Indiana Department of Health

Welcome

to the

Healthcare Associated Infections Antimicrobial Resistance Webinar Series

Webinar Overview

- Schedule – bi-monthly
- Intended audience – hospital infection preventionists
- Upcoming topics:
  - The Three Rs – September 2021
  - *Candida auris* – November 2021
  - MDROs – January 2022

Please visit the HAI-AR Webinar Series webpage for Hospital Infection Preventionists by clicking here!

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Candida auris Threat and MDRO Screenings

Caleb Cox, MPH

OUR MISSION:

To promote, protect, and improve the health and safety of all Hoosiers.

OUR VISION:

Every Hoosier reaches optimal health regardless of where they live, learn, work, or play.

What You Need to Know About *Candida auris*

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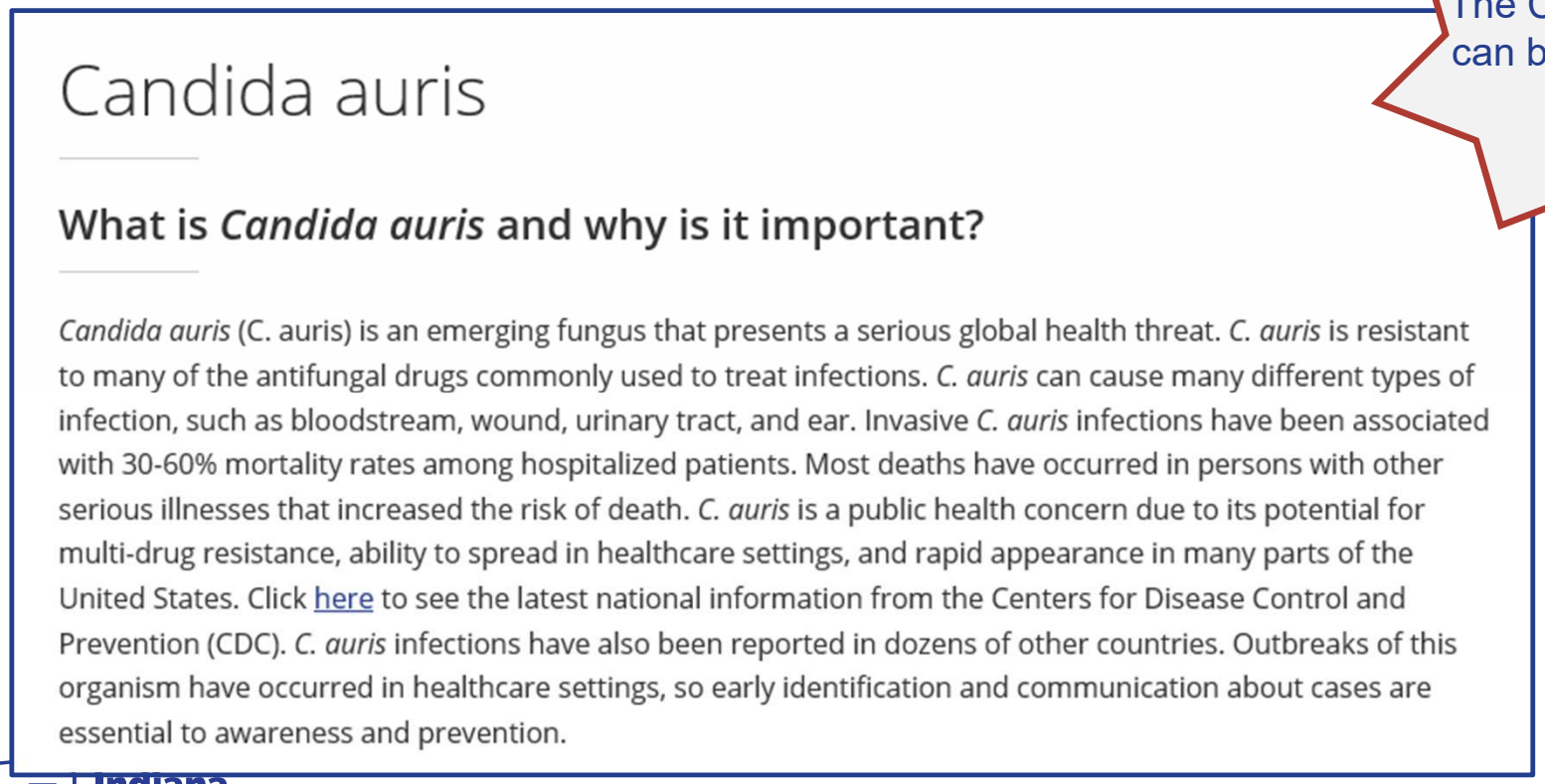
Candida auris Webpage

The CA webpage can be accessed here!

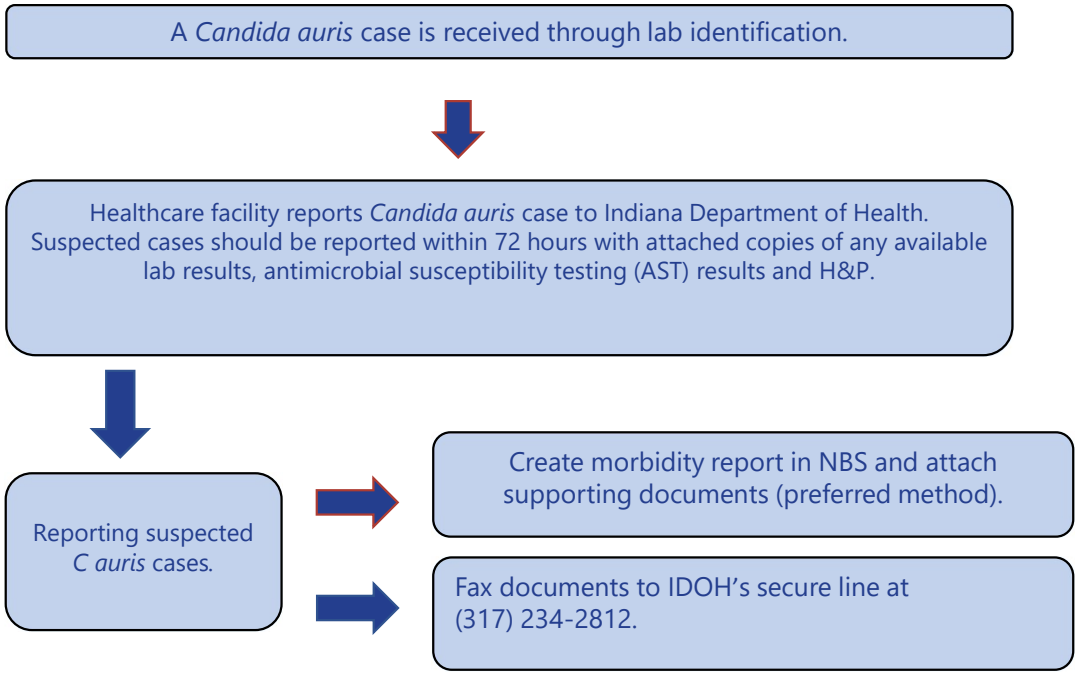


Candida auris

What is *Candida auris* and why is it important?

