



Vaccines and Global Health: The Week in Review
10 December 2016
Center for Vaccine Ethics & Policy (CVEP)

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

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

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

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Milestones :: Perspectives

[Gavi to support immunisation of children in Syria](#)

Gavi Board decisions also taken to strengthen emergency vaccine stockpiles and to accelerate human papillomavirus (HPV) vaccine programme to protect 40 million girls against cervical cancer by 2020

Press Release

Abidjan, 8 December 2016 - Gavi, the Vaccine Alliance has announced a special commitment aligned with the Syrian Humanitarian Response Plan (HRP) to help partners purchase vaccines and cold chain equipment that will protect children living in war-torn Syria from deadly infectious diseases.

"In the absence of a political solution in Syria, and with millions lacking access to the most basic healthcare, we want to help vulnerable children that are now at-risk of deadly preventable diseases," said Dr Ngozi Okonjo-Iweala, Chair of the Gavi Board, which approved the decision on Thursday.

The Board has pledged an annual amount of up to US\$ 25 million for 2017 and 2018 for the procurement of vaccines and cold chain equipment through UNICEF. Partners are aiming to immunise around three million children under the age of five across Syria.

"Gavi stands ready to support humanitarian actors such as UNICEF, World Health Organization (WHO) and civil society organisation and other implementing partners. They are making remarkable efforts on the ground to deliver assistance, reaching millions of people despite significant operational constraints, security issues and funding challenges," added Dr Okonjo-Iweala.

According to WHO and UNICEF, vaccination coverage for the most basic vaccines has plummeted from 80% before the current conflict to 41% in 2015, meaning millions of children in Syria are unvaccinated. As a result, the risk of vaccine-preventable disease mortality has increased and the country faces a high risk of epidemics as evidenced by recent outbreaks of polio, measles and meningitis.

"Syria now has the fourth lowest child vaccination rate in the world," said Dr Seth Berkley, CEO of Gavi. "We must ensure that vaccines reach children in Syria. This tragedy must not be further compounded by the needless loss of lives due to infectious diseases."

Gavi's support will go towards vaccines against diphtheria, tetanus, whooping cough, hepatitis B, Haemophilus influenzae type b (Hib), polio (IPV), measles and rubella.

Gavi operates in many of the most fragile settings, where health needs are often the greatest. The Gavi Board also approved a set of principles for how Gavi operates in fragile settings, in emergency contexts and with displaced populations. The new policy will be developed in the coming months.

Further support for emergency stockpiles and yellow fever vaccine programme

The Gavi Board also responded to the growing number of disease outbreaks in Gavi-supported countries, such as the recent yellow fever epidemic in central Africa, by approving a new approach to Vaccine Alliance support for emergency stockpiles of meningitis, cholera and yellow fever vaccines. For diseases with limited vaccine supply, such stockpiles facilitate rapid access to vaccines during outbreaks.

Under the new approach, Gavi will make long-term funding commitments that allow our partners to plan for the future and also increase the security of supply. All Gavi-supported countries, regardless of their transition phase, will be able to access full vaccine and operational cost support. Other countries will be able to draw on emergency vaccine stockpiles but will be expected to reimburse the costs when the emergency is over.

"Emergency stockpiles can play an essential role both as part of a comprehensive disease control strategy and in maintaining global health security, but they are not a silver bullet," said Dr Berkley. "They should be integrated into a wider strategy that builds better public health systems and improves childhood immunisation through stronger routine immunisation and pre-emptive vaccination campaigns."

Gavi will also strengthen its engagement in support of yellow fever activities with additional funding of up to US\$ 150 million for the period 2016-2020. Since 2000, Gavi has invested more than US\$ 300 million in routine immunisation with yellow fever vaccines in high-risk countries, mass preventive campaigns and emergency stockpiling.

Extended HPV programmes

In another important decision, the Gavi Board approved an acceleration of the human papillomavirus (HPV) vaccine programme that should allow Gavi-supported countries to protect around 40 million girls from cervical cancer by 2020, averting an estimated 900,000 deaths. HPV is the primary cause of cervical cancer, a disease that is responsible for 266,000 deaths annually, mainly in low and middle-income countries. Based on the latest available data, cervical cancer is also the leading cause of cancer death among women in Africa.

Since 2011, Gavi has supported HPV vaccination either through national introductions or through a demonstration programme with limited scope to allow countries to prepare for national scale-up.

Countries will now be able to apply directly for Gavi-funded support for national introductions of HPV vaccine without the need for a demonstration programme. The Vaccine Alliance will also support efforts to vaccinate multiple cohorts of girls between the age of nine and 14 years old in the first year of a programme.

The Board decision represents a response to a recent recommendation by the WHO Strategic Advisory Group of Experts (SAGE) on Immunisation, which offered an opportunity for Gavi to provide wider protection against HPV. By targeting a broader age-range, the Vaccine Alliance expects more rapid indirect herd effects as well as operational efficiencies and economies.

"Gavi has achieved its goal to vaccinate one million girls by 2015," said Dr Okonjo-Iweala. "This is an exciting opportunity to make greater impact against the HPV scourge. In Africa, where

facilities to diagnose and treat cervical cancer are few, HPV vaccines will mean the difference between life and death for so many women in the prime of their lives.”

As of September 2016, 23 Gavi-supported countries have implemented an HPV demonstration programme while Rwanda, Uganda and Honduras have each introduced HPV vaccine into their national immunisation programmes.

Gavi will continue to explore synergies and partnerships with global organisations and initiatives such as Girl Effect, the Global Fund, PEPFAR’s DREAMS programme, the Organisation of African First Ladies Against HIV/ AIDS (OAFLA) to better integrate immunisation with adolescent health interventions.

Gavi welcomes Italy contribution

Statement 01 December 2016

New commitment will support Gavi’s goal of immunising a further 300 million children by 2020.

Gavi gets top rating in UK Aid Review

Statement 01 December 2016

Review commends Gavi’s ‘great success’ in shaping vaccine markets, value for money and transparency.

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Eliminating Cholera Transmission in Haiti

Perspective

Louise C. Ivers, M.D., M.P.H.

NEJM | December 7, 2016

DOI: 10.1056/NEJMp1614104

When Hurricane Matthew struck on October 4, 2016, it left 1.4 million people in southern Haiti in need of urgent humanitarian assistance; it destroyed homes and health care facilities, flooded water sources with runoff, ruined crops, killed livestock, and displaced hundreds of thousands of people. Looming as the next act in the disaster is a resurgence in endemic cholera.

Cholera had not been recorded in Haiti until it was introduced in 2010. The introduction of *Vibrio cholerae* into a population that had never been exposed to cholera and that had extremely limited access to safe water and sanitation had a predictable effect: an explosive cholera epidemic that has killed at least 10,000 people and caused nearly 800,000 reported cases throughout the country.^{[1](#)}

Now in its seventh year, the epidemic has taken an immeasurable toll on individuals, communities, and the health system in Haiti, and the resources for controlling it have been too limited. In 2015, Haiti reported more cases of cholera per population than any other country. In 2016, there were 29,000 cases of cholera in the first 9 months of the year — already a disaster before the hurricane hit. And as is so often the case, the poor have suffered the most. New approaches are needed to address the ongoing problem and mitigate suffering from cholera in Haiti. The hurricane’s aftermath adds urgency to this problem.

On October 13 and 14, 2016, the minister of health and population of Haiti, Daphnee Benoit, convened an expert panel at the U.S. National Institutes of Health to consult on the control of cholera in Haiti with specific reference to the use of vaccines in the aftermath of Hurricane Matthew. Two weeks after Hurricane Matthew, the number of cholera cases had grown, and many were concerned about the impact on human life. The consultation resulted in the following consensus.

The response to Hurricane Matthew must first and foremost address the victims' need for humanitarian relief, through provision of food, shelter, and clean water to those who lack these lifesaving essentials. Rallying emergency clean-water activities to combat the known risk of cholera in the immediate phase is an important strategy. We should assume, at least initially, that there has been further contamination of freshwater sources in Haiti's southern peninsula. Ensuring that people have access to and use effectively chlorinated water, with safe water storage at home (or in shelters), is a critical lifesaving objective.

There is a simultaneous need to ensure that cholera treatment centers and oral rehydration posts are functional. After the hurricane, many of these facilities will have to be rebuilt; resupplied with rehydration fluids, antibiotics, and zinc for children; and supported with staff to perform effective case finding in the community and rapid treatment of the sick. These strategies have not changed since the beginning of the cholera epidemic in 2010, although in recent years resources to implement them have dwindled.

When the cholera epidemic began in Haiti, and for some years afterward, there was a lack of consensus on the role that oral cholera vaccine (OCV) could play in the response. One clear issue, however, was that the supply of vaccine was very limited, and there was limited experience in using OCVs in response to outbreaks. Furthermore, the fact that the most affordable vaccine had not yet met prequalification requirements of the World Health Organization (WHO) meant that the United Nations Children's Fund (UNICEF) and other United Nations agencies could not purchase it.

Since that time, a number of developments have enhanced our ability to control the epidemic in Haiti. **Two safe, effective OCVs are now available at an affordable cost (\$1.70 to \$1.85 per dose), are prequalified by the WHO, and are available in increasing quantities.** The products are essentially the same vaccine, made by different manufacturers. Shanchol (Shantha Biotechnics, India) was prequalified in 2011. In 2013, a 2-million-dose OCV stockpile was established as a public good to manage the vaccine. Euvichol (Eubiologics, South Korea) was prequalified by the WHO in 2015, and the manufacturer recently announced that it could produce 25 million single-dose vials per year that remain stable at 37°C for 30 days, avoiding waste and enabling delivery to the most remote areas without requiring a stringent cold chain. Other OCVs are available (VaxChora, PaxVax, United States; Dukoral, Valneva, Sweden) but at this time are not considered practical for major public health use in resource-poor settings.

Finally, a series of studies with OCVs in Haiti have demonstrated the efficacy of the Shanchol vaccine in both urban and rural settings, the feasibility of achieving high coverage rates, and the low cost of delivering this vaccine to the population. In one of the poorest urban slums of Haiti, not a single case of culture-confirmed cholera occurred between September 2013 and

August 2016 in persons who had received a combined intervention ensuring household chlorination and cholera vaccination.²⁻⁴ This research complements other recent OCV studies from Guinea and South Sudan.

This information fundamentally changes the way health authorities should now consider the use of OCV in controlling cholera. Mass vaccination in Haiti would save lives, and modeling suggests that such an intervention, coupled with targeted, effective water, sanitation, and hygiene interventions, could substantially control, if not eliminate, the disease within a few years of the program's introduction, at an affordable cost. This medium-term plan will have to be undertaken in concert with a long-term effort to realize the human right of access to clean water, a goal that will require a substantial budget and years, if not decades, to accomplish. Control of cholera was a problem in Haiti for the 6 years before Hurricane Matthew — not only because there were insufficient resources, but also owing to the enormity of the challenge of redressing the population's severely constrained access to clean water and sanitation.

One million doses of OCV were requested by the Haitian Ministry of Public Health and Population and authorized as part of the emergency response to Hurricane Matthew.⁵ Two shipments of 500,000 doses arrived in Haiti on October 24 and 25, 2016, and the vaccines have been deployed by the Ministry of Health and its partners for urgent use. We of the Special Consulting Group to the Minister of Health and Population of Haiti commend the mass-vaccination approach in the hurricane-affected areas of the south of Haiti as one part of a comprehensive emergency response. In light of recent data on vaccine efficacy, the feasibility of vaccinating in outbreak settings, and the increased availability of safe, effective, and low-cost vaccines, we urge, in addition to an emergency response to cholera in the hurricane-affected communities, that intense and reinvigorated support be provided to the government's National Plan for the Elimination of Cholera in Haiti, including a nationwide two-dose oral cholera vaccination campaign.

Over the past six decades, several public health programs in Haiti (e.g., those focused on HIV care and treatment and control of neglected tropical diseases) have provided models for the world. The increased availability of OCVs and their rollout in a national program could provide an opportunity for the government of Haiti and the international community to demonstrate another successful strategy: comprehensive national OCV coverage combined with targeted water, sanitation, and hygiene interventions could eliminate the transmission of cholera in Haiti over the next 3 to 5 years at an affordable cost (some estimates suggest approximately \$66 million). This goal is surely one to aspire to, given the human cost of maintaining the status quo.

Eliminating cholera transmission in Haiti with a combined, integrated approach at the population level would be a major achievement for the government and people of Haiti. It would also have broad implications for the control of cholera in other affected populations around the world. The time for ambitious action on cholera control and elimination in Haiti is now.

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PLoS One

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

[Accessed 10 December 2016]

Research Article

Routine Vaccination Coverage in Northern Nigeria: Results from 40 District-Level Cluster Surveys, 2014-2015

Rajni Gunnala, Ikechukwu U. Ogbuanu, Oluwasegun J. Adegoke, Heather M. Scobie, Belinda V. Uba, Kathleen A. Wannemuehler, Alicia Ruiz, Hashim Elmousaad, Chima J. Ohuabunwo, Mahmud Mustafa, Patrick Nguku, NdadiInasiya Endie Waziri, John F. Vertefeuille

| published 09 Dec 2016 PLOS ONE

<http://dx.doi.org/10.1371/journal.pone.0167835>

Abstract

Background

Despite recent success towards controlling poliovirus transmission, Nigeria has struggled to achieve uniformly high routine vaccination coverage. A lack of reliable vaccination coverage data at the operational level makes it challenging to target program improvement. To reliably estimate vaccination coverage, we conducted district-level vaccine coverage surveys using a pre-existing infrastructure of polio technical staff in northern Nigeria.

Methods

Household-level cluster surveys were conducted in 40 polio high risk districts of Nigeria during 2014–2015. Global positioning system technology and intensive supervision by a pool of qualified technical staff were used to ensure high survey quality. Vaccination status of children aged 12–23 months was documented based on vaccination card or caretaker's recall. District-level coverage estimates were calculated using survey methods.

