Wisconsin HAI Long-Term Care Education Series

April 18, 2024



Multidrug-Resistant Organisms in Wisconsin

April 18, 2024

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WISCONSIN DEPARTMENT of HEALTH SERVICES

Agenda

- Reportable multidrugresistant organism (MDROs) in Wisconsin
- MDRO data
- Colonization screening
- Infection prevention and control

Reportable MDROs in Wisconsin

Which are reportable and why?



Antibiotic Resistance in the U.S.



2,868,700 estimated infections

35,900 estimated deaths

Data source: 2019 Antibiotic Resistance Threats in the United States, CDC

CDC's 2019 Antibiotic Resistance Threats in the United States Report

- Report identified 18 drug-resistant pathogens that pose an urgent, serious, or concerning threat to public health.
- In WI, three urgent threat pathogens and one serious threat pathogen are reportable.
 - Urgent = CP-CRAB, CP-CRE, and C. auris
 - Serious = CP-CRPA

Source: https://www.cdc.gov/drugresistance/pdf/threats-report/2019-ar-threats-report-508.pdf



The following diseases are category II reportables and shall be reported to the patient's local health officer, or the local health officer's designee, either electronically through the Wisconsin Electronic Disease Surveillance System (WEDSS), by mail or fax using a Communicable Disease Case Report form, or by other means within 72 hours upon recognition of a case or suspected case.

Memos:

- Carbapenemase-producing organisms and C. auris <u>DPH Memo BCD-2022-06</u>
- VISA/VRSA <u>DPH Memo BCD-2023-03</u>



- Commonly found in the human digestive system as part of normal flora.
- CP-CRE has developed resistance to Carbapenems and other antibiotics.
- Can cause serious infections, especially when introduced to a sterile site.
- CP-CRE has been reportable in WI since 2018. Made Category II in July 2022.



- Commonly found in water and soil.
- Naturally drug-resistant and can cause severe and difficult-to-treat wound, burn, and respiratory infections.
- CP-CRPA cases are rare in WI.
- Made Category II in July 2022



- An opportunistic pathogen that has the potential to spread rapidly and is associated with outbreaks in WI healthcare facilities.
- Survives on surfaces, can colonize the skin, and causes severe and difficult-to-treat infections.
- CP-CRAB can be highly resistant. Pan-resistant isolates have been detected in WI.

What is a Carbapenemase?



- Carbapenemases are genes that can transfer between bacteria, which can spread resistance within a patient's normal flora or between patients or residents.
- Carbapenemases make an organism highly resistant to antibiotics, including to carbapenem antibiotics.
- Carbapenem antibiotics are often used as drugs of last resort for resistant infections.
- "The Big 5" are Carbapenemases most frequently seen; however, there can be others.
- The Carbapenemase-production is what makes organisms reportable.

Candida auris

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- Fungal pathogen with resistance to antifungal medications, making infections difficult to treat.
- CDC estimates that infections have a high mortality rate (30-60%).
- WI identified its first case of C. auris in January 2022.
- Survives on surfaces and requires special cleaning agents (<u>Environmental Protection</u> <u>Agency (EPA) List P</u>: <u>https://www.epa.gov/pesticide-registration/list-p-antimicrobial-products-registered-epa-claims-against-candida-auris</u>).



- While S. aureus is a common bacterium found on the skin and nares, VISA/VRSA have developed resistance to vancomycin and other antimicrobial agents. However, as of 2010, all VISA/VRSA isolates have been found by the CDC to be susceptible to other FDA-approved drugs.
- CDC listed as Concerning in 2013. Removed as a threat in 2019. Since 2002, 14 cases
 of VRSA have been identified in the United States. These are isolated cases and spread
 from patient to patient has never been documented. CDC will continue monitoring it
 as part of ongoing work to reduce Staphylococcus infections in health care and the
 community.
- Approximately 50 VISA infections have been reported in Wisconsin since 2007. No known cases of VRSA infections have been reported in Wisconsin.
- VISA/VRSA can cause serious and difficult to treat infections including bacteremia, pneumonia, endocarditis, and osteomyelitis.
- Went from Category I to Category II in September 2023.

Wisconsin MDRO Data



MDRO HAN



DHS Health Alert Network

Wisconsin DHS Health Alert #58: Increasing Cases of Multidrug-Resistant Organisms in Wisconsin

Preventing and Controlling Candida auris and other Multidrug-Resistant Organisms in Wisconsin: Recommendations for Health Care Providers

Bureau of Communicable Diseases

Friday, February 9, 2024

Key points

- Wisconsin cases of reportable <u>multidrug-resistant organisms</u> (MDROs) increased in 2023 including in public health regions where there was previously little to no MDRO activity detected.
- Most notably, <u>Candida auris (C. auris</u>) cases have more than tripled from 2022 (5 cases) to 2023 (21 cases).
- The Wisconsin Department of Health Services (DHS) encourages health care providers and facilities to remain diligent in their prevention and control efforts by following infection prevention best practices.

