Michigan Department of Health and Human Services
Surveillance for Healthcare Associated and Resistant Pathogens (SHARP) Unit
***Candida auris* Case Reporting and Investigation Guidance**

Table of Contents

Purpose

Candida auris is a yeast that may colonize the skin and other body sites, particularly in hospitalized patients or long-term care facility residents. Patients colonized with *C. auris* may not have any signs or symptoms and harbor it unknowingly, often for prolonged periods of time. However, colonized patients can develop serious illness or invasive infections, including bloodstream infections. Treatment for invasive infections may be challenging because the yeast is commonly resistant to multiple classes of antifungal drugs .

Consequently, *C. auris* is an emerging fungal infection of international concern and was made nationally notifiable in 2018. The first case of *C. auris* in Michigan was detected in May 2021. Most cases have been detected via colonization screen skin swab of the axilla-groin, followed by blood, urine, wound, respiratory, or other body site. Most *C. auris* cases have had multiple healthcare exposures across the continuum of care.

C. auris can spread from colonized or infected patients to the hands and clothes of healthcare providers or to medical equipment and surfaces in healthcare environments, which may contribute to the spread of *C. auris* among patients in healthcare facilities. Therefore, case reporting, investigation, and containment to prevent the spread of *C. auris* is a public health priority.

Candida auris is included in the list of conditions in the Health Care Professional's Guide to Disease Reporting in Michigan that must be reported to the **Michigan Disease Surveillance System** (MDSS) or local health department if the organism is identified by clinical or laboratory diagnosis.

Laboratory Reporting

1. **Report any laboratory result** that meets either of the following criteria:
    a. Detection of *C. auris* in a specimen using either **culture** or a validated **culture-independent diagnostic test (CIDT)** (e.g., Polymerase Chain Reaction [PCR])
    b. Detection of an organism that commonly represents a *C. auris* misidentification in a specimen by culture (i.e., *Candida haemulonii*)
2. **Submit specimens:** Submit suspect or confirmed *C. auris* isolates, subcultures, or specimens to the MDHHS BOL in Lansing.
3. Confirmatory laboratory evidence:
    a. Detection of *C. auris* in a specimen from a swab obtained for the purpose of colonization screening using either culture or validated culture-independent test (e.g., nucleic acid amplification test [NAAT]), OR
    b. Detection of *C. auris* in a clinical specimen obtained during the normal course of care for diagnostic or treatment purposes using either culture or a validated culture-independent test (e.g., NAAT)

Note: Species-level identification for all yeast isolates from sterile site clinical specimens is recommended, but speciation for sterile-sites alone will be insufficient for detecting and preventing spread of *C. auris*. Laboratories who have been speciating yeasts from non-sterile sites of high-risk patients have been instrumental in finding some of these early *C. auris* cases in Michigan. Laboratories should conduct species-level identification for yeast isolates when:

- Clinically indicated in the care of a patient
- *C. auris* has been identified in the healthcare facility or unit, in order to detect additional colonized patients
- A patient has a history of healthcare stay outside the US in the past 12 months

Species-level identification should also be considered for high-risk patient populations such as patients presenting from LTACH, ventilator-capable SNFs, ICUs, or rehabilitation facilities, particularly if they have risk factors for *C. auris* such as presence of mechanical ventilation or tracheostomy, chronic wounds, or a history of MDROs, depending on local epidemiology and laboratory resources.

See CDC resources for laboratories on identification of *C. auris* isolates, and colonization screening.

