



**CIDRAP**

Center for Infectious Disease Research and Policy  
University of Minnesota

# **CIDRAP Leadership Forum Infectious Disease BRIEFING**

**December 19<sup>th</sup>, 2018**

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- 1. Ebola**
- 2. Measles**
- 3. Influenza**
- 4. Antimicrobial resistance**
- 5. Foodborne disease**

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- 7. Acute Flaccid Myelitis (AFM)**
- 8. Polio**
- 9. Zika & Yellow Fever**
- 10. Malaria**
- 11. MERS**
- 12. Building Resilience in Medical Supply Systems**
- 13. Other**

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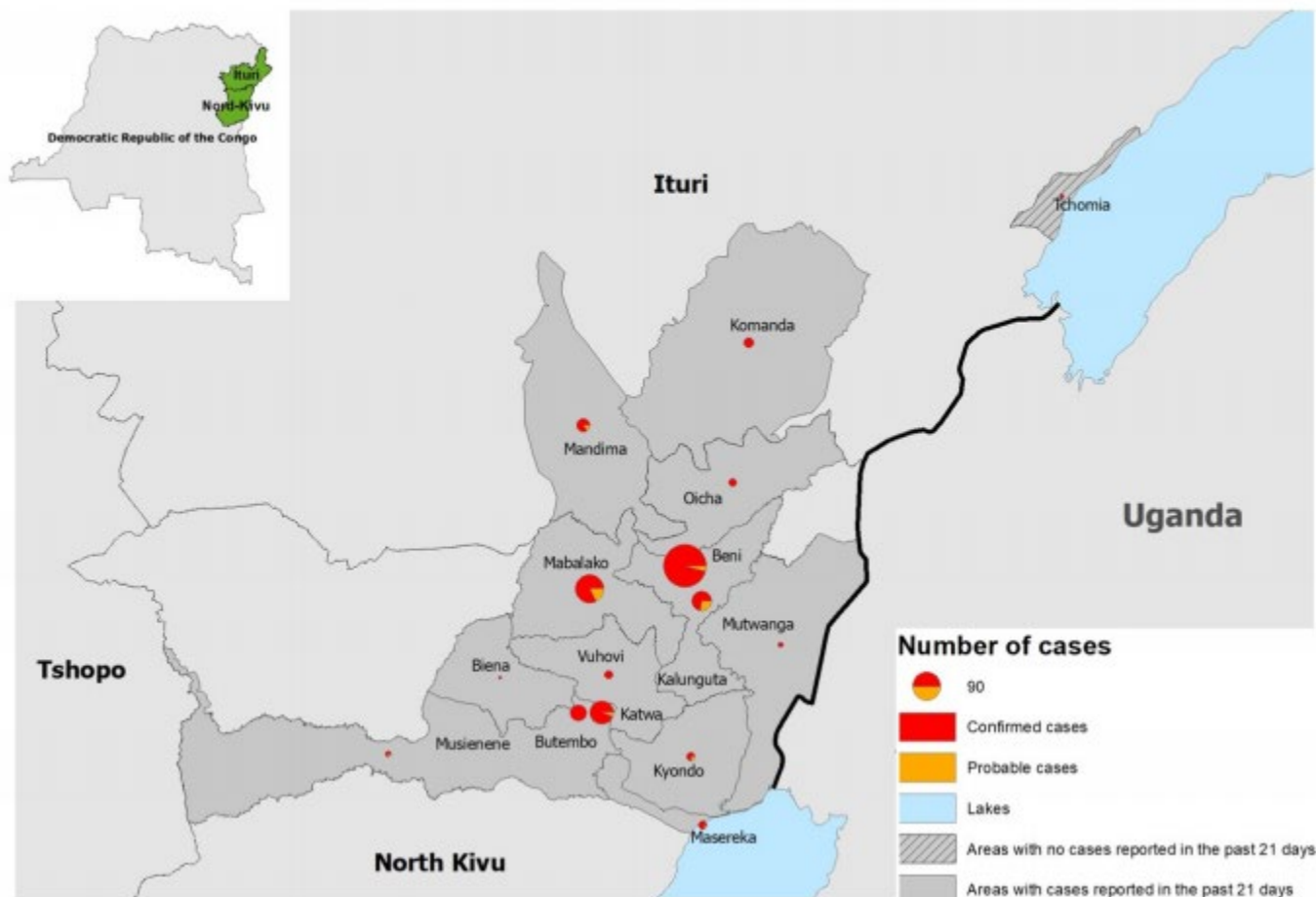
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## Geographical distribution of confirmed and probable cases of Ebola virus disease, North Kivu and Ituri Provinces, Democratic Republic of the Congo, as of 12 December 2018

ECDC



Date of production: 14/12/2018





## UN calls down international law in DRC Ebola outbreak

Filed Under: **Ebola**; **VHF**

Stephanie Soucheray | News Reporter | CIDRAP News | Oct 31, 2018



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As the Democratic Republic of the Congo (DRC) continues to battle an Ebola outbreak in North Kivu and Ituri provinces, the United Nation (UN) Security Council yesterday passed a resolution demanding that all armed rebel groups in outbreak zones respect international law.

The council passed the measure to "ensure full, safe, immediate, and unhindered access for humanitarian and medical personnel, and their equipment, transport and supplies to the affected areas," according to a UN news release.

In adopting resolution 2439 (2018), the UN also officially condemned attacks by armed groups in the region. The resolution was sponsored by Ethiopia and Sweden, and the Security Council said negotiations on the text were influenced by two recent briefings to the council from the WHO director-general.

The Security Council, made up of 15 UN members, also encouraged the DRC government and countries in the region to "continue efforts to address and resolve the wider political, security, socioeconomic and humanitarian consequences of the Ebola outbreak, as well as to provide sustainable and responsive public health mechanisms," according to a the release.



UN, Manuel Elias / Flickr cc

UN Security Council.



## Ebola case count rises as Uganda health workers vaccinated

Filed Under: [Ebola](#); [VHF](#)

[Stephanie Soucheray](#) | News Reporter | [CIDRAP News](#) | Nov 07, 2018



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In the latest weekly situation report on the ongoing Ebola outbreak in North Kivu and Ituri provinces in the Democratic Republic of the Congo (DRC), the World Health Organization (WHO) said half of all recent deaths are taking place in the community—a worrisome sign.

Community deaths, which occur outside of a hospital or Ebola treatment center, threaten to extend the transmission chain of a given case and further accelerate the mounting case count.

The WHO also said that two of the recent cases in Beni were in nurses, bringing the total of healthcare workers infected during this outbreak to 27, including 26 confirmed and 3 deaths. And vaccination efforts have expanded to front-line healthcare workers in neighboring Uganda, the agency noted.

Also today, the WHO said on its Ebola outbreak dashboard there were 3 new cases of Ebola, bringing the outbreak total to 308, including 191 deaths.

As of Nov 4, the case-fatality ratio (CFR) of the outbreak was 62% (186/300). But with more than 30 cases reported in the week of Oct 30 and this week, that percentage could be higher. The outbreak has affected women in greater numbers, with 59% of cases occurring in females, the WHO said. The majority (59%) of cases have also been in teens and younger adults, ages 15 to 44.



EC, ECHO, Cyprien Fabre / Flickr cc



## WHO leader says Ebola outbreak could last 6 more months

Filed Under: **Ebola**; **VHF**

Stephanie Soucheray | News Reporter | CIDRAP News | Nov 14, 2018



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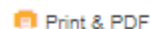
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Peter Salama, MD, deputy-director for emergency preparedness and response for the World Health Organization (WHO), told Reuters that the Ebola outbreak in the eastern edge of the Democratic Republic of the Congo (DRC) could last at least another 6 months.

"It's very hard to predict timeframes in an outbreak as complicated as this with so many variables that are outside our control, but certainly we're planning on at least another six months before we can declare this outbreak over," Salama said yesterday.

The outbreak in North Kivu and Ituri provinces is now more than 100 days old, and the largest Ebola outbreak the DRC has ever seen.

Today, the DRC's ministry of health recorded two more cases and three more deaths since yesterday—all in Beni—bringing the total number of cases to 341 and the total number of deaths to 215. Fifty suspected cases are under investigation.

**WHO details cases among newborns**



Diego Gurgel, Secom / Flickr cc



## Armed rebels kill UN peacekeepers in Ebola hot spot

Filed Under: [Ebola](#); [VHF](#)

[Lisa Schnirring](#) | News Editor | [CIDRAP News](#) | Nov 16, 2018

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A joint operation yesterday against armed rebels near the Democratic Republic of the Congo (DRC) Ebola hot spot in Beni killed seven United Nations peacekeepers, as officials confirmed one more infection in the outbreak.

### Action targeted ADF stronghold

The action against the armed rebels, who have been responsible for several attacks against civilians in Beni that have stymied response activities, involved the UN mission known as MONUSCO and government armed forces. Their target was the Allied Democratic Forces (ADF).



MONUSCO, Sylvain Liechti / Flickr cc

Forces killed in the clash included one Tanzanian and six Malawian "blue helmets," or UN soldiers, according to a UN report. Ten other peacekeepers were wounded, and another is missing. Several government soldiers and an unknown number of ADF fighters were also killed or wounded.

According to a *New York Times* report, the joint forces came under attack while trying to remove rebel fighters from a stronghold in Kididiwe near Beni. UN officials speaking anonymously told the *Times* that the mission was successful, and a number of rebels were taken.





## 13 new Ebola cases noted in DRC, including family in Katwa

Filed Under: [Ebola](#); [VHF](#)

[Stephanie Soucheray](#) | [News Reporter](#) | [CIDRAP News](#) | Nov 21, 2018



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The Ministry of Health of the Democratic Republic of the Congo (DRC) recorded 13 more new cases of Ebola in its update today, but the number of suspected cases still under investigation fell from 71 to 48.

The outbreak totals now stand at 386 cases (339 confirmed, 47 probable), including 219 deaths. So far, 113 people have recovered from their infections, the health ministry said.

The new cases include 7 in Katwa, 2 in Beni, 2 in Kalunguta, and 1 each in Oicha and Mutwanga, all villages and cities in the DRC's North Kivu and Ituri provinces.

The outbreak, which began this summer, is the DRC's largest. It is on pace to surpass the world's second-largest Ebola outbreak ever, which occurred in 2000 in Uganda and amassed 425 cases and 224 deaths.

Last week, officials from the World Health Organization estimated the current outbreak could last at least another 6 months.

**5 family members infected**



UN, Martine Perret / Flickr cc




## Ebola cases surge to 419 as treatment trial launches

Filed Under: **Ebola**; **VHF**


Lisa Schnirring | News Editor | CIDRAP News | Nov 26, 2018

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Over the Thanksgiving holiday period and through today, the Democratic Republic of the Congo (DRC) reported 33 more Ebola cases, vaulting the total past 400, as the country's health officials announced the launch of the first clinical trial of experimental drugs to treat the disease.

Meanwhile, in its latest weekly update on the outbreak, the World Health Organization (WHO) said transmission continues in several North Kivu province cities and villages. Currently, the three main hot spots are Kalunguta, located in a security "red zone," Beni, and the Butembo/Katwa area.

The WHO said the Ebola situation in the DRC remains complex and challenging, but it is still confident that the DRC and its partners can successfully contain the outbreak.

**Health center exposures, infections in babies**



John Poole / Flickr cc



## Malaria spike in Ebola zone prompts mass treatment efforts

Filed Under: [Ebola](#); [VHF](#); [Malaria](#)

[Lisa Schnirring](#) | News Editor | [CIDRAP News](#) | Nov 28, 2018

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A surge in malaria infections—with symptoms that can mimic Ebola—in the Democratic Republic of the Congo's (DRC's) main Ebola hot spot prompted the launch today of a 4-day mass malaria drug administration campaign, the World Health Organization (WHO) announced.

Meanwhile, the DRC's health ministry today reported 1 more illness, raising the overall total to 422 cases.

### Malaria campaign to reach 450,000

The malaria efforts are designed not only to treat widespread malaria illnesses and deaths, it is also geared toward relieving pressure on the medical clinics, given that 50% of people screened in Ebola treatment centers have been found to have malaria instead of Ebola, the WHO said.

The campaign is similar to one launched in Sierra Leone during its outbreak in 2014 and is led by the DRC's malaria control program with support from the WHO, UNICEF, the Global Fund, and the US President's Malaria Initiative.



*Julien Harnois / Flickr cc*



## DRC's 426-case Ebola outbreak now 2nd largest ever

Filed Under: **Ebola**; **VHF**

Stephanie Soucheray | News Reporter | CIDRAP News | Nov 29, 2018



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After nearly 5 months and now 426 cases, the Ebola outbreak in North Kivu and Ituri provinces of the Democratic Republic of the Congo (DRC) has become the world's second largest—and second deadliest—outbreak of the hemorrhagic fever disease ever recorded.

Of the 426 cases, 379 are confirmed and 47 are probable. A total of 245 people have died from the virus, and 87 suspected cases remain under investigation, according to the daily update from try DRC health ministry. Of the four new cases recorded today, three are in Katwa and one is in Vuhovi.



Morgana Wingard, USAID / Flickr cc

Surpassing an outbreak of 425 cases in Uganda in 2000, the current outbreak is now second only in case counts to West Africa's massive 2014-2016 outbreak, which involved more than 28,000 cases and 11,000 deaths.

### Powder keg situation

The 426 case milestone highlights the powder keg of factors that have made this outbreak persist in spite of the widespread use of an Ebola vaccine that was not available until the tail end of the West Africa outbreak. Difficulties have included violence against health workers and community resistance.





## More Ebola in DRC as WHO says it has outbreak 'covered'

Filed Under: **Ebola**; **VHF**

Stephanie Southery | News Reporter | CIDRAP News | Dec 04, 2018



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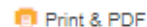
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The Ebola outbreak in North Kivu and Ituri provinces of the Democratic Republic of the Congo (DRC) grew by 9 cases today, according to a daily update from the country's ministry of health.

There are now 453 cases (220 confirmed and 48 probable), including 268 deaths. Seventy-one people are still under investigation for possible infections.

### Concerns about cases around Butembo

Yesterday, Doctors without Borders (MSF), one of the key response organizations working on this outbreak, said that several new cases have been in remote areas surrounding Butembo, one of the largest cities in North Kivu.

"We are very concerned by the epidemiological situation in the Butembo area," said John Johnson, MSF project coordinator in Butembo, in a press release. Though the number of cases in recent days in Butembo is low, more cases in isolated districts to the east of the city have been appearing.

"We're expecting this outbreak will last for a while, and we must increase our efforts to get it under control. With the agreement of the authorities, we have made a strategic decision to roll out our activities close to the affected populations and to organize training of key people in the community so that we can reach patients and their relatives," Johnson said.



USAID / Flickr cc

## As Ebola outbreak spreads in Congo, concern grows over supplies of experimental vaccine

By HELEN BRANSWELL [@HelenBranswell](#) / DECEMBER 3, 2018

**T**he Ebola outbreak in the Democratic Republic of the Congo appears to be spreading southward from its current epicenter at Beni, raising concerns it will take root in some larger population centers, including a major regional hub, warned a senior World Health Organization official.

Should the outbreak spread more widely in cities like Butembo — where there have already been a number of cases — or Goma, a major center further south, the scale of the outbreak could tax the available supplies of an experimental vaccine being used to help contain spread, said Dr. Peter Salama, who heads the WHO's emergencies program.

As of Sunday more than 42,000 doses of the vaccine had been used in this outbreak and one earlier in the year in the western part of the DRC. Merck, which is developing the vaccine, has committed itself to maintaining a stockpile of 300,000 doses.

# It isn't crazy to conduct an Ebola clinical trial in a war zone — it's necessary

By JEREMY FARRAR / DECEMBER 4, 2018

**T**he term “randomized controlled trial” conjures up images of sterile, high-tech labs with closely monitored patients hooked up to numerous machines. That’s a far cry from the reality of a brave and groundbreaking [trial](#) that began last week in the Democratic Republic of the Congo to investigate lifesaving treatments for Ebola.

The DRC is in the midst of one of the worst Ebola outbreaks it has faced. With at least 260 people killed so far, it is the second-worst Ebola epidemic the world has faced.

This Ebola outbreak is spreading in an [incredibly challenging region](#). It is affecting dense, urban areas, close to national borders, making transmission more likely. And many cases have emerged in extremely hostile and dangerous areas that are under attack from rebel groups and served by bad or nonexistent roads and limited electricity.




## Guidance seeks to increase outbreak vaccines in pregnant women

Filed Under: [Ebola](#); [VHF](#); [Public Health](#)


[Lisa Schnirring](#), News Editor | [CIDRAP News](#) | Dec 06, 2018

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The ongoing Democratic Republic of the Congo's (DRC's) Ebola outbreak has exposed the consequences of excluding pregnant and breastfeeding women from receiving a potentially lifesaving vaccine, which experts say is a health and fairness issue that applies to other infectious diseases.

To turn the tide, a multidisciplinary working group today formally released guidance on including pregnant women in vaccine development and deployment, which includes 22 recommendations aimed at policymakers, researchers, and global health groups.

The Pregnancy Research Ethics for Vaccines, Epidemics, and New Technologies (PREVENT) Working Group published the recommendations on its web site. The group, funded by Wellcome Trust, is a 17-member international team that includes experts in bioethics, maternal immunization, maternal-fetal medicine, obstetrics, public health, and vaccine research and policy. The group is based at the Johns Hopkins Berman Institute of Bioethics and the Center for Global Development, a nonprofit think tank based in Washington, D.C.



*beckyblanton / iStock*



## Ebola cases spike as WHO warns of possible reintroduction

Filed Under: [Ebola](#); [VHF](#)

[Stephanie Soucheray](#) | [News Reporter](#) | [CIDRAP News](#) | [Dec 06, 2018](#)



Today the Democratic Republic of the Congo (DRC) recorded 13 new Ebola cases in its daily update. Six of the new cases are in Butembo, three in Oicha, and two each in Beni and Katwa.

The outbreak totals now stand at 471 cases, of which 423 are confirmed and 48 are probable; 273 people have died. And the World Health Organization (WHO) said yesterday that it is concerned about reintroduction of the virus into the outbreak region.

Officials confirmed five new deaths yesterday and today, including a community death in Komanda, which raises the risk of transmission among caregivers. A total of 106 suspected cases are still under investigation, the DRC health ministry said.

### Facing violence, community resistance

Today Oly Ilunga Kalenga, MD, the DRC's minister of health, held a press conference in Kinshasa to update the public on the outbreak, now in its fifth month. He said the past 3 weeks have seen cases spike in Butembo and Katwa, and he attributed the increase to three major causes.

First, Kalenga said these communities are marked by high population density and mobility, as it is the major trading region of North Kivu. He also said that small pockets of violent, community resistance have limited response efforts at time.



*Corporal Paul Shaw, MOD, DFID / Flickr cc*





## Rebels strike again near Beni as DRC Ebola total hits 477

Filed Under: [Ebola](#); [VHF](#)

[Lisa Schnirring](#) | News Editor | [CIDRAP News](#) | [Dec 07, 2018](#)

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A pair of violent attacks that resulted in civilian deaths were reported yesterday in Beni, one of the Democratic Republic of the Congo's (DRC's) main Ebola hot spots, as six more cases were reported in the ongoing outbreak.

In other developments, the World Health Organization (WHO) revealed new details about its investigation into a spurt of new cases in Komanda, a part of Ituri province that had not reported cases for several weeks.

### **ADF rebels attack civilians**

Beni has been the setting for several attacks in recent months, some of which led to temporary pauses in Ebola response operations. In the latest incidents, Ugandan rebels with the Allied Democratic Forces (ADF) killed 18 civilians in two separate attacks, according to a report from Radio Okapi, a news network run by the United Nations mission in the DRC (MONUSCO) and the Fondation Hirondelle, a Swiss nongovernmental organization.



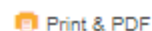
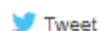
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## Ebola count in DRC hits 500 in growing outbreak

Filed Under: [Ebola](#); [VHF](#)

[Stephanie Soucheray](#) | News Reporter | [CIDRAP News](#) | Dec 11, 2018



The world's second-largest Ebola outbreak hit another milestone today, as the Democratic Republic of the Congo (DRC) recorded 2 new cases, raising outbreak totals to 500, including 289 deaths.

Of the four new deaths recorded today, two are community deaths in Beni and Mabalako, which took place outside a hospital or Ebola treatment center, raising the risk of transmission, the DRC said.

There are also 80 people currently under investigation for suspected infections, the DRC's health ministry said in its daily update.



*Neil Brandvold, USAID / Flickr cc*

### Unknown transmission chains

According to the latest weekly update from the World Health Organization's (WHO's) African regional office, among the 500 cases are 3 healthcare workers who have been infected since Dec 1. Since August, when the outbreak began, 49 healthcare workers have been infected, and 15 of those have died.

While vaccination and case contact tracing are under way, there are still unknown transmission chains in North Kivu and Ituri provinces, the WHO said. On Dec 8, for example, the agency said five new cases were identified, yet only two of the cases were known contacts.



## Six more cases reported in DRC Ebola outbreak

Filed Under: **Ebola**; **VHF**

Lisa Schnirring | News Editor | CIDRAP News | Dec 14, 2018

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In a snapshot of the latest patterns in the Democratic Republic of the Congo's (DRC's) Ebola outbreak yesterday, the World Health Organization (WHO) said conditions are "unforgiving," with community resistance and conflict hampering the response and poor infection prevention and control practices in certain health facilities amplifying disease spread.

Today the DRC's health ministry reported six more cases, including three from Dec 12 in patients whose lab results were released late in the day.

### Intensifying activity in Butembo, Katwa

The WHO said the infection control problems are occurring at several private and public health centers.

The agency underscored the fact that Ebola virus spread in the clinic doesn't just affect patients, it's a threat to health workers, as well. Over the past week, four new infections were reported in healthcare workers, raising the total to 51, including 17 deaths.

The pace of new infections has averaged about 33 a week since the middle of October, and though there has been some decline in Beni—the main hot spot—the outbreak is intensifying in Butembo and Katwa, with new clusters popping up elsewhere. "At present, the situation remains concerning," the WHO said, noting that affected health zones reflect a mix of densely populated urban areas and remote villages, resulting in different transmission patterns and response challenges.



UNMEER, Martine Perret / Flickr cc





**CIDRAP**

Center for Infectious Disease Research and Policy

## Ebola hits 539 cases as outreach efforts extend in Beni

Filed Under: **Ebola**; **VHF**

Stephanie Soucheray | News Reporter | CIDRAP News | Dec 17, 2018



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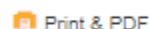
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The Democratic Republic of the Congo (DRC) ministry of health today and over the weekend confirmed 18 new Ebola cases, including 9 deaths, in the ongoing outbreak in North Kivu and Ituri provinces in the northwest.

The new cases bring the outbreak total to 539, of which 491 are confirmed and 48 are probable. Officials have recorded 315 deaths since the outbreak began in August, and 75 cases are still under investigation.

In the past 3 days, new cases were recorded in Mabalako (4), Butembo (4), Katwa (5), Komanda (3), and 1 each in Oicha and Kalunguta.

On Dec 15, four of the five deaths recorded were classified as community deaths, which means they took place outside a healthcare or treatment center setting, and thus increase the risk of community transmission.

