CIDRAP Leadership Forum
Infectious Disease BRIEFING

August 7th, 2019
HOT TOPICS
1. Ebola
2. Measles
3. Chronic Wasting Disease (CWD)
4. Cyclospora outbreak

UPDATES
5. Antimicrobial Resistance
6. Influenza
7. Polio
8. Acute Flaccid Myelitis (AFM)
9. MERS
10. Cholera
11. Vector-borne disease
12. Lyme disease and bioweapons
13. Other
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Figure 2: Geographical distribution of confirmed and probable Ebola virus disease cases by health area, North Kivu and Ituri provinces, Democratic Republic of the Congo, 28 July 2019
Figure 1: Confirmed and probable Ebola virus disease cases by week of illness onset, as of 28 July 2019
Uganda confirms first Ebola case linked to DRC outbreak

A 5-year-old boy in Uganda has been diagnosed as having Ebola, the first case of the deadly disease in that country or any other nation linked to an ongoing outbreak in the Democratic Republic of the Congo (DRC).

The patient and his family arrived in Uganda on Jun 10 through the Bwera Border post and sought medical care at Kagando hospital where health workers identified Ebola as a possible cause of illness, the World Health Organization (WHO) said in a statement today.

The child is currently receiving supportive care at the Bwera Ebola Treatment Unit, and all contacts are being followed.

**Two contacts have symptoms**

On Twitter, Jane Ruth Aceng, MD, the minister of health for Uganda, posted a statement on the case, describing the boy’s mother as being Congolese, and having recently taken care of the boy’s grandfather in the DRC. The grandfather died from Ebola in Mabalako, one of the DRC’s current hot spots, the statement said.
Uganda has 2 more Ebola cases as WHO reconvenes experts

In quickly evolving developments today in an Ebola outbreak that now straddles two countries, Uganda’s health ministry reported two more infections—both involving family members of the imported case-patient reported yesterday—and the World Health Organization (WHO) announced that it would reconvene its emergency committee on Jun 14.

Meanwhile, the US Centers for Disease Control and Prevention (CDC) today announced it has activated its emergency operations center (EOC) to support efforts to battle the DRC’s Ebola outbreak, and the Democratic Republic of the Congo (DRC) yesterday reported nine more cases.

Two of boy’s family members infected

The two newly confirmed cases in Uganda are both part of the family from the DRC that was stopped at a health checkpoint at the Ugandan border, some of whom escaped to Uganda. Health officials reported yesterday that they detected the virus in one of the them, a 5-year-old boy.

In its statement today, Uganda’s health ministry said the boy died this morning.
Ebola outbreak in DRC, Uganda tops 2,100 cases

The Democratic Republic of the Congo (DRC) confirmed 21 more Ebola cases today, which will raise the outbreak total to 2,108 cases in a 10-month-long crisis that now includes 3 cases in neighboring Uganda.

Included in today's tally are five repatriated Congolese patients who were identified in Uganda earlier this week, when a 5-year-old boy became the first person in Uganda to be diagnosed as having Ebola during this outbreak. The boy died yesterday from the disease, as has his grandmother.

An infection in his 3-year-old brother brings the cluster to eight cases, all of which are now classified as cases in Mabalako health zone by DRC health officials.

The boy—whose grandfather died of Ebola in Mabalako—and several members of his family were identified at border crossings between the two countries and initially seen and treated in Kasese, Uganda, about 140 kilometers (85 miles) from Beni, DRC.

The DRC today also confirmed 6 new Ebola deaths, bringing the outbreak fatality total to 1,411. Officials are tracking 335 suspected cases.
WHO experts again say Ebola not global health emergency

A World Health Organization (WHO) emergency committee convened in the wake of imported Ebola cases in Uganda said today that the situation still doesn’t warrant a public health emergency of international concern (PHEIC), but they did express serious worries about the threat to the Democratic Republic of the Congo (DRC) and its neighbors and over a lack of funds.

In a statement released at the end of its deliberations—the third time the group has met since the outbreak began last August—the committee said the cluster of cases in Uganda isn’t surprising, and the country’s rapid response underscores the importance of preparedness in neighboring countries.

Though the outbreak is a health emergency in the DRC and the immediate region, it doesn’t meet all three criteria for a PHEIC under the International Health Regulations (IHR). And the experts say that formal temporary recommendations under the IHR would not enhance current response operations.
Ebola cases top 2,180 as Uganda OKs experimental therapies

As expected, the Democratic Republic of the Congo (DRC) yesterday announced 20 new cases, part of an uptick in activity and transmission that continues in several smaller hot spots, and it added 13 cases today, for a total of 2,181.

In developments in Uganda, where three imported cases were recently detected, health officials cleared the use of three experimental treatments so that any other cases confirmed in the country can receive similar Ebola care as in the DRC.

Mabalako emerges as hot spot
Today DRC officials said 4 new cases were in Mandima, 3 in Mabalako, 2 in Butembo, and 1 each in Katwa, Kyondo, Beni, and Kalunguta.
Ebola hot spot shifts amid urgent call for funds

Over the last 2 days, the number of people infected in the Democratic Republic of the Congo (DRC) Ebola outbreak rose by 23, and though cases have tapered off some in the main epicenters, the World Health Organization (WHO) today reported a worrying spike in activity in Mabalako, one of the smaller hot spots.

In other developments, WHO Director-General Tedros Adhanom Ghebreyesus, PhD, who just returned from his ninth trip the DRC since the outbreak began, called for bipartisan political cooperation in the DRC to end the outbreak and appealed to the global community for more money to support the response.

Cases top 2,200
Yesterday the DRC’s health ministry reported 9 new cases, and in an update today it reported 14 new illnesses: 8 in Beni, 7 in Mabalako, 3 in Kalunguta, 2 in Mandima, and 1 each in Alimbongo, Katwa, and Musienene. The new confirmations raise the outbreak total to 2,204 cases. Health officials are still investigating 349 suspected infections.
DRC Ebola deaths top 1,500; more cases in Ituri province capital

The number of new Ebola cases reported daily by the Democratic Republic of the Congo (DRC) continued its steady rise over the past 3 days, with 35 new cases reported, 2 of them in Bunia, the capital of Ituri province, which is home to about 366,000 people.

**Bunia cases draw health minister visit**

The resurgence of cases in Bunia—the second-largest city in the eastern DRC—follows the detection of an imported case. Over the weekend, DRC health minister Oly Ilunga Kalenga, MD, visited the city to meet with provincial officials to assess the status of the response in the area, according to the DRC health ministry’s update yesterday.

Last week, the health ministry reported a case in Bunia, involving a contact of an earlier case in Rwampara health zone who had refused follow-up and vaccination. In March, the city reported an infection in a 6-month-old baby. The recent cases bring the total in the city to four.
Ebola hot spots shift as pattern of spread fluctuates

In the past 10 days, officials have recorded nearly 100 new cases of Ebola in the ongoing outbreak in the Democratic Republic of the Congo (DRC), a sign of fluctuating transmission throughout North Kivu and Ituri provinces, the World Health Organization (WHO) said in an update.

Today, the DRC will likely confirm another 18 new cases, which will raise the outbreak total to 2,265. As of yesterday, there were 1,510 deaths, and 269 suspected cases are still being investigated.

Some spots heating up

"New [Ebola] cases continue to occur in North Kivu and Ituri provinces, with fluctuating transmission intensity," the WHO's African regional official said in a bulletin released yesterday. "While the disease trend has reduced in previous hotspots such as Butembo and Katwa, the reverse is happening in areas that previously had low transmission rates, such as Mabalako, Lubero and Mandima."
Ebola total climbs to 2,277 amid security, reintroduction worries

The pace of new Ebola cases in the Democratic Republic of Congo (DRC) held steady last week, but health officials are worried about activity rising in areas where transmission was low and new security incidents in several locations that threaten response operations.

Meanwhile, the DRC health ministry yesterday reported 18 new cases, and the World Health Organization (WHO) online Ebola dashboard today reflects an additional 12 cases, which would boost the outbreak total to 2,277.

