.aspx
[Reviewed earlier]

Pediatrics
November 2014, VOLUME 134 / ISSUE 5
http://pediatrics.aappublications.org/current.shtml
[Reviewed earlier]

Pharmaceutics
Volume 6, Issue 4 (December 2014), Pages 543-
http://www.mdpi.com/1999-4923/6/4
[Reviewed earlier]
Molecular Confirmation of Bacillus Calmette Guerin Vaccine Related Adverse Events among Saudi Arabian Children
Sahal Al-Hajoj mail, Ziad Memish, Naila Abuljadayel, Raafat AlHakeem, Fahad AlRabiah, Bright Varghese
Published: November 19, 2014
DOI: 10.1371/journal.pone.0113472

Abstract
Background
Bacillus Calmette Guerin (BCG) is the only available vaccine for tuberculosis (TB). Low grade complications in healthy recipients and disseminated vaccine associated complications among immuno-suppressed individuals were noticed globally after administration. Recently a series of clinically suspected BCG associated suppurative and non-suppurative lymphadenitis cases were reported from different regions of Saudi Arabia. However a molecular confirmative analysis was lacking to prove these claims.

Methodology
During 2009–2010, 42 Mycobacterium bovis BCG suspected clinical isolates from children diagnosed with suppurative lymphadenitis from different provinces of the country were collected and subjected to 24 loci based MIRU-VNTR typing, spoligotyping and first line anti-TB drugs susceptibility testing.

Principal Findings
Of the total 42 cases, 41 (97.6%) were Saudi nationals and particularly male (64.3%). Majority of the cases were aged below 6 months (83.3%) with a median of age 4 months. All the enrolled subjects showed left axillary mass which suppurated in a median of 4 months after vaccination. Among the study subjects, 1 (2.4%) case was reactive to HIV antigen and 2 (4.8%) case had severe combined immunodeficiency. Genotyping results showed that, 41 (97.6%) isolates were identical to the vaccine strain Danish 1331 and one to Tokyo 172-1. Phylogenetic analysis revealed all the Danish 1331 isolates in a single cluster.

Conclusion
Elevated proportion of suppurative lymphadenitis caused by M. bovis BCG reported in the country recently is majorly related to the vaccine strain Danish 1331. However lack of nationwide data on real magnitude of BCG related adverse events warrants population centric, long term future studies.
Abstract
Up to now, immunization of disease propagation has attracted great attention in both theoretical and experimental researches. However, vast majority of existing achievements are limited to the simple assumption of single layer networked population, which seems obviously inconsistent with recent development of complex network theory: each node could possess multiple roles in different topology connections. Inspired by this fact, we here propose the immunization strategies on multiplex networks, including multiplex node-based random (targeted) immunization and layer node-based random (targeted) immunization. With the theory of generating function, theoretical analysis is developed to calculate the immunization threshold, which is regarded as the most critical index for the effectiveness of addressed immunization strategies. Interestingly, both types of random immunization strategies show more efficiency in controlling disease spreading on multiplex Erdös-Rényi (ER) random networks; while targeted immunization strategies provide better protection on multiplex scale-free (SF) networks.

PLoS Medicine
(Accessed 22 November 2014)
http://www.plosmedicine.org/
[No new relevant content]

PLoS Neglected Tropical Diseases
(Accessed 22 November 2014)
http://www.plosntds.org/
[No new relevant content]

PNAS - Proceedings of the National Academy of Sciences of the United States of America
(Accessed 22 November 2014)
http://www.pnas.org/content/early/
[No new relevant content]

Pneumonia
Vol 5 (2014)
Special Issue “Pneumonia Diagnosis”
[Reviewed earlier]

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
Near-Misses and Future Disaster Preparedness
Robin L. Dillon1,*, Catherine H. Tinsley1 and William J. Burns2,3
Article first published online: 28 APR 2014
DOI: 10.1111/risa.12209

Abstract
Disasters garner attention when they occur, and organizations commonly extract valuable lessons from visible failures, adopting new behaviors in response. For example, the United States saw numerous security policy changes following the September 11 terrorist attacks and emergency management and shelter policy changes following Hurricane Katrina. But what about those events that occur that fall short of disaster? Research that examines prior hazard experience shows that this experience can be a mixed blessing. Prior experience can stimulate protective measures, but sometimes prior experience can deceive people into feeling an unwarranted sense of safety. This research focuses on how people interpret near-miss experiences. We demonstrate that when near-misses are interpreted as disasters that did not occur and thus provide the perception that the system is resilient to the hazard, people illegitimately underestimate the danger of subsequent hazardous situations and make riskier decisions. On the other hand, if near-misses can be recognized and interpreted as disasters that almost happened and thus provide the perception that the system is vulnerable to the hazard, this will counter the basic “near-miss” effect and encourage mitigation. In this article, we use these distinctions between resilient and vulnerable near-misses to examine how people come to define an event as either a resilient or vulnerable near-miss, as well as how this interpretation influences their perceptions of risk and their future preparedness behavior. Our contribution is in highlighting the critical role that people's interpretation of the prior experience has on their subsequent behavior and in measuring what shapes this interpretation.
Feature

