Candida auris
in Delaware, 2022 to 2023

March 2024

DELAWARE HEALTH AND SOCIAL SERVICES
Division of Public Health
Office of Infectious Disease Epidemiology

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Table of Contents

Background

Candida auris (*C. auris*) is a nationally notifiable fungus that is of concern to the Centers for Disease Control and Prevention (CDC) and the Delaware Department of Health and Social Services, Division of Public Health (DPH). *C. auris* can sometimes cause fatal infections and is often resistant to antifungal drugs, making it difficult to treat[1]. It can spread rapidly in health care settings, leading to outbreaks[2]. Additionally, *C. auris* can be difficult to identify in laboratories without proper equipment, leading to improper diagnosis and inappropriate management[3].

Infection and Colonization

C. auris is nationally notifiable to the CDC[4]. Patients may either be infected or colonized with *C. auris*. Colonization means *C. auris* lives on the patient's skin or other body sites, without causing an infection and without the patient becoming sick[1]. Colonized cases of *C. auris* are identified by screening. While colonization with *C. auris* does not lead to death, it is important to identify colonized cases, as these patients are at higher risk of getting *C. auris* infections. Colonized patients may also transmit the fungus to the environment of the health care facility and to other patients through person-to-person contact. *C. auris* can persist in the health care environment for weeks, furthering the spread when other patients encounter contaminated surfaces[2]. Patients may remain colonized with *C. auris* for years and potentially indefinitely[2], and currently there are no guidelines for decolonization[5]. CDC does not recommend re-testing colonized patients as re-testing may result in false negatives[2].

Infections of *C. auris* have been identified in both sterile and non-sterile body sites. As a result, symptoms of infection vary, and depends on the location of the infection[1]. Symptoms are similar to those of other infections[1]. For example, a patient with a urinary tract infection from *C. auris* will have symptoms resembling a urinary tract infection caused by bacteria. Additionally, the mortality rate related to *C. auris* can be high. Benedict et al. (2023), looking at nearly 200 hospitalizations related to *C. auris* between 2017 and 2022, found the crude mortality rate was between 31% and 47%, depending on the location of the infection. However, it is important to note that many had other serious medical conditions[6]. For short-term or long-term acute care hospitals, patients colonized or infected with *C. auris* should be on contact precautions (Appendix A). For skilled nursing facilities, residents colonized or infected with *C. auris* should be on enhanced barrier precautions (Appendix A)[7]. More information on treating *C. auris* infections and preventing colonized cases from getting infected can be found through CDC's website. All cases, both colonized and infected patients – regardless of specimen source – should be reported to DPH (see Reporting Section).

Risk Factors

People most at risk for *C. auris* infection and colonization are those who have recently spent time in health care facilities, especially long-term care facilities, but also including short-term and long-term acute care hospitals[8]. Patients who have invasive medical devices such as central lines and feeding tubes are also at higher risk. Additional risk factors include recent antibiotic and antifungal use, surgery, and underlying conditions and diseases such as diabetes or a weakened immune system[9].

The risk for *C. auris* infection and colonization is low for people without these risk factors, such as health care workers and household members of those with *C. auris*[9]. In one outbreak study at an acute care hospital conducted by Schelenz et al. (2016), only one out of 258 health care workers screened tested positive for *C. auris*, and that colonization was likely transient[10].

Laboratory Diagnosis

C. auris can often be misidentified as other *Candida* species when using certain traditional laboratory methods. Visit the CDC's website on identification for more information[3]. If there is any concern regarding the identification of a *Candida* species, submit isolates to the Delaware Public Health Laboratory (DPHL). For instructions on submitting isolates, contact DPH at 302-744-4990 or reportdisease@delaware.gov.

Recommendations

Infection Prevention and Control for C. auris

- To prevent and control the spread of *C. auris*, health care workers, environmental services, and infection preventionists should follow CDC guidelines, included below.
- Use proper hand hygiene[9].
- Use either contact precautions or enhanced barrier precautions, depending on the facility (Appendix A). Long-term care facilities should use enhanced barrier precautions and hospitals, including long-term acute care hospitals, should use contact precautions[7].
- Disinfect the patient environment with disinfectant on the Environmental Protection Agency's (EPA) List P, or other products known to be effective against *C. auris*[7,11].
- Communicate a patient's *C. auris* status when transferring facilities[7].
- Properly identify *Candida* species, and if needed, submit to DPHL for further identification[3]. The submitting laboratory should survey clinical samples to detect any other *C. auris* cases, including growing and identifying any rare yeasts.
- Perform patient screening to identify colonized cases[2].
    - Screening a patient involves swabbing a patient's armpits and groin[2].
    - All health care facilities should consider screening patients who are at high risk for *C. auris*, such as[8]:
        - Close health care contacts of patients with a *C. auris* infection or colonization
        - Patients who had an overnight stay in a long-term care facility, especially outside Delaware
        - Patients who had an overnight stay in a health care facility outside the U.S. within the past year.
- For additional resources and guidelines, visit the CDC's website about preventing *C. auris* infection[9] or DPH's FAQ on *C. auris*.