Results

Data from 7,815 children across 40 districts were analyzed. District-level coverage with the third dose of diphtheria-pertussis-tetanus vaccine (DPT3) ranged widely from 1–63%, with all districts having DPT3 coverage below the target of 80%. Median coverage across all districts for each of eight vaccine doses (1 Bacille Calmette-Guérin dose, 3 DPT doses, 3 oral poliovirus vaccine doses, and 1 measles vaccine dose) was <50%. DPT3 coverage by survey was substantially lower (range: 28%–139%) than the 2013 administrative coverage reported among children aged <12 months. Common reported reasons for non-vaccination included lack of knowledge about vaccines and vaccination services (50%) and factors related to access to routine immunization services (15%).

Conclusions

Survey results highlighted vaccine coverage gaps that were systematically underestimated by administrative reporting across 40 polio high risk districts in northern Nigeria. Given the limitations of administrative coverage data, our approach to conducting quality district-level coverage surveys and providing data to assess and remediate issues contributing to poor vaccination coverage could serve as an example in countries with sub-optimal vaccination coverage, similar to Nigeria.

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Emergencies

WHO Grade 3 Emergencies [to 10 December 2016]

Iraq

:: WHO supports overwhelmed primary health care centre in Mosul with lifesaving medicines and medical supplies

4 December 2016 – WHO has successfully delivered life-saving medicines and medical supplies inside Mosul city. The shipment, enough to treat almost 13 000 patients, includes chronic disease medicines, antibiotics, medicines and supplies to treat trauma injuries.

The Syrian Arab Republic -

:: WHO responds to increasing health needs in Aleppo

4 December 2016 -- More than 250 000 people in besieged eastern Aleppo city are facing dwindling supplies of food, medicine, water and fuel. All ten of eastern Aleppo's hospitals are closed or barely functional, depriving thousands of people of access to life-saving trauma care, major surgeries, and treatment for other serious health conditions. As the humanitarian situation deteriorates, an estimated 31 500 people have been internally displaced. In the western part of the city, where civilians are facing escalating violence, hospitals are overwhelmed with wounded patients.

Nigeria - *No new announcements identified.*

South Sudan - *No new announcements identified.*

Yemen - *No new announcements identified.*

WHO Grade 2 Emergencies [to 10 December 2016]

Ethiopia -

:: Ethiopia needs major health support to stop devastation from El Niño

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

Cameroon - *No new announcements identified.*

Central African Republic - *No new announcements identified.*

Democratic Republic of the Congo - *No new announcements identified.*

Libya - *No new announcements identified.*

Myanmar - *No new announcements identified.*

Niger - *No new announcements identified.*

Ukraine - *No new announcements identified.*

UN OCHA – L3 Emergencies

The UN and its humanitarian partners are currently responding to three 'L3' emergencies. This is the global humanitarian system's classification for the response to the most severe, large-scale humanitarian crises.

Iraq

:: Iraq: Humanitarian Bulletin, November 2016 | Issued on 10 December

HIGHLIGHTS

..Mosul military operations enter their second month; the ongoing fighting is taking a high toll on civilians.

..Humanitarian partners are providing assistance wherever access allows.

..Well-funded and effective humanitarian assistance will be critical as the crisis deepens; humanitarian partners are revising funding priorities for the coming year.

...About 90,000 people flee from Mosul

:: Iraq: Mosul Humanitarian Response Situation Report #10 (28 November - 4 December 2016)

Syria

:: Syrian Arab Republic: Aleppo - Situation Report No. 5 (10 December 2016)

:: Syria IDP Operations: 2016. Valid as of November 5/12/2016 10 Dec 2016

:: Statement on the situation in Aleppo, Syria - UN Humanitarian Chief 9 Dec 2016

Yemen

:: UN OCHA allocates \$58 million to support 3 million people with life-saving assistance in Yemen [EN/AR]

Sana'a, December 8, 2016 – The United Nations Office for the Coordination of Humanitarian Affairs (OCHA) has allocated a total of \$58 million through the Humanitarian Pooled Fund for life-saving activities across Yemen.

With a staggering 18.8 million people in need of humanitarian assistance, including 10.3 million in acute need, the people of Yemen continue to suffer as a result of 19 months of conflict. More than three million people have been displaced and basic service provision is collapsing. Only 45 per cent of health facilities are currently functioning, and hunger is gripping over 14 million people, half of whom do not know where their next meal will come from. Malnutrition has soared by over 60 percent since late 2015, affecting over three million people, including 460,000 severely malnourished children under five.

The Humanitarian Pooled Fund will help address this devastating situation through the financing of 31 projects in the sectors of nutrition, food, water, sanitation, and health targeting a total of 3 million people. The projects target the most vulnerable people in need of assistance in 15 priority governorates across the country, including under-served governorates such as Shabwah, Dhamar, Al-Jawf and Marib.

Nine national NGOs (\$7 million), fifteen international NGOs (\$28 million) and six UN agencies (\$23 million) will implement the projects. In line with OCHA's commitments to the outcomes of the World Humanitarian Summit, nine local responders are being supported through direct funding and a total of \$3.8 million will be sub-granted to 28 national NGOs. Trainings and other capacity building are included in the support to national NGOs....

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Zika virus [to 10 December 2016]

<http://www.who.int/emergencies/zika-virus/en/>

Zika situation report – 8 December 2016

Full report: <http://apps.who.int/iris/bitstream/10665/251811/1/zikasitrep1Dec2016-eng.pdf?ua=1>

Key Updates

:: Countries and territories reporting mosquito-borne Zika virus infections for the first time in the past week:

... None

:: Countries and territories reporting microcephaly and other central nervous system (CNS) malformations potentially associated with Zika virus infection for the first time in the past week:
... Nicaragua
:: Countries and territories reporting Guillain-Barré syndrome (GBS) cases associated with Zika virus infection for the first time in the past week:
... Nione

On 1 December, the United Kingdom of Great Britain and Northern Ireland reported the first case of person-to-person transmission of Zika virus. The case had no history of travel outside the country in the six months prior to symptom onset. The partner of the case had recently travelled to areas which have reported recent Zika virus circulation.

Analysis

:: Overall, the global risk assessment has not changed. Zika virus continues to spread geographically to areas where competent vectors are present. Although a decline in cases of Zika infection has been reported in some countries, or in some parts of countries, vigilance needs to remain high.

Zika Open [to 10 December 2016]
[Bulletin of the World Health Organization]
:: All papers available here
No new papers identified.

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EBOLA/EVD [to 10 December 2016]
<http://www.who.int/ebola/en/>
"Threat to international peace and security" (UN Security Council)

Editor's Note:

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

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POLIO [to 10 December 2016]
Public Health Emergency of International Concern (PHEIC)

Polio this week as of 7 December 2016

:: The Strategic Advisory Group of Experts on immunization (SAGE) has published its most recent recommendations: in light of the global supply constraints of inactivated polio vaccine

(IPV), SAGE strongly recommended that countries start preparing for two doses of fractional IPV (fIPV) in lieu of a single full dose. Various studies have now demonstrated that two doses of fIPV is better than one full dose of IPV at boosting not just humoral immunity, but in OPV-primed populations also mucosal immunity (critical to interrupting virus transmission in a community). This approach could significantly improve the global IPV supply situation, by reducing the volume of IPV needed to cover a population. Some countries are already increasing their use of fIPV, both in routine and supplementary immunization activities. FIPV, alongside OPV, has also been shown to be an effective tool in outbreak settings and can be operationally implemented even in supplementary immunization activities.

:: Health workers in conflict-affected areas continue to work towards containment of poliovirus and surveillance in the face of tremendous security challenges. Accounts of their work formed a highlight of the meeting of the WHO Regional Office for the Eastern Mediterranean last week on next steps to implement the WHO Global Action Plan for Poliovirus Containment (GAP III) and its newly released Containment Certification Scheme (CCS) and to update National Action Plans for containment. Polio National Certification Chairs, National Coordinators for containment and major laboratories and facilities were in attendance.

Country Updates [Selected Excerpts] ***Pakistan***

:: In the past week, two new WPV1 positive environmental samples were reported, from Peshawar, Khyber Pakhtunkhwa (KP) and Multan, southern Punjab (collected on 10 and 8 November, respectively). In total, 50 environmental samples have tested positive in 2016, across the country.

:: The sample from Multan is genetically an 'orphan' virus, linked to a strain last detected in 2014 in both Sindh and Punjab provinces.

:: Such detections confirm that the efforts being achieved in the country must be further built on, both in terms of filling residual immunity gaps and in strengthening subnational surveillance.

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Yellow Fever [to 10 December 2016]
<http://www.who.int/emergencies/yellow-fever/en/>

Editor's Note:

The last situation report was published 28 October 2016 here: [Yellow fever situation report](#) We will maintain this section to monitor for additional updates and other announcement.

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MERS-CoV [to 10 December 2016]
<http://www.who.int/emergencies/mers-cov/en/>

WHO: [Global summary and risk assessment](#)
5 December 2016

[Excerpt, p.7]

Recommendations

A number of epidemiologic investigations into the transmission patterns of MERS-CoV have been conducted and published and more studies are planned/underway. WHO hopes that these investigations can be shared with affected countries dealing with MERS-CoV and published quickly. The most urgent needs remain: a better understanding of how humans become infected from animal or environmental source(s) in the community; identification of risk factors for infection from humans or the environment in occupational settings and health care settings; and enhancement of community studies and surveillance for community-acquired pneumonia.

Collaboration between human and animal health sectors in affected countries is essential to understanding the risk of transmission of MERS-CoV between animals and humans, whether there is any seasonal variation in the circulation of the virus in animals and the natural reservoir(s) of MERS-CoV. It is also important to work towards limiting the spread of infection in animal populations (through development of vaccines and better management of infected animals/herds) so as to reduce the opportunity for further human exposure.

In addition, a better understanding of transmission in health care settings, especially the exposures that result in human-to-human transmission, the potential role of asymptomatic PCR-positive health care workers and the possible role of environmental contamination, is urgently needed...

Disease outbreak news

:: Middle East respiratory syndrome coronavirus (MERS-CoV) – Oman 8 December 2016

:: Middle East respiratory syndrome coronavirus (MERS-CoV) – Saudi Arabia 5 December 2016

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WHO & Regional Offices [to 10 December 2016]

Act with Ambition: Universal Health Coverage (UHC) Day 2016

10 December 2016 – UHC means that all individuals and communities receive the health services they need without suffering financial hardship. On 12 December 2016, for the UHC Day, WHO and partners will demand political action from leaders to invest in policies and health systems that reach every person and community based on need, and not ability to pay.

Environmentally and socially responsible procurement

7 December 2016 – WHO today joined other international agencies in signing a Statement of Intent to align and “green” procurement of health commodities, in an effort to protect the environment and contribute to sustainable development. WHO and its sister UN agencies collectively procure an estimated \$3 billion in health commodities each year.

News release

Highlights

First WHO prequalified hepatitis C rapid test opens the door to expanded treatment

December 2016 – WHO has prequalified its first hepatitis C virus (HCV) rapid diagnostic test, a tool that will aid diagnosis of HCV in low- and middle-income countries and improve access to treatment.

[Weekly Epidemiological Record, 9 December 2016, vol. 91, 49/50 \(pp. 585–600\)](#)

:: [Schistosomiasis and soil-transmitted helminthiases: number of people treated in 2015](#)

:: [Taenia solium: WHO endemicity map update](#)

:: WHO Regional Offices

Selected Press Releases, Announcements

WHO African Region AFRO

:: [WHO and OAFLA step up actions to further improve health in Africa](#)

Brazzaville, 07 December 2016 – Experts from the World Health Organization Regional Office for Africa (WHO/AFRO) and the Organization of African First Ladies against HIV/AIDS (OAFLA) are meeting in Brazzaville, Congo from 7-8 December 2016 to discuss a range of health priorities and actions that both parties will jointly embark on to improve the health of people in Africa...

WHO Region of the Americas PAHO

No new announcements identified.

WHO South-East Asia Region SEARO

:: [Indonesia - Earthquake in Aceh on 7 December 2016](#)

The US Geological Survey reported a 6.5-magnitude, undersea earthquake in Indonesia's province of Aceh early Wednesday (7 December 2016) around 05:00 hours local time. The epicenter was 12 miles (19 kilometers) southeast of the town of Sigli and 106 km southeast of the city of Banda Aceh at a depth of 15 km in Aceh province. At least five aftershocks followed the quake...

Indonesia's National Disaster Management Agency (BNPB) reported that 25 people died and that 97 buildings have either collapsed or have been heavily damaged (including six mosques and one school). The most heavily affected district is Pidie Jaya district of Nangroe Aceh Darussalam Province. Around 150 injured have been hospitalized in Pidie and Pidie Jaya hospitals.

[Situation Report 3, 9 December 2016 pdf, 653kb](#)

WHO European Region EURO

:: [Estonia tackles obesity with tax on sugar-sweetened beverages](#) 09-12-2016

:: [Universal Health Coverage Day: building efficient health systems that provide access to quality care without financial hardship](#) 09-12-2016

:: [Day 1: Working together for better health and well-being](#) 08-12-2016

:: [Crown Princess Mary of Denmark and WHO Regional Director for Europe encourage Moldovan parents to continue vaccinating their children](#) 07-12-2016

:: [Europe commits to leaving no child behind](#) 07-12-2016

WHO Eastern Mediterranean Region EMRO

:: [WHO supports overwhelmed primary health care centre in Mosul with lifesaving medicines and medical supplies](#)

4 December 2016 – WHO has successfully delivered life-saving medicines and medical supplies inside Mosul city. The shipment, enough to treat almost 13 000 patients, includes chronic disease medicines, antibiotics, medicines and supplies to treat trauma injuries.

Reproductive health items were provided by the United Nations Population Fund. As displacement from Mosul continues to take place, the health needs of hundreds of thousands of people will significantly increase, overburdening an already overstretched health system, and leaving many men, women and children at risk.

WHO Western Pacific Region

:: WHO and the Republic of Korea mark seven decades of strong partnership in health

SEOUL, 5 December 2016 – The World Health Organization (WHO) and the Republic of Korea have today launched a commemorative book to celebrate their fruitful and robust partnership. Titled 70 Years Working Together for Health – the World Health Organization and the Republic of Korea, the book reviews seven decades of cooperation between the Republic of Korea and WHO, and highlights key achievements and challenges in their joint quest to champion public health.

