

Recommendations for Prevention and Control of Multidrug-Resistant Organisms

For Prison and Jail Settings

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



Table of Contents

Introduction and Purpose	4
MDRO guide for prisons and jails.....	4
Table 1. Reportable MDROs in Wisconsin.....	4
Reportable MDRO cases.....	6
Table 2. Reported cases* of CP-CRAB, CP-CRE, CP-CRPA, and C. auris in Wisconsin, 2020–2024	6
Transmission and risk factors for MDRO acquisition.....	6
Other MDROs to consider	6
Colonization versus infection	7
General MDRO resources.....	7
Prevention and Planning	7
Antimicrobial stewardship	8
Interpreting Lab Results	9
Final test results	10
Notification and Communication	10
Internal communication and signage.....	10
External communication and transfers	11
Notification and communication resources	11
Surveillance and Outbreak Identification	11
Outbreak identification	12
Colonization screening.....	12
Decolonization	12
Surveillance and outbreak resources.....	13
Management of Incarcerated Individuals	13
Standard precautions	13
Contact precautions.....	14
When to implement precautions	16
Figure 2. What precautions should be taken with an individual who has an MDRO in the prison or jail setting?	17
Education for incarcerated individuals.....	18
Final points on management of incarcerated individuals.....	18
Resources	18
Staff Management	19

Staff assignments	19
Staff education	19
Hand hygiene reminders	19
Precautions and PPE	20
Staff management resources	20
Environmental Cleaning and Disinfection	20
Training and auditing staff and inmate workers' practices	20
Order of operations and key areas.....	21
Product considerations	21
Laundry and linens.....	21
PPE usage for housekeeping activities	22
Environmental cleaning resources	22
Sustainability	22
Documents and Resources	23

Introduction and Purpose

This document is designed to aid Wisconsin prisons and jails in the prevention and control of outbreaks of highly concerning multidrug-resistant organisms (MDROs). MDROs are an emerging threat to global public health, and the potential for rapid spread within congregate living settings, as well as the difficulties of treating infections caused by these organisms, make it critically important for prisons and jails to be prepared to prevent and respond to a potential outbreak.

The recommendations included in this document are intended to support a facility's response to the identification of a single case of an MDRO, prevent the spread of MDROs within the facility, and help contain outbreaks.

Depending on the facility, a wide variety of health services may be provided such as outpatient medical care, dental services, infirmary-level care, and dialysis. Because of this, facilities should note that these recommendations are not exhaustive and implementation of all strategies and measures may not be appropriate or feasible in all situations or settings. Facility-level assessment of the situation should be made by the facility's medical director or designee(s) responsible for the health and safety of those in the facility's care. Facilities are encouraged to consult with their local or Tribal health department (LTHD) and the Wisconsin HAI Prevention Program.

MDRO guide for prisons and jails

MDROs are well recognized by the CDC (Centers for Disease Control and Prevention) and other public health entities as a concern in congregate health care settings. While the approach to preventing and responding to MDROs in prisons and jails may differ from the approach utilized in other settings, it is important for facilities to be prepared to respond to the presence of these organisms as a part of protecting the health of persons in their care as well as staff.

Reportable MDROs have been identified in Wisconsin prisons in recent years. For example, at least one confirmed or suspected case of three of the five "Reportable MDROs in Wisconsin" ([Table 1](#)) has been identified in a Wisconsin prison since 2022.

Table 1. Reportable MDROs in Wisconsin

Organism	Notes and considerations
Carbapenemase-producing carbapenem-resistant Enterobacterales (CP-CRE)	<ul style="list-style-type: none">• This order of bacteria is commonly found in the human gastrointestinal system as part of the normal flora.• People can be colonized with CP-CRE without signs or symptoms of illness.• CP-CRE can cause serious infections if introduced to a sterile site.
Carbapenemase-producing carbapenem-resistant <i>Acinetobacter baumannii</i> (CP-CRAB)	<ul style="list-style-type: none">• <i>Acinetobacter baumannii</i> is commonly found in soil and water.• This organism can survive for a long time on surfaces and cause severe infections.

	<ul style="list-style-type: none"> • People can be colonized with CP-CRAB without signs or symptoms of illness. • CP-CRAB can be highly resistant to antibiotics. Pan-resistant CRAB isolates have been detected in Wisconsin.
Carbapenemase-producing carbapenem-resistant <i>Pseudomonas</i> spp. (CP-CRPA)	<ul style="list-style-type: none"> • <i>Pseudomonas aeruginosa</i> is a bacterium commonly found in soil and water. • <i>Pseudomonas aeruginosa</i> is naturally drug-resistant and can cause severe wound, burn, and respiratory infections. • People can be colonized with CP-CRPA without signs or symptoms of illness. • While only a small proportion of CRPA isolates are carbapenemase-producing (CP), CP-CRPA can cause very serious and hard-to-treat infections.
<i>Candida auris</i> (<i>C. auris</i>)	<ul style="list-style-type: none"> • <i>C. auris</i> is a rare but potentially life-threatening type of fungus that is naturally resistant to antifungal medications. • <i>C. auris</i> can cause serious infections if introduced to a sterile site and is difficult to eliminate from the environment. • People can be colonized with <i>C. auris</i> without signs or symptoms of infection. • CDC estimates that C. auris infections have a high mortality rate.
Vancomycin- intermediate <i>Staphylococcus aureus</i> (VISA) and Vancomycin-resistant <i>Staphylococcus aureus</i> (VRSA)	<ul style="list-style-type: none"> • <i>Staphylococcus aureus</i> is a bacterium that commonly colonizes in the nose or on the skin. • VISA and VRSA are staphylococcal bacteria that have developed resistance to vancomycin antibiotics. • Sometimes staphylococcal bacteria can cause more serious infections such as sepsis, pneumonia, endocarditis, or osteomyelitis.

