

Ngozi O. Ezike, M.D., Director

Summary and Action Items

The Illinois Department of Public Health (IDPH) is circulating this Health Alert to update health care partners in the control and containment of *Candida auris* (*C.auris*). Previous *C. auris* alerts can be found at <http://www.dph.illinois.gov/topics-services/diseases-and-conditions/infectious-diseases/candida-auris>. **This document contains new updates on the following: cases counts, new disinfection agents, laboratory submission guidance**

- 1) Continued emphasis on infection control measures should be taken to include:
 - Querying the Extensively Drug-Resistant Organism Registry (XDRO Registry) for new admissions to identify patients with *C. auris* (<https://www.xdro.org/>)
 - Instituting Standard and Contact Transmission Precautions for an infected or colonized patient/resident in a private room (see considerations in long-term care below).
 - Ensuring at least daily cleaning and disinfection especially of high touch surfaces with an approved Environmental Protection Agency (EPA)-registered List K sporicidal agent (i.e., agents used to kill *C. difficile*) (see prevention section below)
 - Additionally the Centers for Disease Control and Prevention (CDC) has approved a short list of non-list K agents (see CDC website link below)
 - Performing hand hygiene with alcohol based hand rub unless the hands are visibly soiled.
- 2) Acute care hospitals within Cook County to include Chicago should consider initiating Standard and Contact Precautions with the use of the appropriate disinfecting agent for patients with a tracheostomy or on mechanical ventilation admitted from any skilled nursing facility or long-term acute care hospital regardless of known *C. auris* infection or colonization status (see considerations for acute care facilities below).
- 3) Laboratories should identify all *Candida* to the species level when identified from sterile sites (e.g., bloodstream) and from non-sterile sites (e.g., urine) in certain circumstances.
 - Laboratories/facilities should notify their local health department of any colonized or infected cases of confirmed *C. auris* or *Candida* species commonly misidentified as *C. auris* (e.g., *Candida haemulonii*) within 7 days of identification.
- 4) Laboratories should submit the following to the IDPH laboratory in Chicago (2121 W Taylor St. Chicago IL 60612) for confirmatory and antifungal drug susceptibility:
 - All *C. auris* blood isolates to include any *Candida* species commonly misidentified as *C. auris* (e.g., *Candida haemulonii*) and
 - The first *C. auris* isolate or any *Candida* species commonly misidentified as *C. auris* identified from other specimen sources (e.g., urine) for each patient stay.
 - The submission form attached to this HAN should be completed and sent along with the isolate to the IDPH Chicago laboratory to aid in specimen transfer to the Wisconsin State Laboratory of Hygiene for further testing.
- 5) Facilities should be prepared to inform patients, residents, and families of the risk for health care associated infections, including *C. auris*, as well as practices taken to reduce that risk. For patient information on *C. auris*, see the CDC website, <https://www.cdc.gov/fungal/candida-auris/index.html>

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Background and Update on Illinois Epidemiology

Between **May 24, 2016 and April 4, 2019**, the following *C. auris* data from Illinois have been collected:

IDPH has received reports of **158 clinical confirmed and probable (plus 2 suspect) cases¹** of *C. auris* among patients primarily residing in the metro-Chicago area. An additional 453 cases were found to be colonized (identified by culturing *C. auris* from a skin swab) largely identified through point prevalence surveys conducted by Public Health Agencies in a variety of health care settings. Thirty-seven patients were known to be colonized with *C. auris* prior to developing clinical disease. Fifty-seven (36%) cases had *C. auris* isolated from blood, 54 (34%) from urine, 49 (31%) from other sources such as wounds and sputum.

The vast majority of patients colonized or infected with *C. auris* currently or previously resided in a skilled nursing facility caring for ventilated patients or long-term acute care hospitals. The majority of cases with available risk factor data continue to show previously described risk factors including tracheostomies, feeding tubes, wounds, and mechanical ventilation use.