Candida auris (C. auris) is an emerging fungus that presents a serious global health threat. *C. auris* is resistant to many of the antifungal drugs commonly used to treat infections. *C. auris* can cause many different types of infection, such as bloodstream, wound, urinary tract, and ear. Invasive *C. auris* infections have been associated with 30-60% mortality rates among hospitalized patients. Most deaths have occurred in persons with other serious illnesses that increased the risk of death. *C. auris* is a public health concern due to its potential for multi-drug resistance, ability to spread in healthcare settings, and rapid appearance in many parts of the United States. Click here to see the latest national information from the Centers for Disease Control and Prevention (CDC). *C. auris* infections have also been reported in dozens of other countries. Outbreaks of this organism have occurred in healthcare settings, so early identification and communication about cases are essential to awareness and prevention.

Candida auris Reporting Algorithm



IDOH recommendations
Resident should be placed in enhanced barrier contact precautions (without confirmed IDOH lab result). Use EPA List P products to disinfect environment and resident rooms. Flag resident's chart for quick identification in case of re-admission. Ensure an interfacility transfer form is utilized when a resident is transferred. Screen roommates for *C. auris* colonization, if applicable.

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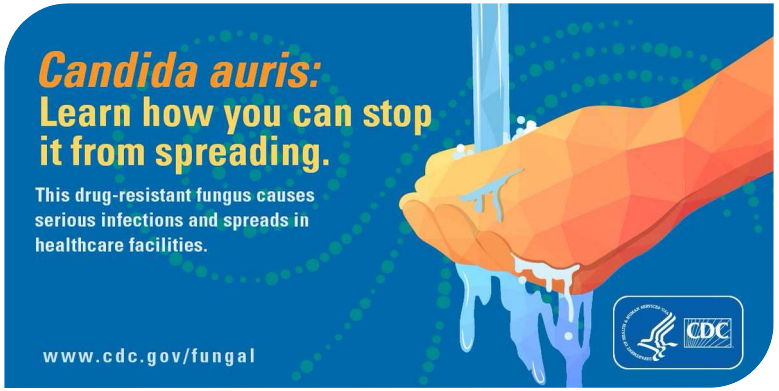
Background

- Often multidrug-resistant yeast
- First described in 2009 in Japan
- First case in United States in 2016
- Causes severe illness in hospitalized patients
- Several challenges making emergence particularly important

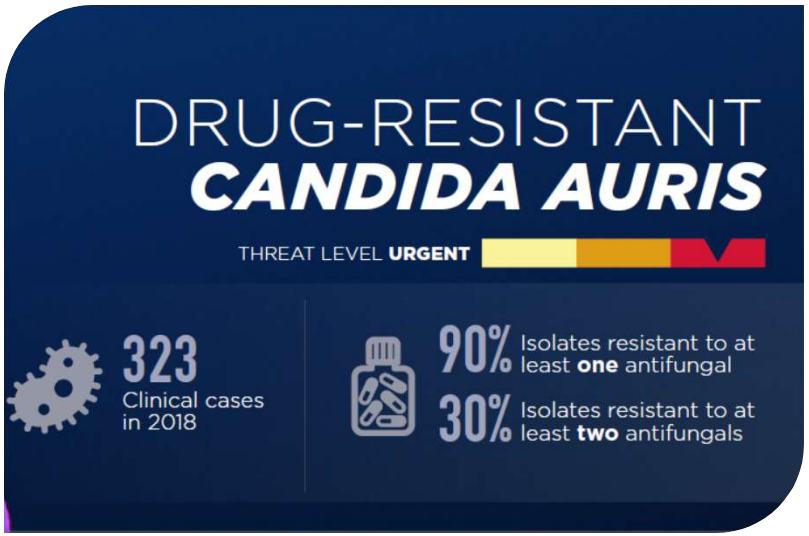
Symptoms and Risk Factors

- Symptoms are dependent on site of infection
  - Blood, urine, wound, etc.
- Asymptomatically colonize skin
  - Axillae, groin
  - Still transmissible
- Risk factors
  - History of care within vSNFs or LTACHs, especially located in areas known to have reported *C. auris* outbreaks
  - Invasive devices, infection with other MDROs, many comorbidities
  - Similar to *Candida* sp infection risk factors
- **Healthy people have not been found to be at risk for *C. auris* infection or colonization**



Urgent Threat

- CDC added *C. auris* to 2019's "Urgent Threats" list
- 318% increase in reported cases during 2018



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Images from CDC's 2019 AR Threats

What makes *C. auris* a threat?

Challenges	Candida auris	Other Candida sp.
Treated with antifungals	✓	✓
Antifungal resistance	✓	✓/✗
Difficult to identify with current methods	✓	✗
Environmental Persistence	✓	✗
Difficult to kill in the environment	✓	✗
Coinfection with MDROs	✓	✗

Identification Challenges

Identification Method	Organism C. auris can be misidentified as
Vitek 2 YST	Candida haemulonii Candida duobushaemulonii
API 20C	Rhodotorula glutinis Candida sake
API ID 32C	Candida intermedia Candida sake Saccharomyces kluyveri
BD Phoenix yeast ID system	Candida haemulonii Candida catenulate
MicroScan	Candida famata Candida guilliermondii Candida lusitaniae Candida parapsilosis
RapID Yeast Plus	Candida parapsilosis

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Adapted from CDC

Resistance Patterns

Clinical Isolates collected in the United States through August 2019

Percent Resistant*		Antifungal Class	Antifungals Drugs within Class
National	Midwest		
88%	18%	Azoles	Fluconazole Voriconazole Posaconazole Isavuconazole
2%	3%	Echinocandins	Micafungin Caspofungin Anidulofungin
34%	2%	Polyenes	Amphotericin B
33%	2%	Multidrug-Resistant	