Security incidents, cases in earlier hot spots

In its weekly situation report on the outbreak, the WHO said Ebola activity continues with steady and sustained intensity, with security incidents returning to Beni—one of the outbreak's former major hot spots—and armed group movements in Musienene and Manguredjipa impeding access to a health area next to Mabalako's hardest-hit area.
Donors look to retool response as Ebola outbreak grows

As Ebola cases continue to pile up in the Democratic Republic of the Congo (DRC)—with 12 more confirmed yesterday and likely 7 more today—a USAID official said four major donors have jump-started a new "strategic plan" for coordinating response efforts.

To underscore the heavy toll the outbreak has caused, among its 2,284 cases, as noted on the World Health Organization Ebola dashboard today, are 125 infected healthcare workers, including 2 new ones, DRC officials said.

Leadership 'reset'

Tim Ziemer, a senior deputy assistant administrator with USAID (US Agency for International Development), said, "We have been teaming up with our international partners: the World Bank, the U.K. government, and the E.U.," according to Washington, D.C.–based Devex, the media platform of the global development community.
Ebola cases near 2,300 as virus returns to earlier hot spots

The World Health Organization (WHO) yesterday in its weekly profile of Ebola activity aired growing concern about case spikes in two Democratic Republic of the Congo (DRC) areas—Mabalako and Mandima—that were hit hard when the outbreak began last August.

Meanwhile, the DRC health ministry yesterday reported 7 new cases, and the WHO’s online Ebola dashboard says there will likely be 13 more today, which would lift the overall outbreak total to 2,297 cases.

Several recurrence worries
The WHO said new infections over the past week continued at a stable pace, as security incidents continued to plague the response. Operations in Beni have resumed after 2 days of disruptions, but violent threats against health workers continue in Musienene, and security problems in one area of Manguredjipa health zone suspended activities there.
Ebola outbreak reaches 2,338 cases among violence in Ituri

Over the weekend and through today, the Democratic Republic of the Congo’s (DRC) ministry of health recorded 41 more cases of the deadly disease, including another case detected in a vaccinated health worker.

The continued spread of the outbreak in North Kivu and Ituri provinces has been marked in recent days by increased cases in Beni, Mabalako, and Masereka. These are the towns and villages where the outbreak began 11 months ago. The health worker who was infected is the outbreak’s 126th and was also from Mabalako.

Ethnic violence
Late last week, the United Nations (UN) voiced concerns about ongoing massacres and ethnic violence in the DRC's Ituri province, according to UN News.
Ebola case identified near South Sudan border

An Ebola case-patient has been identified just 70 kilometers (43 miles) from the Democratic Republic of the Congo’s (DRC) border with South Sudan, the Associate Press (AP) reported today. The story cited South Sudan’s health ministry as the source of information.

Officials said the case is a contact of a known Ebola patient from Beni.

Last month, a 5-year-old boy found in Uganda became the first international case of Ebola in this 11-month long outbreak that has otherwise stayed confined to the DRC’s North Kivu and Ituri provinces. Uganda had in place for months an extensive surveillance and response protocol for Ebola border crossings, but officials in South Sudan told the AP they were not as prepared for the virus.
More violence as DRC officials report 51 Ebola cases in recent days

The Democratic Republic of the Congo (DRC) recorded at least 51 new cases of the Ebola virus since the beginning of the week, while two screening tents in Kasese, a Ugandan village that shares a border with the DRC, were burned after Ugandan workers detected a high fever in a Congolese boy trying to gain entry into Uganda.

Since the outbreak started nearly a year ago in North Kivu and Ituri provinces, DRC, neighboring countries have screened travelers through hundreds of points-of-entry (POE) screening sites.

On Jul 3, officials quoted in the Daily Monitor, a Ugandan newspaper, said the fires started after a teenage boy entering Uganda from the DRC tested positive for a high fever and was taken to a hospital in DRC.
As Ebola rages on, DRC sees more displaced people

As the Democratic Republic of the Congo (DRC) approaches a year of active Ebola transmission in North Kivu and Ituri provinces and case counts climb each day, renewed violence in the region has led to a sharp increase in displaced persons, according to the International Organization for Migration (IOM).

"Humanitarian actors urgently need access to provide assistance and prevent further massive displacement. We are increasingly concerned that rising displacement creates fertile ground for the spread of disease—most worryingly Ebola—in Ituri province," said Fabien Sambussy, IOM chief of mission in the DRC.

The displacement stems from political violence in the region, which the IOM said had been mostly controlled for the past 16 years. In recent weeks, 160 people have been killed in conflicts, and an estimated 400,000 persons are currently displaced throughout Ituri province.
Three more health workers infected in Ebola outbreak

The new cases raise the total number of healthcare workers infected in this outbreak to 131, including 41 deaths. Health workers make up 5% of all the victims of this outbreak, according to DRC data. The World Health Organization (WHO), however, in its latest Disease Outbreak News update, puts the number of infected health workers at 132.

Nurses bear brunt of illness
The WHO also provided new epidemiologic details on infected health workers.

"Of the 128 health workers with information available, the greatest proportion is among health workers at health posts [poste de santé] (20%, n = 26) and private health facilities (35%, n = 45). Three health workers—two of them vaccinated—are among the latest Ebola cases, according to yesterday's update from the ministry of health in the Democratic Republic of the Congo (DRC).
DRC to stick with just 1 vaccine in Ebola outbreak

Yesterday the Democratic Republic of the Congo (DRC) said that ministry of health and government officials have agreed that Merck’s rVSV-ZEBOV is the only vaccine that will be used during the current, ever-growing Ebola outbreak in North Kivu and Ituri provinces.

"Due to the lack of sufficient scientific evidence on the efficacy and safety of other vaccines as well as the risk of confusion among the population, it was decided that no clinical vaccine trials will be allowed throughout the country," the ministry said in its daily update yesterday.

As of yesterday, a total of 158,830 people have been vaccinated with rVSV-ZEBOV, which clinical data suggest has as high as a 97.5% effectiveness rate against the virus.

The vaccine has been given in a ring vaccination strategy, which follows case contacts in concentric circles. The ring strategy was first used during the 2014-2016 West African outbreak.
Ebola spread to Goma triggers new emergency talks, cases top 2,500

Amid two new worrying developments—the spread of Ebola to the provincial capital Goma and the murders of two response workers in Beni—experts and potential donors took part in a high-level meeting in Geneva today to assess current conditions and build more support for the Democratic Republic of Congo’s (DRC) outbreak.

Based on the spread of the virus to Goma, a major transit hub and home to about 1 million people, World Health Organization (WHO) Secretary-General Tedros Adhanom Ghebreyesus, PhD, said he will reconvene the Ebola emergency committee as soon as possible to consider if developments warrant a public health emergency declaration. The committee has denied the designation three separate times during this outbreak.

In other developments, over the weekend the DRC health ministry reported 27 new cases and today is expected to confirm 12 more.
WHO will take up Ebola emergency declaration question for a fourth time

Tomorrow Tedros Adhanom Ghebreyesus, PhD, the director-general for the World Health Organization (WHO) will reconvene the Emergency Committee under the International Health Regulations to consider yet again if the current Ebola outbreak in the Democratic Republic of the Congo (DRC) is a PHEIC (public health emergency of international concern).

The meeting, which will take place in Geneva at WHO headquarters, is the fourth such meeting held during this outbreak and was triggered by the detection of the first case in Goma, the heavily populated capital of North Kivu province.

Despite steady transmission, acts of violence against response workers, and community resistance, the Emergency Committee has said the outbreak is fairly contained in North Kivu and Ituri province, and is not a global threat. Also, many within the DRC have argued a PHEIC designation would further harm the DRC's already fragile economy by inhibiting trade.
WHO declares public health emergency over DRC Ebola

Based on the recommendation of a World Health Organization (WHO) emergency committee today, the group’s director-general, Tedros Adhanom Ghebreyesus, PhD, declared that the Democratic Republic of the Congo’s Ebola outbreak is a public health emergency of international concern (PHEIC).

