

Candida auris *and Patient/Resident Management*

Surveillance for Healthcare-associated and Resistant Pathogens Unit (SHARP)
Michigan Department of Health and Human Services (MDHHS)

Candida auris

What it is?

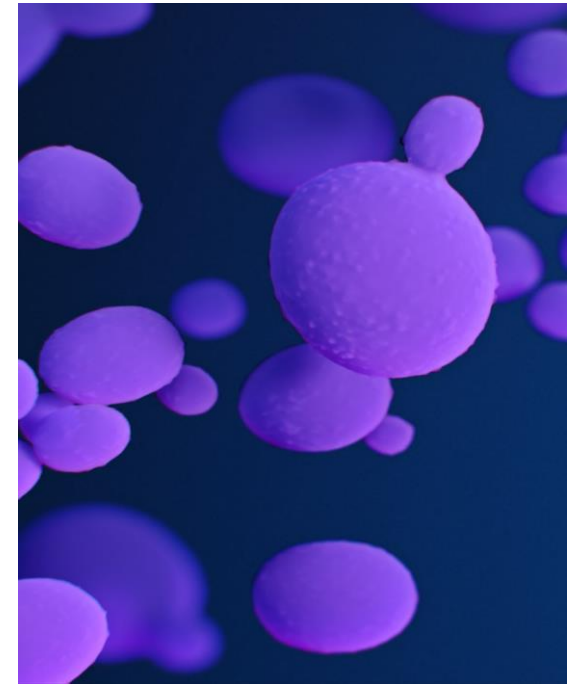
Who is at risk?

How does it spread?

What's happening in Michigan?

What is *Candida auris*?

- A fungal yeast organism
- Often colonizes the skin and other body sites, but can cause invasive infections
- Can be resistant to antifungal medications, sometimes multidrug-resistant
- Can spread in health care settings



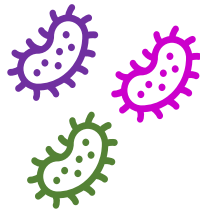
Who is at Risk for *Candida auris*?



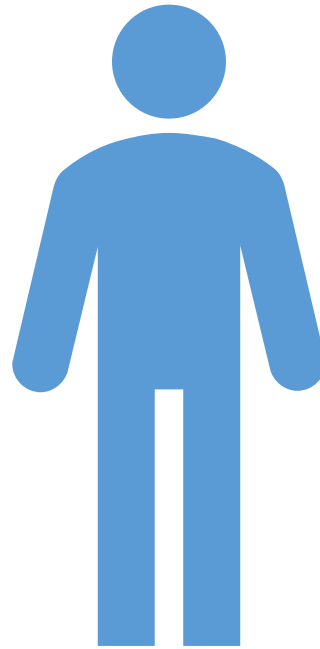
Mechanical ventilation
Tracheostomy



Indwelling medical devices
and non-healing wounds



Colonized with
other MDROs



**Not a threat to healthy
individuals, general public**



Antibiotics and
antifungals



Multiple or prolonged
health care facility stays

Candida auris Colonization



Colonization means that a patient/resident is carrying *C. auris* in or on them but does not have any signs or symptoms of an infection

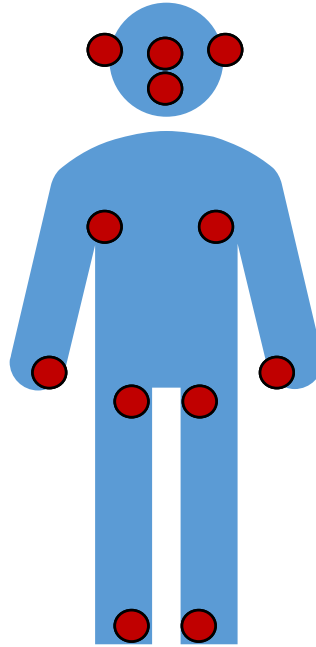


***C. auris* colonization sites can include:**

- Nares
- Oral
- External ear
- Axilla
- Groin/inguinal fold
- Hands
- Toe web



Patients/residents with *C. auris* colonization can **remain colonized for long periods of time**, many month to years, and perhaps indefinitely



For some patients/residents, **colonization can lead to an active infection**

- ~5-10% develop an invasive infection like a bloodstream infection



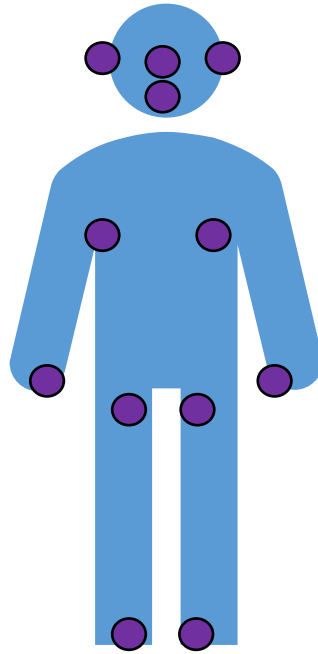
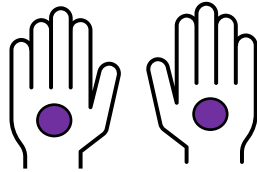
C. auris can be **resistant to some antifungal treatments**, making treatment of some infections more difficult



