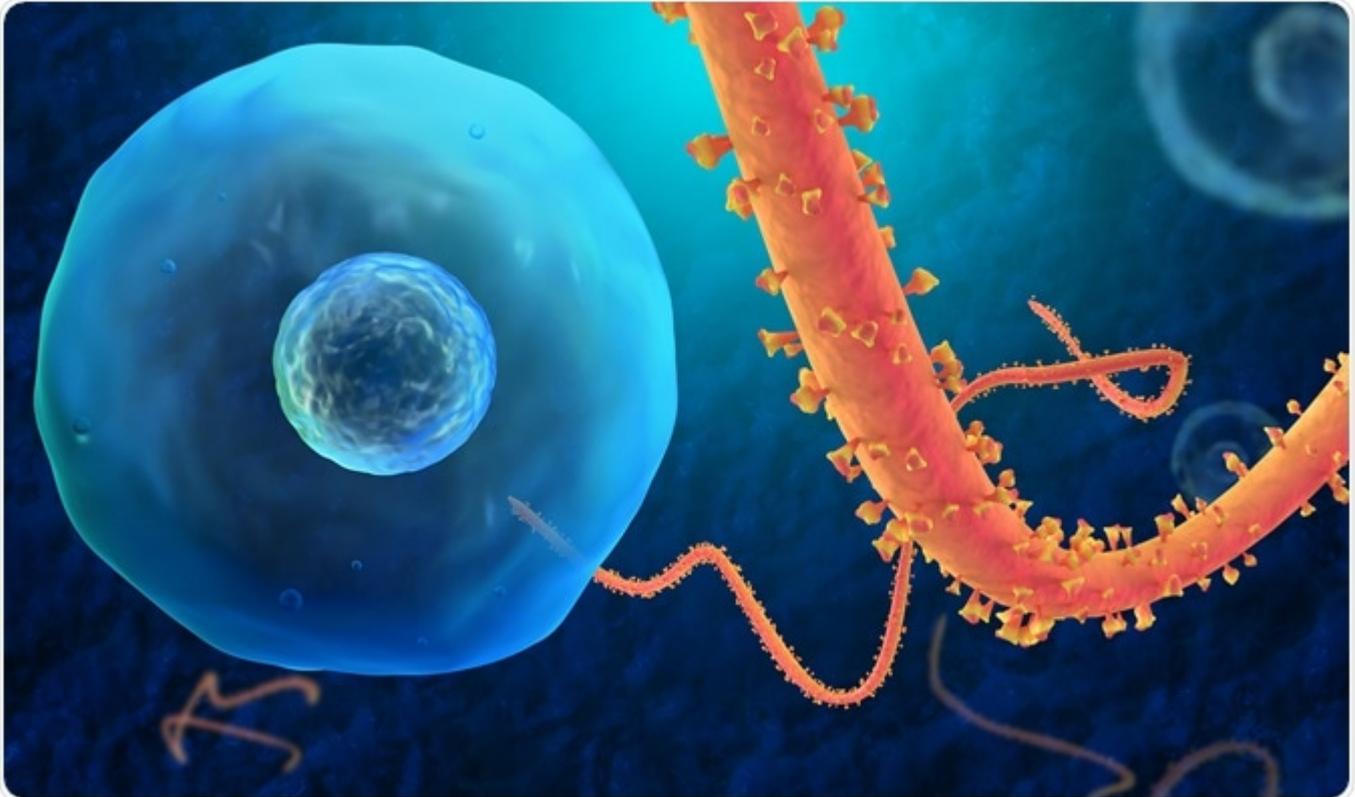


Call for a global alert on Ebola in Democratic Republic of Congo

The Lancet has reported about the alarming status of Ebola in the Democratic Republic of Congo (DRC) on the 4th of this month following a reported 785 deaths due to the disease in the country.



Ebola Virus illustration. Image Credit: Festa / Shutterstock

- The DRC has reported 22 new cases to add to the outbreak.
- Of these 10 are in Katwa region and rest from other regions (Kyondo – 4, Butembo and Kalunguta – 2 each, Mabalako, Mangurujipa, Vuhovi and Mutwanga – 1 each)
- Overall there are total 785 reported cases in this outbreak. Of these 731 are confirmed and 54 are probable
- There are a further 165 suspected cases of Ebola
- There have been 13 new deaths due to ebola (7 of these in the community and 6 in the Ebola treatment centres)
- Community deaths include those in Mangurujipa, Mutwanga, Mabalako, Kyondo, Katwa, and Vuhovi and these are likely sources of spread of the infection say the health officials.

Authors Laurence Gostin, faculty director of Georgetown University's O'Neill Institute for National and Global Health Law, and colleagues, in their letter titled, "Ebola in the Democratic Republic of Congo: Time to sound a global alert?" write that this latest outbreak of Ebola in DRC is the second largest

since the 2014 West African epidemic. This makes it the second largest in the history of mankind, they write. The team write about the hurdles that make tackling this outbreak an uphill task including areas riddled with “armed conflict, political instabilities and mass displacement” that make it difficult for help and relief operations to work independently and effectively.

The team writes that the “WHO, the DRC Government, and non-governmental organisation (NGO) partners have shown remarkable leadership but are badly stretched.” They warned that the outbreak is “far from controlled” and there is a substantial risk of it becoming a “long-term epidemic with regional, perhaps global, impacts.”

The team at present is calling for “high-level political, financial, and technical support to address the Ebola outbreak that started last May” in the DRC. There are fresh warnings about the spread of this disease closer to Goma city. The outbreak now has already reached Butemba that houses around a million people. To United Nations is actively sending help to protect Goma city and also to help them deal with the situation. At present 2000 emergency workers are sent to Goma city to handle the influx of patients with Ebola.

The health care professionals believe that the problem with spread to this city would be the people who do not seek medical help when they contract the disease. There have been reports of locals attacking the emergency workers accusing them of staring and manipulating the outbreak of Ebola. This has compounded the problem, the Doctors Without Borders (Medicins Sans Frontiers) have said. There are rumours about medical staff putting patients in body bags on admission and even removing their organs for sale in the black market etc.