The declaration, done under International Health Regulations, comes just days after the first Ebola case was detected in Goma, a city of about 2 million that straddles the Rwanda border and is the capital North Kivu province, the area hit hardest by the outbreak. Before today, the Ebola emergency committee had met three times—most recently in June after imported cases were detected in Uganda—deciding each previous time that conditions didn’t constitute a PHEIC.

**Concerns about rising regional threat**
Health officials have been battling the outbreak for nearly a year amid several setbacks triggered by violence against response workers.
Ebola cases climb in Beni as groups laud emergency decision

One day after the World Health Organization (WHO) called the ongoing Ebola crisis in the eastern reaches of the Democratic Republic of the Congo (DRC) a public health emergency of international concern (PHEIC), DRC officials said they accept the designation — with some reservations.

"The ministry hopes that this decision is not the result of the many pressures from different stakeholder groups who wanted to use this statement as an opportunity to raise funds for humanitarian actors despite the potentially harmful and unforeseen consequences for the affected communities that depend on them," the DRC ministry of health said yesterday in their daily update on the outbreak.

Officials also said the DRC government had been and remained to be transparent about how funding was being used in the outbreak, and that they hope any aid group that receives an increase in funding because of the PHEIC would also be transparent about spending.
Daily double-digit Ebola cases continue in DRC

The number of people infected with Ebola continues to rise steadily in the Democratic Republic of the Congo’s (DRC’s) outbreak zone, according to reports yesterday and today, with one more healthcare worker sickened by the virus and the outbreak total rising to 2,546 cases.

**New health worker infection**

Of 10 new cases reported in the health ministry’s update yesterday, 4 were in Beni, a former Ebola epicenter that has become a hot spot again. The others were in Butembo (2), Mandima (2), Vuhovi (1), and Mutwanga (1). Outbreak responders are still investigating 402 suspected cases.

One of the new illnesses involves a vaccinated health worker from Mandima. So far, 137 healthcare workers have been infected in the outbreak, 41 of them fatally.

Today the World Health Organization (WHO) online Ebola dashboard reflects 14 more cases, which would push the outbreak total to 2,546.
DRC health minister resigns after government takes Ebola reins

Filed Under: Ebola; VHF
Lisa Schnirring | News Editor | CIDRAP News | Jul 22, 2019

In a development likely to further roil the Democratic Republic of the Congo's (DRC's) already difficult battle against Ebola, the country's health minister resigned today following the president's decision over the weekend to put outbreak leadership in the hands of a government expert committee.

In a statement released on Twitter on Jul 20, the DRC president's cabinet director said the Ebola outbreak response is now under the direct supervision of the president and a multisectoral expert committee led by Jean Jacques Muyembe Tamfum, PhD, a virologist who leads the DRC's National Institute for Biomedical Research.

The move happens as the country confirmed 46 new cases in recent days.
Ebola region rocked by more violence as new funds announced

Filed Under: Ebola; VHF
Stephanie Soucheray | News Reporter | CIDRAP News | Jul 24, 2019

Yesterday the Allied Democratic Forces (ADF), a rebel group, attacked two villages near Beni, killing 12 people who live in the heart of the Democratic Republic of the Congo's (DRC's) ongoing Ebola outbreak.

The terrorists killed nine in Eringeti and three in Oicha, according to Reuters. ADF has not publically pledged allegiance to the Islamic state (ISIL), but that hasn't stopped ISIL from claiming responsibility for the attacks.

The violence comes as two major donors announced added funding of response efforts.

Series of violence
The attacks are just the latest in a series of violent offensives launched by militant groups in the DRC's North Kivu and Ituri provinces. The provinces are home to more than 1 million displaced persons and dozens of paramilitary and terrorist groups. Throughout the year-long battle against Ebola, violent attacks have shortly been followed by a spike in cases as the attacks temporarily halt disease surveillance and vaccination efforts.
Beni Ebola activity tops first wave as outbreak grows by 8 cases

A second wave of Ebola activity in the Democratic Republic of the Congo (DRC) city of Beni has now topped its first wave, and the area has become a source of spread to other areas, the World Health Organization (WHO) said in its weekly snapshot of outbreak activity today.

Meanwhile, the DRC's total grew by 8 more cases, according to a WHO online dashboard, which puts the overall total at 2,620 cases, 1,756 of them fatal. So far the DRC president's office, which earlier this week shifted outbreak response activities to its technical group, has not issued any detailed daily updates following the resignation of the country's health minister.

Infections continue amid violence
In its update today, the WHO said sustained local transmission in the outbreak continues with many cases, half of them in the past 3 weeks in Beni health zone. Other recent hot spots are Mandima, Mabalako, and Katwa.
WHO, preparing for the worst, makes plans for reduced doses of Ebola vaccine

By HELEN BRANSWELL @HelenBranswell / JULY 26, 2019

The World Health Organization is drawing up plans to use reduced doses of Ebola vaccine in the Democratic Republic of the Congo in the event that supplies in the long-running outbreak run short, according to the head of the WHO’s health emergencies programs.

There is currently no shortage of the vaccine — half a million doses are available, Dr. Mike Ryan said in an interview with STAT. If the outbreak continues at the current pace, he said, that will be enough to see the effort through to early next year, when the manufacturer, Merck, will have new stock available.

But if the outbreak were to deteriorate substantially, it’s conceivable supplies of the experimental vaccine would be tapped out later this year, Ryan said, stressing the WHO has to plan for that possibility: “We have to be responsible.”
DRC sees cases surge as Ebola outbreak hits 1-year mark

This week, the Ebola outbreak in the Democratic Republic of the Congo's (DRC's) North Kivu and Ituri provinces will hit the 1-year anniversary of its start, but a surge of cases over the weekend gives little hope the outbreak is close to contained.

Since the end of last week, the DRC has recorded 41 more cases of the deadly virus, including 12 cases confirmed today. According to the World Health Organization's (WHO's) online Ebola dashboard, the outbreak total now stands at 2,671 cases. The dashboard also recorded a total of 1,782 deaths, an increase in 20 fatalities over the weekend.

So far the DRC president’s office, which last week shifted outbreak response activities to its technical group, has not issued any detailed daily updates following the resignation of the country’s health minister.
Second Ebola case detected in city of Goma, DRC

Health officials in the Democratic Republic of the Congo (DRC) today announced the detection of a second Ebola case in Goma, involving a 46-year-old man who had traveled from a community near Bunia in Ituri province.

Reports from DRC journalists and international media outlets said the case was announced at a media briefing where the head of a presidential expert committee, Jean Jacques Muyembe Tamfum, PhD, shared details about the development. The country’s president put the committee in charge of outbreak management on Jul 20, prompting the DRC’s health minister to resign.

The infected man, a father of 10 children, is from Mongbwalu, about 43 miles from Bunia, the capital of Ituri province, according to a Tweet from DRC journalist Cedric Ebondo Mulumb.

Goma and Bunia are about 347 miles apart, with road travel taking about 13 hours.
On eve of 1-year mark, WHO calls Ebola in DRC 'relentless'

Employing an effective vaccine, conducting extensive surveillance, and building community trust have all gone a long way in limiting the spread of Ebola in the Democratic Republic of the Congo (DRC). But 1 year after the first cases were identified in North Kivu and Ituri provinces, experts from the World Health Organization (WHO) said today at a press conference that the fight against the virus must continue.

WHO officials called the disease "relentless and devastating."

"This is not a milestone we ever wanted to mark," Matshidiso Moeti, MBBS, the WHO Regional Director for Africa said. "But this outbreak is one with unprecedented challenges." Moeti said one challenge has been ongoing violence: In 1 year, armed rebels and other have launched 198 attacks on healthcare workers and facilities.
Two new cases in Goma as DRC Ebola outbreak reaches 1-year mark

Two more Ebola cases were confirmed in the provincial capital city of Goma today, marking the first active transmission there, a development that prompted reports of a border closure with Rwanda.

The quickly evolving developments come on the 1-year anniversary of the Democratic Republic of Congo's outbreak declaration.

