

and 2023. **Conclusions:** Antifungal resistance in non-albicans *Candida* species represents an emerging public health threat, however, within the Southeast region, ARLN data has shown a decreasing trend of azole resistance. This may be due in part to changes in reporting requirements and submission criteria from within the region. Nevertheless, *C. tropicalis* showed high resistance to azoles within the Southeast region. These *Candida* species should be monitored to inform clinical decision making and identify resistance patterns in other US regions due to their increase in resistance worldwide.

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Poster Presentation - Poster Presentation

**Subject Category:** Emerging Pathogens

**Candida auris in the Healthcare Environment: Prevalence, Anti-Fungal Resistance, and Survival on Porous & Non-Porous Surfaces**

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*Candida auris* is an emerging multidrug-resistant pathogenic yeast capable of causing severe illness in the healthcare environment. It spreads easily amongst patient populations, is often resistant to anti-fungal treatments and can survive on surfaces for prolonged periods. In the current study, 85 sites within hospital settings were screened for surface-contaminated *Candida* species and *C. auris*. Surface swab samples were transferred to chromogenic agar media designed to isolate and identify *Candida* species and were incubated at 35°C for 48 hr. Samples were confirmed using molecular techniques designed to specifically target *C. auris* from other *Candida* species. Data was compiled to show prevalence of six key *Candida* species (*C. albicans*, *C. auris*, *C. glabrata*, *C. krusei* and *C. tropicalis*). Survivability on surfaces was performed using CDC B11903 *C. auris* strain. Plastic, metal and fabric surfaces used were purchased from a medical supply store. Once inoculated with 500 CFU/ml in sterile distilled water, the surfaces were kept in a Class II hood with minimal airflow and ambient conditions (21°C, 60% RH) and sampled daily. Results showed 25 of the 85 (29.4%) tested sites were positive for *Candida* species, with 3 of those sites positive for *C. auris*. Anti-fungal resistance among the three isolates (tested using concentration gradient test strips) showed notable resistance to fluconazole, but not to amphotericin B nor micafungin. *C. auris* survivability was dependent upon surface type, with the *C. auris* test strain surviving for 39 days on three different types of hospital curtains, and ≥10 days on a variety of non-porous plastic or metal surfaces. With demonstrated survivability of *C. auris* for long periods of time on hospital surfaces, it becomes critical for healthcare facilities to consider *C. auris* when developing infection prevention programs.

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**Subject Category:** Emerging Pathogens

**Hospital-Associated Transmission of *Candida auris* from Adult to Pediatric Patient**

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**Background:** *Candida auris*, an emerging multidrug-resistant fungus, is often difficult to control in hospital outbreaks. We report the hospital

investigation and findings of a transmission of *C. auris* from patients hospitalized in an adult unit to a pediatric unit, the first in Maryland. **Methods:** Between June and September 2023, *C. auris* was recovered from two patients admitted to an adult Neuroscience Intensive Care Unit (ICU) and a patient admitted to a pediatric ICU. Infection control initiated an investigation involving staff interviews, observations and chart reviews. Cases were defined as any patient with clinical or surveillance cultures growing *C. auris*. Point prevalence surveillance was conducted by collecting nares and composite axilla/groin swabs from patients on the affected units. Environmental cultures collected using moistened E-Swabs (Copan, Murrieta, CA) from shared supplies were plated on CHROMagar *Candida* (BD, Sparks, MD). *C. auris* isolates from patients hospitalized at the facility between February 2022 and October 2023 were analyzed by WGS for relatedness. WGS was performed using Illumina NextSeq 300 bp paired-end sequencing (Illumina, San Diego, CA). Single nucleotide polymorphism (SNP) analysis was performed by comparing raw reads to the reference *C. auris* B8441 genome for subsequent clustering analysis (Ares Genetics, Vienna, Austria). **Results:** WGS demonstrated isolates from two adults and one pediatric patient were less than three SNPs different, suggesting a shared isolate. One additional pediatric case was identified from surveillance cultures collected from 27 patients. Investigation into possible transmission routes revealed healthcare personnel serving both units, specifically clinical teams and continuous electroencephalography (cEEG) technologists. Additionally, cEEG equipment was used on both adult and pediatric patients and twelve equipment surface swabs and three samples each of measuring tape and gel were collected. *C. auris* was not isolated, however sensitivity of environmental sampling is unclear and suspicion for possible fomite/environmental transmission persisted. Other possible transmission routes included gaps in hand hygiene, isolation, disinfection of shared equipment, and reuse of single-use items. Interventions included improving and monitoring infection prevention practices, educating multi-disciplinary personnel and heightened environmental cleaning. **Conclusion:** This case highlights the feasibility of transmission of *C. auris* between patients admitted to a geographically distant unit. Our investigation revealed multiple possible routes of transmission including direct contact (from healthcare personnel or equipment) or indirect environmental sources. Prevention of hospital-associated *C. auris* transmission likely necessitates meticulous adherence to hand hygiene, contact precautions, and careful cleaning and disinfection of patient environments and equipment used by all disciplines.