Laurence Saily the emergency coordinator of Doctors Without Borders in the Congolese city Beni in a statement said, “In this situation people might have no other choice than to seek medical help in health facilities that do not have adequate triage or infection prevention and control measures in place, which makes the risk of contamination higher. We are talking about a population that has endured many years of conflict. On top of that, they are now faced with the deadliest Ebola outbreak the country has ever seen. The unrest ... adds even more to their plight by limiting their chances of finding adequate medical care.” Emmanuel Massart, project coordinator the Doctors Without Borders at Katwa said, “With more and more cases coming from the city of Butembo, which has a population of almost a million people, it was necessary to set up a second treatment centre very rapidly. Large windows allow our patients to see the faces of the doctors and nurses treating them and make family visits easier, reestablishing some of the human contact that is so hard to maintain in Ebola treatment centres.”

Source:

[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(19\)30243-0/fu](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(19)30243-0/fu)

Measles Outbreak Sends Vaccine Demand Soaring, Even Among The Hesitant

Demand for measles vaccine has surged in the Washington county where the highly contagious virus is linked to more than 50 confirmed illnesses this year – including among people who had previously shunned the shots. Orders for two types of measles vaccines in Clark County were up nearly 500 percent in January compared to the same month last year, jumping from 530 doses to 3,150, according to state health department figures.

Area health clinics are scrambling to keep up with sudden demand, mostly among parents of children who had not been inoculated.

“During an outbreak is when you see an influx of patients who would otherwise be vaccine-hesitant,” said Virginia Ramos, infection control nurse with Sea Mar Community Health Center, which runs six sites that offer vaccines in Clark County.

“We’re just happy that we’re prepared and that there is vaccine available.” The Vancouver Clinic, which operates medical offices and urgent care centers in the area, reported that shots administered jumped from 263 in January 2018 to 1,444 last month, a nearly 450 percent increase.

That’s a huge rise in a county where vaccination rates lag – only 76.5 percent of kindergartners had all the required immunizations for the 2017-18 school year. Health officials have long worried about the potential for an outbreak in the region

Statewide in Washington, orders for measles vaccine jumped about 30 percent in January compared with the same month last year, climbing from 12,140 doses to 15,780 doses, figures showed. The vaccines include MMR, which protects against measles, mumps and rubella, and MMR-V, which also protects against the varicella-zoster virus, which causes chickenpox. The vaccine takes effect within 72 hours, health officials said.

The orders represent only state-supplied vaccines requested through the federal Vaccines for Children program, which provides free immunizations to children who otherwise couldn’t afford them.

But it’s a snapshot of the scare an outbreak can cause, said Dr. Alan Melnick, the Clark County health officer overseeing the response.

“I would rather it not take an outbreak for this to happen,” he said.

[khn_slabs slabs="799584" view="inline"]

Since Jan. 1, 49 cases of measles have been confirmed in Clark County, with 11 more cases suspected, officials said. The Pacific Northwest outbreak includes one confirmed case in King County, where Seattle is located, and one in Multnomah County, which includes Portland, Ore.

On Wednesday, officials sent letters to families of 5,000 children in Multnomah County telling them they’ll be excluded from school if they don’t

have up-to-date immunizations or valid exemptions by Feb. 20.

Most of the infections have occurred in children, under age 18, who were unvaccinated. The outbreak includes 42 cases among those who were not immunized, six cases where immunization has not been verified and one case where the person had received a single dose of vaccine.

The Centers for Disease Control and Prevention recommends two doses of measles vaccine, one given at between 12 months and 15 months of age and one between ages 4 and 6. Health officials say the shots are safe and effective, providing about 93 percent protection with one dose and 97 percent with two doses.

The Northwest cases are among three ongoing measles outbreaks in the U.S. that sickened 79 people in January, according to the CDC. Last year, 372 measles cases were confirmed nationwide, the most since an outbreak in 2014 sickened 667 people.

Washington and Oregon are among 17 states that allow non-medical exemptions from vaccination requirements for school entry, according to the National Conference of State Legislatures.

Washington state Rep. Paul Harris (R-Vancouver) has introduced a measure that would remove personal belief exemptions for the MMR vaccine.

Research has confirmed that vaccines don't cause autism, a common reason cited by parents who reject vaccinations. Others object to the timing and combinations of the vaccines and to being forced to inoculate their children.

[More Illnesses From Tainted Romaine Lettuce Reported](#)



FRIDAY, Dec. 7, 2018 – Nine more people have been sickened by E. coli in an outbreak involving romaine lettuce grown in parts of California, bringing the total to 52 people in 15 states, U.S. health officials reported Thursday.

Nineteen people have been hospitalized, including two who developed a type of kidney failure called hemolytic uremic syndrome. No deaths have been reported, the U.S. Centers for Disease Control and Prevention said.

For lettuce lovers, the advice from the U.S. Food and Drug Administration remains the same: Be sure to check the label on any romaine lettuce, to avoid

the risk of E. coli.

Romaine lettuce sold in stores now carries labels listing the region where the produce was grown, along with its harvest date, the FDA said. By checking these labels, consumers can quickly determine that the produce is safe to eat.

“Romaine lettuce that was harvested outside of the Central Coast growing regions of northern and central California does not appear to be related to the current outbreak,” FDA Commissioner Dr. Scott Gottlieb said recently.

That would include romaine farmed in Arizona, Florida and Mexico, as well as California’s Imperial Valley – lettuce harvested from these areas is OK to eat.

“Hydroponically- and greenhouse-grown romaine also does not appear to be related to the current outbreak,” Gottlieb added. “There is no recommendation for consumers or retailers to avoid using romaine harvested from these sources.”

Information from four restaurants in three different states so far has implicated 10 different distributors, 12 different growers and 11 different farms as potential sources of tainted lettuce, the FDA said Thursday. At this point, the outbreak cannot be explained by a single farm, grower, harvester or distributor, the agency noted.

If heads of romaine are sold loose, without affixed labels, retailers are being asked to post a notice showing place and date of harvest near the store register.

Such labeling may become standard going forward, according to an agreement between the FDA and the leafy greens industry, the agency has said.

In addition, at least 27 cases of E. coli have been reported in Canada.

“Through laboratory studies we have identified that the E. coli 0157:H7 strain causing the outbreak is similar to one that produced an outbreak of E. coli 0157:H7 in the fall of 2017 that also occurred in the U.S. and Canada, which was associated with consumption of leafy greens in the U.S. and specifically romaine lettuce in Canada,” Gottlieb said.

So who’s most at risk from E. coli?

Dr. Robert Glatter is an emergency physician at Lenox Hill Hospital in New York City who’s seen the effects of infection with the gastrointestinal bug firsthand. It’s not a minor ailment, he said.

“In general, symptoms of E. coli infection generally begin about three to four days after consuming the bacteria, and may include abdominal cramping, nausea, vomiting, and watery or bloody diarrhea, along with fever,” Glatter said.

