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DRC confirms 2 Ebola infections, probes suspected cases

The Democratic Republic of the Congo (DRC) today declared a new Ebola virus outbreak in a northwestern province, with two confirmed cases so far, coming almost a year since the country's last outbreak began in a different remote location.

The World Health Organization (WHO) said in a statement today that the new outbreak is located in Bikoro, in Equateur province on the shores of Lake Tumba. The town is roughly 40 miles from the Republic of Congo border. The cases were reported from Ilkoko Iponge health facility, about 18 miles from the town of Bikoro (see Google map below), which has very limited health facilities and few supplies.

Of samples collected from five sick patients and sent to the national biomedical research laboratory in Kinshasa, two were positive for Ebola virus. The WHO said more specimens are being collected for
Geographical distribution of confirmed, probable and suspected cases of Ebola virus disease, Equateur Province, The Republic Democratic of Congo, as of 7 June 2018.
DRC Ebola outbreak climbs to 32 cases, gets UK funding boost

The World Health Organization (WHO) said today that the Democratic Republic of Congo (DRC) Ebola virus outbreak has grown to 32 cases, three of them in health workers, as more responders arrive on the scene and as funding help comes from the United Kingdom.

Meanwhile, in the United States, news yesterday of the exit of one of the country's top global health officials, coming on the heels of President Trump's proposed rescission of earlier Ebola response funds, has deepened concerns about the nation's preparedness for an epidemic such as Ebola.

Outbreak developments
In an update today, the WHO said that, as of yesterday, a total of 32 Ebola cases have been reported, including 2 confirmed, 18 probable, and 12 suspected. Eighteen deaths are among the cases.
New Ebola cases reported as WHO head visits DRC

Over the weekend, the Democratic Republic of the Congo (DRC) reported 7 more suspected cases of Ebola, raising the totals from Apr 4 through May 13 to 39 confirmed, suspected, and probable cases, including 19 deaths, for a case-fatality rate of 49%.

Only 2 cases have been confirmed by laboratory testing, and 25 are probable. The remaining 12 cases are suspected.

The World Health Organization (WHO) said today that all cases have occurred in three health zones in the DRC: Bikoro (2 confirmed, 20 probable, 7 suspected cases), Iboko (3 probable, 5 suspected) and Wangata (2 probable). To date, 393 contacts have been identified and are being followed up.

Wangata health zone is adjacent to the large city of Mbandaka (population, 1.2 million, according to the WHO). Cases near a major city are a concern, as is the outbreak’s location.
WHO: 58 Ebola cases in DRC, 27 deaths

In its latest outbreak update, the World Health Organization (WHO) today reported 58 Ebola cases in the Democratic Republic of the Congo (DRC), including 27 deaths, resulting in a case-fatality rate of 47%.

The total number includes 28 confirmed, 21 probable, and 9 suspected cases in three health zones in Equateur province. Three identified cases involve healthcare workers.

The updated tally comes as officials announced that in recent days three Ebola patients being kept in isolation had left a Mbandaka hospital. A WHO official told Reuters that the patients left an isolation ward to travel to a place of worship. One patient was found dead, another returned to the clinic and died shortly after, and the third returned to the hospital and is currently under observation.

The WHO said its workers have redoubled their efforts to trace contacts of patients. The WHO also said it now has a list of 628 people (known contacts to current cases) who will be vaccinated against the hemorrhagic virus.
DRC Ebola response faces community resistance as report analyzes US policy

Ebola responders in the Democratic Republic of Congo (DRC) are revealing more about local practices and community mistrust, which in some instances are hampering the actions needed to curb the spread of the disease in the country’s outbreak hot spots.

In another development, Kaiser Family Foundation (KFF) today said the United States is playing a less prominent role in the response, a sign that suggests the international response is more prepared to tackle such outbreaks but also raises questions about the nation’s mixed signals regarding global health security.

Responders face familiar foe in community mistrust

A representative from Doctors Without Borders (MSF) said at a news conference in Geneva that a doctor and nurse were threatened by local people who accused the health workers of bringing the disease into the communities, while residents of another town blocked medics from testing the body of a person who died from suspected Ebola, Reuters reported today.
Ebola outbreak response shifts to remote DRC hot spots

Officials from World Health Organization (WHO) today said they're cautiously optimistic about curbing the spread of Ebola in the city Mbandaka, Democratic Republic of the Congo (DRC), adding that the next phase of the outbreak response will focus on two remote hot spots in Bikoro and Iboko, where most of the cases have been reported.

At a briefing in Geneva today live-streamed on the WHO's Twitter feed, health officials also said DRC's health ministry is finalizing protocols for testing five therapeutic treatments and that a trial of a second experimental Ebola vaccine—a prime-boost regimen developed by Johnson & Johnson—may take place in the outbreak setting.

Peter Salama, MD, the WHO's deputy director-general of emergency response, said that, as of May 27, 54 Ebola cases have been reported. The number includes 35 confirmed, 13 probable, and 6 suspected cases. So far 25 deaths have been reported.

Salama said the updated numbers add one suspected case in Wangata health zone, which is in Mbandaka. Tests have ruled out Ebola in three suspected cases, one from Ntongo health zone. Response teams are monitoring more than 900 contacts in the DRC's three hot spots.
DRC probes 5 new possible Ebola cases; WHO details experimental drugs

Outbreak responders in the Democratic Republic of Congo (DRC) are investigating five more suspected Ebola cases, as two more patients died from their infections and the World Health Organization (WHO) shared more details about how experimental treatments will be used and studied among those sickened by the virus.

The new suspected cases come as tests ruled out an earlier suspected case, and all are from known contacts, Peter Salama, MD, the WHO's deputy director-general of emergency response, said on Twitter. The developments raise the outbreak total to 58, which includes 37 confirmed, 14 probable, and 7 suspected cases. The two new fatalities lift the number of deaths to 27.

New treatment details
Earlier this week the WHO had signaled that a DRC health ministry ethics committee had approved the use of five experimental treatments for compassionate use, also known as Monitored Emergency Use of Unregistered Interventions (MEURI), and was finalizing details of a study protocol.
Over the past few days, 14 more suspected cases have been reported in the Democratic Republic of Congo (DRC) Ebola outbreak, and one more patient has died from the disease, according to one of the top World Health Organization (WHO) officials leading the response.

Peter Salama, MD, the WHO's deputy director-general of emergency response, said on Twitter today that, of the new suspected cases, 3 are from Jun 9 and 11 are from Jun 8. Samples from 12 earlier suspected patients were negative for Ebola virus, putting the overall outbreak total at 66, including 38 confirmed cases, 14 probable infections, and 14 suspected illnesses.

He said the death occurred in a known confirmed case, which nudges the fatality total to 28.

'Expeditionary surveillance'
Over the weekend, Salama said the next phase of the response revolves around expeditionary surveillance, which the WHO has said will now target Iboko, a remote community in a heavily forested part of the DRC.
With short outbreaks and complex permissions, testing critical Ebola treatments is a challenge

By HELEN BRANSWELL @HelenBranswell / JUNE 11, 2016

The Ebola outbreak in the Democratic Republic of the Congo may end without the available experimental drugs having been tested, given the way transmission appears to have slowed. And some experts who have watched with frustration the snail’s pace progress of the efforts to study Ebola drugs during outbreaks are beginning to wonder if, with the advent of Ebola vaccines, the window for doing this kind of research may be closing for good.

There are now several experimental treatments vying to be tested, but each must be greenlit by national regulatory authorities whenever and wherever an outbreak occurs. There remain deeply divergent positions among scientists about how to design outbreak trials, specifically whether studies that don’t compare treatments to placebos can generate useful data. Add to that the fact that outbreaks are sporadic, and are often stopped after a few dozen cases.

The upshot: Ebola outbreaks are tough, tough circumstances in which to try to do badly needed research.
China may have just delivered some very unwelcome news to drug makers Merck and Janssen, the vaccines division of Johnson & Johnson. As those companies and public health officials race to test experimental Ebola vaccines in the Democratic Republic of Congo before its outbreak is extinguished, the Chinese have signaled that they may also try to use their own experimental vaccine there.
China May Compete for Limited Opportunities to Test Ebola Vaccine

Only one experimental shot, made by Merck, has been approved for use amid the current outbreak.

By Helen Branswell, STAT on June 9, 2018

China is making a bid to use its Ebola vaccine in the Democratic Republic of the Congo. It’s a move that could further complicate efforts to test a crowded field of vaccines and therapies in the context of a waning outbreak.

