WEST VIRGINIA Department of Health & Human Resources
BUREAU FOR PUBLIC HEALTH

HEALTH ADVISORY #208

Multistate *Pseudomonas aeruginosa* Outbreak Linked to Artificial Tears

TO: **West Virginia Healthcare Providers, Hospitals and Other Healthcare Facilities**

FROM: **Matthew Christiansen, MD, MPH - Commissioner and State Health Officer**
West Virginia Department of Health and Human Resources, Bureau for Public Health

DATE: **February 3, 2023**

LOCAL HEALTH DEPARTMENTS: Please distribute to community health providers, hospital-based physicians, infection control preventionists, laboratory directors and other applicable partners.

OTHER RECIPIENTS: Please distribute to association members, staff, etc.

The Centers for Disease Control and Prevention (CDC) issued a health advisory on February 1, 2023 following an ongoing multistate outbreak investigation of a broadly drug-resistant strain of Verona Integron-mediated Metallo-β-lactamase (VIM) and Guiana-Extended Spectrum-β-Lactamase (GES)-producing carbapenem-resistant Pseudomonas aeruginosa (VIM-GES-CRPA). As of January 31, 2023, a total of 55 patients have been identified in 12 states. Most patients reported using artificial tears.

Dates of specimen collection were from May 2022 to January 2023. Isolates have been identified from clinical cultures of sputum or bronchial wash, cornea, urine, and other nonsterile sources. Patients had a variety of presentations including keratitis, endophthalmitis, respiratory infection, urinary tract infection, and sepsis. Patient outcomes include permanent vision loss resulting from cornea infection, hospitalization, and one death due to systemic infection.

Review of common exposures revealed that most patients, including most patients with eye infections, used artificial tears prior to identification of VIM-GES-CRPA infection or colonization. Patients reported more than 10 brands of artificial tears, and some patients used multiple brands. The majority of patients who used artificial tears reported using EzriCare Artificial Tears, a preservative-free product dispensed in multidose bottles.

The West Virginia Department of Health and Human Resources, Bureau for Public Health has the following recommendations:

Healthcare Providers

1. Immediately discontinue using EzriCare Artificial Tears pending additional guidance from CDC and U.S. Food and Drug Administration (FDA).

2. Advise patients who used EzriCare Artificial Tears to monitor for signs and symptoms of infection and perform culture and antimicrobial susceptibility testing when clinically indicated.

3. Healthcare providers treating patients for keratitis or endophthalmitis should ask patients if they have used EzriCare Artificial Tears. Providers should consider performing culture and antimicrobial susceptibility testing to help guide therapy if patients report use of this product.

4. Healthcare providers treating VIM-GES-CRPA infections should consult with a specialist knowledgeable in the treatment of antibiotic-resistant bacteria to determine the best treatment option. A subset of three isolates associated with the outbreak was susceptible to Fetroja® (cefiderocol).

5. Place patients infected or colonized with VIM-GES-CRPA and admitted to acute care settings in isolation and use Contact Precautions. For residents of skilled nursing facilities who are infected or colonized with VIM-GES-CRPA, use Enhanced Barrier Precautions if the resident does not have an indication for Contact Precautions.

6. At this time, there is no recommendations to test patients who have used this product and who are not experiencing any signs or symptoms of infection.

Clinical Laboratories

1. Clinical laboratories that identify *P. aeruginosa* resistant to imipenem or meropenem are encouraged to perform carbapenem resistance mechanism testing.
    - Laboratories wishing to apply a more specific definition when identifying isolates that might be related to this cluster for mechanism testing could limit testing to carbapenem-resistant *P. aeruginosa* that are also resistant to cefepime, ceftazidime, and (if tested) ceftazidime-avibactam and ceftolozane-tazobactam.

2. Clinical laboratories that identify any carbapenem-resistant *P. aeruginosa* from an ocular specimen or VIM-CRPA from any specimen source should submit the isolate to the Antimicrobial Resistance Laboratory Network for further characterization.
    - Carbapenem resistance mechanism testing is available through the Antimicrobial Resistance Laboratory Network via the West Virginia public health laboratory, Office of Laboratory Services (OLS).
    - **Clinical laboratories that identify VIM-CRPA should save the isolate and report it to the Division of Infectious Disease Epidemiology Healthcare-Associated Infections Antimicrobial Resistance Program, Monday through Friday between 8:00am and 4:00pm by calling (304) 558-5358, extension 2.**

For questions about this health alert, contact the Office of Epidemiology and Prevention Services, Division of Infectious Disease Epidemiology (DIDE) at (304) 558-5358 ext. 2.