And while healthy people who battle a bout of E. coli typically recover

within five to seven days, the illness can be more protracted – and even deadly – for people already made vulnerable by chronic disease or advanced age.

“People with diabetes, kidney disease or those with cancer or autoimmune disease run the risk of a more severe illness,” Glatter explained.

The particular strain of E. coli detected in the current lettuce outbreak – E. coli O157:H7 – is particularly nasty, he noted.

“Most strains of E. coli do not actually cause diarrhea, but E. coli O157 produces a powerful toxin that injures the inner lining of the small intestine, leading to bloody diarrhea,” Glatter said. Even a tiny amount of ingested bacteria could spur this type of illness.

“It can make people much more ill, and may lead to hemolytic uremic syndrome, a type of kidney failure, in some cases,” he said.

Indeed, the CDC has reported one such case already in the latest outbreak.

In many cases, antibiotics are used to help beat back an E. coli infection, but these drugs can affect the kidneys, Glatter noted.

“Antibiotics may be necessary in certain cases, so it’s important to see your doctor if you have continued and severe symptoms such as fever, bloody diarrhea, and you are not able to eat or drink,” he said.

However, in the case of E. coli O157:H7, “taking antibiotics may actually increase your risk of developing kidney failure, so it’s important to speak with your health care provider if you should develop severe symptoms,” Glatter advised.

And if you do think you might be sick with E. coli, or any other foodborne illness, make sure you don’t spread it to those near you.

The bacterium “can be transmitted person-to-person, so it’s vital that anyone who is potentially infected wash their hands thoroughly and not share utensils, cups or glasses,” Glatter said. “This also goes for bath towels. Linens also need to be washed in hot water and treated with bleach.”

He noted that “ground beef, unpasteurized milk, fresh produce and contaminated water are common sources of E. coli bacteria.”

More information

Find out more about E. coli illness at the U.S. Centers for Disease Control and Prevention.



[In throes of turkey salmonella outbreak, don't invite illness to your table](#)

As Americans prepare to cook and consume nearly 50 million turkeys on Thanksgiving Day, an ongoing outbreak of salmonella poisoning linked to the poultry means food safety at home is more critical than ever.

Federal health officials have identified no single source of the outbreak of Salmonella Reading, which has sickened at least 164 people in 35 states during the past year.

As of Nov. 5, the bacterial strain has led to 63 hospitalizations and, in California, one death.

Many who fell ill reported preparing or eating such products as ground turkey, turkey parts and whole birds. Some had pets who ate raw turkey pet food; others worked at turkey processing plants or lived with someone who did.

Late Thursday, Jennie-O Turkey Store Sales LLC of Barron, Wis., recalled more than 91,000 pounds of raw ground turkey products that may be connected to the illnesses.

There is no U.S. requirement that turkeys or other poultry be free of salmonella – including antibiotic-resistant strains like the one tied to the outbreak – so prevention falls largely to consumers.

That means acknowledging that the Thanksgiving turkey you lug home from the grocery store is likely contaminated, said Jennifer Quinlan, an associate professor in the Nutrition Sciences Department at Drexel University.

“They absolutely should assume there’s a pathogen,” she said.

Last year, right after the holiday season, Quinlan and her colleagues surveyed more than 1,300 U.S. consumers about their turkey-handling habits. Most, they found, fail to follow safe practices, despite decades of public health warnings.

Ninety percent of those surveyed washed raw birds in the sink, even though that can spread dangerous bacteria. Fifty-seven percent reported always or sometimes stuffing a turkey before cooking instead of baking dressing separately, and 77 percent said they left a cooked bird in a warm oven or at

room temperature.

Such practices can allow the growth not only of salmonella but other bad bugs, such as campylobacter and Clostridium perfringens, she said.

“All of these illnesses could have been prevented. There’s either cross-contamination going on in the home, or there’s not thorough cooking.”

Other experts contend that simply telling consumers to handle food properly is unfair and ineffective. Regulators and industry should be responsible for preventing contamination in the first place.

“They ought to be going after these guys like gangbusters,” said Carl Custer, a food safety microbiology consultant who spent decades at the U.S. Department of Agriculture. “This is a seriously virulent strain.”

This month, Custer renewed calls for pathogenic strains of salmonella to be declared “adulterants” in poultry, which would require the USDA to test products and recall those contaminated with the bacteria.

The USDA classified E. coli 0157:H7 as an adulterant in ground beef after the deadly 1993 Jack in the Box hamburger outbreak. After that, the rate of those E. coli infections plummeted. Since then, the agency has named six additional strains as adulterants in certain beef products.

Efforts to ban drug-resistant salmonella from meat and poultry have stalled, however, despite years of demands from consumer advocacy groups and lawmakers.

In February, USDA officials rejected a 2014 petition from the group Center for Science in the Public Interest to declare certain strains of drug-resistant salmonella to be adulterants, saying the group failed to distinguish strongly enough between resistant and non-resistant salmonella.

In 2015, Democratic congresswomen Rosa DeLauro of Connecticut and New York’s Louise Slaughter introduced a bill that would have defined resistant and dangerous salmonella as adulterants and given USDA new power to test and recall tainted meat, poultry and eggs. It was not enacted.

“It’s very hard to get attention to food safety issues in this current political climate,” said Sarah Sorscher, CSPI’s deputy director of regulatory affairs.

Outside observers said there’s little political will for taking on the nearly \$5 billion-a-year U.S. turkey industry, as well as regulators.

“I don’t see a lot of traction for making it an adulterant right now,” said Kirk Smith, director of the Minnesota Integrated Food Safety Center of Excellence.

“Salmonella is still common enough that it would be hugely impractical and costly to make it an adulterant,” he added. “It would double the cost of poultry.”

In a sharply worded statement, USDA officials refused to publicly name the producers, suppliers and brands linked to the turkey outbreak, saying it would be “grossly irresponsible and reckless” when no definite source of illness has been identified.

Because the outbreak strain of salmonella has been found at turkey-processing plants, in workers and in a wide range of food products, it will take a broad effort to detect and eradicate the source, said Smith, the Minnesota food safety expert.

“It should be a whole-system approach, starting with controls on the farm, all the way through to educating consumers as best we can,” he said.