The head of the Chinese Center for Disease Control and Prevention (CDC), Gao Fu, is reported to have said that a team of experts will travel to the DRC on Friday, bringing with them an unspecified number of doses of vaccine.

“We will seek to use the Chinese developed vaccine there to help with control and prevention of the disease, but for the present the vaccines will likely only cover Chinese living in Congo,” Gao is reported as saying in China Daily.
R&D Blueprint

List of Blueprint priority diseases

For the purposes of the R&D Blueprint, WHO has developed a special tool for determining which diseases and pathogens to prioritize for research and development in public health emergency contexts. This tool attempts to identify those diseases that pose a public health risk because of their epidemic potential and for which there are no, or insufficient, countermeasures. The diseases selected through this process are the focus of the work of R&D Blueprint. This is not an exhaustive list, nor does it indicate the most likely causes of the next epidemic. It should be noted that diseases such as influenza, yellow-fever, cholera etc., which present significant health risks, are absent from this list because medical countermeasures are available for them or they are already the focus of dedicated R&D activities.

Revised list of priority diseases, January 2017

- Arenaviral hemorrhagic fevers (including Lassa Fever)
- Crimean Congo Haemorrhagic Fever (CCHF)
- Filoviral diseases (including Ebola and Marburg)
- Middle East Respiratory Syndrome Coronavirus (MERS-CoV)
- Other highly pathogenic coronaviral diseases (such as Severe Acute Respiratory Syndrome, (SARS))
- Nipah and related henipaviral diseases
- Rift Valley Fever (RVF)
- Severe Fever with Thrombocytopenia Syndrome (SFTS)
- Zika
- Disease X *
WHO Roadmap Development
Development of Roadmaps for Priority Pathogens of Concern

At the request of its 194 Member States, following the Ebola epidemic in West Africa, the World Health Organization (WHO) developed *A Research and Development (R&D) Blueprint for Action to Prevent Epidemics*. A key component of the blueprint is the creation of R&D roadmaps for priority pathogens of concern. Each roadmap will provide a framework that identifies the vision, strategic goals, and priority areas for accelerated R&D needed for disease prevention and control. The goal of each roadmap is to promote development and evaluation of medical countermeasures (diagnostics, therapeutics, and vaccines) for the pathogen.

CIDRAP has been selected to work closely with the WHO to develop R&D roadmaps for Ebola/Marburg, Nipah, and Lassa viruses. This work is being funded through support from Wellcome, a key partner in this undertaking.

Key steps for the development of each roadmap include the following:

- Conduct background research regarding the current status of medical countermeasure development for the pathogen.
- Conduct a gap analysis to determine where additional research and development are needed.
- Develop a roadmap draft, with input and support from a core group of selected subject matter experts (SMEs).
- Convene an in-person consultation with a larger group of diverse international SMEs, including representation from affected countries, to obtain input on the draft document.
- Revise the roadmap (again with support from a small group of key SMEs) and then complete a vetting and review process involving the primary partners and stakeholders.
- Finalize the roadmap for joint publication by CIDRAP and the WHO (anticipated to be in late summer 2018).
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News Scan for May 21, 2018

India officials issue warning after at least 3 die due to Nipah virus
At least three people died from Nipah virus infections in India’s Kerala state, located in the south of the country, according to media reports today. Officials are also investigating eight other deaths to see if they are connected to the outbreak.

Kerala state officials issued a warning today about the virus, which is primarily transmitted by fruit bats. Media reports said the fatalities included a nursing assistant who worked with two siblings who had contracted the virus. The siblings reportedly had eaten fruit from a compound where they were building a home, and a bat was captured in an on-site well and is being tested for the virus.

The BBC, citing local officials, said 25 others have been hospitalized with symptoms of Nipah disease.

Though animal-to-human transmission is most common, human-to-human transmission has been previously documented in Nipah infections.

Nipah, which the World Health Organization (WHO) considers a priority emerging infectious disease threat, has no vaccine or cure, and a case-fatality rate of more than 70%.

May 21 Medical Xpress story
May 21 BBC article
WHO Nipah R&D page
Distribution of Nipah virus cases, Kerala State, India, as of 31 May 2018

Data as of 31 May 2018

Number of Nipah cases
- 5 cases
- Confirmed Cases
- Suspected cases

Map produced on 31 May 2018
Nipah death toll in India hits 12 as CEPI funds vaccine efforts

One more death has been reported in India’s Nipah virus outbreak, and today the Coalition for Epidemic Preparedness Innovations (CEPI) announced a $25 million collaboration with two pharmaceutical companies to develop a vaccine against the disease, one of the group’s priority diseases.

The latest death involves one more family member in the original illness cluster, lifting the number of deaths in the outbreak to 12, The Hindu, an English-language newspaper based in India, reported today. The 60-year-old man had been receiving treatment at a hospital in Kozhikode district in Kerala state, the outbreak’s epicenter. Two of his sons and a sister-in-law had also died from the disease.

Today Kerala state’s health department said the outbreak total has reached 36 cases, 14 of them confirmed and 22 suspected.
Officials: 15 dead in India’s Nipah outbreak

Fifteen people are dead after contracting Nipha virus in India’s Kerala state, according to the latest updates from health officials in the region.

Medical officer V. Jayashree told Reuters that totals in the outbreak now stand at 17 cases, and the 2 most recent patients likely contracted the disease from a medical college. So far, the disease has stayed in Kerala state.

According to an update today from the World Health Organization (WHO), as of May 28, officials are tracking 16 suspected cases identified through contact tracing. More than 700 additional people, including health care workers, are under observation.

"In the current outbreak, acute respiratory distress syndrome and encephalitis have been observed," the WHO said. "This is the first NiV [Nika virus] outbreak reported in Kerala State and third NiV outbreak known to have occurred in India, with the most recent outbreak reported in 2007."

Nipah can be spread through contact with bats, pigs, and infected bodily fluids.

May 31 Reuters story
May 31 WHO update
Lancet editors underscore need for more Nipah research
In light of the Nipah virus outbreak in Kerala, India, which has left 16 dead, the editors of The Lancet penned an editorial calling for more research on the emerging virus.

Like Ebola, the experts say, Nipah has pandemic potential, and the recent human-to-human transmission seen among healthcare workers and family members of patients in India provides more evidence that the virus is highly infective and often deadly. Some estimates show Nipah as having a 75% case-fatality rate.

The World Health Organization (WHO) has issued a roadmap for Nipah, the editors note, after the agency included the virus in the 2018 list of priority epidemic threats. And the Coalition for Epidemic Preparedness Innovations, announced on May 21 a $25 million investment in two US biotechnology firms working on a Nipah vaccine.

"However, for true countermeasures and preparedness, a broader and more comprehensive approach and investment are urgently needed. In addition to diagnostics, therapeutics, and vaccines, surveillance infrastructure must be improved to rapidly identify and verify cases, conduct detailed contact tracing, investigate spillovers, and better understand the ecology of bats and Nipah virus infection, especially outside of outbreak scenarios," the editors warn.

According to the WHO, there have been 600 human cases of Nipah from 1998 to 2015, all in South and East Asia. The virus's natural host is the fruit bat, but outbreaks have also infected livestock. The first human outbreak occurred in the late 1990s in pigs in Malaysia and Singapore and moved to humans, killing 106 people.

Jun 8 Lancet editorial
WHO Nipah R&D blueprint and roadmap
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News Scan for May 23, 2018

Updated estimate puts annual US flu price tag at $11.2 billion
A new estimate of flu's burden on the United States economy each year puts the cost at $11.2 billion, a research team from Australia and the United States reported yesterday in Vaccine.

The group's findings are the first update of flu burden numbers in about a decade and use sources that weren't available when the last assessment was made. They said the current assessment is needed to help policymakers evaluate flu prevention strategies.

To calculate the cost burden, the team looked at flu outcomes such as non-medically attended illnesses, clinic visits, emergency department visits, hospitalization, and deaths and applied them to the 2015 US population. They estimated both direct healthcare costs and indirect costs, such as absenteeism. They presented their results by five age-groups: children younger than 5, children 5 to 17, adults 18 to 49, adults 50 to 64, and seniors age 65 and older.