Breakpoints per CDC's General Guide

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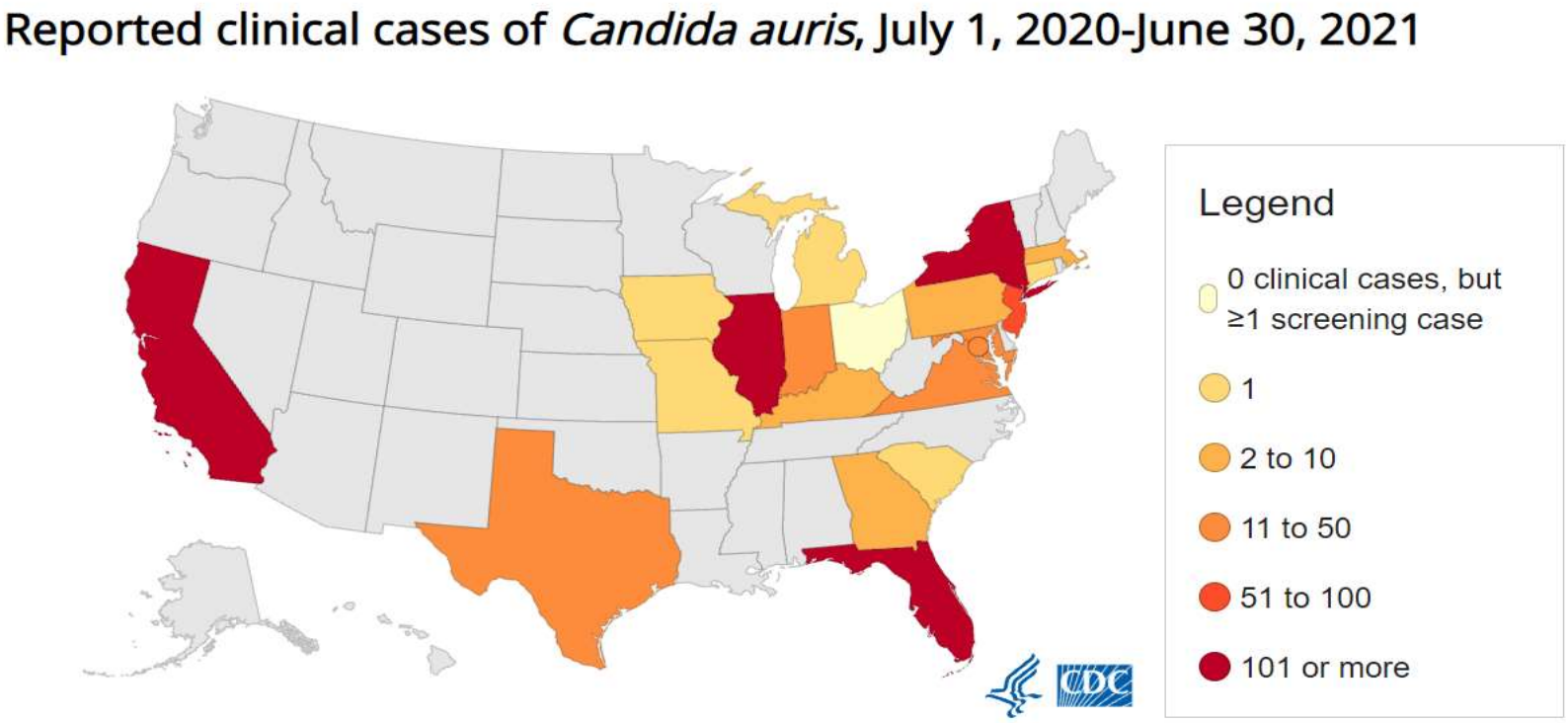
Adapted from CDC

National Distribution



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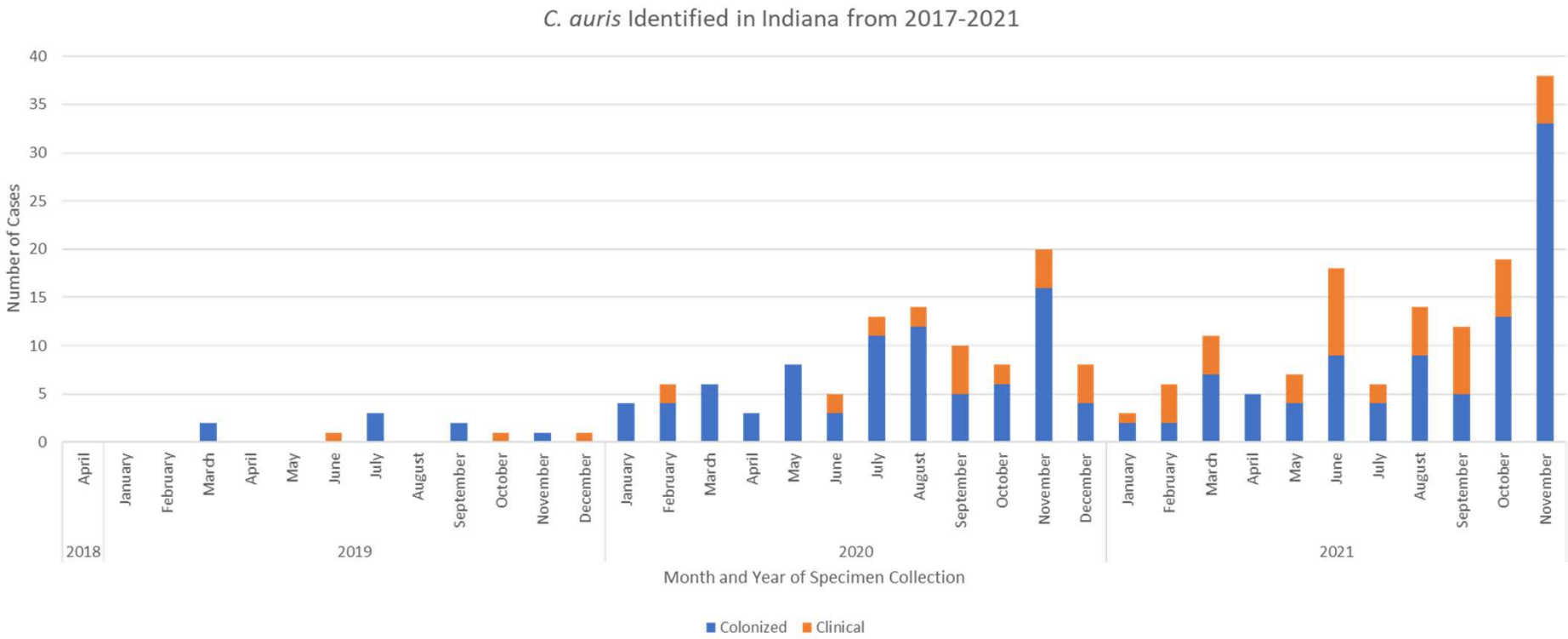
Adapted from CDC