CDC has completed antifungal susceptibility testing on 149 isolates from Illinois cases, and 22 (15%) have shown resistance. Specifically, 20 demonstrated resistance to the azole class such as fluconazole, two to the echinocandin class, and none with resistance to amphotericin. No isolates have shown resistance to all three drug classes of antifungals. Updated case counts and additional information can be found at the IDPH *C. auris* website:

<http://www.dph.illinois.gov/topics-services/diseases-and-conditions/infectious-diseases/candida-auris>

Patient Risk Factors and Exposures

Known patient risk factors and exposures for acquiring *C. auris* include:

- Recent exposure to skilled nursing facilities that care for ventilated residents or long-term acute care hospitals
- Being colonized with a carbapenemase producing organism
- Presence of medical devices (tracheostomies, urinary catheters, central venous catheters, feeding tubes)
- Mechanical ventilation
- Immune compromising conditions such as cancer, transplants, diabetes, renal failure, poorly controlled HIV, etc.
- Broad-spectrum antibiotic or anti-fungal use
- Recent surgery

¹ Confirmed: Laboratory evidence of *C. auris* from clinical culture. A clinical culture is one that is collected during the course of clinical care.

Probable: Laboratory evidence of *Candida haemulonii* from clinical culture & epidemiologic linkage to confirmed case.

Suspect: Laboratory evidence of *Candida haemulonii* from clinical culture & no epidemiologic link to confirmed case.

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Symptoms

C. auris can cause asymptomatic colonization as well as infections of the bloodstream, wound, and ear infections. *C. auris* has been found in urine and respiratory specimens, though its contribution to clinical disease in these sites is unclear.

Transmission

C. auris can spread in health care settings through contact with contaminated environmental surfaces or equipment, or from person to person.

Diagnosis

Laboratory diagnosis of clinical infection is made through routine cultures. However, *C. auris* can be misidentified as a number of different organisms, particularly *Candida haemulonii*, when using traditional phenotypic methods for yeast identification.

- For a summary of common organisms misidentifications based upon identification methods, please visit: <https://www.cdc.gov/fungal/candida-auris/recommendations.html>
- A CDC algorithm to identify *C.auris* based on phenotypic laboratory method and initial species identification is available here: <https://www.cdc.gov/fungal/candida-auris/recommendations.html>

General recommendations regarding *Candida* species identification include:

Identify all *Candida* isolates from sterile sites (e.g., bloodstream, cerebrospinal fluid) to the species level so that appropriate **initial** treatment can be administered based on the typical, species-specific susceptibility patterns.

Consider identifying all *Candida* isolates to the species level from non-sterile sites (e.g., urine, wounds, bile, sputum) if:

- Clinically indicated (e.g. treatment failure is suspected)
- Patient/resident has been in contact with a known *C. auris* patient/resident
- Patient/resident had an overnight stay in a hospital to include long-term acute care or resided in a skilled nursing facility that care for ventilated residents in the last year within Chicago or suburban Cook Co or other areas of the United States or other countries with known *C. auris* transmission. Areas of transmission can be found at <https://www.cdc.gov/fungal/candida-auris/tracking-c-auris.html>
- Patient/resident has a tracheostomy or is on mechanical ventilation, and was admitted from a skilled nursing facility or long-term acute care hospital
- Patient/resident is colonized or infected with another multi-drug resistant organism, especially carbapenemase-producing organisms
- An increase in infections due to unidentified *Candida* species in a patient care unit

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Prevention

1) IDPH recommends that all facilities be aware of their likelihood of admitting patients/residents with *C. auris*.

- Facilities should be aware if they receive patients/residents from skilled nursing facilities that care for ventilated patients or long-term acute care hospitals.
- If a facility requires guidance in determining this likelihood, they should contact their local health department or IDPH.

2) Per CDC recommendations, all patients/residents known to be infected or colonized with *C. auris* should be placed on Standard and Contact Precautions and ideally in a private room (**see below for special considerations in acute care hospitals and long-term care facilities**).

- If a private room is not feasible, avoid rooming the patient/resident with others who have invasive devices (e.g., central venous catheter, tracheostomy tubes, urinary catheters, mechanical ventilators, etc.), have had recent surgery, or are otherwise immunocompromised (e.g., cancer, transplant, poorly controlled HIV).
- Patients/residents with *C. auris* can be placed in rooms with other patients/residents with *C. auris*. CDC does **not** recommend placing patients/residents with *C. auris* in rooms with patients/residents with other types of multi-drug resistant organisms unless all individuals are colonized or infected with the same organisms.
- **IDPH does not currently recommend the discontinuation of Contact Precautions for any patient/resident with a current or past history of *C. auris* colonization or infection.**

3) The XDRO Registry should be queried for all new admissions to identify patients/residents with *C. auris* and place them on Standard and Contact Precautions (Note: Facilities do not enter *C. auris* directly into the XDRO registry. IDPH enters all persons reported with *C. auris* infection or colonization into the registry).