Of the $11.2 billion (range $6.3 to $25.3 billion) in economic burden, $3.2 billion was from direct medical costs and $8 billion was attributed to indirect costs such as lost productivity. "This updated estimate suggests that substantial costs from influenza remain despite the vaccination efforts in the U.S. setting," the authors wrote.

Seniors had the largest share of total direct costs, mainly reflecting hospitalizations. Most indirect costs were attributed to working-age adults, chiefly from productivity costs related to lost income due to flu-related deaths.
Flu on the rise in some parts of the Southern Hemisphere

As the Southern Hemisphere approaches its winter season, flu activity has increased in some tropical regions of the Americas, as well as in the temperate zones where the pace of infections hasn’t yet passed the thresholds in most countries, the WHO said yesterday in its latest global flu update for the week ending May 13.

In Brazil, the percentage of respiratory specimens testing positive for flu is still rising, with influenza A viruses predominant. In Chile and Paraguay, flulike illness and severe acute respiratory illness levels are increasing but are still below seasonal thresholds. South Africa marked the start of its flu season in early May, with 2009 H1N1 predominant and activity still at low levels. In the region around Australia and New Zealand, flu is still mainly at interseasonal levels, except for New Caledonia, which has seen a rise in 2009 H1N1 activity.

Other areas seeing increases include Ethiopia, mainly from 2009 H1N1.

In other parts of the world, flu levels were declining, were low, or had returned to interseasonal levels.

Globally, of respiratory specimens that tested positive for flu from late April through the middle of May, 58% were influenza A and 42% were influenza B. Of subtyped influenza A viruses, 62.4% were 2009 H1N1 and 37.6% were H3N2. Of characterized influenza B specimens, 85% were the Yamagata lineage.

May 28 WHO global flu update
Latest US pediatric flu death means 2017-18 deadliest season for kids

The Centers for Disease Control and Prevention (CDC) announced a flu-related pediatric death late last week, bringing the total for the 2017-18 flu season to 172. That total exceeds the 2012-2013 season, making last year’s flu season the deadliest for kids in a non-pandemic year.

"Approximately 80% of these deaths occurred in children who had not received a flu vaccination this season. CDC recommends an annual flu vaccine for everyone 6 months and older. These deaths are a somber reminder of the importance of flu vaccination and the potential seriousness of flu," the CDC said in a news release.

The CDC has tracked flu-related pediatric deaths since 2004. In 2011-12, only 37 pediatric deaths from flu complications were reported to the CDC. During the 2009 H1N1 pandemic, 338 pediatric deaths were recorded.

Of the 172 cases from this season, about 60% of patients died after hospitalization, and 40% at home or in emergency departments. Patients were divided evenly among girls and boys, and most children died within 7 days of symptom onset. About half of the deaths occurred in otherwise healthy children.

Jun 8 CDC news release
Number of Influenza-Associated Pediatric Deaths by Week of Death: 2014-2015 season to present

- **2014-2015**
  - Number of Deaths Reported = 148

- **2015-2016**
  - Number of Deaths Reported = 93

- **2016-2017**
  - Number of Deaths Reported = 110

- **2017-2018**
  - Number of Deaths Reported = 172

Week of Death:
- Green bar: Deaths Reported Previous Week
- Blue bar: Deaths Reported Current Week
Flu in kids is associated with asthma treatment failure

Upper respiratory illnesses caused by influenza viruses can trigger asthmatic episodes that don’t respond to treatment in kids, new research in *Pediatrics* finds.

Today’s study assessed close to 1,000 children treated for moderate or severe asthma attacks in emergency rooms in the Montreal Children’s Hospital and three other Canadian hospitals from 2011 through 2013.

Study co-author Caroline Quach, MD, an associate professor of microbiology and infectious diseases at the University of Montreal and chair of the National Advisory Committee on Immunization of the Public Health Agency of Canada, explained that research had shown a connection between viral infections and children failing typical asthma treatment, but it wasn’t known how or if the risk differed among viruses.
Figure 1: Epidemiological curve of avian influenza A(H7N9) cases in humans by week of onset, 2013-2018.
News Scan for Jun 01, 2018

**CDC adds two novel H7N9 viruses to risk assessment list**

In an update to its Influenza Risk Assessment Tool (IRAT), the US Centers for Disease Control and Prevention (CDC) yesterday added 2 more viruses, raising the total on the list to 15.

The two additions are both North American lineage H7N9 viruses detected in US poultry over the past two seasons, a highly pathogenic form found at a commercial farm in Tennessee and a low-pathogenic form found in commercial and backyard poultry in Tennessee and three other states. No human cases were detected in any of the outbreaks involving the North American H7N9 viruses, which are not related to the H7N9 influenza that has sickened hundreds of people in China in recent years.

The CDC uses two sets of criteria to assess novel viruses, one that looks at the potential for human-to-human spread and the other geared toward overall impact on public health. It said both viruses are in the low-risk category.

*May 31 CDC summary of IRAT results*
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Venezuela confirms first polio case in nearly 30 years
For the first time since 1989, Venezuela has reported a case of vaccine-derived Sabin-type 3 poliovirus in the eastern state of Delta Amacuro, according to Newsweek.

The case comes after other diseases, including measles, tuberculosis, and diphtheria, have made a stark return in Venezuela amidst a collapsing national healthcare system.

According to a Pan American Health Organization (PAHO) update, the case involves a 2-year-old unvaccinated child who suffered paralysis onset on Apr 29. An ongoing investigation has also revealed that an 8-year-old girl in the same community reported flaccidity in her legs.

Jun 11 Newsweek story
Jun 8 PAHO report
Situation Summary

On 7 June 2018, the World Health Organization (WHO) International Health Regulations (IHR) Regional Contact Point received an unofficial report on the detection of Sabin type 3 vaccine poliovirus in a sample of a Venezuelan patient with acute flaccid paralysis (AFP). The same day, a request for verification was sent to the Venezuela IHR National Focal Point (NFP).

On 8 June, PAHO/WHO received updated information. The case is a 2-year-and-10-months-old child, with no history of vaccination, resident of an under-immunized indigenous community in Delta Amacuro, Venezuela; with paralysis onset on 29 April 2018. As of 31 May of 2018, the flaccid paralysis persisted in a lower limb. A Sabin type 3 vaccine poliovirus was isolated and typified by the national reference laboratory, the National Institute of Hygiene “Rafael Rangel” (INHRR), in the sample of this patient obtained on 30 April of 2018. The sample will be sent to a regional reference laboratory for confirmatory testing. Other children from the same community were vaccinated in April 2018 with oral bivalent polio vaccine.

The ongoing field investigation identified an 8-year-old girl, resident of the same community with a vaccine history of at least one dose of OPV, who presented flaccidity in a lower limb. No additional AFP cases have been identified to date through active search for AFP cases carried out in the community.

Advice to national authorities

PAHO / WHO reiterates to Member States the importance of reaching and maintaining polio vaccination coverage of more than 95% in each district or municipality, maintaining high quality of epidemiological surveillance, and updating the national poliovirus outbreak response plans.

References


POLIO RETURNS TO VENEZUELA AS ECONOMIC CRISIS CRIPPLES HEALTHCARE SYSTEM

BY DAVID BRENNAN ON 6/11/18 AT 6:40 AM

The deadly polio virus has returned to Venezuela 30 years after being eradicated, as the country’s healthcare system struggles under a nationwide economic crash.

The case—the first since 1989—was reported in the eastern state of Delta Amacuro and comes alongside additional spikes in diphtheria, tuberculosis, measles and malaria infections, the Daily Telegraph reported.

Polio is a serious viral infection and, for up to 1 in every 100 people affected, can cause temporary or permanent paralysis. It is spread by consuming food or water contaminated with infected fecal matter. There is no cure for the potentially deadly illness, making vaccination vital. Global healthcare efforts mean there have only been 10 confirmed new cases globally this year: eight in Afghanistan and two in Pakistan.

However, vaccine coverage is falling across Venezuela as the health system reacts to the nation’s economic crisis. In Delta Amacuro, vaccines only reach around 67 percent of the state. “The government is not approving the money for the vaccines,” said Manuela Bolivar, a member of Venezuela’s opposition-controlled National Assembly who is analyzing the increase in infections. “This situation is unfortunate but we saw it coming, because we’ve been denouncing for years that there are not enough vaccines.”
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WHO, World Bank unveil new global health security monitoring board

In a major development today on the sidelines of the World Health Assembly under way in Geneva, the World Health Organization (WHO) and the World Bank Group announced the launch of a new mechanism to firm up global health security, an independent monitoring board to regularly assess country preparedness to handle outbreaks, pandemics, and other health emergencies.

