

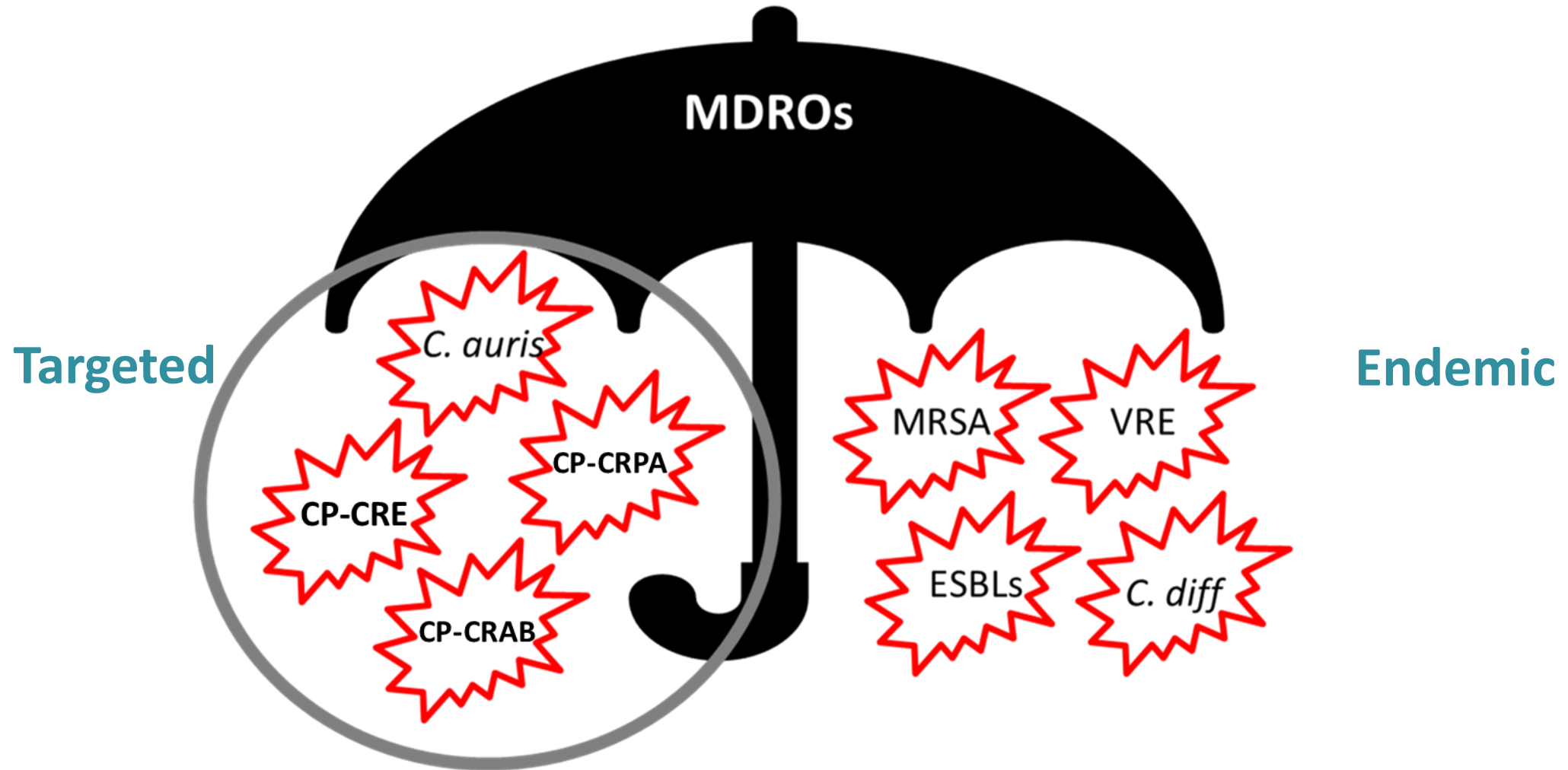
Enhanced Barrier Precautions

Mitigating MDRO Transmission in Nursing Homes

Communicable Disease Division

Michigan Department of Health and Human Services

Multidrug-Resistant Organisms



Risk Factors for MDROs in Nursing Homes



Indwelling devices

Tracheostomy tubes

Urinary catheters

PEG tubes

Central lines



Wounds

Chronic



Antibiotic use