Candida auris Colonization

C. auris can be shed from colonized patients/residents to:

Health care
personnel hands
and clothing



High-touch health care surfaces



Shared medical equipment

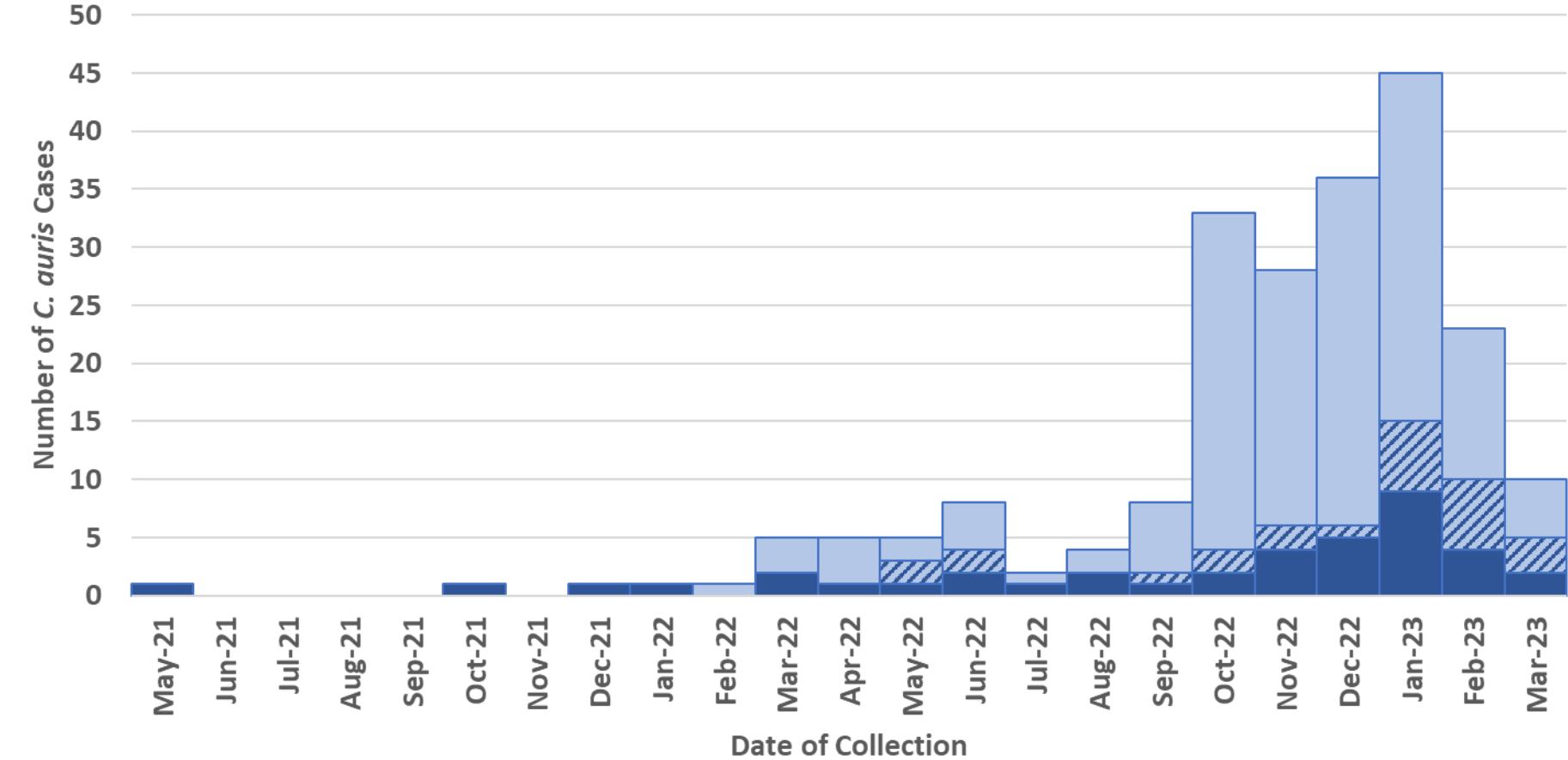


C. auris can persist in the
health care environment
for weeks

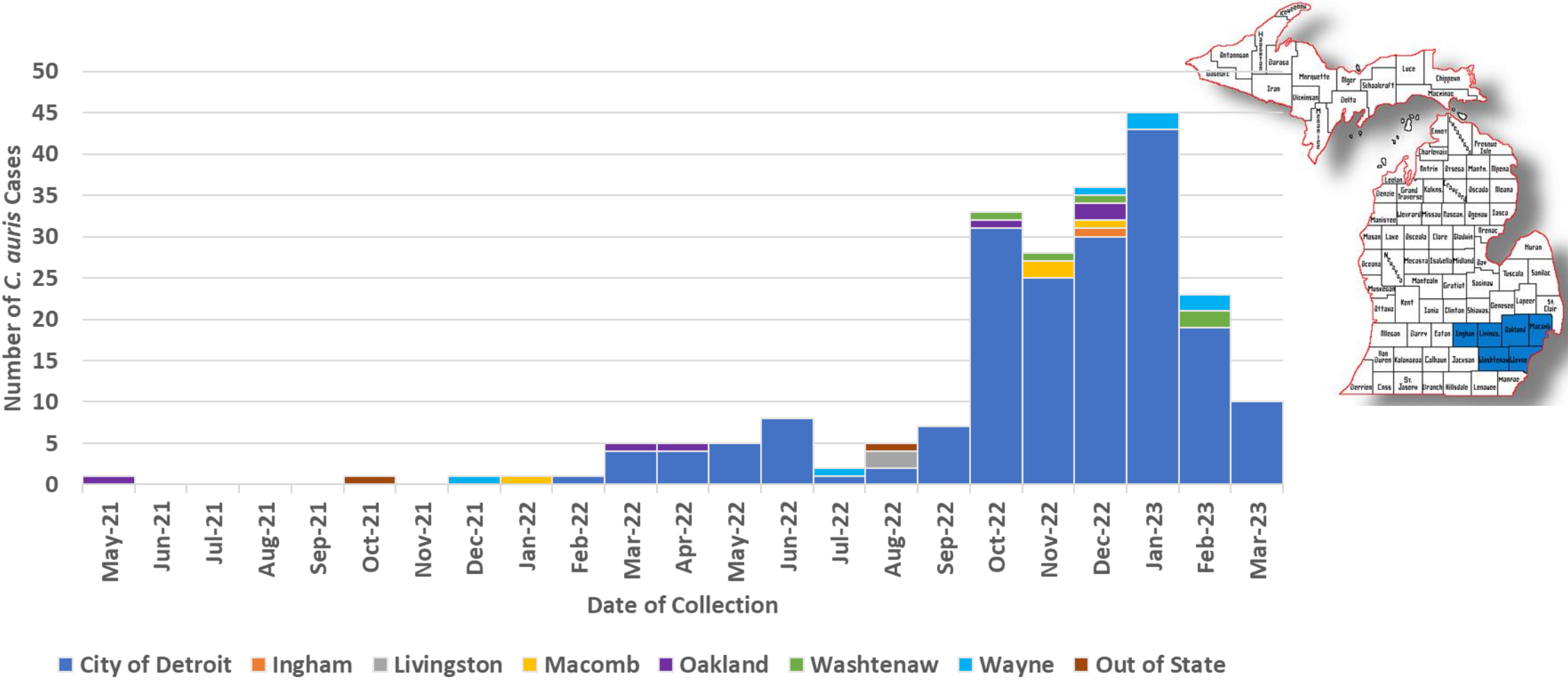
Candida auris in Michigan

Total Cases = 217

- Screening Case =152
- Screening-to-Clinical Case =25
- Clinical Case =40



Candida auris in Michigan



C. auris-positive Patient/Resident Management

Communication at Transfer

Infection Prevention Precautions

Hand Hygiene & PPE

Cleaning and Disinfection

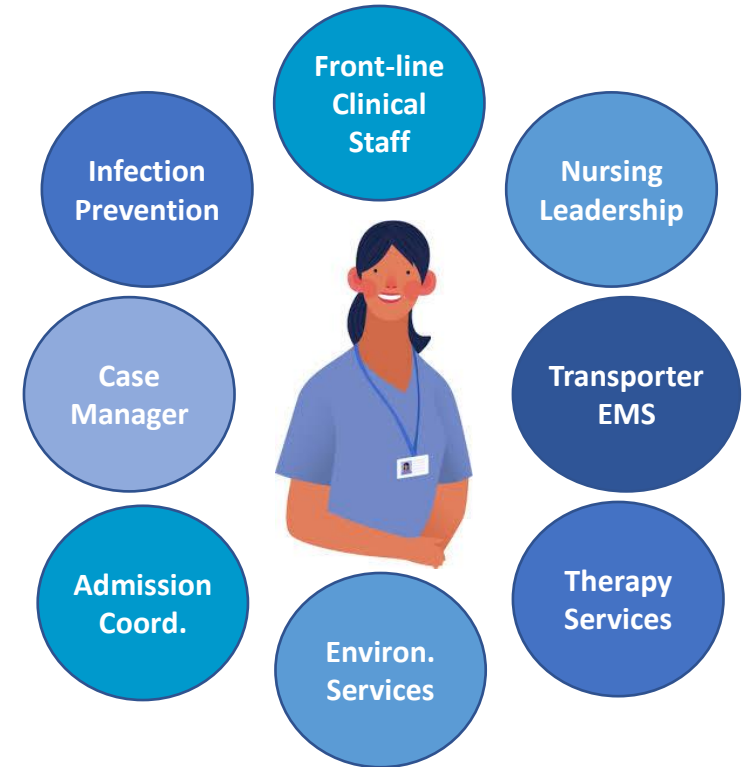
Patient/Resident Transfers

- **As with any MDRO**, decisions to transfer a patient/resident from one level of care to another should be based on:
 - Clinical criteria
 - Ability of the accepting facility to provide the appropriate level of care
 - **Not** on the presence or absence of *C. auris* infection or colonization

**All facilities need to be prepared to
implement setting-appropriate precautions**

Communication of *C. auris* Status

- **When ACCEPTING patients/residents:**
 - **Ask** about their *C. auris*/MDRO status
 - If positive,
 - obtain a **copy of the lab report** or supporting medical records
 - **Confirm** the type of precautions needed
 - Ensure **all HCP are informed** of their *C. auris*/MDRO status
 - Maintain an up-to-date list of residents meeting criteria for precautions



Communication of *C. auris* Status

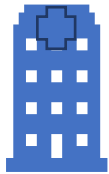
- When **DISCHARGING** patients/residents:
 - Clearly state the **status of *C. auris*** and all MDROs
 - Current or recent infection
 - Colonization
 - Pending status (laboratory results pending or testing is needed)
 - Specify the **type of precautions** indicated
 - Tell **HCP** at the receiving facility
 - **BOTH** verbal and written communication
 - Utilize a **Inter-facility Transfer Form**



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 susceptibilities 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
Sending Facility Contacts	Contact Name	Phone	E-mail
Transferring RN/Unit			
Transferring physician			
Case Manager/Admin/SW			
Infection Preventionist			