The new Global Preparedness Monitoring Board (GPMB) will be cochaired by Gro Harlem Brundtland, Norway's former prime minister, and Elhadj As Sy, secretary general of the International Federation of the Red Cross and Red Crescent Societies.

In a WHO news release, WHO Director-General Tedros Adhanom Ghebreyesus, PhD, said, "The ongoing Ebola outbreak in the Democratic Republic of the Congo is a stark reminder that outbreaks can happen anywhere, at any time." He added that part of being prepared is assessing progress made at all levels to identify gaps, including financing.

Jim Yong Kim, MD, PhD, World Bank president, said the cycle of panic and neglect has continued for too long, and the GPMP marks a big step toward breaking the pattern. "The GPMB will help save lives, prevent economic damage, and ensure that we keep pandemic preparedness at the top of the global agenda," he said.
News Scan for Jun 04, 2018

GAO finds states' preparedness funds from HHS have dropped 30%

The amount of money given to states by the US Department of Health and Human Services (HHS) for infectious disease, bioterrorism, and other public health preparedness has fallen almost 30%—from about $1.4 billion per year to about $1 billion per year—since 2003, when it was at its peak, the Government Accountability Office (GAO) said in a recent report.

GAO investigators noted that, from 2002 through 2017, HHS awarded about $3 billion to states and others to respond to specific disease threats, such as Zika, Ebola, and H1N1 pandemic influenza. HHS awarded an additional $18 billion for general public health preparedness activities. Their assessment of three programs found that most responder protection and coordination efforts met goals, while efforts in other areas were less consistent.

HHS directs three key preparedness and capacity-building programs—Epidemiology and Laboratory Capacity for Infectious Diseases (ELC), the Hospital Preparedness Program (HPP), and Public Health Emergency Preparedness (PHEP). These three programs awarded about $21.2 billion to states and other jurisdictions during the study period to carry out public health preparedness and response efforts related to infectious diseases, natural disasters, and terrorist events. Breakdown by program was $11.4 billion for PHEP, $5.6 billion for HPP, and $1.5 billion for ELC.

As the budget for states' preparedness efforts dropped from $1.4 billion to $1 billion from 2003 to 2017, HPP award amounts declined 54%, while PHEP grants dipped about 33% from 2002 to 2017. Annual appropriations through ELC, in contrast, doubled, from about $100 million to about $200 million.
Experts say focus on surveillance, not genomes for pandemic readiness

Spending public health money on surveillance rather than on broad, expensive genomic surveys of animal diseases is a sounder investment and better way to prepare for the next pandemic or other global health emergency, three infectious disease experts wrote today in Nature.

"The resurgence of Ebola virus in the Democratic Republic of the Congo this May is a stark reminder that no amount of DNA sequencing can tell us when or where the next virus outbreak will appear," they write, noting that more genome sequence data were obtained in the 2014-16 Ebola outbreak in West Africa than for any single epidemic.

The experts—Edward C. Holmes, PhD, of the University of Sydney, Andrew Rambaut, PhD, of the University of Edinburgh, and Kristian G. Andersen, PhD, at The Scripps Research Institute—also maintain that overselling the potential of genome sequencing to predict future outbreaks undermines trust in public health.

They highlight the recently announced Global Virome Project and its $1.2 billion price tag, which is about a fourth of the annual infectious disease research budget of the US National Institute of Allergy and Infectious Diseases. "Broad genomic surveys of animal viruses will almost certainly advance our understanding of virus diversity and evolution," they write. "[But] in our view, they will be of little practical value when it comes to understanding and mitigating the emergence of disease.

"We urge those working on infectious disease to focus funds and efforts on a much simpler and more cost-effective way to mitigate outbreaks—proactive, real-time surveillance of human populations." They add that emerging diseases are often tied to factors like human encroachment on animal habitat, environmental disturbances, and climate change.

Jun 7 Nature commentary
World container ship traffic has doubled since 1997

Ship Traffic Worldwide: Wednesday, June 13, 2018, 3:29 PM UTC
A new report is warning about an emerging crisis in the global antibiotic supply chain that's causing antibiotic shortages and contributing to antimicrobial resistance (AMR).

In a white paper released today, the Dutch nonprofit Access to Medicine Foundation argues that a fragile global supply chain that's dependent on a small number of antibiotics manufacturers, along with a financially unstable economic model, are responsible for shortages of antibiotics on a global and national level. Because of these shortages, some patients in need of antibiotics are being treated with lower-quality medications that don't cure their infections and increase the risk of resistance.

"Less effective or more toxic treatment alternatives can contribute to AMR because every time we use an antibiotic, we give bacteria the chance to adapt and develop resistance," the authors write. "To reduce the threat of AMR, doctors must ensure that the right antibiotic is used against the right organism."
<table>
<thead>
<tr>
<th>BT Item #</th>
<th>Description</th>
<th>Mfcr ETA for next release</th>
<th>Date Mfcr expects back orders to clear</th>
<th>Possible sub **</th>
<th>Description</th>
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<tbody>
<tr>
<td>0542-02</td>
<td>Adenosine 6mg, 2ml Vial (limited qty on hand)</td>
<td>mfcrr allocation</td>
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| 0302-66  | Amiodarone 150mg, 3ml syringe | mfcrr allocation | | | `
<p>| AB1630-10 | Atropine 1mg, 10ml ANSYR | June | September | 0616-03 | Amiodarone 150mg, 3ml vial |
| 374910  | ATROPINE 0.9MG 5ML LIFESHELF SYRINGE 10/40A 10EA/BX | June | June | | Atropine 1mg, 10ml Lifeshef |
| 371531  | Calcium Chloride 1gm, 10ml Lifeshield | June | | No Available Sub | |
| 373304  | Calcium Chloride 1gm, 10ml Luer Jet | June | August | No Available Sub | |
| 371010  | Calcium Chloride 1gm, 10ml ANSYR | June | | No Available Sub | |
| 366-19  | Calcium Gluconate | June | | | |
| 0370-01  | CyanoKit 9 gm Hydroxyocobalamin Kit, Contains 1 IV Admin set and 1 Transfer Spike, 16ea/cs | June | | | |
| 371116  | C2 DEMEROL 50MG/ML 1ML AMPULE 25/BOX CS15 | Early July | September | | |
| 371117  | C2 DEMEROL 100MG/ML 1ML CPJ LL 10/BOX | March 2019 - BTM not accepting backorders due to extended BO period | | | |
| 371176  | C2 DEMEROL 250MG/ML 1ML CPJ LL SLM 10/BOX | June 2019 - BTM not accepting backorders due to extended BO period | | No Available Sub | |
| 371116  | C2 DEMEROL 50MG/ML 1ML CPJ LL SLM 15/BOX | June 2019 - BTM not accepting backorders due to extended BO period | | No Available Sub | |
| 371775  | Dextrose 25% 10ml ANSYR Syringe | June | June | No Available Sub | |
| 074490201 | Dextrose 50% 50ml Lifeshield | June | | | Dextrose 50% 50ml Lifeshield |
| 373301  | DEXTROSE 50% 250ML, 50ML Luer Jet 10/125 | June | | No Available Sub | |
| 377515  | DEXTROSE 50% 25GM, 50ML ANSYR SYRINGE | June | | No Available Sub | |
| D6648-02 | Dextrose 50%, 25gm, 50ml vial, 25ea/bx | June | June | 0074490201 | Dextrose 50% 50ml Lifeshield |
| 370951EA | C4 DIAZEPAM 10MG AUTO- INJECTOR | June | June | | DIAZEPAM 5MG/ML 10ML VIAL |
| 371104  | DIAZEPAM 10MG, 2ML CARPUJECT | TBD - BTM not accepting backorders due to extended BO period | March 2015 | 3213-12 | |
| 0409-4350-03 | DILTIAZEM 100MG ADD-VANTAGE VIAL | July | | | |
| 1171-01ea | DILTIAZEM 25MG, 5ML VIAL | Mar-19 | March 2019 | No Available Sub | |
| 0013-10  | Diltaizem, 25 mg, 5 ml Vial “Refrigerate” 10ea/Box | late April | June 2019 | No Available Sub | |
| 0014-10  | Diltaizem, 50mg, 10ml Vial “REFRIGERATE” 10ea/Box | April | Unknown | No Available Sub | |
| 374452  | DIPHENHYDRAMINE 50MG Luer Locking CARPUJECT | March 2019 - BTM not accepting backorders due to extended BO period | | No Available Sub | |
| 0376-25  | DIPHENHYDRAMINE 50MG/ML 1ML SDV 2055 - BENADRYL 25ML 5SPK | Best Exp date is 12/2018 | | No Available Sub | |
| 234401  | DOBUTAMINE 250MG 20ML/VIAL | June | June | No Available Sub | |
| 0075481901 | MFG/BIO Dopamine 200MG 5ML VIAL 2040 25EA/BX | June | June | | |
| 379104  | Dopamine 400mg, 10ML VIAL | June | | No Available Sub | |
| 377808  | Dopamine 200MG/DS 250ML BAG | June | June | | |
| 7808-22  | MFG/BIO Dopamine 400mg 250ml Bag 12EA/CS | June | June | No Available Sub | |
| 118-280842E | Dopamine, 400mg, 5% Dextrose, injection, 250ml | unknown | unknown | No Available Sub | |
| 377809  | DOPAMINE 800MG/50ML 500ML BAG 3025 12EA/CS | June | September | | |
| 118-280843EA | Dopamine, 800mg, 5% Dextrose, injection, 500ml | June | September | No Available Sub | |
| 620-01  | Duodote Auto Injectors | Product now available | | No Available Sub | |
| 6019-10  | Duramorph Cil 10mg, 10ml ampule | mfcrr allocation | | No Available Sub | |
| AB2122-01 | Enalaprilat 1.25mg, 1ml vial | June | June | 9787-10 | Enalaprilat 1.25mg, 1ml Vial |
| 1649-49  | Epinephrine 0.3mg Autoinjector 2 pack | unknown | | 2192-02 | Epinephrine Adult 2 Pack AUSSjector 0.3mg, 0.3ml “SAFETY” |
| 1695-49  | Epinephrine Auto Injector 0.15mg 2-pack | unknown | | 2191-02 | Epinephrine Junior 2-Pack Auto-Injector 0.15mg, 0.3ml “SAFETY” |
| 374921  | EPINEPHRINE 1:10000 1MG 10ML LIFESHELF SYRINGE | June | September | 163-10 | Epinephrine 1mg, 10ml ampule (not a direct sub, |</p>
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<td>373315</td>
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<td>ETOMIDATE 20MG, 10ML VIAL</td>
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<td>ETOMIDATE 20MG, 10ML VIAL</td>
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<td>Amide 40MG, 20ML Lifeshield</td>
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<td>C2 Fentany 0.05mg/ml 2ml Vial, 25/Bx</td>
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<td>C2 Fentanyl 0.05mg/ml 2ml SDV 25/BX</td>
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<td>March 2019</td>
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<td>C2 Fentany 0.05mg/ml 2ml Vial, 25/Bx with Safety Seal</td>
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<td>2051-05</td>
<td>C3 Ketamine 100MG, 5ML VIAL, 10/BX</td>
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<td>Levophed 0.1% 4MG, 4ML Vial 10ea/bx</td>
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<td>6019-10</td>
<td>C4 Midazolam 5mg, 5ml vial 10/EX</td>
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<td>June 2019- BTM not accepting backorders due to extended BO period</td>
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<td>Ondansetron 2mg/ml, 20ml vial</td>
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<td>September</td>
<td>605-10</td>
<td>Sodium Chloride 0.9% 10ml Prefilled Syringe</td>
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<td>Sodium Chloride 0.9% 10ml Plastic Vial 25ea/bx</td>
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<td>Sterile Water 10ml vial</td>
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</table>