**Disclosure:** Patricia Simner: Research Contracts: BD Diagnostics, OpGen Inc., Qiagen Sciences Inc, T2 Diagnostics, Accelerate Diagnostics; Research Collaborators: Ares Genetics, CosmosID, IDbyDNA, Illumina; Consulting: OpGen Inc., BD Diagnostics, Shionogi Inc., GeneCapture, Qiagen Sciences Inc, Entasis, Day Zero Diagnostics, Next Gen Diagnostics

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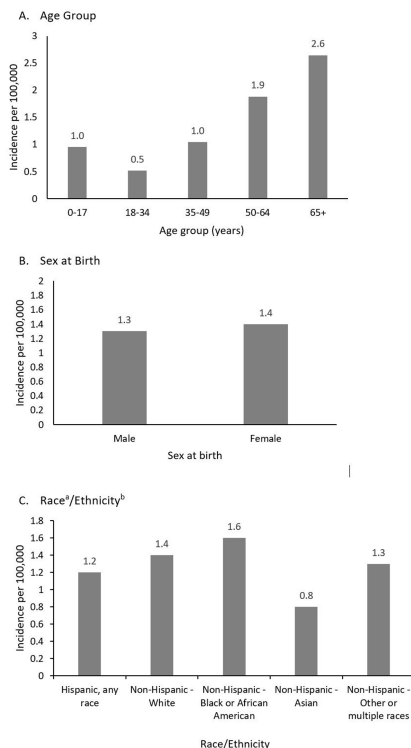
**Subject Category:** Emerging Pathogens

**Epidemiology of Extrapulmonary Nontuberculous Mycobacterial Disease – 4 Emerging Infection Program Sites, 2021**

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**Background:** Extrapulmonary nontuberculous mycobacteria (ENTM) infections are difficult to treat and often require prolonged therapy or surgery. Few population-based studies describe ENTM epidemiology, though well-known healthcare-associated outbreaks have occurred. Using the first year of multi-site ENTM surveillance, we characterized rates and how frequently ENTM infections may be related to healthcare. **Methods:** CDC's Emerging Infections Program conducted active, laboratory- and population-based surveillance for ENTM cases in 4 sites (Colorado [5 counties], Minnesota [statewide], New York [1 county], and Oregon [statewide]) in 2021. An incident ENTM case was NTM isolation from a non-pulmonary specimen, excluding stool or rectal swabs, in a resident of the surveillance area without either medical record documentation of prior ENTM infection or isolation of ENTM in the prior 12 months. Demographic, clinical, information on selected healthcare and community exposures, and laboratory data were collected via medical record review. We calculated incidence per 100,000 population using U.S. Census population estimates and performed descriptive analyses. **Results:** A total of 180 incident ENTM cases were reported in 2021. The crude annual incidence rate was 1.3 per 100,000 persons. Incidence increased with age (from 0.95 per 100,000 among 0–17 year-olds to 2.65 per 100,000 among persons ≥65), ranged from 0.8 among non-Hispanic Asian persons to 1.6 per 100,000 in non-Hispanic Black persons, and was similar among males (1.3 per 100,000) and females (1.4 per 100,000; Figure 1). *Mycobacterium avium* complex (64 [35.6%]) was the most frequently isolated species group, followed by *Mycobacterium chelonae* complex (31 [17.2%]). Skin and soft tissue infections were the most frequent infection type (37 [20.6%]); 27 cases (15.0%) were associated with disseminated and/or only bloodstream infection, and 56 cases (31.1%) had no infection type documented. Among 93 cases with localized ENTM infections (i.e., infections that were not disseminated and/or only bloodstream infections), 38.7% had only healthcare-related exposures, 14% had only community-related exposures and 6.5% had both exposure types at the site of infection (Figure 2). Healthcare-related exposures at the infection site included surgery (23.7%), injection/infusion (21.5%), and medical devices (18.3%). The