Saving lives without new drugs
Jon Cohen

Many people treated for Ebola in West Africa have received bare-bones care in overwhelmed facilities that had few resources, contributing to a case fatality rate (CFR) of about 70%. Of the 20 patients treated in the United States and Europe, only five have died, a CRF of 25%, and the ones who did not recover tended to begin their care at the latest stages of disease. Now, a push is on for what’s dubbed Maximum Use of Supportive Care (MUST), which would offer Ebola patients in West Africa the basic life-saving interventions common in wealthier countries. MUST includes intravenous fluids to combat dehydration; balancing of electrolytes; nasogastric tubes for feedings; and medicines to counter diarrhea, vomiting, and secondary infections like bacterial sepsis and malaria. Estimates suggest that MUST would cost no more than $600 per patient.

Report

Strategies for containing Ebola in West Africa
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5Department of Epidemiology of Microbial Diseases, Yale School of Public Health, New Haven, CT, USA.
6Ministry of Health and Social Welfare, Monrovia, Liberia.

Abstract
The ongoing Ebola outbreak poses an alarming risk to the countries of West Africa and beyond. To assess the effectiveness of containment strategies, we developed a stochastic model of Ebola transmission between and within the general community, hospitals, and funerals, calibrated to incidence data from Liberia. We find that a combined approach of case isolation, contact-tracing with quarantine, and sanitary funeral practices must be implemented with utmost urgency in order to reverse the growth of the outbreak. As of 19 September, under status quo, our model predicts that the epidemic will continue to spread, generating a predicted 224 (134 to 358) daily cases by 1 December, 280 (184 to 441) by 15 December, and 348 (249 to 545) by 30 December.

Report

Antibody landscapes after influenza virus infection or vaccination

Author Affiliations
Abstract
We introduce the antibody landscape, a method for the quantitative analysis of antibody-mediated immunity to antigenically variable pathogens, achieved by accounting for antigenic variation among pathogen strains. We generated antibody landscapes to study immune profiles covering 43 years of influenza A/H3N2 virus evolution for 69 individuals monitored for infection over 6 years and for 225 individuals pre- and postvaccination. Upon infection and vaccination, titers increased broadly, including previously encountered viruses far beyond the extent of cross-reactivity observed after a primary infection. We explored implications for vaccination and found that the use of an antigenically advanced virus had the dual benefit of inducing antibodies against both advanced and previous antigenic clusters. These results indicate that preemptive vaccine updates may improve influenza vaccine efficacy in previously exposed individuals.
Curing cervical cancer or preventing it: A case of opportunity cost in the long run?
Katelijne van de Vooren, Alessandro Curto, Livio Garattini
[No abstract]
A systematic literature review of missed opportunities for immunization in low- and middle-income countries
Shruti Sridhar, Nadira Maleq, Elise Guillermet, Anais Colombini, Bradford D. Gessner
Abstract
Background
Missed opportunities for immunization (MOIs) may contribute to low coverage in diverse settings, including developing countries.
Methods
We conducted a systematic literature review on MOIs among children and women of childbearing age from 1991 to the present in low- and middle-income countries. We searched multiple databases and the references of retrieved articles. Meta-analysis provided a pooled prevalence estimate and both univariate and multivariate meta-regression analysis was done to explore heterogeneity of results across studies.
Results
We found 61 data points from 45 studies involving 41,310 participants. Of the 45 studies, 41 involved children and 10 involved women. The pooled MOI prevalence was 32.2% (95% CI: 26.8–37.7) among children – with no change during the study period – and 46.9% (95% CI: 29.7–64.0%) among women of child-bearing age. The prevalence varied by region and study methodology but these two variables together accounted for only 12% of study heterogeneity. Among 352 identified reasons for MOIs, the most common categories were health care practices, false contraindications, logistic issues related to vaccines, and organizational limitations, which did not vary by time or geographic region.
Conclusions
MOI prevalence was high in low- and middle-income settings but the large number of identified reasons precludes standardized solutions.
Measles – The epidemiology of elimination
David N. Durrheim, Natasha S. Crowcroft, Peter M. Strebel
Abstract
Tremendous progress has been made globally to reduce the contribution of measles to the burden of childhood deaths and measles cases have dramatically decreased with increased two dose measles-containing vaccine coverage. As a result the Global Vaccine Action Plan, endorsed by the World Health Assembly, has targeted measles elimination in at least five of the six World
Health Organisation Regions by 2020. This is an ambitious goal, since measles control requires the highest immunisation coverage of any vaccine preventable disease, which means that the health system must be able to reach every community. Further, while measles remains endemic in any country, importations will result in local transmission and outbreaks in countries and Regions that have interrupted local endemic measles circulation.