Infection Prevention and Control

1. Healthcare facilities, across the continuum of care, should:
    a. Take steps to identify patients with *C. auris* infection or colonization (see CDC guidance on surveillance for *C. auris*)
    b. Be prepared to implement setting-appropriate infection prevention precautions, including the use of disinfectant products effective against *C. auris* (see the EPA List P) for all patients with suspected or confirmed *C. auris* infection or colonization.
    c. Collaborate with public health on recommended infection prevention and control practices and screening procedures to facilitate timely and accurate detection of individuals with *C. auris* to reduce the risk of further spread.
    d. Ensure effective communication of a patient's *C. auris* status upon transfer or discharge to another healthcare facility or setting
        i. As with any MDRO, decisions to transfer a patient from one level of care to another should be based on clinical criteria and the ability of the accepting facility to provide the appropriate level of care — **not** on the presence or absence of *C. auris* infection or colonization or potential exposure to *C. auris.* Generally, facilities that care for patients with other MDROs or *Clostridioides difficile* are also capable of caring for patients with *C. auris*.
        ii. Communications should include notification of any lab results finalized after the patient has been transferred.
        iii. Facilities that would like to discuss care for patients with *C. auris* may contact their local health department jurisdiction and/or the Surveillance for Healthcare-Associated and Resistance Pathogens (SHARP) Unit at (517) 335-8165 or MDHHS-SHARP@michigan.gov.

2. Report any patient or laboratory finding that meets the following criterion: Detection of *C. auris* in a specimen using either culture or a validated culture-independent test (e.g., nucleic acid amplification test [NAAT])
    a. Confirmed or suspect cases must be reported to the local health department jurisdiction in which the patient resides (county of residence).
    b. Report both clinical and screening cases (e.g., axilla/groin swab) as public health and facility responses generally do not differ by case type.
3. Entering Case Information into MDSS
    a. Healthcare providers reporting cases (e.g., hospital infection prevention) may consider completing the case detail form when reporting the case into MDSS.

b. Sections to complete include the Patient Demographics, Laboratory, and Clinical Information to determine patient epidemiological information.
c. Documentation of healthcare exposures and international travel is significantly important if available.

Local Health Departments

1. Electronic reports in MDSS: Review laboratory information and available case information to determine case status/classification and follow-up case investigation.
2. Manual reporting in MDSS: Create cases from reports with healthcare records containing a diagnosis of *C. auris* infection and laboratory reporting criteria.

Case Status/Classification

1. Confirmed *Candida auris*:
   - ✓ Detection of *C. auris* from any body site using either culture or a culture independent diagnostic test (CIDT) (e.g., PCR)
2. Probable or Suspect: N/A

Case Type: Clinical vs. Screening

1. ***Candida auris* case, clinical**: Person with detection of *C. auris* using either culture or a culture-independent diagnostic test (CIDT) from a clinical specimen obtained during the normal course of care for diagnostic or treatment purposes.
   a. This includes specimens from sites reflecting invasive infection (e.g., blood, cerebrospinal fluid) and specimens from non-invasive sites such as wounds, urine, and the respiratory tract, where presence of *C. auris* may simply represent colonization and not true infection. This does not include swabs collected for screening purposes.
   b. Swabs collected from wound or draining ear as part of clinical care are considered clinical specimens.

2. ***Candida auris* case, screening**: Person with detection of *C. auris* using either culture or a culture-independent diagnostic test (CIDT) from a swab collected for the purpose of screening for *C. auris* colonization regardless of site swabbed.
   a. Typical screening specimen sites are skin (e.g., axilla, groin), nares, rectum, or other external body sites.

b. Because it can be difficult to differentiate screening specimens from clinical specimens based on microbiology records, any swabs except wound swabs or draining ear swabs can be assumed to be for screening unless specifically noted otherwise.

Case Counting and De-duplication

1. A person who is colonized or infected with *C. auris* is considered colonized indefinitely.
2. For screening cases, count a person only once as a screening case.
    a. Do not count again if person has been previously identified as a clinical or screening case.
    b. A person with a screening case can be later counted as a clinical case (e.g., patient with positive screening swab who later develops bloodstream infection would be counted in both categories).
3. For clinical cases, count patient only once as a clinical case, even if the patient has already been counted previously as a screening case.
    a. A person with a clinical case should not be counted as a screening case thereafter because all clinical cases are considered to also be colonized with *C. auris* (e.g., person with a clinical *C. auris* specimen who later has positive screening swab is not counted as a screening case)
4. Duplicate reports can be merged to the previous related case or closed out as "Superceded."
5. For additional details and example scenarios, refer to **Appendix A: Case Reporting and De-duplication of Investigation Status**