Recent healthcare exposures

Acute care

Long-term care

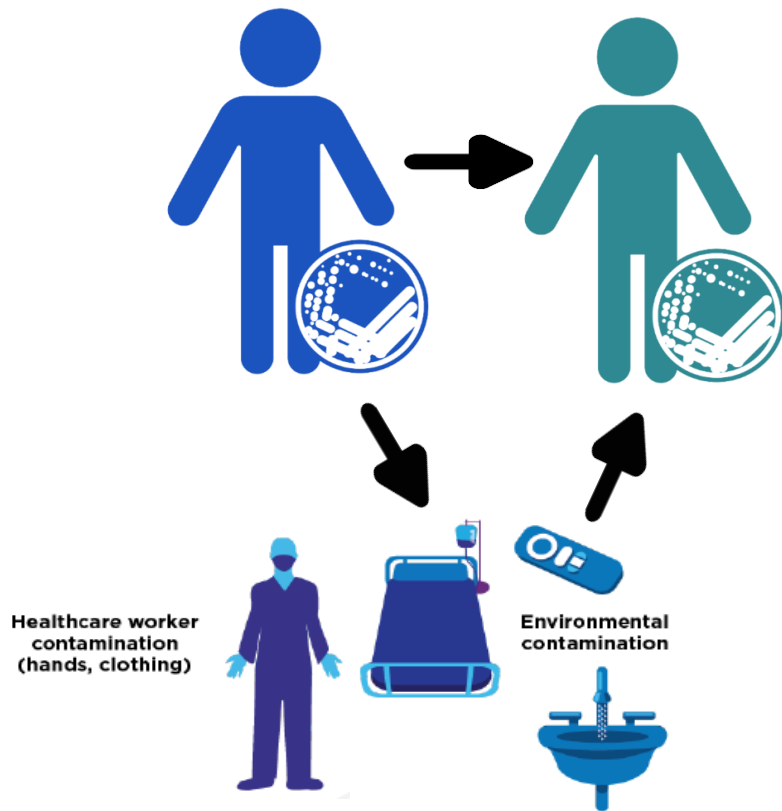


Comorbid conditions

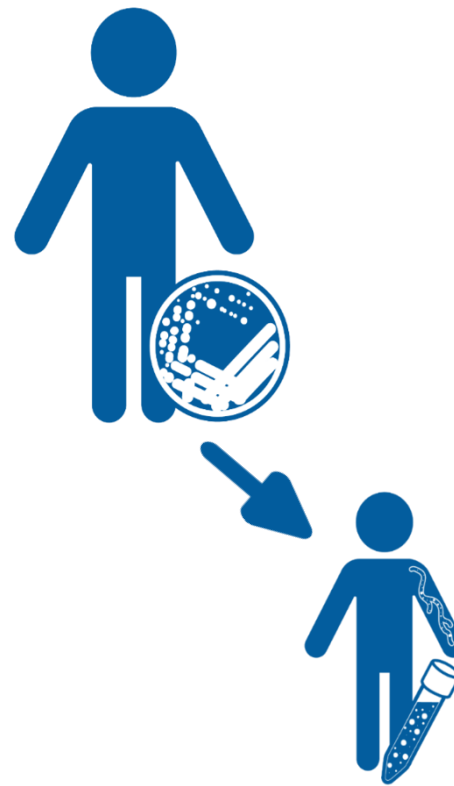


Functional dependence

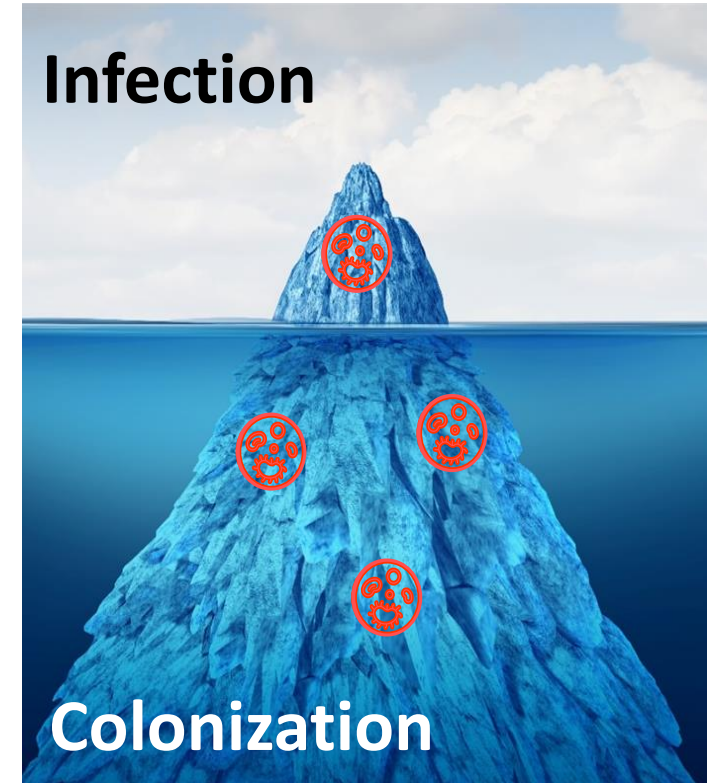
Colonization Drives MDRO Spread and Precedes Infection



Shedding of MDROs from colonized individuals leads to contamination of HCP hands and clothing and the surrounding healthcare environment