### Vaccination efforts continue

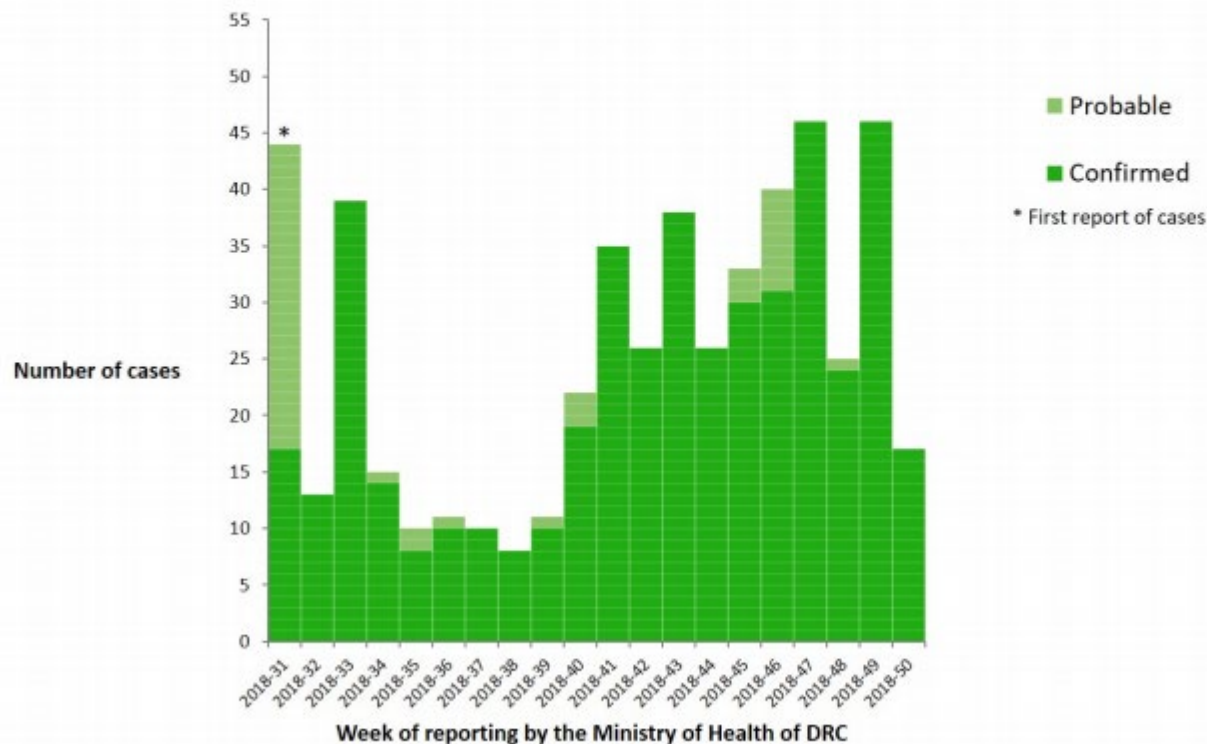
Today the ministry of health said that vaccination efforts were still ongoing, and primary care providers in Goma, North Kivu's capital and largest city, were being vaccinated with Merck's unlicensed Ebola vaccine.



Dylan Lowthian, UNDP / Flickr cc

## Distribution of confirmed and probable cases of Ebola Virus Disease, North Kivu and Ituri, Democratic Republic of the Congo, as of 12 December 2018

ECDC



The MoH of DRC are currently conducting data cleaning. Thus, these figures are likely to change over coming days as cases are being reclassified.

## Ebola/Marburg Research and Development (R&D) Roadmap

**Roadmap purpose:** To provide a 10-year framework for identifying the vision, underpinning strategic goals, and prioritizing research areas and activities (from basic research to advanced development, licensure, manufacture, and deployment) for accelerating the collaborative development of medical countermeasures (MCMs)—diagnostics, therapeutics, and vaccines—against Ebola virus disease (EVD) and Marburg virus disease (MVD).

### INTRODUCTION

EVD and MVD, caused by several different filoviruses in the Filoviridae family, are severe hemorrhagic illnesses with similar clinical manifestations and high case-fatality rates. Sporadic outbreaks of EVD and MVD are assumed to originate from human contact with infected wild animal host reservoirs. Subsequent human-to-human transmission may occur through contact with body fluids of infected persons. Filovirus diseases have significant epidemic potential in regions of Africa where filovirus reservoirs exist in wild animal populations, including areas where human outbreaks have previously occurred, as well as in areas of Africa considered non-endemic but potentially at risk. Three highly virulent species of ebolavirus (Zaire, Bundibugyo, and Sudan) have been associated with large EVD outbreaks in sub-Saharan Africa, most recently the explosive 2014–2016 outbreak in West Africa and the 2018 outbreaks in Equateur, North Kivu, and Ituri provinces, Democratic Republic of the Congo, caused by the Zaire ebolavirus species. Two species of Marburg virus (Marburg and Ravn) have been associated with MVD outbreaks in sub-Saharan Africa, notably a 2017 outbreak in eastern Uganda.

The Ebola/Marburg R&D roadmap is a key component of the World Health Organization (WHO) R&D Blueprint for accelerating research and product development of MCMs to enable effective and timely emergency response to infectious disease epidemics. Ebola and Marburg viruses are identified in the Blueprint's initial list of priority pathogens (defined as pathogens that are likely to cause severe outbreaks in the near future and for which few or no MCMs exist). The WHO Blueprint calls for the development of R&D roadmaps for the priority pathogens to align and stimulate R&D of new or improved countermeasures, such as rapid diagnostic assays, novel therapeutics, and vaccines. The scope of R&D addressed in the roadmap ranges from basic research to late-stage development, licensure, manufacture, and early use of MCMs to prevent and control EVD/MVD outbreaks. The roadmap is organized into four main sections: cross-cutting issues (for areas that apply to more than one MCM category), diagnostics, therapeutics, and vaccines. (Note: These topics are not presented in order of public health priority.) The strategic goals and milestones identified in the roadmap focus on key achievements for the next 10 years; the roadmap milestones will be tracked over time, with periodic assessment of progress and updating as needed.

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## News Scan for Oct 19, 2018

### **Measles clusters reported in and around New York City**

State and local health officials in New York are reporting clusters of measles infections, one in an Orthodox Jewish community in Brooklyn and the other in Rockland County, a suburb of New York City.

In an Oct 17 statement, NYC Health said six cases have been confirmed this month in the Williamsburg neighborhood in Brooklyn, with the first case a child who contracted the virus on a visit to Israel, where a large outbreak is occurring. Patients range from 11 months to 4 years. Five were unvaccinated before they were exposed, four due to delayed vaccination and one who was too young to be vaccinated. The sixth child had received one dose before exposure but was not yet immune.

Some of the children have experienced complications, including a child hospitalized with pneumonia and another who acquired an ear infection.

According to the report, there are seven confirmed measles cases in people from outside of New York City—five who were exposed during travel to Israel and two with secondary infections.

Meanwhile, Rockland County health commissioner Patricia Ruppert, DO, MPH, said in an Oct 17 Facebook post that 11 cases have been confirmed, six of them secondary cases.

NYC health held a meeting in Williamsburg with rabbis and elected officials and will place ads in newspapers to raise awareness and distribute posters to health providers. Rockland County is hosting free measles, mumps, and rubella (MMR) vaccine clinics.



## News Scan for Nov 14, 2018

### **Measles clusters grow to 103 cases in New York, New Jersey**

The total in three measles clusters—two in New York and one in New Jersey—has grown to 103 cases, according to updates yesterday.

The largest is an outbreak in New York's Rockland County that has now sickened 68 people. The outbreak has been under way since the end of September and was triggered by an international traveler who arrived in the area with a suspected infection. In an update yesterday, Rockland County officials said additional measles cases in infected international travelers have exposed even more people.

Rockland County is located in the New York City suburbs, and the cases are clustered in eastern Ramapo, but, because of the country's small size, officials say exposure could occur anywhere. In response to the outbreak, the county and medical clinics have administered 6,100 doses of measles, mumps, and rubella (MMR) vaccine.

Meanwhile, a measles outbreak centered in the Brooklyn, N.Y., Orthodox Jewish community has grown to 24 confirmed cases, according to NYC Health. The outbreak began in October, with the initial case linked to an unvaccinated child who was exposed to measles on a visit to Israel, where a large outbreak is ongoing.

Elsewhere, a measles cluster in Ocean County, N.J., has now sickened 11 people, according to an update from the New Jersey Department of Health (NJDH). The county announced the first case on Oct 26, involving an individual who contracted measles during international travel.





## News Scan for Nov 20, 2018

### **New York, New Jersey report more measles cases in ongoing outbreaks**

Both New York state and New Jersey confirmed more measles cases in ongoing outbreaks, according to updates from health departments in Rockland County, N.Y., and Ocean County, N.J.

In New York, 10 more cases have been confirmed in Rockland County, raising that outbreak total to 76. And 3 more cases of measles have been confirmed in Ocean County, bringing New Jersey's total to 14. An additional 13 cases are under investigation.

The New York outbreak has been traced to an international traveler who visited Rockland County in September. The cases are clustered in eastern Ramapo, but officials warned that the virus could easily spread throughout the small county, which borders New York City.

In New Jersey, the Ocean County health department said it supported and encouraged the exclusion of unvaccinated children from schools, playdates, and daycare in the outbreak area.

Officials said all children 6 months to 11 months old should get their first dose of measles, mumps, and rubella (MMR) vaccine, and all other children should be up to date on MMR vaccination. They warned that unvaccinated children exposed to measles are at great risk of contracting the virus.



## News Scan for Nov 28, 2018

### **New York, New Jersey record more measles cases**

Both New York and New Jersey reported more cases of measles in ongoing outbreaks in communities near New York City.

Rockland County, New Jersey, reported 4 more cases, bringing its total to 80. And health officials in New York confirmed 5 more cases in an Orthodox Jewish community in Brooklyn. Outbreak totals there now stand at 29.

According to the Rockland County health department, the current outbreak began in September with a case in an unvaccinated foreign traveler. Subsequent cases have been in unvaccinated residents.

In New York, the index case involved an unvaccinated child who contracted the virus in Israel in October, where this is a large, ongoing measles outbreak. "If you plan to travel to Israel, protect yourself against measles and get vaccinated at least two weeks in advance of your trip. If you have traveled to Israel and you have a fever, cough, red eyes, runny nose and body rash, contact your doctor," NYC Health said on its website.

Both health departments recommend vaccination. Typically, the measles vaccine is given in two doses, one between the ages of 12 and 15 months, and a second before kindergarten. In Rockland County, children 6 months through 11 months are encouraged to start the vaccine now.





## News Scan for Dec 13, 2018

### **Measles clusters expand in New York and New Jersey**

The number of cases in New York and New Jersey measles clusters sparked by international travelers continues to grow, according to updates from county and state health departments.

In Brooklyn, where an outbreak is centered in an Orthodox Jewish neighborhood, 42 cases have now been reported since October, NYC Health reported in a recent update. The total reflects an increase of 13 cases since CIDRAP's last update on Nov 28. The initial case-patient was a child who contracted the infection during a visit to Israel, which is experiencing a large outbreak. The report notes cases also include other unvaccinated children who were exposed in Israel.

Elsewhere in New York, Rockland County, in lower Hudson Valley, yesterday reported 91 cases, an increase of 11. The illnesses are clustered in eastern Ramapo, but health officials said the county is small and exposure to measles could occur anywhere in the county.

Orange County, part of the New York City metropolitan area, has now confirmed five cases, two of them involving school children, according to a local media report that cited the county health department. And Erie County, which includes Buffalo, yesterday reported one case in an international traveler who visited multiple locations and may have exposed others.

Two New Jersey counties—Ocean and Passaic—have also reported measles cases. In an update yesterday, Ocean County said 19 cases have been confirmed and 1 more is under investigation. The New Jersey Department of Health (NJDH) said three cases have been confirmed in a Passaic County household and that the patients have a direct epidemiological link to Ocean County's outbreak.



## Report: Measles spike triggered by vaccination gaps

Filed Under: [Measles](#)

[Lisa Schnirring](#) | [News Editor](#) | [CIDRAP News](#) | Nov 29, 2018

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In the most comprehensive estimate of measles trends that covers the last 17 years of data, health groups said today that illness reports surged in 2017, reflecting severe and long outbreaks in many countries, along with gaps in vaccine coverage.

Outbreaks touched all regions of the world, and researchers estimated that measles caused about 110,000 deaths in 2017.

In the United States this year, Kansas City, Mo., reported two measles clusters, and parts of New Jersey and New York are currently experiencing measles outbreaks linked to people infected during overseas travel.

Researchers from the US Centers for Disease Control and Prevention (CDC) and the World Health Organization (WHO) published their findings today in *Morbidity and Mortality Weekly Report* and the *WHO Weekly Epidemiological Record*.

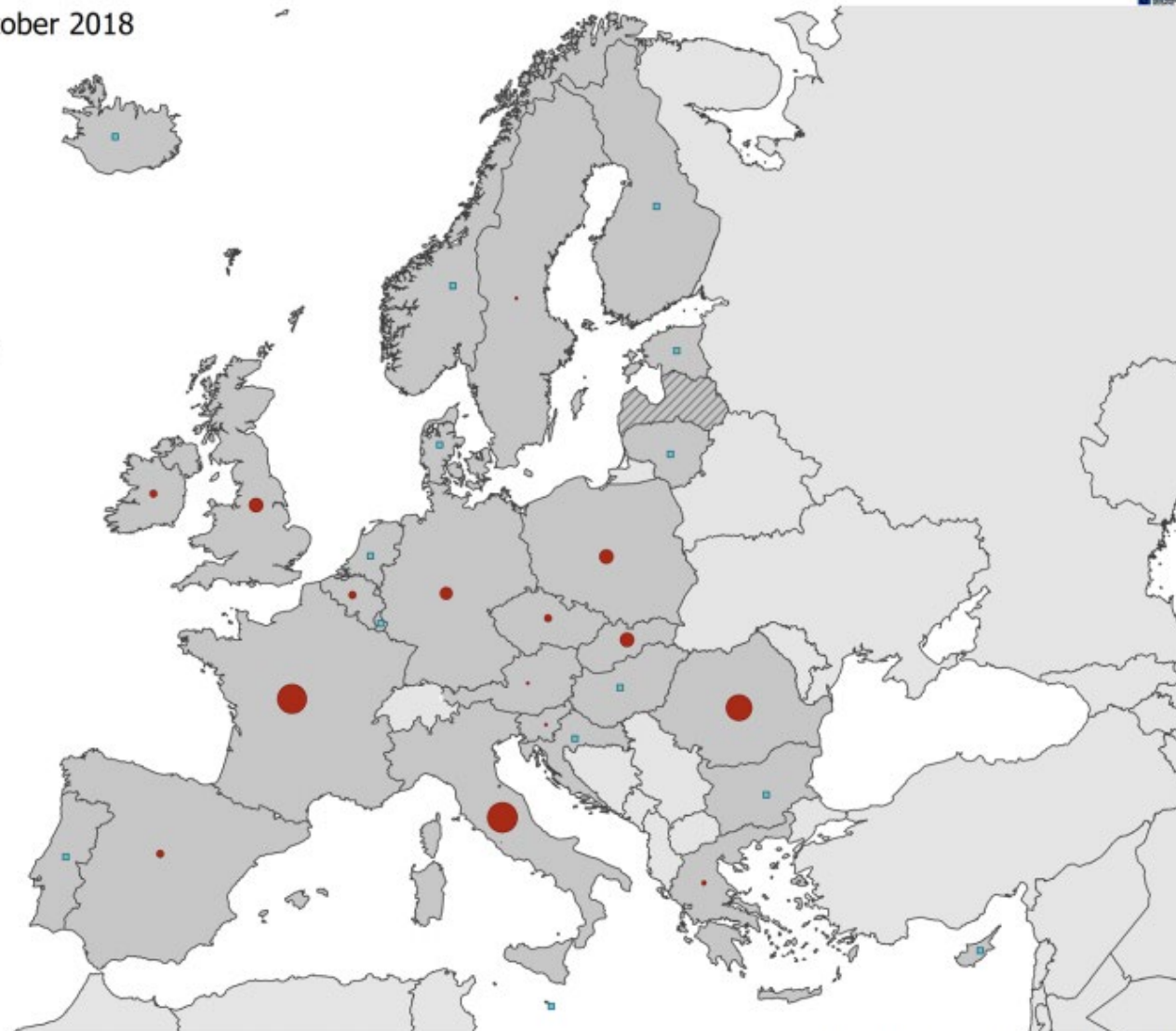
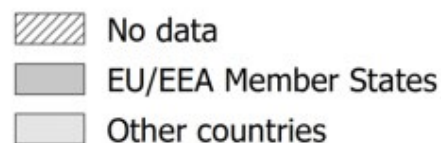
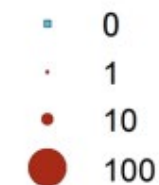
In a statement today, Soumya Swaminathan, MBBS, MD, deputy director-general for programs at the WHO said measles resurgence is concerning, especially in countries that had achieved or were close to achieving measles elimination.



*Teseum / Flickr cc*

**Figure 1. Number of measles cases by country, EU/EEA, October 2018 (n=279)**

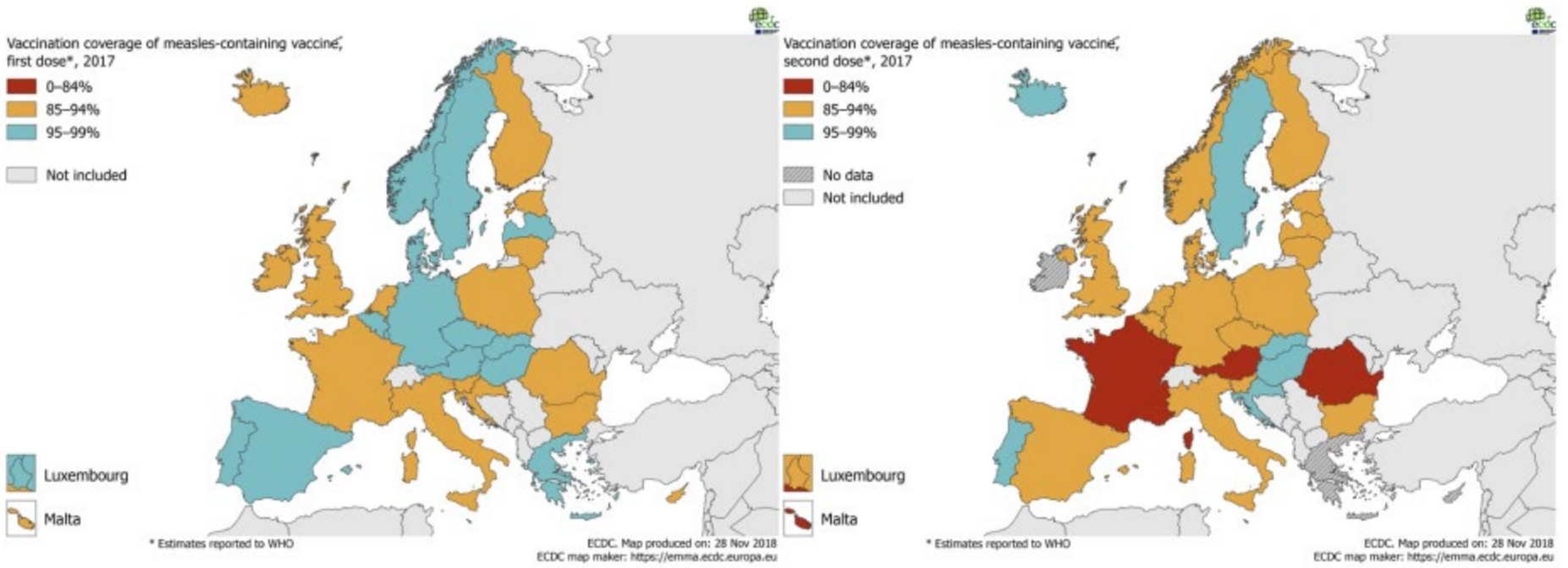
Number of measles cases, October 2018



ECDC. Map produced on: 28 Nov 2018  
ECDC map maker: <https://emma.ecdc.europa.eu>

**Measles between November 2017 and October 2018**

**Figure 4. Vaccination coverage for first (left) and second (right) doses of measles-containing vaccine by country, EU/EEA, 2017**



## **HOT TOPICS**

- 1. Ebola**
- 2. Measles**
- 3. Influenza**
- 4. Antimicrobial resistance**
- 5. Foodborne disease**

## **UPDATES**

- 6. Tickborne disease**
- 7. Acute Flaccid Myelitis (AFM)**
- 8. Polio**
- 9. Zika & Yellow Fever**
- 10. Malaria**
- 11. MERS**
- 12. Building Resilience in Medical Supply Systems**
- 13. Other**





## Review of severe 2017-18 flu season shows drop in vaccination

Filed Under: [Influenza, General](#); [Influenza Vaccines](#)

Lisa Schnirring | News Editor | CIDRAP News | Oct 26, 2018

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Wrapping up its assessments of last flu season, the US Centers for Disease Control and Prevention (CDC) said flu was severe, with unusually high levels of illnesses, hospitalizations, and deaths—making for the worst season since the 2009 H1N1 pandemic.

Also, the CDC said in a separate update that an annual survey suggests that flu vaccination coverage declined last season in adults.

Meanwhile, with the nation just a few weeks into the 2018-19 season, flu levels are low, with all three strains circulating, according to the CDC's latest weekly FluView report today.

### Most severe non-pandemic season

Last year, flu activity started its rise in November and remained at high levels for several weeks into the first part of 2018. H3N2 was the predominant strain through February, with influenza B becoming more common in March, which isn't unusual for the latter part of the flu season.

Based on its modeling estimates, flu sickened 48.8 million people and resulted in 22.7 million clinic visits, 959,000 hospitalizations, and 79,400 deaths.



Hawaii Senate / Flickr cc



## Flu Scan for Dec 07, 2018

### **CDC: Flulike illness rates in US hold at national baseline**

The percentage of outpatient visits for influenza-like illnesses (ILI) is 2.2%, the same as the national baseline, according to the Centers for Disease Control and Prevention's (CDC) FluView report for the week ending Dec 1.

Four of the 10 US regions reported ILI at or above their baseline levels, with two states (Georgia and Louisiana) reporting high ILI activity. In a drop from last week, only two states (Colorado and South Carolina) experienced moderate ILI activity, while New York City and eight states (Alabama, Arizona, Kentucky, Mississippi, New Jersey, North Carolina, Utah, and Virginia) experienced low ILI activity.

Both influenza A and B are circulating, with the former predominating. Influenza A was found in 91.5% of public health lab samples, compared with 8.5% of samples showing influenza B. Of the influenza A virus samples subtyped, 82.2% are 2009 H1N1.

No pediatric deaths attributed to flu were reported to CDC this week, which means the 2018-19 season total remains at five.

**Dec 7 CDC FluView**



## News Scan for Dec 11, 2018

### **Global flu activity picks up; 91% of samples show influenza A**

Though overall flu activity in the Northern Hemisphere remains low, the WHO said today in its latest global flu update that activity was on the rise, with influenza A representing more than 90% of detections.

Globally, of samples that tested positive for flu during the second half of November, 90.9% were influenza A and 9.1% were influenza B. Of the subtyped influenza A strains, 85.5% were 2009 H1N1, and 14.5% were H3N2.

Canada recorded an earlier-than-usual start to the flu season, with an uptick in pediatric hospitalization tied to H1N1, the WHO said. The US reported low activity but an increase in influenza-like illness (ILI).

Activity was low in Europe and Central Asia, with influenza A and B strains co-circulating. Korea recorded ILI above the seasonal threshold, while countries throughout western Asia reported low to no flu detections.

Throughout the Caribbean, Central America, and tropical South America, influenza detections were low, the WHO said.

**Dec 11 WHO update**





## News Scan for Dec 14, 2018

### US flu still low, but CDC sees rise in some regions

Flu levels are rising in some parts of the country, but nationally activity is still low, the US Centers for Disease Control and Prevention (CDC) said today in its latest weekly flu update.

The CDC typically declares the start of flu season after key flu markers stay elevated over a number of weeks, according its weekly situation update. "Based on flu surveillance data, it's too early to say the 2018-19 flu season has started nationally," it said.

Five of CDC's 10 regions are above their regional baselines for percentage of clinic visits for flulike illness, but for the third week in a row, the national level remains at the 2.2% baseline. Two more states are reporting geographically widespread activity, bringing the total to three: California, Georgia, and Massachusetts. Regional or local spread was reported by 31 states.

Officials confirmed one more pediatric flu death, which involved influenza B and occurred in the week ending Dec 1. So far, six pediatric flu deaths have been reported this season. Overall deaths from pneumonia and flu remain below the epidemic threshold.