Case Investigation

1. Investigate all cases that fully meet the *Candida auris* case definition. Disease investigators may utilize the Case Detail Form in MDSS for documenting epidemiological information for *C. auris* cases:
    a. Complete the entire case detail form as best as possible.
    b. LHDs may consider contacting the healthcare provider/hospital infection preventionist of the reporting facility to determine patient epidemiological information if not already entered in MDSS. Otherwise, proceed with case interviews.
    c. Documentation of healthcare exposures and international travel is crucially important.

d. MDHHS SHARP unit may reach out to LHDs to request additional information based on case epidemiological information to further investigate potential clusters.
e. MDHHS SHARP unit may reach out to LHDs when there is a cluster or epi-linkages between of cases at a facility in their jurisdiction to coordinate further detection, containment, and prevention activities.

2. For additional information on documenting details of the case investigation, see **Appendix B: MDSS Case Report Documentation**

Questions regarding *Candida auris* reporting can be directed to:
Niki Mach: MachN@michigan.gov or 517.290.6667
Sara McNamara: McNamaraS5@michigan.gov or 517.582.5645

Appendix A: Case Reporting and De-duplication of Investigation Status

A person who is colonized or infected with *Candida auris* is considered colonized indefinitely. A person is counted as a case when *C. auris* is identified for the first time in a specimen, whether that be a screening or clinical specimen. The following scenarios provide guidance on distinguishing a new case for persons who test positive for *C. auris* in either a screening swab (i.e., screening case) or in a clinical specimen (i.e., clinical case). Color legend: Blue is screening specimen, Peach is clinical specimen, Green is reporting, Pink is duplicate case information.

Scenario #1 - If a person is first classified as a clinical case, and later a screening swab is positive, they would not be counted as a screening case.

Example: Patient A has an ear fungus culture that is positive *C. auris*. Later, Patient A is included in a *C. auris* screening Point Prevalence Survey (PPS) and their axilla/groin swab is positive. Patient A would be counted only once, as a clinical case for the initial culture.

Laboratory Results	*Interpretation* →	*Action*
Ear culture 1/12/2023 *C. auris* positive isolate	New *C. auris* case for Patient A, case #1	Report as a *C. auris* clinical case, case #1
Axilla/Groin swab 5/13/2023 *C. auris* positive DNA detected	Positive *C. auris* screening case. Not a new case for Patient A.	Enter new lab info in the Lab Reports tab and Merge with case #1 or close out as Superceded

Scenario #2 - A person first classified as a screening case can be later counted again as a clinical case. ***This is the only scenario that C. auris can be counted twice for the same person.***

Example: An axilla/groin swab from Patient A has a result of *C. auris* positive DNA detected. Patient A is later at a hospital where a blood specimen tests positive for *C. auris*. Patient A would be reported as a *C. auris* screening and clinical case.

