Center for Infectious Disease Research and Policy
University of Minnesota

CIDRAP Leadership Forum
Infectious Disease BRIEFING

August 22nd, 2018

HOT TOPICS

1. Ebola
2. Foodborne diseases
3. Polio
4. Hajj
5. Cholera and Yemen
6. Drug and medical shortages

UPDATES

7. Influenza update + vaccine
8. Zika, Yellow fever
9. Nipah
10. Antimicrobial Resistance
11. Typhoid
12. Measles
13. MERS
14. Other

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DRC confirms new Ebola cluster days after outbreak declared over

Filed Under: Ebola; VHF

Stephanie Soucheray | News Reporter | CIDRAP News | Aug 01, 2018

Today the Democratic Republic of the Congo (DRC) said four people in the Eastern part of the country tested positive for Ebola virus, 1 week after the country declared an 11-week outbreak in the Western region over.

UNMEER/Martine Perret / Flickr cc

The DRC said there was no evidence to suggest the new outbreak was connected to the previous event, which resulted in 54 confirmed illnesses, 33 of them fatal.

Mobile lab team dispatched to outbreak site

Oly Ilunga, MD, of the DRC's health minister, took to Twitter today to announce the cases, which are centered around Beni in the Magina health district. He said a mobile team of 12 will be arriving in Beni tomorrow to set up a laboratory.

"We knew a #10 Ebola outbreak was inevitable because of the presence of the virus in the Equitoreal Forest but we did not know it woudl happen so quickly," a tweet from Ilunga said. The original tweet was in French.

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WHO: Ebola DRC outbreak taking place in 'war zone'

Filed Under: Ebola; VHF

Stephanie Soucheray | News Reporter | CIDRAP News | Aug 03, 2018

The new Ebola outbreak in the Democratic Republic of the Congo (DRC) is taking place in a war zone with difficult access, among other challenges, Peter Salama, MD, the World Health Organization's (WHO's) deputy director-general of emergency response, said in a telebriefing today.

Corporal Paul Shaw, DFID / Flickr cc

While only four Ebola cases have been confirmed, Salama said there are 20 deaths near the town of Mangina that were possibly caused by the virus. So far 10 locations near Mangina have been identified as having possible cases.

"It's extremely likely that the it's Ebola-Zaire," said Salama, echoing the DRC's ministry of health's assessment of the species causing the illnesses. Salama said a full genetic analysis of samples will be available next Tuesday.

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DRC Ebola outbreak climbs to 43 cases in 6 health zones

Filed Under: Ebola; VHF

Lisa Schnirring | News Editor | CIDRAP News | Aug 06, 2018

Over the weekend, the number of confirmed Ebola cases in the new Democratic Republic of the Congo (DRC) outbreak in North Kivu province in the east of the country jumped from 4 to 13, and health officials said investigations are under way to see if sporadic illnesses and deaths in the area since May might be part of the outbreak.

Carl Osmond, Defence Images / Flickr cc

The number of confirmed and probable cases hit 43, across six health zones, and include 33 deaths.

In other developments, the DRC's health ministry provided more details about the status of the response and the early cases, and an African media source said territorial officials are investigating a suspected Ebola case in yet another province—Haute Uele.

Tests on 33 more possible cases

The World Health Organization (WHO) said in an Aug 4 update that, as of Aug 3, 43 cases have been reported, including the 13 lab-confirmed illnesses and 30 probable cases. Also, tests are pending on 33 additional suspected cases. So far, 33 deaths have been reported.

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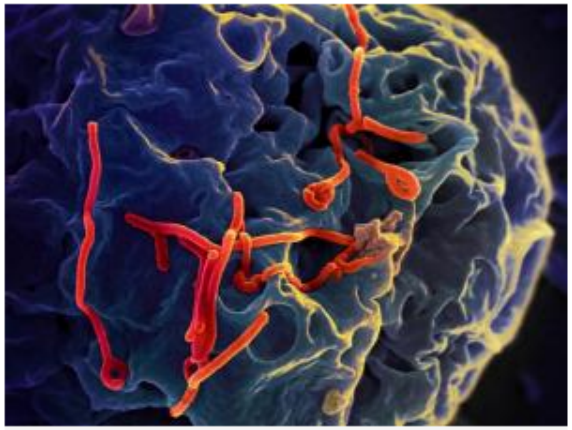
Genetic tests confirm separate DRC Ebola outbreak; vaccination begins tomorrow

Filed Under: Ebola; VHF

Lisa Schnirring | News Editor | CIDRAP News | Aug 07, 2018

A genetic analysis of the Ebola virus from a new outbreak of the disease in Democratic Republic of the Congo's (DRC's) North Kivu province confirms that it isn't related to a recent outbreak in Equateur province, and other lab testing has confirmed three more cases in the latest outbreak.



NIH/ Flickr cc

On Twitter today, Peter Salama, MD, the World Health Organization's (WHO's) deputy director-general of emergency response, said the genetic testing at the National Institute for Biomedical Research (INRB) in Kinshasa has confirmed that the Ebola Zaire virus found in North Kivu isn't closely linked to the Equateur outbreak strain, confirming the North Kivu outbreak is a new event.

He also said the confirmation means that responders can start using the VSV-EBOV vaccine, which targets the Ebola Zaire strain, as early as tomorrow.

Oly Ilunga, MD, the DRC's health minister, who also announced the sequencing results on Twitter today, said the country's ethics committee has cleared a plan for vaccination to begin tomorrow. In a separate statement, the health ministry said the first vaccination teams will arrive in Beni tomorrow to vaccinate primary health providers before shifting to contacts and contacts of contacts.

World Health Organization

WHO calls for free and secure access in responding to Ebola outbreak in the Democratic Republic of the Congo

BENI/BRAZZAVILLE 12 August 2018 – WHO's global and African regional leadership saw first-hand the complexities of implementing the Ebola response in North Kivu in the Democratic Republic of the Congo, in visits with the Ministry of Health officials to affected areas over the last two days. While this is the country's 10th Ebola outbreak, it is the first time that the disease has struck a densely populated active conflict zone.

"WHO is calling for free and secure access by all responders to the affected populations," said Dr Tedros Adhanom Ghebreyesus, WHO Director-General. "All of those participating in the response must be able to move freely and safely in conflict areas to do the work that is needed to bring the outbreak under control. The population must also have access to treatment centers that save lives and stop the spread of disease."

As was done in the recent outbreak in the west of the country, WHO is supporting the Ministry of Health in key aspects of the response.

A little more than a week since the government declared the new Ebola outbreak, Dr Tedros, Dr Matshidiso Moeti, WHO Regional Director for Africa and Dr Peter Salama, WHO Deputy Director-General, Emergency Preparedness and Response went on a two day mission to the city of Beni and to the Mangina health area in North Kivu. Mangina, which is 30 km from Beni, lies at the epicenter of the epidemic and accounts for most of the confirmed cases so far.

A range of armed groups are active in the area and this insecurity creates a challenge for health teams needing to go deep into communities to actively find cases and then monitor them twice a day for three weeks. It can also discourage members of the community from coming forward for treatment.

"WHO has vast experience with delivering health services in conflict zones in Africa," said Dr Moeti. "We will build on this experience to ensure that our staff and partners can do their work and save the lives of the people we are here to help."

Together with the Minister of Health, Dr Oly Ilunga, the WHO delegation observed the launch of the Ebola vaccination for health workers in the Beni reference hospital. They also visited the Emergency Operations Centre in Beni, which was built and provided to partners by the UN mission in the Democratic Republic of the Congo, known as MONUSCO. They met with partners and staff to discuss the challenges ahead, and to take stock of what has already been put in place, including treatment centers run by partners, outreach to communities, a review of infection prevention and control in health centres, and reinforcement to the surveillance system.

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Worries about security and healthcare exposures as DRC Ebola total grows to 52

Filed Under: Ebola; Marburg; VHF
Lisa Schnirring | News Editor | CIDRAP News | Aug 13, 2018

UNMEER/ Flickr cc

Following a visit by top World Health Organization (WHO) officials to the latest outbreak of Ebola in the Democratic Republic of Congo (DRC), the WHO yesterday called for free and secure access for responders working in the affected conflict-affected area.

Over the past few days the DRC's health ministry confirmed 8 more cases, one of them a health worker from Mangina, the outbreak epicenter. According to an update yesterday, the outbreak total has risen to 52 cases, reflecting 25 confirmed and 27 probable cases. In addition, health officials are investigating 48 suspected infections. Two more deaths have been reported, lifting the fatality count to 39.

WHO mission highlights complex security issues

In a statement yesterday, the WHO said over a 2-day visit in the outbreak zone that was accompanied by the DRC health ministry, the group's leadership saw first-hand the complexities responders face in implementing Ebola activities in North Kivu province. They visited the city of Beni and the Mangina health area, the location of most confirmed cases reported so far.

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DRC Ebola cases surpass earlier outbreak total, virus infects 4 more health workers

Filed Under: Ebola; VHF

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

Zinkevych/ iStock

Underscoring concerns that health worker Ebola infections could amplify the current outbreak in the Democratic Republic of Congo (DRC), the country's health ministry today reported five more confirmed cases, including four involving health workers at a health center in Mangina. The other is a patient recently treated at that facility.

The batch of new cases puts the outbreak total at 57, which now exceeds the 54 illnesses reported in recent Equateur province outbreak, which was declared over just a week before officials announced the latest outbreak.

In other developments, World Health Organization (WHO) Director-General Tedros Adhanom Ghebreyesus, PhD, today filled reporters in on a visit he and his colleagues made to the new outbreak zone and warned that inaccessible "red zones" due to armed conflict might be hiding places for the Ebola virus and make it difficult for responders to enter and for infected residents to seek outside help.

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Ebola cases mounting in DRC as region prepares for more

Filed Under: Ebola; VHF

Stephanie Soucheray | News Reporter | CIDRAP News | Aug 15, 2018

The Ebola outbreak on the eastern border of the Democratic Republic of the Congo (DRC) grew by nine more confirmed cases today, and one death. Six of the new cases (including the death) are from Mandima health zone in Ituri province. Ituri borders North Kivu province, the outbreak's epicenter. The cases expand the number of cases in neighboring Ituri province.

United Nations Development Programme/ Flickr cc

Yesterday, the DRC said a man from Ituri had contracted Ebola and had been treated for heart problems at Mangina Reference Hospital. He died upon his return home.

Outbreak total now stands at 66, which includes 39 confirmed and 27 probable cases. Lab testing results have brought the suspected number of cases down to 36 from 58.

North Kivu is one of the most densely populated regions in DRC, with 8 million inhabitants. Ituri, South Kivu, Maniema and Tshopo are neighboring regions, and home to an additional 1 million displaced persons. The area is a hothouse of rebel activity.

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Health worker among 5 new cases in DRC Ebola outbreak

Filed Under: Ebola; VHF

Lisa Schnirring | News Editor | CIDRAP News | Aug 17, 2018

Five more Ebola cases have been confirmed in the Democratic Republic of the Congo's (DRC's) latest Ebola outbreak, all from the main hot spot and one of them involving another healthcare worker. They bring the outbreak total to 78 cases.

UNMEER, Aalok Kanani / Flickr cc

In other outbreak developments, Robert Redfield, MD, director of the US Centers for Disease Control and Prevention (CDC), visited the outbreak area this week, and outbreak responders made more progress with administering vaccine.

Main hot spots are in 3 health zones

The latest confirmed cases all involve people who live near Mangina in the North Kivu province's Mabalako Health Zone, according to a daily update yesterday from the DRC's health ministry. One is in a health worker from Mangina Reference Health Center.

So far 10 Ebola infections have been reported in health workers, 9 confirmed and one listed as probable. The World Health Organization (WHO) said in an update today that the health workers were probably exposed in clinics, not Ebola treatment centers, before the outbreak was declared.

unicef | for every child

West and Central Africa

Children particularly affected by the Ebola outbreak in the DRC – UNICEF

KINSHASA, NEW YORK, DAKAR, GENEVA 17 August 2018 – Children represent an unusually high proportion of people affected by the ongoing Ebola outbreak in the eastern Democratic Republic of the Congo (DRC), UNICEF said today.

Two children have already died from the disease. The Ebola treatment centres in Beni and Mangina are currently treating six children that are infected by the disease or suspected to be. UNICEF has identified 53 orphaned children who have lost their parents to Ebola.

"The children affected by the ongoing epidemic need special attention and care," said Dr. Gianfranco Rotigliano, UNICEF Representative in the DRC. "Women are the primary caregivers for children, so if they are infected with the disease, there is a greater risk that children and families become vulnerable."

The UN children's agency and its partners have trained 88 psychosocial workers to assist and comfort children in centres, and to support children who have been discharged as free of Ebola, but may be at risk of stigmatization within the community. The psychosocial workers organize awareness-raising activities to facilitate the return of these children to their communities.

"The impact of the disease on children is not limited to those who have been infected or suspected," said Rotigliano. "Many children are faced with the illness or death of their parents and loved ones, while some children have lost large parts of their families and become isolated. These children urgently need our support".

The organisation seeks and supports foster families for these children, and also provides them with psychosocial care and food assistance.

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Ebola case count rises as more health workers infected

Filed Under: Ebola; VHF

Stephanie Soucheray | News Reporter | CIDRAP News | Aug 20, 2018

The Democratic Republic of the Congo's (DRC's) 10th Ebola outbreak continued to spread over the weekend, with the outbreak on the eastern border of the DRC growing to 91 cases (64 confirmed, 21 probable), according to officials.

So far 50 deaths have been attributed to hemorrhagic fever during this outbreak, and 12 cases remain under investigation.

In an update yesterday, the DRC ministry of health said one of the newly confirmed cases is in the Mabalako health zone in North Kivu province, and that person is a known and followed probable case contact. A newly confirmed death is also reported in Mabalako, which has 52 of the confirmed cases.

Mabalako, and neighboring Beni, serves as the epicenter of the outbreak. Like other towns in North Kivu, it is also home to rebel violence, a fact that's made controlling this outbreak difficult for the World Health Organization (WHO) and DRC officials.

UN, Martine Perret / Flickr cc

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WHO: 13 health workers infected in DRC Ebola outbreak

Filed Under: Ebola; VHF

Stephanie Soucheray | News Reporter | CIDRAP News | Aug 21, 2018

The Ebola outbreak in the Democratic Republic of the Congo's (DRC's) North Kivu district continues to grow, amid new healthcare worker infections and concerns that regional violence is making surveillance and detection challenging for international aid workers.

Morgana Wingard, USAID / Flickr cc

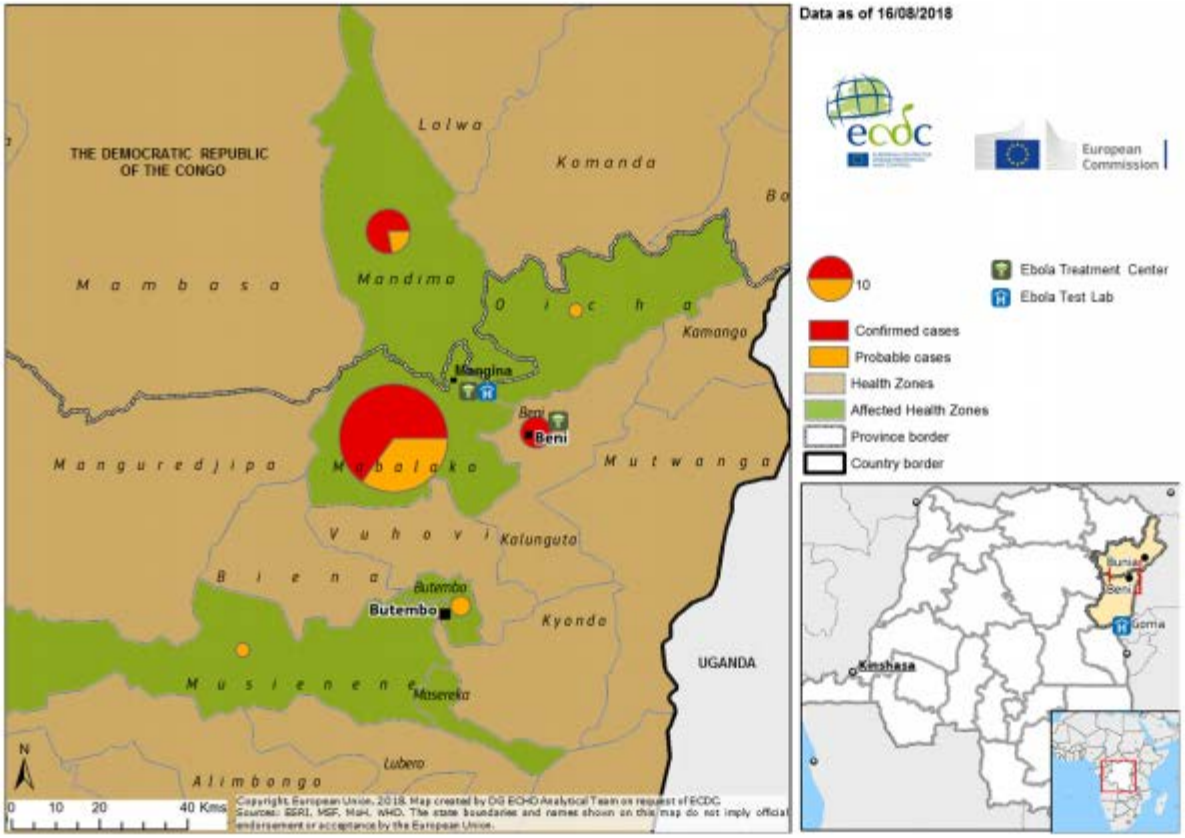
According to an update released late yesterday by the DRC's healthy ministry, Ebola cases now total 96 (5 new cases), with 69 confirmed. In addition, 55 people have died. The 5 new cases and 5 newly recorded deaths are all in Mabalako health zone.