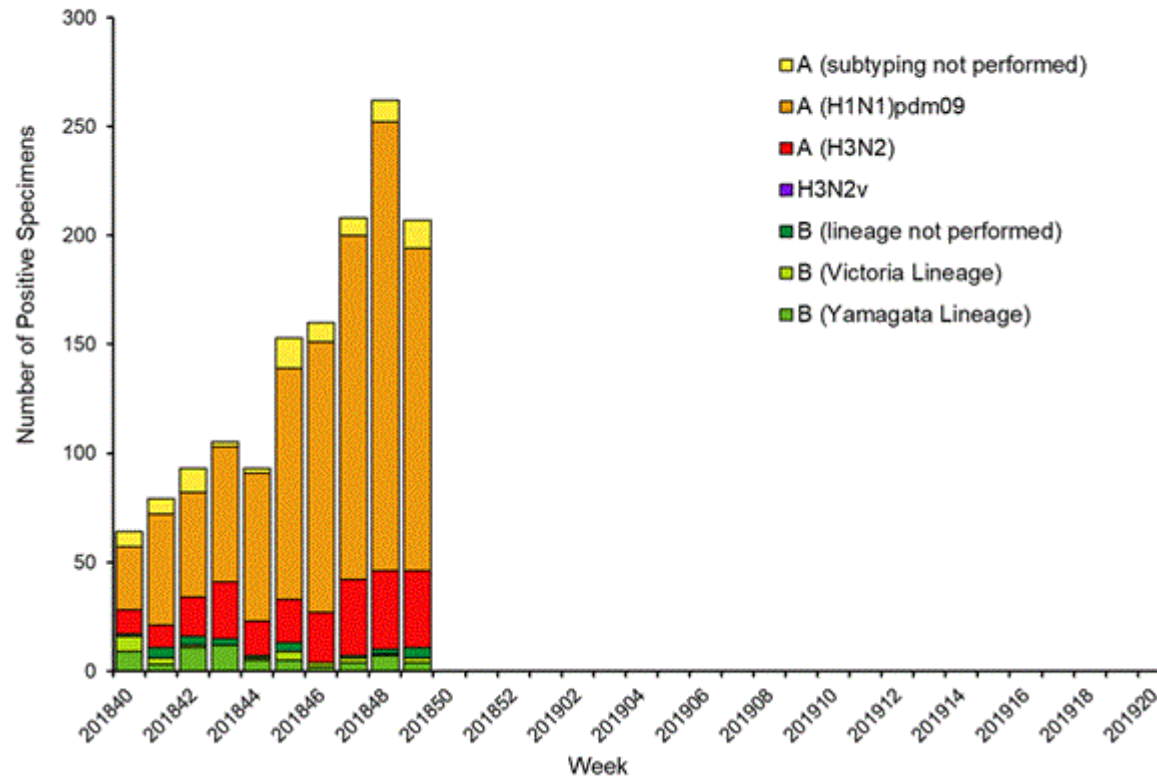
All three seasonal strains are circulating, but, since Sep 30, the 2009 H1N1 virus has been the most commonly detected strain.

**Dec 14 CDC [FluView](#)**

**Dec 14 CDC flu [situation update](#)**

2018-2019 Influenza Season Week 49 ending December 8, 2018

Influenza Positive Tests Reported to CDC by U.S. Public Health Laboratories,  
National Summary, 2018-2019 Season



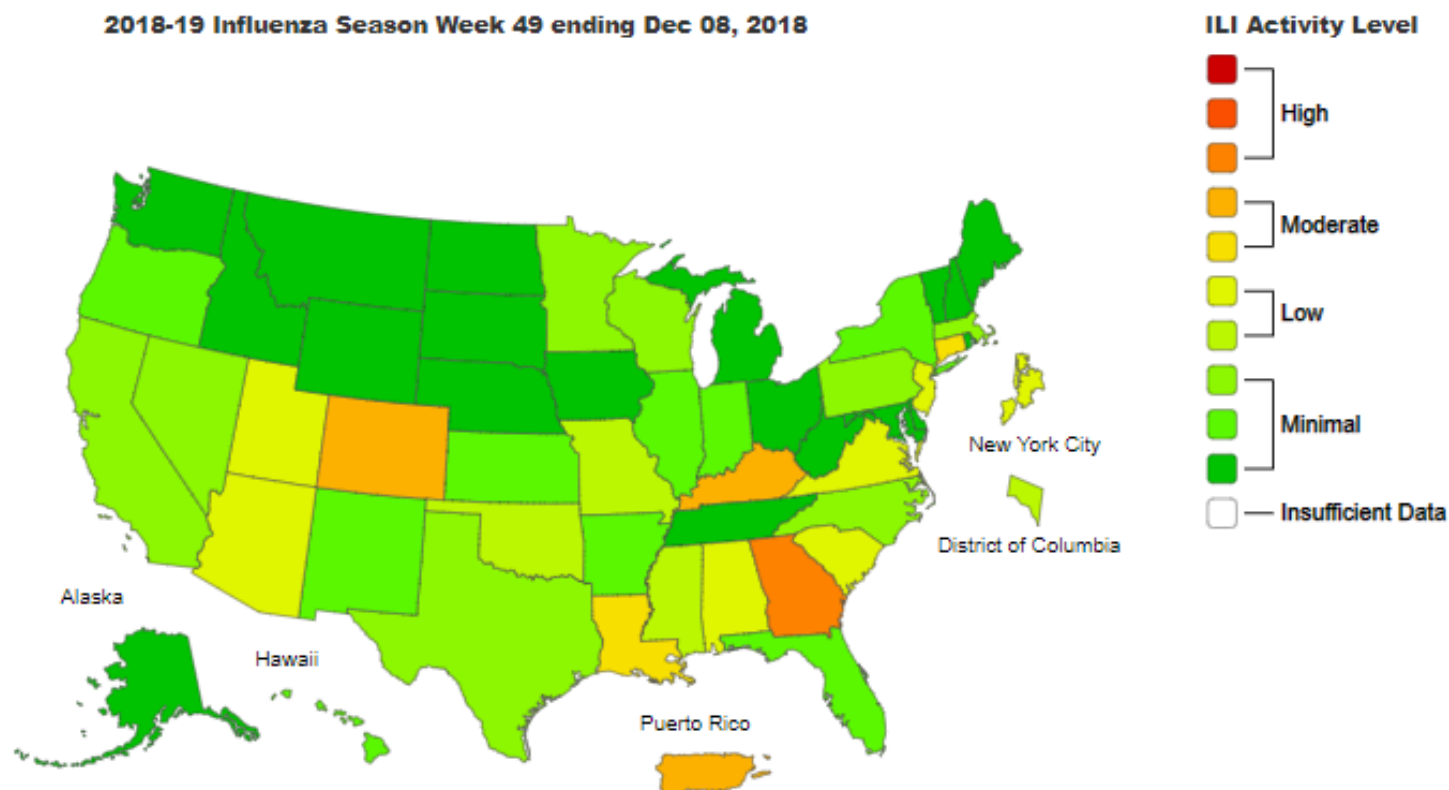
2018-2019 Influenza Season Week 49 ending December 8, 2018

## National and Regional Summary of Select Surveillance Components

HHS Surveillance Regions*	Data for current week			Predominant flu virus reported by public health laboratories for the most recent three weeks <sup>‡</sup>
	Out-patient ILI <sup>†</sup>	Number of jurisdictions reporting regional or widespread activity <sup>§</sup>	% respiratory specimens positive for flu in clinical laboratories <sup>‡</sup>	
Nation	Elevated	13 of 54	3.6%	Influenza A(H1N1)pdm09
Region 1	Elevated	4 of 6	2.9%	Approximately equal Influenza A(H1N1)pdm09 and A(H3)
Region 2	Elevated	1 of 4	2.2%	Influenza A(H1N1)pdm09
Region 3	Normal	0 of 6	1.6%	Influenza A(H1N1)pdm09
Region 4	Elevated	3 of 8	8.1%	Approximately equal Influenza A(H1N1)pdm09 and A(H3)
Region 5	Normal	0 of 6	1.8%	Influenza A(H1N1)pdm09
Region 6	Normal	1 of 5	3.5%	Influenza A(H1N1)pdm09
Region 7	Elevated	0 of 4	2.7%	Influenza A(H1N1)pdm09
Region 8	Elevated	0 of 6	3.5%	Influenza A(H1N1)pdm09
Region 9	Normal	3 of 5	5.5%	Influenza A(H1N1)pdm09
Region 10	Normal	1 of 4	2.1%	Influenza A(H1N1)pdm09

A Weekly Influenza Surveillance Report Prepared by the Influenza Division

Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet



# Flu vaccinations rise sharply in both children and adults

By HELEN BRANSWELL [@HelenBranswell](#) / DECEMBER 14, 2018

**L**ast winter's [dreadful flu season](#) may have had a silver lining: Flu vaccine uptake rose sharply this fall in both children and adults, according to newly released data.

The Centers for Disease Control and Prevention reported Friday that the number of children and teens vaccinated as of mid-November was up nearly 7 percentage points over last year at that time and coverage among adults was up 6.4 percentage points.

The data, which were drawn from three CDC-sponsored surveys, do not indicate whether more people will be vaccinated overall this winter — or that last year's flu season is changing behavior this winter. The increase could mean that more people were inspired to get their flu shot sooner this year.





## Study: Cell-based flu vaccine just a bit better than egg-based

Filed Under: [Influenza Vaccines](#)

Lisa Schnirring | News Editor | [CIDRAP News](#) | Dec 18, 2018

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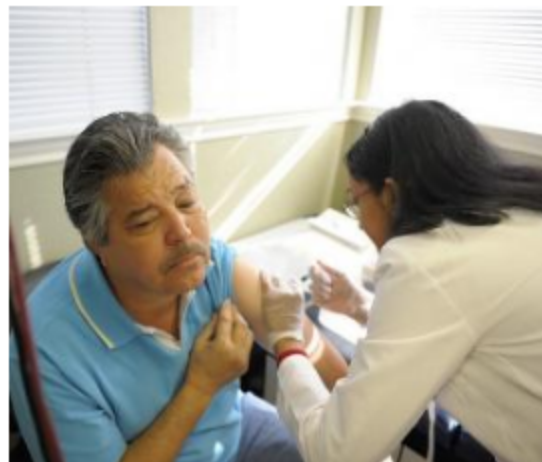
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A study of Medicare beneficiaries vaccinated against the flu last season—a severe one dominated by the H3N2 strain that hit seniors especially hard—found that the cell-based vaccine performed better than egg-based vaccines, but the difference wasn't enough to completely pin the low overall efficacy last season on egg adaptations in the vaccine strain.

The findings are helpful for policymakers but leave scientists with the ongoing complex task of unraveling all the factors that explain gaps in protection for flu vaccines, especially against the H3N2 strain. A team led by researchers from the US Food and Drug Administration and the Centers for Medicare and Medicaid Services reported its findings today in the *Journal of Infectious Diseases*.

### Comparing 5 vaccine formulations

The retrospective cohort study included more than 13 million seniors ages 65 and older who received one of five flu vaccine formulations last season: Flucelvax (made by Seqirus), egg-based quadrivalent (four-strain), egg-based high-dose, adjuvanted, and standard-dose vaccines. The last three versions are all trivalent (three-strain).



*Direct Relief / Flickr cc*



## Flu Scan for Nov 14, 2018

### **Study finds 9-month drop-off in flu vaccine effectiveness in kids**

In children, flu vaccine effectiveness declines over 9 months following immunization, according to a study in Hong Kong that took place over five flu seasons. A team based at the University of Hong Kong reported its findings on Nov 12 in *The Lancet Respiratory Medicine*.

Flu circulates almost year-round in Hong Kong, and the team used a test-negative case-control design to study vaccine effectiveness in children ages 6 months to 17 years, focusing on changes in the interval between vaccination and hospital admission.

Of 15,695 children hospitalized with respiratory infection from Sep 1, 2012, to Aug 31, 2017, 2,500 (15.9%) tested positive for flu and 13,195 (84.1%) tested negative. Of the vaccinated patients, 159 (6.4%) tested positive for flu and 1,445 (11%) tested negative.

Most of the children were vaccinated in December of each flu season. Pooled vaccine effectiveness declined over the following months, dropping from 79% for September through December, to 67% for January to April, to 43% for May to August. In a separate analysis, the investigators estimated that vaccine effectiveness dropped by 2 to 5 percentage points each month.

The team concluded that the findings support the importance of annual vaccination in children and the need for a flu vaccine that can provide broader, longer-lasting protection.

In a related commentary, two vaccine experts from Australia wrote that the findings have important policy implications and will likely raise questions about modeling studies that health planners use to predict the effect of vaccination strategies. They said uncertainties about the predicted effect of flu vaccines are especially relevant for tropical places like Hong Kong, where flu circulation is more unpredictable.



## Flu Scan for Dec 13, 2018

### **Study: Stockpiled H5N1 vaccine shows no drop in immunogenicity**

H5N1 vaccine that has been stored in the nation's Strategic National Stockpile since 2005 is still safe and immunogenic, according to a study published yesterday by researchers from the US Department of Health and Human Services (HHS) Biomedical Advanced Research and Development Authority (BARDA) and collaborators at St Jude Children's Hospital in Memphis.

In a blog post today, BARDA said in 2015 it asked researchers to conduct clinical trials to assess antigen against the H5N1 influenza A/Vietnam/1203/2004 strain that has been stored since 2005 and MF59 adjuvant that had been in the stockpile for more than 5 years. The team assessed the immunogenicity of two doses of the inactivated monovalent vaccine in people ages 18 to 64, an age group that would likely comprise healthcare workers and frontline responders in a pandemic setting.

The stockpiled pre-pandemic vaccine was well-tolerated, with or without the adjuvant. Participants experienced routine injection-site soreness or redness, but no serious adverse events were reported. No drop in immunogenicity was seen, even in the oldest stockpiled vaccine. As expected, the adjuvanted vaccine was linked to a greater immune response compared the unadjuvanted version, and the stockpiled H5N1 vaccine prompted cross-reactive antibody responses, signaling the potential to prevent infections against other H5N1 strains.

BARDA said the results from the study are useful for its ongoing work to assess prime-boost pandemic vaccination strategies.



## Flu Scan for Oct 24, 2018

### **FDA approves Xofluza, a novel single-dose drug to treat influenza**

Today the US Food and Drug Administration (FDA) approved Xofluza (baloxavir marboxil) for the treatment of flu in patients ages 12 years and older who have been symptomatic for no more than 48 hours.

Xofluza is the first novel flu treatment approved by the FDA in nearly 20 years; the FDA approved the neuraminidase inhibitors oseltamivir and zanamivir in 1999.

In September, the *New England Journal of Medicine* published results of phase 2 and phase 3 trials of the drug, which showed it reduced flu symptoms by 1 day and significantly reduced viral loads. Xofluza is administered orally, in a single dose.

"With thousands of people getting the flu every year, and many people becoming seriously ill, having safe and effective treatment alternatives is critical. This novel drug provides an important, additional treatment option," said FDA Commissioner Scott Gottlieb, MD, in a press release.

Japan's health ministry has already approved the drug, which was developed in that country and manufactured by Shionogi & Co.

## HOT TOPICS

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2. Measles
3. Influenza
4. Antimicrobial resistance
5. Foodborne disease

## UPDATES

6. Tickborne disease
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11. MERS
12. Building Resilience in Medical Supply Systems
13. Other





## European study: 33,000 deaths a year from resistant infections

Filed Under: [Antimicrobial Stewardship](#)

Chris Dall | News Reporter | [CIDRAP News](#) | Nov 06, 2018

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A team of European researchers estimates that more than 33,000 people in Europe die each year from antibiotic-resistant infections, and that the growing health burden of these infections is similar to that of influenza, tuberculosis, and HIV combined.

The results of the study, which calculated the incidence of five types of infections caused by antibiotic-resistant bacteria in 31 European Union/European Economic Area (EU/EEA) countries and measured the impact of those infections in number of cases, attributable deaths, and overall health burden, were published yesterday in *The Lancet Infectious Diseases*. The estimates are based on 2015 data from the European Antimicrobial Resistance Surveillance Network (EARS-Net).

The authors of the study say the findings illustrate the health impact of antibiotic resistance and will inform national efforts to prevent and control drug-resistant infections. In addition, they note, the findings highlight the need for EU/EEA countries to work together to address the rising burden of antibiotic resistance.

"The estimated burden of infections with antibiotic-resistant bacteria in the EU and EEA is substantial compared with that of other infectious diseases, and has increased since 2007," the authors of the study write. "Strategies to prevent and control antibiotic-resistant bacteria require coordination at EU and EEA and global levels."



Blabl0101 / iStock



## ASP Scan (Weekly) for Nov 30, 2018

### Researchers re-estimate annual deaths from multidrug-resistant infections

*Originally published by CIDRAP News Nov 26*

Infectious disease specialists from Washington University School of Medicine estimate that the number of deaths caused by multidrug-resistant organisms (MDROs) is more than six times higher than widely cited figures from the CDC.

In a letter published in *Infection Control and Hospital Epidemiology*, the researchers looked at data on inpatient and outpatient deaths in 2010 and estimated that a minimum of 153,113 deaths that year were caused by MDRO infections, with a worst-case scenario of 162,044. That would make MDROs the third-leading cause of death in the United States in 2010. The CDC estimated in a 2013 report that drug-resistant infections are responsible for 23,000 deaths a year, but because hospital codes don't specify deaths caused by MDROs, the true burden remains uncertain.

The researchers based the number of inpatient deaths caused by MDROs—70,837—on a conservative estimate of inpatient deaths due to sepsis (34.4%, 245,960) and the reported rate of MDR pathogens in sepsis cases (28.8%). The numbers for outpatient deaths—82,276 to 91,207—was determined by estimating how many outpatients died from infections in 2010 (17% to 19% of all cases, or 285,680 to 316,690 deaths) and then assuming that 28.8% were caused by MDROs.

The authors of the letter say the estimates illustrate the need for better surveillance and reporting mechanisms for MDROs infections.

"With rampant overuse of antibiotics, establishment of MDRO breeding and transmission centers (long-term acute-care hospitals and nursing facilities), and increasing rates of iatrogenic immunosuppression, the population at risk for MDRO infections and the likelihood of drug resistance will continue to increase," they write. "To address this critical issue, establishing the burden of MDROs is crucial to guide research funding allocation."

**Nov 22 Infect Control Hosp Epidemiol letter**



## ASP Scan (Weekly) for Nov 23, 2018

### **CDC investigating multidrug-resistant *Pseudomonas* outbreak in Texas**

*Originally published by CIDRAP News Nov 21*

The City of Lubbock, Tex., Health Department and the Centers for Disease Control and Prevention (CDC) are investigating an outbreak of multidrug-resistant *Pseudomonas aeruginosa* in multiple healthcare facilities.

To date, 27 cases of Verona integron-encoded metallo-beta-lactamase (VIM)-producing *P. aeruginosa* have been identified since the outbreak was discovered in October. The cases were identified by the CDC's Antibiotic Resistance Laboratory Network.

"The cases are not associated with a single facility and there is no obvious epidemiologic link," Katherine Wells, MPH, City of Lubbock director of public health, told CIDRAP News. "We are currently working with CDC to complete PFGE [pulsed-field gel electrophoresis] and WGS [whole-genome sequencing] to look for links. We are also working with acute care hospitals and long-term care facilities to do additional point-prevalence surveys."

VIM is a mobile resistance mechanism that confers resistance to carbapenems and several other classes of antibiotic and can be transferred between bacterial species. VIM-producing *P. aeruginosa* was first reported in France in 1996 and has been documented in other countries, but it is less common in the United States. The organism can cause severe healthcare-associated infections, is difficult to treat, and is associated with high morbidity and mortality.

**City of Lubbock [VIM resources page](#)**



## ASP Scan (Weekly) for Nov 23, 2018

### High rate of multidrug-resistant bacteria reported in Ethiopian hospital

*Originally published by CIDRAP News Nov 20*

In a study yesterday in *Antimicrobial Resistance and Infection Control*, Ethiopian researchers reported an alarming level of multidrug resistance among patients with healthcare-associated infections (HAIs) at a university hospital.

The cross-sectional study was carried out by researchers at Jimma University Medical Center from May through September 2016. A total of 1,015 patients were admitted during this period, and microbiologic investigation was conducted for 192 patients who were suspected of having an HAI. Investigators collected different clinical specimens (blood, urine, wound swab, pus, and sputum) from the patients, identified the bacterial pathogens, and performed antibiotic susceptibility testing.

Overall, 126 bacterial pathogens were isolated from 118 patients with culture-confirmed HAIs. The most commonly isolated bacteria were *Escherichia coli* (31 isolates, 24.6%), *Klebsiella pneumoniae* (30 isolates, 23.8%), and *Staphylococcus aureus* (26 isolates, 20.6%), all of which showed very high resistance patterns. Among the 126 isolates, 38 (30.2%), 52 (41.3%), and 24 (19%) were multidrug-resistant (MDR), extensively drug resistant (XDR), or pan-drug resistant (PDR), respectively. More than half of the gram-negative bacterial isolates (51%) were positive for extended-spectrum beta-lactamase (ESBL) or AmpC enzymes, and 25% were resistant to carbapenems.

The investigators found that the observed MDR rate was significantly associated with prolonged hospital stays. In addition, all 13 patients who died during the study period were infected with MDR bacteria.



## ASP Scan (Weekly) for Nov 30, 2018

### Canadian study finds increase in ICU superbugs

An analysis of more than 8,000 isolates from Canadian intensive care units (ICUs) over 10 years shows a significant increase in the prevalence of community-associated methicillin-resistant *Staphylococcus aureus* (CA-MRSA) and extended-spectrum beta-lactamase (ESBL)-producing *Escherichia coli*, researchers from the University of Manitoba reported yesterday in the *Journal of Antibacterial Chemotherapy*.

From 2007 through 2016, 42,938 clinically significant bacterial and fungal isolates were collected from Canadian tertiary care centers as part of the CANWARD national surveillance study; 8,130 of the isolates came from ICUs. Of the 8,130 pathogens collected, 58.2%, 36.3%, 3.1% and 2.4% were from respiratory, blood, wound and urine specimens, respectively.

The top five organisms collected accounted for 55.4% of all isolates and included *S aureus* (21.5%), *Pseudomonas aeruginosa* (10.6%), *E coli* (10.4%), *Streptococcus pneumoniae* (6.5%) and *Klebsiella pneumoniae* (6.4%). The most active agents against gram-negative organisms were carbapenems, tigecycline, and piperacillin-tazobactam; against gram-positive organisms, the most active agents were vancomycin, daptomycin, and linezolid.

MRSA accounted for 20.7% of *S aureus* collected, with the proportion of CA-MRSA genotypes compared with healthcare-associated MRSA increasing in prevalence across the study ( $P < 0.001$ ), from 15.3% in 2007 to 76.2% in 2016. Multidrug resistance (MDR) and extensive drug resistance (XDR) was identified in 26.3% and 14.9% of *E coli* isolates, with both phenotypes demonstrating a significant increasing trend ( $P < 0.0001$ ). In addition, 10.1% of *E coli* were identified as ESBL producers, with the proportion of ESBL-producing *E coli* rising from 2.5% in 2007 to 11.6% in 2016. MDR and XDR *Enterobacter cloacae* and *K pneumoniae* also increased significantly over time.







## Nations vary widely in antibiotic use, WHO data show

Filed Under: **Antimicrobial Stewardship**


Chris Dall | News Reporter | CIDRAP News | Nov 12, 2018

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A report today from the World Health Organization (WHO) shows a wide range in the amount of antibiotics being consumed in different countries.

The report, released on the first day of World Antibiotic Awareness Week, found that overall antibiotic consumption in 65 countries in 2015 ranged from 4.4 defined daily doses (DDD) to 64.4 per 1,000 inhabitants per day, a 16-fold difference. The publication is the first ever from the WHO to provide a global overview of antibiotic consumption data based on a standardized global methodology.



Ca-ssis / iStock

The WHO says release the data is a critical first step in helping countries understand the amount of antibiotics being used at the national level and how they're being used. The hope is that accurate, standardized data will enable countries to develop strategies to improve antibiotic use and will aid the global fight against antimicrobial resistance (AMR).

"Collecting data on antibiotic use is of paramount importance to generate the evidence that will enable us to tackle AMR and protect human health," WHO deputy director-general for programs Soumya Swaminathan, MD, writes in the report.

**CIDRAP**

Center for Infectious Disease Research and Policy

## Surveys show wide range of antimicrobial use in Europe

Filed Under: [Antimicrobial Stewardship](#)[Lisa Schnirring](#) | [News Editor](#) | [CIDRAP News](#) | Nov 15, 2018[f Share](#)[t Tweet](#)[in LinkedIn](#)[✉ Email](#)[🖨 Print & PDF](#)

A pair of studies today that provide a snapshot of antimicrobial consumption in European hospitals and nursing homes show that use varies widely by country, and that healthcare-associated infections (HAIs)—many caused by multidrug-resistant bacteria—are a big threat.