**New cases are man's family members**

Both of the new cases in Goma in the Democratic Republic of Congo's (DRC's) hard-hit North Kivu province are family members of a man recently identified as the city's second case, the Associated Press (AP) reported today, citing Ebola response workers. One is the man's 1-year-old daughter, and the other case—confirmed shortly after—is his wife.
Ebola reports show more health workers infected

Yesterday the Democratic of the Congo (DRC) resumed publishing daily reports on the country’s ongoing Ebola outbreak, adding more details about the response in Goma and noting that 149 health workers have now been infected with the deadly virus.

The disruption in daily reports came as the Ebola outbreak response leadership shifted from former minister of health, Oly Ilunga, MD, to a technical group appointed by the president’s office. As before, the daily reports are published under the banner of the DRC’s health ministry.

**Steady stream of health worker infections continues**

The 149 infections in the latest report is 9 more health workers than the 140 reported on Jul 23, the last date of daily updates until they resumed on Aug 1. The latest health care workers include a case in Mambasa (non-vaccinated), Vuhovi (vaccinated), and Beni (vaccinated). Health workers represent 5% of Ebola cases in this outbreak, and 41 have died from their infections.
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DRC declares measles outbreak after 1,500 deaths

Alongside a tough battle against Ebola, the Democratic Republic of the Congo (DRC) health ministry yesterday declared a measles outbreak, spanning 23 of the country's 26 provinces and piling up 87,000 suspected cases since the first of the year.

In a related development, Doctors Without Borders (MSF) today said massive efforts are needed to curb the DRC's quickly spreading measles outbreak, its worst since 2012. MSF said the disease has claimed more than 1,500 lives.

Familiar response challenges
In its statement yesterday, the DRC health ministry said cases this year are up 700% compared to the same period in 2018. Of the suspected cases, tests so far have confirmed 677 infections in 83 health zones, and officials put the fatality estimate at 1.8%.
US measles cases reach 1,109 as studies point to early vaccination

Today the US Centers for Disease Control and Prevention (CDC) recorded 14 more measles cases, raising the year's total number of cases to 1,109, as two studies conducted in other nations highlight some advantages of early vaccination of babies.

Twenty-eight states have reported cases this year, but most cases have been part of large outbreaks. The CDC is tracking four ongoing outbreaks (3 or more related cases) in New York’s Rockland County; New York City; Butte County, California; and Washington state.

"These outbreaks are linked to travelers who brought measles back from other countries such as Israel, Ukraine, and the Philippines, where large measles outbreaks are occurring," the CDC said.

Last year, the CDC recorded 372 measles cases, and officials confirmed 120 in 2017. This year's case count is the highest in the United States since 1992, and since measles was declared eliminated in 2000.
US measles total grows by 16 cases, to 1,164 total
Sixteen more measles cases were reported to the US Centers for Disease Control and Prevention (CDC) last week, lifting the total for 2019 to 1,164. The number of affected states held steady at 30, according to the CDC’s regular weekly update today.

The number of weekly cases is down a bit from the 25 cases reported in the previous week. The agency is still monitoring five outbreaks of three more related cases, which include two separate ones in New York (Brooklyn and Rockland County); one in Washington state; one in El Paso, Texas; and one in Los Angeles County, California.

In New York’s Rockland County, health officials on Jul 25 announced the end of a measles emergency, an event that lasted 122 days. In a statement, the department said the number of new cases has decreased steadily since May and that vaccination numbers have climbed, with 25,876 given since October 2018. In its latest measles outbreak update, officials reported 284 confirmed cases, reflecting 2 more illnesses compared with the previous week.

Meanwhile, health officials in New York City reported 637 confirmed cases as of Jul 22, an increase of 14 since its last update. No new cases have been reported in an outbreak that began in May affecting three Washington state counties, and Los Angeles County has reported 2 more cases, bringing its outbreak total to 18, of which 5 are part of a second outbreak in the region that is still ongoing. And finally, 1 more case has been reported in an outbreak in El Paso, bringing the total to 6, according to a Jul 24 update.
Measles Cases in 2019

From January 1 to August 1, 2019, 1,172** individual cases of measles have been confirmed in 30 states. This is an increase of 8 cases from the previous week. This is the greatest number of cases reported in the U.S. since 1992 and since measles was declared eliminated in 2000.

- Measles can cause serious complications. As of August 1, 2019, 124 of the people who got measles this year were hospitalized, and 64 reported having complications, including pneumonia and encephalitis.
- The majority of cases are among people who were not vaccinated against measles.
- More than 75% of the cases this year are linked to outbreaks in New York and New York City. Measles is more likely to spread and cause outbreaks in U.S. communities where groups of people are unvaccinated.
- All measles cases this year have been caused by measles wild-type D8 or B3.
Number of Measles Cases Reported by Year

2010-2019** (as of August 1, 2019)

Year

2010: 63
2012: 55
2014: 667
2016: 86
2018: 1172
2019: 372

Number of Cases
Measles Cases Tick Up Again

Thirty states have seen measles cases so far this year.

By Gaby Galvin, Staff Writer  Aug. 5, 2019, at 11:07 a.m.

There have been 1,172 measles cases in the U.S. this year as of Aug. 1, according to the latest update from the Centers for Disease Control and Prevention.

The new total – an increase of eight cases since the tally reported last week – represents the greatest number of measles cases in the U.S. in a single year since 1992. Measles was declared eliminated in the U.S. in 2000, but public health experts have warned the country could lose its elimination status if the number of cases continues to creep up.

As of Aug. 1, there had been 124 hospitalizations for measles, while 64 people reported complications like pneumonia and encephalitis, brain inflammation that can be fatal.
Measles case distribution by month and WHO Region (2015-2019)

Notes: Based on data received 2019-07 - Data Source: IVB Database - This is surveillance data, hence for the last month(s), the data may be incomplete.

2019-07-10
Number of Reported Measles Cases
(6M period)

<table>
<thead>
<tr>
<th>Country</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Madagascar</td>
<td>81836</td>
</tr>
<tr>
<td>Ukraine</td>
<td>60985</td>
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Notes: Based on data received 2019-07 - Surveillance data from 2018-12 to 2019-05 - * Countries with highest number of cases for the period **WHO classifies all suspected measles cases reported from India as measles clinically compatible if a specimen was not collected as per the algorithm for classification of suspected measles in the WHO VPD Surveillance Standards. Thus numbers might be different between what WHO reports and what India reports.
Figure 1. Number of measles cases by country, EU/EEA, May 2019 (n=1,905)

Number of measles cases, May 2019

- 0
- 1
- 10
- 100

Legend:
- No data
- EU/EEA Member States
- Other countries

Produced 27 Jun 2019 using ECDC map maker: https://emma.ecdc.europa.eu
HOT TOPICS
1. Ebola
2. Measles
3. Chronic Wasting Disease (CWD)
4. Cyclospora outbreak

UPDATES
5. Antimicrobial Resistance
6. Influenza
7. Polio
8. Acute Flaccid Myelitis (AFM)
9. MERS
10. Cholera
11. Vector-borne disease
12. Lyme disease and bioweapons
13. Other
Experts call for action on chronic wasting disease

Today in *mBio* a team of experts issued a new call to action, urging state and federal entities to immediately fund research and develop new diagnostic tests targeting chronic wasting disease, or CWD.

CWD is a prion disease that affects cervids—moose, deer, and elk—and has been found in animals in 26 states, Canada, Scandinavia, and South Korea. The animals, once infected with the misfolded protein, or prion, are highly infectious, and can excrete the prions into their environments. Infection results in neurologic degeneration and ultimately death.

So far, there is no evidence that CWD, which has expanded its US range in wild cervids, can cross species and infect humans, the way bovine spongiform encephalopathy (BSE), or "mad cow disease," another prion disease, did in the 1980s and 1990s. But for many prion researchers, even a small risk of interspecies spread is too much.