Vaccination efforts continue in Mabalako, Beni, and Mangina health zones, the epicenters of the outbreak, and the DRC said a new Ebola treatment center (ETC) will soon open in Ituri province, as the established ETCs in the region are at capacity.

European Centre for Disease Prevention and Control

Geographical distribution of confirmed and probable cases of Ebola virus disease, North Kivu and Ituri Provinces, Democratic Republic of the Congo, as of 16 August 2018

ECDC & ECHO



STAT

HEALTH

Ebola outbreak in DRC sets up another test for experimental treatments

By HELEN BRANSWELL @HelenBranswell / AUGUST 3, 2018

In the world of Ebola outbreaks, lucky breaks are few and far between. But it appears the Democratic Republic of the Congo may have caught a small one in its latest go-round with the dangerous disease.

And it might also give the world another shot at testing an experimental Ebola vaccine.

Officials in the DRC said Thursday that testing has shown that the virus causing disease in North Kivu province in the northeast of the country is Ebola Zaire. That is the virus targeted by Merck's experimental vaccine, which was tested during the West African outbreak in 2014 and 2015, and used in eastern DRC in an outbreak earlier this year.

There had been concerns that, given the location of the outbreak, another species of Ebola might have been causing the illnesses. That would have meant few possibilities for experimental drugs and potentially no vaccines options.

Despite the potential of a vaccine to help in this outbreak, delivering it could prove challenging, warned Dr. Peter Salama, the head of the World Health's Organization's emergency response program.

REUTERS

HEALTH NEWS AUGUST 14, 2018 / 4:13 AM / UPDATED 6 HOURS AGO

Congo starts using experimental Ebola treatment

GOMA, Democratic Republic of Congo (Reuters) - Democratic Republic of Congo has started using the experimental mAb114 Ebola treatment on patients in the east of the country, the health ministry said on Tuesday, the first time it has been deployed against an active outbreak.

The outbreak in eastern Congo's North Kivu province has now spread to neighboring Ituri province, where a person who was a confirmed case died after returning home from the flare-up's epicenter in the North Kivu town of Mangina, the ministry said in a statement.

Five new cases have been confirmed, the statement said, bringing the total number of cases to 57 — 30 confirmed and 27 that are considered probable. Forty-one people are believed to have died in all from the haemorrhagic fever.

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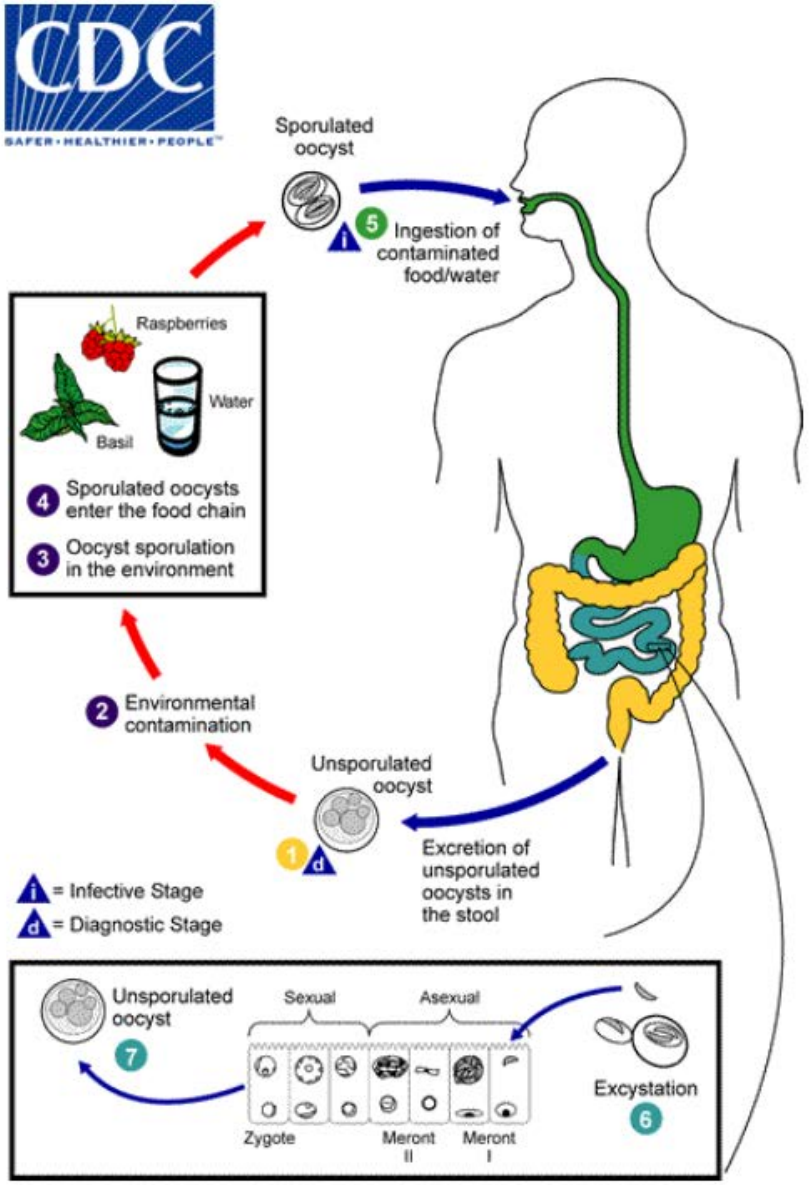
Parasites - Cyclosporiasis (Cyclospora Infection)

Life Cycle:



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Food Outbreak Scan for Jul 20, 2018

Totals rise in *Cyclospora* outbreaks linked to McDonald's, Del Monte foods

In the latest developments involving two separate *Cyclospora* outbreaks, the US Centers for Disease Control and Prevention (CDC) reported 102 more cases linked to McDonald's salads and 10 more cases linked to Del Monte fresh vegetable trays. So far, there's no evidence to suggest the two outbreaks are related, the CDC said.

In the McDonald's salad-related outbreak, the new cases lift the total to 163. Three more states—Kentucky, Ohio, and Florida—reported illnesses, raising the total to 10. The CDC notes that a sick patient in Wisconsin had dined at a McDonald's in Illinois, and the patient from had eaten at a McDonald's in Kentucky before symptoms began.

The latest illness onset was Jul 10. So far, three people have been hospitalized, and no deaths have been reported.

An investigation by the Food and Drug Administration into the salad ingredients is underway, and a single, common source of the contamination hasn't yet been identified. Past *Cyclospora* outbreaks have been linked to imported produce.

Meanwhile, in the outbreak linked to Del Monte vegetable trays, the 10 new infections lift the overall case total to 237. The number of affected states remained at 4, and the latest illness onset is Jun 13. Seven patients have been hospitalized, with no deaths reported.

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News Scan for Jul 27, 2018

Cyclospora outbreak tied to McDonald's salads expands to 15 states

The CDC yesterday reported 123 more cases in a *Cyclospora* outbreak linked to McDonald's salads and said 5 more states have reported related illnesses. Its update lifts the overall number of infections to 286 from 15 states.

Hardest-hit states include Illinois, which has 123 cases, Iowa (80), and Missouri (30).

However, the CDC notes that people who are part of the outbreak from Connecticut, Michigan, Tennessee, and Virginia bought salads in Illinois, and a patient from Florida had purchased a salad while traveling in Kentucky.

The most recent illness-onset date is Jul 12. Eleven people have been hospitalized, and no deaths have been reported.

McDonald's is cooperating with the investigation and has stopped selling salads at 3,000 locations in 14 states. The Food and Drug Administration (FDA) is working with McDonald's to identify common ingredients in the salads eaten by those who got sick and to trace back the ingredients though the supply chain to identify a common source. So far there's no indication that the outbreak is related to a recent *Cyclospora* outbreak involving Del Monte vegetable trays.

In other *Cyclospora* developments, Texas this week reported 29 more cases in its outbreak, according to a Jul 23 update from the Texas Department of State Health Services (TDSHS). Illnesses have been reported in 33 counties, though most patients are from Bexar, Harris, and Travis counties. Investigators are trying to determine if there's a common source for the Texas cases.

Jul 26 CDC outbreak update
Jul 26 FDA update
Jul 23 TDSHS update

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Foodborne Disease Scan for Aug 01, 2018

FDA: New testing method turns up *Cyclospora* in salad mix distributed to McDonald's

The US Food and Drug Administration (FDA) announced yesterday that tests involving a newly validated method to detect *Cyclospora* in fresh produce have confirmed the parasite in an unused package of expired salad mix processed by Fresh Express in Streamwood, Ill., that had been distributed to McDonald's. A multistate *Cyclospora* outbreak linked to McDonald's salads as of Jul 26 has sickened 286 people from 15 states.

The salad mix contained romaine lettuce and carrots, and its expiration date of Jul 19 had already passed. On Jul 27, the FDA notified Fresh Express of the results and asked it to determine if the potentially contaminated product may still be on the market. The company said romaine from the same lot was not packaged for direct retail sale and had already expired and that it would use recall procedures to inform companies that received potentially contaminated products. It said the carrots in the sampled salad mix only went to McDonald's.

Earlier this week, the US Department of Agriculture's Food Safety and Inspection Service issued a public health alert for beef, pork, and poultry salad and wrap products distributed by Caito Foods due to possible *Cyclospora* contamination. The FDA said Fresh Express had notified Caito Foods that the chopped romaine in the products was being recalled.

McDonald's has stopped using Fresh Express salad mix at impacted restaurants in fourteen states: Illinois, Iowa, Indiana, Wisconsin, Michigan, Ohio, Minnesota, Nebraska, South Dakota, Montana, North Dakota, Kentucky, West Virginia, and Missouri.

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News Scan for Aug 17, 2018

Cyclospora outbreak tied to McDonald's salads sickens 40 more

The US Centers for Disease Control and Prevention (CDC) yesterday reported 40 more cases in a *Cyclospora* outbreak linked to McDonald's salads, pushing the illness total to 476.

Among the sick patients, the latest illness onset is Jul 20. The CDC notes that it can take 6 weeks between illness onset and when illnesses are reported in people infected with *Cyclospora cayetanensis*, the parasite that causes the disease.

One more patient was hospitalized, putting that number at 21. No deaths have been reported. The number of affected states remained at 15.

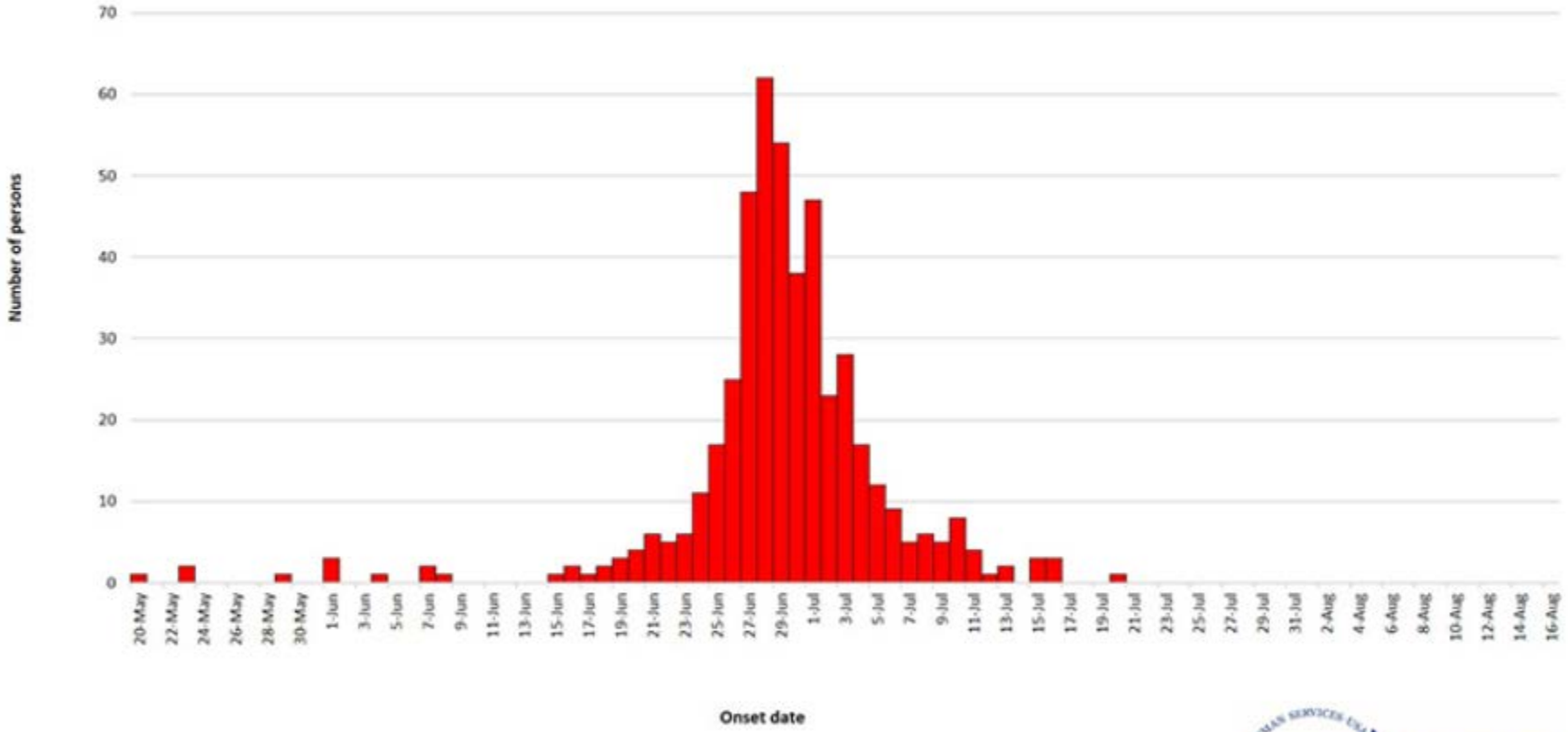
In late July, the US Food and Drug Administration (FDA) identified *Cyclospora* in a romaine lettuce and carrot salad mix distributed to McDonald's by a Fresh Express processor in Streamwood, Ill. So far there's no evidence that the *Cyclospora* outbreak related to McDonald's salads is related to an earlier *Cyclospora* event connected to Del Monte fresh vegetable trays.

The FDA said yesterday that the investigation is ongoing and it is reviewing distribution and supplier information for romaine lettuce and carrots.

Aug 16 CDC update
Aug 16 FDA update

August 16, 2018

People who reportedly consumed salads from McDonald's and were infected with *Cyclospora*, as of August 16, 2018 (n=470)*.

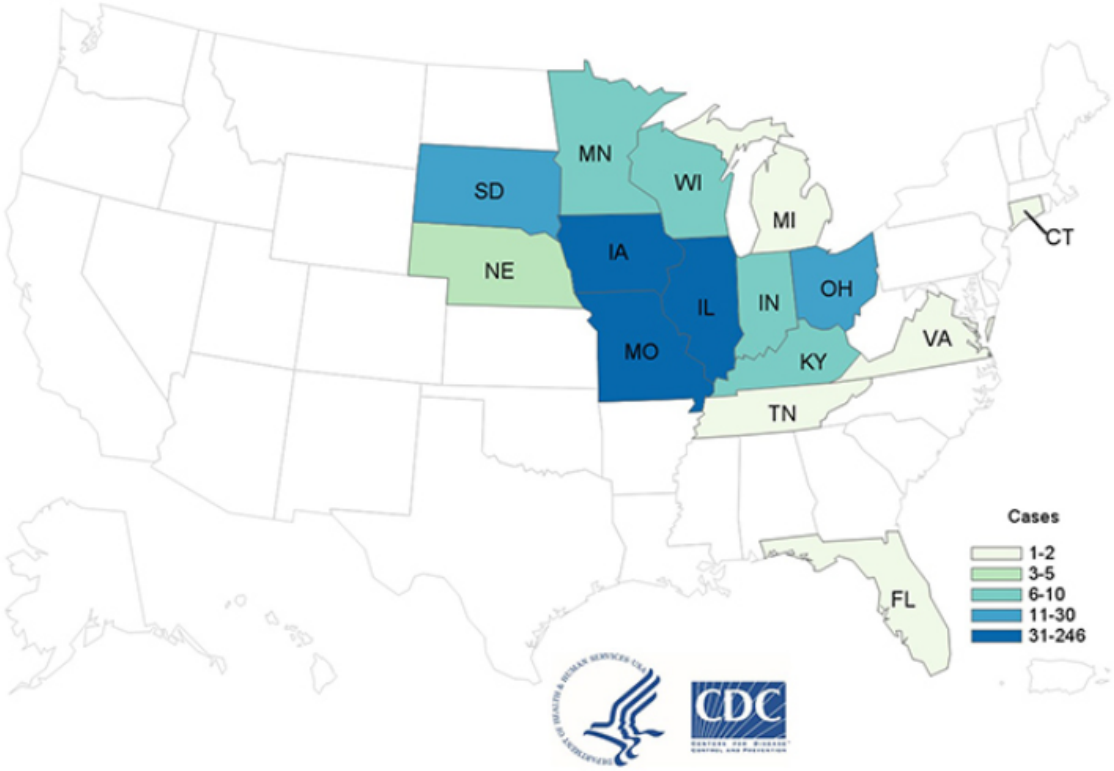


LAST UPDATED AUGUST 16, 2018 4:30 PM EDT

Case Count Map

August 16, 2018

People who reportedly consumed salads from McDonald's and were infected with *Cyclospora*, by state of residence, as of August 16, 2018 (n=476)*.