One example of diverse antimicrobial prescribing: The proportion of broad-spectrum antibiotics used in hospitals ranged from 16% to 62% of all antibiotics.

The reports appear in today's issue of *Eurosurveillance* and are part of efforts to raise awareness ahead of European Antibiotic Awareness Day on Nov 18, part of global World Antibiotic Awareness Week.

In a statement today, Andrea Ammon, MD, director of the European Centre for Disease Prevention and Control (ECDC), cited an estimate last week that 33,000 deaths occur each year due to antimicrobial-resistant infections and said health officials need to ensure that the drugs are used prudently and that infection prevention and control practices are in place in all European healthcare settings.

"Since the rates of antimicrobial resistance, the rates of antimicrobial consumption as well as infection prevention and control practices vary from country to country, it is essential to tailor strategies to address specific needs," she said. "ECDC calls for continued action at all levels."

*diego\_cervo / iStock*



## Analysis finds global antibiotic use varies widely in children

Filed Under: Antimicrobial Stewardship

Chris Dall | News Reporter | CIDRAP News | Dec 04, 2018

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A new analysis of global antibiotic use in young children has found that consumption patterns vary widely among countries, with no clear differences between high-income and low-income nations.

But the study, which is the first attempt to estimate the amount and type of antibiotics being consumed by children under the age of 5 at the country level, also found some concerning trends.

The positive news is that narrow-spectrum antibiotics, which should be used as the first or second options for common childhood bacterial infections, accounted for more than three quarters of antibiotics consumed by young children in 70 countries.

But in 17 countries, most notably China and India, broader-spectrum drugs with a higher potential for driving antibiotic resistance accounted for more than 20% of the antibiotics consumed by children. And overall use of a key first-line antibiotic was lower than it should be.

The findings appeared yesterday in *The Lancet Infectious Diseases*.



J. Stephen Conn / Flickr cc



## ASP Scan (Weekly) for Nov 16, 2018

### **Australian data show a third of emergency room antibiotics not needed**

An observational study in Australia has found that a third of antibiotic prescriptions in an emergency department (ED) were deemed inappropriate, according to a study yesterday in the *Journal of Antimicrobial Chemotherapy*.

Researchers at Gold Coast University Hospital assessed 1,019 patient presentations that involved an antibiotic prescription in the ED during 4 separate weeks throughout 2016, one each in February, May, August, and November.

They determined that 640 antibiotic prescriptions (62.8%) were appropriate, 333 (32.7%) were inappropriate, and 46 (4.5%) were not assessable. Adults were more likely to receive an inappropriate antibiotic prescription than children (36.9% vs. 22.9%). Patients who likely had sepsis-related organ failure were also more likely to be prescribed improper antibiotics (56.7% vs. 36.1%).

The researchers found no difference in inappropriate prescribing rates in the ED based on patient gender, hospital admission status, reason for antibiotic administration (treatment vs. prophylaxis), or time of shift (day vs. night).

The authors conclude, "With over one in three antibiotic prescriptions in the ED being assessed as inappropriate, there is a pressing need to develop initiatives to improve antibiotic prescribing to prevent antibiotic-associated patient and community harms."

**Nov 15 *J Antimicrob Chemother* study**





## Survey finds parents commonly save, share leftover antibiotics

Filed Under: [Antimicrobial Stewardship](#)


Chris Dall | News Reporter | CIDRAP News | Nov 05, 2018

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A new survey has found that among a national sample of parents, nearly half save leftover antibiotics prescribed for their children rather than dispose of them. And nearly three-quarters of those parents give the leftover antibiotics to someone else without consulting a doctor.

The findings are from an abstract to be presented today at the annual conference of the American Academy of Pediatrics.

Tamara Kahane, a medical student at New York University Medical School and one of the authors of the abstract, said the idea for the survey was hatched when she and her colleagues at a developmental and behavioral pediatrics office noticed something interesting: a lot of patients were saying that they had already taken antibiotics to "self-treat" illnesses, without any prior medical consultation. A subsequent review of parenting blogs and advice websites revealed a similar trend.

"Many parents were in fact encouraging one other to take antibiotics as a precaution at the first sign of any type of infection, without knowing if antibiotics were the appropriate treatment," Kahane told CIDRAP News. "That made us much more interested in this topic."



Sasha\_Suzi/iStock





## Stewardship / Resistance Scan for Nov 09, 2018

### Study: Antibiotics commonly prescribed upon discharge to long-term care

A study today in *Infection Control and Hospital Epidemiology* reports that 23% of patients at an Oregon hospital were prescribed antibiotics upon discharge to a long-term care facility (LTCF).

In the single-center study, researchers analyzed pharmacy data on all adult patients at Oregon Health and Science University Hospital who were discharged to an LTCF from January 2012 through June 2016. They wanted to quantify the prevalence and characteristics of patients prescribed antibiotics upon discharge to an LTCF and examine the association between receiving an antibiotic prescription upon discharge and healthcare use, including 30-day hospital readmission, 30-day emergency department (ED) visits, and *Clostridioides difficile*-associated hospital readmission or 60-day ED visit.

Among the 6,107 discharges to an LTCF, 22.9% were prescribed antibiotics upon discharge, of whom 24.7% had more than one antibiotic prescription. The most frequently prescribed antibiotics were cephalosporins (20.4%), fluoroquinolones (19.1%), and penicillins (16.7%). Most records of discharged patients (82.1%) had a diagnosis code for a bacterial infection, with the most prevalent diagnosis being urinary tract infections (35.9%).

Among the patients who received an antibiotic prescription upon discharge, the incidence of 30-day hospital readmission to the index facility was 15.9%, the incidence of 30-day ED visit at the index facility was 11.0%, and the incidence of *C difficile* infection (CDI) on a readmission or ED visit within 60 days of discharge was 1.6%. Following adjustments for confounding, receiving an antibiotic prescription upon discharge was significantly associated with 30-day ED visits (adjusted odds ratio [aOR], 1.2; 95% confidence interval [CI], 1.02 to 1.5) and with CDI within 60 days (aOR, 1.7; 95% CI, 1.02 to 2.8) but not with 30-day readmissions (aOR, 1.01; 95% CI, 0.9 to 1.2).



## ASP Scan (Weekly) for Nov 23, 2018

### Study finds low adherence to CDC stewardship elements in NICUs

*Originally published by CIDRAP News Nov 20*

A baseline assessment of a sample of the nation's neonatal intensive care units (NICUs) has found low compliance with CDC recommendations to improve antibiotic use in newborns and a wide variation in antibiotic usage rates. The findings appear today in *Pediatrics*.

The one-day cross-sectional quality audit, conducted in February of 2016, involved 143 NICUs enrolled in the Vermont Oxford Network internet-based quality improvement collaborative, an effort to decrease antibiotic overuse during the newborn period. The first part of the audit was a structured, unit-level self-assessment of policies, procedures, and guidelines related to antibiotic stewardship, based on compliance with the CDC's Core Elements of Hospital Antibiotic Stewardship Programs: leadership commitment, accountability, drug expertise, action, tracking, reporting, and education.

For the second part of the audit, auditors conducted patient-level assessments, looking at patient demographics, antibiotic use, reason for antibiotic therapy, and what appropriate cultures were obtained before therapy. Results were used to calculate the antibiotic use rate (AUR), defined as the number of infants who were on antibiotic therapy divided by the total census for the day, for each participating NICU.

The results of the unit-level assessment showed that none of the NICUs addressed all seven of the CDC core elements, and only two elements—accountability (55%) and drug expertise (62%)—had more than 50% compliance. Only 15% of NICUs said they tracked AURs, and only 6% said they reported information on antibiotic use and resistance to clinicians.

Of the 4,127 infants audited for antibiotic exposure, 725 received antibiotics, for a median hospital AUR of 17% (interquartile range, 10% to 27%). Of the 412 infants who received antibiotics for more than 48 hours, only 26% had positive culture results, 17% had no culture obtained, and 69% had at least 1 negative culture result.



## Experts tackle antibiotic stewardship best practices

Filed Under: [Antimicrobial Stewardship](#)

Chris Dall | News Reporter | [CIDRAP News](#) | Nov 15, 2018

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As the world marks Antibiotic Awareness Week, antibiotic stewards from around the country are meeting in Baltimore to share their knowledge and discuss ways to improve antibiotic use in hospitals and healthcare facilities.

The 2-day Antimicrobial Stewardship Research Workshop, hosted by the Society for Healthcare Epidemiology of America (SHEA), brings together physicians, pharmacists, and other health professionals to learn how to study and assess the performance of antibiotic stewardship interventions. These interventions, which aim to promote appropriate antibiotic use in healthcare facilities, reduce the spread of drug-resistant infections, and enhance patient outcomes, are an essential component of global efforts to preserve the effectiveness of antibiotics.

Co-chair Elizabeth Dodds-Ashley, PharmD, MHS, says the workshop is an important venue for sharing best practices in the ongoing fight against antibiotic resistance. Because while there are many different strategies for reducing antibiotic use in inpatient and outpatient settings, which strategies work best, and where, is still unclear.

"I think that there have been programs trying to optimize antibiotic use since we first knew that there could be antibiotic resistance," Dodds-Ashley, an associate professor of medicine at Duke University, told CIDRAP News. "But I think what we continue to struggle with, and why we need more research, is that we don't necessarily know the best way to do that."



*Ridofranz / iStock*



## Europe votes to restrict animal antibiotics as UK use drops

Filed Under: [Antimicrobial Stewardship](#)

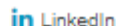
Chris Dall | News Reporter | CIDRAP News | Oct 25, 2018



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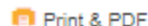
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In two positive antimicrobial stewardship steps in Europe, members of the European Parliament (MEPs) today adopted a law to limit the use of antibiotics in food-producing animals, and a UK report shows that sales of veterinary antibiotics continue to fall.

The new European law would limit the use of antibiotics to prevent disease (prophylactic use) to individual animals, and only in cases where a veterinarian believes there is a high risk of infection or its consequences are likely to be severe, according to a European Parliament press release. Metaphylactic use (treating a group of animals when only one shows signs of infection) should be a last resort, according to the measure, and should only occur when a veterinarian has diagnosed an infection and believes there is a high risk of the infection spreading.

The new law would also empower the European Commission to select antibiotics to be reserved only for use in humans, require that imported meat products meet European Union (EU) standards and not contain antibiotics that had been used for growth promotion, and provide incentives to encourage the development of new antibiotics.



*hedgehog94 / iStock*



## ASP Scan (Weekly) for Nov 23, 2018

### **Antibiotic use declining in UK livestock**

*Originally published by CIDRAP News Nov 19*

A new report from the Responsible Use of Medicines in Agriculture Alliance (RUMA) says the UK livestock industry is making progress in efforts to meet antibiotic use targets, but a group of leading British clinicians warns that progress could be threatened if the government doesn't commit to changes in the way antibiotics are used in food-producing animals.

According to RUMA's "One Year On" report, the industry overall is making headway in its efforts to reduce antibiotic use. Sales of antibiotics to the livestock industry fell by 40% from 2013 through 2017, including a 52% decrease in sales of the most critical antibiotics for human health, and antibiotic use in food-producing animals is among lowest in the European Union. But progress in reaching 2020 targets varies among different animal sectors.

The report shows that the pig sector in the United Kingdom is on track to meet the 2020 target for reducing antibiotic use, the poultry meat sector is already under the targets set for both chickens and turkeys, the laying hen sector is below its target, and the gamebird sector hit its target 2 years early and is now considering new targets. But the cattle and sheep industries have had issues with data collection that have made it difficult to assess progress, and progress in the fish sector (farmed trout and salmon) has been mixed.

The targets were established in 2017 by RUMA's Targets Task Force, a group that included a specialist veterinary surgeon and a leading farmer for each of the sectors covered.






## Reports: India set to ban use of colistin in livestock

Filed Under: **Antimicrobial Stewardship**


Chris Dall | News Reporter | CIDRAP News | Dec 06, 2018

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The Indian government may be nearing a ban on the use of colistin for growth promotion in food-producing animals, according to media reports.

The UK-based Bureau of Investigative Journalism and Livemint, an Indian business news website, report that India's National Antimicrobial Resistance Action Plan committee, the country's top drug advisory body, and government agencies that oversee agriculture and food safety have all recommended that the Indian government ban the use of the last-resort antibiotic in livestock in an effort to preserve the drug's efficacy in humans.

An advisor to the committee told the Bureau of Investigative Journalism that the Indian government is in the processing of crafting a rule on colistin use.

Meanwhile, a ban on colistin in animal feed is to go into effect shortly in Malaysia, according to Malaysian media reports.

### Colistin use widespread in Indian poultry

Banning colistin from being used to promote growth in livestock would put India and Malaysia in line with the European Union, United States, China, and Brazil, which have all stopped using the antibiotic in animal agriculture in recent years. Colistin is considered a last line of defense against severe, multidrug-resistant bacterial infections in people, and health officials are concerned that using it in animals promotes the emergence of colistin-resistant pathogens, which can then spread to humans.



*Tyler Olson / Thinkstock*







## Major firms agree to 'framework' for antibiotic stewardship in animals

Filed Under: [Antimicrobial Stewardship](#)


Chris Dall | News Reporter | CIDRAP News | Dec 18, 2018

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A group of major stakeholders in food-animal production have signed on to a common set of principles to guide judicious use of antibiotics.

The framework for antibiotic stewardship in food animals, released today, acknowledges that antibiotic use in all settings, from human healthcare to livestock production, must be carefully and responsibly managed to protect the effectiveness of antibiotics in both people and animals. It aims to get food-animal producers and purchasers on the same page by defining what effective stewardship looks like in animal production and laying out the core components for meaningful programs.

The framework is the product of 2 years of negotiations among stakeholders along all parts of the food-animal supply chain, moderated by the Pew Charitable Trusts and the Farm Foundation. McDonald's, Walmart, the National Pork Producers Council, Hormel Foods, the National Milk Producers Federation, and Tyson Foods are among the companies agreeing to the framework.



nd3000 / iStock

**CIDRAP**

Center for Infectious Disease Research and Policy

## Sanderson Farms to phase out medically important antibiotics

Filed Under: [Antimicrobial Stewardship](#)[Chris Dall](#) | [News Reporter](#) | [CIDRAP News](#) | Nov 30, 2018[f](#) Share[t](#) Tweet[in](#) LinkedIn[✉](#) Email[🖨](#) Print & PDF

The nation's third-largest chicken producer announced today that it will stop using medically important antibiotics for disease prevention in its live poultry operations.

In a press release, Sanderson Farms said it would discontinue use of the antibiotics gentamycin and virginiamycin to prevent disease in its chickens by Mar 1, 2019. Gentamycin is on the World Health Organization list of most essential medicines.

"As we have stated many times, we and our veterinary team are committed to the judicious use of antibiotics in our birds," company chairman and CEO Joe Sanderson said in the release. "The change we are announcing today is consistent with this commitment and with our dedication to antibiotic stewardship and animal welfare."

### Keeping pace with other large producers

Up until today's announcement, Sanderson Farms was the only large US chicken producer that had not committed to curbing the use of medically important antibiotics in its operations. Tyson, Pilgrim's Pride, and Perdue have all begun phasing out the use of medically important antibiotics in their chicken in recent years, in response to growing consumer demand and concern that the use of medically important antibiotics in chickens and other food animals is contributing to antibiotic resistance.

*Zoonar/Thinkstock*



## News Scan for Dec 07, 2018

### **Costco commits to responsible antibiotic use in meat, poultry supply chain**

Costco today updated its animal welfare standards to include a policy on the responsible use of antibiotics in its meat and poultry supply chains, according to shareholder advocacy group As You Sow.

The policy commits Costco to limiting the application of medically important antibiotics to therapeutic use for the prevention, control, and treatment of disease, but not for growth promotion or feed efficiency, and only under the supervision of a licensed veterinarian. The company says it will set a target for compliance with this policy on or before December 2020.

While the policy does not commit Costco to eliminating the routine use of medically important antibiotics for disease prevention among supplier farms, it does say the company will assess the feasibility of doing so on or before December 2020.

On Sep 29, As You Sow filed a shareholder proposal that requested Costco develop an enterprise-wide policy to phase out the use of medically important antibiotics in its meat and poultry, with the exception of treatment and non-routine control of diagnosed illnesses.

"We are particularly encouraged by the company's plans to create mechanisms through which they will be able to verify supplier compliance with their antibiotics policy," Christy Spees, environmental health program manager at *As You Sow*, said in a press release. "This is a significant undertaking, and one that we hope will cause a ripple of change in the meat industry and set a standard for other retail chains."

**Dec 7 As You Sow press release**

**December 2018 Costco animal welfare standards**

# McDonald's to curb antibiotic use in its beef supply

Tom Polansek

DECEMBER 11, 2018 / 1:25 PM

(Reuters) - McDonald's Corp said on Tuesday it plans to reduce the use of antibiotics in its global beef supply, fueling projections that other restaurants will follow suit.

The move by the world's biggest fast-food chain addresses concerns that the overuse of antibiotics vital to fighting human infections in farm animals may diminish the drugs' effectiveness in people.

McDonald's becomes the biggest beef buyer to tackle the issue in cattle, potentially creating a new standard for livestock producers and threatening sales by drug companies such as Merck & Co and Elanco Animal Health.

"McDonald's iconic position and the fact that they're the largest single global purchaser of beef make it hugely important," said David Wallinga, a senior health adviser for the environmental group Natural Resources Defense Council.

McDonald's said it will measure the use of antibiotics in its 10 biggest markets, including the United States, and set targets to curb their use by the end of 2020. The markets cover 85 percent of the company's global beef supply chain.



## Study finds resistance levels not lower in antibiotic-free burger meat

Filed Under: [Antimicrobial Stewardship](#)

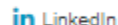
Chris Dall | News Reporter | CIDRAP News | Nov 28, 2018



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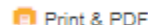
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A new study by researchers with the US Department of Agriculture has found similar levels of antimicrobial resistance (AMR) in ground beef raised with and without antibiotics. The findings appeared in the *Journal of Food Protection*.

The authors of the study say the data, along with previous research they've done on AMR in conventionally raised and "raised without antibiotics" (RWA) cattle, suggest that antimicrobial use in US cattle production has "minimal to no impact on AMR in the resident bacteria."

The finding comes at a time of heightened concern about the use of antibiotics in food-producing animals, who consume between 70% and 80% of medically important antibiotics sold worldwide, and how that use affects human health. The World Health Organization and other public health groups have called for limits on their use in livestock and poultry, arguing that widespread use of these drugs for growth promotion and disease prevention in healthy animals contributes to the emergence of drug-resistant pathogens, which can be transmitted to humans through meat.



nevodka / iStock





## Supermarkets face pressure over antibiotics in meat after superbugs found in pork

Infected products sold abroad came from sources that may also supply UK stores - and 'risk may rise' with Brexit

Supermarkets are facing calls to reveal the levels of antibiotics in their imported pork after superbugs were found in the meat on sale abroad – from firms that may also supply UK stores.

Pork on supermarket shelves in Brazil, Spain and Thailand was found to contain superbugs resistant to some of the antibiotics critical in human medicine.

Britain imports nearly two-thirds (60 per cent) of its pork products – about 700,000 tonnes a year – and investigators believe it is likely that antibiotic-resistant superbugs will have infected some of the meat sold in the UK.

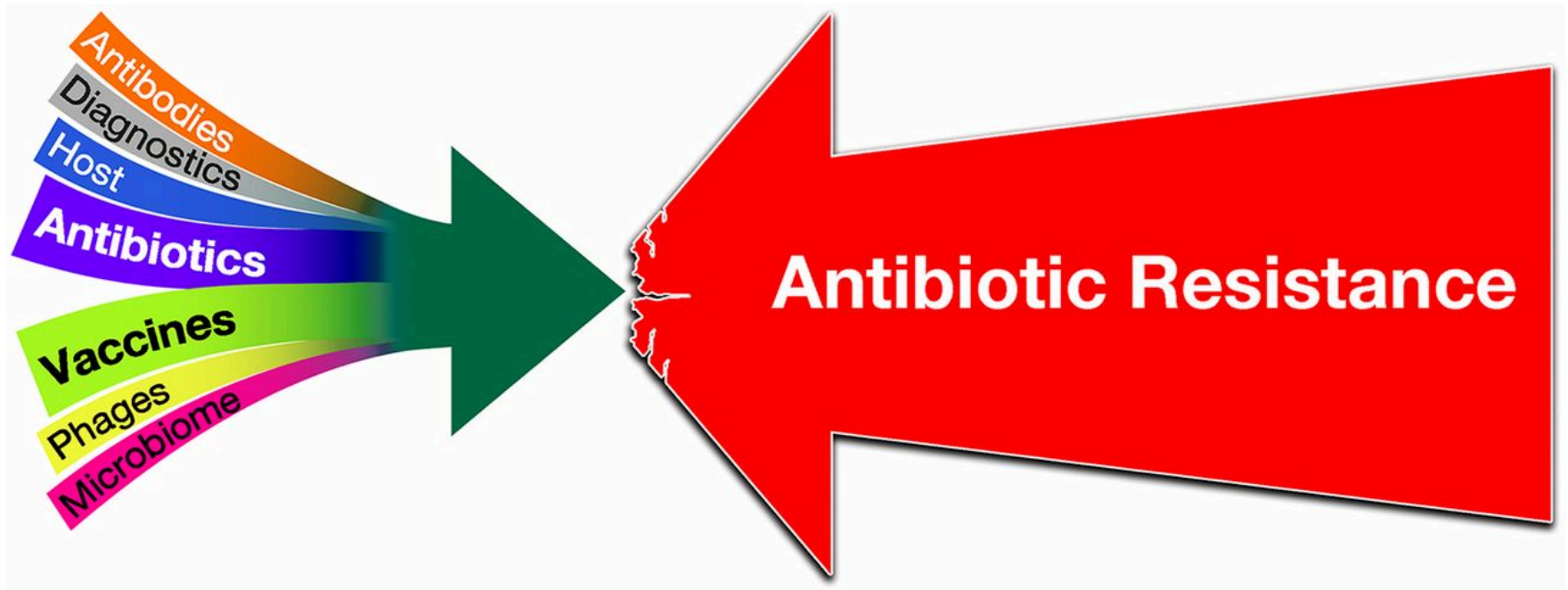
British supermarkets say they have already cut antibiotics in their supplies to avoid unnecessary use and that the risk to humans is low.

But it is feared Brexit will further increase the chances of pork carrying superbugs coming into the UK, as imports of lower-welfare meat may rise and British farmers lower their standards to compete on cost.



# Antimicrobial resistance and the role of vaccines

David E. Bloom<sup>a</sup>, Steven Black<sup>b</sup>, David Salisbury<sup>c</sup>, and Rino Rappuoli<sup>d,e,1</sup>



A globally integrated strategy that includes antibiotics, vaccines, diagnostics, antibodies, and new tools targeting the host, the microbiome, or delivered by phages is required to fight AMR effectively.



## Fast-tracked antibiotic shows promise in phase 2 trial

Filed Under: [Antimicrobial Stewardship](#)

Chris Dall | News Reporter | CIDRAP News | Oct 26, 2018

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The results from a phase 2 clinical trial suggest that a new treatment for patients with complicated urinary tract infections (cUTIs) caused by multidrug-resistant (MDR) pathogens could be on the horizon.

The trial results, published yesterday in *The Lancet Infectious Diseases*, showed that the investigational antibiotic cefiderocol was non-inferior to the standard-of-care treatment, imipenem-cilastatin, in patients hospitalized with cUTIs. And while the trial wasn't designed to show superiority, a post-hoc analysis found that cefiderocol was superior to imipenem-cilastatin because of a higher level of pathogen eradication.

Although cefiderocol—a cephalosporin—is not a new class of antibiotic, it has a novel method of penetrating the tough outer membrane of gram-negative bacteria, including MDR strains. Attached to the drug's main molecule is a siderophore, a compound secreted by bacteria to seek out iron—which bacteria need for survival—and transport it across cell membranes. This "Trojan horse" strategy enables cefiderocol to get inside gram-negative bacterial pathogens and kill them from the inside. In addition, cefiderocol is able overcome two other defenses that gram-negatives have against antibiotics: efflux pumps and beta-lactamase enzymes.



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## New gonorrhea antibiotic shows efficacy in small trial

Filed Under: [Gonorrhea](#); [Antimicrobial Stewardship](#)

Chris Dall | News Reporter | CIDRAP News | Nov 08, 2018

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A new antibiotic to treat gonorrhea has shown promising results in a small phase 2 trial.