Released Friday, February 9th

<u>Wisconsin DHS Health Alert #58: Increasing Cases of Multidrug-Resistant Organisms in</u> <u>Wisconsin (govdelivery.com)</u>

MDRO Cases in Wisconsin

	2019	2020	2021	2022	2023
CP-CRAB	46	41	153	112	153
CP-CRE	45	30	42	45	37
C. auris	0	0	1	5	21
CP-CRPA	0	2	2	4	3
VISA	3	1	1	2	4
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CP-CRAB

- Most common MDRO in Wisconsin
- Colonizes patient skin and environment
- Many cases detected on colonization screening







Colonization Screening



Colonization vs. Infection



Colonization

- An individual has the organism in or on their body, but it is not making them ill.
- Individuals who are colonized can still spread the organism to surfaces and others.
- Individuals may remain colonized indefinitely.

Infection

- An individual has the organism, and it is causing symptoms or making them ill.
- Can spread organism to surfaces and others.
- Likely to be colonized upon return to baseline.



What is Colonization Screening?



- Testing for the presence of MDROs
- May be recommended in response to identified case(s)
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- Testing non-clinical swabs for the presence of MDROs.
- Can be done on individuals, unit-wide, or facility-wide.
- May be recommended in response to identified case(s).
- Specimen collection methods depend on the type of MDRO.
- Admission screening considerations.

Patients and residents who have a reportable MDRO can:

Develop serious infections

Remain colonized Spread MDROs to others



Source: Chicago Department of Health



Source: Chicago Department of Health



Source: Chicago Department of Health

Infection Prevention and Control

Techniques to prevent and control transmission of MDROs



MDRO Burden In Long-Term Care (LTC)

Documented MDRO

Ventilator-capable LTC Facility

Actual MDRO

Ventilator-capable LTC Facility

CDC Study: This slide shows data from a large study that was conducted in nursing homes, including a subset of long-term care (LTC) facilities called ventilator-capable LTC facilities that provide care to ventilator-dependent residents. In the first column, these are the percentages of residents who had documentation in their medical record of a presence of an MDRO colonization or infection - so about 2 out of every 10 residents across all these nursing homes were already known to have an MDRO.

During the study, residents were tested to see if they were colonized with an MDRO. The second column shows the percentages of residents who actually had an MDRO after testing was complete. As you can see, in the nursing homes that did not provide ventilator care, almost 6 out of 10 of the residents were found to have an MDRO and in the ventilator-capable facilities, the number went up to almost 8 out of every 10 residents.

What this data shows is that there are many nursing home residents who are colonized with MDROs and we are not aware of most of them, and the numbers are even higher in facilities that take care of the most complex residents, such as residents on ventilators.

Source: https://pubmed.ncbi.nlm.nih.gov/30753383/ (McKinnell JA et al, Clin Infect Dis. 2019; 69(9): 1566-1573) – SHIELD Orange County Project, which is a regional PH collaborative exploring decolonization among patient transfer networks between 38 healthcare facilities.

https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.cdc.gov%2Fhai%2Fpdfs%2Fcontai nment%2FEBP-Presentation-July2022.pptx&wdOrigin=BROWSELINK

14 SNFs (Documented = 17%, Actual = 58%) 4 VSNFs (Documented = 20%, Actual = 76%)

How to Be Successful



Resource: https://www.cdc.gov/hai/pdfs/containment/EBP-Presentation-July2022.pptx



- HH is critically important.
- Alcohol-based hand sanitizer (ABHS) is effective against targeted MDROs.
- Keys to Success
 - Availability of alcohol-based hand sanitizer (ABHS), garbage cans, and sinks
 - Facility policies
 - Facility culture around ABHS vs. soap and water
 - Education
 - Regular monitoring or audits

Environmental Cleaning Considerations



- Designate staff
- Use proper products
- Standardize processes
- Increase frequency

- MDROs can be extremely persistent in the environment. Environmental cleaning and disinfection considerations include:
- **Designated staff:** EVS staff and their practices are key to mitigating transmission. How are EVS staff communicated with?
- Proper products: Use products with the right kill-claims (*Candida auris* <u>EPA's List P</u>: <u>https://www.epa.gov/pesticide-registration/list-p-antimicrobial-products-registered-epa-claims-against-candida-auris</u>). Use per the product label's instructions (contact time). How do you review current cleaning and disinfecting products?
- **Standardize processes:** Clean least soiled to most soiled, physically high to physically low areas. Focus on high-touch surfaces. Change privacy curtains. Designate equipment.
- Increase frequency: Increase frequency of cleaning when MDRO is present.