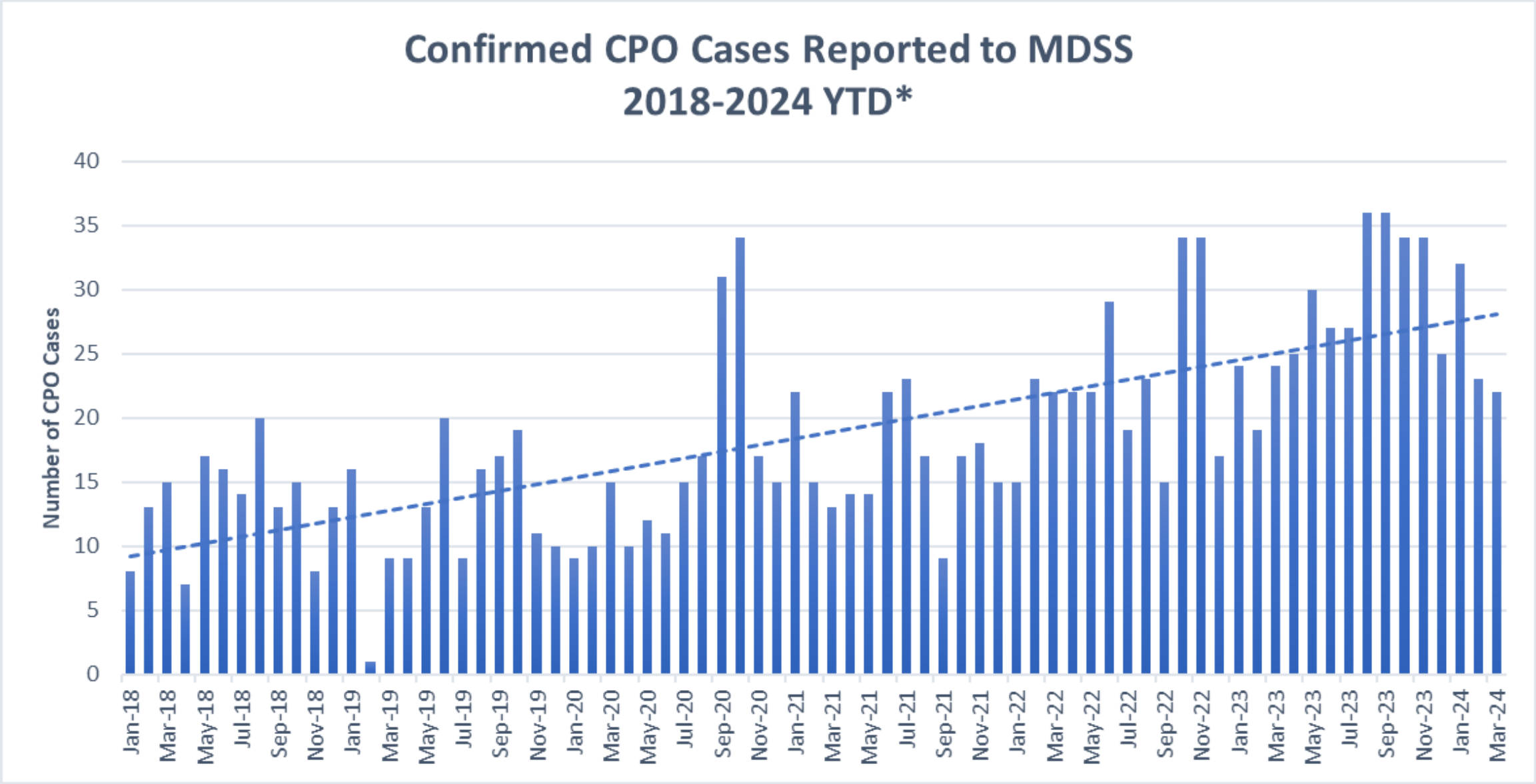
Colonization confers a 2-10-fold higher risk of infection with the colonizing organism



For every individual identified with an MDRO infection, there are many more who are colonized