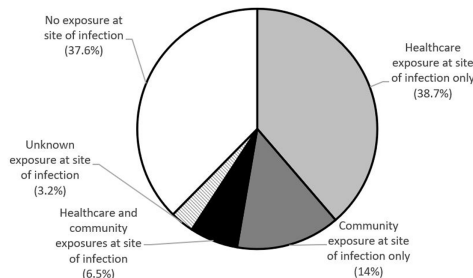
Figure 1. Incident ENTM (N=180) Case Rates by Age, Sex at Birth, and Race/Ethnicity, Emerging Infections Program, 2021



<sup>a</sup> Cases where the race of the person was unknown were assigned a race based on the distribution of known race among cases by age, ethnicity, gender, and EIP site.

<sup>b</sup> Cases where the ethnicity of the person was unknown were assigned ethnicity based on the distribution of known ethnicity among cases by age, race, gender, and EIP site.

Figure 2. Exposures among ENTM Cases with Localized Infections<sup>a</sup> (n=93), Emerging Infections Program, 2021



<sup>a</sup> Excludes incident cases with no infection type (n=56); unknown infection type (n=4); and cases either with bloodstream infection and no other infection types documented or with disseminated infection (n=27)

most frequent community-related exposure at the infection site was trauma (17.2%). Only one case was part of a known outbreak, which was healthcare-associated. **Conclusions:** ENTM infections are relatively rare, but nearly half of patients with localized ENTM infections had prior healthcare-related exposures. This indicates that the burden of ENTM infections related to healthcare may be much larger than what has been suggested from reported outbreaks.

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**Prevalence of *Candida auris* Among High-Risk Patients at a Comprehensive Cancer Center**

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**Background:** *Candida auris* (*C. auris*) is a multidrug-resistant fungus that is increasingly implicated in outbreaks in healthcare facilities worldwide. The Centers for Disease Control and Prevention (CDC) and the Texas Department of State Health Services recommend healthcare facilities screen patients who are considered high-risk for *C. auris*, including patients with an overnight stay in a healthcare facility outside the United States (U.S.) in the previous year, or recently stayed in a rehabilitation (rehab) facility, long-term acute care (LTAC), or skilled nursing facility (SNF). Screening patients for *C. auris* colonization allows for early implementation of infection control measures, preventing transmission to healthcare workers and other patients. According to the CDC, most cases of *C. auris* result from local spread within and among healthcare facilities in the same city or state. In Texas, 160 clinical cases have been reported during the past 12 months. At present, the necessity of screening high-risk patients at our center for *C. auris* is not known. We aimed to determine the prevalence of *C. auris* colonization among our patient population. **Method:** During a 4-week period, we performed targeted screening of patients meeting the CDC's high-risk definition for *C. auris*. Admitted patients were screened by an Infection Preventionist (IP) using the electronic health record to identify patients who were either international or admitted from a rehab or care facility. A composite swab of bilateral axilla and groin creases was collected using an eSwab™ (Becton Dickinson) and sent to a reference lab (Mayo Clinic Laboratories) for polymerase chain reaction (PCR)-based detection of *C. auris*. Additionally, we reviewed historic cases of *C. auris* diagnosed at our institution to better define our at-risk patients. **Results:** Between July 14 – August 8, 2023, we consecutively screened 25 high-risk patients, including 18 (72%) international and 7 (28%) patients from rehabs, LTAC, or SNF. None were positive for *C. auris*.