*N=476. Data are current as of 8/16/18 (3pm EDT). Data are preliminary and subject to change. Illnesses that began after 7/5/18 might not have been reported yet due to the time it takes between when a person becomes ill and when the illness is reported. Case-patients are indicated on the map by state of residence. Note, the Connecticut, Tennessee, and Virginia case-patients purchased salads while traveling in Illinois; the Florida case-patient purchased a salad while traveling in Kentucky.

The NEW ENGLAND JOURNAL of MEDICINE

EDITORIAL

Cyclosporiasis and Raspberries — Lessons for the Future

Michael T. Osterholm, Ph.D., M.P.H.

May 29, 1997
N Engl J Med 1997; 336:1597-1599
DOI: 10.1056/NEJM199705293362210

One hundred years ago, Osler observed that to know syphilis was to know clinical medicine. Today, to know and appreciate the many clinical, microbiologic, and public health aspects of the outbreak of cyclosporiasis associated with raspberries that Herwaldt and colleagues describe in this issue of the *Journal* [1] is to know foodborne disease in the modern world. The investigation conducted by Herwaldt et al. illustrates the changing epidemiologic characteristics of foodborne disease in this country.

Two of the key factors that have contributed to these changes are the substantial alterations in the American diet over the past two decades and the globalization of the food supply.[2] Although the promotion of a "heart-healthy" diet (high consumption of fruits and vegetables and low consumption of fat) may be improving cardiovascular health, it has led to a new range of problems for the gastrointestinal tract. Infectious-disease specialists frequently remind persons traveling to developing countries to reduce the risk of traveler's diarrhea by eating only foods that can be boiled or peeled. Yet seasonally, up to 70 percent of selected fruits and vegetables consumed in this country come from developing countries. One does not need to leave home to contract traveler's diarrhea caused by an exotic agent. Although produce from U.S. growers is also a source of pathogens, fruits and vegetables from developing countries are cause for additional concern. Many developing countries are just entering the global produce market. The first raspberry vine was planted in Guatemala in 1987, yet approximately 20 percent of all fresh raspberries sold in May 1996 in the United States came from Guatemala.

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News Scan for Aug 07, 2018

FDA: Cattle may have contaminated romaine lettuce tied to *E coli* outbreak

Canal water contamination with *Escherichia coli* O157:H7 near a Yuma, Ariz., romaine lettuce growing region might be linked to a large cattle facility, the US Food and Drug Administration (FDA) said yesterday in an update.

The FDA said it recently met with a Leafy Greens Food Safety Task Force formed to address the *E coli* outbreak earlier this year, during which the task force shared preliminary hypotheses from its environmental assessment in Yuma. In late June, federal officials had said samples from canal water in the Yuma lettuce growing region had tested positive for the outbreak strain. The outbreak from earlier this year sickened at least 210 people in 36 states.

In yesterday's update, the FDA said it continues to consider that contaminated water had contact with the produce, either through direct irrigation or other means. It noted that the canal is close to a concentrated animal feeding operation (CAFO), which can hold more than 100,000 head of cattle at a time. The FDA also said the trace-back investigation revealed a clustering of romaine lettuce farms nearby.

"Our experts continue to work on examining potential links between the CAFO, adjacent water, and geologic and other factors that may explain the contamination and its relationship to the outbreak. Additional sampling activities will be conducted to further explore and narrow down hypotheses in the near future," the agency said, adding that it will detail its findings in a final environmental assessment report that will be publicly available when completed.

Aug 6 FDA update

Jun 28 CIDRAP News scan "CDC: Canal water near romaine region contained *E coli*"

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News Scan for Jul 06, 2018

More polio cases reported from Afghanistan, Somalia

In its weekly report, the Global Polio Eradication Initiative (GPEI) announced two advance notices of polio cases, one each in Afghanistan and Somalia.

The case in Afghanistan involves wild poliovirus type 1 (WPV1) in Nad-e-Ali district, Helmand province. The patient suffered an onset of paralysis on Jun 1. The case raises the total number of WPV1cases in Afghanistan in 2018 to 9.

In Somalia, a case of circulating vaccine-derived poliovirus type 2 was recorded for the first time in Dolo district, Gedo province on May 29. Somalia is currently in the midst of an outbreak response vaccination campaign.

With these cases, there are now 12 wild poliovirus cases and 13 vaccine-derived cases reported globally in 2018.

Jul 9 GPEI report

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News Scan for Jul 20, 2018

Afghanistan and Nigeria record new polio cases

Both Afghanistan and Nigeria reported new cases of polio this week, according to the weekly update from the Global Polio Eradication Initiative (GPEI). Both cases are under advanced notification and will likely be confirmed next week.

In Afghanistan, officials noted one wild poliovirus type 1 (WPV1) case in Kunar province. The patient experienced paralysis onset on Jun 22. This is the 10th WPV1 case recorded in Afghanistan this year.

Nigerian health officials confirmed one new case of circulating vaccine-derived poliovirus type 2 (cVDPV2) in Yobe state. The patient experienced paralysis onset on Jun 16. This is the second cVDPV2 case reported in Nigeria this year. The first was found in Jigawa state in April.

"In response to cVDPV2 detection, the country has conducted additional acute flaccid paralysis surveillance strengthening activities including enhanced active surveillance visits and community sampling," GPEI said.

Jul 20 GPEI report

UNIVERSITY OF MINNESOTA

CIDRAP Center for Infectious Disease Research and Policy

News Scan for Aug 07, 2018

Polio case detected in second Papua New Guinea province

Papua New Guinea health officials and the World Health Organization (WHO) yesterday announced another polio case in a vaccine-derived poliovirus type 1 outbreak that now totals three infections.

In a WHO statement, health officials said the new case-patient is a 3-year-old boy in Enga province whose symptoms began on Jun 30, with paralysis that started on Jul 2. His vaccination status is unknown and an investigation into his travel history is under way.

Tests on samples from the boy at the US Centers for Disease Control and Prevention (CDC) confirm that the new case is genetically liked to the two earlier cases, both in Morobe province, which were confirmed in June and July.

With substantial vaccination gaps across Papua New Guinea, the country's risk of further polio spread is high, especially since the spread of the virus to Enga province has been confirmed, the WHO said.

David Mcloughlin, UNICEF representative in Papua New Guinea, said in the statement, "Any province with low routine immunization coverage or gaps in vaccination coverage during the outbreak response is vulnerable for polio virus circulation. This is highlighted by the new confirmed case in Enga."

The country's polio response emergency operations center is updating its risk assessment and enhancing response plans, which may include expanding the vaccination campaign to the whole Highlands region.

Aug 6 WHO statement

UNIVERSITY OF MINNESOTA

CIDRAP Center for Infectious Disease Research and Policy

News Scan for Aug 17, 2018

Polio cases reported in Afghanistan, Papua New Guinea, Nigeria

Afghanistan has a new case of wild poliovirus type 1 (WPV1) infection, while Papua New Guinea and Nigeria are reporting vaccine-derived polio cases, according to today's weekly update from the Global Polio Eradication Initiative (GPEI).

The WPV1 case in Afghanistan is in Kandahar province and involves onset of paralysis on Jul 17, the GPEI said. It pushes the number of WPV1 cases in the country to 11 this year. Officials also reported a WPV1-positive environmental sample in the same province.

In Papua New Guinea, a new case of circulating vaccine-derived poliovirus type 1 (cVDPV1) has been reported in Eastern Highland province, with onset of paralysis on Jul 8. The case is the same one reported earlier this week by the World Health Organization's Western Pacific regional office. The country has now recorded 4 such cases in 2018, with the others in Morobe (2 cases) and Enga (1) provinces. Officials are planning three more vaccination campaigns through October.

The case in Nigeria involves circulating vaccine-derived poliovirus type 2 (cVDPV2) in Katsina state. The patient first had paralysis symptoms on Jul 15. Nigerian officials also confirmed cVDPV2 in stool samples from a contact of a previously reported person in Yobe state who had acute flaccid paralysis indicative of polio.

"The country continues to be affected by two separate cVDPV2 outbreaks, the first centered in Jigawa state, and the second in Sokoto state," the GPEI said in its report. Nigeria has reported four cVDPV2 cases so far this year.

Aug 17 GPEI update

REUTERS

HEALTH NEWS AUGUST 8, 2018 / 8:39 AM / 12 DAYS AGO

Nigeria approves $150 million World Bank loan to fight polio

After a global effort to wipe out polio, there were just 22 cases on earth last year, down from 350,000 30 years ago, according to the World Health Organization. But until the disease is fully eradicated there is always a risk it could return, putting children at risk worldwide.

Nigeria was on the verge of eradicating the virus but recorded its first case in two years in 2016.

Slideshow (2 Images)

It is now one of only three countries left on earth where polio still exists, along with Pakistan and Afghanistan, the WHO says. Nigeria has recorded no new cases in 21 months and could be certified polio free by July 2019 if none are found.

The 20-year loan comes with a 1.25 percent interest rate and no payments are due for five years. The funds would be applied in 12 states, mostly in the northern part of Nigeria, some of which have been hit by Boko Haram insurgency.

HOT TOPICS

1. Ebola
2. Foodborne diseases
3. Polio
4. Hajj
5. Cholera and Yemen
6. Drug and medical shortages

UPDATES

7. Influenza update + vaccine
8. Zika, Yellow fever
9. Nipah
10. Antimicrobial Resistance
11. Typhoid
12. Measles
13. MERS
14. Other

CBS NEWS

AP / *August 19, 2018, 7:51 AM*

More than 2 million Muslims gather in Mecca as hajj pilgrimage begins

Last Updated Aug 19, 2018 6:55 PM EDT

MECCA, Saudi Arabia — More than 2 million Muslims began the annual hajj pilgrimage at first light Sunday in Saudi Arabia, circling the cube-shaped Kaaba in Mecca that Islam's faithful face five times each day during their prayers.

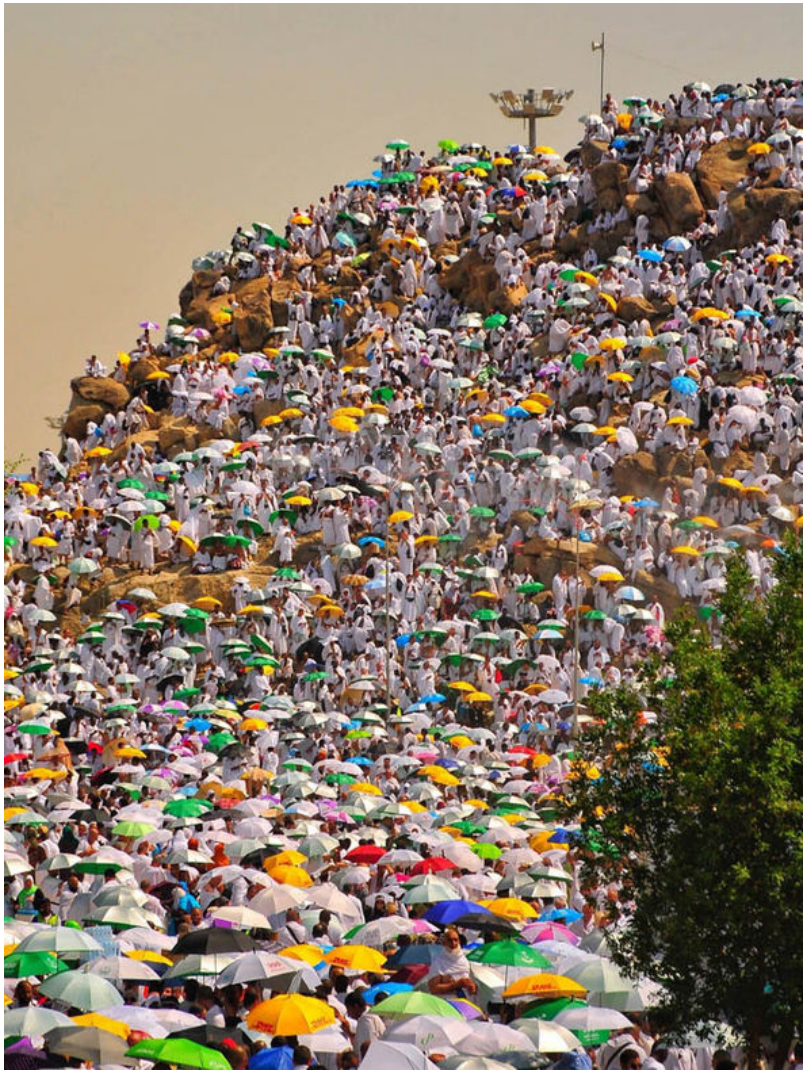
The five-day hajj pilgrimage represents one of the world's biggest gatherings every year, and is required of all able-bodied Muslims once in their life.

The hajj offers pilgrims an opportunity to feel closer to God amid the Muslim world's many challenges, including the threat of violence and extremists in the Mideast and the plight of Myanmar's Muslim Rohingya minority.

"We are very blessed by Allah to be in this place, and we pray to Allah to make the Islamic nations from the West to the East in a better situation," said Essam-Eddin Afifi, a pilgrim from Egypt. "We pray for the Islamic nations to overcome their enemies."

Muslims believe the hajj retraces the footsteps of the Prophet Muhammad, as well as those of the prophets Ibrahim and Ismail — Abraham and Ishmael in the Bible. Muslims believe God stayed the hand of Ibrahim after commanding him to

Hajj 2018 in pictures: Incredible images as Muslims around the world mark Eid Al-Adha



Hajj 2018 in pictures: Incredible images as Muslims around the world mark Eid Al-Adha

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MIDDLE EAST

August 03, 2018 1:52 PM

Lisa Schlein

WHO: Yemen May Be on Verge of New Deadly Cholera Epidemic

GENEVA — The World Health Organization (WHO) warns Yemen may be on the verge of another cholera epidemic, which could be deadlier than previous ones because of widespread malnutrition in the war-torn country.

Yemen has had two major waves of cholera epidemics in recent years.

The World Health Organization reports that an increasing number of cases in several heavily populated areas over the past few weeks indicate the country may be on the cusp of a third major wave of this deadly disease.

WHO's emergency response chief, Peter Salama, told VOA another cholera epidemic is likely to be more life-threatening than the previous ones because the population is seriously weakened after three years of civil war. Fighting has been raging between the government and rebel forces.

"What we are likely to see is that interplay with cholera and malnutrition occurring more and more and food insecurity," he said. "And, not only more cases because of that, but even higher death rates among the cholera cases that do occur because people just do not have the physical resources to fight the disease any longer."

ALJAZEERA

WHO calls for a ceasefire in Yemen to deliver cholera vaccines

Ceasefire called for days after aid organisation issues warning over potential for a 'wildfire' cholera spread.

4 Aug 2018

Aid agencies have issued an urgent call for a ceasefire in Yemen to allow vital cholera vaccinations to take place, a day after Houthi rebels said air attacks by a Saudi and UAE-led coalition killed dozens of people in the port city of Hodeidah.

About 3,000 health workers need three days of "tranquility" in order to deliver more than half a million vaccines to the north of the war-torn country, according to Peter Salama, a senior official at the World Health Organization (WHO).

"We've had two major waves of cholera epidemics in recent years and unfortunately ... we may be on the cusp of the third," Salama said on Friday.

UN News

UN targets half a million Yemenis in battle-scarred Hudaydah with cholera vaccine - UNICEF

6 August 2018 | Humanitarian Aid

Over a year after cholera broke out in Yemen, killing more than 2,000 people, the disease is back and spreading fast in the Houthi-held port city of Hudaydah; a target of continued air strikes by the Saudi-led coalition to regain control of the city.

To mitigate the risks, on Saturday, the Ministry of Health and the UN launched a week-long cholera oral vaccination campaign, targeting the most vulnerable 500,000 women, children and men in and around the city. Other mitigating measures implemented by humanitarian organisations include the continued provision of safe drinking water and sanitation facilities.

Yemen's conflict has its roots in uprisings that date back to 2011, but fighting escalated in March 2015, when an international coalition led by Saudi Arabia intervened militarily at the request of Yemen's President.

More than 70 per cent of all humanitarian aid, and food imports pass through the docks of Hudaydah, and it was one of the worst-hit cities in Yemen's cholera outbreak last year – the worst in the world at its height.

On Thursday, the main hospital in Hudaydah was hit during an airstrike, further compounding the dire health situation in the city.

Fighting is still raging across much of Yemen and the escalating humanitarian crisis is the most acute of anywhere in the world this year.

As of Monday, about 88,000 thousand people had been reached with the cholera vaccine. This is the second of three phases of the campaign led by the World Health Organization and the UN Children's Fund (UNICEF): the first one was administered in Aden and the final round of vaccines will be administered in other identified hotspot areas.