Michael T. Osterholm, PhD, MPH, director of the University of Minnesota's Center for Infectious Disease Research and Policy (CIDRAP), said the paper is the first attempt at a cohesive framework for understanding CWD in America.
Distribution of Chronic Wasting Disease in North America

- Gray: CWD in free-ranging populations
- Dark gray: Known distribution prior to 2000 (free-ranging)
- Yellow: CWD in captive facilities (depopulated)
- Red: CWD in captive facilities (current)

All locations are approximations based on best-available information.
Chronic Wasting Disease in Cervids: Implications for Prion Transmission to Humans and Other Animal Species

Michael T. Osterholm, Cory J. Anderson, Mark D. Zabel, Joni M. Scheffel, Kristine A. Moore, Brian S. Appleby

July/August 2019  Volume 10  Issue 4

ABSTRACT

Chronic wasting disease (CWD) is a prion-related transmissible spongiform encephalopathy of cervids, including deer, elk, reindeer, sika deer, and moose. CWD has been confirmed in at least 26 U.S. states, three Canadian provinces, South Korea, Finland, Norway, and Sweden, with a notable increase in the past 5 years. The continued geographic spread of this disease increases the frequency of exposure to CWD prions among cervids, humans, and other animal species. Since CWD is now an established wildlife disease in North America, proactive steps, where possible, should be taken to limit transmission of CWD among animals and reduce the potential for human exposure.
HOT TOPICS
1. Ebola
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12. Lyme disease and bioweapons
13. Other
Annual snapshot of foodborne illnesses shows Cyclospora spike

In its annual report summing up the latest trends with pathogens that are common sources of foodborne illness, the Centers for Disease Control and Prevention (CDC) said today that the incidence of most illnesses increased in 2018, especially *Cyclospora* infections.

A team from the CDC and partners in 10 states that are part of the FoodNet surveillance network looked at levels for 2018 and compared them with levels for 2015 through 2017. The pathogens they tracked included *Campylobacter, Cryptosporidium, Cyclospora, Listeria, Salmonella*, Shiga toxin-producing *Escherichia coli* (STEC), *Shigella, Vibrio*, and *Yersinia*. They published their findings today in the latest edition of *Morbidity and Mortality Weekly Report*.

In preliminary findings for 2018, the FoodNet system flagged 25,606 infections, 5,893 hospitalizations, and 120 deaths. They note that the incidence for most infections is rising, including *Campylobacter* and *Salmonella*. However, they added an important caveat that some of the increase might be partly due to the increased use of culture-independent diagnostic tests (CIDTs), which can identify pathogens not regularly found by other testing methods — complicating data interpretation.
Multistate outbreak tied to basil part of Cyclospora surge

Federal health officials are investigating a *Cyclospora* outbreak linked to fresh basil that has so far sickened 132 people in 11 states, part of a steep increase at the national level.

The past several summers have seen rises in domestically acquired infections from the parasite *Cyclospora cayetanensis*, which is spread by eating food or drinking water contaminated with feces. Profuse diarrhea that can last weeks to months is a hallmark of *Cyclospora* infection.

Outbreaks are typically linked to imported fresh produce, such as raspberries, basil, cilantro, and snow peas.

**Multiple clusters fuel steep rise**

In an update yesterday, the US Centers for Disease Control and Prevention (CDC) said that, as of Jul 23, officials have reported 580 lab-confirmed cases in 30 states, the District of Columbia, and New York City, up sharply from 23 cases in 10 states and New York City reported at the end of June.
Cancun parasite outbreak: Contaminated food making tourists ill in Mexican holiday resorts

Friday 02 August 2019

British holidaymakers visiting Mexico are being warned about a brutal bug that is ravaging resorts in the country.

Fourteen tourists staying at luxury hotels in the Riviera Maya resort and Cancun have experienced crippling stomach pains, sickness and diarrhoea due to an illness that is passed on through contaminated food.

The cause of the illness is the cyclospora cayetanensis parasite, which is transmitted by faeces coming into contact with water and food. This the fifth year in a row that the parasite has infected tourists in the region.
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12. Lyme disease and bioweapons
13. Other
Patients with feared superbug shed large amounts of it from their skin, study says

By HELEN BRANSWELL @HelenBranswell / JUNE 24, 2019

New research on a frightening new superbug confirms what scientists have both suspected and feared: Some hospitalized patients who carry the fungus shed large amounts of it from their skin, contaminating the environment in which they are being treated and leaving enough of it to infect others later on.

The bug, called Candida auris, is highly resistant to many existing antifungal drugs. It’s also resistant to regular cleaning methods, making hospital outbreaks incredibly difficult to stop.

C. auris acts more like bacteria than fungi, which do not normally cause hospital outbreaks. Its relatively recent emergence as a hospital-acquired infection has researchers scrambling to find out even the most basic information about it, like how it moves from patient to patient.
The superbug Candida auris is giving rise to warnings — and big questions

By HELEN BRANSWELL @HelenBranswell / JULY 23, 2019

What’s known about the fungus Candida auris confounds the scientists who study it, the doctors who struggle to treat the persistent infections it causes, and the infection control teams that endeavor to clear it from hospital rooms after infected patients leave.

But the list of what’s not known about this highly unusual fungus is longer still — and fascinating. Experts say there’s an urgent need for answers and for funding with which to generate them.

Candida auris was first spotted a decade ago in Japan, and more recently has been popping up in far-flung parts of the globe. The fungus doesn’t behave like a fungus. It causes outbreaks like a bacterium and is generally highly resistant to available antifungal drugs. It’s a growing problem, and a deeply concerning one.
Everyone agrees this superbug is a threat. Few are willing to fund research to stop it

By HELEN BRANSWELL @HelenBranswell / JULY 8, 2019

In the universe of scary drug-resistant pathogens that can kill, Candida auris is having a moment. The freaky fungus, which is behaving in ways scientists didn’t think fungi could act, has been garnering headlines because of its uncanny ability to resist multiple antifungal drugs and settle into hospital rooms so persistently it can take renovations to get rid of it.

But while concern about the superbug has grown exponentially in recent years, funding for research to stop it has not. Scientists who work in mycology — the study of fungi — say there is precious little money available to study Candida auris.

“Traditionally, mycology has been the ugly duckling of infectious diseases,” said Dr. Luis Ostrosky, professor of infectious diseases at McGovern Medical School at the University of Texas Health Science Center at Houston and director of its laboratory of mycology research.
Climate crisis might be behind the rise of mysterious superbug C. auris, study suggests

By Jen Christensen, CNN
① Updated 7:06 AM ET, Tue July 23, 2019

(CNN) — The climate crisis may be to blame for the mysterious spread of a multidrug-resistant superbug, Candida auris, according to a study published Tuesday.

Until recently, scientists considered it a mystery how C. auris popped up in more than 30 countries around the globe a decade after it was first discovered in 2009. It emerged simultaneously on three continents -- in India, Venezuela and South Africa -- between 2012 and 2015, each strain being genetically distinct.

The new study, published in the journal mBio, says this serious public health threat may be the first example of a new fungal disease emerging because of the climate crisis.
Pneumonia patients get too many antibiotics, study finds

An analysis today of patients treated for community-onset pneumonia has found that more than two-thirds receive antibiotics for longer than necessary, researchers reported in the *Annals of Internal Medicine*. More than 90% of the excess antibiotics were prescribed at discharge.

The analysis, conducted by researchers with the University of Michigan, the Centers for Disease Control and Prevention (CDC), and elsewhere, also found that while excess antibiotic treatment was not associated with better outcomes in the patients, it was linked to increased risk of adverse events.

The findings add to a growing body of literature that suggests that community-onset pneumonia is being overtreated by clinicians, that shorter antibiotics courses are just as effective as longer ones, and that longer antibiotic treatment is both unnecessary and potentially harmful. The study’s authors say they hope it encourages hospitals to rethink how they’re treating pneumonia patients.
Review: US nonprescription antibiotic use may be widespread

A study today in the *Annals of Internal Medicine* hints that using antibiotics without medical supervision may be a common practice in the United States.

In a review of surveys conducted among various US populations over the past two decades, researchers from Baylor College of Medicine and elsewhere found that the prevalence of nonprescription antibiotic use ranged from 1% to 66%, and that storage of antibiotics for future use ranged from 14% to 48%. Antibiotics were most commonly obtained from prior prescriptions and family or friends with prescriptions, but also from neighborhood markets, the internet, and pet stores.

