

Proposal for Conducting Statewide Surveillance for *Candida auris* (*C. auris*) in Minnesota under the Minnesota Communicable Disease Rule (4605.7080)

Division: Infectious Disease Epidemiology, Prevention and Control Division

Section: Healthcare-Associated Infections (HAI) and Antimicrobial Resistance (AR) Section

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Under part 4605.7080 of the Communicable Disease Reporting Rule, the Commissioner may select new diseases and syndromes if certain criteria are met. Specifically, 4605.7080 says:

“Subpart 1. **Disease selection.** The commissioner shall, by public notice, require reporting of newly recognized or emerging diseases and syndromes suspected to be of infectious origin or previously controlled or eradicated infectious diseases if:

- A. the disease or syndrome can cause serious morbidity or mortality; and
- B. report of the disease or syndrome is necessary to monitor, prevent, or control the disease or syndrome to protect public health.”

“Subp. 2. **Surveillance mechanism.** The commissioner shall describe a specific, planned mechanism for surveillance of the disease or syndrome including persons and entities required to report, a time frame for reporting, and protocols for the submission of test results and clinical materials from cases and suspected cases to the Minnesota Department of Health, Public Health Laboratory.”

1. DISEASE SELECTION

The commissioner shall, by public notice, require reporting of newly recognized or emerging diseases and syndromes suspected to be of infectious origin or previously controlled or eradicated infectious diseases if:

A. The disease or syndrome causes serious morbidity or mortality.

Based on the following information, the Minnesota Department of Health (MDH) finds that *Candida auris* (*C. auris*) causes serious morbidity or mortality.

Candida auris is a globally emerging, multidrug-resistant fungal pathogen that causes serious, difficult-to-treat infections. *C. auris* can cause invasive infections of the bloodstream and other sterile sites, and has also been isolated from wound, respiratory, and urine specimens. *C. auris* infections require treatment with antifungals, which are medications used to kill the organism in the body. Most *C. auris* strains are resistant to at least one antifungal, and some are resistant to all three major classes of antifungals making infections difficult and sometimes impossible to treat. Although the 30-day

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mortality rate of patients with *C. auris* has not been well defined due to limited information, according to the Centers for Disease Control and Prevention (CDC) it is estimated that 30%-60% of patients with *C. auris* infection have died.¹ Many of these cases had other serious conditions that also increased their risk of death.

Those most at risk for *C. auris* are individuals with compromised immune systems receiving a high level of health care. Specific risk factors for *C. auris* include recent surgery, diabetes, antimicrobial use, and the presence of invasive devices such as breathing tubes, feeding tubes, and central venous catheters. Infections have been found in patients of all ages, from preterm infants to the elderly, but most infections occur in those over 65 years of age. As *C. auris* is a new and emerging pathogen, further study is needed to identify additional risk factors for *C. auris*. Patients may be colonized with *C. auris*, usually on the skin, prior to an infection occurring. Colonization means that the organism can be found on the body but is not causing any symptoms of disease; however, colonized patients are at increased risk for developing infection if the organism gains access to other body sites.

B. Report of the disease or syndrome is necessary to monitor, prevent, or control the disease or syndrome to protect public health.

Based on the following information, MDH finds that reporting of *C. auris* is necessary to monitor, prevent, and control the disease to protect the public's health.

C. auris was first identified in Japan in 2009. The first case in the United States was identified in 2016, with a CDC alert that prompted retrospective reviews of microbiology records identifying a *C. auris* case from 2013.² While *C. auris* has not yet been identified in a Minnesota patient, over 650 clinical cases of *C. auris* have been identified in 12 states as of April 2019. Unlike other *Candida* species, *C. auris* is commonly spread from person to person. *C. auris* can be transmitted from patient to patient in health care settings and from facility to facility when patients are transferred from one facility to another. Large-scale outbreaks of *C. auris* have occurred in health care setting across the globe. In the U.S., outbreaks have occurred in New York City, New Jersey, and Chicago. Such outbreaks have been difficult to control even with enhanced infection control efforts due to the ability of *C. auris* to contaminate the patient care environment and persist on surfaces for weeks. *C. auris* outbreaks often involve multiple health care settings as patients transfer throughout the health care system, highlighting the important role public health plays in facilitating a coordinated response among facilities to contain the spread of *C. auris*. Implementing statewide surveillance will enable early detection, prompt implementation of enhanced infection control measures, and a public health response among interconnected facilities, thus helping to prevent and control the disease.

Specific laboratory technology is needed to identify and differentiate *C. auris* from other *Candida* species that do not pose infection control challenges. *C. auris* can be misidentified as a variety of different types of yeasts with the testing methods used by most clinical laboratories. *C. auris* is most commonly misidentified as *Candida*

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haemulonii, but the organism misidentifications are specific to each yeast identification method.

MDH has been working with infection control programs and clinical laboratories since 2016 to ensure Minnesota is prepared to identify and respond to cases of *C. auris*. The MDH Public Health Laboratory (MDH-PHL) is one of seven labs in CDC's Antibiotic Resistance Laboratory Network (ARLN) that is equipped to identify *C. auris*, and clinical laboratories throughout Minnesota are on alert to submit any organism that may be *C. auris* to the MDH-PHL for identification. For the past three years, MDH-PHL has requested and tested *Candida* isolates to rule out *C. auris*. Through this ongoing testing, MDH has not yet identified a case of *C. auris* in Minnesota. However, MDH remains vigilant to prevent the spread of this emerging fungus to and within Minnesota.