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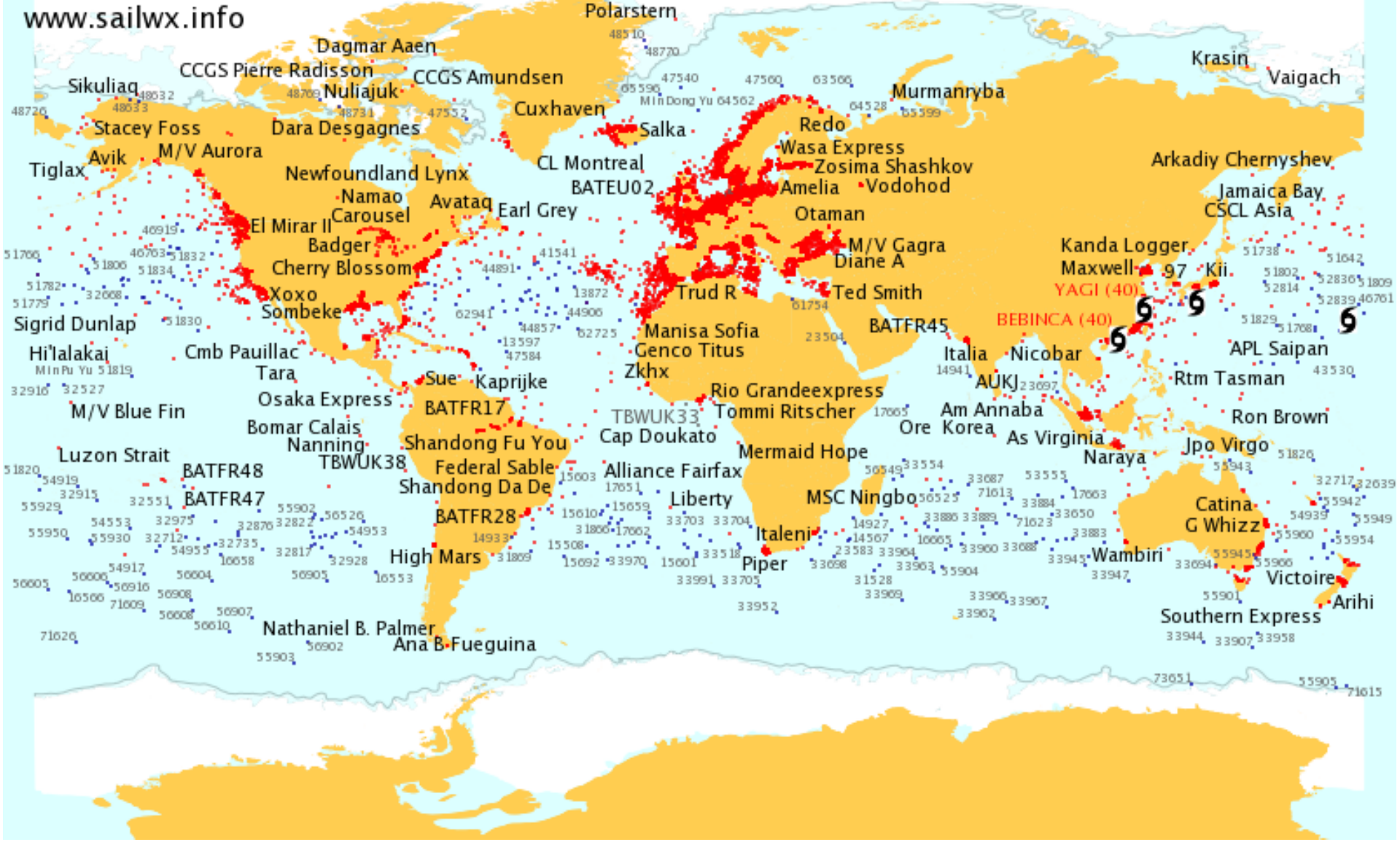

World container ship traffic has doubled since 1997

Ship Traffic Worldwide: **Tuesday, August 14, 2018, 3:25 PM UTC**


OOCL HONG KONG
OOCL

EXPOSING THE RISKS OF AMERICA'S DEPENDENCE ON CHINA FOR MEDICINE

UNIVERSITY OF MINNESOTA

CIDRAP Center for Infectious Disease Research and Policy

Report: Fragile supply chain causing antibiotic shortages, resistance threat

Filed Under: Antimicrobial Stewardship

Chris Dall | News Reporter | CIDRAP News | May 31, 2018

A new report is warning about an emerging crisis in the global antibiotic supply chain that's causing antibiotic shortages and contributing to antimicrobial resistance (AMR).

Anastasiia New / iStock

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

"Less effective or more toxic treatment alternatives can contribute to AMR because every time we use an antibiotic, we give bacteria the chance to adapt and develop resistance," the authors write. "To reduce the threat of AMR, doctors must ensure that the right antibiotic is used against the right organism."

The New York Times

Emergency Rooms Run Out of Vital Drugs, and Patients Are Feeling It

Summer is "trauma season," when emergency rooms see a rise in injuries, but a drug supply crisis has doctors scrambling to find alternatives to needed medications.

By Katie Thomas

July 1, 2018

CHICAGO — George Vander Linde tapped a code into the emergency room's automated medicine cabinet. A drawer slid open and he flipped the lid, but found nothing inside.

Mr. Vander Linde, a nurse, tried three other compartments that would normally contain vials of morphine or another painkiller, hydromorphone. Empty. Empty. Empty.

The staff was bracing for a busy weekend. Temperatures were forecast for the 90s and summer is a busy time for hospital emergency departments — the time of year when injuries rise from bike accidents, car crashes, broken bottles and gunshots.

At Norwegian American Hospital and other emergency departments around the country, doctors and nurses have been struggling for months without crucial drugs like morphine, which is used to ease the pain of injuries like broken bones, or diltiazem, a heart drug. Norwegian has been out of morphine since March, and the shortages are part of a nagging problem that has intensified this year as a rash of decades-old staples became scarce.

BT item #	Description	Mfctr ETA for next release	Date Mfctr expects back orders to clear	Possible sub **	Description
0542-02	Adenosine 6mg, 2ml Vial (limited qty on hand)	mfctr allocation			
0301-67	Adenosine 6mg, 2ml LL Syringe (limited qty on hand)	September			
0651-04	ADENOSINE 12MG 4ML SDV (limited qty on hand)	mfctr allocation			
0301-68	Adenosine 12mg, 4ml LLSyringe	November			
5921-01	Aminophylline 250gm, 10ml vial	October	November		
0302-66	Amiodarone 150mg, 3ml syringe	The only product available is short dated (2/2019) Please indicate acceptance of date at the time of order		0616-03	Amiodarone 150mg, 3ml vial
ab1630-10	Atropine 1mg, 10ml ANSYR	Available		374911	Atropine 1mg, 10ml Lifeshield
374910	ATROPINE 0.5MG 5ML LIFESHIELD SYRINGE 1040A 10EA/BX	August	September	No Available Sub	
371631	Calcium Chloride 1gm, 10ml Lifeshield	August	December	No Available Sub	
373304	Calcium Chloride 1gm, 10ml Luer Jet	mfctr allocation			
371010	Calcium Chloride 1gm, 10ml ANSYR	August	November		
360-19	Calcium Gluconate	mfctr allocation			
101-10ea	Cefazolin 1gm vial	October	October		
0370-01	Cyanokit 5 gm Hydroxocobalamin Kit, Contains 1 IV Admin set and 1 Transfer Spike, 16ea/cs	mfctr allocation			
371115	C2 DEMEROL 50MG/ML 1ML AMPULE 25/BOX CS15	August	October		
371117	C2 DEMEROL 100MG/ML 1ML CPJ LL 10/BOX	March 2019- BTM not accepting backorders due to extended BO period		No Available Sub	
371176	C2 DEMEROL 25MG/ML 1ML CPJ LL SLM 10/BX	March 2019- BTM not accepting backorders due to extended BO period			
371116	C2 DEMEROL 50MG/ML, 1ML, CPJ LL SLM 10/BX	March 2019- BTM not accepting backorders due to extended BO period			
371775	Dextrose 25% 10ml ANSYR Syringe	Available			
0074490201	Dextrose 50% 50ml Lifeshield	August	September	373301	DEXTROSE 50% 25GM, 50ML LUER JET
373301	DEXTROSE 50% 25GM, 50ML LUER JET 1013B	Available			
377515	DEXTROSE 50% 25GM, 50ML ANSYR SYRINGE	Available			
D6648-02	Dextrose 50%, 25gm, 50ml Vial 25ea/bx	in stock			
0367-25	Dexamethasone 10mg/ml, 1ml vial	August	October		
370951EA	C4 DIAZEPAM 10MG AUTO- INJECTOR	Unknown	Unknown	3213-12	DIAZEPAM 5MG/ML 10ML VIAL
371104	DIAZEPAM 10MG, 2ML CARPUJECT	October	March 2019		
3213-12	Diazepam 50mg, 10ml vial	2019			
0409-4350-03	DILTIAZEM 100MG ADD-VANTAGE VIAL	September	2019	No Available Sub	
1171-01ea	DILTIAZEM 25MG, 5ML VIAL	Mar-19	June 2019		
6013-10	Diltiazem, 25 mg, 5 ml Vial *Refrigerate* 10ea/Box	mfctr allocation			
6014-10	Diltiazem, 50mg, 10ml Vial *REFRIGERATE* 10ea/Box	mfctr allocation			
374402	DIPHENHYDRAMINE 50MG LUER LOCKING CARPUJECT	March 2019- BTM not accepting backorders due to extended BO period		0376-25	DIPHENHYDRAMINE 50MG/ML 1ML SDV 2035 - BENADRYL 25 VIALS/PK
234401	DOBUTAMINE 250MG 20ML/VIAL	October	October	No Available Sub	
0074581901	MFG B/O DOPAMINE 200MG 5ML VIAL 2040 25EA/BX	September	December	No Available Sub	
379104	DOPAMINE 400MG, 10ML VIAL	June 2019			
118-2B0832	Dopamine, 200 mg, 5% Dextrose, inj, 250ml	unknown			
7808-22	MFG B/O Dopamine 400mg/D5W 250ml Bag 12EA/CS	August	2019		
118-2B0842EA	Dopamine, 400mg, 5% Dextrose, injection, 250ml	unknown			
14538	*MFG B/O SEE NOTES* Dopamine 800MG/D5W 250Ml Bag 18EA/CS	Manufacturer backorder - no ETA			
377809	DOPAMINE 800MG/D5W 500ML BAG 3025 12EA/CS	November	December		
118-2B0843EA	Dopamine, 800mg, 5% Dextrose, injection, 500ml	unknown			
620-01	Duodote Auto Injectors	mfctr allocation		No Available Sub	
6019-10	Duramorph CII 10mg, 10ml ampule	mfctr allocation		No Available Sub	
AB2122-01	Enalaprilat 1.25mg, 1ml vial	June 2019		9787-10	Enalaprilat 1.25mg, 1ml Vial

BT item #	Description	Mfctr ETA for next release	Date Mfctr expects back orders to clear	Possible sub **	Description
1649-49	Epinephrine 0.3mg Autoinjector 2 pack	unknown		2102-02	Epinephrine Adult 2-Pack Autoinjector 0.3mg, 0.3ml *SAFETY*
1695-49	Epinephrine Auto Injector 0.15mg 2/pack	unknown		2101-02	Epinephrine Junior 2-Pack Auto-Injector 0.15mg, 0.3ml *SAFETY*
374921	EPINEPHRINE 1:10000 1MG 10ML LIFESHIELD SYRINGE	August	September	373316	Epinephrine 1:10000 1mg 10ml Luer Jet
6695-02	ETOMIDATE 40MG, 20ML VIAL	November	November	6695-01	ETOMIDATE 20MG, 10ML VIAL
376029	AMIDATE 40MG, 20ML LIFESHIELD	TBD			
379094	C2 FENTANYL 0.05MG/ML 2ML SDV 25/BX	August	March 2019	6027-25 (mfctr allocation)	C2 Fentanyl, 0.05mg/ml, 2ml Vial, 25/Bx with Safety Seal
371276	C2 FENTANYL 2ML CPJT	June 2019			
371124	C2 FENTANYL 0.05MG/ML 2ML AMPULE 10/BOX CS24	August	March 2019		
379425	FENTANYL 0.05MG/ML 5ML SDV	August	March 2019	6028-25 (mfctr allocation)	C2 Fentanyl, 0.05mg/ml, 5ml Vial, 25/Bx
371133	C2 FENTANYL 5ML AMP	August	March 2019		
0404-01	Fluorescein Sodium 1mg Strips 100/bx	unknown			
0186063501	FUROSEMIDE 40MG 4ML ANSYR	Available		6102-04	FUROSEMIDE 40MG 4ML SDV 2048 25EA/BX
0426-12	Haloperidol 5mg, 1ml vial	Available			
373474	Haloperidol 5mg, 1ml vial	Available			
373614	Hydralazine 20mg, 1ml vial	August	November		
1312-30	C2 Hydromorphone 2mg, 1ml cpjt	limited qty on hand	March 2019		
CS1283-01	C2 HYDROMORPHONE 1MG/ML 1ML CARPUJECT 10/BX	limited qty on hand	March 2019		
2051-05	C3 KETAMINE 100MG/ML, 5ML VIAL, 10/BX	Mar-19	June 2019	No Available Sub	
0205310	C3 KETAMINE 50MG/ML, 10ML VIAL, 10/BX	Mar-19	June 2019		
9508-10	C3 KETAMINE 50MG/ML 10ML VIAL	mfctr allocation			
0181-20	C3 Ketamine 10mg/ml, 20ml vial	unknown			
378701	Ketorolac 30mg cpj	June 2019		3795-01	Ketorolac 30mg, 1ml vial
378702	Ketorolac 60mg, 2ml cpj	June 2019		3796-01	Ketorolac 60mg, 2ml vial
372339	LABETALOL 20MG 4ML LUER LOCK CARPUJECT 1030 10EA/BX	TBD- BTM not accepting backorders due to extended BO period	March 2019		
2267-20	Labetalol 100 mg, 20 ml Vial	November	December	alt item in set up process	
0934-98	Labetalol 100mg, 20ml vial	Best dating avaialble is less than 12 months (Please indicate acceptance of date at the time of order)			
9622-01	Labetalol 100mg, 20ml vial	Best date avaialble is 5/2019 (Please indicate acceptance of date at the time of order)			
3375-04	LEVOPHED 0.1% 4MG, 4ML VIAL 10ea/bx	2019	2019	No Available Sub	
4276-02	LIDOCAINE 1% 500MG, 50ML MDV 25/BX	September	December	No Available Sub	
4276-01S	Lidocaine 1% 20ml vial	September	December	No Available Sub	
3178-03EA	Lidocaine 1% w/Epinephrine 1:100,000 50ml Vial 25ea/bx 4bx/cs	August	October	No Available Sub	
374277	Lidocaine 2% 20ml vial	September	December	No Available Sub	
374904	LIDOCAINE 2% 100MG 5ML Lifeshield	October	December	373390	LIDOCAINE 2% 100MG 5ML LUER JET 1026B 10EA/PK
0074490301	LIDOCAINE 2% 100MG 5ML ANSYR	November	November		
373178	Lidocaine w/Epi 100,000ml 20ml vial	September	November		
2066-05	Lidocaine 2% 100mg, 5ml vial Preserv Free	2019	Jun-19		

BT item #	Description	Mfctr ETA for next release	Date Mfctr expects back orders to clear	Possible sub **	Description
2b0973	Lidocaine 2gm, 500ml bag	mfctr removed from distribution channel			
5876	Lidocaine 2gm, 500ml bag	mfctr allocation			
118-2B096	Lidocaine 2gm/ D5 250ml bag	mfctr removed from distribution channel			
9594-20	Lidocaine 1gm, 250ml bag	mfctr allocation			
9594-20	Lidocaine 1 gm/D5W 250ml Bag 24ea/cs	mfctr allocation			
1539-31	C4 LORAZEPAM 4MG/ML 1MLCPJ	June 2019- BTM not accepting backorders due to extended BO period		371100	Lorazepam 2mg, 1ml vial
376779	C4 Lorazepam, 4mg, 1ml Vial	August	December		
371102	C4 LORAZEPAM 2MG 1ML LUER LOCKING CARPUJECT *REFRIG* CS02 10/BX	September	Mar-19		
6044-25 (limited stock on hand)	C4 Lorazepam, 2mg, 1ml Vial *Refrigerate* 25/Box	mfctr allocation			
064-11	MAGNESIUM SULFATE 50% 5GM 10ML Vial	August	September		
74491401	Magnesium Sulfate 5gm ANSYR syringe	November	December		
064-03	Magnesium Sulfate 50% 1gm, 2ml vial	August			
377715	Mannitol 20% 500ml bag	August	September	No Available Sub	
1587-50	Marcaine 0.25% 50ml vial	2019	2019		
3414-01	Metoclopramide 10mg, 2ml vial (limited qty on hand)	August	September	No Available Sub	
372285	Metoprolol 5mg, 5ml ampule	Mar-19	June 2019	660-05	Metoprolol 5mg, 5ml vial (qty on hand)
660-05	Metoprolol 5mg, 5ml vial (qty on hand)	August	September	No Available Sub	
2305-05	C4 Midazolam 5mg, 5ml vial 10/BX	August	December	6059-10	C4 Midazolam 5mg, 5ml vial 10/BX
6059-10	C4 Midazolam 5mg, 5ml vial 10/BX	mfctr allocation			
2587-05	C4 Midazolam 10mg, 10ml vial 10 / box	September	October		
371108	C4 MIDAZOLAM **VERSED** 1MG/ML 2ML SLIMPACK CPJ 10/BOX CS08	June 2019		371113	C4 MIDAZOLAM 10MG, 2ML VIAL 10/BOX
3815-12	Morphine 10mg, 10ml vial	Available		3815-12	Morphine 10mg, 10ml vial
6127-25	C2 Morphine 10mg 1ml Vial 25/bx	manufacturer allocation			
1893-01	Morphine 10mg, 1ml CPJT	June 2019- BTM not accepting backorders due to extended BO period			
1891-01	Morphine 4mg, 1ml CPJT	TBD- BTM not accepting backorders due to extended BO period	Mar-19		
1890-01	Morphine 2mg, 1ml CPJT	4/1/2019- BTM not accepting backorders due to extended BO period			
0074146301	NALBUPHINE 10MG 1ML AMPULE 10EA/BX 2097	September	September	No Available Sub	
1465-01	Nalbuphine, 20mg, 1ml Ampule 10/bx	Available			
0162-10	Norepinephrine 4mg, 4ml Ampule (1mg/ml) 10ea/bx	July		No Available Sub	

