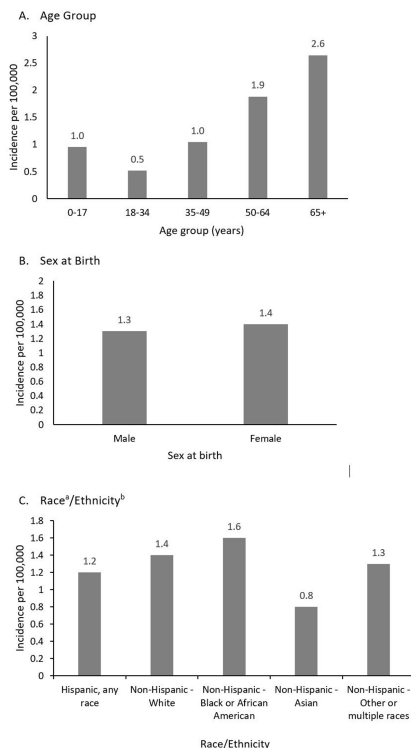


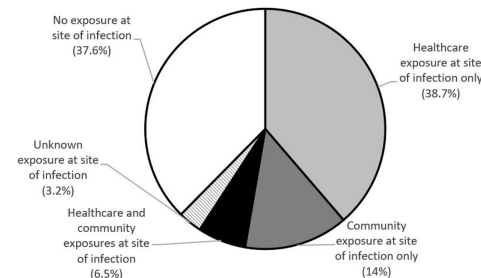
**Background:** Extrapulmonary nontuberculous mycobacteria (ENTM) infections are difficult to treat and often require prolonged therapy or surgery. Few population-based studies describe ENTM epidemiology, though well-known healthcare-associated outbreaks have occurred. Using the first year of multi-site 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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Poster Presentation - Poster Presentation

**Subject Category:** Emerging Pathogens

**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*.

Since 2019, we identified six patients with *C. auris* positive cultures, including five clinical cases and one colonization case. Five patients were international and one was local with no history of international travel or stay in a care facility. Interestingly, all six were known to be colonized with extended-spectrum beta-lactamase (ESBL) *E. coli*. **Conclusion:** We have a very low prevalence of *C. auris* among CDC-defined high-risk patients. A review of historic *C. auris* cases indicated an association with colonization by other multidrug-resistant organisms, specifically ESBL *E. coli*, which will inform future screening protocols at our institution.

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**Subject Category:** Emerging Pathogens

**First Detected Transmission of *C. auris* within a Minnesota Healthcare Facility Following Exposure in the Emergency Department**

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**Background:** *Candida auris* reporting and submission of confirmed or possible isolates has been mandatory in Minnesota since August 2019. On August 9, 2023, the Minnesota Department of Health (MDH) was notified of a *C. auris* isolate in hip tissue from a patient in acute care hospital A (ACH-A). Only 9 cases of *C. auris* were detected prior to August 2023, in Minnesota, and all from patients with a history of international healthcare or healthcare in endemic *C. auris* locations of the United States. **Methods:** The MDH Public Health Laboratory (MDH-PHL) confirmed identification of *C. auris* from the ACH-A isolate by MALDI-TOF. MDH partnered with ACH-A to review medical records, assess infection prevention and control (IPC) practices, conduct contact tracing, and identify patients for colonization screening. Screening was performed on all patients that overlapped with the index case (case A) and were admitted to a facility in the same healthcare system as ACH-A. Facilities accepting discharged patients who overlapped with case A were contacted for colonization screening. Overlapping patients, no longer admitted to a healthcare facility, were sent a notification letter, and offered outpatient screening. Composite axilla/groin swabs were screened for *C. auris* using real-time PCR at MDH-PHL, who also performed whole genome sequencing (WGS) and single nucleotide polymorphism (SNP) analysis. **Results:** Case A's medical record showed only Minnesota healthcare exposures, a surgical procedure in June 2023 and indicated the case overlapped with a previous case (case B) from July 2023, who had recent international healthcare. The two cases were hospitalized at ACH-B July 12-18, on different care floors without evident links to shared services. However, the cases were in adjacent rooms in ACH-B Emergency Department (ED) on July 3 for 5 hours, when *C. auris* status of case B was unknown. WGS indicated both isolates were within clade I (South Asian) and separated by 2 SNPs, suggesting relatedness. Extensive colonization screening occurred among 109 potentially exposed patients, including 18 patients from the ED. No additional *C. auris* was

detected. **Conclusions:** This case represents the first detected transmission of *C. auris* within a Minnesota healthcare facility. The role of *C. auris* transmission within the ED is not well understood. Medical record review in combination with WGS analysis suggests potential transmission within the ED. Clinicians should be aware of the risks for *C. auris* transmission in the ED and follow all IPC measures to prevent transmission of this emerging fungal pathogen.