The results of the trial, published yesterday in *The New England Journal of Medicine*, show that zoliflodacin, a single-dose oral antibiotic with a mechanism of action that differs from currently available therapies, was highly effective in treating patients with urogenital and rectal gonorrhea infections and was well-tolerated. But the cure rates were lower in patients who had gonorrhea infections of the throat (pharyngeal).

Zoliflodacin is one of three antibiotics in development for *Neisseria gonorrhoeae*, one of the most common sexually transmitted infections. Developed by Entasis Therapeutics, the drug has been "fast-tracked" for development by the US Food and Drug Administration and will soon be tested in a larger, multinational phase 3 trial conducted in partnership with the Global Antibiotic Research and Development Partnership (GARDP).



Drug-resistant *Neisseria gonorrhoeae*  
Source: CDC/James Archer

CDC / James Archer

## HOT TOPICS

1. Ebola
2. Measles
3. Influenza
4. Antimicrobial resistance
5. Foodborne disease

## UPDATES

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8. Polio
9. Zika & Yellow Fever
10. Malaria
11. MERS
12. Building Resilience in Medical Supply Systems
13. Other



## CDC details summer spike in Cyclospora cases

Filed Under: [Cyclospora](#); [Foodborne Disease](#)

Stephanie Southeray | News Reporter | CIDRAP News | Oct 05, 2018



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The Centers for Disease Control and Prevention (CDC) said today in *Morbidity and Mortality Weekly Report* (MMWR) that this past summer saw a large number of *Cyclospora* cases across the United States linked to fresh produce.

In 2016, only 174 people became ill with cyclosporiasis, a disease caused by infection with *Cyclospora cayentanensis*, a pathogenic protozoan transmitted by feces or feces-contaminated food and water. Cyclosporiasis causes watery diarrhea, stomach cramping, and fatigue. In 2017, the number of confirmed cases rose to 632, but as of Oct 1 there have been 2,299 cases of the illness recorded in the United States.



Aprilrain/iStock

"The 2018 outbreak season is noteworthy for multiple outbreaks associated with different fresh produce items and the large number of reported cases," the CDC said. "This increase might be due, in part, to changes in diagnostic testing practices, including increased use of gastrointestinal molecular testing panels. CDC is working with state public health partners to determine whether and to what extent changes in testing practices might have contributed to increased case detection and reporting."

### Two major outbreaks over summer

The bulk of these cases occurred this summer. In May, June, and July, two multistate outbreaks involving fresh vegetables resulted in 761 laboratory-confirmed illnesses.





## FDA issues final report on E coli in Arizona-grown romaine

Filed Under: [Foodborne Disease](#); [E coli](#)

[Lisa Schnirring](#) | News Editor | [CIDRAP News](#) | Nov 02, 2018

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An environmental investigation in an Arizona romaine-growing area near Yuma that was linked to a large *Escherichia coli* O157:H7 outbreak earlier this year confirmed the outbreak strain in samples of irrigation canal water, which probably contaminated the lettuce.

The US Food and Drug Administration (FDA) yesterday released a report that detailed findings from federal and Arizona officials who visited the area several times over the summer. The event marked the nation's largest *E coli* outbreak since 2006, with reports of 210 illnesses from 36 states. Ninety-six patients were hospitalized, 27 had hemolytic uremic syndrome (HUS), a potentially fatal kidney complication, and five people died.

FDA Commissioner Scott Gottlieb, MD, said in a statement yesterday that the agency is committed to taking steps to prevent similar outbreaks in the future and improve the safety of leafy greens. "Since the next romaine growing season for the Yuma region is underway, it's critical for all of us to understand what happened so we can identify the changes that can prevent future outbreaks and reduce the scope of any problems that could arise," he said.

**Water contamination source still a mystery**



[oopoontongoo](#)/iStock





## E coli probe prompts CDC warning to avoid all romaine

Filed Under: [E coli](#); [Foodborne Disease](#)

Lisa Schnirring | News Editor | CIDRAP News | Nov 20, 2018

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The US Centers for Disease Control and Prevention (CDC) today warned consumers not to eat any romaine lettuce and for retailers and restaurants not to sell or serve it, as US and Canadian officials investigate an *Escherichia coli* O157:H7 outbreak.

The warning applies to all types of romaine, including whole heads, hearts of romaine, bags and boxes of precut lettuce, and any salad mix that contains romaine. It urges people to throw the product away if it's not clear if a salad mix contains romaine and to sanitize refrigerator drawers or shelves where romaine was stored.



*Chimpr / Flickr cc*

### 50 people sick in US, Canada

So far 32 illnesses have been confirmed in 11 states, and the Public Health Agency of Canada (PHAC) has identified 18 people in Ontario and Quebec infected with the same *E coli* fingerprint.

California (10) and Michigan (7) have reported the most cases, with smaller numbers reported by Connecticut, Illinois, Massachusetts, Maryland, New Hampshire, New Jersey, New York, Ohio, and Wisconsin.



## FDA narrows romaine E coli source to Central Coast growing area

Filed Under: [E coli](#); [Foodborne Disease](#)

Lisa Schnirring | News Editor | CIDRAP News | Nov 27, 2018

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The US Food and Drug Administration (FDA) announced yesterday that its investigation over the Thanksgiving holiday further narrowed the likely source of contaminated romaine to the Central Coast growing region of central and northern California.

Also, the FDA set the stage for romaine from unaffected areas to return to the market, including product from hydroponic and greenhouse facilities, and the Centers for Disease Control and Prevention (CDC) said it has received reports of 11 more *Escherichia coli* O157:H7 illnesses linked to the outbreak.



Darya Pino / Flickr cc

### FDA spells out source labeling

In a statement, FDA Commissioner Scott Gottlieb, MD, said so far the investigation suggests that the romaine linked to the outbreak came from parts of California that grow the lettuce over the summer and is "end of the season" product harvested from the areas. He added that the FDA trace-back investigation is continuing, with the goal of identifying a specific location and factors that led to the contamination.



## Romaine E coli probe leads to Santa Barbara County farm

Filed Under: [E coli](#); [Foodborne Disease](#)

[Lisa Schnirring](#) | News Editor | [CIDRAP News](#) | Dec 13, 2018

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Federal health officials today said Adam Brothers Family Farms, based in Santa Barbara County, Calif., may be a source of romaine lettuce contaminated with *Escherichia coli* O157:H7, based on testing that matched the bacteria in irrigation water sediment to the outbreak strain that sickened patients.

In a media telebriefing today, however, Stephen Ostroff, MD, senior advisor to the Food and Drug Administration (FDA) commissioner, said the newly identified link doesn't explain all of the outbreak cases and that traceback investigations are still under way.

With today's announcement, health officials narrowed their consumer advisory from six to three counties: Monterey, San Benito, and Santa Barbara. All are in California's Central Coast growing area. The farm hasn't shipped any romaine lettuce since Nov 20.

### Similarities, differences to earlier outbreak

The Centers for Disease Control and Prevention (CDC) has been testing water samples in the ongoing investigation, and Ian Williams, PhD, chief of outbreak response and prevention with the CDC's Division of Foodborne, Waterborne, and Environmental Diseases, said the sediment that yielded the outbreak strain was from an agriculture water reservoir used for irrigation and was collected on Nov 27. Whole-genome sequencing of the environmental and outbreak samples "connected the dots between sick people and contaminated food," he said.



Bernal Saborio / Flickr cc



## News Scan for Dec 17, 2018

### **Farm linked to romaine *E coli* outbreak recalls additional produce**

Adam Brothers Farming, Inc., the California farm recently identified as a likely source of *Escherichia coli* O157:H7 outbreak linked to romaine lettuce, has also recalled its red leaf lettuce, green leaf lettuce, and cauliflower, though no illnesses have been connected to those products.

In a Dec 13 press release, the company said the recalled products were harvested from Nov 27 to Nov 30 on particular fields and that it was taking the step out of an abundance of caution.

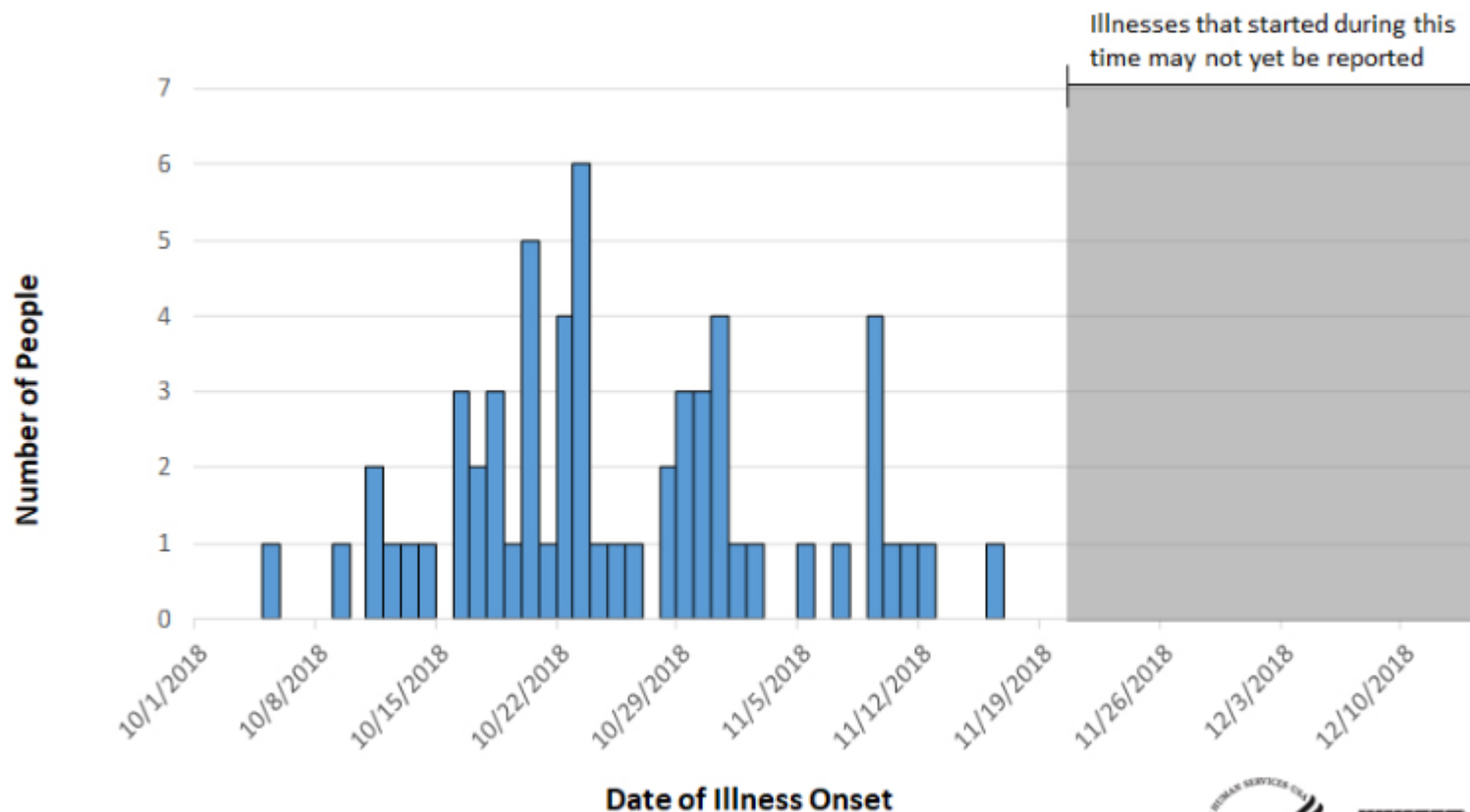
The cauliflower was distributed to 10 states, Mexico, and Canada. Both types of lettuce were distributed to six states and Canada. And red leaf lettuce was distributed to a wholesaler in Minnesota and in Mexico.

The company said the produce may have come in contact with filtered, treated water that came from a reservoir from which a sediment sample tested positive for *E coli*. It added that the filtered, treated water was negative for *E coli*.

**Dec 13 Adam Bros [press release](#)**



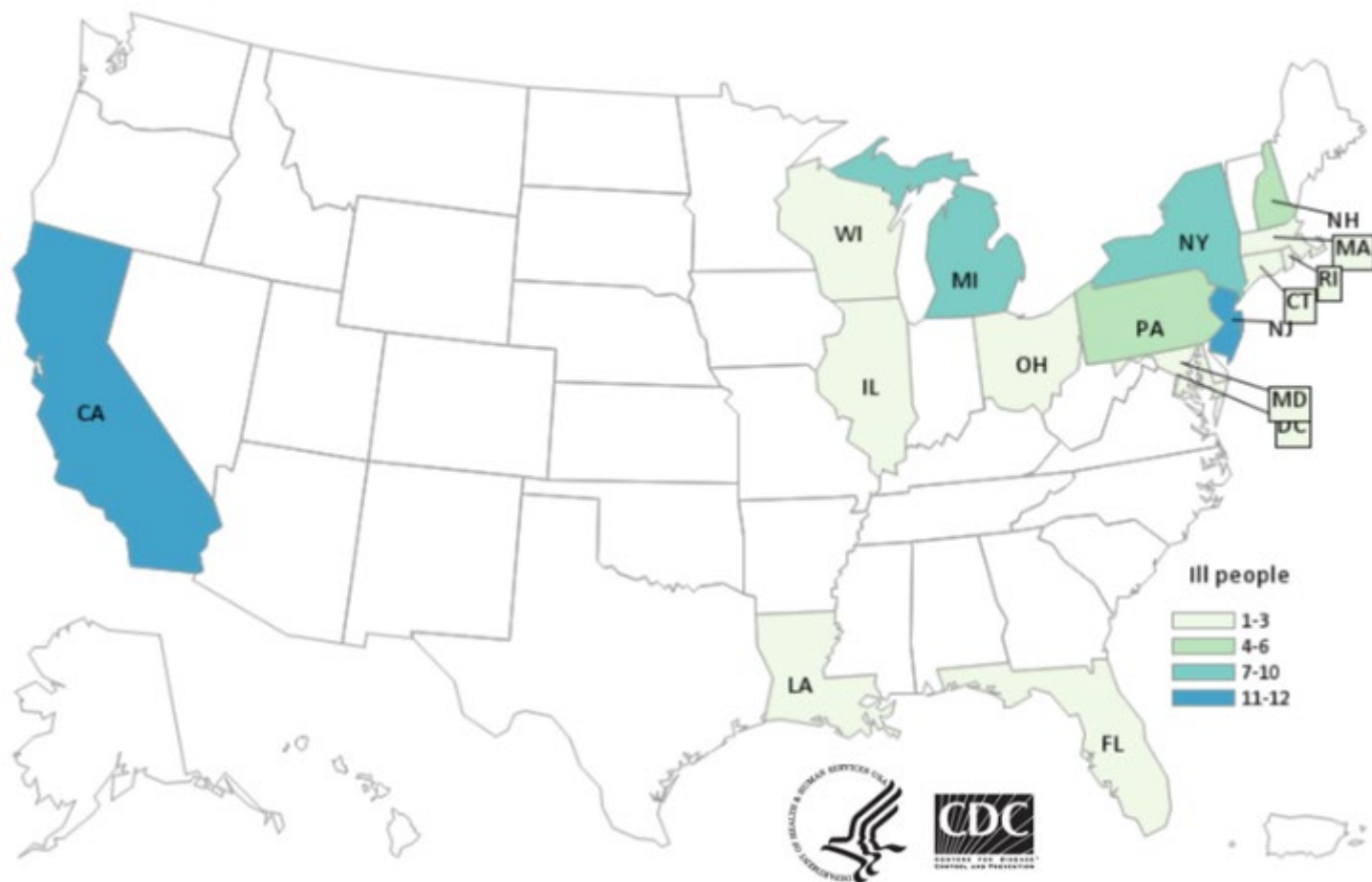
## People infected with the outbreak strain of *E. coli* O157:H7, by date of illness onset\*



\*n=59 for whom information was reported as of December 13, 2018. Some illness onset dates have been estimated from other reported information.



People infected with the outbreak strain of *E. coli* O157:H7, by state of residence, as of December 13, 2018 (n=59)







## FSIS recalls beef, ham in *Salmonella*, *Listeria* outbreaks

Filed Under: [Salmonella](#); [Listeria](#); [Foodborne Disease](#)

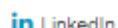
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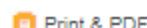
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The US Department of Agriculture's Food Safety and Inspection Service (FSIS) announced two meat-related recalls raw beef because of possible contamination with *Salmonella* Newport, and ready-to-eat ham products that may be tainted with *Listeria monocytogenes*.

Today the FSIS said JBS Tolleson, Inc., of Tolleson, Ariz., is recalling about 6.5 million pounds of raw beef products that may be contaminated with *Salmonella* Newport. This includes ground beef, chuck, and burgers sold through several retailers, including Walmart, Cedar River Farms Natural Beef, and Showcase.

The products were packaged from Jul 26 to Sep 7.

The FSIS said the investigation into the contaminated beef began on Sep 5, and the first store receipt linking an ill patient to JBS Tolleson meat was found on Sep 19. As of yesterday, 57 people in 16 states have reported illnesses, with an onset of symptoms ranging from Aug 5 to Sep 6. The recall notice does not list hospitalization data or specify which states are affected.



*brebca / iStock*

## **HOT TOPICS**

- 1. Ebola**
- 2. Measles**
- 3. Influenza**
- 4. Antimicrobial resistance**
- 5. Foodborne disease**

## **UPDATES**

- 6. Tickborne disease**
- 7. Acute Flaccid Myelitis (AFM)**
- 8. Polio**
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- 12. Building Resilience in Medical Supply Systems**
- 13. Other**



## Task force spotlights US tick-borne disease as cases set records

Filed Under: [Tick-borne Disease](#)

[Lisa Schnirring](#) | News Editor | [CIDRAP News](#) | Nov 14, 2018

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A federal advisory group tagged by Congress in 2016 to identify priorities into tick-borne disease research issued its first report today, which comes alongside new data from the US Centers for Disease Control and Prevention (CDC) showing a record number of cases in 2017.

### Push for new innovations

The Department of Health and Human Services (HHS) report is the result of December 2016 Congressional passage of the 21st Century Cures Act, intended to promote new healthcare innovations targeting an array of public health issues, including tick-borne diseases.

The HHS secretary appointed a 14-member working group in December 2017 to address priority areas, including epidemiology, prevention, diagnosis, treatment, access to care, patient outcomes, and a path forward. The group's 108-page report appears on the HHS website.

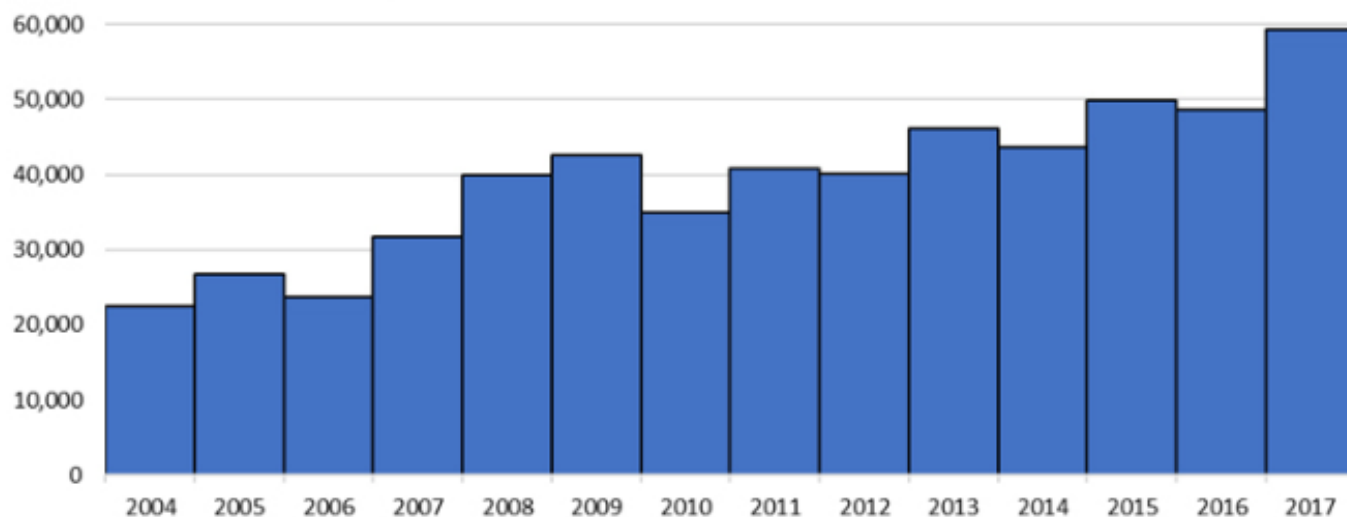
In a press release, HHS said the group recommends a multi-pronged response to address diseases that affects more than 300,000 Americans each year, with cases doubling since 2004. Health officials estimate, however, that only about one tenth of cases are reported to local and state health departments or the CDC.



*Dann Thombs / Flickr cc*



### Total Reported Cases of Tickborne Disease, 2004–2017



Reported cases of confirmed and probable Lyme disease, anaplasmosis/ehrlichiosis, spotted fever rickettsiosis (including Rocky Mountain spotted fever), babesiosis, tularemia, and Powassan virus disease all increased between 2016 and 2017.


**CIDRAP**

Center for Infectious Disease Research and Policy

## CDC: Worrisome longhorned tick spreading rapidly in US

Filed Under: [Tick-borne Disease](#)

Stephanie Southeray | News Reporter | CIDRAP News | Nov 30, 2018

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A study today in *Morbidity and Mortality Weekly Report (MMWR)* shows that the Asian longhorned tick (*Haemaphysalis longicornis*) has spread within the United States in the last year.

And while no states have reported cases of human or animal disease transmitted by the ticks yet, the arachnid poses a threat to humans, animals, and the environment.

Unlike other ticks, a single female Asian longhorned tick can reproduce offspring—1,000 to 2,000 eggs at a time—without mating, the Centers for Disease Control and Prevention (CDC) said in a press release yesterday on the study. That means a person or animal could house hundreds to thousands of ticks, the agency said.

In some parts of the world, including New Zealand and Australia, Asian longhorned ticks have reduced production in dairy cattle by 25%.

In humans, the tick not only harbors harmful bacteria, including *Borrelia*, one species of which causes Lyme disease, and *Rickettsia japonica*, which causes Japanese spotted fever, it can also transmit severe fever and thrombocytopenia syndrome virus (SFTSV), which causes a human hemorrhagic fever. The tick can also transmit Heartland and Powassan viruses.