Bound Tree

Your Partner in EMS

August 21, 2018 Pharmaceutical Backorder Report

BT item #	Description	Mfctr ETA for next release	Date Mfctr expects back orders to clear	Possible sub **	Description
1120-12	Ondansetron Injection, 4mg, 2ml iSecure	June 2019- BTM not accepting backorders due to extended BO period		4759-01	Ondansetron 2mg/ml, 20ml vial
4755-02	Ondansetron Injection, 4mg, 2ml vial	August	December		
0390-10	Ondansetron 4mg dissolve tab	unavailable		0390-10	Ondansetron 4mg dissolve tab
0391-10	Ondansetron 8mg dissolve tab	July			
0074190301	Procainamide 500mg/ml 2ml vial	12/2018 expiration date			
3157-83	PROMETHAZINE 25MG/ML 1ML AMP 2098 25EA/BX	mfctr allocation	Unknown	0928-25	Promethazine, 25mg, 1ml Vial 25ea/bx
375204	Quelicin 200mg, 10ml vial	Available			
0074490000	SODIUM BICARBONATE 8.4% 10ML PEDI LIFESHIELD 1044 10EA/BX	August	September		
0074488810	Sodium Chloride 0.9% 10ml Plastic Flip-Top Single Dose Vial (qty on hand)	August	September	600-10	Sodium Chloride 0.9% 10ml Prefilled Syringe
374888	Sodium Chloride 0.9% 10ml Plastic Vial 25ea/bx (qty on hand)	August	December		
0074488710	Sterile Water 10ml vial	August	September		
3977-03	Sterile Water, Bact. 30ml	August	September		
374887	STERILE WATER FOR INJ 20ML SDV 25EA/BX	August	December		
4887-50	STERILE WATER 50ML VIAL, 25/bx	August	October		
9746-10EA	Terbutaline 1mg, 1ml Vial 10ea/bx	Best Date available is 3/2019 (Please indicate acceptance of date at the time of order)			
6535-01	Vancomycin 1gm addvantage vial	August	2019		
1632-01	VECURONIUM 10MG 10ML VIAL 10EA/BX	2019 - BTM not accepting backorders due to extended BO period		0931-44	VECURONIUM 10MG 10ML VIAL 10EA/BX

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

Updated: August 21, 2018

BTM Item#	Item Description	mfctr item #	Mfctr	Mfctr status /ETA for next shipment	Mfctr expected clear date
371124	FENTANYL 0.05MG/ML 2ML AMPULE 10/BOX CS24	9093-32	Pfizer	August	**estimated recovery is 3/2019
9094-28	FENTANYL 0.05MG/ML 10ML VIALS 25/BX	9094-28	Pfizer	August	**estimated recovery is 3/2019
371276	FENTANYL 0.05MG/ML 2ML CARPUJECT 10/BX	1276-32	Pfizer	June 2019 BTM not accepting backorders due to extended BO period	
379094	FENTANYL 0.05MG/ML 2ML SDV 25/BX	9094-22	Pfizer	August	**estimated recovery is 3/2019
371133	FENTANYL 0.05MG/ML 5ML AMP 10/BX	9093-35	Pfizer	August	**estimated recovery is 3/2019
379425	FENTANYL 0.05MG/ML 5ML SDV 25/BOX	9094-25	Pfizer	August	**estimated recovery is 3/2019
not set up	Fentanyl 50mcg/ml, 2ml ampule	17478-0030-25	Akorn	backorder no ETA	
not set up	Fentanyl 50mcg/ml, 5ml ampule	17478-0030-55	Akorn	backorder no ETA	
6027-25	Fentanyl, 0.05mg/ml, 2ml Vial, 25/Bx with Safety Seal	6027-25	West-Ward	August	allocation
6028-25	Fentanyl, 0.05mg/ml, 5ml Vial, 25/Bx	6028-25	West-Ward	allocation	allocation
	Morphine 2mg (Simplist PFS)	76045-0004-10	Fresneius	allocation	
	Morphine 4mg (Simplist PFS)	76045-0005-10	Fresneius	backorder no ETA	
	Morphine 4mg, 1ml vial	6125-25	West-Ward	allocation	allocation
not set up	Morphine 5mg (Simplist PFS)	76045-0006-10	Fresneius	backorder no ETA	
not set up	Morphine 8mg (Simplist PFS)	76045-0007-10	Fresneius	backorder no ETA	
not set up	Morphine 10mg (Simplist PFS)	76045-0008-10	Fresneius	backorder no ETA	
1892-01	Morphine Sulfate, 8mg/ml, 1ml PF CPJ 10/bx	1892-01	Pfizer	June 2019	
6127-25	Morphine 10mg 1ml Vial 25/bx	6127-25	West-Ward	15-30 days	allocation

not set up	Morphine 5mg 10ml Vial 25/bx	3814-12	Pfizer	available	
3815-12	MORPHINE 10MG, 10ML VIAL 5/BX	3815-12	Pfizer	Available	
1893-01	Morphine Sulfate, 10mg, 1ml PF CPJ 10/bx	1893-01	Pfizer	June 2019- BTM not accepting backorders due to extended BO period	
not set up	Morphine Sulfate, 10mg, 1ml iSecure 10/bx	1893-11	Pfizer	June 2019- BTM not accepting backorders due to extended BO period	
1890-01	Morphine Sulfate, 2mgl, 1ml PF CPJ 10/bx	1890-01	Pfizer	March 2019- BTM not accepting backorders due to extended BO period	
not set up	Morphine Sulfate, 2mg, 1ml iSecure 10/bx	1890-11	Pfizer	June 2019- BTM not accepting backorders due to extended BO period	
1891-01	Morphine Sulfate, 4mg, 1ml PF CPJ 10/bx	1891-01	Pfizer	March 2019- BTM not accepting backorders due to extended BO period	
not set up	Morphine Sulfate, 4mg, 1ml iSecure 10/bx	1891-11	Pfizer	June 2019- BTM not accepting backorders due to extended BO period	
6019-10	Duramorph 10mg, 10ml ampule 10/bx	6019-10	West-Ward	available	allocation
	Duramorph (Morphine Sulfate Injection, USP) C-II 50mg, 10ml vial	0641-6020-10	West-Ward	15-30	allocation
	Hydromorph Inj 10mg/1ML SSOL 1X10 VL	0409-2634-01	Pfizer	2019	March 2019
	Hydromorph Inj 1mg/1ML SSOL 1X10 AMP	0409-2552-01	Pfizer	TBD	
	Hydromorph Inj 1mg/1ML SSOL 1X10 iSEC	0409-1283-10	Pfizer	June 2019	
not set up	Hydromorph Inj 1mg/1ML Carpuject	0409-1283-31	Pfizer	TBD	March 2019
	Hydromorph Inj 2mg/1ML SSOL 1X10 AMP	0409-3356-01	Pfizer	TBD	
	Hydromorph Inj 2mg/1ML SSOL 1X10 CARP	0409-1312-30	Pfizer	TBD	Mar-19
not set up	Hydromorph Inj 2mg/1ML SSOL 1X10 iSEC	0409-1312-10	Pfizer	June 2019	
	Hydromorph Inj 2mg/1ML SSOL 1X25 VL	0409-3365-01	Pfizer	September	March 2019
	Hydromorph Inj 4mg/1ML SSOL 1X10 AMP	0409-2540-01	Pfizer	TBD	

not set up	Hydromorph Inj 4mg/1ML SSOL 1X10 CARP	0409-1304-31	Pfizer	June 2019	
	Hydromorphone Hydrochloride Injection, USP C-II 2 mg , 2 mL vial	0641-0121-25	West-Ward	8-14 days	
not set up	Hydromorphone Hydrochloride Injection, USP C-II 40 mg, 20 mL vial	0641-2341-41	West-Ward	allocation	allocation
CS1283-01	HYDROMORPHONE 1MG/ML 1ML CARPUJECT 10/BX	1283-31	Pfizer	Jun-19	March 2019

The following items are on nationwide, manufacturer shortage. Product is being allocated by the manufacturers listed at a rate that is significantly less than market demands.

BTM item #	Description	Mfctr	Mfctr #
1921-16217	Dextrose 10% 250 ml Bag 36ea/cs Baxter	BAXTER HEALTHCARE-DMG	2B0162Q
7520-20	Dextrose 10% 250 ml Bag 24ea/cs	B. BRAUN MEDICAL, INC	L5202
118-2B2074X	Dextrose 5% / Lactated Ringers 1000 ml Bag 14/cs	BAXTER HEALTHCARE-DMG	2B2074X
0085-04	Dextrose 5% / Sodium Chloride 0.45% 1000 ml Bag	BAXTER HEALTHCARE-DMG	2B1074X
7926-30	Dextrose 5% / Sodium Chloride 0.45% 500 ml VisIV Container 24/cs	HOSPIRA WORLDWIDE, INC	07926-30
C010124	Dextrose 5% / Sodium Chloride 0.9% 1000 ml Bag 14/cs	BAXTER HEALTHCARE-DMG	2B1064X
G0902	Dextrose 5% 1000 ml Bag 12ea/cs BBraun L5100	B. BRAUN MEDICAL, INC	L5100
1921-06102	Dextrose 5% 150 ml Bag 36ea/cs	BAXTER HEALTHCARE-DMG	2B0061
7922-02	Dextrose 5% 250 ml Bag 24ea/cs	HOSPIRA WORLDWIDE, INC	07922-02
G0900	Dextrose 5% 250 ml Bag 24ea/cs BBraun L5102	B. BRAUN MEDICAL, INC	L5102
7922-25	Dextrose 5% 250 ml VisIV Container 24/cs	HOSPIRA WORLDWIDE, INC	07922-25
355101	Dextrose 5% 500 ml Bag 24ea/cs BBraun L5101	B. BRAUN MEDICAL, INC	L5101
600064X	Dextrose 5% in Water 1000 ml Bag 14ea/cs	BAXTER HEALTHCARE-DMG	2B0064X
600062	Dextrose 5% in Water 250 ml Bag 36ea/cs Baxter 2B0062Q	BAXTER HEALTHCARE-DMG	2B0062Q
600063	Dextrose 5% in Water 500 ml Bag 24ea/cs Baxter 2B0063Q	BAXTER HEALTHCARE-DMG	2B0063Q
357953	Lactated Ringers 1000 ml Bag 12ea/cs	HOSPIRA WORLDWIDE, INC	07953-09
357500	Lactated Ringers 1000 ml Bag 12ea/cs BBraun L7500	B. BRAUN MEDICAL, INC	L7500
602324X	Lactated Ringers 1000 ml Bag 14ea/cs Baxter 2B2324X	BAXTER HEALTHCARE-DMG	2B2324X
7953-48	Lactated Ringers 1000 ml VisIV Container	HOSPIRA WORLDWIDE, INC	07953-48
7953-02	Lactated Ringers 250 ml Bag 24ea/cs	HOSPIRA WORLDWIDE, INC	07953-02
602325	Lactated Ringers 250 ml Bag 36ea/cs Baxter 2B2322Q	BAXTER HEALTHCARE-DMG	2B2322Q
7953-03	Lactated Ringers 500 ml Bag 24ea/cs	HOSPIRA WORLDWIDE, INC	07953-03
602323	Lactated Ringers 500 ml Bag 24ea/cs Baxter 2B2323Q	BAXTER HEALTHCARE-DMG	2B2323Q
G0903	Lactated Ringers 500 ml Bag 24ea/cs BBraun L7501	B. BRAUN MEDICAL, INC	L7501
G0940	Normasol-R 1000 ml Bag 12/cs	HOSPIRA WORLDWIDE, INC	7967-09
2639	Sodium Chloride 0.45% 1000 ml Bag 14ea/cs Baxter	BAXTER HEALTHCARE-DMG	2B1314X
2638	Sodium Chloride 0.45% 500 ml Bag 24ea/cs Baxter	BAXTER HEALTHCARE-DMG	2B1313Q
3940	Sodium Chloride 0.45% 500 ml Bag 24ea/cs Hospira	HOSPIRA WORLDWIDE, INC	07985-03
7984-23	Sodium Chloride 0.9% 100 ml Bag 48ea/cs Individually Packaged	HOSPIRA WORLDWIDE, INC	07984-23
358437	Sodium Chloride 0.9% 100 ml Bag Singles 96ea/cs	BAXTER HEALTHCARE-DMG	2B1307
12294	Sodium Chloride 0.9% 100 ml Bag 16/pk 6pk/cs Baxter	BAXTER HEALTHCARE-DMG	2B1309

BTM item #	Description	Mfctr	Mfctr #
7984-11	Sodium Chloride 0.9% 100 ml VisIV Bag 60ea/cs	HOSPIRA WORLDWIDE, INC	07984-11
608309	Sodium Chloride 0.9% 1000 ml Bag 12ea/cs	HOSPIRA WORLDWIDE, INC	07983-09
358000	Sodium Chloride 0.9% 1000 ml Bag 12ea/cs BBraun L8000	B. BRAUN MEDICAL, INC	L8000
601324X	Sodium Chloride 0.9% 1000 ml Bag 14ea/cs	BAXTER HEALTHCARE-DMG	2B1324X
7983-48	Sodium Chloride 0.9% 1000 ml VisIV Bag 12ea/cs	HOSPIRA WORLDWIDE, INC	07983-48
601321	Sodium Chloride 0.9% 150 ml Bag 36ea/cs	BAXTER HEALTHCARE-DMG	2B1321
355410	Sodium Chloride 0.9% 25 ml Fill in a 100 ml Bag 116ea/cs	B. BRAUN MEDICAL, INC	S8004-5410
608302	Sodium Chloride 0.9% 250 ml Bag 24ea/cs	HOSPIRA WORLDWIDE, INC	07983-02
358002	Sodium Chloride 0.9% 250 ml Bag 24ea/cs BBraun L8002	B. BRAUN MEDICAL, INC	L8002
601322	Sodium Chloride 0.9% 250 ml Bag 36ea/cs Baxter 2B1322Q	BAXTER HEALTHCARE-DMG	2B1322Q
7983-25	Sodium Chloride 0.9% 250 ml VisIV Bag 24ea/cs	HOSPIRA WORLDWIDE, INC	07983-25
C898307	Sodium Chloride 0.9% 50 ml Mini-Bag 96/cs	BAXTER HEALTHCARE-DMG	2B1301
7984-06	Sodium Chloride 0.9% 50 ml VisIV Bag 60ea/cs	HOSPIRA WORLDWIDE, INC	07984-06
608304	Sodium Chloride 0.9% 500 ml Bag 24ea/cs	HOSPIRA WORLDWIDE, INC	07983-03
601323	Sodium Chloride 0.9% 500 ml Bag 24ea/cs Baxter 2B1323Q	BAXTER HEALTHCARE-DMG	2B1323Q
358001	Sodium Chloride 0.9% 500 ml Bag 24ea/cs BBraun L8001	B. BRAUN MEDICAL, INC	L8001
7983-30	Sodium Chloride 0.9% 500 ml VisIV Bag 24ea/cs	HOSPIRA WORLDWIDE, INC	07983-30
1921-35317	Sodium Chloride 3% 500 ml Bag 24/cs	BAXTER HEALTHCARE-DMG	2B1353Q
AB7990-09C	Sterile Water 1000 ml Bag 12/cs	HOSPIRA WORLDWIDE, INC	07990-09

Indicates product is available, no longer on manufacturer allocation

HOT TOPICS

1. Ebola
2. Foodborne diseases
3. Polio
4. Hajj
5. Cholera and Yemen
6. Drug and medical shortages

UPDATES

7. Influenza update + vaccine
8. Zika, Yellow fever
9. Nipah
10. Antimicrobial Resistance
11. Typhoid
12. Measles
13. MERS
14. Other

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Flu Scan for Aug 08, 2018

WHO says Southern Hemisphere flu activity remains fairly low

Influenza activity remains elevated in South America, has started to decline in southern Africa, and is still below seasonal threshold levels in Australia and New Zealand, the World Health Organization (WHO) said in its latest update.

Samples testing positive for influenza in Chile and Paraguay have increased, the WHO said, with the H3N2 strain dominating in Chile. Flu has declined in Brazil, however, and remains low in Argentina. Flu activity has also declined in Colombia and Peru but remains elevated. 2009 H1N1 is the predominant strain in southern Africa as activity drops there.

Flu activity remains low in Australia and New Zealand, but influenza-like illness in West Australia is rising and appears to have crossed the seasonal threshold. H1N1 is the predominant strain in Oceania, which includes Australia and New Zealand.

Northern Hemisphere flu activity remains at inter-seasonal levels, the WHO said.

Analysis of FluNet isolates from the most recent week of data shows that 88% of viruses are influenza A. Of flu A viruses subtyped, 76% were H1N1.

Aug 6 WHO update

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Flu Scan for Aug 08, 2018

Study shows mismatch between flu vaccine, circulating strains common

In an illustration of how commonly mismatch occurs between flu vaccine strains and circulating flu viruses, Hong Kong investigators used 17 years' of data to determine that a close match occurs only 11% to 21% of the time, depending on the strain and vaccine.

The researchers analyzed data from 1996 through 2012 in Hong Kong, focusing on H3N2 (one of the two major "A" strains) and influenza B, because changes in vaccine composition were more frequent for those viruses. They sequenced an average of 30 clinical samples of influenza H3N2 and 30 of influenza B per year, except for 2009, when influenza H1N1 predominated. They divided the 17-year period into 34 flu seasons—winter and summer for each year.