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CDC/ACIP [to 10 December 2016]

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

<https://www.cdc.gov/vaccines/acip/>

Press Release

FRIDAY, DECEMBER 9, 2016

Flu vaccine coverage remains low this year

As of early November, only about 2 out of 5 people in the United States reported having gotten this season's flu vaccine, yet flu vaccine offered substantial benefit last season...

Media Statement

FRIDAY, DECEMBER 9, 2016

CDC updates Zika guidance for South Miami Beach (FL) area

The Centers for Disease Control and Prevention (CDC) has updated guidance for people who travel to or live in the previously identified area of South Miami Beach, FL. This area...

Media Statement

FRIDAY, DECEMBER 9, 2016

Evidence that Microcephaly Risk is Highest among Pregnant Women Infected Early in Pregnancy

Colombia has experienced a 4-fold increase overall in microcephaly following the Zika virus outbreak in 2016, according to a study published today in the CDC's Morbidity and Mortality Weekly Report....

MMWR Weekly December 9, 2016 / No. 48

:: Influenza Vaccination Coverage During Pregnancy — Selected Sites, United States, 2005–06 Through 2013–14 Influenza Vaccine Seasons

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.....

Announcements

IVI [to 10 December 2016]

<http://www.ivi.int/>

[undated]

New method helps compare cholera vaccine costs

Every year around the world, up to 4 million people are diagnosed with cholera, an acute diarrheal disease that's usually spread through contaminated water in developing countries. In the long term, advances in water supply and sanitation are thought to be the ideal way to control the spread of the disease, but a handful of vaccines have also been developed—or are in development—to prevent cholera. Now, researchers have described, in PLOS Neglected Tropical Diseases, a standardized method to analyze the full costs for the implementation and delivery of cholera vaccines in low and middle income countries. The approach, they hope, will be a boon to programs planning or reviewing vaccination efforts.

In the new work, Vittal Mogasale, of International Vaccine Institute, South Korea, and colleagues reviewed ten previous papers outlining cholera vaccine programs in low and middle income countries—those with a gross national income per capita of \$4,035 or less. For each vaccine deployment, costs described in the previous papers were categorized into four groups: vaccination program preparation, vaccine administration, adverse events following immunization, and vaccine procurement. Within each group, costs for various subgroups were also tallied. The researchers presented overall vaccination program costs as the sum of all categories, and converted the numbers from local currencies to both 2014 US dollars and 2014 international dollars.

The researchers found a wide variability in costs between different cholera vaccination efforts. Vaccine delivery costs—the sum of preparation, administration, and adverse event costs—ranged from US\$0.36 to US\$6.32 per person vaccinated, while the vaccine procurement costs ranged from US\$0.29 to US\$29.70. Costs were varied even between different efforts in the same country, they found. The scale of vaccination efforts only partially explained differences. The study, offering numbers for those outlining the budgets of future efforts, was limited by the fact that the categories were not standardized from the outset and so some budget items could have been misclassified.

“Understanding the costs of cholera vaccination campaigns is of paramount importance in the economic evaluation as well as in planning future vaccination programs,” the researchers conclude. “The categories described herein allow for a clear, comparative understanding of vaccination campaign costs that can better describe decision-making.”

[See abstract from PLOS Neglected Tropical Diseases in Journal Watch below]

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Industry Watch [to 10 December 2016]

:: Inovio MERS Vaccine Development to be Expanded with Funding from International Vaccine Institute

PLYMOUTH MEETING, Pa., Dec. 06, 2016 (GLOBE NEWSWIRE) -- Inovio Pharmaceuticals, Inc. (NASDAQ:INO) today announced that the International Vaccine Institute (IVI) will provide new funding and support to further advance GLS-5300, Inovio's vaccine to prevent Middle East Respiratory Syndrome (MERS) virus infection. Inovio is co-developing this vaccine with GeneOne Life Science. IVI will add technical, laboratory and financial support for GLS-5300 clinical trials in Korea.

Inovio, GeneOne and its academic collaborators have evaluated GLS-5300 in mice, rhesus macaques and camels. As published in Science Translational Medicine, the vaccine induced robust immune responses in all three species. GLS-5300 has been specifically able to induce 100% protection from a live virus challenge in a rhesus macaque non-human primate study. The results of the non-human primate study supported the conduct of the first phase I clinical trial of 75 healthy volunteers in collaboration with the Walter Reed Army Institute of Research.

Dr. J. Joseph Kim, Inovio's President & CEO and a member of the Board of Trustees of IVI, said, "This collaborative funding is part of a 41 billion Won (USD \$34 million) grant publicly pledged in 2015 from the Samsung Foundation to IVI to support the development of a MERS vaccine for emergency use in Korea and internationally. The goal of this funding is to expand clinical testing of GLS-5300 toward emergency use authorization by the Korean government as well as authorities of other countries."...

.....

FDA [to 10 December 2016]

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

What's New for Biologics

Influenza Virus Vaccine for the 2016-2017 Season

Updated: 12/7/2016

Cumulative 2016/2017 Season Lot Release Status (Updated 12/7/2016)

Flu vaccine lots that have been released by FDA and are available for distribution by the manufacturers

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European Vaccine Initiative [to 10 December 2016]

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

08 December 2016

NIBSC makes new influenza reagent available

The following influenza reagents are now available on the NIBSC website:

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AERAS [to 10 December 2016]

<http://www.aeras.org/pressreleases>

No new digest content identified.

BMGF - Gates Foundation [to 10 December 2016]

<http://www.gatesfoundation.org/Media-Center/Press-Releases>

No new digest content identified.

Coalition for Epidemic Preparedness Innovations (CEPI) [to 10 December 2016]

<http://cepi.net/>

No new digest content identified.

EDCTP [to 10 December 2016]

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

The European & Developing Countries Clinical Trials Partnership (EDCTP) aims to accelerate the development of new or improved drugs, vaccines, microbicides and diagnostics against HIV/AIDS, tuberculosis and malaria as well as other poverty-related and neglected infectious diseases in sub-Saharan Africa, with a focus on phase II and III clinical trials.

No new digest content identified.

European Medicines Agency [to 10 December 2016]

<http://www.ema.europa.eu/>

No new digest content identified.

Fondation Merieux [to 10 December 2016]

<http://www.fondation-merieux.org/news>

Mission: Contribute to global health by strengthening local capacities of developing countries to reduce the impact of infectious diseases on vulnerable populations.

No new digest content identified.

GHIT Fund [to 10 December 2016]

<https://www.ghitfund.org/>

GHIT was set up in 2012 with the aim of developing new tools to tackle infectious diseases that devastate the world's poorest people. Other funders include six Japanese pharmaceutical companies, the Japanese Government and the Bill & Melinda Gates Foundation.

No new digest content identified.

Global Fund [to 10 December 2016]

<http://www.theglobalfund.org/en/news/?topic=&type=NEWS;&country=>

No new digest content identified.

Hilleman Laboratories [to 10 December 2016]

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

No new digest content identified

Human Vaccines Project [to 10 December 2016]

<http://www.humanvaccinesproject.org/media/press-releases/>

No new digest content identified

IAVI – International AIDS Vaccine Initiative [to 10 December 2016]

<https://www.iavi.org/>

No new digest content identified

IFPMA [to 10 December 2016]

<http://www.ifpma.org/resources/news-releases/>

No new digest content identified

NIH [to 10 December 2016]

<http://www.nih.gov/news-events/news-releases>

December 1, 2016

No new digest content identified.

PATH [to 10 December 2016]
<http://www.path.org/news/index.php>
No new digest content identified

UNICEF [to 10 December 2016]
http://www.unicef.org/media/media_89711.html
No new digest content identified.

The Vaccine Confidence Project [to 10 December 2016]
<http://www.vaccineconfidence.org/>
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

No new digest content identified.

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Journal Watch

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

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

American Journal of Infection Control

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

American Journal of Preventive Medicine

December 2016 Volume 51, Issue 6, p865-1090, e155-e186

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

[Reviewed earlier]

American Journal of Public Health

Volume 106, Issue 12 (December 2016)

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

[Reviewed earlier]

American Journal of Tropical Medicine and Hygiene

December 2016; 95 (6)

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

Articles

[Evaluation of Knowledge and Practices Regarding Cholera, Water Treatment, Hygiene, and Sanitation Before and After an Oral Cholera Vaccination Campaign—Haiti, 2013–2014](#)

Lana Childs, Jeannot François, Alina Choudhury, Kathleen Wannemuehler, Amber Dismer, Terri B. Hyde, Catherine Y. Yen, Kashmira A. Date, Stanley Juin, Mark A. Katz, Erica Felker Kantor, Janell Routh, Melissa Etheart, Tracie Wright, Paul Adrien, and Rania A. Tohme

Abstract

In 2013, the Government of Haiti implemented its first oral cholera vaccine (OCV) campaign in Petite Anse, an urban setting, and Cerca Carvajal, a rural commune. We conducted and compared responses to two independent cross-sectional knowledge and practices household surveys pre- (N=297) and post- (N=302) OCV campaign in Petite Anse. No significant differences in knowledge about causes, symptoms, and prevention of cholera were noted. Compared with precampaign respondents, fewer postcampaign respondents reported treating (66% versus 27%, $P<0.001$) and covering (96% versus 89%, $P=0.02$) their drinking water. Compared with precampaign, postcampaign survey household observations showed increased availability of soap (16.2% versus 34.5%, $P=0.001$) and handwashing stations (14.7% versus 30.1%, $P=0.01$), but no significant changes in handwashing practices were reported. Although there was no change in knowledge, significant decreases in water treatment practices necessary for cholera and other diarrheal diseases prevention were noted in the postcampaign survey. Future OCV campaigns in Haiti should be used as an opportunity to emphasize the importance of maintaining good water, sanitation, and hygiene practices, and include a comprehensive, integrated approach for cholera control.

Articles

[Burden of Diarrhea in the Eastern Mediterranean Region, 1990–2013: Findings from the Global Burden of Disease Study 2013](#)

Ibrahim Khalil, Danny V. Colombara, Mohammad Hossein Forouzanfar, et al.

Am J Trop Med Hyg 2016 95:1319-1329; Published online October 10, 2016,

doi:10.4269/ajtmh.16-0339

OPEN ACCESS ARTICLE

Abstract

Diarrheal diseases (DD) are leading causes of disease burden, death, and disability, especially in children in low-income settings. DD can also impact a child's potential livelihood through stunted physical growth, cognitive impairment, and other sequelae. As part of the Global Burden of Disease Study, we estimated DD burden, and the burden attributable to specific risk factors and particular etiologies, in the Eastern Mediterranean Region (EMR) between 1990 and 2013. For both sexes and all ages, we calculated disability-adjusted life years (DALYs), which are the sum of years of life lost and years lived with disability. We estimate that over 125,000 deaths (3.6% of total deaths) were due to DD in the EMR in 2013, with a greater burden of DD in low- and middle-income countries. Diarrhea deaths per 100,000 children under 5 years of age ranged from one (95% uncertainty interval [UI]=0–1) in Bahrain and Oman to 471 (95% UI=245–763) in Somalia. The pattern for diarrhea DALYs among those under 5 years of age closely followed that for diarrheal deaths. DALYs per 100,000 ranged from 739 (95% UI=520–989) in Syria to 40,869 (95% UI=21,540–65,823) in Somalia. Our results highlighted a highly inequitable burden of DD in EMR, mainly driven by the lack of access to proper resources such as water and sanitation. Our findings will guide preventive and treatment interventions which are based on evidence and which follow the ultimate goal of reducing the DD burden.

Annals of Internal Medicine

6 December 2016 Vol: 165, Issue 11

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

[New issue; No relevant content identified]

BMC Cost Effectiveness and Resource Allocation

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

(Accessed 10 December 2016)

[No new content]

BMC Health Services Research

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

(Accessed 10 December 2016)

[No new relevant content]

BMC Infectious Diseases

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

(Accessed 10 December 2016)

Research article

[Serological assessment of the establishment of herd immunity against measles in a health district in Malaysia](#)

Malaysia still faces challenges optimizing resources to effectively eliminate measles through high immunization and herd immunity, with sporadic outbreaks of measles as evidence. To tackle the most susceptible group in the present study, it is advisable to give booster vaccination to secondary school students and freshmen who enter colleges and universities in Malaysia.

Y. Hazlina, M. A. Marlindawati and K. Shamsuddin

BMC Infectious Diseases 2016 16:740

Published on: 8 December 2016

Research article

[Geographical distribution of typhoid risk factors in low and middle income countries](#)

While the global burden of typhoid fever has been often brought up for attention, the detailed surveillance information has only been available for the limited number of countries. Given the insufficient number of surveillance studies, the TRF index serves as a useful tool by capturing multiple risk factors of the disease into a single indicator. This will help decision makers identify high risk areas for typhoid as well as other waterborne diseases. Further, the study outcome can guide researchers to find relevant places for future surveillance studies.

Jung-Seok Lee, Vijayalaxmi V. Mogasale, Vittal Mogasale and Kangsung Lee

BMC Infectious Diseases 2016 16:732

Published on: 5 December 2016

BMC Medical Ethics

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

(Accessed 10 December 2016)

[No new content]

BMC Medicine

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

(Accessed 10 December 2016)

[No new relevant content]

BMC Pregnancy and Childbirth

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

(Accessed 10 December 2016)

[No new relevant content]

BMC Public Health

<http://bmcpublichealth.biomedcentral.com/articles>

(Accessed 10 December 2016)

Research article

[Reasons for defaulting from childhood immunization program: a qualitative study from Hadiya zone, Southern Ethiopia](#)

Asamnew Zewdie, Mekitew Letebo and Tinsae Mekonnen

BMC Public Health 2016 16:1240

Published on: 9 December 2016

Abstract

Background

Reduction of mortality and morbidity from vaccine-preventable diseases in developing countries involves successfully implementing strategies that ensure high coverage and minimize drop-outs and missed opportunities. Achieving maximum coverage, however, has been a challenge due to many reasons, including high rates of defaulters from the program. The objective of this study was to explore the reasons behind defaulting from the immunization program.