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[**CDC: Salmonella Outbreak Linked to Gravel Ridge Farms Eggs**](#)

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4. CDC: Salmonella Outbreak Linked to Gravel Ridge Farms Eggs



WEDNESDAY, Oct. 3, 2018 – The multistate *Salmonella* outbreak linked to Gravel Ridge Farms cage-free large eggs has grown, and consumers, restaurants, and retailers should not eat, serve, or sell the eggs, the U.S. Centers for Disease Control and Prevention says.

In a recent update, the CDC said 24 more illnesses have been reported since the last update on Sept. 10, bringing the total to 38 cases in seven states. Ten people have been hospitalized. No deaths have been reported.

Illnesses in the outbreak began on dates ranging from June 17 to Aug. 16, 2018. Gravel Ridge Farms recalled packages of a dozen and 2.5 dozen eggs in cardboard containers that were sold in grocery stores and to restaurants in Alabama, Georgia, and Tennessee.

The investigation is continuing, the CDC said. People who think they got sick from eating the recalled eggs should contact a health care provider, the agency advised.

More Information



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Posted: October 2018

[CDC: Salmonella Outbreak in 4 States Linked to Kosher Chicken](#)



WEDNESDAY, Aug. 29, 2018 – One person has died and 16 others sickened in a four-state *Salmonella* outbreak linked to kosher chicken, U.S. health officials say.

Cases have been reported in Maryland, New York, Pennsylvania, and Virginia. Eight people have been hospitalized, including one patient who died in New York.

Illnesses began between Sept. 25, 2017, and June 4, 2018, and the U.S. Centers for Disease Control and Prevention began investigating the outbreak in late June after the New York State Department of Health found that several ill people reported eating kosher chicken.

Tests revealed that some kosher chicken products are contaminated with *Salmonella*, and several ill people said they'd eaten Empire Kosher brand chicken. The outbreak strain was identified in samples of raw chicken collected from two facilities, including one facility that processes Empire Kosher brand chicken, the CDC said.

The investigation is ongoing, according to the CDC.

More Information



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Posted: August 2018

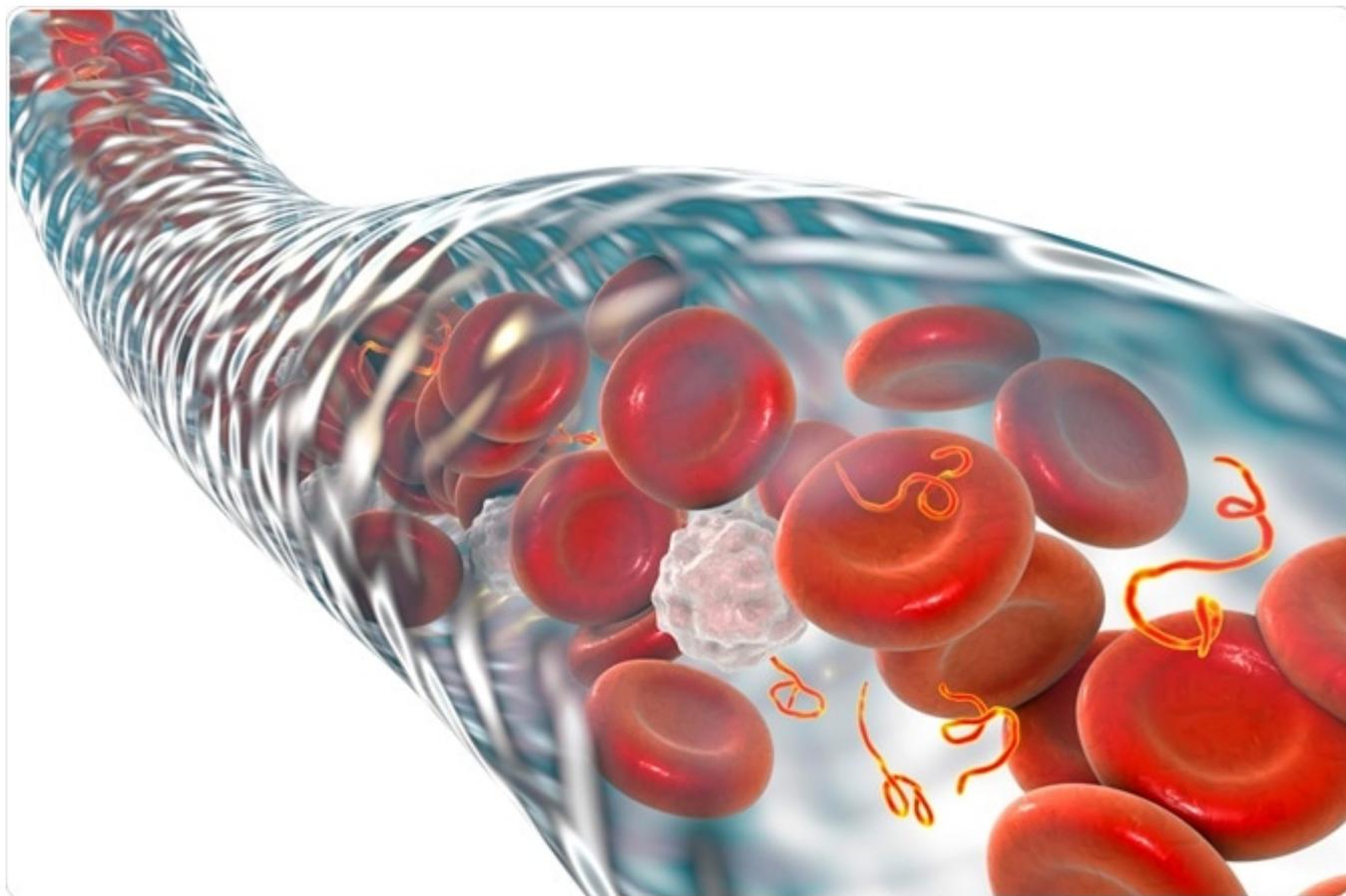
[Ebola outbreak in Congo spreads to active combat zone](#)



By Dr Ananya Mandal, MD, August 14, 2018

The outbreak of the deadly Ebola in the Democratic Republic of Congo has spread outside the province of North Kivu according to a statement made by the country's health ministry yesterday. With this the viral infection has reached an active conflict zone and this may mean that it could spread wider now.

Congo has been fighting an Ebola outbreak for the past few months. In the northwest of the country the outbreak was declared a week before. In the present outbreak at North Kivu, 41 people have already succumbed to the disease. These two outbreaks separated by around 2,500 kilometers are not linked said the ministry.