If health care facilities are concerned about *C. auris* transmission, especially if a known *C. auris* case was recently in the facility, they should consider performing a point prevalence survey. During the point prevalence survey, every consenting patient on the given unit or floor is screened for *C. auris* colonization[8]. DPH will provide the sampling kits and perform the tests free of charge if the facility schedules the point prevalence survey in advance. To schedule a point prevalence survey, call 302-744-4990 during business hours and ask to speak to a member of the Healthcare Associated Infections (HAI) team, or email reportdisease@delaware.gov.

To receive more in-depth technical assistance for your health care facility, the HAI team offers Infection Control Assessments and Responses (ICAR). During an ICAR, the HAI team visits a health care facility and performs direct observations of staff's infection control practices, including hand hygiene, environmental services cleaning, and adherence to transmission-based precautions. The HAI team also conducts a policy review and provides the facility a written summary report of the ICAR assessment with infection control recommendations. These assessments are free, confidential, and nonregulatory. To schedule an ICAR, call 302-744-4990 during business hours and ask to speak to a member of the HAI team, or email reportdisease@delaware.gov.

Reporting

C. auris is a reportable condition to DPH and nationally notifiable to CDC. All cases of *C. auris*, both infections and colonization cases, should be reported to DPH's Office of Infectious Disease Epidemiology (OIDE). Cases can be reported by phone (302-744-4990, normal business hours; 1-888-295-5156, outside of normal business hours), by fax (302-622-4149), or by email to reportdisease@delaware.gov.

Statistics in Delaware

The DPH HAI Program conducts year-round surveillance for multiple drug-resistant organisms of public health concern. The HAI Program monitors and tracks HAIs from acute care hospitals that are reported to the CDC's National Healthcare Safety Network (NHSN), as well as cases that are reported directly to DPH from all types of health care facilities. NHSN is the nation's most widely used HAI tracking system. The intended purpose of posting these data is to bring awareness to health care providers and to promote patient safety within Delaware about *Candida auris*.