Although BTM has commented on supply dates provided to us by the manufacturer, our noted times of arrival are best estimates. The supply allocation and shipments from the manufacturer are fluctuating daily. Please call the following number for additional questions: BTM Customer Service Department: 800-533-0523.
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Nicaragua household study reveals Zika longevity in body fluids

A household study of people infected in Nicaragua’s Zika virus outbreak in 2016 yielded new information on illness levels in contacts and symptom patterns. The study, conducted by a Nicaragua-based research team in 17 neighborhoods of Managua, appeared yesterday in *PLoS Neglected Tropical Diseases*.

Nicaragua experienced an explosive epidemic from June to September of 2016, and the study focused on cases reported in part of the capital city between Aug 31 and Oct 21 of that year. The researchers identified 33 lab-confirmed cases during the study period, along with 109 contacts, and followed them for 3 weeks, collecting clinical and demographic information, as well as lab samples that included blood, saliva, and urine.

They found that 62% of the people they followed had asymptomatic infections, consistent with earlier studies that put the percentage between 27% and 82%. They found that viral load in serum was relatively high before symptom onset, suggesting that asymptomatic infection may play an important role in virus transmission. Of the index patient households, 61% had contacts with Zika infection, with 1.9 positive contacts (range 1 to 6) per household. In 60% of households, more than 50% of members were positive for Zika infection, hinting that transmission was widespread among the affected families in Managua.
News Scan for Jun 06, 2018

**Aedes aegypti** mosquitoes found in Alabama after 26-year absence

For the first time in 26 years, Alabama is playing host to *Aedes aegypti* mosquitoes, the insects that transmit Zika, dengue, and other viruses, according to a study in the *Journal of Medical Entomology*.

Scientists from Auburn University's School of Forestry and Wildlife Sciences found the mosquitoes in Mobile. The research was part of the Centers for Disease Control and Prevention's (CDC's) mosquito surveillance program.

"Our CDC-funded research has not only allowed for the detection and molecular confirmation of the mosquito in the state, but over the last year we have documented the spread of the mosquito from central Mobile to all of Mobile County," said Sarah Zohdy, PhD, in an Auburn news release. Zohdy coauthored the study and is a professor of disease ecology at Auburn.

From July of 2016 to May of 2017, Zohdy collected mosquitoes twice monthly at gas stations, abandoned buildings, and open containers. The *Ae aegypti* were found in the southwest corner of Mobile.

*Ae aegypti* were last found in the state in 1991, and were thought to have been knocked out of local mosquito populations by *Aedes albopictus*, another species that breeds in open containers.

*Apr 5 J Med Entomol* study
*Jun 4 Auburn University* press release
Laboratory-confirmed symptomatic Zika virus disease cases* reported to ArboNET by states and territories—United States, 2018 (Provisional data as of June 6, 2018)

*Case counts include all symptomatic Zika virus disease cases, including cases in travelers returning from affected areas, cases acquired through presumed local mosquito-borne transmission and cases acquired through other routes. Cross hatching signifies areas with reported sustained local mosquito-borne transmission in 2018.
Brazil reports more yellow fever cases and deaths
Brazil's health ministry yesterday reported four more lab-confirmed yellow fever cases, along with 15 more deaths, according to its weekly update. The ministry said health officials are still working through the process of confirming or ruling out a backlog of suspected cases.

The country has now reported 1,261 cases and 409 deaths from the disease, for a case-fatality rate of 32.4%. Most of the confirmed cases have been reported from the southeast region of Brazil.

The current outbreak is the country's biggest in decades and triggered a nationwide immunization program with full and fractioned doses of the yellow fever vaccine. Though the number of cases this season, which ends on Jun 30, has passed the previous season, the incidence is lower, because the mosquito-borne virus is circulating in areas of the country with larger populations.

So far there is no evidence that *Aedes aegypti* mosquitoes are involved in the current transmission cycle, with human illnesses occurring in areas were epizootics (outbreaks in animals) are occurring.

*May 9 Brazilian health ministry update*
Yellow fever distribution and areas of risk in Brazil, as of 16 May 2018

Confirmed cases of locally-acquired yellow fever, as of 16 May 2018

- States with confirmed locally-acquired cases since July 2017
- Area at risk for yellow fever transmission
- Area considered at no risk for yellow fever transmission
- Federal state

ECDC. Map produced on: 23 May 2018
ECDC map maker: https://emmap.ecdc.europa.eu
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Yemen will enter its rainy season this month with an ongoing cholera epidemic, and a new study based on the country’s national cholera surveillance system describes how rain, along with multiple confounding factors, helped create the largest cholera outbreak in history and could well trigger another wave of the deadly disease.