Ebola viruses in blood of a patient with Ebola hemorrhagic fever, 3D illustration. Viruses are seen as small orange thread-like structures between blood cells. Image Credit: Kateryna Kon / Shutterstock

As a response to this latest development, the ministry has sent out experts to Ituri province at the borders of North Kivu. In that province a man had died earlier after having contracted the disease from the town of Mangina in North Kivu. Mangina is being considered as the epicentre of the outbreak. Yesterday five new cases were confirmed at both the provinces. The total number of cases as of now is 30 confirmed Ebola and 27 possible cases of Ebola according to the statement made by the ministry.

This latest outbreak is in the middle of a war zone where several rebel groups are engaged in combat over the mineral deposits of the region and ethnic rights etc. This region is also near Ugandan and Rwandan borders where trade activities are thick. North Kivu is also one of the most densely populated regions of Congo with around 8 million population. This makes the region high risk and possibility of spread of the infection far and wide high.

According to World Health Organization's director-general, Tedros Adhanom Ghebreyesus, who visited the region last week, "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." As a response Jessica Ilunga, spokeswoman for Congo's health ministry has assured that safeguards have been placed to protect the health officials who are dealing with this crisis. This is the first time that an outbreak of Ebola has occurred in a combat zone and experts fear its outcome.

In this region, the health officials are also beginning the use of experimental mAb114 Ebola-treatment drug on patients at a center in Mangina. This latest monoclonal antibody based experimental drug has been developed in the U.S. by the National Institutes of Health. The drug was approved for human use earlier in July during the Ebola outbreak in the northwest Congo. Due to lack of patients it could not be used at the time. During that time an experimental Ebola vaccine developed by Merck & Co. Was administered to over 3,300 individuals who were in contact with the Ebola cases. The outbreak saw a death of 33 individuals. The vaccine is being used now at north Kivu as well with thousands being actively vaccinated against the infection.

Ms. Ilunga said that the country is “much better prepared this time.”

[New study analyzes risk factors associated with mosquito-borne infectious diseases](#)

July 25, 2018

In one of the largest studies of its kind, researchers analyzed chikungunya and dengue outbreak data from 76 countries over a period of 50 years, focusing on regions across the Indian Ocean that are hard hit by these and other mosquito-borne infectious diseases.

The analysis of 1959-2009 data revealed that population density and proximity to a country already experiencing an outbreak were the factors most closely associated with a country’s own likelihood of experiencing an outbreak.

“As a geographer, I was glad to see that the first law of geography held true, which is that things that are near each other tend to be more alike,” said University of Illinois pathobiology professor Marilyn O’Hara Ruiz, who led the research with pathobiology professor Rebecca Lee Smith and former postdoctoral research associate Gianluigi Rossi.

“In general, when we look across time, these things are quite localized in that countries that are near each other are more likely to have the same outbreak,” Ruiz said. “We also found that outbreaks are more likely to co-occur in densely populated areas.”

Chikungunya and dengue are mosquito-borne viral diseases with overlapping distribution globally. Dengue can be a more serious infection, with a mortality rate of about 20 percent for severe infections that go untreated. Dengue infections are on the rise globally, according to the World Health Organization. Both diseases are more likely to occur in tropical or subtropical regions.

The new study found no significant association between local temperature or precipitation and outbreak risk, a somewhat unexpected finding since heat, rain and fluctuations in mosquito populations are often linked, the researchers said.

The findings should reassure those who worry that distant outbreaks will travel across the world to strike closer to home, Ruiz said.

“If one is trying to reduce the spread of an infectious disease, it’s probably better to focus resources on places that have high-density populations and that have an outbreak nearby,” she said.

Another important implication of the work is that countries need to share data with their neighbors, Smith said.

“People sometimes don’t want to share that they have an outbreak going on,” she said. “But mosquitoes don’t recognize borders. So, we need epidemiology without borders.”

Source:

<https://news.illinois.edu/view/6367/675032>

[Nipah Virus \(NiV\) | CDC](#)

Nipah virus (NiV) is a member of the family *Paramyxoviridae*, genus Henipavirus. NiV was initially isolated and identified in 1999 during an outbreak of encephalitis and respiratory illness among pig farmers and people with close contact with pigs in Malaysia and Singapore. Its name originated from Sungai Nipah, a village in the Malaysian Peninsula where pig farmers became ill with encephalitis. Given the relatedness of NiV to Hendra virus, bat species were quickly singled out for investigation and flying foxes of the genus *Pteropus* were subsequently identified as the reservoir for NiV (Distribution Map).

In the 1999 outbreak, Nipah virus caused a relatively mild disease in pigs, but nearly 300 human cases with over 100 deaths were reported. In order to stop the outbreak, more than a million pigs were euthanized, causing tremendous trade loss for Malaysia. Since this outbreak, no subsequent cases (in neither swine nor human) have been reported in either Malaysia or Singapore.

In 2001, NiV was again identified as the causative agent in an outbreak of human disease occurring in Bangladesh. Genetic sequencing confirmed this virus as Nipah virus, but a strain different from the one identified in 1999. In the same year, another outbreak was identified retrospectively in

Siliguri, India with reports of person-to-person transmission in hospital settings (nosocomial transmission). Unlike the Malaysian NiV outbreak, outbreaks occur almost annually in Bangladesh and have been reported several times in India.

[Congo to start vaccinating populations against Ebola today to combat outbreak](#)

May 21, 2018

By Dr Ananya Mandal, MD

Congo is facing a new Ebola outbreak and the health officials have announced that starting today, (Monday 21st May 2018), response teams would begin administering an experimental Ebola vaccine in Mbandaka.

Mbandaka is a northwestern city with a population of around 1.2 million. There have been reports of some cases in this city. This is the first time urban cases are being reported in this latest outbreak. To prevent the spread of the deadly infection, the vaccination campaign has been launched.



A sign warns visitors that area is a Ebola infected. Image Credit: Sergey Uryadnikov / Shutterstock

Minister of Health Oly Ilunga in his statement said, "The vaccination campaign begins tomorrow, Monday, in Mbandaka, capital of the province. It will target, first, the health staff, the contacts of the sick and the contacts of the contacts." Until now the current outbreak has killed 26 people the officials report. The vaccination would be administered initially to 600 people who were in direct contact with the infected persons including healthcare staff and the family members of the infected people according to Ilunga.

Mbandaka lies on the Congo river and experts believe there is a high risk of the disease spreading along the river pathway to other cities. The city is around an hour out by air from the capital city. The intense movement of people to and fro from the city poses a challenge in preventing rapid spread of the deadly infection that is fatal in one in two infected cases.