Appropriate Precautions

Standard Precautions

Contact Precautions

Enhanced Barrier Precautions

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Standard precautions:

- Used for all resident care.
- The PPE used is based on the expectation of possible exposure to infectious material.
- Elements of standard precautions include:
 - Hand hygiene
 - Respiratory hygiene and cough etiquette
 - Proper cleaning and disinfection
 - Careful handling of textiles and laundry.
 - Safe injection practices.

Resource: https://www.cdc.gov/infectioncontrol/basics/standard-precautions.html

Appropriate Precautions

Standard Precautions

Contact Precautions Enhanced Barrier Precautions

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Contact precautions:

- Use for pathogens transmitted by contact
- Balance risk to other patients or residents when making room placement decisions
- Isolate the resident and limit movement to medically-necessary purposes
- Use gown and gloves for all resident interactions
- Use dedicated or disposable resident care equipment
- Prioritize cleaning and disinfection of these rooms

Resource: <u>https://www.cdc.gov/infectioncontrol/basics/transmission-based-precautions.html</u>

Patients and residents infected with MDROs may require more than contact precautions. CDC provides the following guideline for recommended isolation precautions based on the resident's type of infection or condition: "Appendix A"

https://www.cdc.gov/infectioncontrol/guidelines/isolation/appendix/type-durationprecautions.html

Appropriate Precautions

Standard Precautions

Contact Precautions

Enhanced Barrier Precautions

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Enhanced barrier precautions:

- Recommended in nursing homes since 2019.
- Use of gown and gloves of high-contact care activities.
- No room isolation.
- Focuses on residents colonized with targeted or epidemiologically important MDROs or who have indwelling medical devices or chronic wounds regardless of MDRO status.
- You can think of EBPs as a "mid-point" between standard and contact precautions. This balanced approach to prevent transmission focuses on PPE use during highcontact resident cares while supporting the psychosocial wellbeing of the resident by not requiring isolation.

Resources:

- <u>https://www.cdc.gov/hai/containment/PPE-Nursing-Homes.html</u>
- <u>https://www.cdc.gov/hai/containment/faqs.html</u>

DEPARTMENT OF HEALTH & HUMAN SERVICES Centers for Medicare & Medicaid Services 7500 Security Boulevard, Mail Stop C2-21-16 Baltimore, Maryland 21244-1850



Ref: QSO-24-08-NH

Center for Clinical Standards and Quality/Quality, Safety & Oversight Group

DATE:	March	20.	2024
DALL.	Ivia cii	20,	2024

TO: State Survey Agency Directors

FROM: Director, Quality, Safety & Oversight Group (QSOG)

SUBJECT: Enhanced Barrier Precautions in Nursing Homes

Memorandum Summary

- CMS is issuing new guidance for State Survey Agencies and long term care (LTC) facilities on the use of enhanced barrier precautions (EBP) to align with nationally accepted standards.
- EBP recommendations now include use of EBP for residents with chronic wounds or indwelling medical devices during high-contact resident care activities regardless of their multidrug-resistant organism status.
- The new guidance related to EBP is being incorporated into F880 Infection Prevention and Control.

https://www.cms.gov/files/document/gso-24-08-nh.pdf

What are EBPs?



EBPs are designed to reduce the spread of MDROs by expanding the use of gloves and gowns during high-contact resident care activities, especially for those at increased risk of acquiring or spreading a MDRO.

High-Contact Care Activities



Examples of high-contact care activities include:

- Dressing
- Bathing/showering
- Transferring
- Providing hygiene
- Changing linens
- Changing briefs or assisting with toileting
- Caring for devices (e.g., central line, urinary catheter, feeding tube, tracheostomy/ventilator)
- Caring for wounds (any skin opening requiring a dressing)

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

To Whom Do EBPs Apply?



Infection or colonization with a targeted or other epidemiologically important MDRO



Indwelling medical devices and/or chronic wounds regardless of MDRO colonization status

EBPs are now recommended for nursing home residents with any of the following: Infection or colonization with a targeted or other epidemiologically important MDRO, when contact precautions do not otherwise apply. Indwelling medical devices (e.g., central line, urinary catheter, feeding tube, tracheostomy, ventilator) and/or chronic wounds regardless of MDRO colonization status.