Indiana Case Counts



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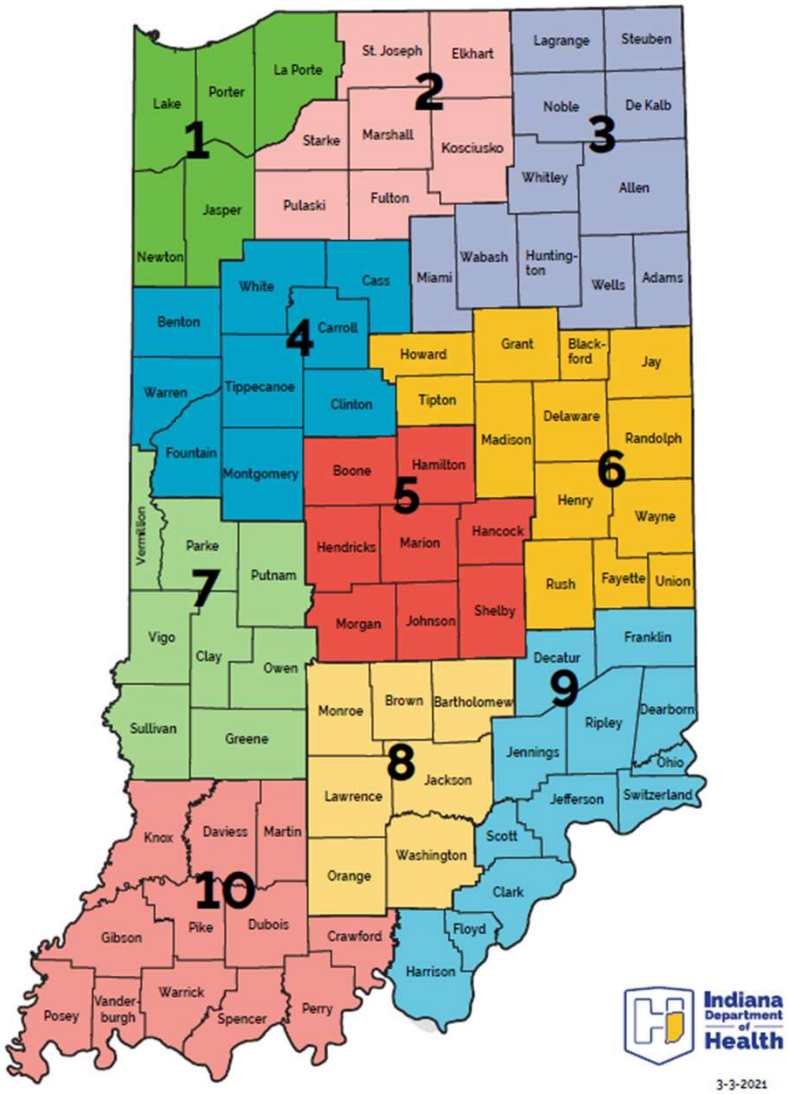
Data Collected by IDOH

Indiana Districts



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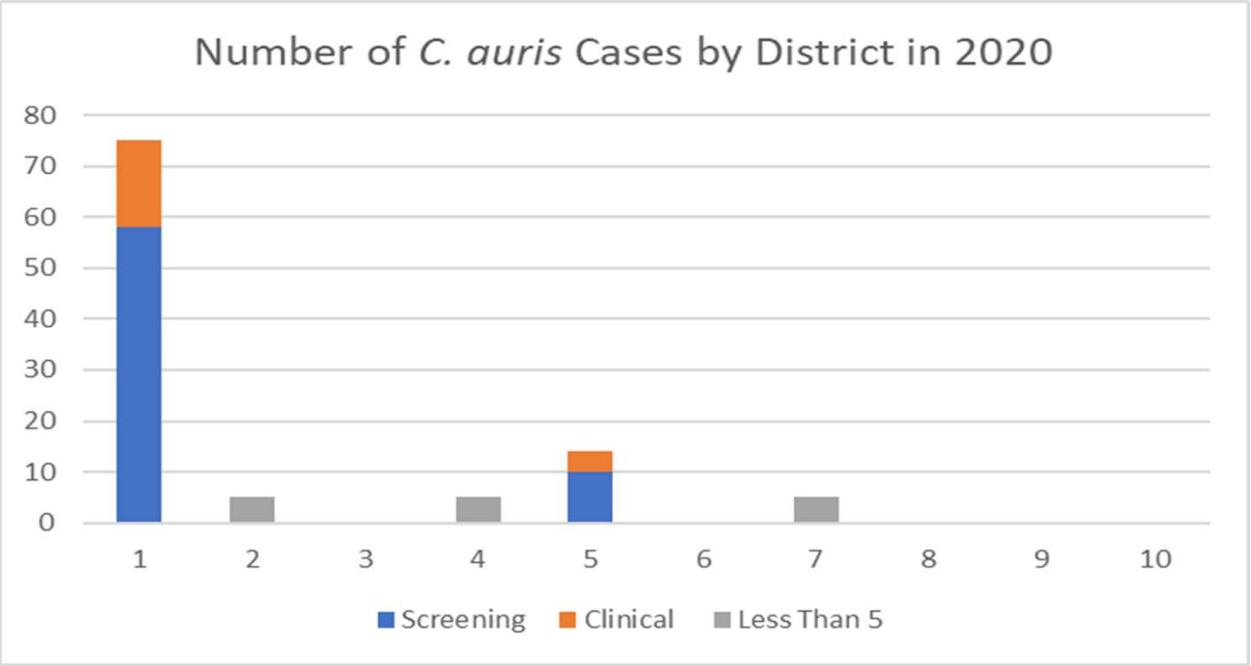
District Distribution – 2020