Over 4,000 doses of this experimental vaccine have already reached Congo from the World Health Organization. More are on the way. This vaccine is yet to be proven to be 100 percent effective and is still being tested. This vaccine was however proven to be a success in the West Africa where an outbreak took place a few years back. One of the major problems of using this vaccine in countries and regions specified is keeping the "cold chain" intact. This means that the vaccines should not, at any point, be exposed to temperatures higher than specified. Since infrastructure is poor in this vast, hot, tropical country, this is a major challenge. Exposure to higher temperatures can denature the vaccine and render them ineffective.

According to the latest statement from the health ministry, a total of 46 cases of hemorrhagic fever have been confirmed of which 21 have been confirmed to be Ebola and 21 to be probably Ebola. Four new cases have been reported and these are suspected to be Ebola as well.

Congo President Joseph Kabila and his Cabinet last weekend have agreed to treat this as a medical emergency and have sanctioned over \$4 million to combat the situation. The Cabinet has agreed to provide free treatment in affected regions including special care of the Ebola infected individuals and their family members.

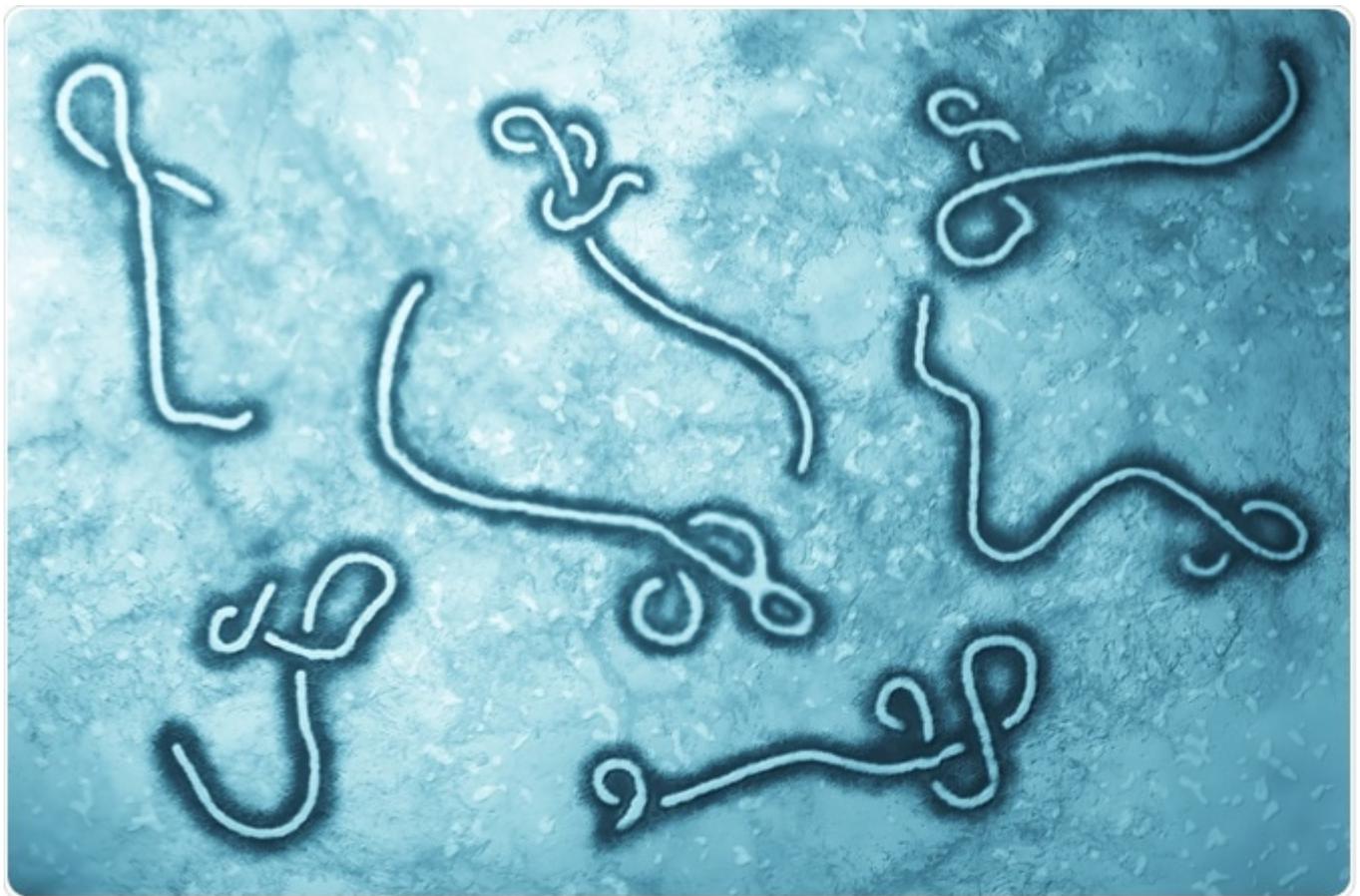
Robert Steffen, who chaired the WHO expert meeting a few days back said that there is a "strong reason to believe this situation can be brought under control" but the response needs to be prompt else, "the situation is likely to deteriorate significantly."

[Ebola outbreak spreads to Congo city of 1 million](#)



By Dr Ananya Mandal, MDMay 18, 2018

There has been a confirmed case of Ebola in the Mbandaka city of Congo that has a population of 1.2 million. This is the first urban case in the latest outbreak and is being considered to be one of the most serious ones in recent times. The last major outbreaks have affected people across West Africa between 2014 and 2016.



Microscopic view of Ebola Virus. Image Credit: Nixx Photography / Shutterstock

Healthcare teams fear that the spread of the infection would be faster in the city compared to the rural areas that they were dealing with up until now. The World Health Organization has a team of healthcare professionals in place to help combat the outbreak. Peter Salama, the WHO's deputy director general of emergency preparedness and response called this confirmed case of Ebola a "game changer" because it would dramatically increase the speed of spread of the outbreak.

The cases before this were all from remote areas that were over 100 miles south of Mbandaka in the Equateur province. All in all, including the urban cases, 14 cases of Ebola have been confirmed according to the reports from the Congo Health Ministry. There were 21 other probable cases and 10 more suspected cases of Ebola. Total potential cases of Ebola are 45 thus and till date, this latest outbreak has killed 25 individuals.