Duration of EBPs

For colonized and infected residents

EBPs should be used for the duration of the resident's stay.

For residents with devices and/or wounds

EBPs may be discontinued when the device is removed or the wound has healed.

Resource: https://www.cdc.gov/hai/containment/faqs.html

Targeted MDROs



- Pan-resistant organisms
- CP-CRE
- Carbapenemaseproducing carbapenemresistant Pseudomonas spp.
- CP-CRAB
- Candida auris

Epidemiologically Important MDROs



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

Determining Epidemiologically Important MDROs



Conduct a local risk assessment that considers:

- MDRO activity within the building, past and current.
- MDRO prevalence, transmission, and outbreaks.
- MDRO prevalence within the geographic region and among health care transfer networks.

At the discretion of each individual nursing home based on local risk assessment. Should include a discussion among facility leadership

Implementation Considerations

- Assess your facility's personal protective equipment (PPE) supply and management practices.
- Re-use and extended use of PPE is strongly discouraged.



CDC's expanded EBP guidance represents a proactive approach to preventing MDRO transmission in this population, as it does not wait until a particular MDRO is already inhouse to act. While there may be challenges to expanding the use of EBPs beyond targeted MDROs, working toward implementation in stages may prove more feasible.

A key step in working toward full implementation of the expanded guidelines will be the assessment of the facility's PPE supply and management practices. During this transition phase, it may be necessary at times, such as during an outbreak of COVID-19 or influenza, to temporarily modify EBP practices because of limited PPE supplies. In these situations, facilities should ensure that at minimum, they are implementing EBPs based on the original EBP guidance from 2019.

Resource: https://www.cdc.gov/hicpac/pdf/EnhancedBarrierPrecautions-H.pdf

EBP FAQs Themes...













Rooming Considerations

Provide the patient or resident who is colonized or infected with a single room, if possible.

Cohort those with the same MDRO. If roommates are unavoidable, pair with someone who is at lowest risk of acquiring the MDRO.

Differences in Resident Management in ALFs versus Nursing Homes

Role of the ALF resident

Fewer staff onsite with medical training

Guidelines and recommendations

MDRO Guidance for Assisted Living Facilities



Recommendations for Prevention and Control of Targeted Multidrug-Resistant Organisms

> WISCONSIN DEPARTMENT of HEALTH SERVICES

For Assisted Living Facilities

Healthcare-Associated Infections (HAI) Prevention Program, Division of Public Health, Department of Health Services

https://www.dhs.wisconsin.gov/publications/p03250a.pdf



What precautions should be taken with a resident who has a targeted MDRO in the ALF setting?

Staff Education



Educate direct care, ancillary, and contracted staff on:

- Hand hygiene.
- Personal protective equipment (PPE) use.
- Cleaning and disinfection.

- Hand hygiene proper technique and access to alcohol-based hand rub, soap, and water.
- PPE use staff education on the expectations, policy and procedure regarding PPE use for MDROs.
- Cleaning/disinfection
 - Shared equipment (e.g., lifts, glucometers) dedicate VS equipment and lift sling, if possible
 - Shared spaces (e.g., tub rooms, gym)
 - Housekeeping workflow
 - Room cleaning
 - Disinfectant recommended for specific organism, contact time
- Observations Incorporate periodic monitoring and assessment of adherence to determine the need for additional training and education

Sustaining Education



How will you gauge whether education has been understood and is being followed?

Resident and Patient Education



Educate residents and patients who are colonized or infected with a MDRO on the importance of:

- Hand hygiene.
- Physical hygiene.
- Environmental cleaning and disinfection.
- Wound care.

Much of this will depend on how independent the resident is with their cares...education will need to be tailored to the individual.

- Hand hygiene Proper technique and access to alcohol-based hand rub, soap, and water
- Physical hygiene Keeping themselves clean.
- Environmental cleaning and disinfection depending on the level of assistance they receive in your facility, they may need reminders on keeping their physical environment clean, or perhaps there are specific disinfectants that you want them to use.
- Wound care Wounds are a risk factor not only for acquiring an MDRO, but also for developing infections due to MDROs and transmitting the MDRO to others in the facility. So, does the colonized resident have a wound? Do they perform their own wound care and if so, do they know how to safely perform wound care? Meaning, where to dispose of dressings? Hand hygiene? Do they know signs or symptoms of infection to look for?

External Communication

- Admissions
- Transfers
- Public health



How will communication between your facility and transferring facilities or ancillary services be achieved?

Communicate key information such as:

- Resident name and date of birth.
- Transferring facility name.
- Reporter name and contact information.
- Resident MDRO history and current status.