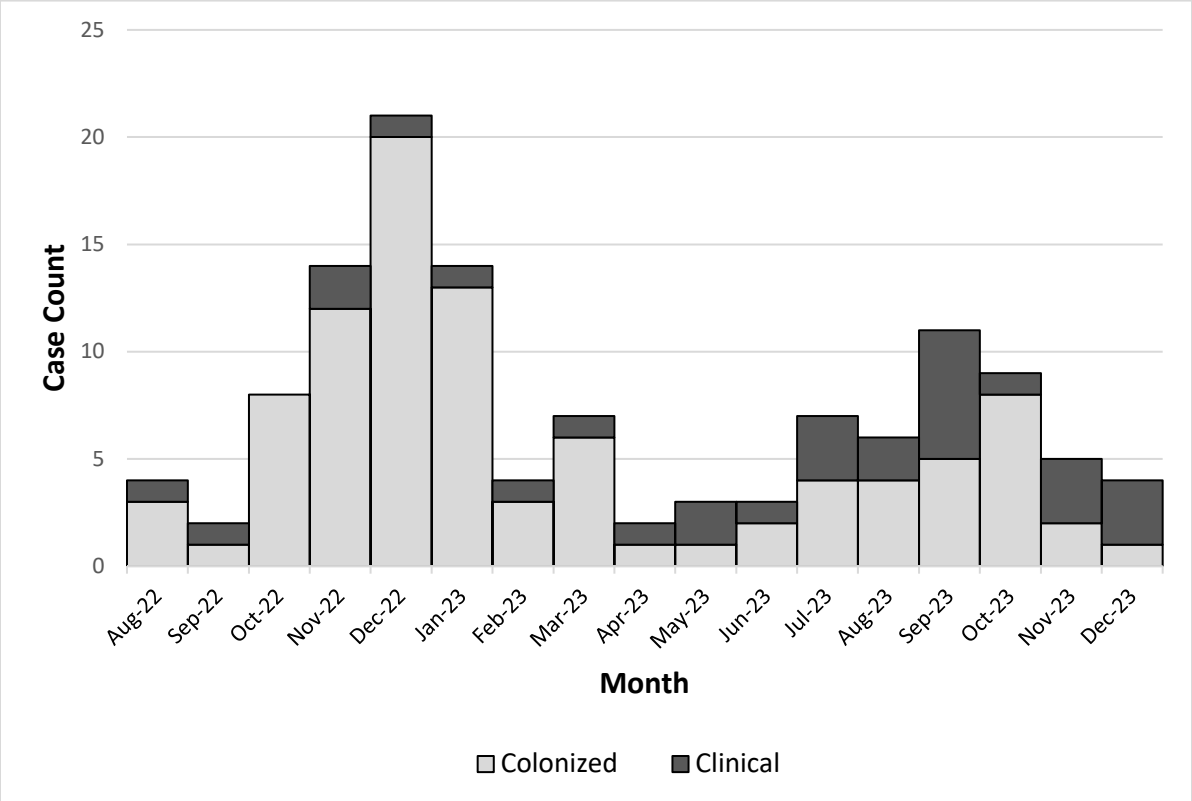
Clinical and colonized cases

The first clinical case of *C. auris* identified by a Delaware facility was in August 2022. As a result, point prevalence surveys were conducted to identify potential colonized cases. Additional clinical and colonized cases were identified since the original case, with a peak in December 2022 (Figure 1). It is important to note that colonized cases are asymptomatic, and there are very likely more colonized cases in Delaware than those that were reported.

Between Aug. 1, 2022 and Dec. 31, 2023, 30 confirmed clinical cases of *Candida auris* were identified in Delaware health care facilities, including acute care hospitals and long-term care facilities. Four (13%) cases were out of state residents. Nine (30%) cases tested positive for colonization prior to testing positive for clinical infections. The age range for clinical cases is between 28 and 82 years old, with a median age of 63. The specimen sources where *Candida auris* was isolated or detected include blood, urine, genital discharge, sputum, and wounds.

During the same time frame, there were 94 confirmed colonization cases, 14 (14.9%) of which were out-of-state residents identified in Delaware facilities. Nine (9.6%) of the 94 cases developed clinical infections after their colonization diagnosis. The age range for colonized cases is between 28 and 90 years, with a median age of 65 years.

Figure 1. Number of *Candida auris* cases by month and case type, Delaware, August 2022 to December 2023



Source: Delaware Department of Health and Social Services, Division of Public Health, Office of Infectious Disease Epidemiology, Healthcare Associated Infections Program, 2024

Resources

1. About *C. auris*. CDC. Published April 24, 2024. https://www.cdc.gov/candida-auris/about/index.html.

2. Screening for *C. auris*. CDC. Published April 24, 2024. https://www.cdc.gov/candida-auris/screening/index.html.

3. Identification of *C. auris*. CDC. Published April 24, 2024. https://www.cdc.gov/candida-auris/hcp/laboratories/identification-of-c-auris.html.

4. Surveillance of *C. auris*. CDC. Published April 24, 2024. https://www.cdc.gov/candida-auris/php/surveillance/index.html.

5. Clinical Overview of *Candida auris*. CDC. Published April 24, 2024. https://www.cdc.gov/candida-auris/hcp/clinical-overview/index.html.

6. Benedict K, Forsberg K, Gold JAW, Baggs J, Lyman M. Candida auris–Associated Hospitalizations, United States, 2017-2022. *Emerg Infect Dis*. 2023;29(7):1485-1487. doi:10.3201/eid2907.230540.

7. Infection Control Guidance: *Candida auris*. CDC. Published April 24, 2024. https://www.cdc.gov/candida-auris/hcp/infection-control/index.html.

8. Screening for Colonization in Healthcare Facilities. CDC. Published April 24, 2024. https://www.cdc.gov/candida-auris/hcp/screening-hcp/index.html.

9. Preventing the Spread of *C. auris*. CDC. Published April 24, 2024. https://www.cdc.gov/candida-auris/prevention/index.html.

10. Schelenz S, Hagen F, Rhodes JL, et al. First hospital outbreak of the globally emerging *Candida auris* in a European hospital. *Antimicrob Resist Infect Control*. 2016;5:35. Published 2016 Oct 19. doi:10.1186/s13756-016-0132-5.

11. EPA's Registered Antimicrobial Products Effective Against Candida auris [List P]. EPA. Published June 3, 2024. https://www.epa.gov/pesticide-registration/epas-registered-antimicrobial-products-effective-against-candida-auris-list.

12. Enhanced Barrier Precautions Sign. CDC. https://www.cdc.gov/long-term-care-facilities/media/pdfs/enhanced-barrier-precautions-sign-P.pdf.

13. Contact Precautions Sign. CDC. https://www.cdc.gov/infection-control/media/pdfs/contact-precautions-sign-P.pdf.

Appendix A

Enhanced Barrier Precautions

Health care workers must use gown and gloves during high-contact activities for residents on enhanced barrier precautions (EBP). High-contact resident care activities include, but are not limited to, bathing or showering the resident, wound care, assisting with toileting, and transferring the patient from a bed to a wheelchair. Residents on EBP are allowed to have roommates and are allowed to participate in group activities. Visit the CDC's Frequently Asked Questions (FAQs) for more information[12].

Contact Precautions

Health care workers must use gown and gloves upon room entry to a patient or resident on contact precautions and must remove them before exiting the room. A patient or resident on contact precautions should be in a single patient room, if possible. Patients or residents on contact precautions should have limited movement outside of the room. Visit the CDC's website on transmission-based precautions for more information[13].