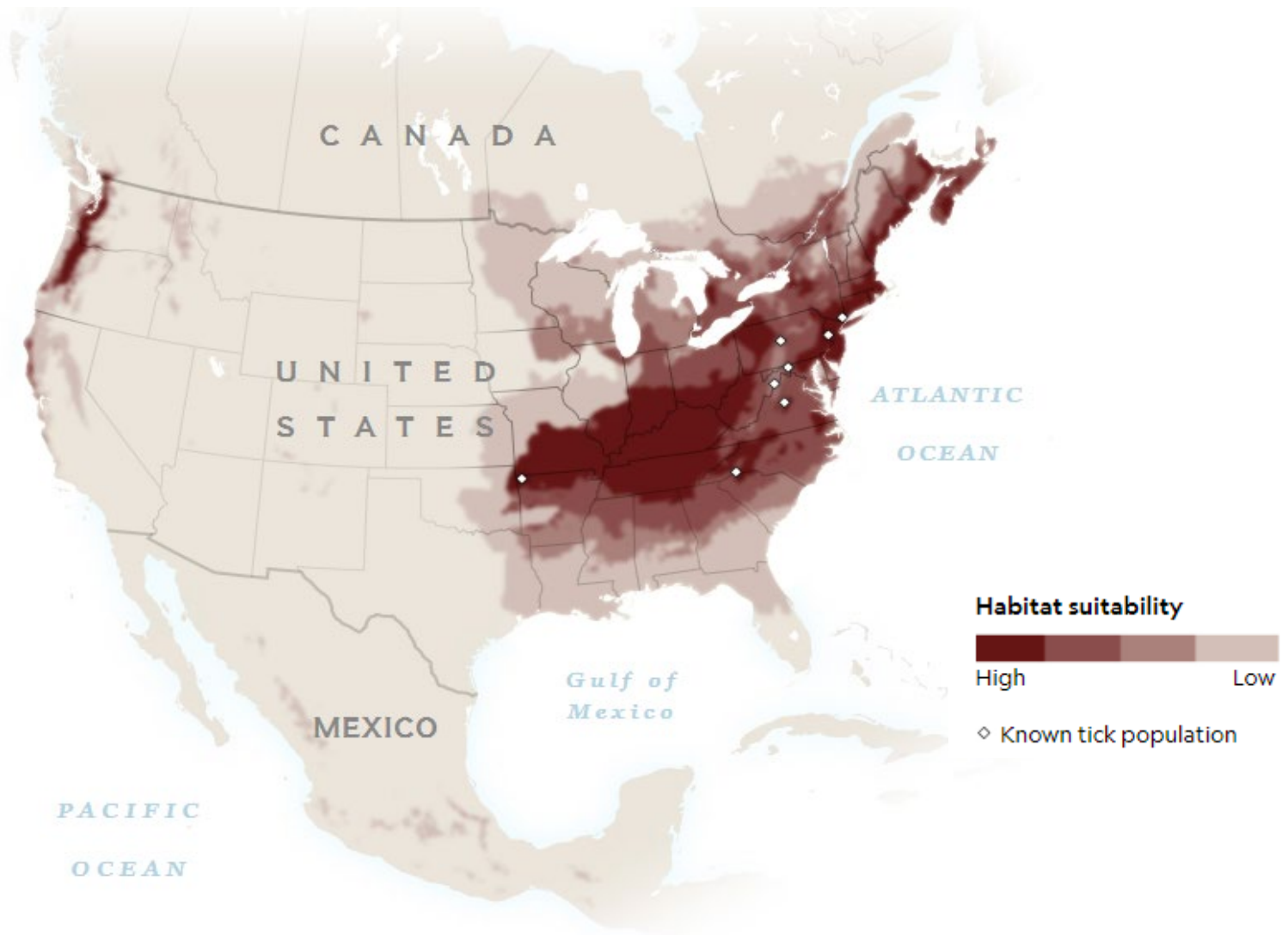
CDC / Anna E. Perea

The Asian longhorned tick.



## New exotic tick spreading through eastern U.S.

The first new invasive tick to be found in the U.S. in 50 years, the critters may be able to spread disease and are found in nine states.





## News Scan for Dec 05, 2018

### **About 1% of NW Missouri population hosts antibodies to Heartland virus**

A new study from Centers for Disease Control and Prevention (CDC) and Missouri researchers tested specimens collected from blood donors in northwestern Missouri, and found Heartland virus antibodies in 0.9% of samples. The study appeared yesterday in *Emerging Infectious Diseases*.

Human cases of Heartland virus and infected ticks have been found in northwestern Missouri in recent years, but this was the first study to establish the seroprevalence of the virus in the general population of that region.

The blood specimens were collected from four consecutive blood drives conducted at the end of 2013. A total of 487 blood donors were tested, median age was 52 years (range, 16 to 87 years), and 225 (46%) were men. Seven donors (0.9%, 95% confidence interval, 0.4% to 4.2%) had Heartland virus antibodies confirmed by plaque reduction neutralization tests, and five of them lived in the same county (Davies).

"These results suggest that several infections have gone unidentified because they were asymptomatic or the infected persons did not seek care, were not tested, or were ill before the identification of Heartland virus as a cause of human disease," the authors said.

**Dec 4 *Emerg Infect Dis* study**



## News Scan for Dec 18, 2018

### **Lyme vaccine enters phase 2 trial; promising Powassan vaccine**

Valneva, a French biotechnology company specializing in vaccine development, announced yesterday the start of a phase 2 clinical trial for its Lyme disease vaccine candidate, VLA15.

The trial will help establish the optimal dosage level and schedule for use of the vaccine in 570 adult volunteers at study sites in the United States and Europe. The study centers will be located in places where Lyme is endemic, and subjects with a cleared past infection with *Borrelia burgdorferi* will also be enrolled.

VLA15, a protein subunit vaccine, is the only Lyme disease vaccine in development, and Valneva obtained fast-track designation by the US Food & Drug Administration (FDA) in July of 2017.

According to a press release from Valneva, "It is designed for prophylactic, active immunization against Lyme disease aiming for protection against the majority of human pathogenic *Borrelia* species. VLA15 is designed to confer protection by raising antibodies that prevent *Borrelia* from migrating from ticks to humans after a bite."

Also, a study today in *Cell Reports* shows that a lipid nanoparticle-encapsulated mRNA vaccine against Powassan virus protected mice challenged with the deadly virus after one dose.

Powassan virus is a rare tick-borne flavivirus that can be fatal in humans. Researchers used a Zika vaccine platform to develop the vaccine, which showed cross-protection against Langkat virus, as well.

**Dec 17 Valneva press release**

**Dec 18 *Cell Rep* study**

## **HOT TOPICS**

- 1. Ebola**
- 2. Measles**
- 3. Influenza**
- 4. Antimicrobial resistance**
- 5. Foodborne disease**

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- 6. Tickborne disease**
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- 13. Other**



## CDC probes rise in AFM cases as Washington reports cluster

Filed Under: [Acute Flaccid Myelitis](#); [Enterovirus](#), [Non-Polio](#)

[Lisa Schnirring](#) | News Editor | [CIDRAP News](#) | Nov 02, 2016

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The Centers for Disease Control and Prevention (CDC) is investigating a national increase in acute flaccid myelitis (AFM) this year, with a surge in recent months, a pattern that may be linked to a recent cluster of suspected cases in Washington state.

Though this year's cases of AFM—marked by sudden onset of limb weakness associated with spinal cord inflammation—haven't reached levels seen in 2014 when the condition first appeared on the national radar with 120 cases reported, the CDC said it is worried about the recent uptick.



*drpnnccp / iStock*

### No common cause identified

In an update on its AFM page yesterday, the CDC said as of Sep 30, 89 AFM cases have been confirmed in 33 states, mostly in children. The rise in cases from across the country began in August, and the CDC said it has been actively investigating the illness since then.

For comparison, in 2015 the agency received reports of 21 confirmed AFM cases from 16 states.

Despite extensive testing, the CDC hasn't yet determined what's causing the AFM cases. A long list of viruses can cause AFM symptoms, including poliovirus and adenoviruses. The 2014 outbreak coincided with a national outbreak of severe respiratory illnesses caused by enterovirus D68 (EV-D68).





## CDC creates AFM task force as confirmed cases rise to 106

Filed Under: [Acute Flaccid Myelitis](#); [Polio](#); [Enterovirus](#), [Non-Polio](#)

[Stephanie Soucheray](#) | News Reporter | CIDRAP News | Nov 20, 2018



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The Centers for Disease Control and Prevention (CDC) announced yesterday the creation of the Acute Flaccid Myelitis (AFM) Task Force, which will search for the cause of the mysterious polio-like condition.

"I want to reaffirm to parents, patients, and our Nation CDC's commitment to this serious medical condition," said CDC Director Robert Redfield, MD, in a press release.

"This Task Force will ensure that the full capacity of the scientific community is engaged and working together to provide important answers and solutions to actively detect, more effectively treat, and ultimately prevent AFM and its consequences."

The task force will comprise experts from the scientific, medical, and public health disciplines and will convene under the CDC's Office of Infectious Diseases' Board of Scientific Counselors (BSC). The group is expected to make its first recommendations during the BSC's public meeting on Dec 6 in Atlanta.

### 2018 totals mirror 2014, 2016

The CDC also updated the confirmed case count of the ongoing AFM outbreak in 29 states, bringing this year's total to 106. Fourteen new cases have been added in recent weeks, and all but 5 of the 106 patients are under the age of 5.



Zinkevych / iStock



**CIDRAP**

Center for Infectious Disease Research and Policy

## With 18 more cases, CDC says AFM may have peaked

Filed Under: [Acute Flaccid Myelitis; Enterovirus, Non-Polio](#)

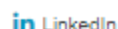
[Stephanie Soucheray](#) | [News Reporter](#) | [CIDRAP News](#) | Dec 03, 2018



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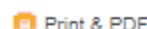
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The Centers for Disease Control and Prevention (CDC) reported 18 more cases of the mysterious acute flaccid myelitis (AFM) in the week ending on Nov 30, bringing this year's total to 134 cases confirmed in 33 states, among 299 cases reported, and the agency says the outbreak "appears to have peaked."

AFM, which can cause limb weakness and paralysis, usually affects children who develop symptoms 1 to 2 weeks following a non-specific viral infection. Though AFM has sometimes been associated with enteroviruses, little is known about the cause of the polio-like condition.

### Pattern similar to previous years

Since 2014, officials have detected higher levels of AFM every 2 years in the fall throughout the United States. This year, Texas has reported the most cases, with 16, followed by Colorado (15), Ohio (10), and 9 each in Illinois, New Jersey, and Washington.

According to a CDC news release, "Most cases are reported between August and October, and a marked reduction in cases is seen in November. That pattern appears to be repeating in 2018 because states have reported fewer PUIs [persons under investigation] over the past couple of weeks. CDC expects this decline to continue."





## AFM Investigation

### What CDC has learned since 2014

- Most of the patients with AFM (more than 90%) had a mild respiratory illness or fever consistent with a viral infection before they developed AFM.
  - Viral infections such as from enteroviruses are common, especially in children, and most people recover. We don't know why a small number of people develop AFM, while most others recover. We are continuing to investigate this.
- These AFM cases are not caused by poliovirus; all the stool specimens from AFM patients that we received tested negative for poliovirus.
- We detected coxsackievirus A16, EV-A71, and EV-D68 in the spinal fluid of four of 491 confirmed cases of AFM since 2014, which points to the cause of their AFM. For all other patients, no pathogen (germ) has been detected in their spinal fluid to confirm a cause.
- Most patients had onset of AFM between August and October, with increases in AFM cases every two years since 2014. At this same time of year, many viruses commonly circulate, including enteroviruses, and will be temporally associated with AFM.
- Most AFM cases are children (over 90%) and have occurred in 46 states and DC.

### What CDC Is Doing

Obtaining National Data and Monitoring AFM Activity

Confirming Cases of AFM

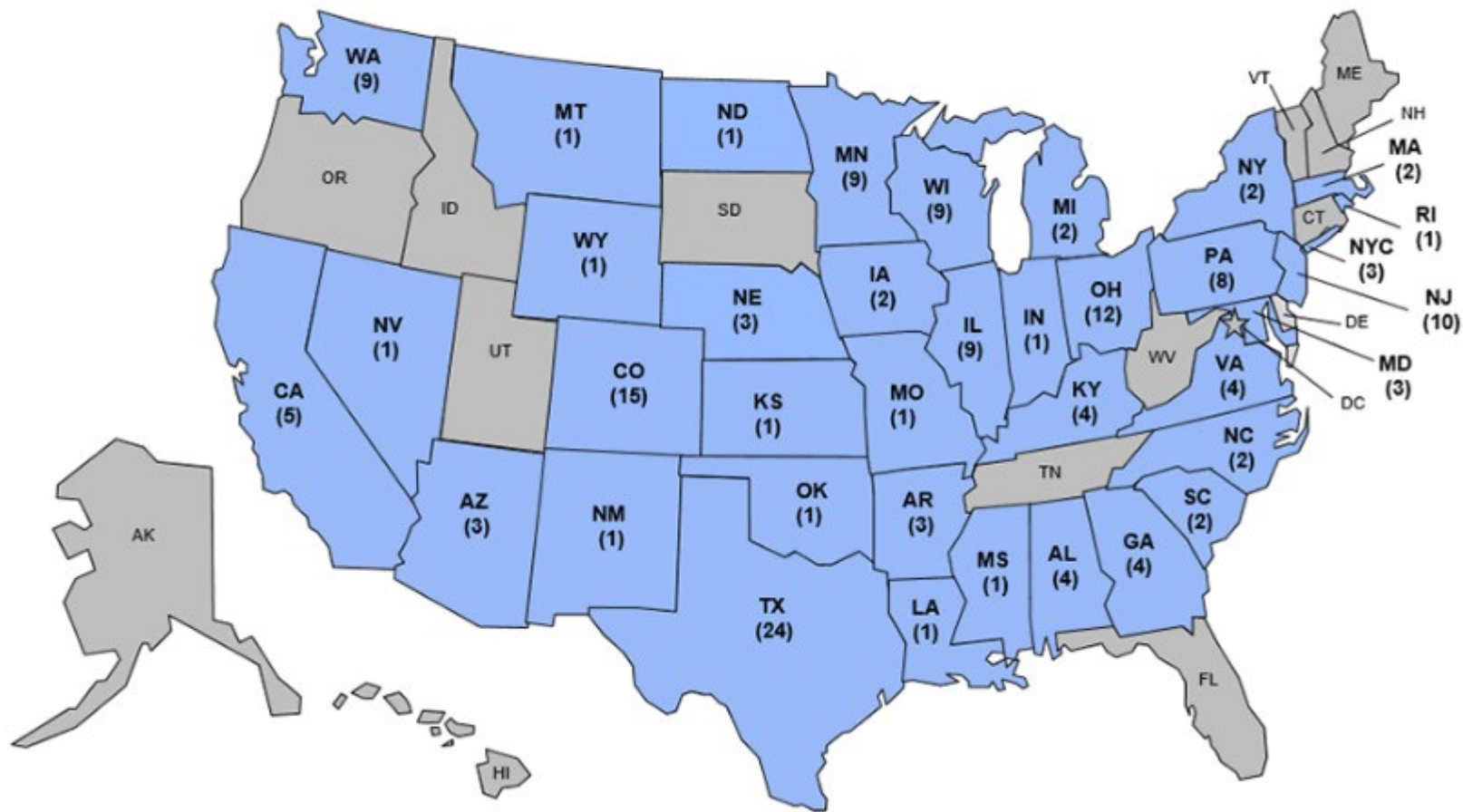
Exploring Treatment Options

Laboratory Testing of Specimens from PUIs for AFM

Consulting with experts to better understand AFM

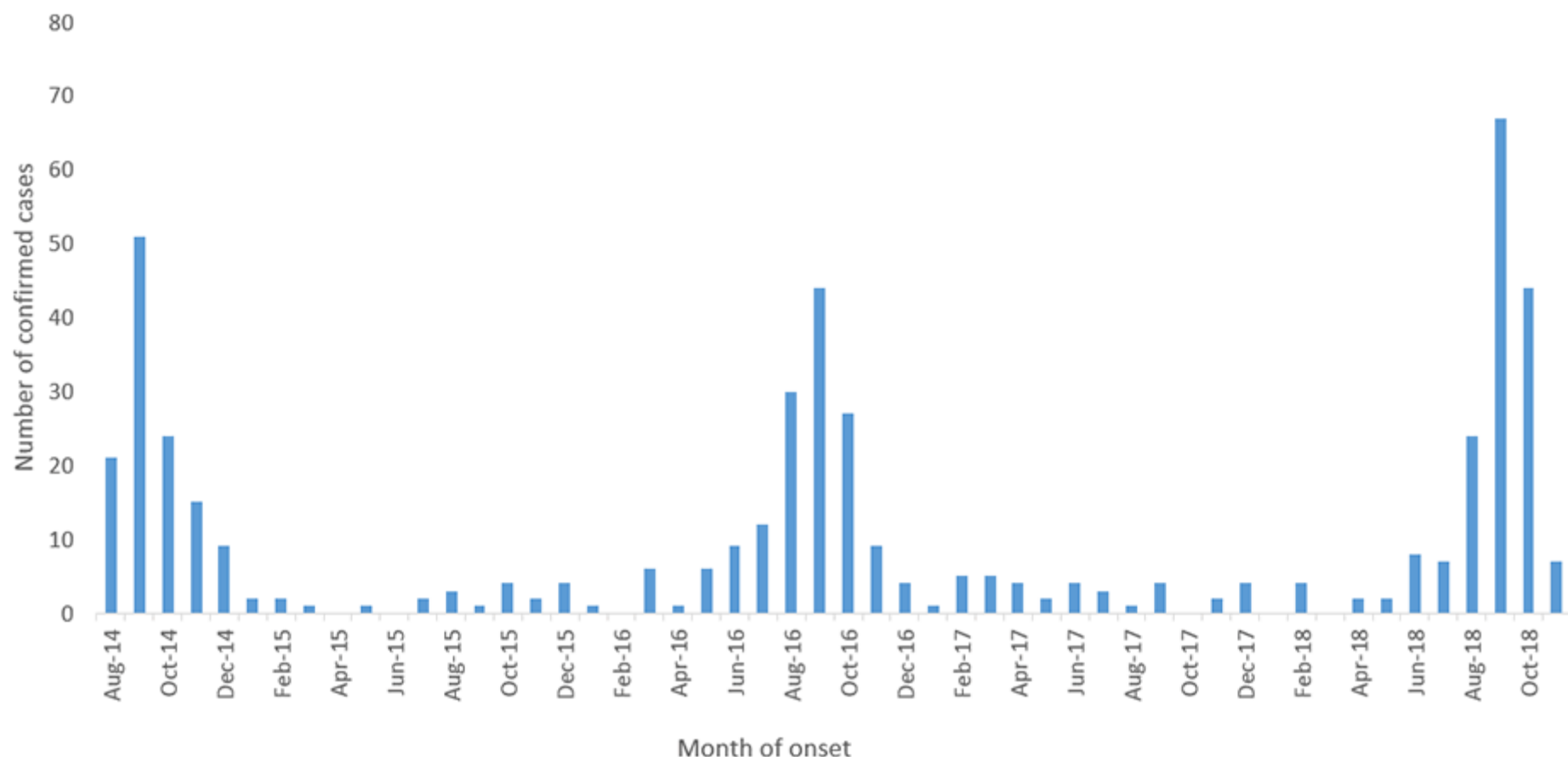
Educating healthcare providers and the public

## 2018 confirmed cases of acute flaccid myelitis (AFM) by state (N=165)\*





Number of confirmed U.S. AFM cases reported to CDC by month of onset,  
August 2014 - November 2018<sup>^\*†</sup>



<sup>^</sup> Confirmed AFM cases that CDC has been made aware of as of December 14, 2018 with onset of the condition through November 30, 2018. The case counts are subject to change.

<sup>\*</sup> The data shown from August 2014 to July 2015 are based on the AFM investigation case definition: onset of acute limb weakness on or after August 1, 2014, and a magnetic resonance image (MRI) showing a spinal cord lesion largely restricted to gray matter in a patient age  $\leq 21$  years.





## **PHE investigating rise in reports of rare illness**

28 cases of acute flaccid paralysis have been reported in England in 2018. It is rare but serious and causes one or more of the limbs to become weak or floppy.

Published 19 December 2018

Public Health England (PHE) is investigating an increase in reported cases of a rare condition called acute flaccid paralysis (AFP). So far in 2018, 28 cases have been reported in England, the majority of which have been since September. A rise in reported cases has also been seen in the US.

AFP affects the nervous system, causing one or more of the limbs to become weak or floppy – and may look similar to polio. It tends to particularly, though not exclusively, affect children. It is very rare, so PHE is stressing that if an adult or a child develops weakness in any limb they should seek medical attention so appropriate testing and care can be given.

Typically, a handful of cases of AFP are reported to PHE each year for investigation. PHE monitors these types of symptoms as part of the World Health Organization's (WHO) requirements to monitor for polio and confirm it remains eliminated in the UK.

# Poliolike illness AFM tests an overstretched public health system

By **Michael Ollove**

December 15

The mysterious, poliolike disease that has struck [more than 480](#) people — mostly young children — across the United States since 2014 comes at a time when the U.S. public health system is already overstretched.

Reported in 46 states and the District, acute flaccid myelitis, known as AFM, causes muscle weakness and in some cases paralysis in the arms or legs, terrifying parents and puzzling medical researchers. More than 90 percent of those affected are children.

The disease has flared while state and federal governments largely have stopped making new investments in public health. Some infectious disease experts think the Centers for Disease Control and Prevention has taken too long to understand the cause of the disease, but no high profile critic has directly blamed the slow action on low public health funding.

## **HOT TOPICS**

- 1. Ebola**
- 2. Measles**
- 3. Influenza**
- 4. Antimicrobial resistance**
- 5. Foodborne disease**

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- 7. Acute Flaccid Myelitis (AFM)**
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- 9. Zika & Yellow Fever**
- 10. Malaria**
- 11. MERS**
- 12. Building Resilience in Medical Supply Systems**
- 13. Other**



## Polio experts address fears over disease resurgence

Filed Under: [Polio](#)

[Lisa Schnirring](#) | News Editor | [CIDRAP News](#) | Nov 30, 2018

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A World Health Organization (WHO) emergency committee that has been meeting regularly to review polio developments after a public health emergency was declared 4 years ago raised deep concerns today about an increase in wild poliovirus type 1 (WPV1) cases in Afghanistan and the spread of vaccine-derived strains elsewhere in the world.

The committee met in Geneva on Nov 27 for the 19th time since 2014, and after reviewing the latest global polio developments unanimously agreed that the risk of international spread still constitutes a public health emergency of international concern (PHEIC).

At a media telebriefing today, Helen Rees, MBBS, who chairs the committee and is a professor at the University of the Witwatersrand in Johannesburg, South Africa, said the world is "a whisker away from eradication," but progress is fragile. She added that health officials fear a resurgence of the disease that could reverse all of the hard work accomplished by countries and health partners. "We certainly cannot allow that to happen."

She said if wild poliovirus cases continue year after year, eradication will never be accomplished, and the tables will tilt in the direction of the poliovirus winning, Rees said, adding, "We have to finish this job."



© CIDA/ACDI, Sharif Azami / Flickr cc

# Progress on eradicating polio has stalled

*Cases caused by viruses derived from the vaccine are a growing worry*

Dec 6th 2018

**I**N 1988 A world emboldened by the eradication of smallpox set its cross-hairs on polio. The aim was to enter the new millennium without this crippling virus. But the battle drags on. On November 30th an emergency committee on the global spread of polio, appointed by the World Health Organisation (WHO), delivered its latest verdict. Eliminating polio has become what Michel Zaffran, director of polio eradication at the WHO, calls a “dual emergency”.

The first is the stalled progress on wiping out wild polio viruses in their last two strongholds, Afghanistan and Pakistan. The world’s steady countdown to zero since 2012 has stopped, with cases this year already surpassing those in 2017 (see chart). As a consequence there are worries that polio may travel back to countries which have already eradicated it, like India.

The second emergency is the growing number of countries with cases of the disease that have been caused by a polio vaccine. These are still rare. But they are attracting more notice as those caused by the wild virus itself have dwindled. In 2017 cases caused by vaccine-derived viruses overtook, for the first time, those caused by the wild version.





## News Scan for Dec 07, 2018

### **More polio cases recorded in Afghanistan, DRC, Nigeria**

According to an update today from the Global Polio Eradication Initiative (GPEI), three countries have reported seven new polio cases total in the past week: Afghanistan, the Democratic Republic of the Congo (DRC), and Nigeria.

Officials in Afghanistan recorded one new wild poliovirus type 1 infection in Uruzgan province, Shahid-e-Hassas district. The patient experienced an onset of paralysis on Oct 9 and is the 20th person to contract wild poliovirus in Afghanistan this year.

In the DRC, two cases of circulating vaccine-derived poliovirus type 2 (cVDPV<sub>2</sub>) were reported in Mufunga-Sampwe district in Haut Katanga province, with paralysis onset on Oct 6 and 7. The cases represent the fourth strain of cVDPV<sub>2</sub> currently detected in the DRC. There have been 21 cases of cVDPV in the DRC this year.

In Nigeria four new cases of cVDPV<sub>2</sub> involved onset of paralysis from Oct 22 to Nov 6. All cases are part of two ongoing cVDPV<sub>2</sub> outbreaks in that country and raise Nigeria's cVDPV that include 31 cases so far this year.

*Pakistan Today*, meanwhile, reported three new polio cases in Balochistan, which have yet to be reflected in GPEI's recording. Two of the cases occurred in toddler girls who had had some oral polio vaccine, the newspaper said and were protected from extensive paralysis. If confirmed, these cases will raise Pakistan's total in 2018 to 11.

Afghanistan, Pakistan, and Nigeria are the only three countries in the world with endemic polio transmission. All three have reported more polio cases in 2018 than in 2017.



## News Scan for Dec 14, 2018

### **Afghanistan, Papua New Guinea report new polio cases**

Officials reported another wild poliovirus type 1 (WPV1) illness in Afghanistan and another circulating vaccine-derived poliovirus type 1 (cVDPV1) case in Papua New Guinea's ongoing outbreak, according to the latest weekly update from the Global Polio Eradication Initiative (GPEI).

