

is a tragedy of immense proportions", and that "this investigation will be thorough, exhaustive, and independent".

The outbreak of *L pneumophila* has simply added another layer to the city's woes. Even though the cases began to escalate just 2 months after the city switched the water supply, conclusions cannot be drawn one way or another.

"A change in a water source might or might not have effect on the risk of Legionnaire's disease", said Kristen Nordlund, a spokesperson from the Centers for Disease Control and Prevention (CDC). "We don't have enough information, and might never have enough information, to make a connection between Legionnaires' disease and the Flint River water supply", she said.

The Michigan Department of Health and Human Services (MDHHS)

has been trying to trace the source of the legionella cases.

According to the MDHHS, of the 87 total confirmed cases between June, 2014, and November, 2015, 31 (36%) used city water in their home. But 26 people (30%) had no known exposure to either a hospital using Flint water in the 2 weeks prior to illness, or Flint water at their residence. Officials evaluated other possible exposures but no known community exposures were identified.

"The legionella outbreak that was reported from June, 2014, to March, 2015, was found to have an association with a health-care facility, and that facility did undertake remediation", said Jennifer Eisner, a public information officer from the MDHHS.

During that period, 23 of 45 cases (51%) had exposure to McLaren Flint Medical Center, which is supplied by

city water, during the 2 weeks prior to onset of symptoms.

"In order to make a definitive statement on environmental causation, you need a strain match", she said, in that a bacteria sample from a patient must be matched to one found in the water. "Our evidence is based on case investigations of patients which have pointed to certain associations but not cause. Our department, along with the CDC and experts in the field, remain proactive in addressing the potential for future cases."

But some are not waiting for a definitive answer. A \$100 million lawsuit has just been filed against McLaren Flint Hospital and the State of Michigan by four residents who contracted the disease, saying they did nothing to combat the outbreak.

Roxanne Nelson

For the MDHHS's full analysis see http://mi.gov/documents/mdhhs/6-14_to_3-15_Legionellosis_Report_Full_Analysis_Results_511708_7.pdf

For more on the \$100 million lawsuit see <http://www.freep.com/story/news/local/michigan/flint-water-crisis/2016/02/02/figer-flint-lawsuit-mclaren-water-crisis/79704852/>

Infection disease surveillance update

Zika virus—global update

Between January, 2014, and Feb 5, 2016, 33 countries have reported autochthonous transmission of Zika virus. Brazil has reported the most number of cases, with the Brazilian national authorities estimating between 497 593 and 1 482 701 cases since the outbreak began in late 2014. Colombia has reported the second highest number of Zika virus cases; as of Jan 23, 2016, 20 297 cases had been reported since October, 2015. Seven countries have also had an increase in the incidence of microcephaly, Guillain-Barré syndrome, or both alongside the outbreaks of Zika virus, most notably Brazil. The other countries are Hawaii, French Polynesia, Colombia, El Salvador, Suriname, and Venezuela. This outbreak has led to the WHO declaring the clusters of microcephaly and other neurological disorders reported in Brazil and other countries to be a Public Health

Emergency of International Concern. Brazil has reported 4783 cases of microcephaly between October, 2015, and Jan 30, 2016—between 2001 and 2014, the yearly average number of microcephaly reported in Brazil was 163. In Africa, the island of Cape Verde is the only country to report autochthonous transmission; from October, 2015, 7081 cases have been recorded as of Jan 17, 2016.

Yellow fever in Angola

Since the end of 2015, the Angola Ministry of Health have reported 84 registered cases of yellow fever as of Feb 1, 2016. 25 of the registered cases died from their illness. The disease has spread to various neighbourhoods of the capital Luanda, and to Huila, Kwanza Sul, and Huambo. As part of the disease control activities, the government has started a vaccination campaign targeting 1.5 million children accompanied with awareness raising for preventative measures.

Dengue in Thailand

Thailand has reported 5129 cases of Dengue during January, 2016, spread across all the 76 provinces in Thailand, and in Bangkok. Nakornpathom, Samutsakorn, Rayong, Srisaket, and Bangkok have reported the most dengue cases. So far this year no fatalities have been reported. Thailand reported more 140 000 dengue cases in 2015.

Meningitis in Ghana

Health ministers in Ghana have reported an outbreak of pneumococcal meningitis, which began with suspected cases reported in December, 2015. As of Jan 29, 2016, 459 cases have been reported; 85 people have so far died from their illness. The region reporting the highest number of cases is the Brong-Ahafo Region, with 288 cases including 45 deaths.

Ruth Zwizwai

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For WHO's Zika situation report see http://apps.who.int/iris/bitstream/10665/204348/1/zikasitrep_5Feb2016_eng.pdf

For more on yellow fever in Angola see <http://www.promedmail.org/post/3995342>

For more on dengue in Thailand see <http://outbreaknewstoday.com/dengue-in-thailand-tops-5000-cases-in-1st-month-locally-acquired-zika-case-reported-13797/>

For more on meningitis in Ghana see <http://outbreaknewstoday.com/ghana-meningitis-outbreak-now-account-for-85-deaths-who-responds-with-technical-assistance-81556/>