While all carbapenem-resistant organisms are of concern, carbapenemase-producing organisms (CPOs) are particularly concerning because of their ability to produce an enzyme (carbapenemase) that increases the organism’s resistance to almost all β -lactam antibiotics, including carbapenems. Carbapenems are oftentimes drugs of last resort used to treat difficult and complex infections. In addition, CPOs can share their antibiotic resistance with other organisms around them. Several different types of bacteria can be carbapenemase-producing, but carbapenemase production has most often been identified among members of the Enterobacterales order (for example, *E. coli* and *Klebsiella*), as well as in *Acinetobacter baumannii* and *Pseudomonas aeruginosa*.

Candida auris (*C. auris*) has spread in health care facilities in Wisconsin and is hard to get rid of once it is in a facility. While still relatively rare, this fungus is becoming more common. *C. auris* has been found in over 30 countries and was first identified in the U.S. in 2013. After first being found in each of its bordering states, Wisconsin identified its first case of *C. auris* in January 2022.

Evidence that *Staphylococcus aureus* has become less susceptible to vancomycin began to be reported in the 1990s. Although there is currently no evidence of transmission in health care settings, surveillance and reporting of VISA and VRSA have been in place since 2007.

Reportable MDRO cases

Table 2. Reported cases* of CP-CRAB, CP-CRE, CP-CRPA, and *C. auris* in Wisconsin, 2020–2024

	2020	2021	2022	2023	2024
CP-CRAB	41	153	112	153	139
CP-CRE	30	42	45	37	69
CP-CRPA	2	2	4	3	1
<i>C. auris</i>	0	1	5	21	23
VISA	1	1	2	4	0

*Includes both clinical and positive colonization screening isolates. Note that, with the exception of CP-CRE, data reported for 2020–2021 is based on voluntary submission of isolates to the Wisconsin State Laboratory of Hygiene (WSLH).

For updated case counts of MDROs, please visit the [Wisconsin HAI Prevention Program Reportable MDROs webpage](#).

Transmission and risk factors for MDRO acquisition

MDROs can spread through direct contact with colonized or infected individuals or through direct contact with contaminated surfaces in these individuals' environment. [Studies](#) have shown that MDROs can be present on the hands of health care personnel after performing care activities such as bathing, wound debridement and dressing, tracheostomy care, and catheter care, which can lead to further transmission of the organism. Additionally, MDROs can be found on equipment and surfaces in health care settings. These findings highlight the need for adherence to hand hygiene by staff, improved environmental cleaning and disinfection, and the use of transmission-based precautions.

[Risk factors](#) that increase an individual's risk of becoming infected or colonized with an MDRO include:

- Underlying medical conditions.
- Current or prolonged antibiotic use.
- Indwelling medical devices and/or lines.
- Presence or history of chronic wounds.
- History of frequent or prolonged hospitalizations and frequent surgeries or procedures.
- History of residing in congregate living settings.
- History of health care abroad.

Other MDROs to consider

Other kinds of resistant organisms exist and are present in Wisconsin, but individual cases are not reportable to state public health authorities unless they are causing an institutional outbreak. While individual cases are not reportable, these MDROs may have significant clinical implications and may be

of epidemiological importance. The recommendations in this guide also apply to the prevention of and response to other MDROs not listed above ([see Table 1](#)). Examples of such MDROs include:

- Methicillin-resistant *Staphylococcus aureus* (MRSA).
- Vancomycin-resistant Enterococci (VRE).
- Extended spectrum beta-lactemase (ESBL)-producing Enterobacterales.
- AmpC-producing Enterobacterales.
- Non-carbapenemase-producing CRE.
- Multidrug-resistant *Pseudomonas aeruginosa*.

Colonization versus infection

It is important to note that individuals can be **colonized or infected** with any of the above MDROs.

- An individual who is **colonized** with an MDRO is carrying the organism in or on their body, often for very long periods of time, but the organism is not causing symptoms or making the individual ill. Individuals who are colonized with an MDRO can, however, spread the organism to surfaces in their environment and to other people. Note that an individual who is colonized with an MDRO can also become infected later with the organism.
- An individual who is **infected** with an MDRO has the organism in or on their body and it is causing symptoms or illness.

A large proportion of people with a history of MDRO colonization or infection are either intermittently or permanently colonized. A history of one or more negative cultures does not guarantee that an individual who was previously colonized or infected with an MDRO will remain free of that MDRO.

General MDRO resources

- DHS, [Candida auris Information for Health Care Settings, P-03232](#) (PDF)
- DHS, [CRAB Information for Health Care Settings, P-03232b](#) (PDF)
- DHS, [CRE Information for Health Care Settings, P-03232a](#) (PDF)
- DHS, [CRPA Information for Health Care Settings, P-03232c](#) (PDF)
- DHS, [MDRO Fact Sheet for Patients, Residents and Families, P-03148](#) (PDF)
- DHS, [MDRO Information for Health Care Settings, P-03172](#) (PDF)

Prevention and Planning

Early identification of individuals in jails and prisons who are colonized or infected with an MDRO, paired with immediate implementation of appropriate precautions and environmental cleaning, is critical to reducing the risk of MDRO transmission.