Does the person* currently have an infection, colonization OR a history of positive culture of a multidrug-resistant organism (MDRO) or other potentially transmissible infectious organism?	Colonization or history (Check if YES)	Active infection on Treatment (Check if YES)	
Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA)	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
Vancomycin-resistant <i>Enterococcus</i> (VRE)	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
<i>Clostridioides difficile</i>	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
<i>Acinetobacter</i> , multidrug-resistant	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
Enterobacteriaceae (e.g., <i>E. coli</i> , <i>Klebsiella</i> , <i>Proteus</i>) producing-Extended Spectrum Beta-Lactamase (ESBL)	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
Carbapenem-resistant Enterobacteriaceae (CRE)	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
<i>Pseudomonas aeruginosa</i> , multidrug-resistant	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
<i>Candida auris</i>	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
Other, specify (e.g., lice, scabies, norovirus, influenza):	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
Does the person* currently have any of the following? (Check here <input type="checkbox"/> if none apply)			
<input type="checkbox"/> Cough or requires suctioning	<input type="checkbox"/> Central line/PICC (Approx. date inserted <input type="text"/>)		
<input type="checkbox"/> Diarrhea	<input type="checkbox"/> Hemodialysis catheter		
<input type="checkbox"/> Vomiting	<input type="checkbox"/> Urinary catheter (Approx. date inserted <input type="text"/>)		
<input type="checkbox"/> Incontinent of urine or stool	<input type="checkbox"/> Suprapubic catheter		
<input type="checkbox"/> Open wounds or wounds requiring dressing change	<input type="checkbox"/> Percutaneous gastrostomy tube		
<input type="checkbox"/> Drainage (source): <input type="text"/>	<input type="checkbox"/> Tracheostomy		

Infection Prevention Precautions for *C. auris*

Contact Precautions



Acute Care
Hospitals



Long-term
Acute Care
Hospitals

STOP CONTACT PRECAUTIONS STOP
EVERYONE MUST:

-  Clean their hands, including before entering and when leaving the room.