Afghanistan's case involves a patient from Hilmand province's Nawzad district who had a paralysis onset of Nov 6. The country now has 21 WPV1 cases for the year.

The new cVDPV1 case was reported in Papua New Guinea's East Sepik province, and the patient's paralysis onset was Oct 18. In addition, two new positive environmental samples were confirmed, both in Port Moresby, the country's capital and largest city. Papua New Guinea has now reported 26 cases in an outbreak that has been under way since June.

**Dec 14 GPEI report**

## **HOT TOPICS**

- 1. Ebola**
- 2. Measles**
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- 13. Other**



## News Scan for Dec 12, 2018

### **Study: 15% of babies with prenatal Zika exposure have health problems**

In an ongoing effort to gauge the frequency of health problems in babies exposed to Zika before birth, researchers from Brazil today said 14.5% of children by age 12 to 18 months had at least one delay related to vision, hearing, language, motor skill, or cognitive function. The team reported its findings today in a letter to the *New England Journal of Medicine*.

The 113 babies exposed to Zika during their mothers' pregnancies who were evaluated had at least one imaging exam, an eye exam, audiometry testing geared to newborns and young children, and the Bayley III screening to test cognitive, language, and motor skills.

Eye abnormalities were present in 6.25% of children, hearing problems were found in 12.2%, and 11.7% had severe delays in language, motor skills, or cognitive function.

The researchers said the use of brain imaging can help predict neurodevelopmental problems, but they cautioned that the testing didn't hint at potential delays in 2% of cases. They also said 16% of babies who had early abnormal findings on imaging went on to have normal cognitive, language, and motor skills by the time they were 12 to 18 months old.

The findings aren't far from earlier estimates. For example, a report in August from the CDC on disabilities in babies linked to prenatal Zika exposure found that 6% of evaluated children seen during their first year of life had at least one defect, with an overall 14% affected—about one in seven children.

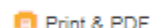
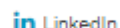
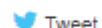
**Dec 12 *N Engl J Med* letter**



## Studies on transmission, vaccine bring focus back to Zika

Filed Under: [Zika](#)

[Stephanie Soucheray](#) | [News Reporter](#) | [CIDRAP News](#) | [Dec 14, 2018](#)



Two studies published yesterday in *The Journal of Infectious Diseases* looked at the risk of sexual and other transmission within households in Zika-endemic areas and the value of Zika vaccination strategies.

In an accompanying commentary, Hannah Clapham, PhD, of Oxford University and the Wellcome Trust, writes that although Zika cases have dropped precipitously since the 2015 and 2016 epidemic that swept from Brazil to Miami, the disease is still a public health threat and warrants further research.

"Zika is not gone forever. Indeed there are low levels of ZIKV [Zika virus] transmission ongoing in a number of countries, and the future potential for ZIKV to have a large impact remains unclear... We know that Zika virus has had the ability to have a large detrimental health impact, particularly through congenital Zika syndrome," Clapham said.

### Sexual partners have twice the risk

The first study looked at a cohort of Zika infected patients in Puerto Rico during 2016 and 2017 and members of their households.



*Mark Yokoyama / Flickr cc*


## A single mutation in the prM protein of Zika virus contributes to fetal microcephaly

Yuan *et al.*, *Science* **358**, 933–936 (2017) 17 November 2017

Zika virus (ZIKV) has evolved into a global health threat because of its unexpected causal link to microcephaly. Phylogenetic analysis reveals that contemporary epidemic strains have accumulated multiple substitutions from their Asian ancestor. Here we show that a single serine-to-asparagine substitution [Ser<sup>139</sup>→Asn<sup>139</sup> (S139N)] in the viral polyprotein substantially increased ZIKV infectivity in both human and mouse neural progenitor cells (NPCs) and led to more severe microcephaly in the mouse fetus, as well as higher mortality rates in neonatal mice. Evolutionary analysis indicates that the S139N substitution arose before the 2013 outbreak in French Polynesia and has been stably maintained during subsequent spread to the Americas. This functional adaption makes ZIKV more virulent to human NPCs, thus contributing to the increased incidence of microcephaly in recent ZIKV epidemics.



# An evolutionary NS1 mutation enhances Zika virus evasion of host interferon induction

Hongjie Xia, Huanle Luo, Chao Shan, Antonio E. Muruato, Bruno T. D. Nunes, Daniele B. A. Medeiros, Jing Zou, Xuping Xie, Maria Isabel Giraldo, Pedro F. C. Vasconcelos, Scott C. Weaver, Tian Wang, Ricardo Rajsbaum & Pei-Yong Shi 

Virus–host interactions determine an infection outcome. The Asian lineage of Zika virus (ZIKV), responsible for the recent epidemics, has fixed a mutation in the NS1 gene after 2012 that enhances mosquito infection. Here we report that the same mutation confers NS1 to inhibit interferon- $\beta$  induction. This mutation enables NS1 binding to TBK1 and reduces TBK1 phosphorylation. Engineering the mutation into a pre-epidemic ZIKV strain debilitates the virus for interferon- $\beta$  induction; reversing the mutation in an epidemic ZIKV strain invigorates the virus for interferon- $\beta$  induction; these mutational effects are lost in IRF3-knockout cells. Additionally, ZIKV NS2A, NS2B, NS4A, NS4B, and NS5 can also suppress interferon- $\beta$  production through targeting distinct components of the RIG-I pathway; however, for these proteins, no antagonistic difference is observed among various ZIKV strains. Our results support the mechanism that ZIKV has accumulated mutation(s) that increases the ability to evade immune response and potentiates infection and epidemics.

## Zika virus evolution on the edges of the Pacific ocean

Myrielle Dupont-Rouzeyrol<sup>1</sup>, Laure Diancourt<sup>2</sup>, Elodie Calvez<sup>1</sup>, Mathias Vandenbogaert<sup>2</sup>, Olivia O'Connor<sup>1</sup>, Anita Teissier<sup>3</sup>, Morgane Pol<sup>1</sup>, Maite Aubry<sup>3</sup>, Oumar Faye<sup>4</sup>, Douglas Tou<sup>5</sup>, Van-Mai Cao-Lormeau<sup>3</sup> and Valérie Caro<sup>2</sup>

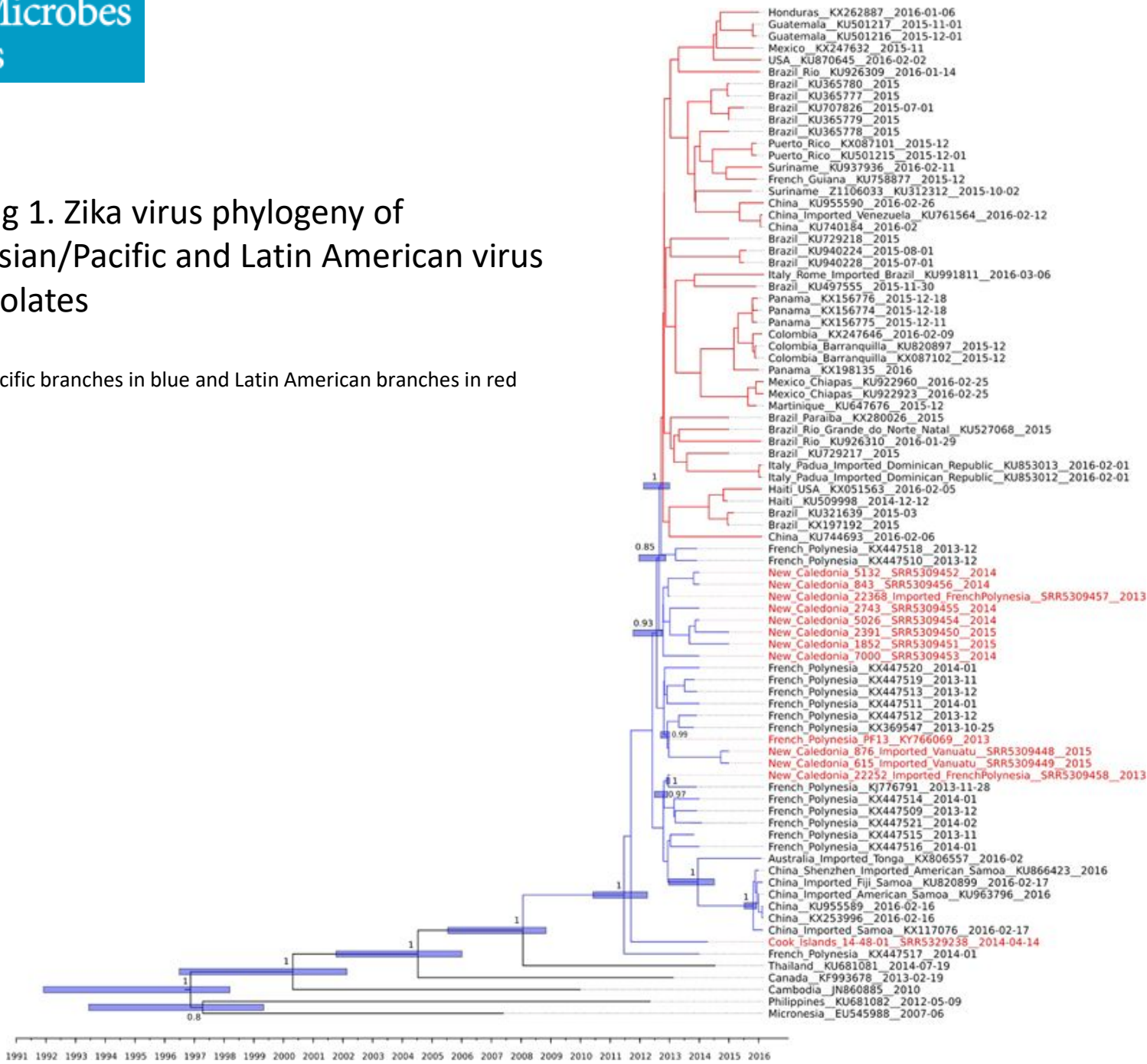
*Emerging Microbes & Infections* (2017) **6**, e111; doi:10.1038/emi.2017.102; published online 13 December 2017

### Dear Editor,

Over the past decade, arthropod-borne viruses (arboviruses) including dengue virus (DENV), chikungunya virus (CHIKV) and Zika virus (ZIKAV), have demonstrated their potential to pose major global public health problems. Several outbreaks caused by these viruses recently occurred in the Pacific region, probably resulting from multiple factors:<sup>1</sup> the presence of competent mosquito vectors; environmental and demographical conditions favourable to mosquito proliferation and disease transmission; and the increasing volume of travel between continental tropical areas where arboviruses are endemic and the Pacific, and between Pacific Island Countries and Territories (PICTs). In 2013, ZIKAV emerged in French Polynesia and subsequently spread to other PICTs.<sup>1</sup> In 2015, ZIKAV appeared in Brazil and several other Latin American countries where it was associated with a marked increase in the number of cases of congenital abnormalities, including microcephaly, and neurological disorders.<sup>2–4</sup> Phylogenetic analysis classified ZIKAV into two major genetic lineages, African and Asian, with the Asian lineage responsible for the current global expansion of ZIKAV.<sup>2</sup> To date, except for French Polynesia, there are little data on ZIKAV Pacific strains.<sup>5,6</sup> In our study, by adding 13 new full ZIKAV genome sequences, isolated from different places in the Pacific region and at different periods of time, along with other published genomes, we provide for the first time a map of the whole ZIKAV Pacific sublineage, from the Western to the Eastern edges of the Pacific ocean.

Fig 1. Zika virus phylogeny of Asian/Pacific and Latin American virus isolates

Pacific branches in blue and Latin American branches in red



# Re-visiting the evolution, dispersal and epidemiology of Zika virus in Asia

John H.-O. Pettersson<sup>1,2,3,4</sup>, Jon Bohlin<sup>1</sup>, Myrielle Dupont-Rouzeyrol<sup>5</sup>, Ola B. Brynildsrud<sup>1</sup>, Kristian Alfsnes<sup>1</sup>, Van-Mai Cao-Lormeau<sup>6,7</sup>, Michael W. Gaunt<sup>8</sup>, Andrew K. Falconar<sup>9</sup>, Xavier de Lamballerie<sup>10,11</sup>, Vegard Eldholm<sup>1</sup>, Didier Musso<sup>6,7</sup> and Ernest A. Gould<sup>10</sup>

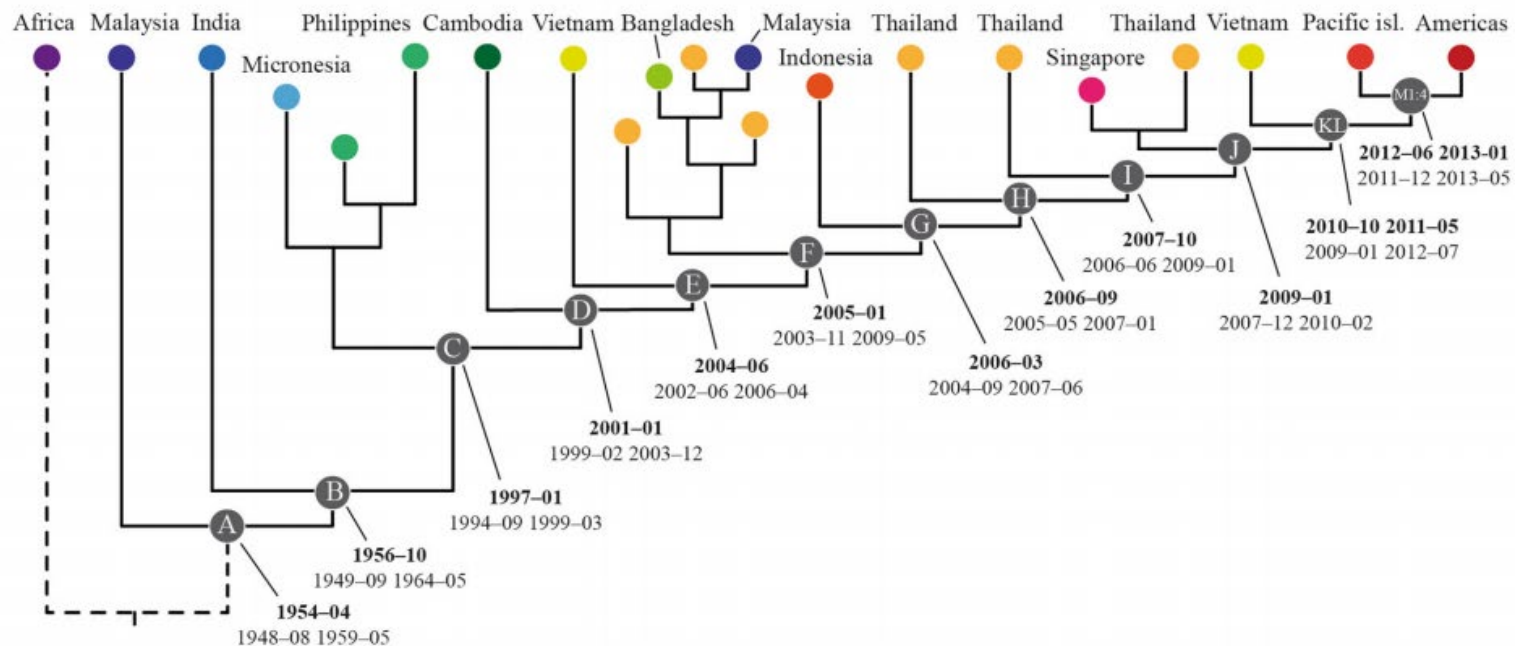
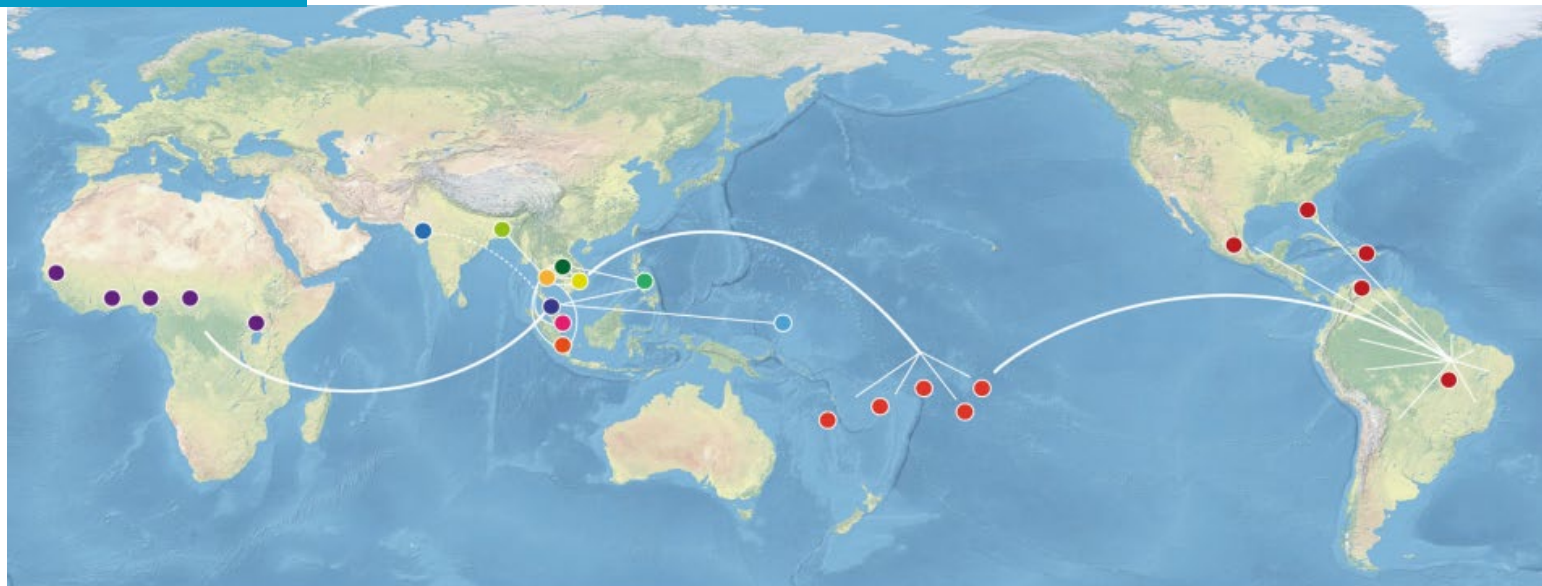
## Abstract

Based on serological evidence and viral isolation, Zika virus (ZIKV) has circulated for many years relatively benignly in a sylvatic cycle in Africa and an urban cycle in South East Asia (SEA). With the recent availability of limited but novel Indian ZIKV sequences to add to the plethora of SEA sequences, we traced the phylogenetic history and spatio-temporal dispersal pattern of ZIKV in Asia prior to its explosive emergence in the Pacific region and the Americas. These analyses demonstrated that the introduction and dispersal of ZIKV on the Pacific islands were preceded by an extended period of relatively silent transmission in SEA, enabling the virus to expand geographically and evolve adaptively before its unanticipated introduction to immunologically naive populations on the Pacific islands and in the Americas. Our findings reveal new features of the evolution and dispersal of this intriguing virus and may benefit future disease control strategies.

Published: 09 May 2018



**Fig. 1 Illustrative phylogenetic tree of ZIKV evolution and dispersal in the Asian region.**





## News Scan for Dec 05, 2018

### **South Sudan reports yellow fever outbreak near DRC border**

According to the weekly update from the World Health Organization's (WHO's) regional office in Africa, South Sudanese officials report a yellow fever outbreak in the southwestern part of the country, near the border with the Democratic Republic of the Congo (DRC).

So far, one 25-year-old man has been diagnosed as having yellow fever in Nzara County, Gbudue state. The patient was initially suspected as having Ebola, as he had recently traveled to the DRC, which is battling the second-largest Ebola outbreak in history.

The man tested negative for Ebola virus but positive for yellow fever, prompting the South Sudanese ministry of health to declare a yellow fever outbreak on Nov 29.

"The affected area is very rural and located close to the border with the Democratic Republic of the Congo, where the case-patient had travelled before falling ill," the WHO said. "South Sudan had the last documented reactive yellow fever vaccination campaign in 2003 in Imatong (present day Torit), following an outbreak that affected 178 people, with 27 deaths. The country has not yet introduced yellow fever vaccine into the national immunization programme."

**Nov 30 WHO bulletin**





## News Scan for Dec 06, 2018

### **Nine new deaths in Nigeria yellow fever outbreak as trial of new drug begins**

Nine people in Edo state, Nigeria, have died from yellow fever infections in the last month, according to Nigerian health officials yesterday, as reported by Xinhua. The Nigeria Centre for Disease Control (NCDC) said in a situation report that the cluster of cases in Edo were reported on Nov 22.

Nigeria has been battling a yellow fever outbreak since Sep 12, 2017. As of Nov 25, 2018, a total of 3,510 suspected cases, including 74 deaths, have been reported in all 36 states. The case-fatality rate is 2.1%.

Young people ages 1 to 10 years are the most affected, representing 40.5% of cases. Fifty-eight percent of cases have been in males.

In related news, Tychan, a biotechnology company based in Singapore, today announced the launch of a phase 1 trial of its first-in-class candidate drug for the treatment of yellow fever. The drug, TYo14, is a monoclonal antibody. TYo14 prevent viral replication of the virus by attacking its envelop protein.

The first healthy human volunteers were dosed with TYo14 on Nov 26, and the trial will assess safety and tolerability. There are currently no approved drugs for treating yellow fever.

## **Yellow Fever – Kingdom of the Netherlands**

Disease outbreak news  
18 December 2018

On 22 November 2018, the World Health Organization (WHO) was informed by Dutch authorities of a laboratory-confirmed case of yellow fever. The case-patient is a 26 year-old male who visited Gambia from 3 through 17 November 2018, with a three day trip to Senegal from 12 through 14 November. He had no history of vaccination for yellow fever prior to the trip. On 18 November 2018, the case-patient developed symptoms including fever, nausea and vomiting. On 19 November 2018 he was hospitalized with symptoms of acute liver failure and he is still in hospital as of 10 December.

The International Health Regulations National Focal Point (IHR NFP) from the Netherlands has notified counterparts in Gambia and Senegal about the case, and about the exact locations visited by the patient. There have been no other reports of confirmed yellow fever cases from Senegal, Gambia or The Netherlands at this time.

### **WHO risk assessment**

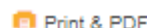
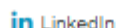
Yellow fever is an acute viral illness that has the potential to spread rapidly and cause a serious public health impact in an unimmunized population. Vaccination is the most effective means of preventing the infection.



## Study affirms fractional dosing with yellow fever vaccine

Filed Under: **Yellow Fever**

Stephanie Soucheray | News Reporter | CIDRAP News | Nov 26, 2018



According to a study today in the *Annals of Internal Medicine*, fractional dosing of the yellow fever vaccine offers recipients protective antibodies for up to 10 years without a booster dose.

The results could inform the use of fractional dosing in preventive vaccination campaigns, and not just outbreak settings. In related news, Nigeria is vaccinating millions of people after nine people recently tested positive, and Dutch officials report an imported yellow fever case.

### High seroprotection levels

The randomized, controlled trial was conducted from 2005 to 2007 at Leiden University Medical Center in the Netherlands and included 75 participants who provided blood samples at 10 year follow-up after receiving either a 0.1-milliliter (mL) fractional dose of the vaccine intradermally or the standard 0.5-mL dose subcutaneously.

Participants who received a booster dose during the 10-year follow-up were excluded from the study. Both groups received the same vaccine, manufactured by Sanofi Pasteur.



Sanofi Pasteur, Patrick Boulen / Flickr cc



## News Scan for Nov 20, 2018

### **Emergent, Valneva report initial results for human Zika vaccine trial**

Emergent BioSolutions and Valneva yesterday said initial phase 1 clinical trial results for VLA1601, an inactivated alum-adsorbed whole-virus vaccine against Zika virus, suggest it is safe and immunogenic.

In a press release, the companies said the first human trial of the vaccine was conducted in 67 healthy flavivirus-naïve adults ages 18 to 49 in Knoxville, Tenn. Researchers tested two different doses given either 7 or 28 days apart. The interim safety and immunogenicity results include analyses up to 56 days after the first dose.