Having the following plans and resources in place will help ensure your facility is prepared to respond to the presence of an MDRO.

- Ensure that initial health screenings and assessments include a review of individuals' MDRO history.

- Have a plan to promptly obtain additional resources (for example, transmission-based precautions door signs, educational materials, cleaning supplies, and personal protective equipment [PPE]) when an individual is identified as infected or colonized with an MDRO.
- Ensure that contact information for the [LTHD](#), [Wisconsin HAI Prevention Program](#), and other key health care partners are readily available.
- Review facility cleaning guidelines and identify potential gaps. Observe routine environmental cleaning and sanitation procedures to identify cross-contamination issues, such as using the same cloth to clean bathroom surfaces and wipe down ice buckets. Identify high-risk surfaces, including surfaces with frequent hand contact, surfaces in shared areas such as shower rooms, and shared medical equipment.
- Have a laundry management plan and discourage the sharing of towels, clothing, or sheets between individuals.
- Form and maintain a multidisciplinary planning committee or team to provide guidance and response when potential cases or outbreaks occur. This planning committee should designate specific individuals to manage various tasks during an outbreak, such as communication with visitors, individuals housed in the facility, and the LTHD; inter-facility coordination; and training and education of staff.
- Provide regular information to inmates and staff (for example, in-services, notices, and posters) to reinforce facility policies regarding proper infection prevention practices, including hand hygiene. Ensure there is adequate access to hand hygiene stations and supplies to support this.

Antimicrobial stewardship

The overuse and misuse of antimicrobials is a major contributing factor in the development of drug resistance in bacteria and fungus, as well as colonization and infection by MDROs. Antimicrobial stewardship refers to the multifaceted efforts and actions to improve antibiotic prescribing so that antibiotics are only used when needed, and when they are needed, ensuring that the right drug, dose, and duration are prescribed. The [CDC has created core elements](#) to support the implementation of antimicrobial stewardship programs. These core elements and some examples of how to put them into practice are included in the table below.

Table 3. Core elements of antimicrobial stewardship implementation examples

Core elements of antimicrobial stewardship	Examples of core element implementation
Demonstrated commitment from organization leadership	<ul style="list-style-type: none"> • Identify a single leader to serve as the stewardship program’s point of contact to provide direct support and address resource needs. • Hold regular meetings with the antimicrobial stewardship leaders to evaluate resources needed to achieve the goals of the program.

Action for policy and practice	<ul style="list-style-type: none"> • Develop or adopt treatment guidelines for the most common infectious syndromes that incorporate evidence-based diagnostic criteria and treatment recommendations. • Review and update order sets to reflect treatment guidelines and make it easy to order the right drug, dose, and duration. • Encourage antibiotic timeouts, such as de-escalating empiric antibiotic treatment to more narrow spectrum agents once culture results return. • Evaluate reported penicillin allergies and develop a process to de-label when appropriate.
Tracking and reporting antimicrobial use	<ul style="list-style-type: none"> • Monitor antimicrobial agent usage and implement a process to review appropriate antimicrobials. • Integrate antimicrobial stewardship activities into other quality improvement and patient safety committee efforts such as reporting antimicrobial use during meetings. • Work with contracting microbiology lab to create an antibiogram.
Education and expertise	<ul style="list-style-type: none"> • Provide education to staff on the goals of the stewardship program and the role they play in its implementation. • Prepare and distribute reports that summarize findings and provide suggestions for improving antimicrobial usage.

The facility’s consulting pharmacist or medical director should ideally be consulted for assistance in establishing these measures, as well as for more complicated decision-making. For additional information, visit the [DHS antimicrobial stewardship home page](#).

Interpreting Lab Results

Interpreting laboratory results for MDROs can be challenging, and the testing often involves multiple steps. While awaiting final test results to determine whether an individual is infected or colonized with an MDRO, the following precautions should be taken with the individual whose results are pending:

- Regardless of the individual’s independence level, **if the individual for whom you are awaiting final test results has acute signs of infection such as uncontrolled secretions, incontinence, or wound drainage that is unable to be contained, use empiric contact precautions and consider whether temporary medical isolation is appropriate, until the final lab results are available.**

These recommendations are in addition to continuing to follow standard precautions for this individual.

- If the individual does not have any uncontrolled secretions, incontinence, or wound drainage that is unable to be contained, and is **mainly independent** with their activities of daily living, strictly adhere to **standard precautions** while waiting for final test results. Provide education to the individual on how they can help decrease the risk of transmission to others.
- If the individual does not have any acute signs of infection such as uncontrolled secretions, incontinence, or wound drainage that is unable to be contained, but is **dependent on staff** for their activities of daily living, staff should, in addition to standard precautions, **wear a gown and gloves for all high-contact care activities** until final test results are received.

For more information on patient or inmate education, contact precautions, standard precautions, and examples of high-contact care activities, refer to the [“ Management of incarcerated individuals” section](#) of this document.

Final test results

- **If the test results show that the individual has an MDRO of concern**, follow the guidance outlined in the [“ Management of incarcerated individuals” section](#) of this document.
- **If the test results show that the individual does not have an MDRO of concern**, then default to your facility’s protocols for management of the individual.

Contact the Wisconsin HAI Prevention Program via email at DHSWIHAIPreventionProgram@dhs.wisconsin.gov or by phone at 608-267-7711 for assistance with interpreting laboratory results.