Confirmed CPO Cases Reported to MDSS

Confirmed CPO Cases Reported to MDSS 2018-2024 YTD*



*Preliminary – Data Subject to Change, 4/9/24

Candida auris Surveillance Report

April 8, 2024



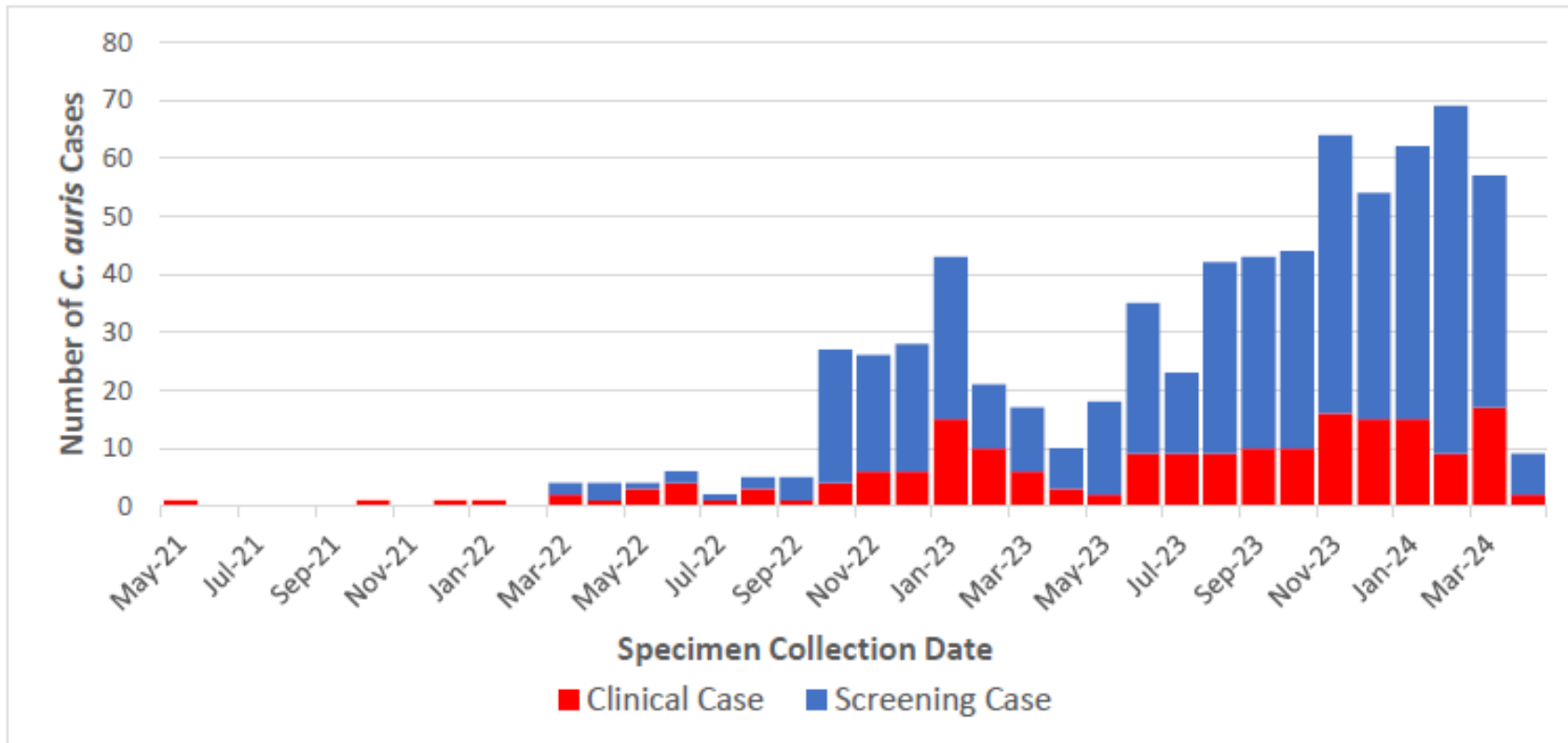
Michigan *C. auris* Case Count:

<u>Total Cases</u>	<u>Clinical Case</u>	<u>Screening Case</u>
726	192	534

Cases initially identified as screening cases that later develop a positive clinical culture will solely be reported as a clinical case to avoid double counting the same individuals.

- 59 individuals converted from a screening to clinical case.