Methods

A qualitative study was conducted in two districts of Hadiya zone, Southern Ethiopia between November 2014 and April 2015. A total of twenty-six in-depth interviews were held with mothers of defaulted children aged 6-11 months old and key informants from the communities, health centers, and health offices. Observations and review of relevant documents were also conducted. Thematic analysis was used to analyze the data.

Results

In this study, the main reason for defaulting from the immunization was inadequate counseling of mothers that led to a lack of information about vaccination schedules and service arrangements, including in unusual circumstances such as after missed appointment, loss of vaccination card and when the health workers failed to make home visits. Provider-client relationships are poor with mothers reporting fear of mistreatment and lack of cooperation from service providers. Contrary to what health workers and managers believe, mothers were knowledgeable about the benefits of vaccination. The high workload on mothers compounded by the lack of support from male partners was also found to contribute to the problem. Health system factors that contributed to the problem were poorly arranged and coordinated immunization services, vaccine and supplies stock outs, and lack of viable defaulter tracking systems in the health facilities.

Conclusions

The main reasons for defaulting from the immunization program are poor counseling of mothers, unsupportive provider-client relationships, poor immunization service arrangements, and lack of systems for tracking defaulters. Efforts to reduce defaulter rates from the immunization program need to focus on improving counseling of mothers and strengthening the health systems, especially with regards to service arrangements and tracking of defaulters.

Research article

[Web-based infectious disease surveillance systems and public health perspectives: a systematic review](#)

Emerging and re-emerging infectious diseases are a significant public health concern, and early detection and immediate response is crucial for disease control. These challenges have led to the need for new ap...

Jihye Choi, Youngtae Cho, Eunyoung Shim and Hyekyung Woo

BMC Public Health 2016 16:1238

Published on: 8 December 2016

Research article

[Epidemiology and risk factors for pneumonia severity and mortality in Bangladeshi children <5 years of age before 10-valent pneumococcal conjugate vaccine introduction](#)

Pneumonia is the leading infectious cause of morbidity and mortality in young children in Bangladesh. We present the epidemiology of pneumonia in Bangladeshi children <5 years before 10-valent pneumococcal con...

Shampa Saha, Md Hasan, Lindsay Kim, Jennifer L. Farrar, Belal Hossain, Maksuda Islam, ASM Nawshad Uddin Ahmed, M. Ruhul Amin, Mohammed Hanif, Manzoor Hussain, Shams El-Arifeen, Cynthia G. Whitney and Samir K. Saha

BMC Public Health 2016 16:1233

Published on: 7 December 2016

Research article

Psychosocial determinants of parental human papillomavirus (HPV) vaccine decision-making for sons: Methodological challenges and initial results of a pan-Canadian longitudinal study

HPV vaccination decision-making is a complex process that is influenced by multiple psychosocial determinants. Given the change in policy recommendation to include males in routine HPV vaccination, our goals w...

Samara Perez, Ovidiu Tatar, Gilla K. Shapiro, Eve Dubé, Gina Ogilvie, Juliet Guichon, Vladimir Gilca and Zeev Rosberger

BMC Public Health 2016 16:1223

Published on: 5 December 2016

Abstract

Background

HPV vaccination decision-making is a complex process that is influenced by multiple psychosocial determinants. Given the change in policy recommendation to include males in routine HPV vaccination, our goals were to assess the HPV vaccination uptake in Canada, to understand where Canadian parents were situated in the HPV vaccine decision-making process for their son, how they changed over time and which psychosocial determinants were relevant for this process.

Methods

We used an online survey methodology and collected data from a nationally representative sample of Canadian parents of boys aged 9–16 at baseline (T1, February 2014) and at 9 months' follow-up (T2). Our analyses were guided by the Precaution Adoption Process Model (PAPM), a theoretical health behavior model that classifies parents in one of six stages: unaware, unengaged, undecided, decided not to vaccinate, decided to vaccinate and those who had already vaccinated their sons. Rigorous methods were used to filter out careless responders: response variance, bogus items, psychometric antonyms and psychometric synonyms.

Results

At T1 and T2, we received 3,784 and 1,608 respectively completed questionnaires; after data cleaning 3,117 (T1) and 1,427 (T2) were retained. Less than 3% of boys were vaccinated at both time points. At both T1 and T2, most parents (over 70%) belonged to the earlier vaccination adoption stages: 57% were unaware (T1) and 15.3% (T2); 20.9% were unengaged (T1) and 32.4% (T2); and 9.1% were undecided (T1) and 25.2% (T2). At follow-up, 37.7% of participants did not move from their initial PAPM decision-making stage. Most parents (55%) preferred to receive information from their healthcare provider (HCP) but only 6% (T1) and 12% (T2) had actually spoken with a HCP about the HPV vaccine for their son.

Conclusions

HPV vaccination uptake in Canadian boys was very low in the absence of a publicly funded HPV vaccination programs for boys. Optimal HPV information preferences were identified and can be used in interventions to increase HPV knowledge and increase HPV vaccine uptake. Intentions to vaccinate or planning to speak to one's HCP did not translate into action for most parents over the 9-month follow up; this finding is critical to consider to inform implementation strategies. Methodological challenges are described and suggestions for future research are offered.

BMC Research Notes

<http://www.biomedcentral.com/bmcresnotes/content>
(Accessed 10 December 2016)
[No new relevant content]

BMJ Open

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

Bulletin of the World Health Organization

Volume 94, Number 12, December 2016, 861-936
<http://www.who.int/bulletin/volumes/94/11/en/>
[Reviewed earlier]

Child Care, Health and Development

November 2016 Volume 42, Issue 6 Pages 775–955
<http://onlinelibrary.wiley.com/doi/10.1111/cch.v42.6/issuetoc>
[Reviewed earlier]

Clinical Therapeutics

November 2016 Volume 38, Issue 11, p2325-2508
[http://www.clinicaltherapeutics.com/issue/S0149-2918\(16\)X0011-2](http://www.clinicaltherapeutics.com/issue/S0149-2918(16)X0011-2)
[Reviewed earlier]

Complexity

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

Conflict and Health

<http://www.conflictandhealth.com/>
[Accessed 10 December 2016]
Research

[Does spending on refugees make a difference? A cross-sectional study of the association between refugee program spending and health outcomes in 70 sites in 17 countries](#)

Timothy M Tan, Paul Spiegel, Christopher Haskew and P Gregg Greenough
Published on: 7 December 2016

Contemporary Clinical Trials

Volume 51, Pages 1-98 (November 2016)

<http://www.sciencedirect.com/science/journal/15517144/51>
[Reviewed earlier]

Current Opinion in Infectious Diseases

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

Developing World Bioethics

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

Development in Practice

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

Disasters

January 2017 Volume 41, Issue 1 Pages 1–208
<http://onlinelibrary.wiley.com/doi/10.1111/disa.2017.41.issue-1/issuetoc>
[New issue; No relevant content identified]

Emerging Infectious Diseases

Volume 22, Number 12—December 2016
<http://wwwnc.cdc.gov/eid/>

Synopses

[Assessing the Epidemic Potential of RNA and DNA Viruses](#)

M. Woolhouse et al.

Abstract

Many new and emerging RNA and DNA viruses are zoonotic or have zoonotic origins in an animal reservoir that is usually mammalian and sometimes avian. Not all zoonotic viruses are transmissible (directly or by an arthropod vector) between human hosts. Virus genome sequence data provide the best evidence of transmission. Of human transmissible virus, 37 species have so far been restricted to self-limiting outbreaks. These viruses are priorities for surveillance because relatively minor changes in their epidemiologies can potentially lead to major changes in the threat they pose to public health. On the basis of comparisons across all recognized human viruses, we consider the characteristics of these priority viruses and assess the likelihood that they will further emerge in human populations. We also assess the likelihood that a virus that can infect humans but is not capable of transmission (directly or by a vector) between human hosts can acquire that capability.

Epidemics

Volume 17, In Progress (December 2016)

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

[Reviewed earlier]

Epidemiology and Infection

Volume 145 - Issue 1 - January 2017

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

[Reviewed earlier]

The European Journal of Public Health

Volume 26, Issue 5, 1 October 2016

<http://eurpub.oxfordjournals.org/content/26/5>

[Reviewed earlier]

Global Health: Science and Practice (GHSP)

September 2016 | Volume 4 | Issue 3

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

[Reviewed earlier]

Global Public Health

Volume 12 2017 Issue 1 2017 pages 1–134

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

[Reviewed earlier]

Globalization and Health

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

[Accessed 10 December 2016]

[No new relevant content identified]

Health Affairs

November 2016; Volume 35, Issue 11

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

Issue Focus: Culture Of Health

[Reviewed earlier]

Health and Human Rights

Volume 18, Issue 2, December 2016

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

Special Section: Universal Health Coverage and Human Rights

in collaboration with UConn Health

in collaboration with the International Human Rights Clinic, University of Chicago Law School
[10 articles in this Special Section]

Editorial: The Contributions of Human Rights to Universal Health Coverage

Audrey R. Chapman, Guest Editor

Excerpts

...A human rights approach to UHC imposes distinctive requirements. I have proposed that UHC consistent with the requirements of the right to health would include the following elements:

:: Health care reforms designed to achieve universal access to essential health services would be placed within the context of a national effort to provide equitable access to the social determinants of health.

:: Access to essential health services and public health protections would be made a legal entitlement, and individuals would have access to adequate means to seek redress for failures to provide these benefits.

:: Coverage would be based on a true universality, providing benefits to all residents of a country regardless of their legal status.

:: Explicit attention would be paid to equity considerations in the design of the universal health system and throughout the process of expanding coverage, especially to the implementation of measures to reduce barriers for low-income groups, rural populations, women, and other vulnerable groups that are often disadvantaged in terms of service coverage and health.

:: An equitable and progressive system of health funding for financial risk protection would be put in place to eliminate or at least significantly reduce financial barriers, especially for poor and disadvantaged groups. The government would underwrite the health costs of the poor.

:: Sufficient funding—at least 5% of the gross domestic product and 15% of the total government budget—would be provided for health system strengthening in order to expand health coverage and provide a publicly funded package of priority health services based on people's needs.

:: Health system strengthening would be accorded priority in order to make good-quality health services widely available, especially in currently underserved communities and with a greater balance between rural and urban areas.

:: There would be opportunities for consultation with and the participation of the population in the design of the path to UHC and the determination of benefits packages.

:: The process for pursuing the progressive realization of UHC would first expand coverage for high-priority services to everyone, with special efforts to ensure that disadvantaged groups are reached.

:: A uniform package of health service benefits closely linked to the population's needs would be universally provided by the government.

:: An effective data monitoring system would be put in place to evaluate the distributional effects of efforts to achieve UHC and improve health outcomes. This system would have the capacity to track and assess data on a disaggregated basis in order to facilitate corrective action when necessary.[11]...

Health Economics, Policy and Law

Volume 12 - Issue 1 - January 2017

<https://www.cambridge.org/core/journals/health-economics-policy-and-law/latest-issue>

[Reviewed earlier]

Health Policy and Planning

Volume 31 Issue 10 December 2016

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

[Reviewed earlier]

Health Research Policy and Systems

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

[Accessed 10 December 2016]

[No new relevant content]

Humanitarian Exchange Magazine

Number 67 September 2016

<http://odihpn.org/magazine/humanitarian-innovation/>

[**Refugees and vulnerable migrants in Europe**](#)

[Reviewed earlier]

Human Vaccines & Immunotherapeutics (formerly Human Vaccines)

Volume 12, Issue 11, 2016

<http://www.tandfonline.com/toc/khvi20/current>

Review

[**Immunization of HIV-infected adult patients — French recommendations**](#)

Pages: 2729-2741

Published online: 13 Jul 2016

[Anne Frésard, Amandine Gagneux-Brunon, Frédéric Lucht, Elisabeth Botelho-Nevers & Odile Launay](#)

Article

[**Coverage estimates and patterns of inactivated poliovirus vaccine \(IPV\) use prior to and during the polio eradication endgame, Jinan City, China, 2010–2015**](#)

Pages: 2749-2752

Published online: 20 Jul 2016

[Caiyun Chang, Ji Zhang, Jingwen Zhou, Ruoming Cao, Kaijun Song, Chong Liu, Xianhui Zhang, Xingyi Geng, Xiaoxue Liu & Chuanbin Li](#)

Review

[**European policies on tuberculosis prevention in healthcare workers: Which role for BCG? A systematic review**](#)

Pages: 2753-2764

Published online: 07 Jul 2016

[Marco Bo & Carla Maria Zotti](#)

Review

[Systematic review of mathematical models exploring the epidemiological impact of future TB vaccines](#)

Pages: 2813-2832

Published online: 22 Jul 2016

Rebecca C. Harris, Tom Sumner, Gwenan M. Knight & Richard G. White

Article

[Pneumococcal vaccination coverages among low-, intermediate-, and high-risk adults in Catalonia](#)

Pages: 2953-2958

Published online: 25 Jul 2016

Angel Vila-Corcoles, Olga Ochoa-Gondar, Imma Hospital, Cinta de Diego, Eva Satué, Jordi Bladé, Xabier Ansa, Jorge A. Guzmán, Elisabet Salsench & Francisca Ramos

Infectious Agents and Cancer

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

[Accessed 10 December 2016]

Position Statement

[African Organization for Research and Training in Cancer: position and vision for cancer research on the African Continent](#)

J. Olufemi Ogunbiyi, D. Cristina Stefan and Timothy R. Rebbeck

Published on: 6 December 2016

Abstract

The African Organization for Research and training in Cancer (AORTIC) bases the following position statements on a critical appraisal of the state on cancer research and cancer care in Africa including information on the availability of data on cancer burden, screening and prevention for cancer in Africa, cancer care personnel, treatment modalities, and access to cancer care.

