

Source of bloodstream infection in Wisconsin unknown (Update)

March 9 2016, by Gretchen Ehlke

The U.S. Centers for Disease Control and Prevention has sent additional investigators to Wisconsin to find the source of a blood infection that officials described as the largest outbreak of the bacteria now linked to at least 18 deaths.

Wisconsin health officials said on their website Wednesday that the total number of reported cases now stands at 48. Infections were centered in the heavily populated southeastern quarter of the state, including the Milwaukee area and surrounding suburban counties.

Infectious disease specialists expect more infections to be found because health care providers and laboratories have been alerted to look for the bacterium called Elizabethkingia. It is named for Elizabeth O. King, a CDC bacteriologist who studied meningitis in infants.

A team of eight disease investigators, including three recently dispatched from the CDC, worked with the state Department of Health Services to interview those infected in 11 southern counties to see if a common source of Elizabethkingia could be found.

"We want to get through all of the basic information when memories are still fresh and they remember what they've eaten and where they've been," said Michael Bell, the CDC's deputy director of Healthcare Quality Promotion.

The organism is common in the environment, including water and soil,



but it rarely causes infections, Bell said Wednesday. And because the cases tested so far come from the same genetic "fingerprint," investigators looked for a common source, he added.

Bell said the Wisconsin cases are the largest outbreak of Elizabethkingia recorded in published literature.

"This is essentially ten-fold in what we expect to see" generally, Bell said.

A variety of potential sources have been tested, including health care products, water sources and food, but none of these have been found to be a source of the bacteria, said Bell whose division is working with Wisconsin health officials.

The majority of patients infected are 65 or older with a history of at least one underlying serious illness, according to the state health department. Those who died all tested positive for the infection, but it's not known if Elizabethkingia caused or contributed to their deaths.

Dr. Nasia Safdar, University of Wisconsin-Madison associate professor of infectious disease, said she has seen sporadic cases of the infection since she began studying diseases in 2003, but nothing like this.

"It's strange in that so many people are involved. It's a large outbreak for this type of bacteria," she said.

Generally, each state sees about five to 10 cases of the bacteria per year, according to the CDC. Safdar said it was likely additional cases will be found because health care providers and labs are now more vigilant since the outbreak was initially reported.

Not all of those infected have recently been in the hospital, where it



would typically be transmitted through a device or equipment such as a contaminated sink used by numerous people, Safdar said.

"Usually it would be in a hospital setting where a susceptible population would exist," she added.

In the health care setting, the bacteria has been isolated in hospital water supplies, sinks, saline solution used for flushing procedures, disinfectants, and medical devices, including feeding tubes, arterial catheters, and respirators, according to the *Indian Journal of Critical Care Medicine*.

The organism can survive in chlorine-treated municipal water supplies, often colonizing sink basins and taps, intubation tubes, humidifiers, incubators for newborns, ice chests and syringes, and has become a potential reservoir for infections in the hospital environment.

State health officials were first notified of six cases between Dec. 29, 2015, and Jan. 4, 2016, and alerted health care providers and laboratories statewide of the presence of the bacteria.

After the initial cases were reported and state health officials notified local partners, the number of cases began to grow steadily with one dating back to November 2015. Symptoms include fever, shortness of breath, chills or skin rash, health officials said.

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