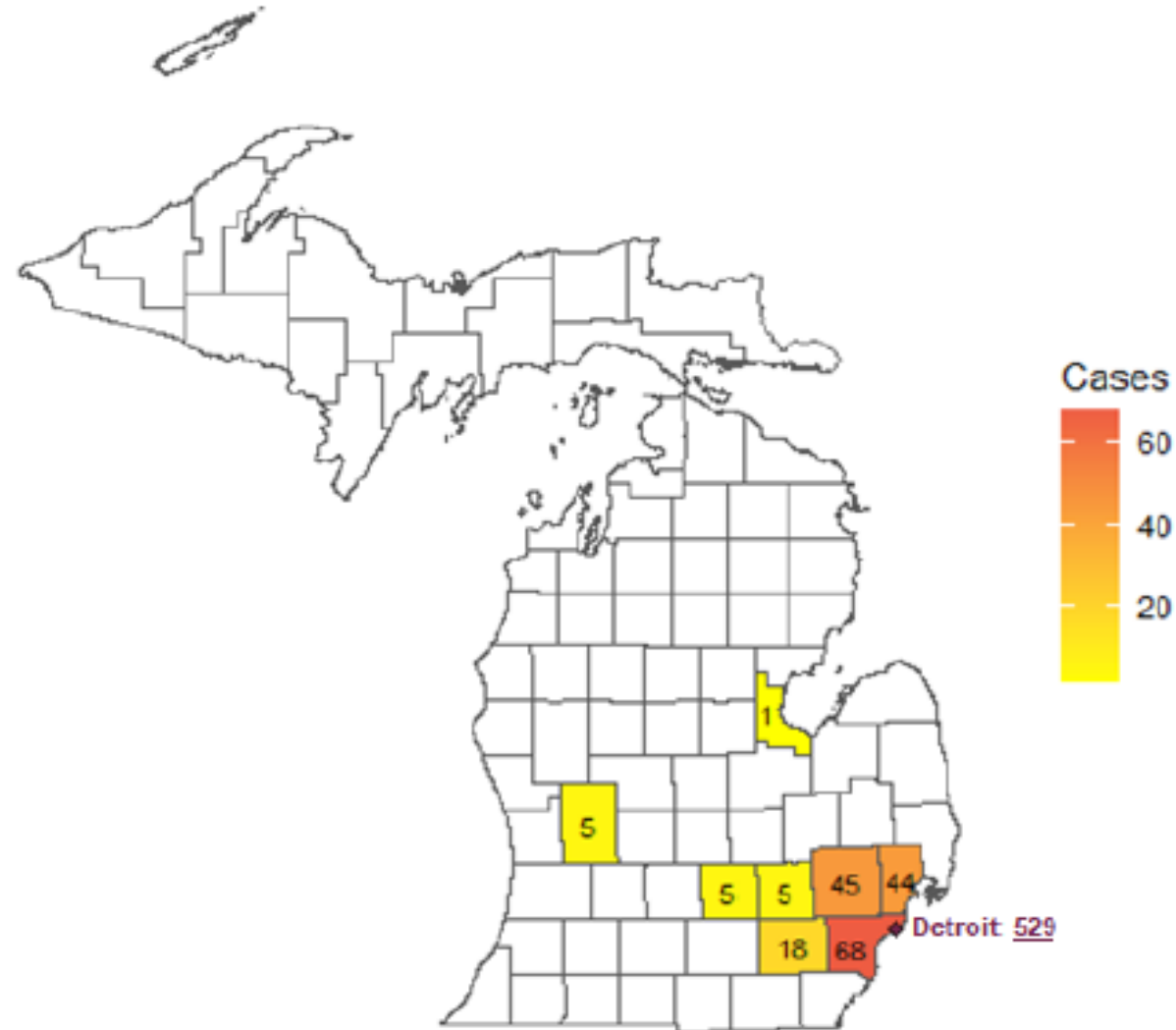
Fig 1. *Candida auris* Cases in Michigan by Case Type^a, 2021 – April 8, 2024



Candida auris Cases in Michigan

Candida auris in Michigan Counties

Fig 2. Jurisdiction of Health Care Facility at *C. auris* Case Detection^b



6 Cases reported from out-of-state facilities.

Overall MDRO Prevention Strategy in Nursing Homes



Hand Hygiene



Environmental
Cleaning and
Disinfection



PPE Use



Auditing &
Feedback

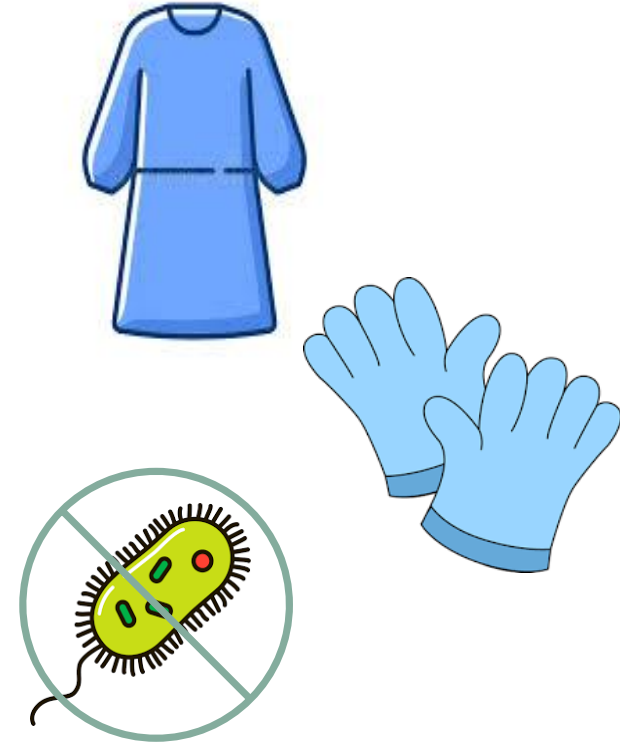


Communication



Enhanced Barrier Precautions (EBP)

- Risk-based approach to PPE use to reduce the spread of MDROs
- Use of gown and gloves during high-contact resident care activities for specific residents
- Expands the use of PPE beyond situations where blood and body fluid exposure is anticipated



Indications for Enhanced Barrier Precautions

- EBP are indicated for nursing home residents with **ANY** of the following:
 - Infection or colonization with an MDRO *when Contact Precautions do not otherwise apply*
 - Wounds
 - Indwelling medical devices (e.g., urinary catheter, feeding tube, central line, tracheostomy/ventilator)

What Does “when Contact Precautions do not apply” Mean?