PROVIDERS AND STAFF MUST ALSO:

-  Put on gloves before room entry. Discard gloves before room exit.
-  Put on gown before room entry. Discard gown before room exit.
- Do not wear the same gown and gloves for the care of more than one person.
-  Use dedicated or disposable equipment. Clean and disinfect reusable equipment before use on another person.

 U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Enhanced Barrier Precautions

OR

Contact Precautions



Skilled
Nursing
Facilities
and
Nursing
Homes

STOP ENHANCED BARRIER PRECAUTIONS STOP
EVERYONE MUST:

-  Clean their hands, including before entering and when leaving the room.

PROVIDERS AND STAFF MUST ALSO:

-  Wear gloves and a gown for the following High-Contact Resident Care Activities:
 - Dressing
 - Bathing/Showering
 - Transferring
 - Changing Linens
 - Providing Hygiene
 - Changing briefs or assisting with toileting
-  Device care or use:
 - central line, urinary catheter, feeding tube, tracheostomy
 - Wound Care: any skin opening requiring a dressing

Do not wear the same gown and gloves for the care of more than one person.

 U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

- Known MDRO
- Indwelling device or wound
- Used for resident's entire length of stay

STOP CONTACT PRECAUTIONS STOP
EVERYONE MUST:

-  Clean their hands, including before entering and when leaving the room.

PROVIDERS AND STAFF MUST ALSO:

-  Put on gloves before room entry. Discard gloves before room exit.
-  Put on gown before room entry. Discard gown before room exit.
- Do not wear the same gown and gloves for the care of more than one person.
-  Use dedicated or disposable equipment. Clean and disinfect reusable equipment before use on another person.

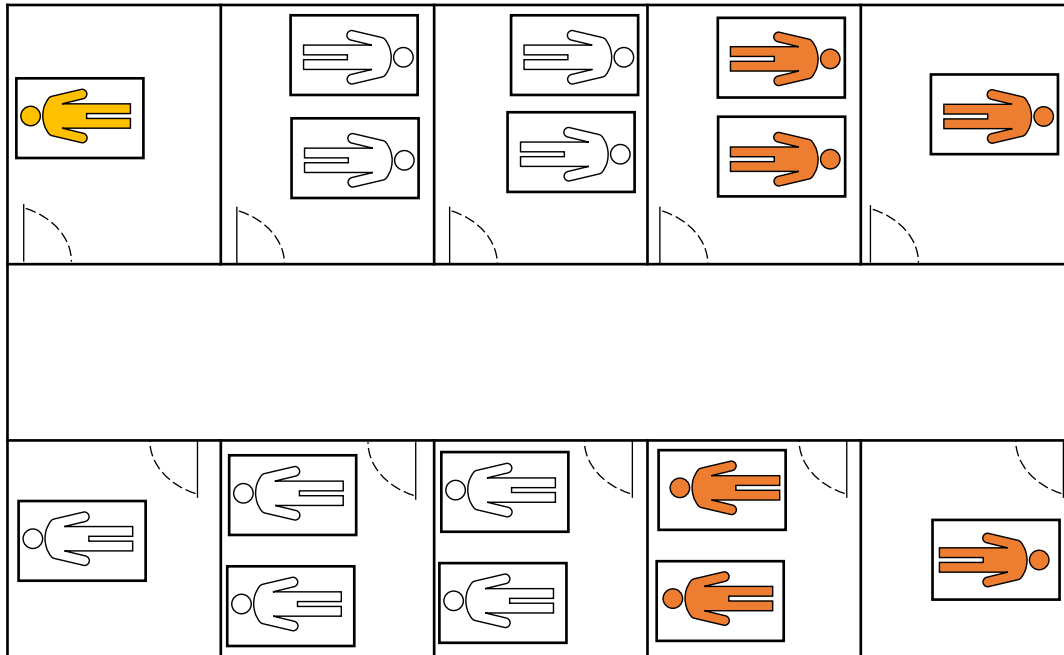
 U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

- Acute diarrhea
- Uncontained draining wounds, secretions or excretions
- Other infections (Appendix A)
- Limited to infectious period

Resident Placement

- **Contact Precautions**

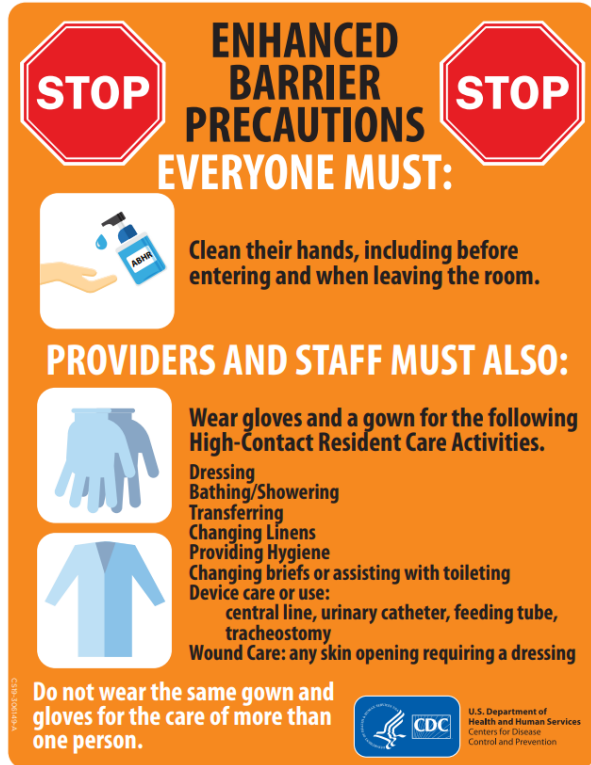
- Single-resident room whenever possible