Clinical Cases (23 total)
District One: 17
District Two: <5
District Four: <5
District Five: <5

Colonization Cases (69 total)
District One: 58
District Five: 10
District Seven: <5



Data Collected by IDOH
(current as of 10/14/2021)

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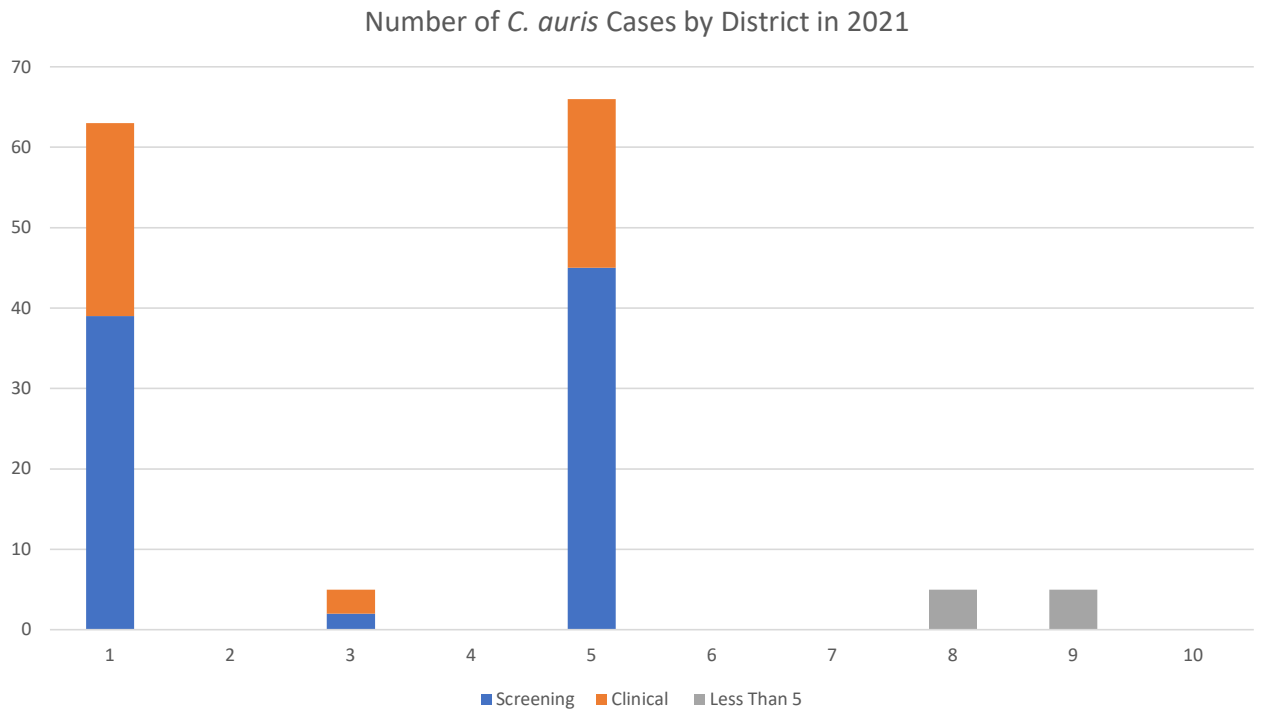
Data Collected by IDOH (current as of 7/1/2021)

District Distribution – 2021

Clinical Cases (48 total)
District One: 24
District Three: <5
District Five: 21
District Eight: <5
District Nine: <5

Colonization Cases (86 total)
District One: 39
District Three: <5
District Five: 45
District Nine: <5



Data Collected by IDOH
(current as of 11/30/2021)

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C. auris Myths

A patient or resident identified with *Candida auris* will always have *Candida auris*

- Although the current recommendations for continuing TBP are indefinite, this does not mean the patient or resident will always have symptoms or residual effects

As a facility, we should avoid admitting patients with current or previous reports of *Candida auris*

- "… decisions to discharge the patient from one level of care to another should be based on clinical criteria and the ability of the accepting facility to provide care—*not* on the presence or absence of colonization."
- https://www.cdc.gov/fungal/candida-auris/c-auris-infection-control.html

I shouldn't send a loved one to receive care at a facility where *Candida auris* has been identified.

- Consider facility with a supportive leadership group and highly educated IP that is performing *Candida auris* admission screening. This helps identify cases quickly, mitigating transmission. A facility with a high case *could* indicate proactivity rather than improper infection control measures. A facility without any reported cases with the same high-risk population could potentially be a "worse" decision. Conversely, a facility could have great surveillance and poor adherence to infection control practices. Generally, it is more important to focus on a facility's adherence to infection control rather than the number of cases they've reported.

C. auris Myths (cont.)

I can't touch my loved one ever again because they were identified with *Candida auris*

- Healthy people have not been implicated in transmission and are not considered high risk for becoming infected or colonized while adhering to appropriate precautions.

CDC says 30-60% of infected people die from *Candida auris*.

- "Based on information from a limited number of patients, 30–60% of people with C. auris infections have died. However, many of these people had other serious illnesses that also increased their risk of death."
- https://www.cdc.gov/fungal/candida-auris/candida-auris-qanda.html

Enhanced Barrier Precautions (EBP) for Prevention of MDRO spread

Focusing only on residents with active infection fails to address the continued risk of transmission from residents with MDRO colonization,

which can persist for long periods of time (e.g., months), and result in the silent spread of MDROs.

Implementation of PPE in Nursing Homes to Prevent Spread of Novel or Targeted MDROs
https://www.cdc.gov/hai/containment/PPE-Nursing-Homes.html

Enhanced Barrier Precautions (EBP) for LTC

Accessible version: https://www.cdc.gov/hai/containment/PPE-Nursing-Homes.html

Implementation of Personal Protective Equipment in Nursing Homes to Prevent Spread of Novel or Targeted Multidrug-resistant Organisms (MDROs)

Updated: July 26, 2019

Examples of high-contact resident care activities requiring gown and glove use for enhanced barrier precautions include:

• Dressing • Bathing/showering • Transferring • Providing hygiene • Changing linens • Changing briefs or assisting with toileting • Device care or use: central line, urinary catheter, feeding tube, tracheostomy/ventilator • Wound care: any skin opening requiring a dressing

Gown and gloves would not be required for resident care activities other than those listed above, unless otherwise necessary for adherence to standard precautions. residents are not restricted to their rooms or limited from participation in group activities, however assure proper hand hygiene education for resident, caregivers and family.