In one survey from 2018, nearly half of the respondents reported keeping leftover antibiotics from a prescription, and nearly three-quarters of those with leftovers said they had subsequently given them to their children's siblings or other children or adults. In a 2004 survey conducted among 101 neighborhood grocery store owners in New York City, 34 had antibiotics available for purchase.
Telemedicine study raises stewardship concerns

A study of more than 12,000 telemedicine encounters involving children with respiratory ailments has found that antibiotics were prescribed in more than half of the visits, and that patient satisfaction was strongly linked to receiving an antibiotic.

Providers who prescribed antibiotics were more than three times a likely to receive a 5-star rating from patients, researchers from the Cleveland Clinic reported yesterday in *Pediatrics*.

The study adds to a growing body of research suggesting that antibiotic prescribing for respiratory tract infections (RTIs) is high in telemedicine, both for children and adults, and that patients who receive antibiotics are more satisfied with the encounter.

The authors say it raises questions about the limits of the technology, especially in treatment of children. By enabling parents to connect to a healthcare provider remotely, through a smart phone or tablet, direct-to-consumer (DTC) telemedicine provides families with a more convenient and cheaper option for receiving care. But the inability to look inside a child's ear, or perform a strep test, make it hard to follow guidelines for appropriate prescribing.
Tainted Pork, Ill Consumers and an Investigation Thwarted

Drug-resistant infections from food are growing. But powerful industry interests are blocking scientists and investigators from getting information they need to combat the problem.

It was 7 a.m. on Independence Day when a doctor told Rose and Roger Porter Jr. that their daughter could die within hours. For nearly a week, Mikayla, 10, had suffered intensifying bouts of fever, diarrhea and stabbing stomach pains.

That morning, the Porters rushed her to a clinic where a doctor called for a helicopter to airlift her to a major medical center.

The gravity of the girl’s illness was remarkable given its commonplace source. She had gotten food poisoning at a pig roast from meat her parents had bought at a local butcher in McKenna, Wash., and spit-roasted, as recommended, for 13 hours.

Mikayla was one of nearly 200 people reported ill in the summer of 2015 in Washington State from tainted pork — victims of the fastest-growing salmonella variant in the United States, a strain that is particularly dangerous because it is resistant to antibiotics.
Two deaths noted in growing Salmonella outbreaks tied to poultry

Last week the US Centers for Disease Control and Prevention (CDC) reported a spike of *Salmonella* illnesses connected to backyard poultry, including two deaths, and a multidrug-resistant (MDR) *Salmonella* outbreak tied to pig ear dog treats has grown by 48 infections, to 93 total.

**Almost 500 cases tied to live poultry**
As of Jul 12, a total of 768 people infected with the outbreak strains of *Salmonella* have been reported from 48 states, an increase of 489 people and 8 states from the last update posted in June. Of 419 case-patients with available information, 122 (29%) have been hospitalized, and patients in Ohio and Texas have died from their infections.

Almost one quarter (24%) of the infections are in children under the age of 5 years, and 237 (75%) of 315 ill people reported contact with chicks or ducklings in the weeks prior to symptom onset.
Pig ear dog treat Salmonella probe yields more cases and a warning

The US Centers for Disease Control and Prevention (CDC) today said 34 more *Salmonella* illnesses linked to multidrug-resistant strains have been reported in an outbreak tied to pig ear dog treats, raising the national total to 127.

And federal health officials are now warning people not to buy or feed any pig ear dog treats to pets, including those that may already be in homes.

**Cases in 33 states**

In an update today, the CDC said 33 states have now reported illnesses, an increase of 13 since its last update on Jul 17. So far, 26 people have been hospitalized and no deaths have been reported. Patients range in age from 1 year to 90 years, and 24 of the infections are in children younger than age 5.

Officials in several states and the Food and Drug Administration (FDA) have tested pig ear dog treats at various suppliers and have found many different *Salmonella* strains. No single supplier, distributor, or common brand has been identified that could account for all the illnesses, which is why the CDC and FDA are now urging people to not buy or feed any pig ear dog treats to pets.
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Flu still rising in Australia, other Southern Hemisphere countries
Flu activity in Australia, which was already high, increased further, with H3N2 as the dominant strain and variable patterns seen in different parts of the country, the World Health Organization (WHO) said today in its latest global flu update, which includes data up to Jul 7 from reporting countries.

Severity markers were low, and influenza B was the next most commonly detected virus. In New Zealand over the same period, flu activity declined to just above seasonal baseline.

Elsewhere in the Southern Hemisphere, flu activity reflects a mixed picture, with levels on the rise in Argentina and Uruguay, with decreases in such countries as Brazil, Chile, Paraguay, and South Africa. Overall, H3N2 has been the main virus in Oceania and South Africa, and 2009 H1N1 has been predominant in temperate South American countries.

Southern Asia experienced mostly low flu activity, except Bangladesh, which is still reporting high activity, with H3N2 as the main strain. Myanmar is experiencing high flu activity from 2009 H1N1.

In tropical locations in Central America, the Caribbean, and South America, Cuba and French Guiana reported increases in flu detections, with flu activity in Costa Rica rising to high levels and both H3N2 and 2009 H1N1 circulating. Panama’s flu activity remained high, with 2009 H1N1 as the predominant strain.
Influenza update - 347

05 August 2019 - Update number 347, based on data up to 21 July 2019

Summary

- In the temperate zones of the southern hemisphere, influenza activity appeared to have peaked and to decrease in most countries.
  - Influenza A(H3N2) viruses predominated in Oceania and South Africa.
  - Influenza A viruses predominated in temperate South America.
- In the Caribbean, Central American, and tropical South American countries, influenza activity was low overall.
- In tropical Africa, influenza activity was low across reporting countries, with the exception of a few countries in Eastern Africa.
- In Southern Asia, influenza activity was low across reporting countries.
- In South East Asia, an increase in influenza activity was observed in a few reporting countries.
- In the temperate zone of the northern hemisphere, influenza activity remained at inter-seasonal levels.
- Worldwide, seasonal influenza A viruses accounted for the majority of detections.
Atlanta — The flu vaccine turned out to be a big disappointment again.

The vaccine didn’t work against a flu bug that popped up halfway through the past flu season, dragging down overall effectiveness to 29%, the Centers for Disease Control and Prevention reported Thursday.

The flu shot was working well early in the season with effectiveness put at 47% in February. But it was virtually worthless during a second wave driven by a tougher strain, at just 9%.
IVR Goals

Accelerate progress toward development of universal or broadly protective influenza vaccines by:

• **Documenting** gaps and barriers in influenza vaccine R&D.

• **Identifying** achievable, realistic goals and associated milestones with clearly defined timelines aimed at addressing gaps and barriers.

• **Building consensus** among a wide range of international stakeholders on key priorities and strategies in influenza vaccine R&D.
Accelerate progress toward development of universal or broadly protective influenza vaccines by:

• **Balancing transformative and pragmatic changes** in vaccine technology to improve breadth and durability of protection from influenza infection and/or severe disease.

• **Stimulating informed investments** in influenza vaccine R&D.

• **Creating** a framework to enable ability to track and monitor progress over time.
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News Scan for Jun 28, 2019

DRC reports more polio outbreaks; positive tests in 4 other countries
The Democratic Republic of the Congo (DRC) has reported two more outbreaks of circulating vaccine-derived poliovirus type 2 (cVDPV2), according to the latest update from the Global Polio Eradication Initiative (GPEI). The GPEI today detailed 10 new polio cases in four countries, as well as cVDPV2 in a healthy case contact.

One of the new DRC emergences of the virus is in Sankuru province in south central DRC, and the other is in neighboring Kasai province.

Four cases have been reported in the two provinces involving patients with acute flaccid paralysis onsets from Apr 3 to May 6. So far this year the DRC, which is now experiencing six separate ongoing outbreaks, has reported five cVDPV2 cases.

Elsewhere in Africa, Nigeria reported one more cVDPV2 case in a patient from Kwara state who had an illness onset of May 19, putting the country’s total at nine for the year. And in Ethiopia, health officials reported that tests on a healthy case contact identified three cVDPV2 isolates.