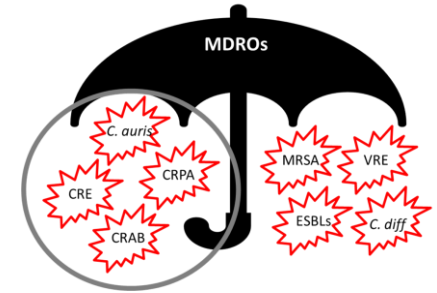
- Contact Precautions should be used for all residents infected or colonized with an MDRO who also have:
 - Draining wounds, secretions, or excretions that cannot be covered or contained
 - Acute diarrhea
 - Residents who have another infection or condition for which Contact Precautions is recommended

High-Contact Resident Care Activities

- 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)
- Wound care: any skin opening requiring a dressing



For Which MDROs are EBP Indicated?



Targeted MDROs

- Pan-resistant organisms
- Carbapenemase-producing organisms (CPOs)
 - Enterobacterales
 - *Pseudomonas* spp.
 - *Acinetobacter* spp.
- *Candida auris*

Other Important MDROs

- Methicillin-resistant *Staphylococcus aureus* (MRSA)
- ESBL-producing Enterobacterales
- Vancomycin-resistant Enterococci (VRE)
- Multidrug-resistant *Pseudomonas aeruginosa*
- Drug-resistant *Streptococcus pneumoniae*

Enhanced Barrier Precautions

- Gown and glove use
- Private room not required
- Resident can participate in communal activities and is not restricted to room
- *Intended for resident's entire length of stay
- Utilized only in nursing homes



Precaution	Who	When	Gloves	Gown	Face Protection	Room Restriction
Enhanced Barrier	<u>Residents with:</u> <ul style="list-style-type: none"> • Infection or colonization with MDRO when contact precautions do not apply • Wounds, indwelling devices regardless of MDRO status 	During high-contact care activities: <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 	✓ High contact care	✓ High contact care	✓ Risk of splash or spray	✗ None – able to leave the room
Contact	<u>Residents with:</u> <ul style="list-style-type: none"> • Acute diarrhea • Draining wounds, excretions, secretions unable to contain • For a limited time period during an investigation of a suspected or confirmed MDRO outbreak • Other infections or conditions where recommended (TBP Appendix A) 	Any room entry	✓ Any room entry	✓ Any room entry	✓ Risk of splash or spray	✓ Single room ✓ Care in room except when medically necessary

Why Does EBP Focus on Nursing Homes?

- Nursing home residents are at a higher risk for acquiring an MDRO
- Standard Precautions may not adequately address MDRO transmission
- Effective response to antimicrobial resistance in nursing homes



Putting EBP in Action

Resident/Family Education: Factors to Consider

Keeping Residents Safe – Use of Enhanced Barrier Precautions

- Vital to successful EBP implementation
- Explain why resident is now on EBP
- Allow for questions

A message from:

Dear Residents, Families, Friends, and Volunteers:

You may have noticed new signs on some doors that say "Enhanced Barrier Precautions" and staff wearing gowns and gloves more often. We're doing this based on new recommendations from the Centers for Disease Control and Prevention to protect our residents and staff from germs that can cause serious infections and are hard to treat. You may have heard these germs called multidrug-resistant organisms or MDROs in the news.

Studies have shown that more than 50% of nursing home residents have these germs on or in their body, especially in places where the skin is broken, such as wounds or insertion sites of medical devices like feeding tubes. Most of the time people never know they are carrying these germs but under certain conditions they can enter the body and cause serious infections.

Fortunately, there are many things we can do to keep these germs from spreading, but we need your help! Two important practices are:

PPE Storage Concerns

- Do we have enough carts? Alternatives to carts?
- Extra equipment in hallway
 - Crowded
 - Difficult for residents to move around or sit in halls
- Cart design:
 - Wheels
 - Slim model
- PPE placement
 - Outside every room?
 - Wall mounted PPE containers?