According to Salama, this urban case is a "major development in the outbreak". "We have urban Ebola, which is a very different animal from rural Ebola. The potential for an explosive increase in cases is now there," he said.

The Centers for Disease Control and Prevention (CDC) in Atlanta is also sending in a team to Congo after the initial assessment of the WHO team is complete and logistical problems are listed out. They would be sending in experts to remote locations as well. CDC epidemiologist Pierre Rollin, an Ebola expert said that the CDC would be sending in teams to be prepared for a long term aid. More than one team is ready to be dispatched he said and each of these would work in shifts of four to six weeks.

Ebola has no known cure and no fully effective vaccine. This Wednesday, the WHO has sent in 4,000 injections of an experimental vaccine that has shown promise in the clinical trials. More batches of the injection would be sent in soon.

At present the teams of healthcare personnel are trying to look for all the contacts of the infected person to seek out those at risk. These contacts could then be isolated to prevent further transmission of the virus.

According to experts unsafe burial of those killed with Ebola is one of the causes of spread of the epidemic as well. The dead body of an individual with virus is capable of infecting all those who come in contact and this is what has been happening in Bikoro at the start of this outbreak say experts from International Federation of the Red Cross and Red Crescent Societies (IFRC).

Ebola virus disease (EVD) also called Ebola hemorrhagic fever is a viral infection. The virus is transmitted from wild animals to human populations and then spreads via human-to-human contact. This risk of dying with the infection once contracted is one in two or even higher.

Prevention of spread is the best way to control an outbreak. This includes isolation and management of the infected case, surveillance for new cases, identification of all contacts of the infected person and isolation and observation of the contacts. Good laboratory services to confirm the cases as well as safe and dignified burials of the infected dead individuals is also of paramount importance says the WHO.

Fresh Ebola outbreak in Congo reported



By Dr Ananya Mandal, MD May 9, 2018

Yesterday (8th May 2018), the Government of the Democratic Republic of the Congo declared a new outbreak of Ebola in the rural northwest of the country. This came after two cases of Ebola were confirmed in regions of Bikoro.

According to the health ministry of Congo, five samples were sent to the Institut National de Recherche Biomédicale (INRB) in Kinshasa. Of these, two came back to be positive for Zaire strain of Ebola virus. These belong to the Equateur Province. Ebola was first identified in 1976 in Congo and this is the 9th such outbreak in the country.



Microscopic view of the Ebola virus. Image Credit: Jaddingt / Shutterstock

The Equateur Province Health Ministry notified the institute at Kinshasa on

the 3rd of May of the 21 cases of hemorrhagic or bleeding fevers in Ikoko Impenge area. At least 17 succumbed to these hemorrhagic fevers said the World Health Organization (WHO) and Congo government. The team from WHO and Doctors Without Borders looked at the possible causes of these fevers because several other diseases and viruses could also cause these fevers. The team identified 5 new suspect cases which were then sent forth to National Institute of Biological Research in Kinshasa. There have been no further reports of deaths.

According to a statement from the ministry, the team would go to Bikoro today to prevent the spread of this infection further. They will also look at the origin of the infection and how the outbreak began.

The last outbreak in Congo was in 2017 May and it killed four out of eight individuals in the Bas-Uele province, northeast Congo. It was in July 2017 that the outbreak was contained and stopped. Other outbreaks in Sierra Leone, Liberia and Guinea started in 2014 and killed over eleven thousand deaths in their wake.

Ebola spreads to humans from animals such as bats, monkeys etc. It kills nearly 90 percent of all infected. Stopping the spread of the infection is one of the only measures to contain the infection at present due to lack of curative treatment and effective vaccines.

Dr. Peter Salama, WHO Deputy Director-General, Emergency Preparedness and Response in his statement regarding this latest outbreak said, "Our top priority is to get to Bikoro to work alongside the Government of the Democratic Republic of the Congo and partners to reduce the loss of life and suffering related to this new Ebola virus disease outbreak... Working with partners and responding early and in a coordinated way will be vital to containing this deadly disease." Matshidiso Moeti, the WHO Regional Director for Africa added in a statement, "We know that addressing this outbreak will require a comprehensive and coordinated response. WHO will work closely with health authorities and partners to support the national response. We will gather more samples, conduct contact tracing, engage the communities with messages on prevention and control, and put in place methods for improving data collection and sharing."

More experts in a multidisciplinary team from WHO, Médecins Sans Frontières and Provincial Division of Health are expected to reach the area for further analysis and prevention of spread. WHO has released US\$ 1 million from its Contingency Fund for Emergencies for these activities over the next three months.

[Single foodborne outbreak can have](#)

Large ramifications for restaurants

April 16, 2018

A single foodborne outbreak could cost a restaurant millions of dollars in lost revenue, fines, lawsuits, legal fees, insurance premium increases, inspection costs and staff retraining, a new study from researchers at the Johns Hopkins Bloomberg School of Public Health suggests.

The findings, which will be published online on Apr. 16 in the journal *Public Health Reports*, are based on computer simulations that suggest a foodborne illness outbreak can have large, reverberating consequences regardless of the size of the restaurant and outbreak. According to the model, a fast food restaurant could incur anywhere from \$4,000 for a single outbreak in which 5 people get sick (when there is no loss in revenue and no lawsuits, legal fees, or fines are incurred) to \$1.9 million for a single outbreak in which 250 people get sick (when restaurants lose revenue and incur lawsuits, legal fees, and fines).

Americans eat out approximately five times per week, according to the National Restaurant Association. The Centers for Disease Control and Prevention (CDC) estimates that approximately 48 million people get sick, 128,000 are hospitalized and 3,000 die each year due to food-related illnesses, which are often referred to as food poisoning.

For the study, the researchers developed a computational simulation model to represent a single outbreak of a particular pathogen occurring at a restaurant. The model broke down results for four restaurant types: fast food, fast casual, casual and fine dining under various parameters (e.g., outbreak size, pathogen, and scenarios).

The model estimated costs of 15 foodborne pathogens that caused outbreaks in restaurants from 2010 – 2015 as reported by the CDC. Examples of the pathogens incorporated in the model were listeria, norovirus, hepatitis A, *E. coli* and salmonella. The model ran several different scenarios to determine the impact level ranging from smaller outbreaks that may incur few costs (i.e., no lawsuits and legal fees or fines) to larger outbreaks that incur a high amount of lawsuits and legal fees.

