

MLS Laboratory Update: Call for Cases of Novel *Pseudomonas* sp. in CSF

JANUARY 28, 2026

Purpose of this Message:

To provide awareness of and ask for assistance with a CDC investigation of a potential novel *Pseudomonas* sp. identified in CSF cultures in 3 patients from 2 states (CA and IL) between August 2022 and August 2025. Note, a similar message is being sent from MDH to Infection Preventionists.

Action Item:

MDH is asking clinical laboratories to:

1. Please do a look-back of microbiologic data for cultures collected from August 1, 2022 to present with growth of non-fermenting gram-negative bacilli with features of the novel *Pseudomonas* described below.
2. Determine if the patient had an indwelling neurologic device
3. Determine if an isolate is available and save any newer isolates (if available)
4. Notify MDH HAI Team (details below)
5. Continue to monitor for additional isolates fitting this description

Background:

Summary:

The Centers for Disease Control and Prevention (CDC) is investigating reports of a novel *Pseudomonas* species identified in cerebrospinal fluid (CSF) cultures between August 1, 2022 to present. Cultures were obtained from patients who were hospitalized in two states and had indwelling neurologic devices. Healthcare facilities and clinical laboratories that identify non-fermenting gram-negative bacilli with features of the novel *Pseudomonas* sp. (see description) in CSF cultures of patients with indwelling neurologic devices should save the isolate and notify the Minnesota Department of Health (MDH).

Description:

Three patients in two states (CA and IL) have been reported as of January 6, 2026 with culture collection dates ranging from August 2022 to August 2025. Preliminary epidemiologic findings indicate all patients had external ventricular drains at the time of CSF culture and were treated for ventriculitis. Efforts to identify common exposures, including additional medical products and devices, are underway.

Isolate characteristics:

Due to the novel nature of the species, identification has varied based on lab methods.

Characteristics include:

- Glucose non-fermenting gram-negative rods (bacillus)
- May demonstrate enhanced growth at 30°C versus 35°C
- Non-lactose fermenters on MacConkey agar
- Oxidase positive, with limited biochemical activity
- Produced low confidence scores to multiple *Pseudomonas* species on MALDI-TOF MS
- Produced a range of identifications on automated testing instruments, including low probability ID to organisms across multiple non-fermentative genera
- Isolates from one state harbored the carbapenemase IMP-13
- CSF cultures yielding *Pseudomonas* or *Burkholderia*-like organisms should be reviewed even in the presence of a high confidence identification

To aid in accurate identification, a composite MALDI-TOF MS profile has been added to CDC's MicrobeNet library for all three isolates. Organism can be identified with high confidence scores in CDC's MicrobeNet library as unidentified *Pseudomonas* spp. MN25CDC115, MN25CDC116, and MN25CDC117. One isolate is available in the National Center for Biotechnology Information (NCBI) RefSeq genomes database as NUPR-001 (RefSeq # GCF_052147955.1).

Perform a Retrospective Review:

We are requesting that healthcare facilities and clinical laboratories perform a retrospective review (ideally to August 2022) and conduct prospective surveillance for isolates from CSF cultures that are glucose non-fermenting gram-negative rod (bacillus) that phenotypically resemble environmental *Pseudomonas* or *Burkholderia* and fit one or more of the following descriptions:

- Demonstrates limited biochemical activity (e.g., 6-8 biochemical positive reactions per panel). When using automated testing instruments (e.g., Vitek 2, Microscan), scrutinize passing scores with reduced confidence (e.g., *Pseudomonas aeruginosa*) when key biochemicals are atypical
- MALDI-TOF MS either does not identify organism or produces low confidence scores to multiple non-fermenting gram-negative organisms
- MALDI-TOF MS produces a high confidence score to unidentified *Pseudomonas* spp. MN25CDC115, MN25CDC116, and MN25CDC117 in the CDC MicrobeNet library
- 16S rRNA sequencing matches 100% to NUPR-001 in NCBI's RefSeq genomes database

Healthcare facilities and clinical laboratories that identify CSF isolates from patients with indwelling neurologic device(s) that match the descriptions above should save the isolate (if available), notify the MDH Healthcare Associated Infections (HAI) Team.

Additional Information:

Reporting Instructions

Please report potential cases to MDH by emailing health.hai@state.mn.us with the following details:

- Patient name and date of birth
- Date of specimen collection
- Healthcare facility name
- Your contact information

Alternatively, you may call **MDH at 651-201-5414** and request to speak with the **Healthcare-Associated Infections (HAI) epidemiology team**.

Questions: If you have any laboratory questions, please contact: Paula Snippes Vagnone, paula.snippes@state.mn.us

Thank you for your assistance in this investigation.

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