- **Enhanced Barrier Precautions**

- Single-resident rooms are not required
- For facilities with capacity, single-resident rooms may be preferred
- *C. auris*-positive residents may be cohorted in the same room
- Facilities can consider a designated unit or part of unit for cohorting

Set-up for Success



Precautions Signage

- Visible
- Clear and informative
- Durable



Alcohol-based Hand Sanitizer

- Available and accessible for all health care personnel



PPE Cart or Caddy

- Placement just outside resident room
- Restocking PPE supply



Dedicated Equipment

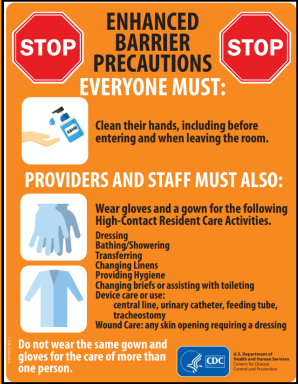





- When possible
- Wipe placement for shared equipment

Hand Hygiene

- Alcohol-based hand sanitizer (ABHS) is effective against *C. auris* and is the preferred method to clean hands in most clinical situations
- Consider **ABHS placement** for availability and accessibility
- Use soap and water per routine indications



Personal Protective Equipment (PPE)

Type of Precaution	PPE	When	What Care
 <p>ENHANCED BARRIER PRECAUTIONS EVERYONE MUST:</p> <ul style="list-style-type: none"> Clean their hands, including before entering and when leaving the room. <p>PROVIDERS AND STAFF MUST ALSO:</p> <ul style="list-style-type: none"> Wear gloves and a gown for the following High-Contact Resident Care Activities: <ul style="list-style-type: none"> Dressing Bathing/Showering Transferring Changing Linens Providing Hygiene Changing briefs or assisting with toileting Device care or use: <ul style="list-style-type: none"> central line, urinary catheter, feeding tube, tracheostomy Wound Care: any skin opening requiring a dressing <p>Do not wear the same gown and gloves for the care of more than one person.</p> <p><small>CDC</small></p>	 	Before high-contact resident care	<ul style="list-style-type: none"> Dressing Bathing/showering Transferring Providing hygiene Changing linens Changing briefs or assisting with toileting Indwelling device care or use Wound care
 <p>CONTACT PRECAUTIONS EVERYONE MUST:</p> <ul style="list-style-type: none"> Clean their hands, including before entering and when leaving the room. <p>PROVIDERS AND STAFF MUST ALSO:</p> <ul style="list-style-type: none"> Put on gloves before room entry. Discard gloves before room exit. Put on gown before room entry. Discard gown before room exit. Do not wear the same gown and gloves for the care of more than one person. Use dedicated or disposable equipment. Clean and disinfect reusable equipment before use on another person. <p><small>CDC</small></p>	 	Before any room entry	<ul style="list-style-type: none"> Any care

Cleaning and Disinfection for *C. auris*


- *C. auris* contaminates and persists in the health care environment
- Mobile or reusable equipment is likely an important source of *C. auris* spread



- Not all disinfectants are equally effective against *C. auris*
- Use EPA-registered hospital-grade disinfectant products effective against *C. auris* = **EPA List P**
- Strongly consider using an EPA List P disinfectant **routinely** for all resident care areas if *C. auris* is in your area, even if not yet identified in your facility

EPA List P: Disinfectant Products Effective Against *Candida auris*

<https://www.epa.gov/pesticide-registration/list-p-antimicrobial-products-registered-epa-claims-against-candida-auris>

 United States
Environmental Protection
Agency

Search EPA.gov

Environmental Topics ▾Laws & Regulations ▾Report a Violation ▾About EPA ▾

[Pesticide Registration](#)CONTACT US

List P: Antimicrobial Products Registered with EPA for Claims Against *Candida Auris*

On this page:

- [Products on List P](#)
- [How to use List P products effectively](#)
- [How to check if a product is on List P](#)
- [Additional Resources](#)

Products on List P

The following products are registered for use with *Candida auris* (*C. auris*). EPA has reviewed laboratory testing data demonstrating that these products kill *C. auris*.

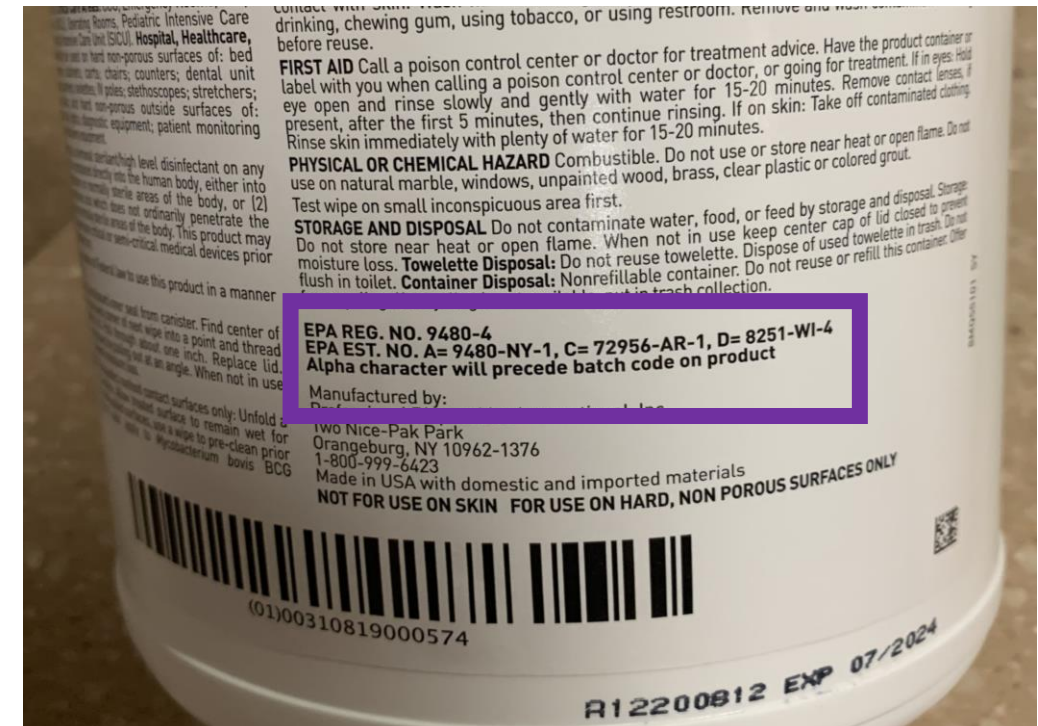
C. auris ^{EPA} is a fungus that can cause severe infections and spreads easily between patients. *C. auris* infections tend to occur in health care settings and can be resistant to antifungal drugs.