As of July 2019, Novel or Targeted MDROs are defined as:

- Pan-resistant organisms,
- Carbapenemase-producing enterobacteriaceae,
- Carbapenemase-producing *Pseudomonas* spp.,
- Carbapenemase-producing *Acinetobacter baumannii*, and
- *Candida auris*

Part of IDOH Toolkit- July 2019

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When to use EBP- for LTC

"Enhanced Barrier Precautions expand the use of PPE beyond situations in which exposure to blood and body fluids is anticipated and refer to the **use of gown and gloves during high-contact resident care activities** that provide opportunities for transfer of MDROs to staff hands and clothing."

- When Contact Precautions do not apply:

Dressing • Bathing/showering • Transferring • Providing hygiene • Changing linens • Changing briefs or assisting with toileting • Device care or use: central line, urinary catheter, feeding tube, tracheostomy/ventilator • Wound care: any skin opening requiring a dressing

- Infection or colonization with a novel or targeted MDRO (as of July 2019) as defined by CDC.
- Wounds and/or indwelling medical devices (e.g. central line, urinary catheter, feeding tube, tracheostomy/ventilator) **regardless of MDRO colonization status residing in an at-risk area.**

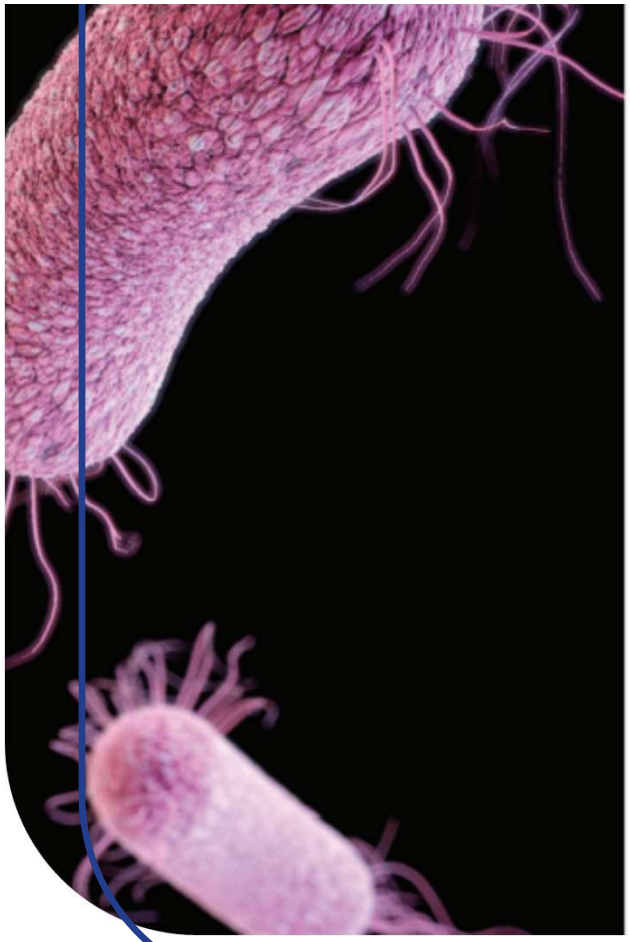
Take Away

What facilities should be doing:

- **Hold discussion with Lab and IP to discuss identification and notification process**
  - **Is this something that can be detected in-house or would it need to be sent out? What about susceptibility testing?**
  - **What is the turn around time?**
  - **Make sure this is immediately notifiable to Infection Control and IDOH**
- Review the cleaning products used in the facility. Do they have access to a product that works against *Candida auris*?

If caring for a high-risk population, consider taking more aggressive proactive measures such as laboratory surveillance, colonization screening (internal or external)

- High risk considerations – see risk factor slide



MDRO Screening Information

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Screening Types

Admission Screening

- Typically used to assess colonization status to avoid healthcare transmission

Point Prevalence Survey (PPS)

- Screening of everyone admitted (and consenting) to a facility or unit
- All collected on the same day
- Typically used to either to determine a “baseline” prevalence or to assess for undetected presence or transmission

Targeted

- Screening of the most at-risk patients or residents
- Can be used in response to an exposure
- Can be used preventatively to narrow down admission screening

Internal vs. External Screening

Internal: Screening performed by a healthcare facility

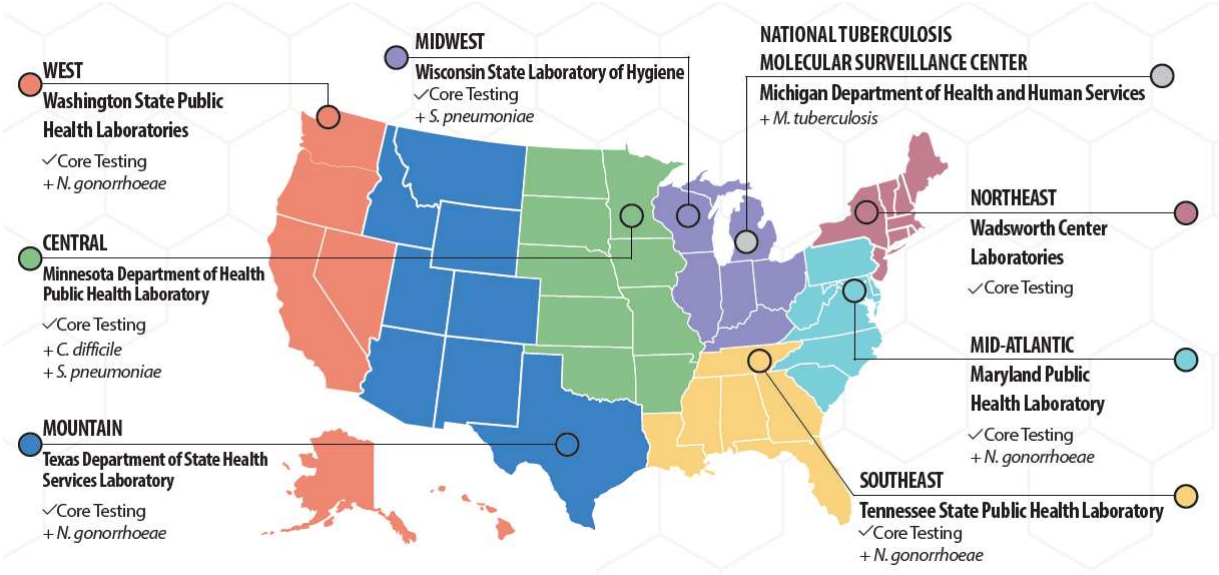
- MRSA, VRE, CP-CRE, *Candida* auris, etc.