Notification and Communication

Prevention and control of MDRO outbreaks requires the participation of several key stakeholders to be most effective. This might include nursing staff, medical services staff, officers, inmate workers, and ancillary services personnel such as food service, laundry, and environmental service workers.

Internal communication and signage

When an MDRO is identified in a facility, communication between staff is essential. Precautions door signs are routinely used to inform individuals entering the room of an individual with certain communicable conditions of specific precautions they should take to protect themselves and others. Where feasible and acceptable, use precautions door signage to protect the health of other individuals and staff in your facility. Printable [contact precautions door signs](#) are available from CDC.

If door signs will not be used, facilities should explore other ways to ensure staff are aware of the precautions to follow when caring for an individual who is colonized or infected with an MDRO.

External communication and transfers

The importance of clear and timely communication between facilities when an individual who is colonized or infected with an MDRO is being transferred cannot be overstated. Communication failures between health care providers have been identified by the Wisconsin HAI Prevention Program as a key contributor to the spread of MDROs between health care facilities. When an individual with an MDRO is transferred from one facility to another, or within the same facility, the receiving location must be informed of the individual's MDRO history and status, ideally prior to the transfer, so that appropriate precautions can be implemented immediately. Other health care providers currently involved in the individual's care such as dialysis, dental services, outpatient medical services, hospice services, or the infirmary should also be informed of the individual's MDRO history and status.

Ideally, the transferring facility will contact the receiving facility by phone to ensure they are aware of and understand the individual's MDROs status. At minimum, MDRO status information should be included in the transfer paperwork and in the individual's chart.

Notification and communication resources

- CDC, [Contact precautions sign](#) (PDF) (Available in [Spanish](#))
- DHS, [Health Care Facility Transfer Form](#) (PDF)

Surveillance and Outbreak Identification

Surveillance activities for MDROs include identifying potential sources of transmission, determining prevalence, monitoring rates of transmission within the facility, and determining host risk factors for MDROs.

Surveillance activities include:

- **Maintaining line lists** of individuals known to be infected or colonized with MDROs.
- **Analyzing clinical culture data to monitor trends in the percentage of isolates that are resistant.** Examples of such analysis include but are not limited to:
 - Identifying trends in MDRO incidence rates.
 - Assisting with the identification of new MDROs not previously identified within the facility or community.
 - Generating data to create an antibiogram used to monitor resistance patterns and trends in geographic areas and guide clinicians on prescribing practices.
 - Ensure outsourced microbiology lab contacts specify that facility-specific susceptibility or local or regional aggregate susceptibility data will be provided.
- **Performing colonization screening of those at risk of MDRO acquisition in response to a newly identified MDRO case** to determine the extent of spread within the facility. See the [“Colonization screening” section](#) below for more details.

Outbreak identification

If surveillance activities at the facility identify a new MDRO case, then an investigation should be conducted to determine whether transmission to others may have occurred and to implement initial response measures to decrease further risk of transmission. All suspected MDRO outbreaks should be reported to the LTHD and the Wisconsin HAI Prevention Program as a reportable disease condition. The Wisconsin HAI Prevention Program can provide tailored infection prevention guidance and laboratory support during outbreak investigations. Contact the Wisconsin HAI Prevention Program via email at DHSWIHAIPreventionProgram@dhs.wisconsin.gov or by phone at 608-267-7711.

Colonization screening

Colonization screening is a specific surveillance activity typically done after an individual is found to be colonized or infected with specific MDROs, to identify whether other individuals are also colonized with the MDRO. Colonization screening enables the facility and public health to understand the extent of potential spread and respond accordingly.

Key points about colonization screening:

- Whether to screen other individuals in response to an identified MDRO case will depend on the location of the individual with the positive test result and details of their situation. The LTHD and/or Wisconsin HAI Prevention Program is available to assist in determining the scope of screening activities.
- WSLH offers fee-exempt colonization testing for select organisms, including carbapenemase-producing organisms and *C. auris*. WSLH has specific expertise in the surveillance of specific MDROs and serves as the CDC-appointed Midwest Region [Antibiotic Resistance Lab Network laboratory](#). The LTHD and/or the Wisconsin HAI Prevention Program is available to assist with determining testing frequency and ordering testing supplies from WSLH.
- If possible, it is helpful to have the same staff member(s) perform the screening to help ensure specimen collection and documentation are done in a consistent way.
- Informed consent must be provided to the individual or their representative prior to testing. Screening tests are voluntary, and they have the right to decline testing. Document informed consent according to facility policy.

Decolonization

Decolonization is generally not recommended as a routine component of controlling MDROs except for certain situations involving MRSA. MRSA decolonization can be targeted to MRSA-colonized persons or applied to populations deemed to be at high risk for infection. MRSA decolonization therapy can include the administration of topical antimicrobial or antiseptic agents, with or without additional antimicrobial therapy. The decision to decolonize should be based on whether an individual would benefit clinically, the ability of the individual to tolerate the regimen, or the determination that ongoing transmission would be reduced.

Considerations for MRSA decolonization therapy:

- Determine benefits of decolonization on a case-by-case basis. Consult with the medical services staff to determine appropriateness of decolonization.
- Only consider decolonizing staff when there is epidemiologic evidence that they are sources of ongoing transmission.
- Implement additional strategies to increase the chances of successful eradication of MRSA if decolonization is attempted, such as:
 - Identify and treat all colonized sites.
 - Reduce bacterial load, such as adequate drainage, debridement, and device removal.
 - Consider close contacts, such as household contacts, as possible sources of recolonization.

There are no recommendations for decolonizing people with *C. auris*, CPOs, ESBLs, or VRE.