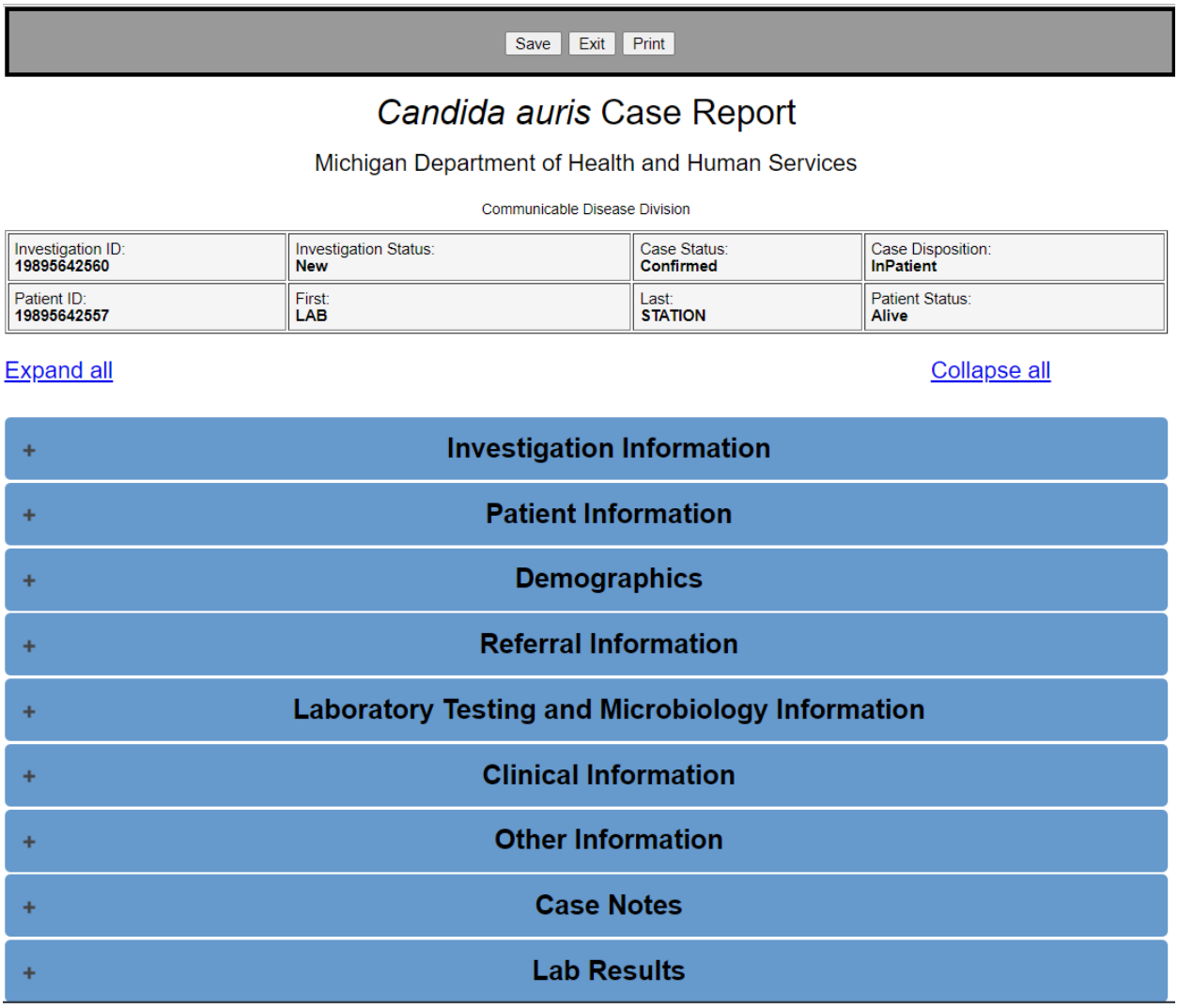
Laboratory Results	*Interpretation* →	*Action*
Axilla/Groin swab 1/10/2023 C. auris positive DNA detected	New *C. auris* case for Patient A, case #1	Report as a *C. auris* screening case, Case #1
Blood culture 5/12/2023 *C. auris* positive	Positive clinical case New *C. auris* case #2	Report as a *C. auris* clinical case, Case #2

Appendix B: MDSS Case Report Documentation

Data fields in MDSS are important to generating quality data reports for describing the epidemiology of the condition. Some highlighted sections below from the case report form explain details of documenting information in MDSS for completeness.