Infectious Diseases of Poverty

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

[Accessed 10 December 2016]

[No new relevant content]

International Health

Volume 8 Issue 6 November 2016

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

[Reviewed earlier]

International Journal of Community Medicine and Public Health

2016, Volume: 3, Issue: 12

<http://www.scopemed.org/?iid=2016-3-12.000&&jid=109&lng=>

[Reviewed earlier]

International Journal of Epidemiology

Volume 45 Issue 5 October 2016

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

[Reviewed earlier]

International Journal of Infectious Diseases

November 2016 Volume 52, In Progress

[http://www.ijidonline.com/issue/S1201-9712\(16\)X0010-0](http://www.ijidonline.com/issue/S1201-9712(16)X0010-0)

[Reviewed earlier]

JAMA

December 6, 2016, Vol 316, No. 21, Pages 2171-2322

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

[New issue; No relevant content identified]

JAMA Pediatrics

December 1, 2016, Vol 170, No. 12, Pages 1127-1236

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

Review

Measles and Measles Vaccination: A Review

Johan Christiaan Bester, MBChB, MPhil

JAMA Pediatr. 2016;170(12):1209-1215. doi:10.1001/jamapediatrics.2016.1787

Key Points

Question:

What should primary care health care professionals know about measles and measles vaccination?

Findings

This review provides an overview of measles for clinicians and includes information on virus basics, clinical picture and diagnosis, measles complications, vaccine efficacy, and vaccine complications. Health care professionals play important roles in vaccination uptake, diagnosis and management of acute cases of measles, and limiting spread during outbreaks.

Meaning

Measles should be in the differential diagnosis of any child who presents with fever and erythematous rash, and the focus of the health care response to measles infection is prevention through vaccination

Modeling the Effects of Priming With the Whole-Cell Bordetella Pertussis Vaccine

Thomas Snelling, PhD, FRACP; Peter McIntyre, MBBS, PhD, FRACP, FAFPHM

JAMA Pediatr. 2016;170(12):1228-1229. doi:10.1001/jamapediatrics.2016.2603

Editorial

The Pertussis Problem and a Possible Solution Will Parents Go Along?

Mark H. Sawyer, MD

Journal of Community Health

Volume 41, Issue 6, December 2016

<http://link.springer.com/journal/10900/41/6/page/1>

[Reviewed earlier]

Journal of Epidemiology & Community Health

December 2016, Volume 70, Issue 12

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

[Reviewed earlier]

Journal of Global Ethics

Volume 12, Issue 2, 2016

<http://www.tandfonline.com/toc/rjge20/current>

[Reviewed earlier]

Journal of Global Infectious Diseases (JGID)

October-December 2016 Volume 8 | Issue 4 Page Nos. 127-162

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

[Reviewed earlier]

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

Volume 27, Number 4, November 2016

<https://muse.jhu.edu/issue/35214>

[Reviewed earlier]

Journal of Immigrant and Minority Health

Volume 18, Issue 6, December 2016

<http://link.springer.com/journal/10903/18/5/page/1>

[Reviewed earlier]

Journal of Immigrant & Refugee Studies

Volume 14, Issue 4, 2016

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

[Reviewed earlier]

Journal of Infectious Diseases

Volume 214 Issue 11 December 1, 2016

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

[Reviewed earlier]

The Journal of Law, Medicine & Ethics

Winter 2015 Volume 43, Issue 4 Pages 673–913

<http://onlinelibrary.wiley.com/doi/10.1111/jlme.2015.43.issue-4/issuetoc>

Special Issue: SYMPOSIUM: Harmonizing Privacy Laws to Enable International Biobank Research: Part I

[14 articles]

[Reviewed earlier]

Journal of Medical Ethics

December 2016, Volume 42, Issue 12

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

[Reviewed earlier]

Journal of Medical Internet Research

Vol 18, No 11 (2016): November

<http://www.jmir.org/2016/11>

[Reviewed earlier]

Journal of Medical Microbiology

Volume 65, Issue 11, November 2016

<http://jmm.microbiologyresearch.org/content/journal/jmm/65/11>

[New issue; No relevant content identified]

Journal of Patient-Centered Research and Reviews

Volume 3, Issue 4 (2016)

<http://digitalrepository.auorahealthcare.org/jpcrr/>

[Reviewed earlier]

Journal of the Pediatric Infectious Diseases Society (JPIDS)

Volume 5 Issue 10 December 2016

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

[Reviewed earlier]

Journal of Pediatrics

December 2016 Volume 179, p1-278

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

[New issue; No relevant content identified]

Journal of Public Health Policy

Volume 37, Issue 2 Supplement, November 2016

<http://link.springer.com/journal/41271/37/1/suppl/page/1>
[Reviewed earlier]

Journal of the Royal Society – Interface

01 November 2016; volume 13, issue 124
<http://rsif.royalsocietypublishing.org/content/current>
[Reviewed earlier]

Journal of Travel Medicine

Volume 24, Issue 1, July 2016
<http://jtm.oxfordjournals.org/content/24/1>
[Reviewed earlier]

Journal of Virology

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

The Lancet

Dec 10, 2016 Volume 388 Number 10062 p2837-2958 e16-e27
<http://www.thelancet.com/journals/lancet/issue/current>
Editorial

Universal Health Coverage—looking to the future

The Lancet

Published: 10 December 2016

DOI: [http://dx.doi.org/10.1016/S0140-6736\(16\)32510-7](http://dx.doi.org/10.1016/S0140-6736(16)32510-7)

Universal Health Coverage (UHC) is defined by WHO and the World Bank as when “all people receive the health services they need without suffering financial hardship when paying for them”. UHC is central to the UN Sustainable Development Goals (SDGs), adopted in September, 2015, with a specified target in SDG 3—ensure healthy lives and promote wellbeing for all at all ages. The SDGs are interconnected but good health underlies them all. UHC has been acknowledged by the World Bank, WHO, the G7, and multiple governments as fundamental for realising the goal of sustainable development. Although some governments were unsupportive of UHC's inclusion in the SDGs (such as the UK), its inclusion created a clear objective, while also sending a strong and important political signal.

On Dec 12, 2016, the third annual International [Day of Universal Health Coverage](#) will be marked, and progress towards UHC discussed and celebrated globally. This year's theme is “health for all”, with a call to “act with ambition”. Several hundred partners, including global organisations such as The Rockefeller Foundation, WHO, the World Bank Group, and Oxfam, are behind the initiative, and all agree that the best way to achieve health for all is through UHC.

Further to consensus on the importance of good health for sustainable development, the UHC movement has also brought agreement about financing health. As Rob Yates, Senior Fellow at Chatham House, reported to The Lancet: "The remarkable consensus (given previous battles over the years) is that the countries should publicly finance their health systems if they want to achieve UHC." Donor coordination to achieve UHC is crucial. That leaders such as Jim Kim of the World Bank and Margaret Chan of WHO are explicitly and repeatedly saying that UHC can only be achieved through public financing, sends the strongest possible message against health-care user fees: they must be abolished, and services must be provided free at the point of delivery. User fees inevitably punish the poor.

The emerging trend is for governments to take responsibility for financing their health systems, and not to pursue alternatives to public finance. Yet some countries remain complacent—including the UK. In not funding its health system adequately, the NHS share of GDP has declined and services are struggling. The Lancet's [NHS Manifesto](#) published in October drew attention to the pressures that threaten sustainability in the UK. Of particular concern is that the UK spends 30–50% per capita less on health than countries including Germany, Ireland, Australia, and Sweden.

During the past 3 years there have been several countries with notable success, but also local challenges. Georgia has recently successfully switched to a publicly financed health system. In India, the Modi government has been disappointingly inactive in supporting UHC, and has reduced the funding of national health programmes (although regional initiatives are emerging and show great promise). In this week's issue, a World Report describes a network of local Mohalla clinics that are successfully serving populations otherwise deprived of health services. Increasingly, political leaders seem to be presenting a shared global vision for UHC. It is notable that so many former and current heads of state are active in promoting UHC: including Shinzō Abe, the Prime Minister of Japan, and other leaders of the G7. It would seem that political leaders are collectively more committed to UHC than to previous agendas around strengthening health systems (although this situation could change under President Trump). That UHC brings broad population benefits could in part explain this trend.

Next week, an important step towards the goal of UHC takes place in Geneva. In September, Margaret Chan announced the creation of the International Health Partnership for UHC 2030 (UHC 2030). The purpose of this new partnership is to coordinate efforts to strengthen health systems and deliver UHC, including financial risk protection. On Dec 12–13, UHC 2030 brings countries and agencies together to establish the partnership as a formal global health systems coordination platform. It will also seek commitments from all parties as to next steps in the movement towards UHC. 2017 will be a milestone year for UHC. It promises to be the moment when words are translated into deeds. UHC 2030's role is not only to ensure that this opportunity is seized but also that governments don't renege on their promises and commitments.

Articles

[Fractional dosing of yellow fever vaccine to extend supply: a modelling study](#)

Joseph T Wu, Corey M Peak, Gabriel M Leung, Marc Lipsitch

Summary

Background

The ongoing yellow fever epidemic in Angola strains the global vaccine supply, prompting WHO to adopt dose sparing for its vaccination campaign in Kinshasa, Democratic Republic of the Congo, in July–August, 2016. Although a 5-fold fractional-dose vaccine is similar to standard-dose vaccine in safety and immunogenicity, efficacy is untested. There is an urgent need to ensure the robustness of fractional-dose vaccination by elucidation of the conditions under which dose fractionation would reduce transmission.

Methods

We estimate the effective reproductive number for yellow fever in Angola using disease natural history and case report data. With simple mathematical models of yellow fever transmission, we calculate the infection attack rate (the proportion of population infected over the course of an epidemic) with various levels of transmissibility and 5-fold fractional-dose vaccine efficacy for two vaccination scenarios, ie, random vaccination in a hypothetical population that is completely susceptible, and the Kinshasa vaccination campaign in July–August, 2016, with different age cutoff for fractional-dose vaccines.

Findings

We estimate the effective reproductive number early in the Angola outbreak was between 5·2 and 7·1. If vaccine action is all-or-nothing (ie, a proportion of vaccine recipients receive complete protection [VE] and the remainder receive no protection), n-fold fractionation can greatly reduce infection attack rate as long as VE exceeds 1/n. This benefit threshold becomes more stringent if vaccine action is leaky (ie, the susceptibility of each vaccine recipient is reduced by a factor that is equal to the vaccine efficacy). The age cutoff for fractional-dose vaccines chosen by WHO for the Kinshasa vaccination campaign (2 years) provides the largest reduction in infection attack rate if the efficacy of 5-fold fractional-dose vaccines exceeds 20%.

Interpretation

Dose fractionation is an effective strategy for reduction of the infection attack rate that would be robust with a large margin for error in case fractional-dose VE is lower than expected.

Funding

NIH-MIDAS, HMRP-Hong Kong.

Lancet Global Health

Dec 2016 Volume 4 Number 12 e872-e995

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

[Reviewed earlier]

The Lancet Infectious Diseases

Dec 2016 Volume 16 Number 12 p1305-1430 e276-e314

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

[Reviewed earlier]

Maternal and Child Health Journal

Volume 20, Issue 12, December 2016

<http://link.springer.com/journal/10995/20/11/page/1>

Special Issue: Mountain MCH

[Reviewed earlier]

Medical Decision Making (MDM)

January 2017; 37 (1)

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

[Reviewed earlier]

The Milbank Quarterly

A Multidisciplinary Journal of Population Health and Health Policy

September 2016 Volume 94, Issue 3 Pages 437–694

<http://onlinelibrary.wiley.com/doi/10.1111/milq.2016.94.issue-3/issuetoc>

[Reviewed earlier]

Nature

Volume 540 Number 7632 pp169-308 8 December 2016

http://www.nature.com/nature/current_issue.html

[New issue; No relevant content identified]

Nature Medicine

November 2016, Volume 22 No 11 pp1193-1367

<http://www.nature.com/nm/journal/v22/n11/index.html>

[Reviewed earlier]

Nature Reviews Immunology

November 2016 Vol 16 No 11

<http://www.nature.com/nri/journal/v16/n10/index.html>

[Reviewed earlier]

New England Journal of Medicine

December 8, 2016 Vol. 375 No. 23

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

Review Article

[The Changing Face of Clinical Trials: Interpreting Geographic Variations in Results of Randomized, Controlled Trials](#)

S. Yusuf and J. Wittes

[Initial text]

Clinical trialists generally accept the premise that surprising results in subgroups of a randomized, controlled trial most likely arise from chance. As we wrote nearly three decades ago, “We believe that the overall ‘average’ result of a randomized clinical trial is usually a more reliable estimate of treatment effect in the various subgroups examined than are the observed effects in individual subgroups.”¹ When we wrote those words, trials involving patients with genetic markers or specific biologic targets were uncommon. Today, subgroups that are defined by such targets are, and we believe should be, analyzed with the view to making specific inferences about effects that may be unique to that group. Similarly, few trials in the 1980s

were multinational; today many are. This article addresses the question of interpretation of observed variation in treatment effect among subgroups that are defined by country or geographic region. We do not address variability in observed effects according to the individual trial site, because in most multicenter trials, the sample size at each site is too small to expect reliable estimates of treatment effect.

The increase in the number of multinational trials has arisen from the realization that most strategies for treatment and prevention, especially for common diseases, have at best moderate benefits on major outcomes (e.g., a 10 to 25% reduction in the relative risk of death, heart attack, or recurrent cancer). To detect such moderate benefits reliably, trials usually need to accrue several hundred to a few thousand outcomes of interest, which in turn means the inclusion of thousands, or even tens of thousands, of participants at risk. The enrollment of so many participants requires collaboration by many sites (often several hundred) in several countries (in some trials, up to 50).² Trials involving participants with uncommon diseases may also require sites in many countries, since the enrollment of a sufficient number of participants from a single country may not be possible. Therefore, very few patients (often no more than 5 or 10) are typically enrolled in each country. Even for more common conditions, multicountry studies may be necessary if the sponsor of the intervention being tested desires approval from regulatory agencies in several countries...