Surveillance and outbreak resources

- DHS, [MDRO Colonization Screening Frequently Asked Questions for Health Care Facilities, P-03171](#) (PDF)
- DHS, [MDRO Screening Fact Sheet for Residents and Families, P-03110](#) (PDF)

Management of Incarcerated Individuals

To effectively manage individuals who are colonized or infected with MDROs, it is important to first understand both standard precautions and contact precautions. Information in this document on standard and contact precautions is primarily drawn from CDC’s guidance on [infection control basics](#) and the Wisconsin HAI Prevention Program’s webpage on [precautions to be used in health care settings](#).

Standard precautions

Standard precautions should be taken during all care encounters with all incarcerated individuals in the facility, regardless of individuals’ MDRO status, as they help keep staff, other incarcerated individuals, and those in the environment safe.

Standard precautions include the following practices:

- **Perform hand hygiene.**
 - Practice consistent hand hygiene with alcohol-based hand sanitizer containing at least 60% alcohol, or with soap and water.
 - Staff should perform hand hygiene before and after changing dressings, providing care (such as bathing, dressing, or changing linen), and accessing indwelling devices (such as urinary catheters). Staff should also perform hand hygiene before preparing or eating food, and after using the bathroom.
 - Caregivers’ fingernails should be kept short and clean.
 - Incarcerated individuals, especially those who are colonized or infected with an MDRO, should be educated and encouraged to perform hand hygiene routinely.
 - Hand hygiene supplies should be readily available and easily accessible. Facilities should educate staff on the importance of hand hygiene, as well as when hand hygiene with alcohol-based hand sanitizer versus soap and water should be done.

- **Use PPE whenever there is an expectation of possible exposure to infectious material.**
 - According to guidance on standard precautions, this means wearing the right PPE for the task and the anticipated risk.
- **Follow respiratory hygiene and cough etiquette principles.**
 - This includes covering a cough or sneeze and turning away from others, performing hand hygiene before and after touching your face, and disposing of facial tissues after use, to prevent the spread of pathogens.
- **Consider rooming placement.**
 - Placing an individual with an MDRO in a private cell or with a cellmate who has the same MDRO may be preferred.
- **Handle, clean, and disinfect care equipment and instruments or devices properly.**
 - Thoroughly clean and disinfect all care equipment after each use, especially before using the equipment with another person.
- **Clean and disinfect the environment appropriately.**
 - Clean from least soiled to most soiled and from physically high to physically low areas.
 - Check the master label of products used to clean surfaces and floors to ensure they are effective against the organism(s) present in the facility. Also ensure those who are cleaning pay attention to the product's "contact time," the time a product needs to remain wet in order to kill the pathogen.
 - See the ["Environmental cleaning and disinfection" section](#) of this document for additional information and key points about cleaning and disinfection, including when an individual who is colonized or infected with an MDRO is present in the facility.
- **Handle textiles and laundry carefully.**
 - Handle and store soiled and clean linens separately. Cover or contain linens to avoid contamination. Do not carry linens against the body or drag along the floor.
 - Discourage sharing of towels, linens, or clothing among individuals.
 - See the ["Environmental cleaning and disinfection" section](#) for additional details on laundry temperature and product considerations.

Contact precautions

Contact precautions and medical isolation should be used temporarily for individuals who pose a risk of transmitting an MDRO to others through direct contact. Whether temporary medical isolation is warranted should be determined on a case-by-case basis. The location of the individual within the facility may affect their management. For example, recommendations may differ between the infirmary and general population areas.

Contact precautions include the following practices:

- **Use PPE appropriately.**
 - When an individual is placed in contact precautions, gown and gloves should be worn while in the individual's cell or room and removed just prior to exiting the cell or room. Contaminated PPE should never be worn in the hallway.
 - Keep garbage cans near the door of each affected cell to facilitate proper removal and immediate disposal of used PPE.
 - Store PPE in a manner that is convenient to staff while maintaining cleanliness and a safe environment. Assign a staff person to be responsible for keeping the PPE well stocked.

- Gowns and gloves should never be re-used or worn to care for multiple individuals with MDROs.
- Where feasible and acceptable, ensure signage noting contact precautions is posted on any affected individual's cell or room. This serves as a reminder to staff who enter the cell or room to wear the appropriate PPE prior to entry.
- Provide alcohol-based hand sanitizer in areas where it is permitted to promote frequent hand hygiene among staff and incarcerated individuals. In areas where alcohol-based hand sanitizer is not permitted, be sure sinks with soap and hand towels are easily accessible.
- **Ensure appropriate placement of the individual.**
 - When an MDRO is present in the facility, decisions about cell assignments and cellmates are complex and many factors must be considered to ensure the health and safety of the individuals under the facility's care. Facilities will need to consider space issues, incarcerated individuals' co-morbidities and clinical care needs, staffing patterns, and other issues. Facilities are strongly encouraged to consult with the Wisconsin HAI Prevention Program or their LTHD if experiencing challenges with placement.
 - When possible, place individuals who are on contact precautions in a private cell. When a private cell is not available, consider placing the individual in a room with individual(s) who have the same microorganism, but no other MDROs. This practice is known as cohorting. If cohorting is not an option, the best cellmate or roommate for a person with an MDRO is someone who:
 - Has intact skin (in other words, no chronic wounds such as pressure ulcers or unhealed surgical wounds).
 - Has no invasive devices (such as nasogastric tubes, tracheostomy or tracheal tubes, IV lines, or indwelling urinary catheters).
 - Is not significantly immune compromised (for example, neutropenic, on oral steroids, or on chemotherapy).
 - The CDC [recommends](#) that when individuals are placed in shared rooms, facilities must implement strategies to help minimize the transmission of pathogens between roommates including:
 - Maintaining spatial separation of at least three feet between beds to reduce opportunities for inadvertent sharing of items between the individuals.
 - Using privacy curtains to limit direct contact where permitted.
 - Cleaning and disinfecting any shared reusable equipment.
 - Cleaning and disinfecting environmental surfaces in the shared room on a more frequent schedule.
 - Changing PPE (if worn) and performing hand hygiene when switching care from one roommate to another.
- **Use disposable or dedicated care equipment.**
 - For individuals known to be infected or colonized with an MDRO, use single-use, disposable, or dedicated medical equipment (for example, vital signs equipment, shower chairs, or lift slings) if possible. If supply does not allow for this:

- Shared equipment must be cleaned and disinfected between each use. Use U.S. Environmental Protection Agency (EPA)-registered disinfectants according to the label instructions, ensuring the contact time is followed.
 - Launder lift slings between uses with different individuals.
- **Prioritize cleaning and disinfection of the rooms.**
 - Clean the cells of individuals on contact precautions with an MDRO **after** cleaning all other cells. See the [“Environmental cleaning and disinfection” section](#) for additional details about cleaning and disinfection.

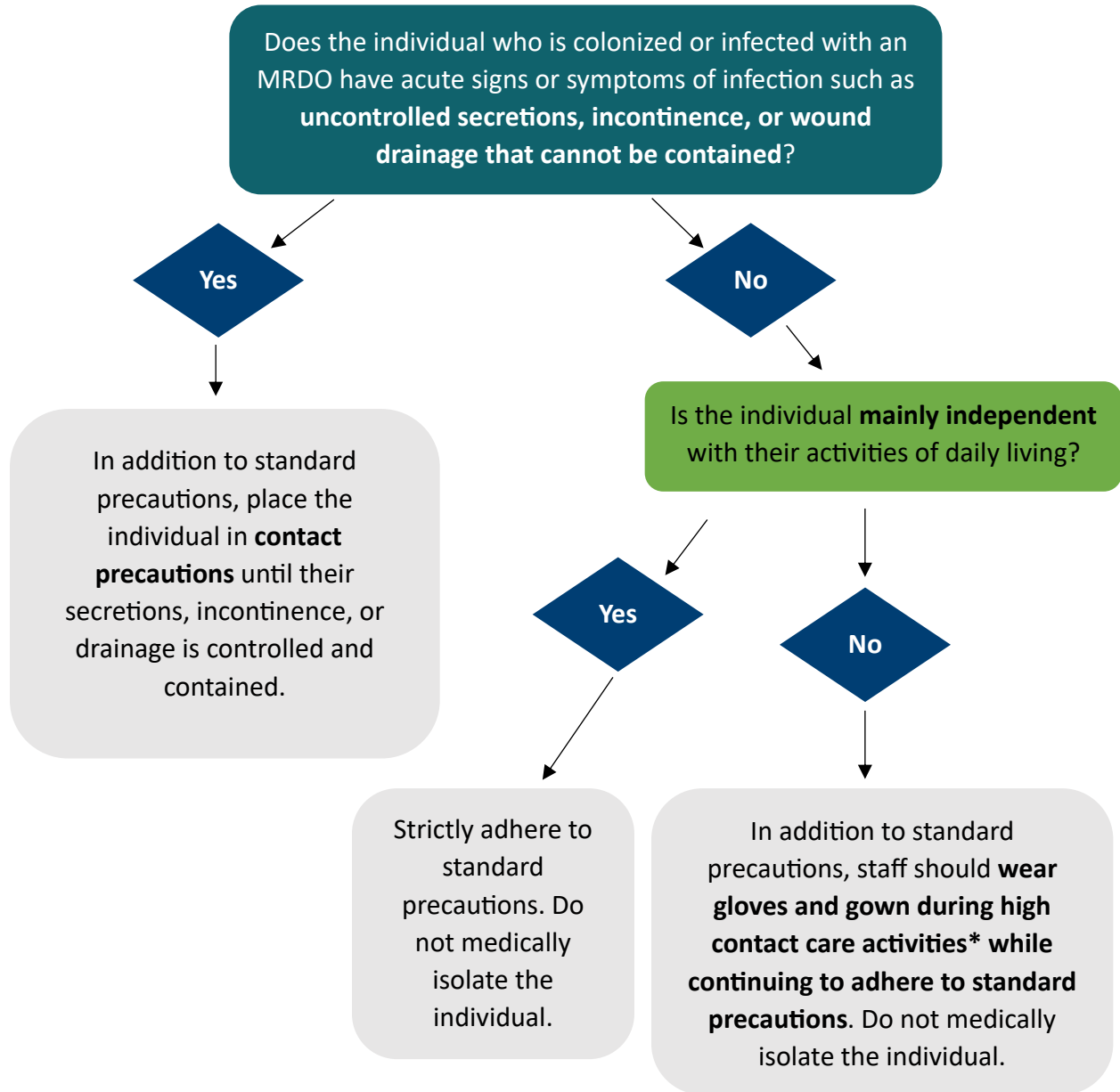
When to implement precautions

Standard precautions should be taken during **all** care encounters, regardless of the individual’s MDRO status. When caring for an individual who is colonized or infected with an MDRO, contact precautions or other specialized precautions may also be necessary to ensure the safety of staff and other individuals in the facility.