- Details on how to access the XDRO registry can be found at: <https://www.xdro.org/login.html>.
- Contact IDPH at DPH.XDRORegistry@illinois.gov if you require assistance with XDRO registry access.

4) Rooms of patients/residents with confirmed or suspected *C. auris* infection or colonization should be disinfected with an EPA-registered list K sporicidal agent

((<https://www.epa.gov/pesticide-registration/list-k-epas-registered-antimicrobial-products-effective-against-clostridium>) or a CDC approved non-sporicidal disinfecting agent <https://www.cdc.gov/fungal/candida-auris/c-auris-infection-control.html>

- All products must be used in accordance with the manufacturer's recommendation and for the appropriate contact time.

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5) When possible, dedicate reusable medical equipment such as thermometers, blood glucose meters, and blood pressure cuffs to *C. auris* positive patients.

- If equipment must be shared, ensure it is disinfected with an approved *C. auris* disinfecting agent before removing the equipment from the room.
- Having the cleaning/disinfecting wipe available at the point of care will support compliance with disinfection before removal from the room.

6) Hand hygiene with alcohol based hand rubs should preferentially be used unless the hands are visibly dirty or a facility is experiencing an outbreak of *C. difficile* or norovirus. Staff, patients/residents, and family members should be encouraged to perform hand hygiene.

For further guidance on the use of alcohol based hand rubs, see the IDPH Memo at:

<http://dph.illinois.gov/sites/default/files/Alcohol%20Based%20Hand%20Rub%20LTC%20FAQ.pdf>

7) Facilities must ensure inter-facility communication (i.e., communication between facilities) regarding the status of any patient known to be colonized or infected with a multi-drug resistant organism at the time of transfer to another facility. This should also include any patient screened for a multi-drug resistant organism, but for whom laboratory results are not available at the time of transfer.

- This can be accomplished via verbal report at the time of transfer, AND in the discharge summary, or through the use of an inter-facility transfer tool.
- An inter-facility transfer tool is available at this link:
https://www.chicagohan.org/documents/14171/93622/Inter-facility+transfer+form_9_4_18.pdf/bedf5d63-a071-4d3c-ba52-2c4234ccc237

Special Considerations for Acute Care Hospitals

Acute care hospitals with a high likelihood of admitting patients with *C. auris* should additionally consider initiating Standard and Contact Precautions with the use of the appropriate disinfecting agent for patients with a tracheostomy or on mechanical ventilation admitted from any skilled nursing facility or long-term acute care hospital **regardless of known *C. auris* infection or colonization status.**

If a facility decides to implement these recommendations several considerations should be taken:

1. It is important for all facilities to **distinguish between patients on Contact Precautions due to documented infection or colonization with *C. auris* based on current or past laboratory testing, from patients who are empirically placed on Contact Precautions based on risk factors.**

2. During the process of inter-facility communication (i.e. communication with another facility), staff should only communicate that a patient is infected or colonized with *C. auris* if there is **documented** identification of *C. auris* based on current or past laboratory testing.

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Special Considerations for Long-term Care Facilities

Given that many residents reside in long-term care facilities for prolonged periods and they will require the indefinite use of Contact Precautions for *C. auris*, different considerations should be taken:

- For residents colonized or infected with *C. auris* who are bedbound or have wounds, secretions, or excretions that are unable to be covered or contained, movement within the facility should be limited and staff should gown and glove prior to room entry.
- For all other residents colonized or infected with *C. auris*, prior to leaving their room, ensure that residents have:
 - Clean hands
 - Clean clothes
 - Covered wounds with clean dressing
 - Staff may either be encouraged to gown or glove upon room entry or at a minimum should gown and glove for “high-touch” activities such as aiding with bathing, toileting, dressing, wound care, and transferring

IDPH and Local Health Department Response

IDPH along with local health departments continue to aid in *C. auris* case investigation, surveillance, and prevention efforts in collaboration with multiple health care facilities throughout the state.