Several *C. auris* cases in the U.S. have been linked to receipt of health care in countries outside the U.S. The CDC recognizes foreign health care exposure as a risk factor for colonization with *C. auris*. In late 2018, CDC released recommendations to screen patients who have had an overnight stay in a health care facility outside the United States in the previous year for *C. auris* colonization. In April 2019, MDH sent guidance to Minnesota acute care infection preventionists addressing new recommendations for hospital admission colonization screening to detect *C. auris*. MDH recommends conducting *C. auris* colonization screening on admission for patients with a history of receiving inpatient care, ambulatory surgery, or hemodialysis in a health care facility outside the U.S. in the previous 12 months. In addition, MDH recommends hospitals consider screening for *C. auris* colonization among inpatients with a history of inpatient or skilled nursing facility stay in New York City, New Jersey, or Chicago in the previous 12 months. Because colonization is a risk factor for disease, and because colonized patients can spread *C. auris*, any detection of *C. auris* is of public health importance.

In 2018, the Council for State and Territorial Epidemiologists (CSTE) made *C. auris* nationally notifiable and numerous states have made the infection reportable. Statewide surveillance for *C. auris* is critical to completely describe the epidemiology of *C. auris* and control the spread in Minnesota once the first case is detected. Most clinical laboratories in Minnesota do not have the resources or capacity to identify *C. auris*, but the MDH-PHL does. Data collected through surveillance and isolate submission will be used to monitor *C. auris* trends, estimate the incidence of *C. auris* statewide and by region, identify outbreaks or geographical areas of concern, and drive targeted infection prevention and control measures to protect Minnesotans from *C. auris*.

2. SURVEILLANCE MECHANISM

The commissioner shall describe a specific, planned mechanism for surveillance of the disease or syndrome including persons and entities required to report, a time frame for reporting, and protocols for the submission of test results and clinical materials from cases and suspected cases to the Minnesota Department of Health, Public Health Laboratory.

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A. Disease or Syndrome

Candida auris includes specimens isolated from any body site, which can include, but is not limited to, bloodstream, wound, ear, respiratory, urine or skin. Detection encompasses infection or colonization.

B. Reporting Entities

The Commissioner requires all mandated reporters to report *C. auris*. For a list of mandated reporters, see Minn. Rules, Chapter 4605.7030 and 4605.7070.

C. Reporting Time Frame

Providers and laboratories must report *C. auris* cases to MDH within one working day after the test result is finalized.

D. Protocol for Submission

a. Provider Submissions

Providers will report using a designated case report form and must be submitted either by direct electronic transmission, phone, or fax. The report must include, at a minimum, the following information:

1. Patient data – patient name, date of birth, gender, race, ethnicity (if available), telephone number, residential address, including street, city, county, state, and postal code
2. Culture data – specimen collection date, specimen source, isolate genus and species, antibiotic susceptibility report (medical record), and *C. auris* test results (if known/reported in medical record)
3. Facility data – patient medical record number, date of report, physician name, address, and telephone number, name of hospital (including date of admission/discharge) or other health care facility, and the diagnostic laboratory name

b. Clinical and Laboratory Submissions

Clinical and reference laboratories must forward *C. auris* isolates from any body site (e.g., urine, blood, ear, wound, skin, etc.) along with results of antifungal susceptibility testing performed on the isolate to the PHL. Laboratories must also forward isolates of possible *C. auris* misidentifications to the MDH-PHL. For information regarding possible misidentifications based on the type of yeast identification used in clinical laboratories, please see [CDC: Identification of *Candida auris*](https://www.cdc.gov/fungal/candida-auris/recommendations.html) (<https://www.cdc.gov/fungal/candida-auris/recommendations.html>). The submission must include, at a minimum, the following information:

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1. Completed MDH isolate submission form(s).
2. Results of antibiotic susceptibility testing (if performed), including automated testing instrument printouts (e.g.), and/or results of other manual susceptibility testing performed (e.g.), including MIC value and final interpretation result.
3. Identification and identification method of submitted isolate.

Upon request from the Commissioner, each reporting facility must provide access to additional information from all medical, pathological, and other pertinent records related to the *C. auris* diagnosis, treatment, and follow-up for the purposes of surveillance and infection prevention and control. Epidemiologists review select patient medical records using a standardized case report form that is used to collect basic demographic information and risk factors of epidemiologic or infection prevention concern.

REFERENCES

1. Centers for Disease Control and Prevention, National Center for Emerging and Zoonotic Infectious Diseases (NCEZID), Division of Foodborne, Waterborne, and Environmental Diseases (DFWED). (2018, December). General Information about *Candida auris*. Retrieved from <https://www.cdc.gov/fungal/candida-auris/candida-auris-qanda.html>.
2. Vallabhaneni S, Kallen A, Tsay S, et al. Investigation of the First Seven Reported Cases of *Candida auris*, a Globally Emerging Invasive, Multidrug-Resistant Fungus — United States, May 2013–August 2016. *MMWR Morb Mortal Wkly Rep* 2016;65:1234–1237.

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