

Recommendations to the CDC

Data Received from CDC

28 samples from the Centers for Disease Control and Prevention (CDC) surveillance and outbreak investigations

Species Identified

All 28 samples were identified to be *Elizabethkingia anophelis*.

Background

Elizabethkingia anophelis is a Gram-negative bacteria and is rarely reported to cause illness in humans. *E. anophelis* is an environmental microorganism that is not part of the human microflora, and is an uncommon colonizer of the respiratory tract.

In 2016, there was a multi-state cluster outbreak in Wisconsin, Michigan and Illinois. It was found that primarily older adults were infected and those who have serious underlying health conditions. While all previously documented *E. anophelis* outbreaks have been associated with healthcare settings, sporadic cases acquired in the community have been reported. Additionally, there has been a singular documented case of *E. anophelis* transmission from mother to infant during birth.

Symptoms

The signs and symptoms of illness that can result from exposure to the bacteria can include fever, shortness of breath, chills or cellulitis. Confirmation of the illness requires a laboratory test.

Diagnosis

Testing samples from a variety of potential sources, including healthcare products, water sources and the environment; to date, none of these have been found to be a source of the bacteria.

Diagnosis relies on culture results from sterile sites, primarily blood samples. However, due to its rarity, certain clinical laboratories may employ bacterial detection software that could misclassify *E. anophelis* as other bacterial species. In cases where results indicate *Flavobacterium meningosepticum* or *Chryseobacterium meningosepticum*, we advise reporting these findings to the state health department for consultation and proceeding with presumptive treatment for *E. anophelis*.

Treatment

E. anophelis inherently displays resistance to multiple antimicrobial agents and contains various genetic factors associated with antimicrobial resistance, such as multiple beta-lactamases and efflux systems. Strains responsible for cases in previous outbreaks are susceptible to several

antibiotics. These include fluoroquinolones, rifampin, minocycline, and trimethoprim/sulfamethoxazole. We recommend using combination therapy rather than monotherapy. Optimal treatment should be tailored to individual cases based on antimicrobial susceptibility testing results for the most effective outcome.

References

<https://www.cdc.gov/elizabethkingia/outbreaks/index.html>

<https://www.dhs.wisconsin.gov/disease/elizabethkingia.htm>

<https://www.medscape.com/viewarticle/861096>