ABHS and Disinfectant Placement

- Institutional versus home like feel
- ABHS inside resident rooms
- Resident safety
- Fire Code and Life Safety Code
- Disinfectants at point of care



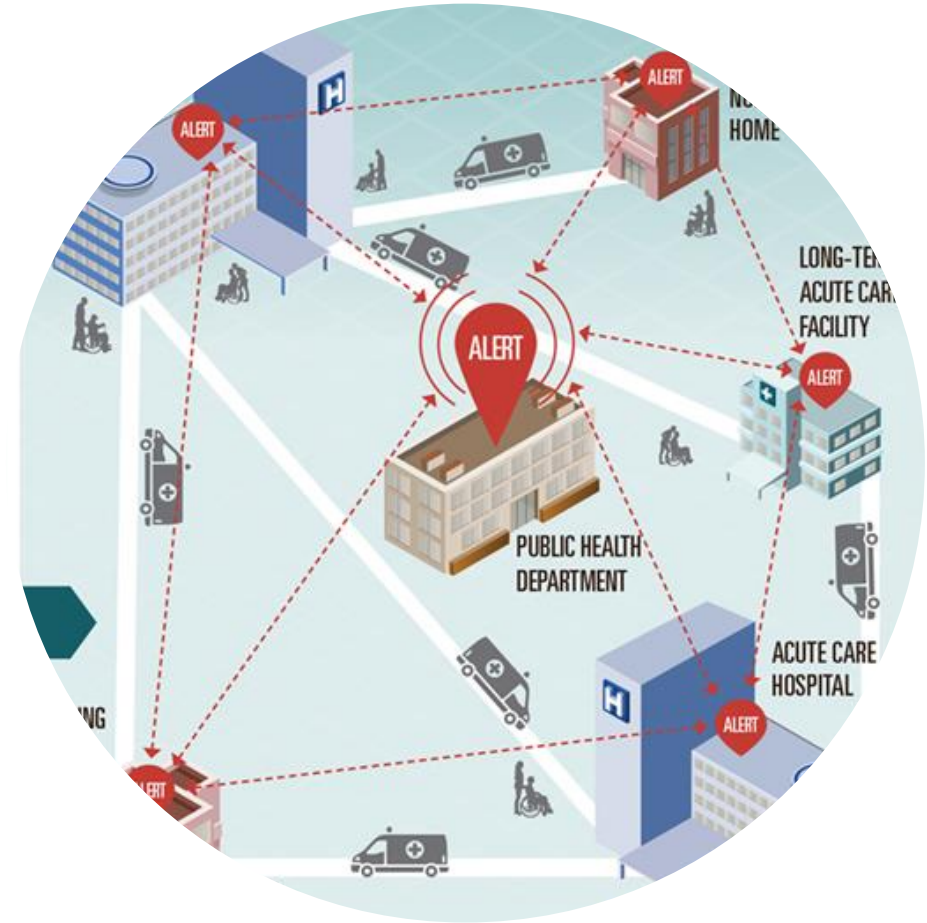
PPE Issues

- Bundle care
- Extra time needed to comply with putting on and taking off PPE
- More PPE = increased trash pickup?
- Resident room trashcans



Communication

- Make sure precautions signs are appropriate and easy to understand
- Maintain an up-to-date list of residents who meet criteria for precautions and share with staff
- Notify other healthcare facilities about a resident's MDRO status if resident requires a different level of care
- Transfer forms



Staff Education

- Orientation, annually, and as needed
- Discipline specific
- Competency based education on hand hygiene and donning/doffing of PPE
- MDRO/EBP care plan
- Facility specific EBP notification:
 - EBP sign
 - Updated and current list of residents on EBP



Auditing & Feedback

- Monitor adherence to infection prevention and control (IPC) practices
- IPC practices include hand hygiene, PPE use, cleaning and disinfection of equipment and environmental surfaces
- Provide real-time feedback on adherence to healthcare personnel and leadership



Enhanced Barrier Precautions (EBP) Implementation—Observations Tool

(For use in Skilled Nursing Facilities/Nursing Homes only)

This NEW tool should be used only after you have established the use of Enhanced Barrier Precautions (EBP) in your facility (either in a unit, wing, or entire facility), and can be customized to meet the needs of the skilled nursing facility/nursing home. This tool is designed to support the conducting of observations of healthcare personnel (HCP) using EPB during high-contact resident care activities as a part of auditing and feedback. Responses should refer to current practices.

Facility Name:

Date of Assessment:

16. If question 15 is answered "Yes", did the HCP complete the following before providing care to the next resident in the same room?
Gown and gloves are donned (put on) before providing high-contact resident care?

- ☐ Yes
- ☐ No
- ☐ Unknown

17. After completing care for the resident, was the used gown and gloves discarded in the nearest trash receptable?

- ☐ Yes
- ☐ No, please specify what was seen:
- ☐ Unknown

If yes, where was the trash receptable located?