Pediatrics

December 2016, VOLUME 138 / ISSUE 6

<http://pediatrics.aappublications.org/content/138/5?current-issue=y>

[Reviewed earlier]

Pharmaceutics

Volume 8, Issue 3 (September 2016)

<http://www.mdpi.com/1999-4923/8/3>

[Reviewed earlier]

PharmacoEconomics

Volume 34, Issue 12, December 2016

<http://link.springer.com/journal/40273/34/11/page/1>

[Reviewed earlier]

PLOS Currents: Disasters

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

[Accessed 10 December 2016]

[No new content]

PLoS Currents: Outbreaks

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

[Accessed 10 December 2016]

Social Media as a Sentinel for Disease Surveillance: What Does Sociodemographic Status Have to Do with It?

December 7, 2016 · Research Article

Introduction: Data from social media have been shown to have utility in augmenting traditional approaches to public health surveillance. Quantifying the representativeness of these data is needed for making accurate public health inferences.

Methods: We applied machine-learning methods to explore spatial and temporal dengue event reporting trends on Twitter relative to confirmed cases, and quantified associations with sociodemographic factors across three Brazilian states (São Paulo, Rio de Janeiro, and Minas Gerais) at the municipality level.

Results: Education and income were positive predictors of dengue reporting on Twitter. In contrast, municipalities with a higher percentage of older adults, and males were less likely to report suspected dengue disease on Twitter. Overall, municipalities with dengue disease tweets had higher mean per capita income and lower proportion of individuals with no primary school education.

Conclusions: These observations highlight the need to understand population representation across locations, age, and racial/ethnic backgrounds in studies using social media data for public health research. Additional data is needed to assess and compare data representativeness across regions in Brazil.

Community Event-Based Surveillance for Ebola Virus Disease in Sierra Leone: Implementation of a National-Level System During a Crisis

December 7, 2016 · Research Article

INTRODUCTION: There are few documented examples of community networks that have used unstructured information to support surveillance during a health emergency. In January 2015, the Ebola Response Consortium rapidly implemented community event-based surveillance for Ebola virus disease at a national scale in Sierra Leone.

METHODS: Community event based surveillance uses community health monitors in each community to provide an early warning system of events that are suggestive of Ebola virus disease transmission. The Ebola Response Consortium, a consortium of 15 nongovernmental organizations, applied a standardized procedure to implement community event-based surveillance across nine of the 14 districts. To evaluate system performance during the first six months of operation (March to August 2015), we conducted a process evaluation. We analyzed the production of alerts, conducted interviews with surveillance stakeholders and performed rapid evaluations of community health monitors to assess their knowledge and reported challenges.

RESULTS: The training and procurement of supplies was expected to begin in January 2015 and attain full scale by March 2015. We found several logistical challenges that delayed full implementation until June 2015 when the epidemic was past its peak. Community health monitors reported 9,131 alerts during this period. On average, 82% of community health monitors reported to their supervisor at least once per week. Most alerts (87%) reported by community health monitors were deaths unrelated to Ebola. During the rapid evaluations, the mean recall by community health monitors was three of the six trigger events. Implementation of the national system achieved scale, but three months later than anticipated.

DISCUSSION: Community event based surveillance generated consistent surveillance information during periods of no- to low-levels of transmission across districts. We interpret this to mean that community health monitors are an effective tool for generating useful, unstructured information at the village level. However, to maximize validity, the triggers require

more training, may be too many in number, and need increased relevance to the context of the tail end of the epidemic.

PLoS Medicine

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

(Accessed 10 December 2016)

[No new relevant content]

PLoS Neglected Tropical Diseases

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

(Accessed 10 December 2016)

Research Article

[Oral Cholera Vaccination Delivery Cost in Low- and Middle-Income Countries: An Analysis Based on Systematic Review](#)

Vittal Mogasale, Enusa Ramani, Hyeseung Wee, Jerome H. Kim

| published 08 Dec 2016 PLOS Neglected Tropical Diseases

<http://dx.doi.org/10.1371/journal.pntd.0005124>

Abstract

Background

Use of the oral cholera vaccine (OCV) is a vital short-term strategy to control cholera in endemic areas with poor water and sanitation infrastructure. Identifying, estimating, and categorizing the delivery costs of OCV campaigns are useful in analyzing cost-effectiveness, understanding vaccine affordability, and in planning and decision making by program managers and policy makers.

Objectives

To review and re-estimate oral cholera vaccination program costs and propose a new standardized categorization that can help in collation, analysis, and comparison of delivery costs across countries.

Data sources

Peer reviewed publications listed in PubMed database, Google Scholar and World Health Organization (WHO) websites and unpublished data from organizations involved in oral cholera vaccination.

Study eligibility criteria

The publications and reports containing oral cholera vaccination delivery costs, conducted in low- and middle-income countries based on World Bank Classification. Limits are humans and publication date before December 31st, 2014.

Participants

No participants are involved, only costs are collected.

Intervention

Oral cholera vaccination and cost estimation.

Study appraisal and synthesis method

A systematic review was conducted using pre-defined inclusion and exclusion criteria. Cost items were categorized into four main cost groups: vaccination program preparation, vaccine administration, adverse events following immunization and vaccine procurement; the first three groups constituting the vaccine delivery costs. The costs were re-estimated in 2014 US dollars (US\$) and in international dollar (I\$).

Results

Ten studies were identified and included in the analysis. The vaccine delivery costs ranged from US\$0.36 to US\$ 6.32 (in US\$2014) which was equivalent to I\$ 0.99 to I\$ 16.81 (in I\$2014). The vaccine procurement costs ranged from US\$ 0.29 to US\$ 29.70 (in US\$2014), which was equivalent to I\$ 0.72 to I\$ 78.96 (in I\$2014). The delivery costs in routine immunization systems were lowest from US\$ 0.36 (in US\$2014) equivalent to I\$ 0.99 (in I\$2014).

Limitations

The reported cost categories are not standardized at collection point and may lead to misclassification. Costs for some OCV campaigns are not available and analysis does not include direct and indirect costs to vaccine recipients.

Conclusions and implications of key findings

Vaccine delivery cost estimation is needed for budgeting and economic analysis of vaccination programs. The cost categorization methodology presented in this study is helpful in collecting OCV delivery costs in a standardized manner, comparing delivery costs, planning vaccination campaigns and informing decision-making.

Author Summary

We reviewed and re-estimated oral cholera vaccine delivery costs in low and middle income countries standardizing cost categories. The cost categorization proposed here can help in collation, analysis, comparison and economic analysis of OCV delivery costs across countries

Research Article

[Dengue in the Middle East and North Africa: A Systematic Review](#)

John M. Humphrey, Natalie B. Cleton, Chantal B. E. M. Reusken, Marshall J. Glesby, Marion P. G. Koopmans, Laith J. Abu-Raddad
| published 07 Dec 2016 PLOS Neglected Tropical Diseases
<http://dx.doi.org/10.1371/journal.pntd.0005194>

Research Article

[Public Health Interventions for Aedes Control in the Time of Zikavirus– A Meta-Review on Effectiveness of Vector Control Strategies](#)

Maha Bouzid, Julii Brainard, Lee Hooper, Paul R. Hunter
| published 07 Dec 2016 PLOS Neglected Tropical Diseases
<http://dx.doi.org/10.1371/journal.pntd.0005176>

PLoS One

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

[Accessed 10 December 2016]

Research Article

[Routine Vaccination Coverage in Northern Nigeria: Results from 40 District-Level Cluster Surveys, 2014-2015](#)

Rajni Gunnala, Ikechukwu U. Ogbuanu, Oluwasegun J. Adegoke, Heather M. Scobie, Belinda V. Uba, Kathleen A. Wannemuehler, Alicia Ruiz, Hashim Elmousaad, Chima J. Ohuabunwo, Mahmud Mustafa, Patrick Nguku, NdadiInasiya Endie Waziri, John F. Vertefeuille
| published 09 Dec 2016 PLOS ONE
<http://dx.doi.org/10.1371/journal.pone.0167835>

Abstract

Background

Despite recent success towards controlling poliovirus transmission, Nigeria has struggled to achieve uniformly high routine vaccination coverage. A lack of reliable vaccination coverage data at the operational level makes it challenging to target program improvement. To reliably estimate vaccination coverage, we conducted district-level vaccine coverage surveys using a pre-existing infrastructure of polio technical staff in northern Nigeria.

Methods

Household-level cluster surveys were conducted in 40 polio high risk districts of Nigeria during 2014–2015. Global positioning system technology and intensive supervision by a pool of qualified technical staff were used to ensure high survey quality. Vaccination status of children aged 12–23 months was documented based on vaccination card or caretaker's recall. District-level coverage estimates were calculated using survey methods.

Results

Data from 7,815 children across 40 districts were analyzed. District-level coverage with the third dose of diphtheria-pertussis-tetanus vaccine (DPT3) ranged widely from 1–63%, with all districts having DPT3 coverage below the target of 80%. Median coverage across all districts for each of eight vaccine doses (1 Bacille Calmette-Guérin dose, 3 DPT doses, 3 oral poliovirus vaccine doses, and 1 measles vaccine dose) was <50%. DPT3 coverage by survey was substantially lower (range: 28%–139%) than the 2013 administrative coverage reported among children aged <12 months. Common reported reasons for non-vaccination included lack of knowledge about vaccines and vaccination services (50%) and factors related to access to routine immunization services (15%).

Conclusions

Survey results highlighted vaccine coverage gaps that were systematically underestimated by administrative reporting across 40 polio high risk districts in northern Nigeria. Given the limitations of administrative coverage data, our approach to conducting quality district-level coverage surveys and providing data to assess and remediate issues contributing to poor vaccination coverage could serve as an example in countries with sub-optimal vaccination coverage, similar to Nigeria.

Research Article

[An Evaluation of Selected Populations for HIV-1 Vaccine Cohort Development in Nigeria](#)

Ogbonnaya S. Njoku, Mark M. Manak, Robert J. O'Connell, Ashley L. W. Shutt, Jennifer A. Malia, Richard A. Heipertz Jr, Sodsai Tovanabutra, Mark J. Milazzo, Gideon Akindiran Akintunde, Abraham S. Alabi, Aminu Suleiman, Amos A. Ogundeji, Terfa S. Kene, Robbie Nelson, Ojor R. Ayemoba, Darrell E. Singer, Merlin L. Robb, Sheila A. Peel, Nelson L. Michael

| published 09 Dec 2016 PLOS ONE

<http://dx.doi.org/10.1371/journal.pone.0166711>

PLoS Pathogens

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

(Accessed 10 December 2016)

[No new relevant content]

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

<http://www.pnas.org/content/early/>
[Accessed 10 December 2016]
[No new relevant content]

Prehospital & Disaster Medicine

Volume 31 - Issue 6 - December 2016

<https://www.cambridge.org/core/journals/prehospital-and-disaster-medicine/latest-issue>
[Reviewed earlier]

Preventive Medicine

Volume 93, Pages 1-226 (December 2016)

<http://www.sciencedirect.com/science/journal/00917435/93>

Original Research Article

[News media coverage of U.S. Ebola policies: Implications for communication during future infectious disease threats](#)

Pages 115-120

Tara Kirk Sell, Crystal Boddie, Emma E. McGinty, Keshia Pollack, Katherine Clegg Smith, Thomas A. Burke, Lainie Rutkow

Abstract

The Ebola outbreak of 2014–2015 raised concerns about the disease's potential spread in the U.S. and received significant news media coverage. Prior research has shown that news media coverage of policy options can influence public opinion regarding those policies, as well as public attitudes toward the broader social issues and target populations addressed by such policies. To assess news media coverage of Ebola policies, the content of U.S.-focused news stories (n=1262) published between July 1 and November 30, 2014 from 12 news sources was analyzed for 13 policy-related messages. Eight-two percent of news stories mentioned one or more policy-related messages. The most frequently appearing policy-related messages overall were those about isolation (47%) and quarantine (40%). The least frequently mentioned policy-related message described dividing potentially exposed persons into distinct groups based on their level of Ebola risk in order to set different levels of restrictions (5%). Message frequency differed depending on whether news sources were located in an area that experienced an Ebola case or controversy, by news sources' political ideological perspective, and by type of news source (print and television). All policy-related messages showed significant increases in frequency after the first case of Ebola was diagnosed in the U.S. on September 30, 2014, with the exception of messages related to isolation, which showed a significant decrease. Results offer insight into how the news media covers policies to manage emerging disease threats.

Original Research Article

[Dispelling the myth: Exploring associations between the HPV vaccine and inconsistent condom use among college students](#)

Pages 147-150

Coralía Vázquez-Otero, Erika L. Thompson, Ellen M. Daley, Stacey B. Griner, Rachel Logan, Cheryl A. Vámos

Abstract

Human papillomavirus (HPV) vaccination is safe and effective in preventing anogenital cancers and warts. However, myths have surrounded the HPV vaccine since its approval, including the

possibility that HPV vaccinated young people are more likely to engage in risky sexual behaviors. The purpose of this study was to assess the association between HPV vaccination and engaging in inconsistent condom use in a sample of U.S. college students. A secondary data analysis of the National College Health Assessment-II (Fall 2013) was conducted in 2015. Risky sexual activity was operationalized as inconsistent condom use for oral, vaginal or anal sexual activity. Logistic regression models were stratified by sexual activity and gender, and controlled for socio-demographics and history of STIs. Inconsistent condom use was reported among females for vaginal (47%), oral (94%), and anal sex (75%); while males reported levels of inconsistency for vaginal (38%), oral (94%), and anal sex (58%). Sixty-nine percent of females reported receiving the HPV vaccine compared to 43% of males. Among females, there was no significant association between HPV vaccination and inconsistent condom use in any of the sexual activities. Among males, there was no significant association between HPV vaccination and inconsistent condom use in oral or vaginal sex. HPV-vaccinated males were less likely to report inconsistent condom use during anal sexual activity. This study contributes to the increasing evidence that HPV vaccination is not associated with risky sexual behavior. Dispelling this myth is important to facilitate uptake and completion of the HPV vaccine in the U.S.