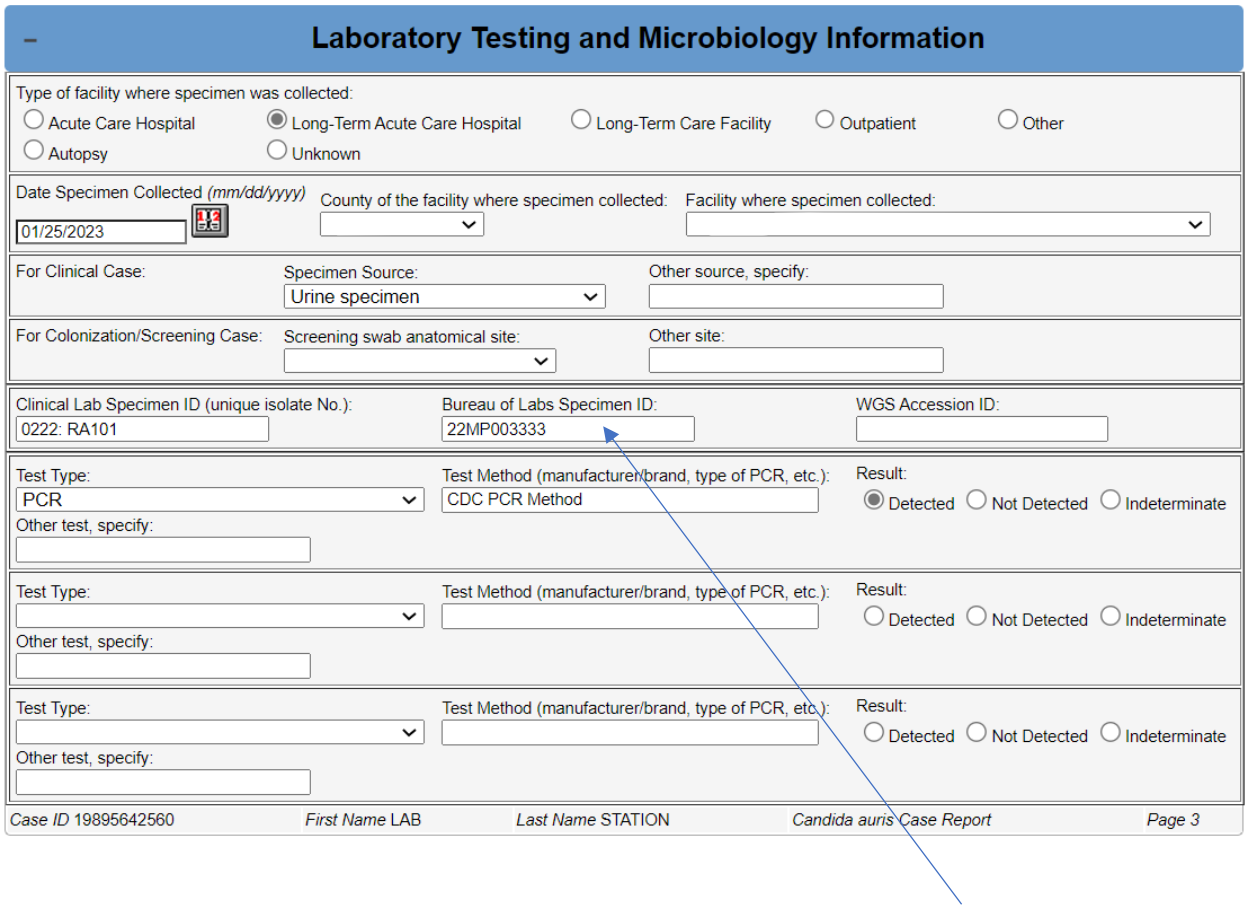
MDSS All Sections

Complete the entire case detail form as best as possible.