- Regardless of the individual’s independence level, if an individual who is infected or colonized with an MDRO has or **develops acute signs or symptoms of infection such as uncontrolled secretions, incontinence, or wound drainage that is unable to be contained**, temporarily place the individual in **contact precautions** until their secretions, incontinence, or drainage is controlled and/or contained. This is in addition to practicing standard precautions.
- If an individual who is colonized or infected with an MDRO is **mainly independent** with their activities of daily living and **does not have any uncontrolled secretions, incontinence, or wound drainage that is unable to be contained**, strictly adhere to **standard precautions**. Educate the individual on what they can do to help decrease the risk of transmission to others. No medical isolation is needed.
- If an individual who is colonized or infected with an MDRO is **dependent on staff** for their activities of daily living and **does not have any uncontrolled secretions, incontinence, or wound drainage that is unable to be contained**, it is recommended that **staff wear gloves and gown during high-contact care activities** in addition to practicing standard precautions. Educate the individual on what they can do to help decrease the risk of transmission to others. No medical isolation is needed. Examples of high-contact care activities include:
 - Dressing.
 - Bathing and showering.
 - Transferring.
 - Providing hygiene.
 - Changing linens.
 - Changing briefs or assisting with toileting.
 - Caring for or using devices (such as central line, urinary catheter, feeding tube, tracheostomy or ventilator).
 - Caring for wounds (including any skin opening requiring a dressing).

[Figure 2](#) can help staff decide what type of precautions should be practiced with individuals who are colonized or infected with an MDRO. Contact the Wisconsin HAI Prevention Program or your LTHD with questions.

Figure 2. What precautions should be taken with an individual who has an MDRO in the prison or jail setting?



***Examples of high-contact care activities include** dressing, bathing and showering, transferring, providing hygiene, changing linens, changing briefs or assisting with toileting, caring for or using devices (such as a central line, urinary catheter, feeding tube, tracheostomy or ventilator), caring for wounds (including any skin opening requiring a dressing).

Education for incarcerated individuals

The following are key concepts to review with individuals who are colonized or infected with an MDRO:

- Emphasize the importance of good hand hygiene with either an alcohol-based hand sanitizer or soap and water. Ensure they understand how and when to perform hand hygiene.
- Remind the person to clean their body regularly, especially after exercise.
- Instruct individuals to inform their health care provider of their MDRO status while receiving care.
- Instruct the individual to keep cuts, scrapes, and wounds clean and covered until healed. For individuals with chronic wounds, instruct them to place soiled dressings into the garbage.
- Remind the person not to pick at or pop any skin sores.
- Discourage sharing of towels, linens, clothing, and razors with others.
- For individuals who are responsible for cleaning their own environment, be sure they understand how to use disinfectants appropriately. Teach them how to read the disinfectant's label for kill-claims and that they understand what the contact time means. Discuss the importance of routine (daily) cleaning and disinfection of frequently touched surfaces in their cell and in shared spaces, such as the bathroom.
- Educate the individual on how to watch for signs and symptoms of an infection and to notify their medical services staff if they have any questions or concerns.

Final points on management of incarcerated individuals

- Educate staff on the different types of precautions, including the different types of PPE used and activities that are part of contact and standard precautions. Regular review of the expectations around donning and doffing (putting on and taking off) PPE, performing hand hygiene, and discarding used PPE is critical to preventing transmission. This should be provided upon hire and at regular intervals.
- Reinforce policies for precautions and PPE use through routine auditing. This can include formal auditing practices by designated staff, as well as just-in-time reminders from co-workers. Staff meetings and regular education opportunities can help address any adherence themes identified during these reviews, as well as determine whether practices in written policies or procedures need adjustment based on the reality of implementation.
- This guidance is specifically intended for response to MDROs, but facilities should **still follow the appropriate CDC guidelines** for infection prevention practices and the duration of isolation precautions for other communicable diseases (such as *C. difficile*, norovirus, or scabies) found in the CDC [Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings. Appendix A](#).

Resources

- CDC, [Contact precautions sign](#) (PDF) (Available in [Spanish](#))
- CDC, [Containment Strategy Responding to Emerging Antibiotic Resistance \(AR\) Threats webpages](#)
- DHS, [Disinfectant Considerations for MDROs, P-03400](#) (PDF)
- DHS, [MDRO Cleaning and Disinfection in Health Care Facilities, P-03147](#) (PDF)

- DHS, [Precautions webpage](#)

Staff Management

Staff assignments

If possible, designate specific direct caregiver(s) and those responsible for environmental cleaning and disinfection to care for individuals who are colonized or infected with an MDRO. To the extent possible, facilities should also limit staff moving between affected and unaffected units. If staffing levels do not allow complete separation:

- Bundle cares to limit the number of staff members providing direct care to individuals who are infected or colonized with an MDRO.
- Ensure environmental cleaning is done starting with unaffected areas and cells first, including unaffected common areas. Clean affected units and the rooms of individuals who are colonized or infected with an MDRO last.

Staff education

Facility staff, including contracted staff, should receive continuing education regarding basic infection prevention and control practices on a regular schedule, as well as whenever policies or procedures change or are updated. Provide education to staff regarding MDROs, including how they spread, the significance MDROs have on infections and treatment options, and how to prevent and control spread of MDROs within the facility. Educate staff on the need to maintain strict hand hygiene and a clean environment to minimize the risk of transmission of MDROs. An important part of staff education is auditing practices such as hand hygiene and PPE use and providing follow-up and feedback to staff to improve processes. Facilities should document the education given and the names of employees who complete the education.