Prior to these products being registered, there were no antimicrobial pesticides registered specifically for use against *C. auris*.

How to Use list P Products Effectively

A product's effectiveness can change depending on how you use it. Disinfectants may have different directions for different pathogens. Follow the label directions for *C. auris*, including the contact time.

How to Check if a Product is on List P



Safe and Effective Disinfectant Use

- Use an **EPA-approved hospital-grade disinfectant (List P preferred)**
- **Read the directions**
 - What types of surfaces?
 - What precautions are needed?
- **Pre-clean** if surfaces are soiled or directions require
- Follow the **contact time**
 - time a disinfectant must remain wet on a surface to be effective

[Michigan.gov/ProjectFirstline](https://www.michigan.gov/ProjectFirstline)

How to Read a Disinfectant Label

Read the entire label.
The label is the law!

Note: Below is an **example** of information that can be found on a disinfectant label

Active Ingredients: What are the main disinfecting chemicals?

EPA Registration Number: U.S. laws require that all disinfectants be registered with EPA.

Directions for Use (Instructions for Use): Where should the disinfectant be used?

Contact Time: How long does the surface have to stay wet with the disinfectant to kill germs?

Signal Words (Caution, Warning, Danger): How risky is this disinfectant if it is swallowed, inhaled, or absorbed through the skin?

Precautionary Statements: How do I use this disinfectant safely? Do I need PPE?

First Aid: What should I do if I get the disinfectant in my eyes or mouth, on my skin, or if I breathe it in?

Storage & Disposal: How should the disinfectant be stored? How should I dispose of expired disinfectant? What should I do with the container?

Label Content:

ACTIVE INGREDIENTS:
Alkyl (80% C14, 20% C16, 5% C12, 5% C18) _____ 10.0%
Dimerolyl Benzyl Ammonium Chloride _____ 90.0%
OTHER INGREDIENTS: _____ 0.0%
TOTAL: _____ 100.0%

EPA REG. NO. 55555-05-55555

CAUTION

Directions for Use

INSTRUCTIONS FOR USE:
It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

For Disinfection of Healthcare Organisms:
Staphylococcus aureus,
Pseudomonas aeruginosa

To Disinfect Hard, Nonporous Surfaces:
Pre-wash surface.
Mop or wipe with disinfectant solution.
Allow solution to stay wet on surface for at least 10 minutes.
Rinse well and air dry.

PRECAUTIONARY STATEMENTS:
Hazardous to humans and domestic animals. Wear gloves and eye protection.

CAUSES MODERATE EYE IRRITATION. Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling. Avoid contact with foods.

FIRST AID: IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. **IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes.

POISON CONTROL: Call a Poison Control Center (1-800-368-5949) or doctor for treatment advice.

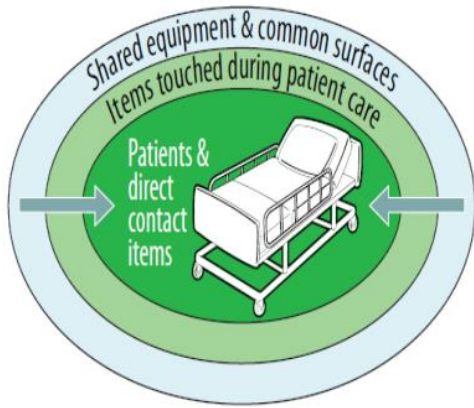
STORAGE AND DISPOSAL: Store this product in a cool, dry area away from direct sunlight and heat. When not in use, keep center cap of lid closed to prevent moisture loss. Nonrefillable container. Do not reuse or refill this container.

EXPIRATION DATE: 12/31/2025

Logos: CDC, U.S. Department of Health and Human Services, Project Firstline, EPA, United States Environmental Protection Agency

[WWW.CDC.GOV/PROJECTFIRSTLINE](https://www.cdc.gov/projectfirstline)

Create a Cleaning & Disinfection Plan



Cleaning and disinfection workflow:

- Clean-to-dirty
- Outside-in
- High-to-low
- *C. auris* rooms last



High-touch surfaces



Mobile and Shared Equipment



Frequency

Who Cleans What?

- Sometimes HCP don't know what they should be cleaning
- Make a list of all high-touch surfaces and equipment
- For each item indicate:
 - Frequency
 - Products to use (if different than routine)
 - Assignment to different HCP roles
- Share with all HCP with cleaning duties
 - Include both new and veteran HCP