Proceedings of the Royal Society B

12 October 2016; volume 283, issue 1840

<http://rspb.royalsocietypublishing.org/content/283/1824?current-issue=y>

[Reviewed earlier]

Public Health Ethics

Volume 9 Issue 10 December 2016

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

[Reviewed earlier]

Public Health Reports

November/December 2016; 131 (6)

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

[Reviewed earlier]

Qualitative Health Research

December 2016; 26 (14)

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

Special Issue: General

[Reviewed earlier]

Reproductive Health

<http://www.reproductive-health-journal.com/content>

[Accessed 10 December 2016]

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

Recently Published Articles - November

http://www.paho.org/journal/index.php?option=com_content&view=featured&Itemid=101

[Reviewed earlier]

Risk Analysis

October 2016 Volume 36, Issue 10 Pages 1827–2027

<http://onlinelibrary.wiley.com/doi/10.1111/risa.2016.36.issue-10/issuetoc>

[Reviewed earlier]

Risk Management and Healthcare Policy

Volume 9, 2016

<https://www.dovepress.com/risk-management-and-healthcare-policy-archive56>

[Reviewed earlier]

Science

09 December 2016 Vol 354, Issue 6317

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

Editorial

Lifeline for refugee scholars

By Allan Goodman

Science 09 Dec 2016 : 1207

Summary

The global refugee crisis now stands at 65 million forcibly displaced people, according to the United Nations. Could the world ever have imagined a number exceeding that produced by the Nazis and World War II? The conflict over Syria alone, raging since 2011, has so far resulted in more than 11 million refugees and internally displaced persons. Over the past year, international summits have convened to address this global crisis, including the United Nations Summit in September. There is a growing view that the world must recognize these individuals not as part of a temporary emergency, but as a long-term challenge, and one where higher education can play a major role.

In Depth

AIDS epidemic nears control in three African countries

By Jon Cohen

Science 09 Dec 2016 : 1213 Restricted Access

Summary

This World AIDS Day, 1 December, surprisingly good news came out of southern Africa, the region in the world that has suffered the most from HIV. A random household survey done of some 80,000 people in Malawi, Zambia, and Zimbabwe—each of which has more than 10% of adults living with the virus—found that more than 86% of the people on treatment had fully suppressed their virus. This means they can stave off AIDS and it vastly reduces the likelihood

that they will transmit the virus to others. In keeping with this finding, the massive survey effort led by Columbia University's Mailman School of Health discovered that the rate of new infections in Zimbabwe and Zambia was substantially lower than previously estimated by modeling done by the Joint United Nations Programme on HIV/AIDS (UNAIDS) that relied on less rigorous data. This bolsters hopes that these countries are on the path to the UNAIDS goal of controlling their AIDS epidemics by 2030.

Science Translational Medicine

07 December 2016 Vol 8, Issue 368

<http://stm.sciencemag.org/>

Research Articles

Individualized vaccination of AML patients in remission is associated with induction of antileukemia immunity and prolonged remissions

By Jacalyn Rosenblatt, Richard M. Stone, Lynne Uhl, Donna Neuberg, Robin Joyce, James D. Levine, Jon Arnason, Malgorzata McMasters, Katarina Luptakova, Salvia Jain, Jeffrey I. Zwicker, Ayad Hamdan, Vassiliki Boussiotis, David P. Steensma, Daniel J. DeAngelo, Ilene Galinsky, Poorvi Somaiya Dutt, Emma Logan, Mary Paty Bryant, Dina Stroopinsky, Lillian Werner, Kristen Palmer, Max Coll, Abigail Washington, Leandra Cole, Donald Kufe, David Avigan
Science Translational Medicine 07 Dec 2016 : 368ra171 Restricted Access

Editor's Summary

Immune cells join leukemia then beat it

Acute myeloid leukemia (AML) is an aggressive hematologic cancer. The only curative treatment available for this disease is hematopoietic stem cell transplantation, which can result in donor immune cells helping to eradicate the cancer. Unfortunately, this procedure is not always effective and is itself associated with numerous complications and risk of death. Rosenblatt et al. have identified a potentially better way to stimulate an immune response against AML by fusing patients' own leukemia cells with dendritic cells. The resulting fusion cells were very effective at presenting tumor antigens to T cells, resulting in a strong antitumor T cell response and prolonged survival in human patients.

Social Science & Medicine

Volume 170, Pages 1-254 (December 2016)

<http://www.sciencedirect.com/science/journal/02779536/170>

[Reviewed earlier]

Travel Medicine and Infectious Diseases

September-October, 2016 Volume 14, Issue 5

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

[Reviewed earlier]

Tropical Medicine & International Health

November 2016 Volume 21, Issue 11 Pages 1347–1488, E1–E1

<http://onlinelibrary.wiley.com/doi/10.1111/tmi.2016.21.issue-11/issuetoc>

[Reviewed earlier]

Vaccine

Volume 34, Issue 50, Pages 6111-6448 (7 December 2016)

<http://www.sciencedirect.com/science/journal/0264410X/34/48>

Short communications

Parental weighting of seizure risks vs. fever risks in vaccination tradeoff decisions

Pages 6123-6125

Brian J. Zikmund-Fisher, Eve Wittenberg, Tracy A. Lieu

Abstract

As part of a survey of about vaccination beliefs, a nationally representative sample of parents of young children answered a series of tradeoff questions that asked them to choose between two vaccination approaches that differed in terms of risks of vaccine complications, number of injections, and/or vaccine effectiveness. Most parents were willing to have their children endure more injections, and many were willing to forgo disease protection, in order to reduce the rare chance of febrile seizures. Yet, most parents were unwilling to trade disease protection to reduce the risk of fever alone, even though this is correlated with the risk of febrile seizures. Vaccine risk communications need to address the heightened emotional weight that parents give to febrile seizure risk, even when the rarity of such events is explicit.

Reviews

Pneumococcal conjugate vaccine failure in children: A systematic review of the literature

Review Article

Pages 6126-6132

Godwin Oligbu, Yingfen Hsia, Laura Folgori, Sarah Collins, Shamez Ladhani

Abstract

Background

Pneumococcal conjugate vaccines (PCVs) are highly effective in preventing pneumococcal invasive disease (IPD) due to serotypes included in the vaccines. The risk of vaccine-type IPD in immunised children (i.e. vaccine failure) has not been systematically assessed in countries with established PCV programmes.

Methods

We undertook a systematic review of the English literature published from January 2000 to April 2016 to evaluate the vaccine schedule, risk factors, serotype distribution, clinical presentation and outcomes of vaccine failure in children vaccinated with the 7-valent (PCV7), 10-valent (PCV10), and 13-valent (PCV13) vaccines. Data sources included MEDLINE, EMBASE, Cochrane library, and references within identified articles.

Results

We identified 1742 potential studies and included 20 publications involving 7584 participants in children aged ≤ 5 year-olds: 5202 received 2 doses followed by a booster in 10 studies, (68.6%), 64 (0.8%) received 3 doses without a booster in 2 studies, and 2318 received a 3 + 1 schedule (30.6%) in 8 studies. A total of 159 vaccine failure cases were identified, representing 2.1% [95% CI: 1.8–2.4%] of the reported IPD cases. Most studies did not report clinical characteristics or outcomes. Among eight studies reporting comorbidities, 33/77 patients (42.9%) had an underlying condition. The main serotypes associated with vaccine failure were 19F (51/128 cases with known serotype; 39.8%), 6B (33/128; 25.8%), and 4 (10/128; 7.8%).

Only five studies reported patient outcomes, with a crude case fatality rate of 2.4% (2/85; 95%CI: 0.3–8.5%).

Conclusion

Pneumococcal conjugate vaccines have been implemented in national immunisation programmes for more than a decade, yet there are only a few studies reporting vaccine failure. PCV failure is rare, irrespective of vaccine or schedule. Co-morbidity prevalence was high amongst vaccine failure cases but case fatality rate was relatively low. There is a need for more systematic reporting vaccine failure cases in countries with established pneumococcal vaccination programmes.

The economic promise of developing and implementing dengue vaccines: Evidence from a systematic review

Review Article

Pages 6133-6147

Iara C. Endo, Patricia K. Ziegelmann, Anita Patel

Abstract

Background

Dengue fever is one of the most rapidly advancing viral vector-borne diseases worldwide and vaccine candidates are in the final stages of clinical trials, representing a decisive opportunity to control the disease. To decide whether and where to support the introduction of new vaccines it is crucial to assess costs imposed by the disease and cost-effectiveness of vaccine programmes.

Objective

To identify economic evidence about dengue fever immunization, by systematic review, to assist future policy decisions and investment.

Methods

The electronic search stage was conducted on PubMed/Medline, Embase, Web of Science, Global Health, NHS Economic Evaluation Database (NHS EED) and Latin American and Caribbean Health Sciences Literature (LILACS) databases. Searches were restricted to papers published between January 1970 and February 2016. Selected papers were quality assessed using three recognized checklists.

Results

Eleven relevant studies were identified and there is economic evidence of a satisfactory quality level, derived through modelling approaches, to conclude that dengue fever vaccines will be economically advantageous when compared to vector preventive strategies, despite uncertainties surrounding vaccine efficacy and costs per vaccine dose. Quality assessment based on checklists showed similar findings and although overall quality was considered satisfactory, there were relevant methodological issues not considered among studies reviewed.

Conclusion

Several uncertainties still remain about effectiveness of dengue fever vaccines; however, the reviewed economic evidence suggests that, when available, the vaccine can be economically advantageous at moderate prices. Future research needs to confirm findings from the economic models by using actual costs and effectiveness data.

Cost-effectiveness of a 23-valent pneumococcal polysaccharide vaccine immunization programme for the elderly in Shanghai, China

Original Research Article

Pages 6158-6165

Daijun Zhao, Ruoyan Gai Tobe, Min Cui, Jinchun He, Bin Wu

Abstract

Background

To evaluate the cost-effectiveness of adding 23-valent pneumococcal polysaccharide vaccine (PPSV23) to the immunization schedule for the elderly population (age > 60 years) in Shanghai, China.

Methods

A decision-tree model, with data and assumptions adapted from the societal perspective of Shanghai City, was developed to project the health outcomes of PPSV23 vaccination (compared with no vaccination) over a lifetime course. Sensitivity analysis was used to test the model's robustness. The clinical data, utility and treatment costs related to pneumococcal diseases were either cited from the literature or calculated from local sources.

Results

The incremental cost-effectiveness ratio of PPSV23 vaccination compared with no vaccination was \$16,699/quality-adjusted life years gained, which was lower than the per capita GDP of Shanghai (\$16,840). Sensitivity analyses showed that the model's outcome is robust.

Conclusions

Routine vaccination of the elderly population with PPSV23 is cost-effective in Shanghai, China.

Evaluation of a multinational, multilingual vaccine debate on Twitter

Original Research Article

Pages 6166-6171

Benedikt F.H. Becker, Heidi J. Larson, Jan Bonhoeffer, Erik M. van Mulligen, Jan A. Kors, Miriam C.J.M. Sturkenboom

Abstract

Background

Public confidence in an immunization programme is a pivotal determinant of the programme's success. The mining of social media is increasingly employed to provide insight into the public's sentiment. This research further explores the value of monitoring social media to understand public sentiment about an international vaccination programme.

Objective

To gain insight into international public discussion on the paediatric pentavalent vaccine (DTP-HepB-Hib) programme by analysing Twitter messages.

Methods

Using a multilingual search, we retrospectively collected all public Twitter messages mentioning the DTP-HepB-Hib vaccine from July 2006 until May 2015. We analysed message characteristics by frequency of referencing other websites, type of websites, and geographic focus of the discussion. In addition, a sample of messages was manually annotated for positive or negative message tone.

Results

We retrieved 5771 messages. Only 3.1% of the messages were reactions to other messages, and 86.6% referred to websites, mostly news sites (70.7%), other social media (9.8%), and health-information sites (9.5%). Country mentions were identified in 70.4% of the messages, of which India (35.4%), Indonesia (18.3%), and Vietnam (13.9%) were the most prevalent. In the annotated sample, 63% of the messages showed a positive or neutral sentiment about DTP-HepB-Hib. Peaks in negative and positive messages could be related to country-specific programme events.

Conclusions

Public messages about DTP-HepB-Hib were characterized by little interaction between tweeters, and by frequent referencing of websites and other information links. Twitter messages can indirectly reflect the public's opinion about major events in the debates about the DTP-HepB-Hib vaccine.

Knowledge, attitudes and practices of Australian medical students towards influenza vaccination

Original Research Article

Pages 6193-6199

Luke Walker, Anthony Newall, Anita E. Heywood

Abstract

Background

Annual influenza vaccination is recommended but not compulsory for healthcare workers in Australia, including medical students. A quarter of healthcare workers are estimated to have an influenza infection in any given year, with a subsequent transmission risk to colleagues and patients. During clinical placements, medical students are also at risk of influenza. While compliance with other vaccination requirements are high, influenza vaccine uptake of healthcare workers and medical students remain low globally. We aimed to explore medical students' influenza vaccination rates, attitudes, knowledge and intended practices at a large Australian university.

Method

A 35 item self-administered online survey was distributed to medical students enrolled at a large Australian university (UNSW Australia) in April/May 2014. The survey examined the knowledge, attitudes and practices of medical students towards influenza vaccination and identified factors associated with vaccine uptake.

Results

Of the 606 students, 53.8% (95%CI 49.8–57.8%) receiving their most recent influenza vaccine in 2014. Self-protection was the most common motivator (83%) and inconvenience (64%) the most common barrier to vaccination, despite access to on campus clinics. Students generally held positive attitudes to the influenza vaccine and vaccination recommendations, though some misconceptions existed. The majority (61%) were in support of mandatory influenza vaccination policies for medical students. Significant predictors of influenza vaccination included living on campus, clinical experience, awareness of vaccination recommendations and agreeing that vaccination was important for medical students, while those with perceived time constraints were less likely to be vaccinated.

Conclusion

Misconceptions and access to influenza vaccine were barriers to uptake of influenza vaccine by medical students. Medical programs need to emphasise the benefits of influenza vaccination in the protection of healthcare workers and patient safety across the medical education program. Our results suggesting majority support for mandatory influenza vaccination may represent a shifting perspective in the medical community.