The study, published yesterday in the *Lancet Global Health*, notes that Yemen’s cholera epidemic is rooted in a civil war that broke out in March of 2015, disrupting infrastructure in two key ways: The war forced half of the country’s clinics and hospitals to close, and it left half of Yemenis without clean water.

From September of 2016 to March of 2018, officials in Yemen recorded 1,103,683 suspected cholera cases (attack rate, 3.69%) and 2,385 deaths (case-fatality rate, 0.22%), the authors note.
U.N. Withdraws From Yemeni Port City Amid Fears Of Devastating Attack

June 12, 2018 · 10:46 AM ET

The United Nations has withdrawn its international aid workers from the Yemeni port city of Hodeidah, amid intense negotiations to avert a devastating attack by pro-government forces backed by the United Arab Emirates.

A senior United Nations official warns a prolonged siege of the Red Sea port could put hundreds of thousands of civilians at risk.

Lise Grande, the U.N. humanitarian coordinator for Yemen, said all international staff had been pulled out of Hodeidah Monday to the capital Sanaa and elsewhere.

She told NPR that many local U.N. staff had chosen to stay to try to keep delivering services.

"The U.N. is doing everything it can to continue its programs," she said in Amman, Jordan, en route to Sanaa. "We have national teams that are in place that are going to be running those programs. There are so many lives at stake."

Grande says U.N. studies estimate a shutdown of the port over "many months" would put a quarter-million Yemenis at risk of dying from malnutrition or cholera and other diseases. Yemen is heavily dependent on imported food, fuel and medicine, and the U.N. estimates that 70 percent of Yemen's imports come through Hodeidah.
WHO launches cholera vaccine drive to reach 2 million in Africa

In response to cholera outbreaks in several African countries over the past several months, the World Health Organization (WHO) today announced the largest cholera vaccination drive in history, with a goal of reaching 2 million people.

The oral cholera vaccine will come from the global stockpile and is funded by Gavi, the Vaccine Alliance. Campaigns will take place in Zambia, Uganda, Malawi, South Sudan, and Nigeria. Country health ministries, supported by the WHO and partners of the Global Task Force on Cholera Control, will complete the campaigns, which include a second round of vaccinations, by the middle of June.

Seth Berkley, MD, Gavi’s chief executive officer, said the response is unprecedented. "We have worked hard to ensure there is now enough vaccine supply to keep the global stockpile topped up and ready for most eventualities." He added, however, that the need for improved water and sanitation—the only long-term sustainable solution to the outbreaks—has never been more obvious.

Use of cholera vaccines has expanded considerably since 1997 to 2012, when just 1.5 million doses were available. With steady growth in the global stockpile, nearly 11 million doses were deployed in 2017, and the WHO said that in the first 4 months of 2018, more than 15 million disease have already been approved for use. The vaccine is recommended to be given in two doses, with the first providing protection for 6 months and the second for 3 to 5 years.
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FAO chief urges wiser antibiotic use in food animals

The head of the United Nations Food and Agriculture Organization (FAO) today called for more responsible use of antibiotics in animal health, urging an end to the use of antibiotics for growth promotion.

The comments were made at a high-level meeting on antimicrobial resistance (AMR) held in France, where representatives of the FAO, the World Health Organization (WHO), and the World Organization for Animal Health (OIE) gathered to discuss joint efforts to combat health threats associated with interactions among humans, animals, and the environment. The organizations agreed to step up those efforts, particularly measures aimed at tackling AMR.

FAO Director-General Jose Graziano da Silva, PhD, said that the use of antibiotics for growth promotion, especially in livestock and aquaculture, "should be phased out immediately," and that the use of antibiotics for disease prevention should be limited.
A report today from the Natural Resources Defense Council (NRDC) is taking the US pork industry to task for irresponsible use of medically important antibiotics, saying the amount of antibiotics used in pigs is nearly the same as that used to treat humans.

The report estimates that 27.1% of all medically important antibiotics sold in the United States are for pig production, while a roughly equivalent amount—27.6%—is sold for use in human medicine. The report suggests that the heavy use of antibiotics in pigs is primarily for disease prevention, a practice the NRDC says is unnecessary. The group argues that the heavy use of antibiotics in pig and other livestock production is contributing to the rise and spread of antibiotic resistance in both animals and people.

Report author David Wallinga, MD, a senior health officer with NRDC, told CIDRAP News that the findings are "startling and important for anybody that cares about continued effectiveness of these drugs for treating sick people."
CDC study: Antibiotics still widely overused for respiratory infections

The overuse of antibiotics to treat acute respiratory infections (ARIs), including influenza, is still widespread, according to a new study that covered close to 15,000 patients in five regions around the country over two flu seasons.

Researchers with the Centers for Disease Control and Prevention (CDC) found that 41% of antibiotic prescriptions written for patients with ARIs were inappropriate, according to their report published today in *JAMA Network Open*.

Among other things, the team found that close to 30% of patients who had lab-confirmed flu were prescribed antibiotics, though flu is a viral infection, and that more than a few sore-throat patients received such prescriptions even though they tested negative for a bacterial cause.
A new study has found that the view that there is potential benefit and very little risk in taking antibiotics is widespread among the public, patients, and clinicians.

The findings, published in the journal *Medical Decision Making*, are based on three surveys in which 225 emergency department patients and 149 healthcare providers at two urban US academic hospitals, along with 519 online subjects, were presented with a scenario of a patient with symptoms of a common upper respiratory infection—an indication that generally doesn’t warrant antibiotics—and then asked to answer questions about antibiotics, including questions about prior use and expectations for antibiotics.

The results showed that while clinicians demonstrated greater knowledge about antibiotics and potential side effects, the predominant strategy (or "gist") for the decision about antibiotic use among both patients and clinicians was "why not take a risk." This strategy compares the status quo of being sick to the potential of benefitting from antibiotics, while assuming that there is negligible risk.
UV-light cleaning shown to cut superbugs hospital-wide

A new study led by researchers from Duke University has found that adding short-wavelength ultraviolet-C light (UVC) to standard room cleaning strategies modestly decreases hospital-wide incidence of two common healthcare-associated infections.

The randomized controlled trial, conducted at nine hospitals in the southeastern United States, found that enhanced terminal room disinfection with UVC in a subset of rooms previously occupied by patients colonized or infected with multidrug-resistant organisms (MDROs) led to a decrease in hospital-wide incidence of Clostridium difficile and vancomycin-resistant enterococci (VRE). The results, published yesterday in The Lancet Infectious Diseases, were from a secondary analysis of a 2017 study that found that adding a UVC device to standard room disinfection in high-risk rooms decreased the risk of subsequent acquisition of C difficile and other MDROs.
WHO aims to build health worker knowledge of antimicrobial stewardship

The World Health Organization, following up on its 3-year-old action plan to fight antimicrobial resistance (AMR), yesterday released guidance to help ensure that health workers have the knowledge and skills they need for that effort.

The guidance is a 28-page document titled *WHO Competence Framework for Health Workers' Education and Training on Antimicrobial Resistance*. It is intended mainly for education and training institutions, accreditation and licensing bodies, and authorities that make health policy.

Measures to improve healthcare workers' education and training on AMR are listed as the first objective in the WHO's global action plan on AMR, which was released in 2015, the document notes. It says that major gaps exist in the awareness of AMR and in the availability of technical resources to address the problem.

Among health workers, factors that can contribute to the overuse or misuse of antimicrobials include lack of knowledge about the appropriate use of these drugs and lack of patient education about the importance of completing the full course of treatment.

The framework includes detailed competencies and training modules that can be adapted to local needs and resources.
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Is Immunity to MMR Vax Waning?
— Mumps infection confirmed in vaccinated military members

by Molly Walker, Staff Writer, MedPage Today
June 09, 2018

ATLANTA -- A 2017 mumps outbreak at a military facility mostly infected service members who had been immunized with the measles, mumps, and rubella (MMR) vaccine, a researcher said here.

Of the six cases of mumps from this outbreak, four of six had IgG titers that were seropositive, indicating they should have been immune to the disease, reported Lindsey Nielsen, PhD, of Brooke Army Medical Center, Fort Sam Houston, in San Antonio, Texas.

Laboratory PCR testing confirmed all six strains were Mumps Genotype G, which could suggest that the current MMR vaccine may not provide cross-protection against this particular strain of the disease, according to the poster presentation at the ASM Microbe meeting.

Nielsen noted that many components of the MMR vaccine were developed back in the 1960s -- specifically, the mumps component is live attenuated Jeryl-Lynn strain genotype A -- but that "the strains circulating are not the strains circulating now."