The researchers found that Northern Hemisphere vaccine strains were closely matched with circulating strains for 7 (20.6%) of 34 seasons for H3N2 and 5 (14.7%) of 34 seasons for influenza B. For the Southern Hemisphere vaccine, the rates were 14.7% for H3N2 and 11.1% for influenza B.

Strain drift among seasons was 41.2% for H3N2 and 35.3% for influenza B. In addition, biannual vaccination strategy—administering Northern Hemisphere vaccines in November followed by Southern Hemisphere vaccines in May—did not improve match rates.

The authors conclude, "A specific strategy is urgently needed to select and produce influenza vaccines targeting the tropical and subtropical regions."

Aug 7 *Emerg Infect Dis* study

Contents lists available at ScienceDirect

Vaccine

journal homepage: www.elsevier.com/locate/vaccine

Waning protection of influenza vaccination during four influenza seasons, 2011/2012 to 2014/2015

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ABSTRACT

Background: Concerns have been raised about intraseasonal waning of the protection conferred by influenza vaccination.

Methods: During four influenza seasons, we consecutively recruited individuals aged 18 years or older who had received seasonal influenza vaccine and were subsequently admitted to the hospital for influenza infection, as assessed by reverse transcription polymerase chain reaction. We estimated the adjusted odds ratio (aOR) of influenza infection by date of vaccination, defined by tertiles, as early, intermediate or late vaccination. We used a test-negative approach with early vaccination as reference to estimate the aOR of hospital admission with influenza among late vaccinees. We conducted sensitivity analyses by means of conditional logistic regression, Cox proportional hazards regression, and using days between vaccination and hospital admission rather than vaccination date.

Results: Among 3615 admitted vaccinees, 822 (23%) were positive for influenza. We observed a lower risk of influenza among late vaccinees during the 2011/2012 and 2014/2015A(H3N2)-dominant seasons: aOR = 0.68 (95% CI: 0.47–1.00) and 0.69 (95% CI: 0.50–0.95). We found no differences in the risk of admission with influenza among late versus early vaccinees in the 2012/2013A(H1N1)pdm09-dominant or 2013/2014B/Yamagata lineage-dominant seasons: aOR = 1.18 (95% CI: 0.58–2.41) and 0.98 (95% CI: 0.56–1.72). When we restricted our analysis to individuals aged 65 years or older, we found a statistically significant lower risk of admission with influenza among late vaccinees during the 2011/2012 and 2014/2015 A(H3N2)-dominant seasons: aOR = 0.61 (95% CI: 0.41–0.91) and 0.69 (95% CI: 0.49–0.96). We observed 39% (95% CI: 9–59%) and 31% (95% CI: 5–50%) waning of vaccine effectiveness among

Clinical Infectious Diseases

MAJOR ARTICLE

Intraseason Waning of Influenza Vaccine Protection: Evidence From the US Influenza Vaccine Effectiveness Network, 2011–2012 Through 2014–2015

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Background. Recent studies suggest that influenza vaccine effectiveness (VE) may wane over the course of an influenza season, leading to suboptimal VE during late influenza seasons.

Methods. We examined the association between influenza VE and time since vaccination among patients ≥9 years old with medically attended acute respiratory illness in the US Influenza Vaccine Effectiveness Network using data pooled from the 2011–2012 through 2014–2015 influenza seasons. We used multivariate logistic regression with polymerase chain reaction–confirmed influenza infection as the outcome and vaccination status defined by days between vaccination and symptom onset as the predictor. Models were adjusted for calendar time and other potential confounding factors.

Results. We observed decreasing VE with increasing time since vaccination for influenza A(H3N2) (P = .004), influenza A(H1N1)pdm09 (P = .01), and influenza B viruses (P = .04). Maximum VE was observed shortly after vaccination, followed by a decline in VE of about 7% (absolute) per month for influenza A(H3N2) and influenza B and 6%–11% per month for influenza A(H1N1)pdm09 viruses. VE remained greater than zero for at least 6 months for influenza A(H1N1)pdm09 and influenza B and at least 5 months for influenza A(H3N2) viruses. Decline in VE was more pronounced among patients with prior-season influenza vaccination. A similar pattern of increasing influenza risk with increasing time since vaccination was seen in analyses limited to vaccinees.

Conclusions. We observed decreasing influenza vaccine protection with increasing time since vaccination across influenza types/subtypes. This association is consistent with intraseason waning of host immunity, but bias or residual confounding could explain these findings.

Keywords. case-control studies; influenza; influenza vaccine; vaccine effectiveness.

The United States Advisory Committee on Immunization Practices recommends that US residents aged ≥6 months receive annual influenza vaccination by October of each year to allow sufficient time for development of immune protection prior to onset of influenza activity [1, 2]. During the past 18 years (excluding the pandemic influenza season of 2009–2010), the annual influenza season in the United States typically began in December or early January, as defined by the first week in which the number of influenza cases contributed ≥2% of cumulative influenza cases during the season among specimens tested by World Health Organization and US collaborating laboratories. However, early or late starts to the influenza season were not uncommon: In 3 seasons, the influenza season started by the beginning of December, and in 3 seasons, the influenza season started in or later than the third week of January. Duration of the annual influenza epidemic averaged about 13 weeks, with some seasons lasting as long as 17 weeks [3].

Influenza vaccine is often available in the United States by the end of July [4]. The early availability of influenza vaccine and late arrival of the 2011–2012 influenza season prompted questions about the potential for intraseason waning of influenza vaccine effectiveness (VE). Several studies of influenza VE in Europe suggested that vaccinated persons more often presented later in the 2011–2012 season, an observation consistent with intraseason waning of influenza VE [5–8]. Evidence for intraseason waning of effectiveness of the 2011–2012 southern hemisphere influenza vaccine was equivocal in Australia, which did not experience a late influenza epidemic that year [9]. In the following season (2012–2013) in the United Kingdom, Andrews et al observed a pattern of lower VE with longer time since vaccination, but the finding was not statistically significant [10]. A pooled analysis of 5 recent influenza seasons in

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The New York Times

Opinion

Anti-Vaccine Activists Have Taken Vaccine Science Hostage

By Melinda Wenner Moyer Aug. 4, 2018

Americans who don't want to vaccinate are increasingly getting their way: A June study found that, over the past decade, the number of philosophical vaccine exemptions rose in two-thirds of the states that allow them.

What drives these wrongheaded decisions is fear — fear that vaccines are somehow dangerous, even though research shows the opposite. And these choices have consequences. The 2015 Disneyland measles outbreak sickened at least 125 people, many of them unvaccinated.

As a science journalist, I've written several articles to quell vaccine angst and encourage immunization. But lately, I've noticed that the cloud of fear surrounding vaccines is having another nefarious effect: It is eroding the integrity of vaccine science.

In February I was awarded a fellowship by the nonpartisan Alicia Patterson Foundation to report on vaccines. Soon after, I found myself hitting a wall. When I tried to report on unexpected or controversial aspects of vaccine efficacy or safety, scientists often didn't want to talk with me. When I did get them on the phone, a worrying theme emerged: Scientists are so terrified of the public's vaccine hesitancy that they are censoring themselves, playing down undesirable findings and perhaps even avoiding undertaking studies that could show unwanted effects. Those who break these unwritten rules are criticized.

nature
International journal of science

NEWS FEATURE · 08 AUGUST 2018

The ghost of influenza past and the hunt for a universal vaccine

Your first bout of flu may determine how you fare during the next pandemic. That's why scientists are trying to understand immunologic imprinting.

By the time she is about three years old, a child has usually endured her first influenza infection. If it's a nasty bout, her temperature will rise and her muscles will ache. She's probably young enough that she won't recall the illness — but her immune system will.

When the virus enters her body, its presence prompts a pool of immature, unprogrammed immune cells to start competing to become the flu's tracker and assassin. The winners — cells that bind most strongly to the virus — store a memory of the pathogen, ready to recognize and attack it the next time it strikes.

But influenza is an inveterate shape-shifter. Regions of its outer proteins can mutate as it replicates, allowing it to avoid immune detection. When infections with new flu strains occur later in life, the immune system will mount a response based on that first encounter, reacting strongly to recognized regions of the virus, but not to any that have changed. Immune cells can't tailor any novel antibodies that could help.

HOT TOPICS

1. Ebola
2. Foodborne diseases
3. Polio
4. Hajj
5. Cholera and Yemen
6. Drug and medical shortages

UPDATES

7. Influenza update + vaccine
8. Zika, Yellow fever
9. Nipah
10. Antimicrobial Resistance
11. Typhoid
12. Measles
13. MERS
14. Other

CDC reports provisional Zika virus disease case counts reported to ArboNET in the United States and its territories on the first Thursday of each month.

Cumulative Zika Virus Disease Case Counts in the United States, 2015-2018

Provisional Data* as of August 1, 2018

Zika virus disease became a nationally notifiable condition in 2016. Cases are reported to CDC by state, territorial, and local health departments using standard case definitions. This web page contains cumulative provisional data reported to ArboNET for **January 1, 2015 – August 1, 2018**.

US States

- 5,716 symptomatic Zika virus disease cases reported†
  - 5,430 cases in travelers returning from affected areas
  - 231 cases acquired through presumed local mosquito-borne transmission
  - 55 cases acquired through other routes, including sexual transmission (N=52), laboratory transmission (N=2), and person-to-person through an unknown route (N=1)

US Territories

- 37,262 symptomatic Zika virus disease cases reported†
  - 147 cases in travelers returning from affected areas
  - 37,115 cases acquired through presumed local mosquito-borne transmission
  - 0 cases acquired through other routes‡

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News Scan for Jul 27, 2018

Study: Infectious Zika persists in semen up to 38 days after symptom onset

CDC researchers who are studying the persistence of Zika virus in the body fluids of people who were sick in Puerto Rico's outbreak found infectious virus in semen up to 38 days after symptom onset.

In the early months of the outbreak, scientists used viral RNA to gauge duration of Zika virus to help set interim guidelines, and most information on infectious virus in body fluid samples has come from case studies or a small number of participants. The team reported its findings today in the *Journal of Infectious Diseases*.

Their study, comprising 297 serum samples and 97 semen samples, included a cohort of patients in Puerto Rico who had lab-confirmed infections, and the team was also able to look for infectious virus in blood and compare their finding from both body fluids with Zika viral RNA in the same specimens. They assessed infectious Zika virus by virus passage in Vero cell cultures.

The investigators detected Zika up to 38 days after the onset of symptoms, much shorter than the maximum of 370 days for the detection of Zika RNA in semen. The persistence they found was similar to a case study in which sexual transmission occurred 44 days after symptom onset. They found that serum viral RNA load was about 10 times lower than in semen at the time of sampling, which the team said could explain why Zika isolation rate is much lower in serum than in semen. The researchers were only to isolate Zika virus from blood only at 3 days after symptom onset.

They concluded that the study adds more insights into persistence of Zika in semen and blood, and the duration they found in semen is well within the CDC's recommendation for abstaining from sex or using condoms for 6 months after illness to avoid sexual transmission.

A meta-analysis published earlier this week found that the maximum duration of sexual transmission after symptom onset was 44 days.

Jul 27 *J Infect Dis* abstract

Jul 24 CIDRAP News story "Study suggests smaller window for Zika sexual transmission"

University of Minnesota

CIDRAP Center for Infectious Disease Research and Policy

1 in 7 kids exposed to Zika in utero suffers defects, delays

Filed Under: Zika

Stephanie Soucheray | News Reporter | CIDRAP News | Aug 07, 2018

One in seven children born of a Zika-affected pregnancy could develop neurologic or cognitive disabilities likely connected to prenatal exposure to the flavivirus, according to the largest study yet conducted on children born in US territories to mothers who had Zika in pregnancy.

iStock

The new study is published today in the Centers for Disease Control and Prevention's (CDC's) *Morbidity and Mortality Weekly Report* (*MMWR*), and included babies born inPuerto Rico, American Samoa, US Virgin Islands, Federated States of Micronesia, and Republic of the Marshall Islands.

"This is the first study of its kind to track children who appeared healthy at birth through their first year of life," said Peggy Honein, PhD, MPH, an epidemiologist and chief of the CDC's Birth Defects Branch, in an interview. Children who appeared normal at birth developed motor delays, seizures, trouble swallowing, microcephaly (smaller-than-normal head and brain), vision problems, and other neurologic delays over a series of follow-up visits with pediatricians.

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News Scan for Aug 01, 2018

Zika immune globulin treatment trial launches

Yesterday Emergent BioSolutions announced the start of a phase 1 clinical trial for ZIKV-IG, the company's anti-Zika virus immune globulin. The double-blind, randomized, and placebo-controlled clinical study will enroll about 30 healthy volunteers at a single site.

The US Food and Drug Administration (FDA) granted fast-track designation to ZIKA IG in December of 2017. ZIKA-IG is a purified human immunoglobulin which contains Zika-neutralizing antibodies. Emergent BioSolutions has applied similar immunoglobulin and antibody technology to products aimed at treating anthrax bacteria and vaccinia virus.

"Our program, initiated in 2017, seeks to accelerate development of a Zika-specific immune globulin that leverages our proven platform technology, four decades of patient experience with hyperimmunes, and core competencies in advanced development and manufacturing," said Laura Saward, PhD, senior vice president and antibody therapeutics business unit head at Emergent BioSolutions in a press release.

Jul 31 Emergent BioSolutions press release

University of Minnesota

CIDRAP Center for Infectious Disease Research and Policy

Study profiles local Zika threat to California; first live attenuated vaccine trial begins

Filed Under: Zika

Lisa Schnirring | News Editor | CIDRAP News | Aug 16, 2018

Concerns about local Zika spread have centered around parts of Florida and Texas where a limited number of cases were reported following large outbreaks in Brazil and other Americas countries, but in California the numbers of infected travelers and competent mosquito vectors could also offer the virus a foothold, according to a new report published yesterday.

Monica R/ Flickr cc

In another Zika development, the National Institutes of Health (NIH) today announced the launch of the first human trial of an experimental live attenuated Zika vaccine.

California report

The report on Zika's threat to California came from an analysis of travel-related cases reported between November 2015 and September 2017 and a review of the latest mapping of *Aedes aegypti* and *Aedes albopictus* mosquitoes in the state. A team from the California Department of Public Health published their findings yesterday in an early online edition of *Emerging Infectious Diseases*.

The NEW ENGLAND JOURNAL of MEDICINE

Perspective

Fractional-Dose Yellow Fever Vaccination — Advancing the Evidence Base

Kirsten Vannice, Ph.D., M.H.S., Annelies Wilder-Smith, M.D., Ph.D., and Joachim Hombach, Ph.D., M.P.H.

August 16, 2018
N Engl J Med 2018; 379:603-605
DOI: 10.1056/NEJMp1803433

In 2016, a global shortage of yellow fever vaccine occurred as a result of major yellow fever outbreaks in Angola and the Democratic Republic of Congo (DRC). By October, 7136 cases and 493 deaths were reported in the two countries. Reactive vaccination campaigns were conducted in areas with autochthonous transmission during the summer of 2016, but many people were still living in areas of risk. In Kinshasa, the capital of the DRC, a preventive campaign targeting roughly 10.5 million people was needed to mitigate the risk of an urban yellow fever outbreak. However, only 5.8 million vaccine doses were available from the World Health Organization (WHO) stockpile. A solution was urgently needed.

Fractionating the available yellow fever vaccine doses and administering a reduced volume of vaccine was one proposal. Faced with the options of using off-label fractional-dose vaccine to meet the supply needs or using the full-dose vaccine but leaving millions of people at risk for yellow fever, the DRC, in close consultation with the WHO, opted to use one fifth of the standard 0.5 ml volume of vaccine (0.1 ml) in its vaccination campaign. More than 7 million people received the fractional-dose vaccine in Kinshasa in August 2016.

This decision was based on simple math. WHO-prequalified yellow fever vaccines are highly potent, with average doses between 12,874 and 43,651 international units (IU) — far above the WHO's recommended minimum of 1000 IU. In principle, the quantity of vaccine virus in fractional doses of standard vaccine would therefore still exceed the WHO's minimum requirement.

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News Scan for Jul 16, 2018

Nipah outbreak report details hospital transmission patterns

A report summing up all the investigation findings in India's Nipah virus outbreak says 17 of 19 patients appear to ahve contracted the virus from the index patient, a 26-year-old man, Press Trust of India (PTI) reported yesterday, citing findings released by health officials from Kerala state.

The people exposed to the first patient included 3 family members, 4 people at the first hospital that treated him, and 10 at a medical college hospital where he was taken for a computed tomography scan. One patient was infected by another patient at the first hospital.

People infected at the first hospital included the man's sister, who helped care for him. Though the man was at the second hospital for only 1 day, he passed the virus to 10 people.

Health officials suspect that the first patient contracted the virus from fruit bats, and the early investigation suggested he and his brothers might have been infected after being in a bat-infested well, according to the report. The bats in the well, however, were not fruit bats.

The 19-case outbreak, India's third involving Nipah virus, killed 17. During the course of the outbreak, which was declared over on Jun 30, health officials monitored and tested about 3,000 people.

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

Jul 15 PTI report

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News Scan for Aug 08, 2018

WHO officially declares India's 19-case Nipah outbreak over

The Nipah outbreak in India's Kerala state appears to be over, as there have been no new deaths or cases reported since Jun 1, according to an update from the WHO yesterday. As noted previously, a total of 19 people contracted the virus, and there were 17 deaths attributed to the deadly emerging infectious disease.