In wild poliovirus type 1 (WPV1) developments, Afghanistan reported two new cases, both from the same district of Uruzgan province with paralysis onsets of May 19 and May 20. So far, the country has reported 10 WPV1 cases in 2019. Also, Pakistan reported three new WPV1 cases, all in different districts in Khyber Pakhtunkhwa province, bringing the total so far this year to 27. Paralysis onsets ranged from May 29 to Jun 5.
News Scan for Jul 12, 2019

Pakistan confirms 9 new polio cases, 1 each in China, Angola

The Global Polio Eradication Initiative (GPEI) today reported nine new cases of wild poliovirus type 1 (WPV1), and, for the first time in more than a year, China has confirmed a case of vaccine-derived poliovirus.

In addition, Angola has a new circulating vaccine-derived poliovirus type 2 (cVPV2) case.

The Pakistan patients reported symptom onset on dates ranging from May 28 to Jun 20. The total number of WPV1 cases recorded in Pakistan this year is now 41; last year, the country recorded 12 cases over the entire year. Five of the nine cases originated in Bannu province, where health workers have been targeted by anti-vaccine extremists.

In China, a cVPV2 isolate was identified in a stool sample of an acute flaccid paralysis patient from Sichuan province. The person experienced symptom onset on Apr 25. According to data from the US Centers of Disease Control and Prevention (CDC), China reported three cases of cVPV3 in 2017 and the first part of 2018.

Finally, Angola recorded its second case of cVPV2 this year, in Kuvango district, Huila province, with symptom onset on May 30.
GPEI: 19 new polio cases this week as multiple countries report outbreaks
In more bad news for polio eradication efforts, several countries reported a slew of new polio cases in the last week, according to the Global Polio Eradication Initiative’s (GPEI’s) weekly report. A total of 19 cases in 6 countries, as well as several polio detections in healthy case contacts, were recorded across the Middle East, Africa, and Asia.

Pakistan has four new cases of wild poliovirus type 1 (WPV1), and Afghanistan has one. The new cases raise the number of WPV1 detections in 2019 to 56, already a large spike compared with 2018’s total of 33 cases. Pakistan has had 45 wild poliovirus cases alone in 2019, with the 4 latest patients experiencing symptom onset between Jun 21 and Jul 1. Last year at this point Pakistan had confirmed 3 WPV1 cases, en route to 12 for the entire year.

In neighboring Afghanistan, the polio case-patient experienced symptom onset on Jun 5, and represents the 11th WPV1 case in that country this year. Afghanistan had 21 cases in all of 2018.

Officials in Nigeria recorded three cases of circulating vaccine-derived poliovirus type 2 (cVDPV2), and one cVDPV2 was isolated from a healthy child. “Recent confirmation of spread of one of the cVDPV2 outbreaks, both within Nigeria and internationally, underscores the urgent need to fill remaining vaccination gaps in the ongoing outbreak response, and to optimize the geographic extent and operational quality of mOPV2 [type 2 oral polio vaccine] response,” the GPEI said.

The Democratic Republic of the Congo reported five cases of cVDPV2, and four cases of cVDPV2 cases have been confirmed in the Central African Republic. In Angola, cVDPV2 was isolated in healthy child on Jun 10. One of the cases in the Central African Republic was confirmed based on a positive contact, and officials also detected cVDPV2 in 10 healthy contacts. The national government has declared a polio emergency as a result.

Finally, Myanmar also noted two cases of vaccine-derived poliovirus type 1 (cVDPV1), and two isolates of cVDPV1 in case contacts.
Six countries report more polio cases
In the latest polio developments, Afghanistan and Pakistan reported more wild poliovirus type 1 (WPV1) cases, and three African nations and Malaysia reported circulating vaccine-derived poliovirus in cases, contacts, or the community, according to a weekly update from the Global Polio Eradication Initiative (GPEI).

In Afghanistan, a patient from Garmser district in Hilmand province had a paralysis onset of May 26, bringing the country’s WPV1 total for the year to 12. Pakistan reported two cases, one from Balochistan province and the other from Khyber Pakhtunkhwa province with Jun 6 and Jun 11 paralysis onsets, respectively. The country has now reported 47 WPV1 cases in 2019, already far outpacing the 12 reported for 2018.

In Africa, Nigeria reported one more cVDPV2 case involving a patient from Borno state who had a Jun 20 paralysis onset, pushing the country’s total to 13 so far this year. Democratic Republic of Congo (DRC) reported cVDPV2 in a close contact from Sankuru state on Jun 23 and one sample from a community isolate, also in Sankuru state, on Jun 22. Central African Republic reported 10 samples from community isolates in RS1 state and three such samples from RS4 state.

And finally, Myanmar reported one more cVDPV1 case in a patient from Kayin province who had a May 23 paralysis onset, putting the country’s total at three so far for the year.
Polio Cases Surge in Pakistan and Afghanistan

False rumors that children are fainting or dying have led parents to turn away vaccinators, threatening the campaign to eradicate the disease.

By Donald G. McNeil Jr.  July 15, 2019

The global drive to eliminate polio, which has gone on for 31 years and consumed over $16 billion, has been set back again by a surge of new cases in Pakistan and Afghanistan.

As of July 10, there were a total of 42 polio paralysis cases in the two countries. They comprise a single large outbreak, because most cases are in the tribal areas along the border, where local people easily cross back and forth.

Pakistan had 32 of the cases, compared to only three by the same date last year, and the situation is expected to get worse because hot summer weather favors the virus. There were only 12 cases in the country in 2018 and eight in 2017.

For each paralyzed victim — usually a child below age 5 — there are about 200 others who are infected and shedding the virus in their stool, the World Health Organization estimates.
### Wild poliovirus type 1 and Circulating vaccine-derived poliovirus cases

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## Case breakdown by country

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<td>0</td>
<td>0</td>
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<td>Somalia</td>
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</tbody>
</table>
HOT TOPICS
1. Ebola
2. Measles
3. Chronic Wasting Disease (CWD)
4. Cyclospora outbreak

UPDATES
5. Antimicrobial Resistance
6. Influenza
7. Polio
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12. Lyme disease and bioweapons
13. Other
Cases by Month, 2014–2019

Most patients had onset of AFM between August and October, with increases in AFM cases every two years since 2014. At this same time of year, many viruses commonly circulate, including enteroviruses, and will be temporally associated with AFM.

The graph shows the number of AFM cases confirmed by CDC as of August 2, 2019, with onset of the condition through May 31, 2019.
AFM Cases in U.S.

There are 13 confirmed cases so far in 2019 (from CA (5 cases), MD, NE, NC, PA, TX (2 cases), UT, and WV) out of 76 reports of PUIs.

No deaths were reported during the acute illness of patients with confirmed AFM who had limb weakness onset in 2018; however, there were two reports of patients confirmed with AFM in 2018 who had expired months after limb weakness onset. We have also learned of deaths in cases confirmed in previous years.
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Laboratory-confirmed cases of MERS reported in Eastern Mediterranean Region, June 2012-June 2019

MERS in Saudi Arabia 2019 (January-June)*

<table>
<thead>
<tr>
<th>Month</th>
<th>Survived</th>
<th>Died</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 2019</td>
<td>14</td>
<td>3</td>
</tr>
<tr>
<td>February 2019</td>
<td>57</td>
<td>12</td>
</tr>
<tr>
<td>March 2019</td>
<td>22</td>
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<td>April 2019</td>
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<td>7</td>
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<td>May 2019</td>
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<td>5</td>
</tr>
<tr>
<td>June 2019</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>120</strong></td>
<td><strong>35</strong></td>
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</table>

* Based on date of symptom onset or laboratory confirmation for asymptomatic cases
Detection of distinct MERS-Coronavirus strains in dromedary camels from Kenya, 2017

MERS-Coronavirus (CoV) is a dromedary-transmitted zoonotic pathogen that is associated with severe viral pneumonia in humans\(^1\). As of 28 September 2018, 2249 infections and 798 fatalities (36%) from 27 countries had been reported to the World Health Organization\(^2\). Although the majority of dromedaries are found in Africa\(^3\), zoonotic spillover events, nosocomial outbreaks, and human fatalities occurred predominantly in the Arabian Peninsula\(^2\). Recently identified MERS-CoV strains from Egyptian and Ethiopian dromedaries differed genetically and phenotypically from MERS-CoV strains on the Arabian Peninsula\(^4,5\). In 2017 we identified and characterized two independently circulating MERS-CoV strains in two dromedary herds in Kenya.