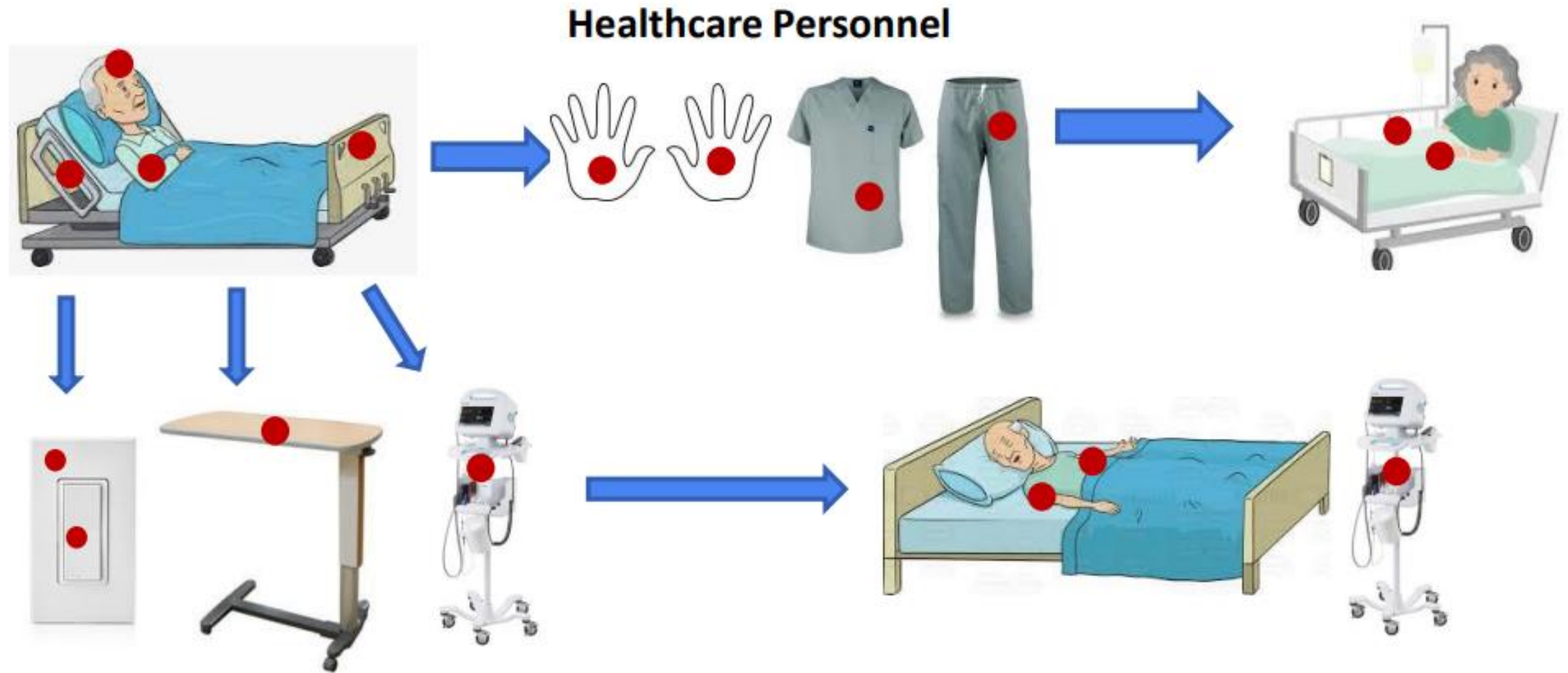
Who Cleans What and When?						
<i>Template for healthcare facilities to ensure that all surfaces, devices, and equipment are properly cleaned at the right times by the right staff. Please modify this template as needed. Below are just some examples of various surfaces that should be covered!</i>						
Facility name: _____		Unit: _____	Update date: _____		Approved by: _____	
Area/Device/Equipment	EVS	Frequency	Nursing	Frequency	Other (Specify)	Frequency
Anesthesia equipment and controls						
Bathroom sink						
Bed rail/controls						
Bed table						
Bedside cabinet & other furniture						
Bladder scanner						
Blood pressure cuffs, sphygmomanometer						
Call box, button, and cords						
Computer keyboard						
Computer monitor, keyboard, mouse, cart						
Corridor railing						
Dispensers for towels, soap, sanitizer, etc.						
Door knob/handle, push plates (in/out of room)						
Feeding pumps, stands						
Glove box holders						
Infusion pumps and control						
ISO holder						
IV poles						
Light switch						

Observation and Feedback for IPC Practices

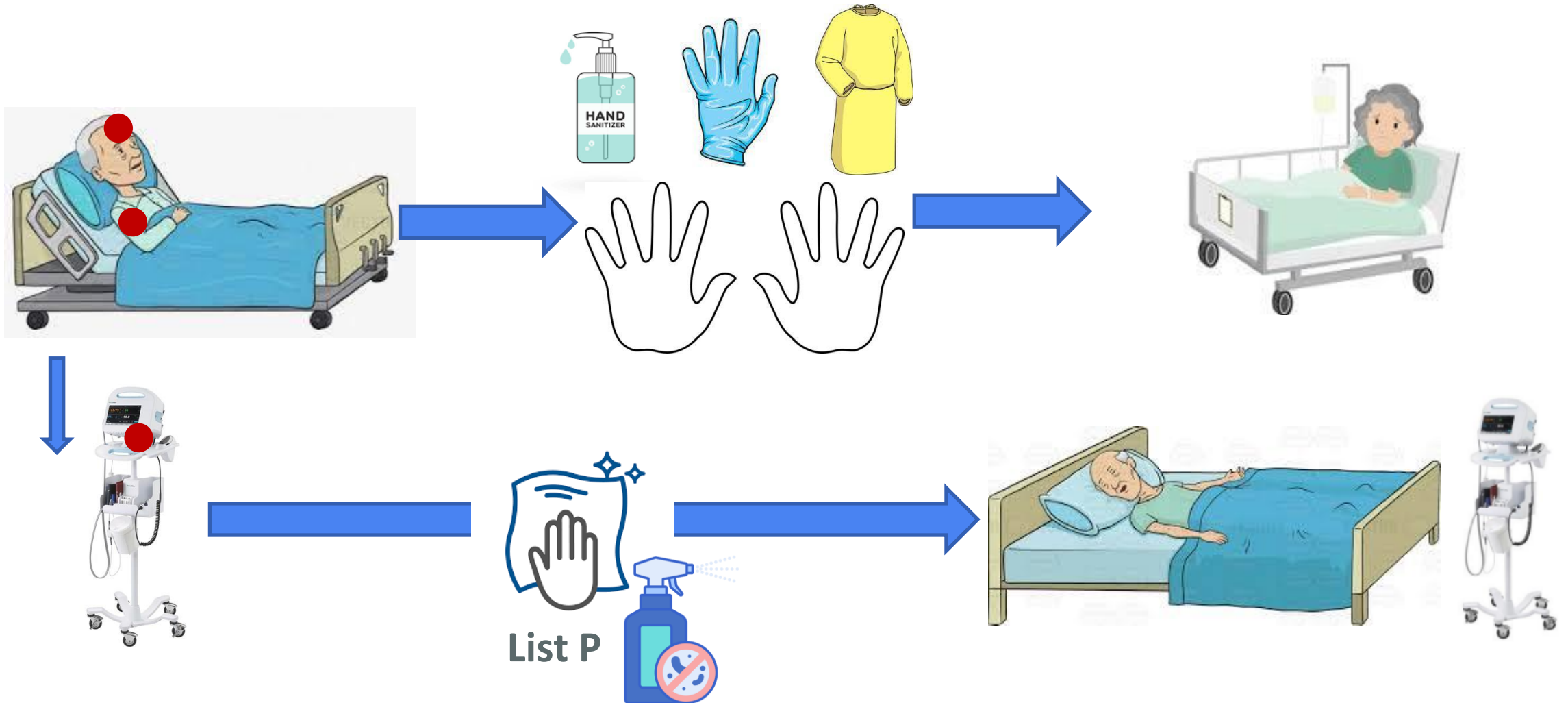
- **Ongoing monitoring:**
 - Hand hygiene
 - Putting on/taking off PPE
 - Cleaning and disinfection effectiveness
- **Collect data, track and display over time**
 - What's working well?
 - When and where are missed opportunities?
- **Routinely share the data with all HCP**
 - Celebrate successes
 - Identify barriers and solutions