Only two patients recovered completely and have been discharged from the hospital. The outbreak affected only Kerala, where the earliest patients in May first became sick after entering a well that was populated with fruit bats.

"Acute respiratory distress syndrome and encephalitis were observed among the patients infected. This was the first NiV outbreak reported in Kerala State and the third NiV outbreak known to have occurred in India; the two previous outbreaks occurred in the state of West Bengal in 2001 and 2007," said the WHO.

The WHO estimates Nipah's case-fatality rate to be between 40% and 75%. Though human-to-human transmission can occur, the disease is most commonly spread via consumption of fruit contaminated by the saliva of infected bats, or from direct contact with infected bats or their feces or urine. There are no treatments available for Nipah.

Aug 7 WHO update

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University of Minnesota

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FDA previews veterinary stewardship plan

Filed Under: Antimicrobial Stewardship

Chris Dall | News Reporter | CIDRAP News | Jul 31, 2018

RGTimeline/iStock

The head of the US Food and Drug Administration (FDA) announced today that the agency will soon be implementing a 5-year blueprint to advance antimicrobial stewardship in veterinary settings.

While few details of the forthcoming plan were provided, FDA commissioner Scott Gottlieb, MD, said the blueprint will include goals, objectives, and actions the agency will focus on during fiscal years 2019-2023. The three main goals are aligning antimicrobial use in animals with stewardship principles, fostering better stewardship in veterinary settings, and enhancing the monitoring of antimicrobial use and resistance in animals.

Gottlieb said in a statement that the agency wants to further its efforts to reduce the overuse of antimicrobial drugs and combat the rising threat of antimicrobial resistance by expanding on current programs to advance antimicrobial stewardship in veterinary settings, and launching some new programs.

"While important progress has been made, we know that additional work is needed to address the complex challenge of antimicrobial resistance," Gottlieb said.

Bloomberg

Trump's USDA Fights Global Guidelines on Livestock Antibiotics

By Andrew Martin and Jared S Hopkins
July 23, 2018, 11:27 AM CDT

The Trump administration is resisting the World Health Organization's effort to sharply limit antibiotic use in farm animals, a move intended to help preserve the drugs' effectiveness.

Instead, the U.S. is helping draft an alternative approach that appears more favorable to agribusiness.

The WHO guidelines -- released in November after two years of work by experts in infectious disease, veterinary medicine and microbiology -- called for an end to giving medically important antibiotics routinely to healthy animals to promote growth or prevent disease. The United Nations agency said the drugs should be administered only to sick animals or healthy ones being raised near them, in the same flock, herd or fish population. Even then, drugs "critically important for human medicine" should not be used.

The Agriculture Department termed the effort shoddy science and one that the U.S. and other countries should have had a voice in developing. (The WHO kept country representatives out of the process to avoid potential conflicts.) U.S. policy bans antibiotics to promote growth in farm animals but still allows the drugs to be given to healthy animals to prevent disease with a veterinarian's approval.

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Novartis drops antibiotic development program

Filed Under: Antimicrobial Stewardship

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

Editor's note: *This story was updated on Jul 13 with comments from Kevin Outterson, JD.*

Andrew / Wikimedia Commons

Antibiotic development efforts were dealt a blow yesterday when drug maker Novartis AG announced its decision to drop its antibacterial and antiviral research programs.

The decision means Novartis will no longer be working on several antimicrobial projects currently in development.

In an emailed statement explaining the move, the Switzerland-based company said "While the science for these programs is compelling, we have decided to prioritize our resources in other areas where we believe we are better positioned to develop innovative medicines that will have a positive impact for patients."

Before the decision was announced, Novartis was one of only a handful of large, research-based pharmaceutical companies still active in antibiotic research and development. In 2016, the company was among the signers of the Davos Declaration, a written commitment by more than 70 pharmaceutical and biotech companies to invest in research and development of innovative treatments and diagnostics to combat antibiotic-resistant bacteria.

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News Scan for Aug 10, 2018

Researchers estimate $2.9 billion in US resistance costs for 5 key pathogens

In a study yesterday in *Antimicrobial Resistance & Infection Control*, scientists estimate that the annual economic cost of five common antimicrobial-resistant (AMR) pathogens to be $0.5 billion in Thailand and $2.9 billion in the United States.

United Kingdom, Thai, and Vietnamese researchers assessed correlations between human antibiotic use and subsequent resistance, the economic cost of AMR for five key pathogens, and consumption data for antibiotic classes driving resistance in the organisms. They analyzed costs for *Staphylococcus aureus*, *Escherichia coli*, *Klebsiella pneumoniae*, *Acinetobacter baumannii*, and *Pseudomonas aeruginosa*, using resistance rates of 0.37, 0.27, 0.35, 0.45, and 0.52, respectively.

The scientists determined that the cost of AMR associated with the consumption of one standard unit (SU) of antibiotics ranged from $0.1 for macrolides to $0.7 for quinolones, cephalosporins and broad-spectrum penicillins in Thailand. Using US data, the cost of AMR per SU of antibiotic consumed ranged from $0.1 for carbapenems to $0.6 for quinolones, cephalosporins, and broad-spectrum penicillins.

The total annual economic cost of AMR in these five pathogens was $0.5 billion and $2.9 billion in Thailand and the United States, respectively.

The authors conclude, "The economic costs of AMR per antibiotic consumed were considerable, often exceeding their purchase cost. . . . Notwithstanding their limitations, use of these estimates in economic evaluations can make better-informed policy recommendations regarding interventions that affect antimicrobial consumption and those aimed specifically at reducing the burden of AMR."

Aug 9 *Antimicrob Resist Infect Control* study

University of Minnesota

CIDRAP Center for Infectious Disease Research and Policy

Study finds increased alcohol tolerance in common hospital pathogen

Filed Under: Antimicrobial Stewardship

Chris Dall | News Reporter | CIDRAP News | Aug 01, 2018

sompong_tom/iStock

A leading cause of hospital-associated infections is becoming increasingly resistant to alcohol-based disinfectants, a team of Australian researchers report today in *Science Translational Medicine*.

In an analysis of bacterial samples taken from two Australian hospitals over 19 years the researchers found that the more recent isolates of *Enterococcus faecium* were much more tolerant to alcohol exposure than older isolates. The older isolates were collected before and a few years after alcohol-based hand rubs were systematically introduced to Australian hospitals.

The findings suggest that *E faecium* could be adapting to alcohol-based hand rubs, which have become an integral part of standard infection control strategies in hospitals. That could make it harder for hospitals to contain the spread of *E faecium* infections, including those caused by vancomycin-resistant *Enterococci* (VRE), a hospital-associated superbug that's been on the rise in hospitals around the globe.

"Whatever the drivers, the development of alcohol-tolerant strains of *E. faecium* has the potential to undermine the effectiveness of alcohol-based disinfectant standard precautions and may, in part, explain the increase in VRE infection that is now widely reported in hospitals in Europe, Asia, the Americas, and Australia," the authors of the study write.

University of Minnesota

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WHO revises MDR-TB treatment with focus on oral drugs

Filed Under: Antimicrobial Stewardship; Tuberculosis
Chris Dall | News Reporter | CIDRAP News | Aug 20, 2018

PAHO / Flickr cc

The World Health Organization (WHO) has made key changes in the recommended treatment for multidrug-resistant tuberculosis (MDR-TB) that prioritize newer medications and oral regimens over injectable drugs.

In a rapid communication published Aug 17, the WHO summarized the changes, which include a new priority ranking of available drugs for MDR-TB treatment based on the balance of effectiveness and harms and a preference for oral agents. The drugs in the preferred treatment regimen now include bedaquiline, a novel oral TB drug that was approved by the US Food and Drug Administration in 2012 and is currently used in 89 countries, but on a limited basis. Delaminid, another newer oral medication, is also on the list of recommended drugs.

Two injectable drugs that have been associated with side effects and increased risk of treatment failure—kanamycin and capreomycin—are no longer recommended.

WHO officials say they hope the revised recommendations will improve treatment outcomes and the quality of life of patients with MDR-TB, which has become a major obstacle in the global campaign against tuberculosis. The agency estimates about 600,000 cases of MDR-TB or rifampicin-resistant TB emerge each year, and that roughly 240,000 die from drug-resistant forms of the disease. Only 54% of the MDR-TB patients who start treatment are successfully treated, in part because of the length and toxicity of the treatment.

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REUTERS

HEALTH NEWS FEBRUARY 20, 2018 / 5:53 AM / 6 MONTHS AGO

Study finds new superbug typhoid strain behind Pakistan outbreak

LONDON (Reuters) - An outbreak of typhoid fever in Pakistan is being caused by an extensively drug resistant "superbug" strain, a sign that treatment options for the bacterial disease are running out, scientists said on Tuesday.

Researchers from Britain's Wellcome Sanger Institute who analyzed the genetics of the typhoid strain found it had mutated and acquired an extra piece of DNA to become resistant to multiple antibiotics.

An outbreak of drug-resistant typhoid that began in Hyderabad in Pakistan in November 2016 is still spreading, according to experts from Aga Khan University who worked with the Sanger team.

The New York Times

GLOBAL HEALTH

'We're Out of Options': Doctors Battle Drug-Resistant Typhoid Outbreak

By Emily Baumgaertner

April 13, 2018

The first known epidemic of extensively drug-resistant typhoid is spreading through Pakistan, infecting at least 850 people in 14 districts since 2016, according to the National Institute of Health Islamabad.

The typhoid strain, resistant to five types of antibiotics, is expected to disseminate globally, replacing weaker strains where they are endemic. Experts have identified only one remaining oral antibiotic — azithromycin — to combat it; one more genetic mutation could make typhoid untreatable in some areas.

Researchers consider the epidemic an international clarion call for comprehensive prevention efforts. If vaccination campaigns and modern sanitation systems don't outpace the pathogen, they anticipate a return to the pre-antibiotic era when mortality rates soared.

Science

‘Frightening’ drug-resistant strain of typhoid spreads in Pakistan

By Jon Cohen | Jul. 16, 2018 , 5:05 PM

An antibiotic-defying strain of the bacterium that causes typhoid fever is gaining a foothold in Pakistan, leading some researchers to warn that it could turn the clock back 70 years, when surviving the disease was more a matter of luck than treatment. In the past 6 months, more than 2000 people in Pakistan have been infected with extensively drug-resistant (XDR) *Salmonella typhi*, according to the National Institute of Health in Islamabad. Only one oral antibiotic, azithromycin, works against the XDR strain, and the other options—expensive intravenous (IV) drugs—are impractical for widespread use in Pakistan and other low-income nations. *S. typhi* experts worry that the outbreak could soon spill into other countries.

“This is indeed a really alarming situation,” says pediatrician Zulfiqar Bhutta of The Aga Khan University in Karachi, Pakistan. “I’m not sure what can be done, as the horse has bolted. This will jump boundaries before long.”

Spread through contaminated water and food, *S. typhi* causes up to 22 million cases of typhoid fever a year. Early symptoms include high fever, headaches, and stomach pain. Left untreated, typhoid fever can lead to intestinal hemorrhage and perforation of the bowel, and kill up to 15% of infected people. Despite the availability of effective antibiotics, about 200,000 people die annually.

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BBC

Measles cases hit record high in Europe

20 August 2018

Cases of measles in Europe have hit a record high, according to the World Health Organization (WHO).

More than 41,000 people have been infected in the first six months of 2018, leading to 37 deaths.

Last year there were 23,927 cases and the year before 5,273. Experts blame this surge in infections on a drop in the number of people being vaccinated.

In England, there have been 807 cases so far this year. The WHO is calling on **European countries** to take action.

Public Health England say the outbreaks in England are largely due to people who have travelled to areas of mainland Europe that have had outbreaks.

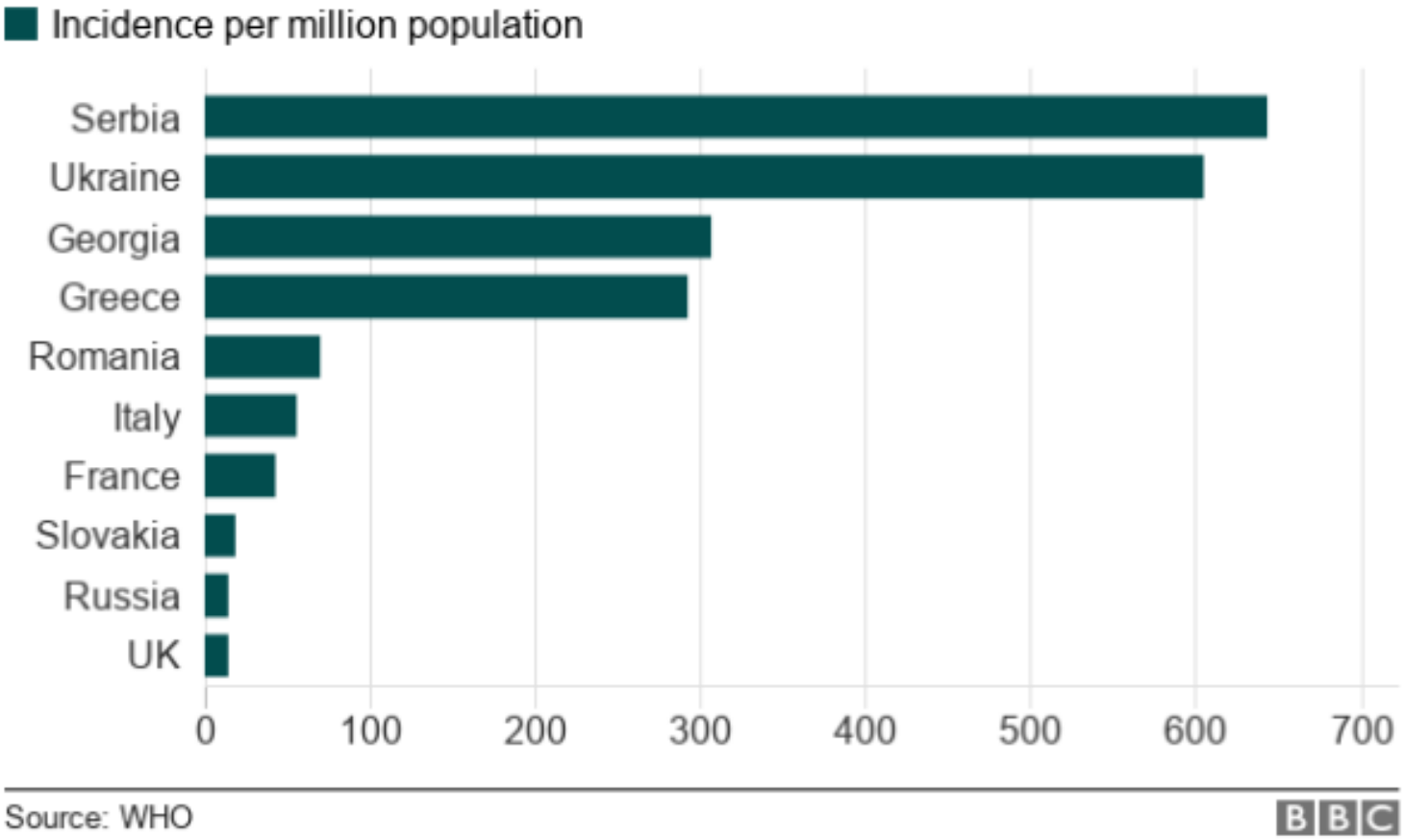
Measles is highly infectious and spreads by droplets in coughs and sneezes.