“Many restaurants may not realize how much even just a single foodborne illness outbreak can cost them and affect their bottom line,” says Bruce Y. Lee, MD, MBA, executive director of the Global Obesity Prevention Center (GOPC) at the Bloomberg School. “Paying for and implementing proper infection control measures should be viewed as an investment to avoid these costs which can top a million dollars. Knowing these costs can help restaurants know how much to invest in such safety measures.”

The research team found that a single outbreak of listeria in fast food and casual style restaurants could cost upwards of \$2.5 million in meals lost per illness, lawsuits, legal fees, fines and higher insurance premiums for a 250-

person outbreak. When looking at the same circumstances for fine dining restaurants, \$2.6 million in costs were incurred. The subsequent costs of outbreaks can be major setbacks for restaurants and are sometime irreversible. For example, Chi-Chi's restaurant went bankrupt and closed their doors in the U.S. and Canada permanently due to a hepatitis A outbreak in 2003. In the past decade, several national restaurant chains have lost significant business due to food-illness outbreaks.

Foodborne illness outbreaks can be avoided in some cases by various infection prevention and control measures, many of which may cost substantially less than the outbreak itself. For example, according to the National Restaurant Association, a training program that focuses on basic food safety, cross-contamination, time and temperature and cleaning and sanitation costs \$15 for an online course per employee.

Not allowing an employee enough time off work to recover from an illness can also lead to considerable costs. According to the model, giving a restaurant employee a week off to recover can cost an anywhere from \$78 to \$3,451 depending upon his/her wages and duration of illness. The findings from the study report that a single norovirus outbreak, also known as the winter vomiting bug, could cost a casual restaurant \$2.2 million, which far surpasses what it would cost to allow a sick employee adequate time off to recuperate.

"Even a small outbreak involving five to 10 people can have large ramifications for a restaurant," says Sarah M. Bartsch, research associate at the Global Obesity Prevention Center and lead author of the study. "Many prevention measures can be simple, like implement adequate food safety staff training for all restaurant employees and apply sufficient sick leave policies, and can potentially avoid substantial costs in the event of an outbreak."

[DNA test method can help quickly prevent Legionnaires' outbreak](#)

April 10, 2018

A DNA test method called polymerase chain reaction (PCR) allowed New York City health officials to identify the source of a Legionnaires' disease outbreak within hours of specimen collection and should be considered in all Legionnaires' outbreak investigations, researchers say in the April issue of the *Journal of Environmental Health*.

Their study describes the outbreak response and innovative use of PCR rather than the standard method of bacterial culture, which generally takes five to 10 days for a lab to detect the presence of *Legionella* bacteria, said co-

author Christopher Boyd, who led the city's response to the 2014 Legionnaires' outbreak as then-assistant commissioner of environmental sciences and engineering.

"In an outbreak investigation, the ability to identify and mitigate possible sources of exposure is critical to preventing more people from becoming infected. By using PCR, we were able to mitigate risks days earlier than if we had relied on traditional culture methods," said Boyd, who is now general manager of Building Water Health at NSF International, an independent, not-for-profit public health and safety organization.

"Our approach likely helped prevent more people from getting sick, because we were responding much sooner."

Legionnaires' disease, a severe form of pneumonia that occurs from inhaling water droplets from manmade water systems contaminated with *Legionella* bacteria, is the leading cause of death from waterborne outbreaks. An estimated 8,000 to 18,000 cases a year in the United States require hospitalization.

With a PCR test, fragments of DNA are run through a machine called a thermocycler, which heats and cools the sample repeatedly to produce multiple copies of these DNA fragments, amplifying them for analysis in just a few hours.

Boyd, who co-authored the study with Isaac Benowitz from the U.S. Centers for Disease Control and Prevention (CDC) and other researchers, said while PCR can confirm the presence of *Legionella* bacteria in a water sample, it cannot reliably tell whether those bacteria are alive or dead (like a bacterial culture can). Only live *Legionella* bacteria can make people sick.

But since PCR can be completed in one day, Boyd said the test is a valuable tool during a Legionnaires' disease outbreak. In late 2014, he and his team at the New York City Department of Health and Mental Hygiene suspected the outbreak of eight Legionnaires' cases was caused by a building's cooling tower; a PCR water sample from the tower confirmed the presence of *Legionella* in a single day and the city ordered the cooling tower shut down and disinfected. Days later, results from a bacterial culture of the water came back to show the *Legionella* bacteria in the cooling tower were, in fact, alive. Further testing showed these bacteria were the cause of the Legionnaires' disease outbreak.

Boyd and his team in New York City would use PCR successfully during a much larger outbreak of Legionnaires' disease in summer 2015 that killed 16 people and sickened more than 100. Another cooling tower was confirmed as the source. The local health department's investigation and response to that outbreak is discussed in another recent study co-authored by Boyd in the journal *Public Health Reports*.

In addition to PCR testing, Boyd said health departments should have a detailed strategy to deal with Legionnaires' disease outbreaks, including knowing the location of cooling towers. Following the 2015 outbreak, New York

City instituted rules for the registration and oversight of all cooling towers.

“Very often in these outbreaks, health officials don’t know the source of exposure that is making people sick,” Boyd said. “It is critical that public health officials have an inventory of significant sources of risk and detailed response plans to speed the response to an outbreak.”

For their part, building owners and managers should have a comprehensive water safety plan for managing pathogens such as *Legionella*. Boyd and other experts in water safety and public health will discuss these key issues May 9-11 at *Legionella* Conference 2018 in Baltimore, sponsored by NSF International and the National Science Foundation.

With proper planning and management of building water systems, Legionnaires’ disease outbreaks are almost completely preventable, experts say. A recent CDC report, in fact, found that nine in 10 outbreaks can be prevented with more effective water management. But unfortunately, preparing for and managing *Legionella* in many cases continues to be an afterthought in American society, Boyd said.

“In the United States, we have a very low tolerance for engineered systems to kill people,” he said. “We don’t allow elevators to fall and we expect fire sprinkler systems to work. So why is it that we continue to accept that failures in the maintenance of engineered water systems are addressed only when public health officials respond to significant increases in Legionnaires’ disease cases? There needs to be a paradigm shift among building owners, facility managers and public health officials – these outbreaks are preventable and the trigger for corrective action should no longer be sick and dead people.”

Source:

<http://www.nsf.org/newsroom/dna-testing-can-rapidly-solve-legionnaires-disease-outbreaks>

Lessons from Ebola: New approach improves disease outbreak management

A new approach to information gathering could allow scientists to quickly identify the most effective way to manage a disease outbreak, an advance that could save lives.