One of the lines of evidence that countries and Regions must address to confirm measles elimination is a detailed description of measles epidemiology over an extended period. This information is incredibly valuable as predictable epidemiological patterns emerge as measles elimination is approached and achieved. These critical features, including the source, size and duration of outbreaks, the seasonality and age-distribution of cases, genotyping pointers and effective reproduction rate estimates, are discussed with illustrative examples from the Region of the Americas, which eliminated measles in 2002, and the Western Pacific Region, which has established a Regional Verification Commission to review progress towards elimination in all member countries.

*Are influenza-associated morbidity and mortality estimates for those ≥65 in statistical databases accurate, and an appropriate test of influenza vaccine effectiveness?*

**Review Article**

**Pages 6884-6901**

**Roger E. Thomas**

**Abstract**

**Purposes**

To assess the accuracy of estimates using statistical databases of influenza-associated morbidity and mortality, and precisely measure influenza vaccine effectiveness.

**Principal results**

Laboratory testing of influenza is incomplete. Death certificates under-report influenza. Statistical database models are used as an alternative to randomised controlled trials (RCTs) to assess influenza vaccine effectiveness. Evidence of the accuracy of influenza morbidity and mortality estimates was sought from: (1) Studies comparing statistical models. For four studies Poisson and ARIMA models produced higher estimates than Serfling, and Serfling higher than GLM. Which model is more accurate is unknown. (2) Studies controlling confounders. Fourteen studies mostly controlled one confounder (one controlled comorbidities), and limited control of confounders limits accuracy.

Evidence for vaccine effectiveness was sought from

(1) Studies of regions with increasing vaccination rates. Of five studies two controlled for confounders and one found a positive vaccination effect. Three studies did not control confounders and two found no effect of vaccination. (2) Studies controlling multiple confounders. Of thirteen studies only two found a positive vaccine effect and no mortality differences between vaccinees and non-vaccinees in non-influenza seasons, showing confounders were controlled.

Key problems are insufficient testing for influenza, using influenza-like illness, heterogeneity of seasonal and pandemic influenza, population aging, and incomplete confounder control (co-morbidities, frailty, vaccination history) and failure to demonstrate control of confounders by proving no mortality differences between vaccinees and non-vaccinees in non-influenza seasons.

**Major conclusions**

Improving model accuracy requires proof of no mortality differences in pre-influenza periods between the vaccinated and non-vaccinated groups, and reduction in influenza morbidity and
mortality in seasons with a good vaccine match, more virulent strains, in the younger elderly with less immune senescence, and specific outcomes (laboratory-confirmed outcomes, pneumonia deaths).

Proving influenza vaccine effectiveness requires appropriately powered RCTs, testing participants with RT-PCR tests, and comprehensively monitoring morbidity and mortality.

**Progress towards measles elimination in Singapore**

Original Research Article
Pages 6927-6933
Hanley J. Ho, Constance Low, Li Wei Ang, Jeffery L. Cutter, Joanne Tay, Kwai Peng Chan, Peng Lim Ooi, Koh Cheng Thoon, Kee Tai Goh

**Abstract**

**Objective**

We describe the epidemiological trends of measles in Singapore in relation to its progress towards measles elimination and identify gaps in fulfilling the World Health Organization Western Pacific Regional Office regional measles elimination criteria.

**Methods**

Epidemiological data on measles maintained by the Communicable Diseases Division, Ministry of Health from 1981 to 2012 were collated and analysed. Data on measles vaccination coverage were obtained from the National Immunization Registry and School Health Services, Health Promotion Board. To assess the seroprevalence of the population, the findings of periodic seroepidemiological surveys on measles were traced and reviewed.