- ☐ Inside the room
- ☐ Outside of the room
- ☐ Other, please specify:

18. After completing care for the resident and discarding the gown and gloves, did the HCP perform hand hygiene?

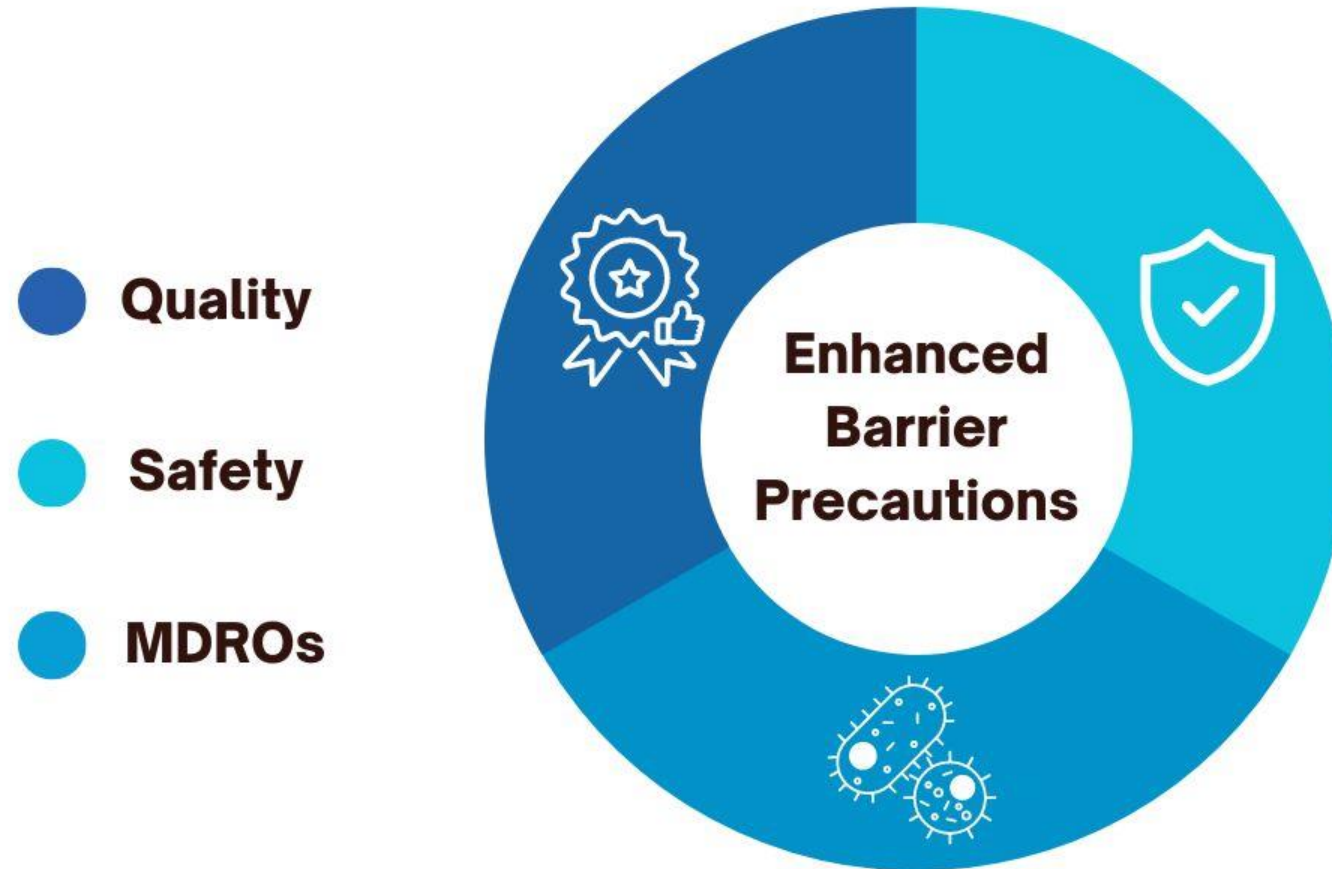
- ☐ Yes
- ☐ No, please specify what was seen:
- ☐ Unknown

Observation and Feedback

EBP – Helpful Tools

- [CMS QSO-24-08-NH](#)
- [MDHHS EBP educational video](#)
- [MDHHS Healthcare-Associated Infections](#)
- [CDC Enhanced Barrier Precautions \(EBP\) Implementation – Observations Tool](#)
- [CDC Observations Tool Summary Spreadsheet](#)
- [CDC Letter to Nursing Home Leadership](#)
- [CDC Letter to Staff](#)
- [CDC Letter to Residents, Families, Friends, and Volunteers](#)
- [CDC Inter-Facility Infection Control Transfer Form](#)
- [Healthcare Facility Transfer Form](#)
- [*Candida Auris* Transfer Information Sheet](#)
- [CDC Implementation of Personal Protective Equipment \(PPE\) Use in Nursing Homes to Prevent Spread of Multidrug-resistant Organisms \(MDROs\)](#)

Enhanced Barrier Precautions





Questions?

Communicable Disease Division:

(517) 335-8165

MDHHS-SHARP@michigan.gov

MDHHS-IPRAT@michigan.gov