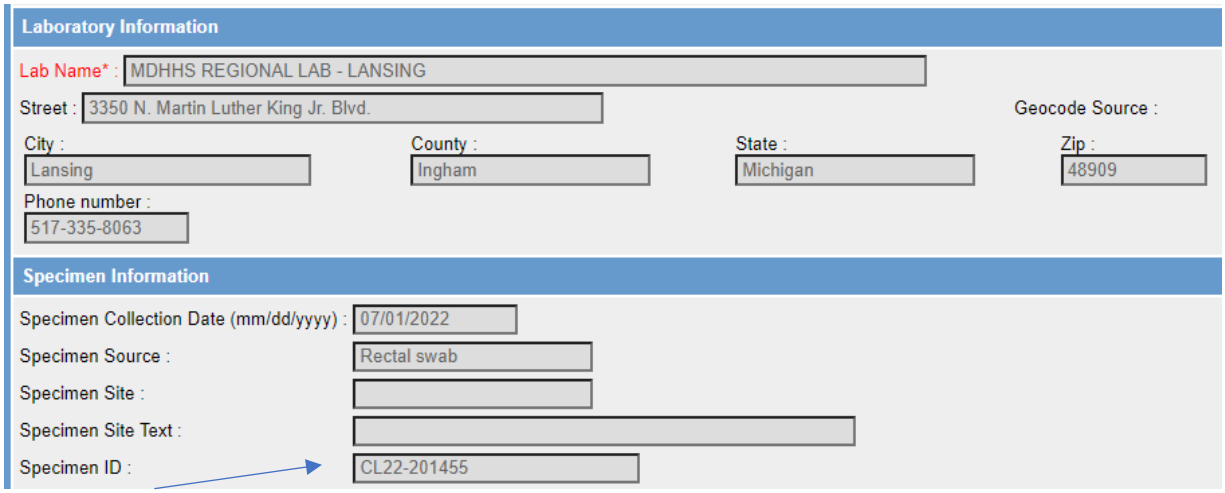


Laboratory Testing and Microbiology Information section

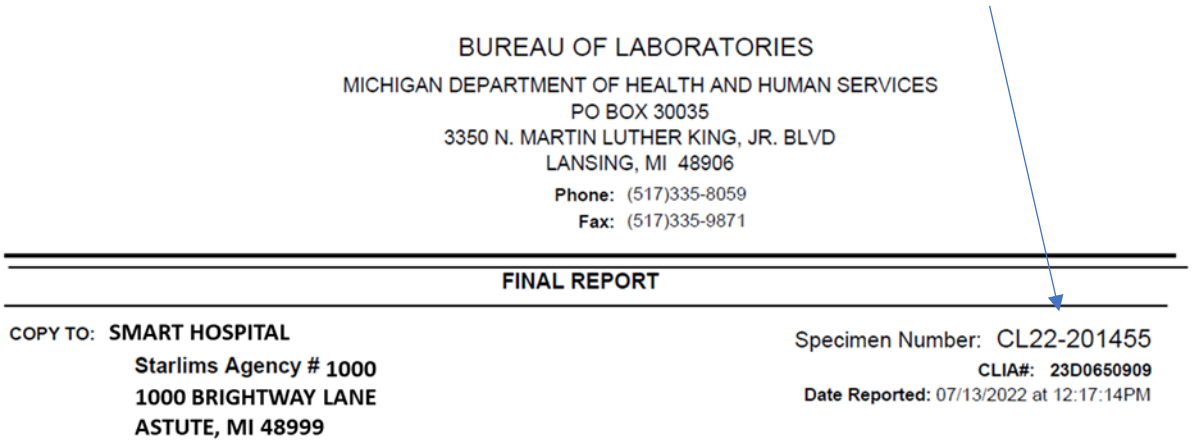
- Please complete all fields in this section with available information



- BOL specimen IDs should be included in the "Bureau of Labs Specimen ID" field
- The MDSS Lab Reports tab has information for the Specimen ID from the lab that performed the test: Clinical Lab or BOL



- BOL specimen ID can also be found on the top right area of the BOL report form



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FINAL REPORT

COPY TO: **SMART HOSPITAL**
Starlims Agency # 1000
1000 BRIGHTWAY LANE
ASTUTE, MI 48999

Specimen Number: CL22-201455
CLIA#: 23D0650909
Date Reported: 07/13/2022 at 12:17:14PM