**Findings**

With the successful implementation of the National Childhood Immunization Programme using the monovalent measles vaccine, measles incidence declined from 88.5 cases per 100,000 in 1984 to 6.9 per 100,000 in 1991. Resurgences were observed in 1992, 1993 and 1997. A ‘catch-up’ vaccination programme using the trivalent measles, mumps and rubella (MMR) vaccine was conducted in 1997, followed by introduction of the two-dose vaccination schedule in January 1998. Measles incidence subsequently declined sharply to 2.9 per 100,000 in 1998. Vaccination coverage was maintained at 95% for the first dose and 92–94% for the second dose. Seroprevalence surveys showed seropositivity for measles IgG antibodies in over 95% of adults in 2004, and in 83.1% of children aged 1–17 years in 2008–2010. Sporadic cases with occasional clusters of two or more cases continued to occur among the unvaccinated population, especially children aged below 4 years. The predominant measles virus genotype has shifted from D9 to the B3 and G3 genotypes, which are endemic in neighbouring countries.

**Conclusion**

Singapore has made good progress towards the elimination of endemic measles. To further eliminate sporadic cases of measles, the national immunisation schedule has recently been amended to vaccinate children with 2 doses of MMR vaccine before 2 years of age.

**The intention to get vaccinated against influenza and actual vaccination uptake of Dutch healthcare personnel**

Original Research Article
Pages 6986-6991
Birthe A. Lehmann, Robert A.C. Ruiter, Gretchen Chapman, Gerjo Kok

**Abstract**

Health Authorities recommend annual vaccination of healthcare personnel (HCP) against influenza to protect vulnerable patients. Nevertheless, vaccination rates have been low among European HCP. Here we report on a longitudinal survey study to identify social cognitive predictors of the motivation to obtain influenza vaccination, and to test whether intention is a
good predictor of actual vaccination behaviour. Dutch HCP (N = 1370) were invited to participate in a survey (baseline). To link intention to behaviour, participants who completed the first survey (N = 556) were sent a second survey after vaccinations were offered (follow-up). Multinominal regression analysis showed that HCP with a positive attitude and a higher frequency of past vaccinations were more likely to have a high intention to get vaccinated. A negative attitude, high feelings of autonomy in the decision whether to get vaccinated, a preference of inaction over vaccination, a lesser sense of personal responsibility, and high self-protection motives increased the probability of no intention to get vaccinated. Social cognitive predictors were identified that explain the intention to get vaccinated against influenza of HCP, which in turn proved to be a good predictor of behaviour. Future interventions should focus on these variables to increase vaccination coverage rates.

**Pertussis vaccine for adults: Knowledge, attitudes, and vaccine receipt among adults with children in the household**

Original Research Article
Pages 7000-7004
Manika Suryadevara, Cynthia A. Bonville, Donald A. Cibula, Matthew Valente, Andrew Handel, James R. Domachowse, Joseph B. Domachowske

**Abstract**

**Background**
Pertussis is a highly contagious vaccine preventable disease resulting in significant infant morbidity and mortality. Despite the recommendations for pertussis vaccine (Tdap) in adults, coverage rates in this age group remain suboptimal. We sought to determine factors associated with Tdap receipt among adults with children in the household who live in central New York.

**Methods**
The study team surveyed Tdap immunization status of adults who accessed medical services for their children provided by Golisano Children's Hospital, Syracuse, New York. Adults who did not know their Tdap vaccine status were excluded. Each participant was asked a standard set of questions to determine factors associated with Tdap receipt. Logistic regression was used to calculate simple and adjusted odds ratios for Tdap receipt in relation to adults’ demographic characteristics, knowledge of Tdap and physician recommendations.

**Results**
Eight hundred twenty four participants were included in this study; 34% had received Tdap in the past 5 years; 58% reported that their provider or child's pediatrician recommended adult Tdap vaccination. Tdap receipt was associated with knowing the symptoms of pertussis infection, female gender, younger age, and provider recommendation (p < 0.05). Participants whose provider recommended Tdap vaccine were 24.6 times more likely to receive vaccine when compared to those whose providers did not recommend vaccine (95% CI: 16.3, 37.2, p < 0.05).

**Conclusion**
Tdap coverage rates are low among this study population, with provider recommendation most strongly associated with Tdap receipt. Future steps to improve vaccine coverage should include both increasing community awareness and determining barriers to provider recommendation.