C. auris Colonized Residents and Transmission



C. auris Colonized Residents and Transmission



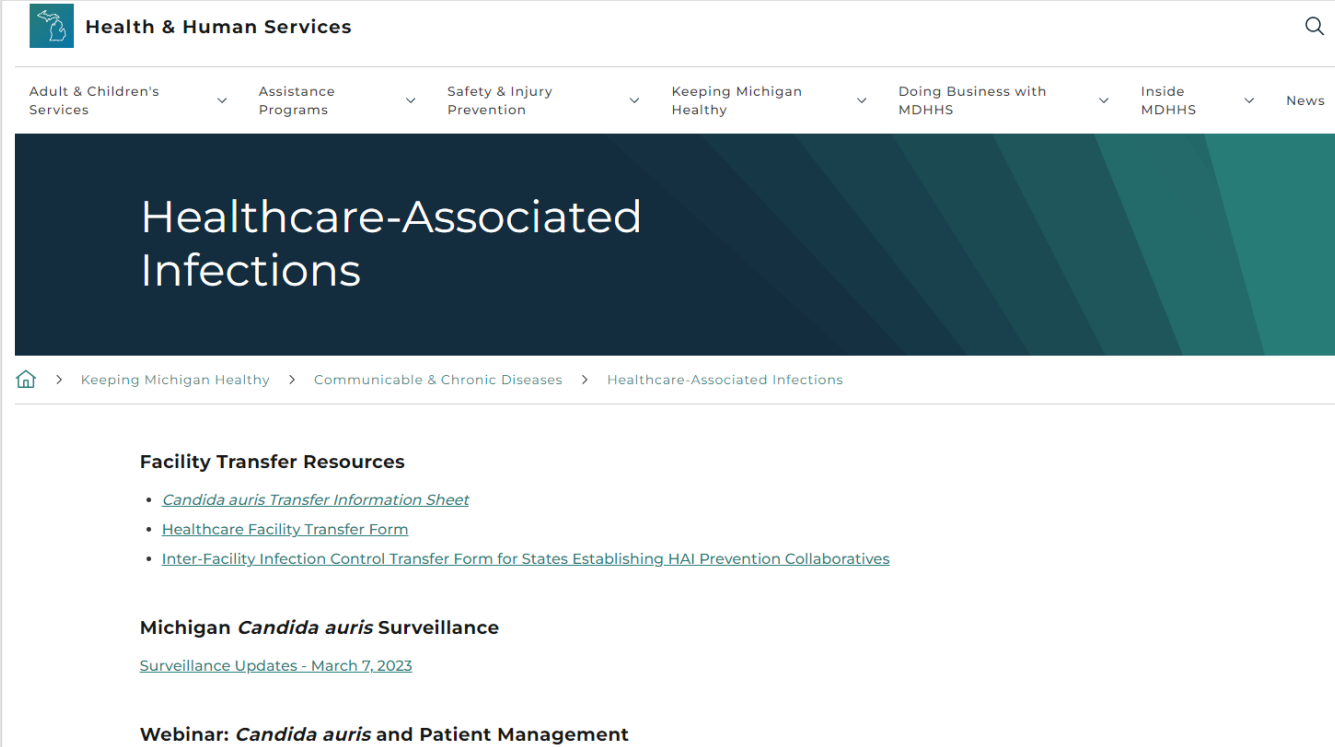
Questions about *C. auris*?

Contact the SHARP Unit

 MDHHS-SHARP@michigan.gov

 [Michigan.gov/HAI](https://michigan.gov/HAI)

 [517-335-8165](tel:517-335-8165)



The screenshot shows the Michigan Health & Human Services website. The header includes the Michigan state logo and the text "Health & Human Services". A navigation bar lists various services: Adult & Children's Services, Assistance Programs, Safety & Injury Prevention, Keeping Michigan Healthy, Doing Business with MDHHS, Inside MDHHS, and News. The main content area features a large banner for "Healthcare-Associated Infections". Below the banner, a breadcrumb trail reads: Home > Keeping Michigan Healthy > Communicable & Chronic Diseases > Healthcare-Associated Infections. The page content is organized into sections: "Facility Transfer Resources" with links to "Candida auris Transfer Information Sheet", "Healthcare Facility Transfer Form", and "Inter-Facility Infection Control Transfer Form for States Establishing HAI Prevention Collaboratives"; "Michigan *Candida auris* Surveillance" with a link to "Surveillance Updates - March 7, 2023"; and "Webinar: *Candida auris* and Patient Management".