VLA1601 was immunogenic in all treatment groups and induced dose- and schedule-dependent neutralizing antibodies against Zika virus as expected for a vaccine of its type. Seroconversion rates reached up to 85.7% on day 35.

Wolfgang Bender, MD, PhD, chief medical officer at Valneva, said in the statement, "The excellent safety profile supports further optimization of the elicited immune response to cover an unmet medical need in the most vulnerable populations."

The companies said a final analysis covering up to day 208 after first vaccination is expected in the first quarter of 2019. VLA1601 is based on Valneva's manufacturing platform for an inactivated whole-virus vaccine against Japanese encephalitis. In July 2017 the France-based company and US-based Emergent BioSolutions announced a deal to codevelop the vaccine.

**Nov 19 Emergent BioSolutions [statement](#)**

## **HOT TOPICS**

- 1. Ebola**
- 2. Measles**
- 3. Influenza**
- 4. Antimicrobial resistance**
- 5. Foodborne disease**

## **UPDATES**

- 6. Tickborne disease**
- 7. Acute Flaccid Myelitis (AFM)**
- 8. Polio**
- 9. Zika & Yellow Fever**
- 10. Malaria**
- 11. MERS**
- 12. Building Resilience in Medical Supply Systems**
- 13. Other**



## Stewardship / Resistance Scan for Nov 15, 2018

### Study shows evidence of artemisinin resistance in East India

A study today in the *New England Journal of Medicine* provides evidence of artemisinin-resistant *Plasmodium falciparum* malaria in Eastern India that may be spurred by a novel mutation.

The study was conducted in West Bengal, India, in 2013 and 2014, and involved 136 patients with uncomplicated malaria treated with artesunate-sulfadoxine-pyrimethamine. Therapeutic efficacy was monitored from day 1 to day 42, using thick blood smears that analyzed the clearance of the malaria parasite from the blood.

The authors followed World Health Organization (WHO) guidelines to define artemisinin resistance, which included the presence of parasitemia at 72 hours after treatment (with a parasite-clearance half-life of more than 5 hours), the persistence of a parasite survival rate greater than 10%, and the presence of a mutation in kelch13 distal to codon 440.

Increased parasite clearance half-lives longer than 5 hours were observed in 14% of the patients.

"Among the 5 patients who were positive for parasites at day 3, the isolates from 4 patients had the kelch13 G625R mutation, and the isolate from the other patient had the R539T mutation. In accordance with the WHO criteria, these 5 isolates were thus identified as being artemisinin-resistant," the authors said. "We identified G625R as a potential novel mutation that, along with R539T, is associated with artemisinin resistance."

The authors concluded the study by calling for increased surveillance of drug resistance.

Nov 15 *N Engl J Med* **study**





## WHO reports malaria setbacks; groups launch response plan

Filed Under: **Malaria**

Lisa Schnirring | News Editor | CIDRAP News | Nov 19, 2018

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For the second year in a row in its annual report on malaria, the World Health Organization (WHO) today said progress against the disease has stalled, but unlike last year, the WHO paired the update with an aggressive plan to step up action in the hardest-hit countries.

In a report that covers 2017, the WHO estimates there were 219 million cases, up from 217 million in 2016. In previous years, malaria cases had been steadily dropping, from 239 million cases in 2010 to 214 million in 2015.



*Morgana Wingard, USAID/ Flickr cc*

Tedros Adhanom Ghebreyesus, PhD, the WHO's director-general, said in a statement, "Nobody should die from malaria. But the world faces a new reality: as progress stagnates, we are at risk of squandering years of toil, investment, and success in reducing the number of people suffering from the disease."

### **Losing ground in Africa as funding levels off**

Last year, about 70% of malaria cases and deaths were concentrated in 11 countries, according to the WHO's analysis. Ten are in Africa (Burkina Faso, Cameroon, Democratic Republic of the Congo, Ghana, Mali, Mozambique, Niger, Nigeria, Uganda, and Tanzania), and the other is India.



## Malaria spike in Ebola zone prompts mass treatment efforts

Filed Under: [Ebola](#); [VHF](#); [Malaria](#)

[Lisa Schnirring](#) | News Editor | [CIDRAP News](#) | Nov 28, 2018

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A surge in malaria infections—with symptoms that can mimic Ebola—in the Democratic Republic of the Congo's (DRC's) main Ebola hot spot prompted the launch today of a 4-day mass malaria drug administration campaign, the World Health Organization (WHO) announced.

Meanwhile, the DRC's health ministry today reported 1 more illness, raising the overall total to 422 cases.

### **Malaria campaign to reach 450,000**

The malaria efforts are designed not only to treat widespread malaria illnesses and deaths, it is also geared toward relieving pressure on the medical clinics, given that 50% of people screened in Ebola treatment centers have been found to have malaria instead of Ebola, the WHO said.

The campaign is similar to one launched in Sierra Leone during its outbreak in 2014 and is led by the DRC's malaria control program with support from the WHO, UNICEF, the Global Fund, and the US President's Malaria Initiative.

The WHO said the malaria-control campaign has two parts: distribution of insecticide-treated bed nets and mass antimalarial drug administration, with a goal of reaching 450,000 people.



*Julien Harnets / Flickr cc*

## *In Remote Villages, Surprising New Measures Save Children With Malaria*

Malaria quickly kills toddlers. But rapid diagnostic tests, a new suppository drug and bicycle ambulances can buy enough time to get stricken children to hospitals.

Dec. 10, 2018     **By Donald G. McNeil Jr.**

During malaria season, children who live in remote villages are [at tremendous risk](#). When parasites transmitted by mosquitoes swarm into the brain, the disease can kill within 24 hours.

Often parents do not realize quickly enough how close a toddler is to death. More than 90 percent of malaria deaths are in children under five years old.

Now, after 13 years of effort, a set of stopgap measures to keep youngsters alive long enough to get them to a clinic has been developed. Initial testing suggests the measures can dramatically cut death rates; in one pilot project in Zambia, they dropped by 96 percent.

The most important new element is artesunate delivered as a soft rectal suppository. Artesunate is the drug that hospitals inject into children in mortal danger from malaria infections of the brain. The new version comes in a form that can be given by a village health worker or even a parent.



## News Scan for Dec 07, 2018

### **Imported malaria not dropping in UK, and most travelers not protected**

A new study in *Clinical Infectious Diseases* shows that rates of imported malaria in the United Kingdom have plateaued in recent years, and 60% of travelers still refuse to take chemoprophylaxis to prevent the disease. Of those who took anti-malaria treatments before traveling, none finished their medication regime.

The study was conducted by examining the medical records of malaria patients at Addenbrooke hospital in Cambridge from 2002 through 2016. Of the 225 case-patients, 27.8% contracted malaria while visiting family in their country of origin, and 42.6% of patients contracted the disease while traveling for work or vacation. The *Plasmodium falciparum* parasite caused 66.7% of cases, followed by *P vivax* (15.1%) and *P ovale* (6.7%).

Each year the United Kingdom sees about 1,500 cases of malaria, making it the most commonly imported tropical disease in that country. Rates of the disease decreased 31.2% from 1996 to 2003 but have held steady since, the authors said.

"Lack of chemoprophylaxis use and lack of adherence to chemoprophylaxis regimen likely contribute to lack of continued significant decline in malaria cases after 2003," the authors concluded.

**Dec 7 Clin Infect Dis study**

## **HOT TOPICS**

- 1. Ebola**
- 2. Measles**
- 3. Influenza**
- 4. Antimicrobial resistance**
- 5. Foodborne disease**

## **UPDATES**

- 6. Tickborne disease**
- 7. Acute Flaccid Myelitis (AFM)**
- 8. Polio**
- 9. Zika & Yellow Fever**
- 10. Malaria**
- 11. MERS**
- 12. Building Resilience in Medical Supply Systems**
- 13. Other**





## WHO details 8 recent Saudi MERS cases, 3 deaths

Filed Under: **MERS-CoV**

Stephanie Southeray | News Reporter | CIDRAP News | Nov 01, 2018



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The World Health Organization (WHO) today released an overview of eight new MERS cases reported in Saudi Arabia from Sep 17 to Oct 15. Of the eight cases, three proved fatal.

With the new cases, the total global number of laboratory-confirmed MERS-CoV (Middle East respiratory syndrome coronavirus) cases reported to WHO since 2012 is 2,262 with 803 associated deaths.

Three of the new cases were in Riyadh, and two were in Buraydah, Taif, Najran, and Asyah also reported one new case each. None of the patients were healthcare workers, and all but one were men. Patients' ages ranged from 22 to 66.

### Exposures include camels, hospital

Two patients, a 41-year-old man from Taif and a 64-year-old man from Riyadh, had camel exposure prior to symptom onset, including reported consumption of camel milk.

Of the eight cases reported, three were hospital contacts in one hospital in Dammam and two were household contacts in Riyadh. The three patients who died all had contact with a MERS case and passed away from Sep 19 to Sep 29.

The youngest patient, age 22, was the only one who did not have underlying medical conditions. None of the patients were healthcare workers.



*Des Runyan / Flickr cc*





## News Scan for Dec 04, 2018

### **More Saudi camels test positive for MERS-CoV**

Saudi Arabia's agriculture ministry yesterday reported a MERS-CoV outbreak in camels in the city of Taif in Mecca province, located in the eastern part of the country, according to yet another notification from the OIE.

The outbreak began on Sep 25, and 13 of 82 susceptible camels tested positive for MERS-CoV (Middle East respiratory syndrome coronavirus). The report didn't say if the camels were screened as part of an investigation into potentially related human cases. Officials said the outbreak is now considered resolved.

Saudi Arabia reported its last MERS-CoV detection in camels in early November, which involved animals in Taif and in Buraydah in Qassim province in the north central part of the country.

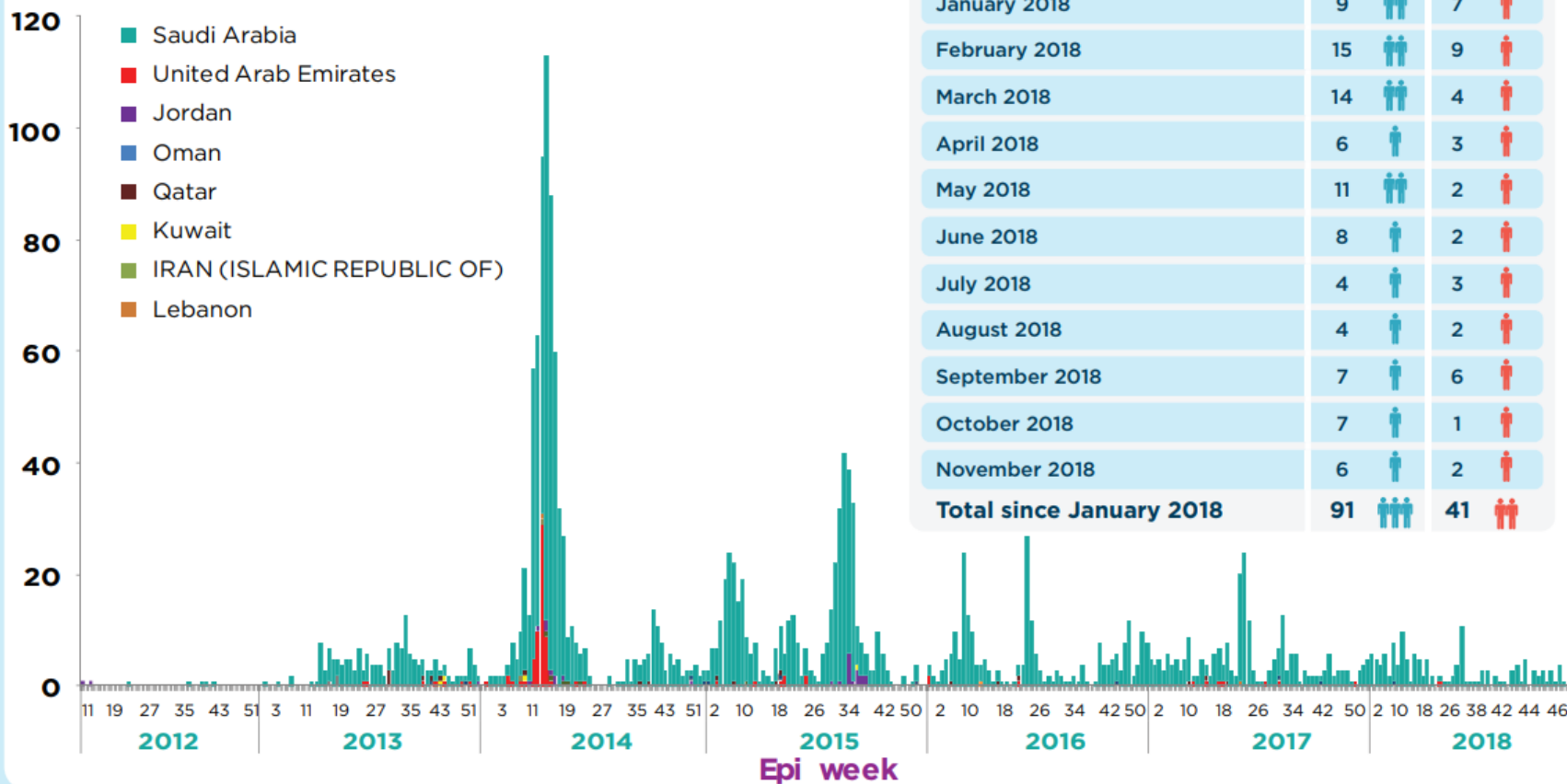
**Dec 3 OIE report on MERS-CoV in Saudi Arabia**

## HIGHLIGHTS

- At the end of November 2018, a total of 2274 laboratory-confirmed cases of Middle East respiratory syndrome (MERS), including 806 associated deaths (case-fatality rate: 35.4%) were reported globally; the majority of these cases were reported from Saudi Arabia (1896 cases, including 732 related deaths with a case-fatality rate of 38.6%).
- During the month of November, a total of 8 laboratory-confirmed cases of MERS were reported globally (all from Saudi Arabia), including 2 associated death. Two of the cases were a secondary infection through household contact.
- The demographic and epidemiological characteristics of reported cases, when compared during the same corresponding period of 2013 to 2018, do not show any significant difference or change. Owing to improved infection prevention and control practices in hospitals, the number of hospital-acquired cases of MERS has dropped significantly since 2015.
- The age group 50–59 years continues to be at highest risk for acquiring infection of primary cases. The age group 30–39 years is most at risk for secondary cases. The number of deaths is higher in the age group 50–59 years for primary cases and 70–79 years for secondary cases.

## Laboratory-confirmed cases of MERS reported in Eastern Mediterranean Region, April 2012–November 2018

### No. of cases



### MERS in Saudi Arabia (January–November 2018)

	Survived		Died	
January 2018	9		7	
February 2018	15		9	
March 2018	14		4	
April 2018	6		3	
May 2018	11		2	
June 2018	8		2	
July 2018	4		3	
August 2018	4		2	
September 2018	7		6	
October 2018	7		1	
November 2018	6		2	
<b>Total since January 2018</b>	<b>91</b>		<b>41</b>	

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*World container ship traffic has doubled since 1997*

Ship Traffic Worldwide: Wednesday, December 19, 2018, 9:01AM CST

**Building Resilience in Medical Supply Systems**  
**Expert Workshop 11-12 December, 2018**  
**Summary**

CIDRAP lead an expert workshop December 11-12, 2018 to initiate tasks related to the Building Resilience in the Medical Supply System project. The workshop focused on the creation of a critical drug list that highlights essential medicines that without their existence would result in mortality or an inability to provide humane care. Experts participating in the workshop represented national experts in pharmacy, healthcare (clinical), medical supply chain, public health, preparedness and response, emergency medical services, and drug distribution. In addition to the Task Force for Mass Critical Care, the private sector and federal government were well represented to ensure multiple perspectives regarding what makes a drug critical were considered.

Outcomes of the workshop included:

- Creation of a list of critical drugs, approximately 150
- Priority classification of drugs within the list
- Definition and situational context for the list
- Identification of essential characteristics for consideration. By vote, the top four characteristics were
  - Drug alternative availability
  - Infrastructure interdependencies
  - Geospatial considerations - hazards, material sourcing, final production location
  - Number of manufacturers
- Identification of critical drugs that are routinely unavailable or in chronic short supply
- Identification of additional stakeholders for future inclusion

Project next steps include:

- Delphi study to refine list, to include additional experts
- Supply chain mapping and analysis for the approximately 30 of the listed drugs identified as priority analysis
- Identification and mapping of associated peripherals (needles sterile water, IV pumps, etc) for the priority drugs



## **HOT TOPICS**

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# 4 days until a partial government shutdown

By Meg Wagner, Veronica Rocha and Brian Ries, CNN

Updated 1 hr 50 min ago 11:22 a.m. ET, December 18, 2018

- **Friday deadline:** Congress has four days to act before funding for parts of the government runs out at midnight on Friday.
- **We're at a standstill:** Lawmakers left Washington last week without a resolution in an ongoing standoff over funding for President Trump's long-promised border wall.
- **What happens if the government shuts down?** This shutdown would be limited in scope. Congress has already funded about 75% of the federal government through September 2019, including the Pentagon.

## *Chinese Scientist Claims to Use Crispr to Make First Genetically Edited Babies*

The researcher, He Jiankui, offered no evidence or data to back up his assertions. If true, some fear the feat could open the door to “designer babies.” By [Gina Kolata](#), [Sui-Lee Wee](#) and [Pam Belluck](#)

Nov. 26, 2018

Ever since scientists created the powerful gene editing technique Crispr, they have braced apprehensively for the day when it would be used to create a genetically altered human being. Many nations banned such work, fearing it could be misused to alter everything from eye color to I.Q.

Now, the moment they feared may have come. On Monday, a scientist in China announced that he had created the world’s first genetically edited babies, twin girls who were born this month.

The researcher, He Jiankui, said that he had altered a gene in the embryos, before having them implanted in the mother’s womb, with the goal of making the babies resistant to infection with H.I.V. He has not published the research in any journal and did not share any evidence or data that definitively proved he had done it.

But his previous work is known to many experts in the field, who said — many with alarm — that it was entirely possible he had.

# China introduces ‘social’ punishments for scientific misconduct

*Offending researchers could face restrictions on jobs, loans and business opportunities under a system tied to the controversial social credit policy.*

Researchers in China who commit scientific misconduct could soon be prevented from getting a bank loan, running a company or applying for a public-service job. The government has announced an extensive punishment system that could have significant consequences for offenders — far beyond their academic careers.

Under the new policy, dozens of government agencies will have the power to hand out penalties to those caught committing major scientific misconduct, a role previously performed by the science ministry or universities. Errant researchers could also face punishments that have nothing to do with research, such as restrictions on jobs outside academia, as well as existing misconduct penalties, such as losing grants and awards.

“Almost all aspects of daily life for the guilty scientists could be affected,” says Chen Bikun, who studies scientific evaluation systems at Nanjing University of Science and Technology.

## African Swine Fever Update

November 19, 2018

### **What is African Swine Fever (ASF) and where has it been found?**

ASF is a virus that can spread extremely quickly in swine. It can be fatal to infected pigs. It has been found in parts of Africa, Europe and most recently China. It is important to note that there is no evidence that ASF can infect humans.

### **What are the main ways ASF is transmitted?**

ASF can be spread in the following ways:

- Fomites: vehicles, people, wild boars, clothes, feed (primarily the feeding of uncooked table scraps) and equipment
- Blood: shed from infected pigs
- Insects: soft ticks, mosquitoes and biting flies
- Fresh and frozen pork: range of time varies from 4 months to years

Following direct contact / exposure with infected pigs, signs of disease can be noticeable within 3 to 7 days.

### **What are symptoms / clinical signs of (ASF)?**

The severity and strain of the disease generally determines the incidence of morbidity / mortality. Highly virulent cases typically lead to death within 10 days of exposure. All sizes / ages of hogs can be impacted by the disease. Some common clinical signs of ASF include:

- Reddening of skin (looks like blood hemorrhaging under the skin)
- Fever
- Listlessness
- Weight loss
- Vomiting and diarrhea
- Abortions can be noted in sows

### **Is there a cure for ASF?**

There is no treatment or vaccine available for ASF. Strict biosecurity is key.

Google Map: Purple locators represent confirmed ASF outbreaks

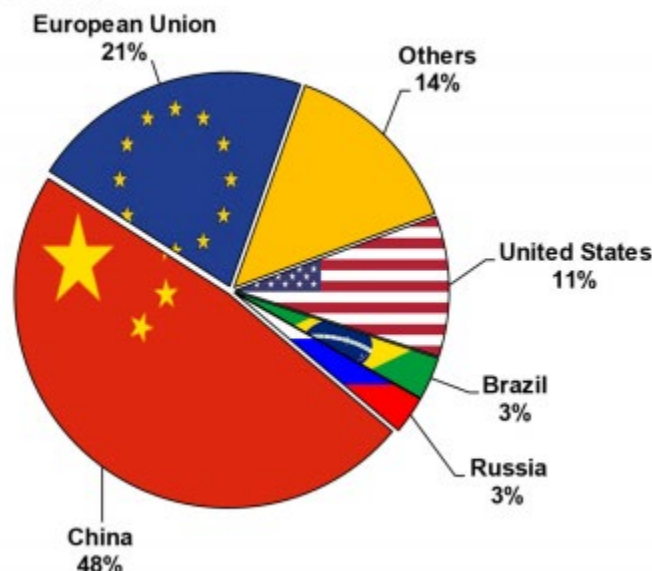




## Global Pork Production (million metric tons)

Source: USDA FAS

	2018
China	54
European Union	24
Others	16
United States	12
Brazil	4
Russia	3
<b>Total</b>	<b>113</b>



## Why is there concern over ASF in China?

- China is the largest pork producing country in the world accounting for nearly half of global pork production and consumption.
- Pork is by far the most consumed meat protein in China and a staple of the Chinese diet.
- A 1% reduction in China pork production is equivalent to a 0.5% reduction in global pork production.
  - Industry analysts are estimating 2019 China production could potentially be down as much as 10% or 5.4 mmt (nearly 12 bln lbs) if ASF continues to spread.
- If African Swine Fever has a material impact on Chinese pork production the impact will be felt globally as China's pork imports would increase.

## China cracks down on illegal hog slaughtering to contain African swine fever

BEIJING (Reuters) - China has launched a campaign to crack down on illegal hog slaughtering, and build more large-scale slaughterhouses, to control the spread of deadly African swine fever, the country's agriculture ministry said on Tuesday.

The campaign will last from December to May next year, highlighting Beijing's challenge in containing the highly contagious disease that threatens the world's largest pig herd.

Illegal slaughtering and actions such as injecting water and other materials into pigs to increase weight have emerged in some areas recently, after a government ban on live hog transport sent prices soaring in major consumption areas, the Ministry of Agriculture and Rural Affairs said in a statement on its website.

Such activities have severely disrupted the hog slaughtering sector, and further increased the risks of spreading African swine fever, the ministry said.

## Dengvaxia® vaccine approved for prevention of dengue in Europe

December 19, 2018 07:01 ET | **Source:** Sanofi-Aventis Groupe

### Dengvaxia® vaccine approved for prevention of dengue in Europe

**Paris, France - December 19, 2018** - The European Commission has granted marketing authorization for Dengvaxia®, Sanofi's dengue vaccine. The marketing authorization follows the October 18, 2018, recommendation by the European Medicines Agency's Committee for Medicinal Products for Human Use (CHMP) to approve use of the dengue vaccine in European endemic areas.

Dengue fever is a mosquito-borne infection that people can get up to 4 times in a lifetime. Dengue is also known as 'break-bone fever' since it can cause debilitating disease marked by prolonged episodes of high fever and severe joint pain. An infection can progress unpredictably to a life-threatening form of the disease called dengue haemorrhagic fever that often requires hospitalized care. Today, there is no specific treatment available for dengue.

Dengvaxia® will be available in Europe to prevent dengue disease in individuals 9-45 years of age with a documented prior dengue infection and who are living in endemic areas.

*"In some of the European overseas territories where dengue recurs regularly, people who have had a dengue infection previously are at risk of being infected with the virus again," explains Dr. Su-Peing Ng, Global Medical Head at Sanofi Pasteur, the vaccine unit of Sanofi. "As the second infection with dengue tends to be more severe than the first, it is important to be able to offer these people a vaccine that could help protect them against subsequent dengue infections."*



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**December 19<sup>th</sup>, 2018**

Thank you for attending!