Increasing HPV vaccination and eliminating barriers: Recommendations from young men who have sex with men

Original Research Article

Pages 6209-6216

Holly B. Fontenot, Heidi C. Fantasia, Ralph Vettters, Gregory D. Zimet

Abstract

Background

There is a disparity in HPV vaccination rates in particular among young men who have sex with men (YMSM) and until very recently there has been a dearth of research examining factors related to HPV vaccination for YMSM. The purpose of this study was to elicit YMSM's beliefs about HPV and the HPV vaccine as well as describe perceived barriers and facilitators of vaccine initiation and completion.

Methods

A qualitative, descriptive study that utilized a focus group design was conducted among an urban and racially diverse sample of YMSM. Questionnaire data were analyzed using descriptive statistics, and focus group data were analyzed using content analysis.

Findings

34 YMSM with a mean age of 20.8 years participated. The sample was diverse, with the largest proportion of youth identifying as Black (35.4%). Over 90% reported having an annual exam each year, 61.8% reported obtaining a flu vaccine during the past year, and 58.8% reported initiating the HPV vaccine 3-dose series. Themes identified included low HPV knowledge and awareness, positive vaccine beliefs, perceived stigmas, and HPV vaccine facilitators. Participants identified 3 ways health providers/ researchers could facilitate vaccination: creative use of mobile technology, bundling vaccination with other health services, and increasing HPV and HPV vaccine awareness.

Conclusions

Our findings point to some clear avenues to pursue in research and practice to improve HPV vaccination rates among YMSM, including increased use of mobile health strategies, making HPV vaccination a co-occurring part of other health-related services (e.g., HIV testing), and providing information on the relevance of HPV and HPV vaccination to YMSM.

Providers' time spent and tools used when discussing the HPV vaccine with parents of adolescents

Original Research Article

Pages 6217-6222

Amanda F. Dempsey, Steven Lockhart, Elizabeth J. Campagna, Jennifer Pyrzanowski, Juliana Barnard, Sean T. O'Leary

Abstract

Objectives

Little is known about HPV vaccine communication tools currently used by primary care providers of adolescents, or how such tools impact the quality of HPV vaccine recommendations, which some have defined as using a "presumptive" communication style, continuing to offer vaccines despite resistance, and strongly recommending vaccines at the appropriate ages. We surveyed primary care providers to assess their current use of HPV vaccine communication tools, and how these related to their HPV vaccine recommendation quality.

Study Design

Cross sectional survey of 183 pediatrics and family medicine primary care providers in the Denver metro area.

Results

Response rate was 82% (n=150). Most (59%) providers used a presumptive vaccine recommendation >75% of the time, and 76% reported continuing to offer the HPV vaccine even after parent refusal. However, less than two-thirds of providers "strongly" recommended the vaccine to 11–12 year olds (60% for females, 55% for males, p=0.02). The HPV vaccine information sheet from the Centers for Disease Control and Prevention was the most

frequently used communication tool during clinical visits (64% used at least 75% of the time) and directing parents to preferred websites was the most frequently used between-visit communication tool (21% used >50% of visits). Use of tools was not associated with any measure of HPV vaccine recommendation quality but was associated with longer HPV vaccine discussion times.

Conclusions

Providers use only limited types of adolescent HPV vaccine communication tools, and frequently do not use preferred vaccine communication strategies. Better engagement with existing HPV vaccine communication tools, and/or the creation of new tools may be needed to enhance providers' ability to provide high quality HPV vaccine recommendations.

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Providers use only limited types of adolescent HPV vaccine communication tools, and frequently do not use preferred vaccine communication strategies. Better engagement with existing HPV vaccine communication tools, and/or the creation of new tools may be needed to enhance providers' ability to provide high quality HPV vaccine recommendations.

Impact of a maternal immunization program against pertussis in a developing country

Original Research Article

Pages 6223-6228

Carla Vizzotti, Maria V. Juarez, Eduardo Bergel, Viviana Romanin, Gloria Califano, Sandra Sagradini, Carolina Rancaño, Analía Aquino, Romina Libster, Fernando P Polack, Juan Manzur
Abstract

Background

Pertussis disease is a growing concern for developing countries. In Argentina, rates of illness and death peaked in 2011. More than 50% of fatalities due to pertussis occurred in infants younger than two months of age, too young for vaccination. In 2012, the government offered immunization with a vaccine containing Tdap to all pregnant women after 20 weeks of gestation with the intent of reducing morbidity and mortality in young infants.

Methods

Maternal acellular pertussis vaccine impact on reducing infant disease burden was estimated based on data from the Argentinean Health Surveillance System. We divided Argentinean states in two groups experiencing high (>50) and low (≤ 50) Tdap vaccine coverage and compared these two groups using a Bayesian structural time-series model. Low coverage regions were used as a control group, and the time series were compared before and after the implementation of the Tdap program.

Findings

We observed a relative reduction of 51% (95% CI $[-67\%, -35\%]$; $p=0.001$) in pertussis cases in high coverage states in comparison with the low coverage areas. Analysis of infants between two and six months showed a 44% (95% CI $[-66\%, -24\%]$; $p=0.001$) reduction in illness. Number of deaths was highest in 2011 with 76 fatalities, for an incidence rate of 2.9 per 100,000. Comparing with 2011, rates decreased by 87% to 10 subjects, or 0.9 per 100,000 in 2013.

Interpretation

We show an age-dependent protective effect of maternal Tdap immunization in a developing country for infants younger than six months.

Media content about vaccines in the United States and Canada, 2012–2014: An analysis using data from the Vaccine Sentimeter

Original Research Article

Pages 6229-6235

Guido Antonio Powell, Kate Zinszer, Aman Verma, Chi Bahk, Lawrence Madoff, John Brownstein, David Buckeridge

Abstract

Background

A system for monitoring vaccine-related media content was previously developed and studied from an international perspective. This monitoring approach could also have value at a regional level, but it has yet to be evaluated at this scale. We examined regional patterns of vaccine-related media topics and sentiment in the US and Canada.

Methods

We extracted vaccine-relevant US and Canadian online media reports between June 2012 and October 2014 from the Vaccine Sentimeter, a HealthMap-based automated media monitoring system for news aggregators and blogs. We analyzed regional distributions of reports about vaccines, categories (i.e., topics), sentiment, and measles outbreaks.

Findings

The Vaccine Sentimeter captured 10,715 reports during the study period. Negative sentiment was highest in reports about vaccine safety (47%), Hepatitis B (19%), and Vermont (18%).

Analyses of measles outbreaks revealed geographical variation in media content. For example, religious beliefs were mentioned in 27% of measles reports in Texas and 22% of British Columbia reports, but there were no references to religion in media on measles from California. Interpretations

A regional analysis of online sentiment towards vaccine can provide insights that may give US and Canadian public health practitioners a deeper understanding of media influences on vaccine choices in their regions and consequently lead to more effective public health action.

Measles, the media, and MMR: Impact of the 2014–15 measles outbreak

Original Research Article

Pages 6375-6380

Jessica R. Cataldi, Amanda F. Dempsey, Sean T. O’Leary

Abstract

Objective

In late 2014, a measles outbreak beginning in California received significant media attention. To better understand the impact of this outbreak, we conducted a survey to assess and compare among vaccine hesitant and non-hesitant new mothers how this outbreak affected vaccine knowledge, attitudes, vaccination plans, and media use.

Methods

A cross-sectional email survey of English-speaking women with a child ≤ 1 year old using a convenience sample of women from nine obstetrics and gynecology (OB/GYN) practices in Colorado assessed vaccine hesitancy, knowledge and attitudes about MMR vaccines and the outbreak, MMR vaccination plans before and after the outbreak, and use of and trust for media sources related to the outbreak.

Results

The response rate was 50% (351/701). Knowledge about the outbreak was high and vaccination attitudes were mostly favorable. Forty-eight percent of respondents thought MMR vaccine was more important after the outbreak. Online news (76%), television news (75%), and social media (68%) were the most frequently used media sources, yet were highly trusted by only 18%, 22%, and 1% of respondents respectively. Government websites (34%) and information from a doctor’s office (34%) were infrequently used, but were highly trusted by 62% and 60% of respondents. Knowledge of the outbreak was lower among vaccine-hesitant respondents. Few mothers changed MMR vaccination plans after the outbreak.

Conclusions

New mothers had high levels of knowledge and favorable attitudes about vaccination after the 2014–15 measles outbreak. Media sources used the most are not the most trusted. Communication about outbreaks of vaccine-preventable diseases should include spread of accurate information to new media sources and strengthening of existing trust in traditional media.

Funding gap for immunization across 94 low- and middle-income countries

Original Research Article

Pages 6408-6416

Sachiko Ozawa, Simrun Grewal, Allison Portnoy, Anushua Sinha, Richard Arilotta, Meghan L. Stack, Logan Brenzel

Abstract

Novel vaccine development and production has given rise to a growing number of vaccines that can prevent disease and save lives. In order to realize these health benefits, it is essential to

ensure adequate immunization financing to enable equitable access to vaccines for people in all communities. This analysis estimates the full immunization program costs, projected available financing, and resulting funding gap for 94 low- and middle-income countries over five years (2016–2020). Vaccine program financing by country governments, Gavi, and other development partners was forecasted for vaccine, supply chain, and service delivery, based on an analysis of comprehensive multi-year plans together with a series of scenario and sensitivity analyses. Findings indicate that delivery of full vaccination programs across 94 countries would result in a total funding gap of \$7.6 billion (95% uncertainty range: \$4.6–\$11.8 billion) over 2016–2020, with the bulk (98%) of the resources required for routine immunization programs. More than half (65%) of the resources to meet this funding gap are required for service delivery at \$5.0 billion (\$2.7–\$8.4 billion) with an additional \$1.1 billion (\$0.9–\$2.7 billion) needed for vaccines and \$1.5 billion (\$1.1–\$2.0 billion) for supply chain. When viewed as a percentage of total projected costs, the funding gap represents 66% of projected supply chain costs, 30% of service delivery costs, and 9% of vaccine costs. On average, this funding gap corresponds to 0.2% of general government expenditures and 2.3% of government health expenditures. These results suggest greater need for country and donor resource mobilization and funding allocation for immunizations. Both service delivery and supply chain are important areas for further resource mobilization. Further research on the impact of advances in service delivery technology and reductions in vaccine prices beyond this decade would be important for efficient investment decisions for immunization.

Vaccine: Development and Therapy

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

(Accessed 10 December 2016)

[No new content]

Vaccines — Open Access Journal

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

(Accessed 10 December 2016)

[No new relevant content]

Value in Health

November 2016 Volume 19, Issue 7

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

[Reviewed earlier]

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

No new content identified.

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Media/Policy Watch

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

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

The Atlantic

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

Accessed 10 December 2016

[No new, unique, relevant content]

BBC

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

Accessed 10 December 2016

[No new, unique, relevant content]

The Economist

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

Accessed 10 December 2016

[No new, unique, relevant content]

Financial Times

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

Accessed 10 December 2016

[No new, unique, relevant content]

Forbes

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

Accessed 10 December 2016

[No new, unique, relevant content]

Foreign Affairs

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

Accessed 10 December 2016

[No new, unique, relevant content]

Foreign Policy

<http://foreignpolicy.com/>

Accessed 10 December 2016
[No new, unique, relevant content]

Fortune

<http://fortune.com/>
Accessed 10 December 2016
[No new, unique, relevant content]

The Guardian

<http://www.guardiannews.com/>
Accessed 10 December 2016
[No new, unique, relevant content]

New Yorker

<http://www.newyorker.com/>
Accessed 10 December 2016
[No new, unique, relevant content]

New York Times

<http://www.nytimes.com/>
Accessed 10 December 2016

[Yellow Fever Epidemic in Africa Shows Gaps in Vaccine Pipeline](#)

... The epidemic also revealed glaring weaknesses in the emergency vaccine supply pipeline...
December 05, 2016 - By DONALD G. McNEIL Jr -

Wall Street Journal

<http://online.wsj.com/home-page?wsjregion=na,us&homepage=/home/us>
Accessed 10 December 2016

[Zika Virus Threat Pushes DNA Vaccines Forward](#)

Dec. 9, 2016 10:10 am

The race is on to develop a vaccine for the Zika virus, and some experts are looking to a different type of platform: DNA vaccines. Video: Denise Blostein;

[Is a New Mumps Vaccine Necessary to Fight Outbreak?](#)

Dec. 6, 2016 12:57 pm ET

Mumps is spreading across the nation at a rate not seen in a decade. Vanderbilt University Medical Center Vaccine Research Program Associate Director Dr. Buddy Creech explains what triggered the outbreak and how to protect yourself from the infectious disease.
Video

Washington Post

<http://www.washingtonpost.com/>
Accessed 10 December 2016

[Officials: South Beach halts Zika's spread, but risks remain](#)

Florida declared its crisis with local transmission of Zika over for the season Friday in a welcome announcement ahead of peak tourism months, but health authorities warned that travelers would continue bringing the disease into the state.
Jennifer Kay | AP | National | Dec 9, 2016

Texas eyes immunizations as more kids file exemptions

Texas could be the epicenter for the nation's next major fight over stricter requirements for immunizations as rates of schoolchildren who refuse shots for non-medical reasons climb in America's second-largest state.

Will Weissert | AP | National | Dec 7, 2016

Think Tanks et al

Brookings

<http://www.brookings.edu/>

Accessed 10 December 2016

[No new relevant content]

Center for Global Development

<http://www.cgdev.org/page/press-center>

Accessed 10 December 2016

[No new relevant content]

Council on Foreign Relations

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

Accessed 10 December 2016

[No new relevant content]

CSIS

<https://www.csis.org/>

Accessed 10 December 2016

[No new relevant content]

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Vaccines and Global Health: The Week in Review is a service of the Center for Vaccines Ethics and Policy (CVEP) which is solely responsible for its content, and is an open access publication, subject to the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by-nc/3.0/>). Copyright is retained by CVEP.

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Support for this service is provided by the [Bill & Melinda Gates Foundation](#); [Aeras](#); [PATH](#); the [International Vaccine Institute \(IVI\)](#); and industry resource members [Crucell/Janssen/J&J](#),

Pfizer, PRA Health Sciences, Sanofi Pasteur U.S., Takeda, Valera (list in formation), and the Developing Countries Vaccine Manufacturers Network ([DCVMN](#)).

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

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