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**Presentation Type:**

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**Subject Category:** Emerging Pathogens

**Risk Factors and Outcomes of *Candida auris* in Southeast Michigan**

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**Background:** *Candida auris* is an emerging multidrug resistant fungus that presents a serious global health threat and causes severe infections with a high mortality rate in hospitalized patients with significant underlying comorbidities. We describe the risk factors and clinical outcomes associated with *C. auris* in Southeast Michigan. **Methods:** This is a retrospective case series of culture-positive *C. auris* patients who had contact with our healthcare facility in Detroit from 2021 to 2023. We evaluated demographics, comorbidities, risk factors, and outcomes. A comparative analysis of colonized and infected patients was performed. **Results:** Forty-eight (81%) colonized and 11 (19%) infected patients were included (Table); 70% were male with median age of 66 years. All variables were comparable between the two groups except chronic kidney disease, which was significantly more prevalent among colonized patients (40% vs 0, p=0.011). All patients had prior exposure to acute care hospital (ACH), 37% to long-term acute care hospital, and 42% to skilled nursing facility within 1 year of diagnosis. Chronic wounds, prior broad-spectrum antibiotic use, and indwelling devices were prevalent in both groups; more than half required mechanical ventilation in the last month, and one third had tracheostomy at the time of *C. auris* detection. Almost 60% had a prior history of drug-resistant organisms, including multi-drug resistant gram negative (37%) and carbapenem-resistant (20%) organisms. Blood (82%) and wound (18%) were sources of invasive candidiasis. More than half (61%) of the testing was performed at ACH. Nine patients (82%) with invasive disease

	Total, N=59	Colonization, N=48	Infection, N=11	P-value
Median age (interquartile range), years	66 (48-72)	66 (50.3-73)	58 (35-69)	0.95
Male, n (%)	41 (70)	32 (67)	9 (82)	0.325
<b>Comorbidities, n (%)</b>				
Diabetes mellitus	22 (37)	17 (35)	5 (45)	0.535
Chronic kidney disease	19 (32)	19 (40)	0	0.011
Chronic obstructive pulmonary disease	10 (17)	10 (21)	0	0.097
Coronary artery disease	9 (15)	7 (15)	2 (18)	0.765
Cirrhosis/Liver disease	5 (9)	3 (6)	2 (18)	0.200
Intravenous drug use	2 (3)	1 (2)	1 (9)	0.247
Active solid malignancy	6 (10)	4 (8)	2 (18)	0.330
Active hematological malignancy	4 (7)	3 (6)	1 (9)	0.735
Organ transplant within 1 year	2 (3)	2 (4)	0	0.491
Immunocompromised	10 (17)	7 (15)	3 (27)	0.312
<b>Risk factors, n (%)</b>				
Healthcare exposure within 1 year	59 (100)	48 (100)	11 (100)	-
Acute care hospital	59 (100)	48 (100)	11 (100)	-
Long-term acute care hospital	22 (37)	18 (38)	4 (36)	0.944
Skilled nursing facility	25 (42)	18 (38)	7 (64)	0.114
Inpatient rehabilitation	7 (12)	5 (10)	2 (18)	0.473
Intensive care unit within 90 days	43 (73)	34 (71)	9 (82)	0.460
Candida colonization in the past year	28 (47)	22 (46)	6 (55)	0.655
<i>C. auris</i>	3 (5)	1 (2)	2 (18)	0.028
Drug-resistant organisms within 1 year	35 (59)	29 (60)	6 (55)	0.721
Multi-drug resistant gram-negative organism	22 (37)	16 (33)	6 (54)	0.189
Carbapenem-resistant organism	12 (20)	10 (21)	2 (18)	0.844
Methicillin-resistant <i>S. aureus</i>	15 (25)	12 (25)	3 (36)	0.876
Vancomycin-resistant <i>Enterococcus</i>	9 (15)	7 (15)	2 (18)	0.765
Broad-spectrum antibiotics within 90 days	56 (95)	45 (94)	11 (100)	0.395