Importance of clear and timely communication when a resident who is colonized or infected with an MDRO is transferred **cannot be overstated**. Communication failures have been identified as a key contributor to the spread of MDROs between facilities in Wisconsin and in other states. Communication is essential for ancillary services as well as facility transfers.

Resident MDRO history and current status includes:

- Organism name
- Specimen type and collection date
- Infection versus colonization with the MDRO
- If infected, status of treatment for MDRO

New admissions or readmissions

- Ensure you know all incoming residents' MDRO status
- Promptly place residents in the appropriate precautions
- Assess residents' individual risk factors for MDROs (Presence of devices, medical history, and recent locations of care)
- Consider cohorting residents with MDROs (only if single rooms are not available)

Consult with HAI Program or public health if you have questions. Use the CDC Inter-facility infection control transfer form: <u>https://www.cdc.gov/hai/pdfs/toolkits/Interfacility-IC-</u> <u>Transfer-Form-508.pdf</u>

Internal Communication



How will ongoing staff communication about colonized and/or infected patients/residents be handled?

How will ongoing communication with patients/residents and families be handled?



Communication failures have been identified as a key contributor to the spread of MDROs between facilities in Wisconsin and in other states.

Provide clear and timely communication when a resident who is colonized or infected with an MDRO is transferred. **This cannot be overstated**.



Effective antimicrobial stewardship programs help reduce antibioticresistant bacteria by reducing overprescribing of antibiotics.

https://www.dhs.wisconsin.gov/antimicrobial-stewardship/hcp.htm

EBP Resources

- CDC, <u>Implementation of PPE Use in Nursing</u> <u>Homes to Prevent the Spread of MDROs</u>
- CDC, <u>FAQs about Enhanced Barrier</u> <u>Precautions in Nursing Homes</u>
- CMS, <u>QSO-24-08-NH: Enhanced Barrier</u> <u>Precautions in Nursing Homes to Prevent</u> <u>Spread of MDROs</u>

DHS Resources

- DHS, <u>Guidelines for Prevention and Control of Multidrug-</u> <u>Resistant Organisms for Health Care Settings</u>
- DHS, <u>Recommendations for Prevention and Control of</u> <u>Targeted Multidrug-Resistant Organisms in Wisconsin Nursing</u> <u>Homes</u>
- DHS, <u>Recommendations for Prevention and Control of</u> <u>Targeted Multidrug-Resistant Organisms for Assisted Living</u> <u>Facilities</u>

DHS: Healthcare-Associated Infections: Reportable Multidrug-Resistant Organisms Webpage



Reportable Multidrug-Resistant Organisms

Learn about multidrug-resistant organisms and reporting requirements.

> Learn about multidrugresistant organisms.

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Link: https://www.dhs.wisconsin.gov/hai/reportable-mdro.htm

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HAI Prevention Program Contact Information



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Questions?

Thank you!



HAI Infection Prevention Education

The resources below are intended to connect health care facility infection preventionists (IP) with education materials to support their role in preventing, detecting, and responding to healthcare-associated infections.

IPs play an essential role in facility infection prevention policy development, surveillance, and risk assessment.

IPs serve as a resource to other staff and programs within their facilities.

In addition to the state in-person trainings and online references below, there are a number of links to trusted education resources, including the CDC (Centers for Disease Prevention and Control), the Centers for Medicare and Medicaid Services (CMS), and the Association for Professionals in Infection Control and Epidemiology (APIC).



The IP Starter Kit provides Infection Preventionists a brief background and resources for some of the many infection prevention-related responsibilities within health care facilities.

Resources for infection preventionists Long-Term Care Education series

The long-term care (LTC) education series provides education presentations on topics that include infection prevention, HAIs, antibiotic stewardship, disease surveillance, and outbreak response for staff at skilled nursing facilities, assisted living facilities, local health departments, and other LTC stakeholders. Each session features a new, timely topic presented by the Department of Health Services (DHS) program staff, HAI Infection Preventionists, partner organizations, or other external subject matter experts.

View the <u>full library</u> of education sessions. **Note:** All 2021 and 2022 education sessions can be found by visiting the full library

Have a topic request?

Send topic ideas or requests that you have for the long-term care education series or the IP lunch and learn series to

DHSWIHAIPreventionProgram@dhs. wi.gov.∞

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HAI Infection Prevention Education webpage

https://www.dhs.wisconsin.gov/hai/ip-education.htm

Upcoming LTC Education Session

Date: May 23, 2024

Topic: Hepatitis C and Bloodborne Pathogens Exposure Control Plans



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