"Some of the laboratory tests we do is based on science that is 30 or more years old. We have to make sure that’s still relevant today, taking that into the context of clinical
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Distribution of confirmed cases of MERS-CoV by first available month and region, from March 2012 and as of 31 May 2018
Saudi Arabia has reported a family cluster of seven MERS-CoV cases near the city of Najran in the southwest, with the initial case a man who had contact with camels and drank camel milk before he got sick.

Abdullah Assiri, MD, Saudi Arabia’s assistant deputy minister for preventive health, said in a post to ProMED Mail that the first patient, age 45, got sick on May 17 and was hospitalized on May 20, where he is listed in critical condition with pneumonia and acute respiratory distress syndrome. ProMED Mail is the online reporting system of the International Society for Infectious Diseases.

MERS-CoV (Middle East respiratory syndrome coronavirus) doesn’t spread easily from person to person, and contact with camels is still the main source of transmission. However, MERS-CoV seems to spread more easily in hospital settings and clusters have been reported in household members who have close, unprotected contact with sick family members.
Suspected MERS patient from Middle East quarantined at Nonthaburi institute

A suspected MERS patient from a Middle Eastern country has been quarantined at the Bamrasnaradura Infectious Diseases Institute in Nonthaburi, Disease Control Department director-general Suwanchai Wattanayingcharoenchai said on Tuesday.

The patient is an African man living in a Middle Eastern country, Suwanchai said.

He was forwarded to the institute from a university hospital on Monday after his symptoms suggested that he might have caught MERS, or Middle East respiratory syndrome.

Suwanchai said the patient was currently diagnosed with lung infection, but his disease had yet to be checked and isolated by laboratories of the institute and the Medical Sciences Department, and it would therefore take some days before the results were known.

The department chief added that the man had also showed MERS symptoms while travelling by air to Thailand, so he could have spread the disease during his journey.

The department has therefore sought cooperation from the airline to contact and monitor travellers who were on the same flight.
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Romaine-linked E coli outbreak grows; Arizona farm named in Alaska cases

Federal health officials have linked whole-head romaine lettuce implicated in eight Alaska cases that are part of a multistate *Escherichia coli* O157:H7 outbreak to a specific farm in Arizona, but are still tracking the source of contamination in chopped romaine responsible for illnesses in other states.

Identification of the farm adds a new piece to the outbreak investigation puzzle, but since most of the illnesses involved chopped romaine and are parts of different subclusters, officials have a complex tracing task on their hands, with more farms to consider and contamination possible anywhere along the supply chain.

The US Centers for Disease Control and Prevention (CDC) said today that 14 more cases have been reported, pushing the national total to 98 cases. Three more states reported cases—Mississippi, Tennessee, and Wisconsin—putting the number of affected states at 22. At a media telebriefing today, Matthew Wise, PhD, MPH, deputy branch chief for outbreak response at the CDC, said the outbreak is the largest involving *E coli* O157:H7 since an 2006 outbreak linked to fresh spinach that sickened about 200 people.
First death reported in romaine-linked E coli outbreak

In an update on an *Escherichia coli* O157:H7 outbreak linked to romaine lettuce today, the US Centers for Disease Control and Prevention (CDC) reported the first death, along with 23 more illnesses from 10 states, lifting the total number of people sickened in the outbreak to 121.

Federal health officials are still investigating exactly where and how the romaine was contaminated with the bacteria, as the reach expands in an outbreak that has hospitalized half of the people it has sickened.

**Death reported in California; 52 hospitalized**

The death was reported in a California resident. Last week the CDC said is seeing a higher than usual number of hospitalizations in the outbreak, which officials said is a pattern seen in the past with outbreaks involving *E coli* strains that only produce Shiga toxin type 2 (STX2).
News Scan for May 17, 2018

*E coli* outbreak grows to 172 cases but romaine OK to eat, US officials say

Federal officials have added 23 cases and three newly affected states to a multistate outbreak of *Escherichia coli* cases linked to romaine lettuce and gave what amounts to an all-clear to resume eating the lettuce, according to updates yesterday.

New outbreak totals are 172 cases in 32 states, 75 hospitalizations, and 1 death, the Centers for Disease Control and Prevention (CDC) said in an update. Twenty patients developed hemolytic uremic syndrome, a type of kidney failure, which is 3 more cases than reported in the CDC’s previous update on May 9.

The newly affected states are Iowa, Nebraska, and Oregon. California has logged the most cases, at 39, followed by Pennsylvania (21), Minnesota (12), and Idaho (11).

Patients range in age from 1 to 88 years, with a median age of 29. Illness-onset dates range from Mar 13 to May 2. The implicated lettuce was grown in the Yuma, Ariz., growing region.

The Food and Drug Administration (FDA) said in its update, "The FDA has received confirmation from the Arizona Leafy Greens Marketing Agreement administered by the Arizona Department of Agriculture that romaine lettuce is no longer being produced and distributed from the Yuma growing region and that the last date of harvest was April 16, 2018. It is unlikely that any romaine lettuce from the Yuma growing region is still available in stores or restaurants due to its 21-day shelf life."
CDC: 25 more ill, 4 new deaths in E coli outbreak tied to lettuce

A multistate *Escherichia coli* outbreak linked to romaine lettuce grew by 4 deaths and 25 cases, according to an update today from the Centers for Disease Control and Prevention (CDC).

The CDC has now confirmed 197 cases in 35 states and 5 deaths in this outbreak. Three more states—Arkansas, North Carolina, and Oklahoma—reported sick people since the CDC’s previous update on May 16.

The four new fatal cases occurred in Arkansas (1), Minnesota (2), and New York (1). Eighty-nine people have been hospitalized since the outbreak began in March, including 26 people who developed hemolytic uremic syndrome, a serious kidney complication. According to the US Food and Drug Administration (FDA), this is the largest *E coli* outbreak in a decade.

The CDC said health officials continue to question patients. Of 158 patients interviewed, 140 (89%) said they ate romaine lettuce in the week before their symptoms started. Patients range in age from 1 to 88 years, with a median age of 29. Most patients (68%) are female.
What's New?

- Twenty-five more ill people from 13 states were added to this investigation since the last update on May 16, 2018.
- Three more states have reported ill people: Arkansas, North Carolina, and Oklahoma.
- Four more deaths were reported from Arkansas (1), Minnesota (2), and New York (1).
- It takes two to three weeks between when a person becomes ill with *E. coli* and when the illness is reported to CDC. Most of the people who recently became ill ate romaine lettuce when lettuce from the Yuma growing region was likely still available in stores, restaurants, or in peoples’ homes. Some people who became sick did not report eating romaine lettuce, but had close contact with someone else who got sick from eating romaine lettuce.

At A Glance

- Case Count: 197
- States: 35
- Deaths: 5
- Hospitalizations: 89
- Recall: No

Highlights

- Information collected to date indicates that romaine lettuce from the Yuma growing region could have been contaminated with Shiga toxin-producing *E. coli* O157:H7 and made people sick.
- According to the U.S. Food and Drug Administration, the last shipments of romaine lettuce from the Yuma growing region were harvested on April 16, 2018, and the harvest season is over. It is unlikely that any romaine lettuce from the Yuma growing region is still available in people's homes, stores, or restaurants due to its 21-day shelf life.

Advice to Consumers:
People infected with the outbreak strain of *E. coli* O157:H7, by state of residence, as of May 30, 2018 (n=197)
News Scan for Jun 08, 2018

CDC says pre-cut melon is likely source of 60 Salmonella cases in 5 states

Consumers in five Midwestern states should not eat pre-cut melon bought from several national retail chains because it is the likely source of 60 Salmonella infections in those states, the CDC announced today.

Cases have been reported in Illinois (6), Indiana (11), Michigan (32), Missouri (10), and Ohio (1), the agency said in an email to journalists. Thirty-one people have been hospitalized, but no deaths have been reported.

Sick people have reported eating pre-cut cantaloupe, watermelon, or a fruit salad mix with melon, according to the alert. Most people bought pre-cut melon at Walmart or Kroger stores in the Midwest. Yesterday Walmart and Kroger removed pre-cut melon linked to the outbreak from all Walmart, Kroger, Jay C, and Payless stores in the affected states.