**Vaccine: Development and Therapy**
(Accessed 22 November 2014)
http://www.dovepress.com/vaccine-development-and-therapy-journal
[No new relevant content]
Poor adherence to vaccination guidelines in dermatology patients on immunosuppressive therapies: an issue in need of address

M. Sadlier1,*, C. Sadlier2,3, A. Alani1, K. Ahmad1, C. Bergin2,3 and B. Ramsay1
DOI: 10.1111/bjd.13543

Abstract
Patients with skin disease are increasingly prescribed systemic immunosuppressive therapies which can increase their susceptibility to infection. Many of the infections encountered are preventable through comprehensive pre-immunosuppression assessment, pro-active treatment of any identified latent infection, and administration of recommended vaccinations. Despite the availability of both specialty specific consensus immunisation guidelines as well as general guidelines for the immunocompromised individual, which advise routine administration of the influenza and pneumococcal vaccinations to patients taking immunosuppressive therapies as outlined in Table 1, adherence to these recommendations and provision of vaccinations is often poor. This is of concern as influenza infection is responsible for considerable morbidity and mortality annually, and pneumococcal infection is one of the leading causes of death worldwide.

War and Infectious Diseases: Challenges of the Syrian Civil War

Sima L. Sharara, Souha S. Kanj
Published: November 13, 2014
DOI: 10.1371/journal.ppat.1004438

Overview
Syria's ongoing three-year civil war has displaced 6.5 million Syrians, left hundreds of thousands wounded or killed by violence, and created a vacuum in basic infrastructures that will reverberate throughout the region for years to come. Beyond such devastation, the civil war has introduced epidemics of infections that have spread through vulnerable populations in Syria.
and neighboring countries. In this article, we discuss the growing epidemics of poliomyelitis, measles, and cutaneous leishmaniasis in Syria and the region to examine the impact of conditions of war on the spread of infectious diseases in a public health emergency of global concern.

**Special Focus Newsletters**

**RotaFlash - November 21, 2014**

**Lead Story**
Rotavirus infections and related hospitalizations and deaths plummet in Brazil

*New studies show remarkable evidence of rotavirus vaccine impact and effectiveness in Brazil 8 years after introduction of vaccines*

**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://www.aljazeera.com/Services/Search/?q=vaccine](http://www.aljazeera.com/Services/Search/?q=vaccine)

*Accessed 22 November 2014*

[No new, unique, relevant content]

**AP (Associated Press)**

*WHO chief promises transparency in Ebola review*

Associated Press | 19 November 2014

ROME (AP) — The head of the World Health Organization refused Wednesday to respond to criticism about the U.N. agency's performance in containing the Ebola outbreak, saying the focus now should be on helping countries contain it.

Dr. Margaret Chan said the agency would review how the whole world — and the WHO in particular — managed the outbreak "and there will be time for sharing information in a transparent and accountable manner."

"But at this point in time, it is important for us to focus our entire energy and attention to help countries who are being affected to get the job done," she said...

**AP IMPACT: 'Vaccine court' keeps claimants waiting**

Associated Press | 18 November 2014
WASHINGTON (AP) — A system Congress established to speed help to Americans harmed by vaccines has instead heaped additional suffering on thousands of families, The Associated Press has found.

The premise was simple: quickly and generously pay for medical care in the rare cases when a shot to prevent a sickness such as flu or measles instead is the likely cause of serious health complications. But the system is not working as intended.

The AP read hundreds of decisions, conducted more than 100 interviews, and analyzed a database of more than 14,500 cases filed in a special vaccine court. That database was current as of January 2013; the government has refused to release an updated version since...

The Atlantic
http://www.theatlantic.com/magazine/
Accessed 22 November 2014
[No new, unique, relevant content]

BBC
http://www.bbc.co.uk/
Accessed 22 November 2014
[No new, unique, relevant content]

Brookings
http://www.brookings.edu/
Accessed 22 November 2014
[No new, unique, relevant content]

Council on Foreign Relations
http://www.cfr.org/
Accessed 22 November 2014

Book
Ebola: Story of an Outbreak
by Laurie Garrett November 17, 2014
Laurie Garrett offers a masterful account of the 1995 Ebola outbreak in Zaire, and argues these lessons learned must be applied to solve the Ebola crisis of 2014 and to understand one of mankind’s most mysterious, malicious scourges.

DEVEEX
https://www.devex.com/en/
Accessed 22 November 2014
[No new, unique, relevant content]

The Economist
http://www.economist.com/
Accessed 22 November 2014
22 November 2014
[No new, unique, relevant content]

Financial Times
http://www.ft.com
Thankfully—and appropriately—the panic surrounding Ebola in the United States has waned over the past weeks. But the calm doesn’t mean it’s time to move on, though the news cycle may have. All major crises can be teachable moments and now is the time to carefully consider our response to the Ebola outbreak and what we can learn to prevent these types of outbreaks in the future.