The infection lasts seven to 10 days. But while most people recover completely, it can cause some serious complications, including:

- encephalitis (infection and swelling of the brain)
- meningitis
- febrile convulsions
- pneumonia
- liver infection (hepatitis)

BBC

Some of the European countries with the highest rates of measles

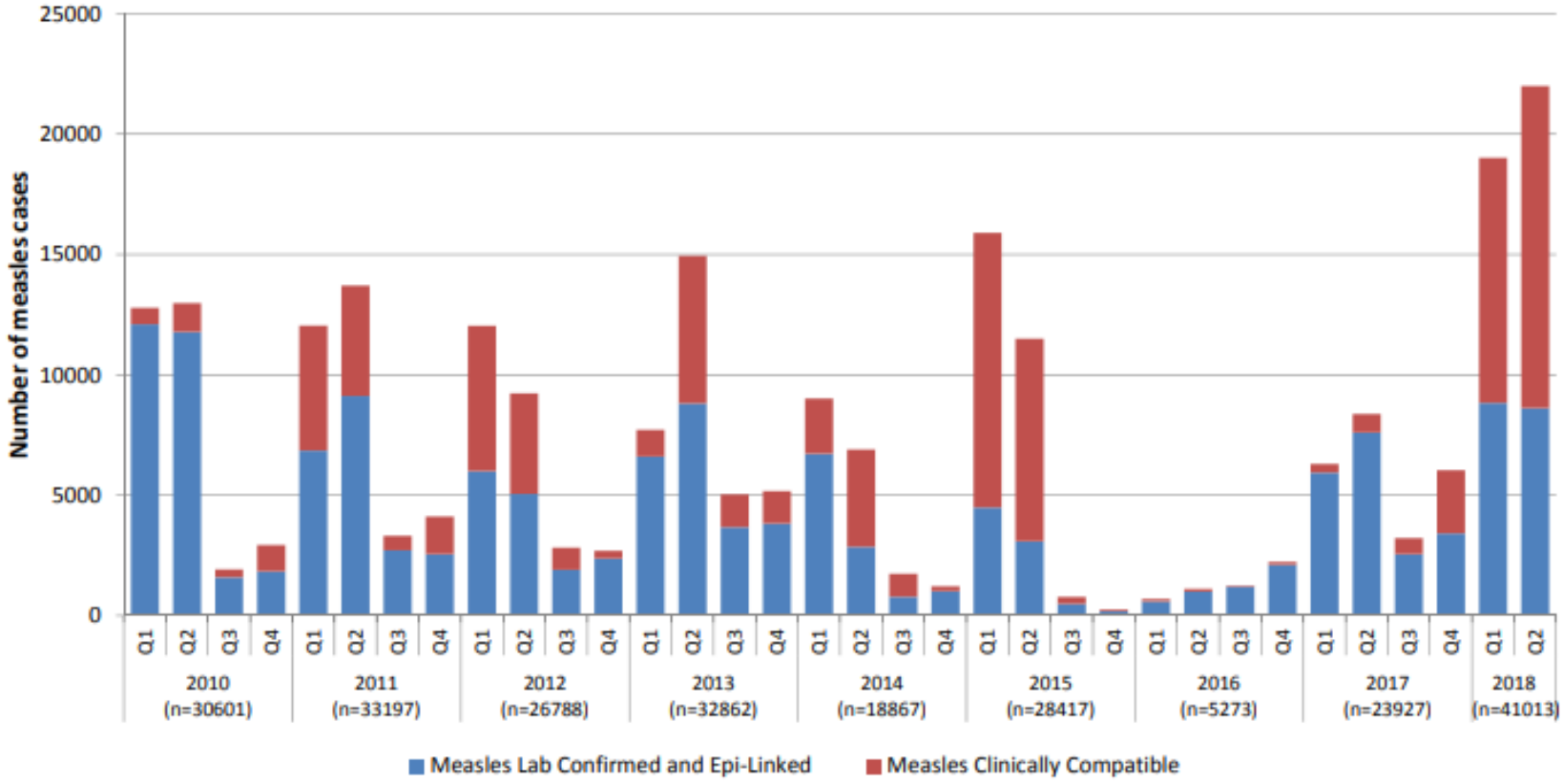


Source: WHO

BBC

World Health Organization
REGIONAL OFFICE FOR Europe

Figure 2: Quarterly distribution of measles cases in the European Region, Jan 2010 to Jun 2018* (data as of 01 August 2018)



Data source: Monthly aggregated and case-based data reported by Member States to WHO/Europe or via ECDC/TESSy

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News Scan for Aug 06, 2018

Saudi Arabian health ministry notes 30 new MERS cases

After several months of silence, the Saudi Arabian Ministry of Health (MOH) recently uploaded information on 30 new MERS-CoV case detections on its website, including a cluster of 11 household cases from Najran detected in late May and early June.

The 11 Najran MERS-CoV (Middle East respiratory syndrome coronavirus) cases were all in men. *The most recent case involves a 41-year-old Saudi man in* Dammam who was hospitalized for MERS on Aug 3. He is listed in stable condition, and the MOH said he had direct contact with camels.

Nine cases were recorded in July, 8 in June, and 13 in May. All case-patients are listed in stable condition except 3, and the MOH notes two deceased patients, including a 68-year-old man from Arar city who acquired MERS in a hospital setting. The other death occurred in a 57-year-old man from Jeddah who had camel contact.

At this time, the MOH is not providing the cumulative number of MERS cases since the virus was first detected in Saudi Arabia in 2012.
MOH Epidemic Events webpage

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WHO highlights ongoing hospital MERS outbreak threat

Filed Under: MERS-CoV

Lisa Schnirring | News Editor | CIDRAP News | Aug 08, 2018

In a snapshot of MERS-CoV cases over the past year and an assessment of the global risk, the World Health Organization (WHO) said the epidemiology of the virus hasn't changed, but deep concerns persist about ongoing hospital-related outbreaks.

CDC Global

The report covers 189 lab-confirmed cases reported since the last report in July of 2017 through June of this year. The illnesses were in four countries: Saudi Arabia (182), Oman (3), the United Arab Emirates (3), and Malaysia (1).

Saudi Arabia over the past year reported six MERS-CoV (Middle East respiratory syndrome coronavirus) illness clusters, three of which occurred in healthcare settings. Hospital outbreaks are worrisome, because MERS-CoV symptoms are often nonspecific and healthcare personnel who aren't familiar with the disease can miss initial cases. Also, it's still unclear how the virus spreads in hospitals.

Maria Van Kerkhove, PhD, an epidemiologist who is the WHO's technical lead for MERS-CoV, said the report's findings are a reminder that the disease remains a global health threat. "This high threat respiratory pathogen has shown the potential to cause large outbreaks with substantial public health, security, and economic consequences," she told CIDRAP News.

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News Scan for Aug 09, 2018

MERS study shows no sign of infection in Nigerian camel workers

A study today in *Eurosurveillance* examined serologicl evidence of MERS-CoV infection in people occupationally exposed to infected dromedary camels in a slaughterhouse in Kano, Nigeria, and found that none of the 311 humans tested had any evidence of antibodies to Middle East respiratory syndrome coronavirus (MERS-CoV).

The results are a bit confounding, as camel workers in the Middle East are at an elevated risk of contracting MERS. In addition, camels in this abattoir had been studied several times, and 11% of samples had MERS-CoV RNA in January of 2015. In 2016, when this study was conducted, 0 to 8.4% of camel samples showed RNA. All but 50 of the workers in this study reported direct camel contact, including drinking camel milk and urine, and did not wear personal protective gear.

"This [study's] seropositivity rate is significantly lower than that of the camel abattoir workers in Saudi Arabia ($p = 0.0049$, Fisher's exact test) and that of the camel barn workers at a race track in Qatar ($p = 0.00580$)," the authors said.

Instead, this study echoes a Kenyan study, which showed no seroconversion among 760 people with household or occupational exposure to MERS-CoV–seropositive camels.

"MERS-CoV from West Africa, including Nigeria, were genetically and phenotypically distinct from those in East Africa and thus zoonotic potential of viruses from Nigeria may be different from those in Kenya. Overall, these data may suggest that the risk of MERS infection from exposure to infected camels may be lower in some African countries," the authors concluded.

Aug 9 *Eurosurveillance* study

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News Scan for Aug 14, 2018

More than half of all primary cases of MERS connected to camel exposure

Camel contact is a known risk factor for MER-CoV transmission. A new study published in *Viruses* suggests that more than half (55%) of primary cases of Middle Eastern respiratory syndrome coronavirus (MERS-CoV) occur in people who have direct contact with dromedary camels.

Researchers analyzed all MERS-CoV cases reported to the WHO between Jan 1, 2015 and Apr 13, 2018. Among the 1,125 lab-confirmed cases, 348 (30.9%) were primary (meaning the person did not contract the virus from someone else), 455 (40.4%) were secondary (often household or hospital-acquired cases), and 322 (28.6%) were unclassified.

Among primary cases, 54.9% had contact with dromedaries, while only 1.1 % of secondary or unclassified cases reported camel contact.

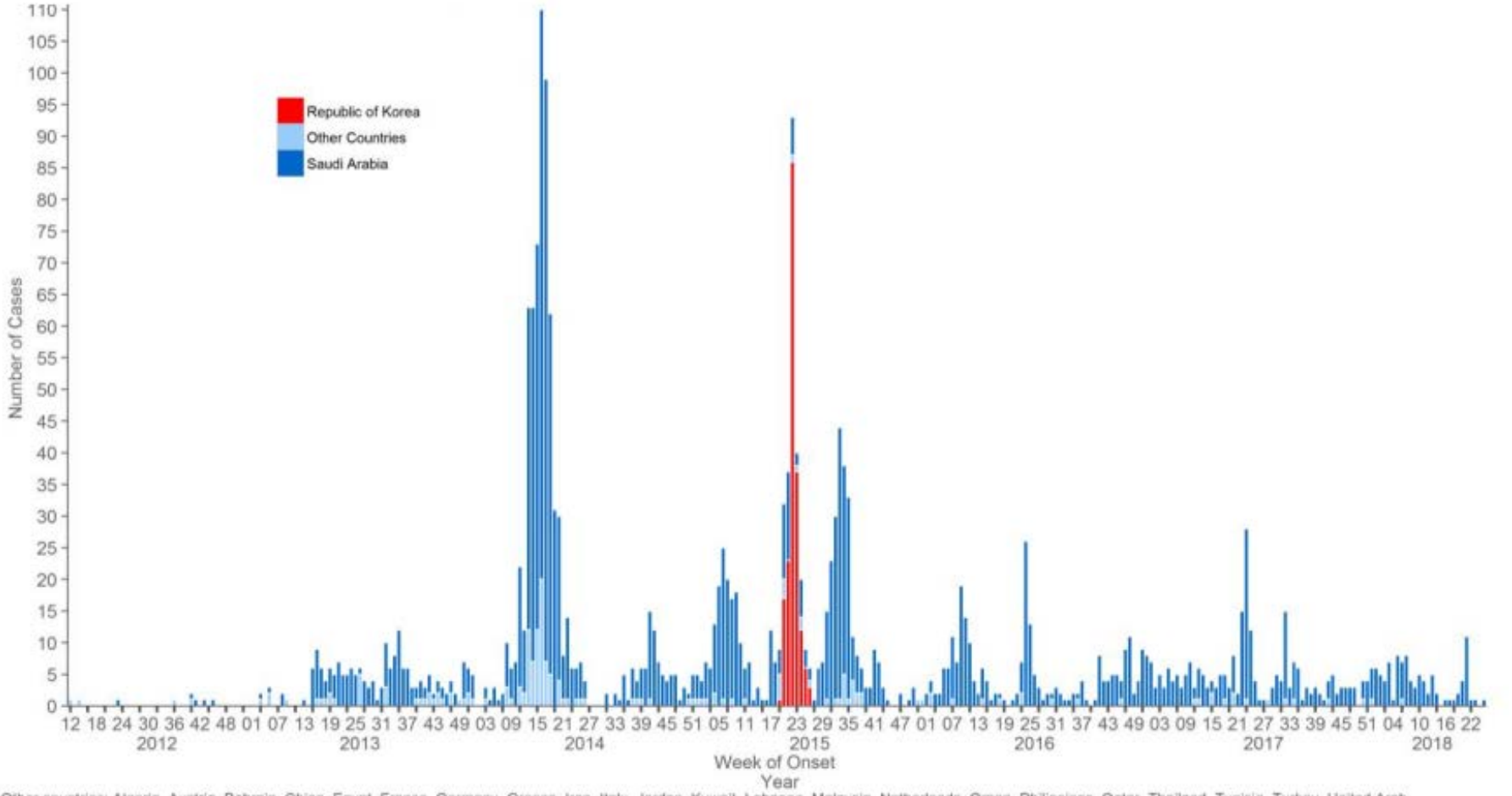
Primary cases described both direct and indirect contact with camels: 164 (47.1%) reported physical contact with the animals, and 155 (44.5%) reported contact with products derived from camels, usually unpasteurized camel milk.

"... further understanding the geographic scope of MERS-CoV circulation in dromedaries, and limiting direct and indirect contact with infected dromedaries, remains important for reducing zoonotic transmission of MERS-CoV," the authors concluded.

Aug 13 *Viruses* study

World Health Organization

Middle East respiratory syndrome coronavirus (MERS-CoV) Summary of Current Situation August 2018



Other countries: Algeria, Austria, Bahrain, China, Egypt, France, Germany, Greece, Iran, Italy, Jordan, Kuwait, Lebanon, Malaysia, Netherlands, Oman, Philippines, Qatar, Thailand, Tunisia, Turkey, United Arab Emirates, United Kingdom, United States of America, Yemen

Please note that the underlying data is subject to change as the investigations around cases are ongoing. Onset date estimated if not available. Source: WHO

Figure 1. Epidemic curve of MERS-CoV human cases* as of 30 June 2018

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Praise For The Global HIV Program That Trump Wants To Cut

July 25, 2018 · 5:56 PM ET

The 22nd annual International AIDS Conference is currently underway in Amsterdam. And several studies are looking at the U.S. government's largest foreign HIV program: the President's Emergency Plan for AIDS Relief, or PEPFAR.

The multi-billion dollar program to combat HIV and AIDS globally has been slated for cuts by the Trump administration. But researchers and African health officials credit the program started by President George W. Bush with helping to change the trajectory of the AIDS epidemic.

Bernard Haufiku, the current minister of health for Namibia, says that for his small southern African nation, the impact of AIDS has been enormous.

"Apart from the human life that has been lost, it eroded our economy. It invaded our social fabric," Haufiku says. "There are orphans because parents passed away. And now we are spending on health so much that we could have spent on other development projects."

GOATS AND SODA

Bill Gates Predicts 'What's At Stake' With Proposed Trump Foreign Aid Cuts

University of Minnesota

CIDRAP Center for Infectious Disease Research and Policy

CDC reports tripling of vector-borne diseases since 2004

Filed Under: Tick-borne Disease; Zika; Chikungunya

Stephanie Soucheray | News Reporter | CIDRAP News | May 01, 2018

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

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

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

"Zika, West Nile, Lyme, and chikungunya [are] making a lot of people sick." said new CDC Director Robert Redfield, MD, in a press conference. "These vector-borne diseases are moving into new parts of the country, and international travel and commerce is also contributing to the increase."

CDC / Amanda Loftis, William Nicholson, Will Reeves, Chris Paddock

The New York Times

Lyme Disease Is Spreading Fast. Why Isn't There a Vaccine?

By Karen Zraick

Aug. 14, 2018

We've all heard the advice about avoiding Lyme disease. If you walk through wooded or grassy areas where it's prevalent, you should use insect repellent. Cover exposed skin. Check yourself thoroughly once you return home, and take a shower. If you see a tick, pluck it off your skin with tweezers. Look out for a bull's eye-shaped rash and flulike symptoms in the summer.

About 30,000 cases of Lyme disease are reported to the Centers for Disease Control and Prevention each year, making it the most commonly reported vector-borne illness in the United States. That number has tripled over the last 20 years. And experts estimate that the actual number of cases — not just those that happen to be reported to the agency — is more like 300,000 per year.

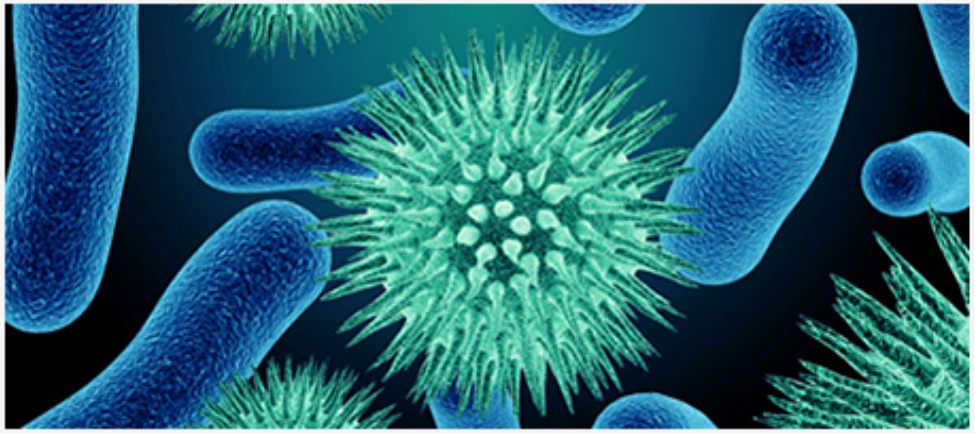
If Lyme has become so common, why isn't there a vaccine for it? Well, here's something you may not know: There used to be one, but it was taken off the market more than 15 years ago. And there's only one new vaccine candidate in the pipeline.

"Clearly, the problem is getting worse," said Dr. Paul Mead, a top scientist at the C.D.C. "For years, we have been advocating that people use repellents, do tick checks, spray their yards. That remains good to do, but it's not enough."

World Health Organization

R&D Blueprint

List of Blueprint priority diseases



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

Revised list of priority diseases, January 2017

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

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WHO Roadmap Development

Development of Roadmaps for Priority Pathogens of Concern

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

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

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

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

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CIDRAP Leadership Forum

3rd Annual Meeting

Minneapolis, MN
McNamara Center
Oct 9 + 10 2018

CIDRAP Leadership Forum | 2018 Annual Meeting
AGENDA

Tuesday October 9th (UMN McNamara Alumni Center - Ski-U-Mah Room)

Time	Event
5:00pm - 5:15pm	Registration
5:15pm – 5:30pm	Welcome and introductions (**Michael Osterholm**)
5:30pm – 6:30pm	Overview and situational update, including Q & A **(Michael Osterholm**)
6:30pm – 6:40pm	Day 1 Wrap up (**Michael Osterholm**)
6:40pm – 7:30pm	Reception for all members (optional)

Wednesday October 10th (UMN McNamara Alumni Center - Ski-U-Mah Room))

Time	Event
8:15am - 8:30am	Breakfast and registration
8:30am – 8:45am	Morning remarks (**Michael Osterholm**)
8:45am – 9:45am	Presentation #1 **(TBD)**
9:45am – 10:45am	Presentation #2 **(TBD)**
10:45am – 11:00am	Break
11:00am – 12:15pm	Panel and audience discussion
12:15pm – 1:15pm	Lunch
1:15pm - 2:45pm	Presentation #3 **(TBD)**
2:45pm – 3:00pm	Break
3:00pm – 4:15pm	Presentation #4 **(TBD)** or small group discussion
4:15pm – 4:30pm	Discussion of future table top exercise (**Michael Osterholm**)
4:30pm – 4:45pm	Day 2 Wrap up and end of event (**Michael Osterholm**)

Questions, Comments and Discussion

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CIDRAP Leadership Forum
Infectious Disease BRIEFING

August 22nd, 2018

Thank you for attending!