The CDC said consumers should discard pre-cut melon bought from Walmart stores in any of the five states or from Kroger, Jay C, or Payless stores in Indiana and Michigan. The warning includes fruit salad mixes with pre-cut melon but does not include whole melons.

The Food and Drug Administration is working to identify a supplier of pre-cut melon to stores where sick people shopped, officials said. The CDC may expand its advice to consumers to include other stores where contaminated pre-cut melon was sold. State health officials are working with the two federal agencies on the investigation.

Jun 8 CDC notice
1. Highlights

- 1,049 laboratory confirmed cases have been reported from 01 January 2017 to 05 June 2018.
- The number of reported cases per week has decreased since the implicated products were recalled on 04 March 2018 with a total of 76 cases reported since 05 March 2018.
- Training of EHPs across the country is almost complete with 740 EHPs have been trained across 7 provinces to date. Training took place in Western Cape and Limpopo (28-30 May 2018), Free State and North West provinces (3-5 June 2018).
- A strategy for listeriosis screening by district environmental health practitioners has been agreed upon and will become effective from Monday 18 June 2018. See below for details.
- A consolidated list of meat processing facilities is being assembled, together with risk assessments done by districts in preparation for systematic inspection by the IMT and districts. Risk assessments have been received from 310 food processing facilities from 8 provinces, of which 79 are from meat processing facilities.
- A dedicated listeriosis website went live [http://listeriosis.org.za/listeriosis/] on 31 May 2018. Please provide feedback to Nombulelo Leburu [Nombul@health.gov.za]
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CDC reports tripling of vector-borne diseases since 2004

In a new Vital Signs publication today, scientists from the Centers for Disease Control and Prevention (CDC) released new data showing more than 640,000 Americans suffered from vector-borne illnesses from 2004 to 2016.

Researchers based the report on cases recorded by the National Notifiable Diseases Surveillance System for 16 notifiable vector-borne diseases, transmitted by fleas, ticks, and mosquitoes.

Many of the 642,602 cases are caused by nine new pathogens introduced into the United States during that same period by mosquitoes (Zika and chikungunya) and ticks, the report said.

"Zika, West Nile, Lyme, and chikungunya are making a lot of people sick," said new CDC Director Robert Redfield, MD, in a press conference. "These vector-borne diseases are moving into new parts of the country, and international travel and commerce is also contributing to the increase."
A new study shows that clothes treated with permethrin, an insecticide, were able to disrupt and impair ticks' ability to bite humans—including *Ixodes scapularis* (the black-legged tick or deer tick), the primary vector of Lyme disease in the eastern United States.

Though permethrin-treated clothing is commercially available in the United States, there’s been some debate on how effective it is at repelling ticks. This study, by researchers from the US Centers for Disease Control and Prevention (CDC) and published yesterday in the *Journal of Medical Entomology*, challenged three types of tickswith contact with permethrin-treated clothing for 1 minute, and measured tick activity during the next hour.

Ticks studies were the deer tick, the lone star tick (*Amblyomma americanum*), and the American dog tick (*Dermacentor variabilis*).

**Treated fabric limited ticks' movement**
The authors used 10 articles of permethrin-treated clothing from the company Insect Shield to conduct
SCIENCE ENVOYS AND FOCUS AREAS

New 2018-2019 Science Envoys

• The Honorable Charles Frank Bolden Jr., (USMC-Ret.), recently retired from service as the 12th Administrator of the National Aeronautics and Space Administration (NASA). At NASA, Bolden oversaw the safe transition from 30 years of Space Shuttle missions to a new era of exploration focused on full utilization of the International Space Station and space and aeronautics technology development. As a Science Envoy for Space, Gen. Bolden will promote American leadership in space exploration and emphasize the importance of commercial opportunities.

• Dr. Robert S. Langer, Sci.D., FREng, is one of 13 Institute Professor at the Massachusetts Institute of Technology (being an Institute Professor is MITs highest honor). Langer has received over 220 major awards and is one of four living individuals to have received both the United States National Medal of Science (2006) and the United States National Medal of Technology and Innovation (2011). Langer’s research is at the interface of medicine, materials science, and chemical engineering. As a Science Envoy for Innovation, Dr. Langer will focus on novel approaches in biomaterials, drug delivery systems, nanotechnology and tissue engineering and the U.S. approach to research commercialization.

• Dr. Michael Osterholm, Ph.D., MPH, is Regents Professor, McKnight Presidential Endowed Chair in Public Health, and is the director of the Center for Infectious Disease Research and Policy (CIDRAP) at the University of Minnesota. Osterholm is an international leader regarding preparedness for a global pandemic as well as the growing threat of antimicrobial resistance. As a Science Envoy for Health Security, Dr. Osterholm will combat biological threats by working with priority countries on infectious disease preparedness and antimicrobial stewardship.
An outspoken epidemiologist becomes U.S. science envoy

By Jon Cohen | Jun. 12, 2018, 11:35 AM

Q: What does it mean to be a scientific envoy to the Department of State?

A: It’s a unique opportunity to be involved with countries around the world on specific topics through official government channels. Antibiotic resistance and antibiotic stewardship is something we’ve been involved with at CIDRAP for many years, and that will be my focus.

Q: What’s antibiotic stewardship?

A: One of the challenges we have is overuse of antibiotics and the ever-increasing risk of antibiotic resistance. For both humans and animals, the majority of antibiotics used are unnecessary from the standpoint of treatment—the diseases often aren’t even sensitive to antibiotics or aren’t even bacterial infections. There’s a lot of content on our website about how to reduce the unnecessary use of antibiotics.

Q: What exactly will you do?

A: I’m going to concentrate on low- and middle-income countries because it’s the area of the fastest growth of antibiotic resistance. Up to one-third of my time can be spent overseas working with countries on demonstration projects and sharing the tools. This is a tough topic to get people to see as a priority. We’re typically involved with outbreak crises. This has a pandemic potential, but it’s not just one disease. It’s a slow-moving tsunami. It’s a bigger challenge to get people involved.
Antimicrobial Stewardship Project

About ASP
Antimicrobial resistance is a critical global public health issue, and antimicrobial stewardship strategies are key to curtailting the problem. CIDRAP's Antimicrobial Stewardship Project provides current, accurate, and comprehensive information on the topic and works to build an online community to address leading issues.

ASP Monthly Quiz
Test your stewardship knowledge. This quiz focuses on recently published data from the Global Point Prevalence Survey (Global-PPS). Complete the May quiz!

Canadian AMR report urges action, federal leadership
Chris Dell | News Reporter | CIDRAP News | May 03, 2018
The report calls on PHAC to speed up development of a plan to address antimicrobial resistance.
Reports highlight Klebsiella superbug, other CRE concerns

Scientists report the first isolation of hypervirulent, multi-resistant *Klebsiella pneumoniae* in the US.

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DRC notes 14 more suspected Ebola cases, new death

Lise Schimminger | Jun 11, 2018

WHO says Ebola situation in DRC shows promise

Stephanie Southerstone | Jun 05, 2018

CDC study: Antibiotics still widely overused for respiratory infections

Robert Roos | Jun 05, 2018

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**FEATURED LITERATURE**

- Influenza activity in the United States during the 2017-18 season and composition of the 2018-19 influenza vaccine: [VVMV](https://www.cdc.gov/flu/professionals/weekly/weekly-data.htm)
- Invasive methicillin-resistant *Staphylococcus aureus* infections among persons who inject drugs — six sites, 2005-2016
- Ebola case count hits 60 as DRC neighbors take precautions
  Stephanie Southerstone | Jun 07, 2018
  At-risk nations share the Congo River, Bikoro Lake, and porous borders with the DRC.
- WHO aims to build health worker knowledge of antimicrobial stewardship
  Robert Roos | Jun 07, 2018

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**NEWS SCAN**

**JUN 08, 2018**

- Salmonella from backyard poultry
- Melon-linked Salmonella
- Polio in Pakistan
- Nipah research priorities
- Malaria treatment priorities

**JUN 07, 2018**

- Pandemic surveillance
- Influenza spread and humidity
- Nipah contained
- Measles overview in California

**STEWARDSHIP / RESISTANCE SCAN**

**JUN 08, 2018**

- Highly resistant gonorrhea outbreak
- CDC on resistant Shigella
- XDR-TB in China

**OUR UNDERWRITERS**

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Questions, Comments and Discussion
CIDRAP Leadership Forum
Infectious Disease BRIEFING

June 13th, 2018

Thank you for attending!