External: Screening performed through public health resources

- CP-CRE, *Candida auris*
- Upon recommendations based on CDC guidance

Screening Process

- Work with IDOH to determine who will be screened and when:
  - Testing laboratories have limited capacity and stick to a strict schedule
- IDOH will order kits from the AR Lab Network (ARLN) Wisconsin
- Kits can be shipped to either IDOH directly or to the facility where screening is to occur



IDOH Recommended Screening

For *Candida auris:*

IDOH recommends screening patients for C. auris who meet any of the following criteria:

- Residents of the Chicago area and surrounding neighborhoods with extended stays in high acuity long term care facilities (LTACHs/vSNFs) due to the higher incidence of C. auris in these areas
- Patients presenting from long-term acute care facilities, skilled nursing facilities, or rehab facilities who meet the following criteria:
  a. History of multi-drug resistant organisms (MDRO)
  b. History of mechanical ventilation or tracheostomies
  c. Chronic or unhealing wounds

C. auris Screening Kit

A kit includes:

- E-swabs
- Specimen bag
- Specimen labeling instructions
- Requisition form
- Fax agreement form
- Shipping box
- Styrofoam cooler
- Ice pack
- Shipping instructions

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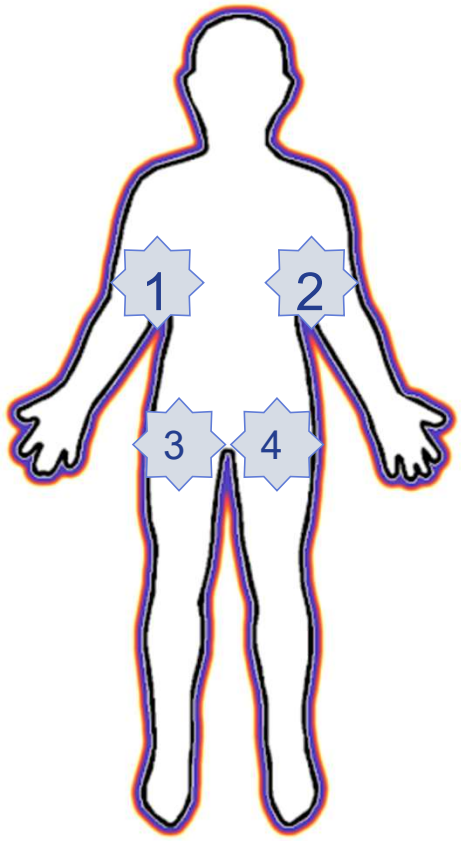
C. auris Collection

Rub both sides of swab tip over left axilla skin surface and then the right, targeting crease in the skin where the arm meets the body

- Swab both armpits, swiping back and forth ~5 times per armpit

With the same swab used on the axilla, rub both sides of swab tip over left groin skin surface, targeting the inguinal crease in the skin where the leg meets the pelvic region, repeat with right side

- Swab the skin of both hip creases swiping back and forth ~5 times per hip crease



Why do we screen?

- Proactive vs. Reactive
- Guide appropriate transmission-based protocol
- Identify gaps in infection control
- Prevent or stop transmission

Screening Resources

- Specimen Collection Procedure
- Example verbal consent script
- Patient FAQs
- Summary for IPs
- Testing and Colonization explanations for patients

For *C. auris* resources:
https://www.cdc.gov/fungal/candida-auris/fact-sheets/index.html

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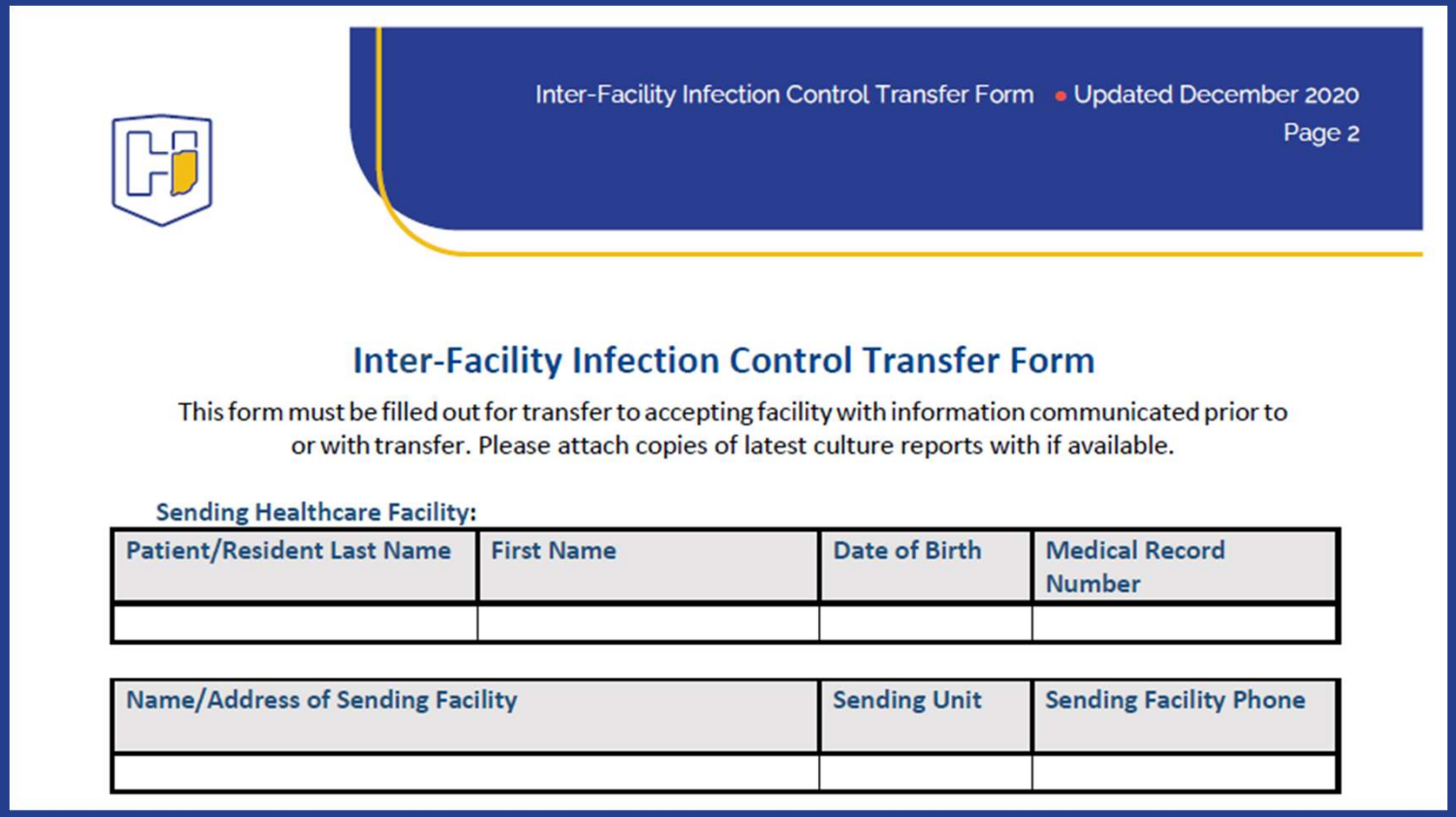
Inter-Facility Infection Control Transfer Form