Kenya is located within the Greater Horn of Africa, a region that hosts 80\% of the world’s dromedary camel population, exporting up to 300000 dromedaries to the Arabian Peninsula per year\(^3\). Our previous sero-epidemiological studies showed that MERS-CoV is widespread in Kenyan dromedaries\(^6\) and that autochthonous human MERS-CoV infections may occur\(^7\). To date we acknowledge on genotypic or phenotypic traits of MERS-CoV strains in Kenya.
MERS-CoV livestock field surveys. Circles indicate countries in which field surveys have occurred. Size is proportional to the number of studies in each country. Yellow circles indicate positive findings in livestock (antibodies or antigen), while turquoise circles represent the lack of positive findings. Please note that the circle in Spain indicates positive findings from the Canary Islands. The density map includes dromedary and bactrian camel distribution, and is an unpublished model based on the methodology described in Robinson et al. (2014) (http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0150424)
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Epidemic and pandemic-prone diseases

Outbreak update - Cholera in Yemen, 16 June 2019

26 June - The Ministry of Public Health and Population of Yemen reported 20,264 suspected cases of cholera with 15 associated deaths during epidemiological week 24 (10 to 16 June) of 2019, with 14% of cases reported as severe. The cumulative total number of suspected cholera cases from 1 January 2018 to 16 June 2019 is 779,849, with 1178 associated deaths (CFR 0.15%). Children under five represent 22.7% of total suspected cases during 2019. In 2019 the outbreak has affected 22 of 23 governorates and 299 of 333 districts in Yemen.

From week 8 in 2019, the trend of weekly reported suspected cholera cases started increasing and peaked at more than 29,500 cases in week 14. During weeks 15 to 21 case numbers went down, however from week 22 to 24 the trend of suspected cases increased again.

The governorates reporting the highest number of suspected cases of cholera during 2019 were Amanat Al Asimah (62,807), Sana’a (50,072), Al Hudaydah (43,494), Ibb (37,848), Hajjah (37,777), and Dhamar (36,830).

Of a total 6,536 samples tested since January 2019, 3,479 have been confirmed as cholera-positive by culture at the central public health laboratories. During this period the governorates reporting the highest numbers of positive culture were Amanat al Asimah (1029), Taizz (817), and Sana’a (395).

WHO continues to provide leadership and support for activities with health authorities and partners to respond to this ongoing cholera outbreak, including case management, surveillance and laboratory investigations, hotspot mapping and OCV campaign planning, water, sanitation and hygiene (WaSH) and risk communication.
Yemen: Cholera cases so far this year outstrip 2018 figures

Save the Children says 439,812 suspected cases recorded this year and at least 193 children have died.

In the first six months of 2019, Yemen has seen more suspected cholera cases than in the whole of 2018, according to an international aid organisation.

A total of 439,812 suspected cholera cases were so far identified with some 203,000 children among those affected, Save the Children said.

At least 193 children have died this year from cholera-related illnesses, it added. The number of people dying was nine times as high as the same period last year.
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Philippines Declares a National Dengue Epidemic

By Jason Gutierrez

Aug. 6, 2019

MANILA — The Philippines declared a national dengue epidemic on Tuesday, saying that the mosquito-borne disease had killed at least 622 people in the country so far this year.

More than 146,000 dengue cases were reported in the first seven months of the year, almost twice as many as in the same period last year, according to the country’s health department.

“This is really staggering,” said Francisco Duque, the health secretary. He said the declaration of an epidemic was needed so that local governments in badly hit places could use “quick response funds” to fight the disease.

Officials said the Western Visayas region of the Philippines had the most cases, at more than 23,000, followed by the suburbs south of Manila, the capital, which had more than 16,000 cases. Parts of the southern island of Mindanao also reported a high number of infections.
Dengue cases

1

100

100,000

Affected territories

Date of production: 16/05/2019
As of July 23, 2019, a total of 34 states have reported West Nile virus infections in people, birds, or mosquitoes in 2019. Overall, 76 cases of West Nile virus disease in people have been reported to CDC. Of these, 53 (70%) were classified as neuroinvasive disease (such as meningitis or encephalitis) and 23 (30%) were classified as non-neuroinvasive disease.
Highly resistant malaria spreading rapidly in Southeast Asia

An aggressive strain of drug-resistant malaria that originated in Cambodia has rapidly spread into neighboring countries, causing high rates of treatment failure to first-line treatment and complicating efforts to eliminate the disease, according to two studies published yesterday in *The Lancet Infectious Diseases*.

One of the studies found that the KEL1/PLA1 strain of *Plasmodium falciparum*, the parasite that causes malaria, now accounts for more than 80% of the malaria parasites in northeastern Thailand and Vietnam, and has acquired new genetic mutations that have enhanced its fitness and ability to resist treatment. The strain is resistant to dihydroartemisinin-piperaquine, a form of artemisinin-based combination therapy (ACT) that has been the first-line treatment for malaria in Cambodia for more than a decade, and was more recently adopted as the preferred treatment in Thailand and Vietnam.
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House of Representatives orders Pentagon to investigate whether ticks were once used as biological weapons

By Christina Maxouris, CNN
Updated 3:30 AM ET, Wed July 17, 2019

(CNN) — The US House of Representatives has ordered an investigation into whether the Department of Defense experimented with ticks and other insects as biological weapons.

In an amendment passed last week, the House calls for the Defense Department's Inspector General to look at whether any such experiments were done between the years 1950 and 1975.

The amendment was introduced by New Jersey Rep. Chris Smith who said he was inspired to write it by "a number of books and articles suggesting that significant research had been done at US government facilities including Fort Detrick, Maryland, and Plum Island, New York, to turn ticks and other insects into bioweapons."
Bitten: The Secret History of Lyme Disease and Biological Weapons
by Kris Newby
What’s really behind the spread of Lyme disease? Clue: it’s not the Pentagon

Fri 19 Jul 2019 06.55 EDT

The first indication I’d picked up a tick-borne disease three years ago was the excruciating arthritic pain in my feet as I hobbled to a dinner party at a neighbour’s house in Jerusalem.

Later that night I experienced flu-like symptoms, including a raging fever that, even with antibiotics, would last for more than a week.

It was my wife who noticed the rash spreading across my back, which, with the black halo around the bite on my ankle, was the give-away. It was a form of spotted fever caught from an infected dog tick in the Palestinian territories.

The infectious agent is a bacteria called Rickettsia - identical in transmission and very similar in symptoms to Lyme disease and Rocky Mountain fever. I had caught the Mediterranean cousin, which is known variously as tick typhus or Boutonneuse fever and whose defining feature, in addition to the symptoms shared with Lyme disease, is a vicious rash.
Ticks spread plenty more than Lyme disease

There's a short window between when a tick bites and when it passes on bacteria or virus.

When it comes to problems caused by ticks, Lyme disease hogs a lot of the limelight. But various tick species carry and transmit a collection of other pathogens, some of which cause serious, even fatal, conditions.

In fact, the number of tick-borne disease cases is on the rise in the United States. The range where various species of ticks live in North America may be expanding due to climate change. Researchers continue to discover new pathogens that live in ticks. And new, invasive tick species keep turning up.
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Pandemic influenza simulation exercise for CLF members

September 10, 12, & 17

• **Scenario:** H7N9 strain of avian influenza that originated in China and is spreading from person to person for the first time
  • 3 situation update calls
• How will your organization respond? Considerations:
  • Continuity of operations
  • Employee protection
  • Prevention through vaccine/post-exposure prophylaxis
  • Supply chain challenges

Invite and more details coming shortly
CIDRAP Leadership Forum

4th Annual Meeting

Minneapolis, MN
The Graduate Hotel
October 16th and 17th, 2019
Questions, Comments and Discussion