Contact

Contact your local health department for:

- Reporting colonized or infected cases of confirmed *C. auris* or *Candida* species commonly misidentified as *C. auris* (e.g., *Candida haemulonii*) within 7 days of identification.
- Guidance on *C. auris* screening of roommates or other close contacts
- Guidance on patient cohorting (i.e., grouping patients infected with the same infectious agents together to confine their care to one area and prevent contact with susceptible patients)
- Guidance on infection control interventions

Local health department contacts can be found at this link:

<http://www.idph.state.il.us/LHDMap/HealthRegions.aspx>

IDPH can be contacted at the following email address: dph.XDRORegistry@illinois.gov

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Additional Resources

- IDPH *C. auris* website: <http://www.dph.illinois.gov/topics-services/diseases-and-conditions/infectious-diseases/candida-auris>
- Centers for Disease Control and Prevention *C. auris* website: <https://www.cdc.gov/fungal/candida-auris/index.html>
- Centers for Disease Control and Prevention. (2014). Options for Evaluating Environmental Cleaning. Retrieved from <https://www.cdc.gov/hai/toolkits/evaluating-environmental-cleaning.html>
- Centers for Disease Control and Prevention. (2017). *Candida auris*: A drug-resistant germ that spreads in healthcare facilities. Retrieved from https://www.cdc.gov/fungal/diseases/candidiasis/pdf/Candida_auris_508.pdf
- Centers for Disease Control and Prevention. (2018a). *Candida auris* 2018 Case Definition. Retrieved from <https://www.cdc.gov/nndss/conditions/candida-auris/case-definition/2018/>

Target Audience

Local Health Departments, Infectious Disease Physicians, Hospital Emergency Departments, Infection Control Preventionists, Health Care Providers, and Laboratories

Date Issued

April 17, 2019

Patient Information		Submitter Information	
		702547	
Submitter:		Illinois Dept of Public Health Lab	
City: State: Zip:		2121 W Taylor St	
Date of Birth: Gender		Chicago, IL 60612-7260	
Your Patient ID Number		(Telephone Number) 312-793-4747	
Your Specimen ID Number:		Laboratory Contact Name Carlos M. Morales	
CC Result Report to: 70150000 – Illinois Dept of Public Health		Submitter CLIA or NPI Number (facility):	
		<i>WSLH Use Only</i> Study: ARLN CRE/CRPA/CANDIDA	
Originating Facility (where specimen was collected if different than Submitter above):			
Name:			
Results and Tests Performed in Your Laboratory:			
<input type="checkbox"/> Carba NP	<input type="checkbox"/> Negative	<input type="checkbox"/> Positive	<input type="checkbox"/> OXA
			<input type="checkbox"/> Negative
			<input type="checkbox"/> Positive
<input type="checkbox"/> IMP	<input type="checkbox"/> Negative	<input type="checkbox"/> Positive	<input type="checkbox"/> VIM
			<input type="checkbox"/> Negative
			<input type="checkbox"/> Positive
<input type="checkbox"/> KPC	<input type="checkbox"/> Negative	<input type="checkbox"/> Positive	<input type="checkbox"/> Other
			<input type="checkbox"/> Negative
			<input type="checkbox"/> Positive
<input type="checkbox"/> mCIM	<input type="checkbox"/> Negative	<input type="checkbox"/> Positive	<input type="checkbox"/> Other (specify): _____
<input type="checkbox"/> NDM	<input type="checkbox"/> Negative	<input type="checkbox"/> Positive	<input type="checkbox"/> Negative <input type="checkbox"/> Positive
<input type="checkbox"/> ESBL (MCR-1) – Targeted Surveillance	<input type="checkbox"/> Negative <input type="checkbox"/> Positive		
Organism (Your Test Results):			
<input type="checkbox"/> Acinetobacter baumannii – Targeted Surveillance	<input type="checkbox"/> Klebsiella pneumoniae		
<input checked="" type="checkbox"/> Candida (species: <u>C.auris</u>)	<input type="checkbox"/> Klebsiella oxytoca		
<input type="checkbox"/> Enterobacter (species: _____)	<input type="checkbox"/> Pseudomonas aeruginosa		
<input type="checkbox"/> Escherichia coli	<input type="checkbox"/> Other (specify): _____		
Date Collected:	Specimen Type:		
Time Collected:	× Isolate, source:		
Please include AST Results performed at your laboratory with the specimen			
WSLH Test Request:			
<input type="checkbox"/> MP00580 Bacterial Characterization		<input checked="" type="checkbox"/> MP00900 Fungal Characterization	
WISCONSIN STATE LABORATORY OF HYGIENE USE ONLY			