Download the form here!

Inter-Facility Infection Control Transfer Form

Download the form here!



Inter-Facility Infection Control Transfer Form

This form must be filled out for transfer to accepting facility with information communicated prior to or with transfer. Please attach copies of latest culture reports with if available.

Sending Healthcare Facility:

Patient/Resident Last Name	First Name	Date of Birth	Medical Record Number

Name/Address of Sending Facility	Sending Unit	Sending Facility Phone

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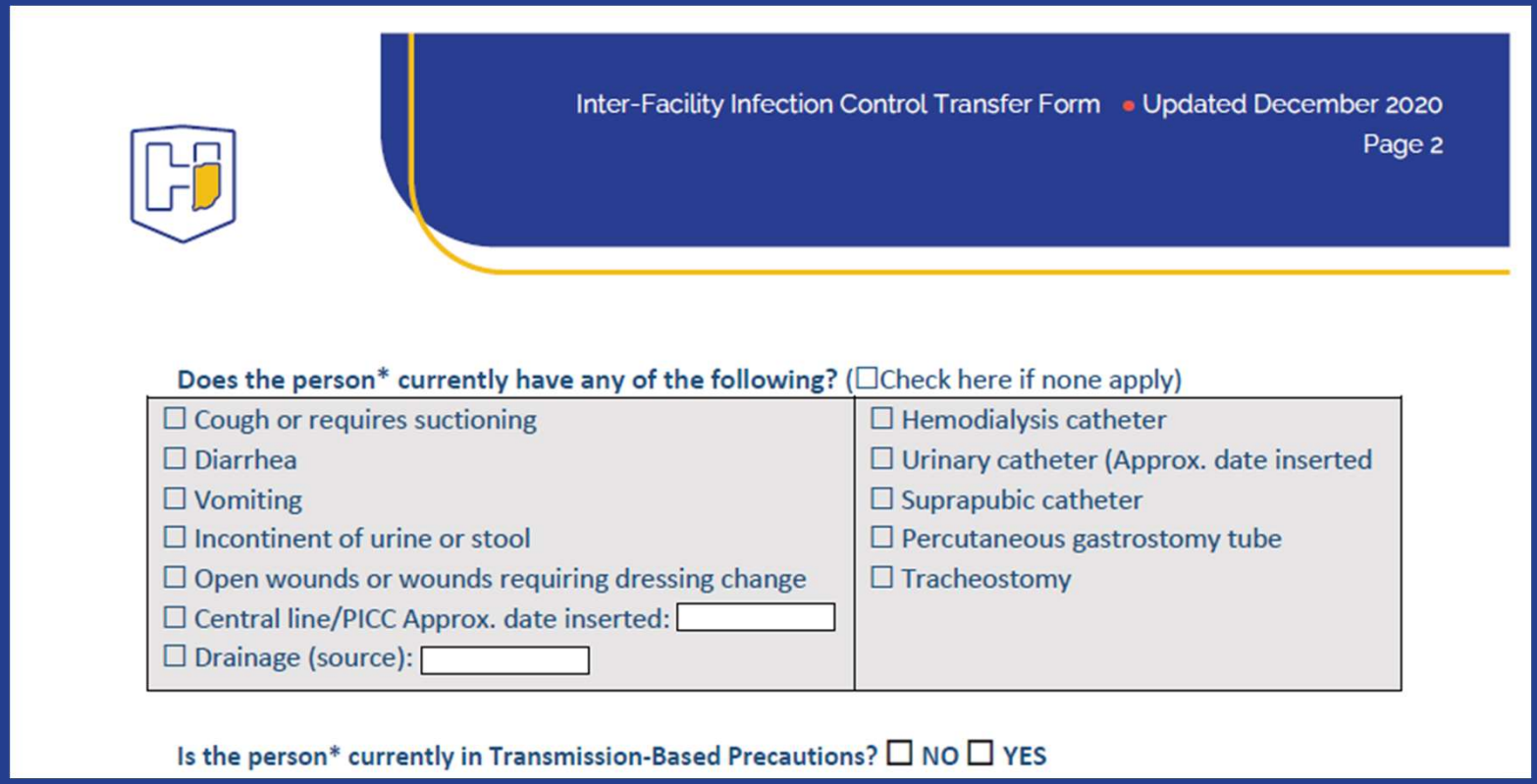
Inter-Facility Infection Control Transfer Form

Download the form here!



Inter-Facility Infection Control Transfer Form • Updated December 2020
Page 2

Does the person* currently have any of the following? (☐Check here if none apply)

☐ Cough or requires suctioning	☐ Hemodialysis catheter
☐ Diarrhea	☐ Urinary catheter (Approx. date inserted
☐ Vomiting	☐ Suprapubic catheter
☐ Incontinent of urine or stool	☐ Percutaneous gastrostomy tube
☐ Open wounds or wounds requiring dressing change	☐ Tracheostomy
☐ Central line/PICC Approx. date inserted:	
☐ Drainage (source):	

Is the person* currently in Transmission-Based Precautions? ☐ NO ☐ YES

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Questions?

Contact Information:

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