Hand hygiene reminders

Reinforce the importance of hand hygiene when providing care to all individuals, but especially those who are infected or colonized with an MDRO. **[Alcohol-based hand sanitizers are the preferred method for cleaning hands in most clinical situations due to evidence of better compliance compared to soap and water.](#)** Wash hands with soap and water whenever they are visibly dirty, before eating, after using the restroom, when working in areas where alcohol-based hand sanitizer is not permitted, and after known or suspected exposure to gastrointestinal pathogens, such as norovirus or *C. difficile*.

Multiple opportunities for hand hygiene may occur during a single care episode. The [clinical indications for hand hygiene](#) include:

- Immediately before touching an individual.
- Before performing an aseptic task or handling invasive medical devices.
- Before moving from work on a soiled body site to a clean body site on the same individual.
- After touching an individual or the individual's immediate environment.

- Immediately after glove removal following contact with blood, body fluids, or contaminated surfaces.
- When hands are visibly soiled.

Ensure staff are performing hand hygiene appropriately and periodic audits are being done to reinforce the process. Staff should also be empowered to discreetly remind each other of the need for hand hygiene if they observe another not performing it.

Precautions and PPE

Implement contact precautions as outlined in the [“Management of incarcerated individuals” section](#). Ensure staff are donning and doffing (putting on and taking off) PPE in the proper sequence and periodic audits are being done to maintain skills, particularly for new staff or when new PPE is included in the process.

Most PPE used during individual patient care, including care of individuals placed in contact precautions, would not be considered regulated medical waste requiring disposal in a biohazard bag, and could be discarded as routine, non-infectious waste.

After removing PPE, immediately perform hand hygiene and ensure hands and clothes do not touch potentially contaminated environmental surfaces or items in the individual’s cell, such as bed rails and tables.

Staff management resources

- CDC, [PPE Sequence](#) (PDF)
- DHS, [Hand Hygiene and PPE Observations Audit Tool, F-02726](#) (PDF)
- DHS, [Hand Hygiene Observations Audit Tool, F-02475](#) (PDF)
- Wisconsin Department of Natural Resources (DNR), [Hazardous Waste Management at Healthcare Facilities webpage](#)

Environmental Cleaning and Disinfection

As noted earlier, some MDROs are very persistent and can survive a long time in the environment, making regular and thorough cleaning and disinfection essential to stopping their spread.

Training and auditing staff and inmate workers’ practices

- Train and regularly check the competency of environmental services staff and inmate workers on the facility’s cleaning and disinfection practices. Ensure they are made aware when additional precautions are needed, including use of the correct disinfectant and reinforcement of proper practices.
- Ensure laundry workers are made aware of potentially infected linen and are provided with appropriate PPE.

- Ensure that any clinical staff who will be responsible for cleaning and disinfecting health care items or spaces are also trained and educated on proper procedures.
- Regularly audit environmental cleaning practices and assess staff and inmate worker competency and understanding of cleaning protocols and practices.

Order of operations and key areas

- Clean and disinfect surfaces starting from the areas with a lower likelihood of contamination to areas with highly contaminated surfaces. This includes cleaning non-affected wings and cells prior to the cells of individuals who are colonized or infected with MDROs.
- Increase the frequency of routine environmental cleaning, including cleaning shared areas, such as showers and bathrooms, and the area surrounding the living space of individuals who are infected or colonized with the MDRO. Pay particular attention to cleaning objects and surfaces that are frequently touched.
- Be sure that lift slings are laundered frequently, if used. Ideally, individuals who are colonized or infected with an MDRO should have their own lift sling that is not used with other individuals. If this is not possible, launder slings after they are used with individuals who are infected or colonized with an MDRO.
- Change privacy curtains on a routine basis or if they become soiled. If privacy curtains are needed in shared bathroom or shower areas, consider using vinyl curtains that can be cleaned and disinfected between each use.

Product considerations

- For cleaning surfaces and floors, check the product's instructions for use to ensure the product has been shown to be effective against the identified MDRO, or any other pathogen identified in the facility. When *C. auris* is present in the facility follow the [EPA's "List P"](#) for specific products shown to be effective against this organism.
- Pay attention to the contact time of each disinfectant to ensure complete disinfection of surfaces.
 - Contact time for disinfectants range from 15 seconds to a maximum of 10 minutes.
 - The surface must be visibly wet with the disinfectant for that amount of time to kill the microbes.
 - If the surface dries before the prescribed contact time, a reapplication of product is indicated.
 - Do not wipe the surface with a dry cloth or fan air over the surface to speed up the drying time.

Laundry and linens

- Ensure laundry is bagged at point of use. Ensure that staff and inmate workers responsible for handling contaminated linens have proper PPE available and know how to wear it appropriately, including how to don and doff the PPE.

- Ensure soiled and clean linens are handled and stored separately. Cover or contain linens to avoid contamination. Do not carry linens against the body or drag along the floor.
- Ensure a temperature of at least 160°F (71°C) for a minimum of 25 minutes is used for hot water washing.
- If low temperature washing is used, choose chemicals suitable for low temperatures at proper use concentration.
- Observe laundry facilities at least once per year for cleanliness, proper handling of laundry, and appropriate wash temperatures and chemical dispensing. Follow a [laundry facility checklist](#) to guide your observations.

PPE usage for housekeeping activities

All staff and inmate workers who remove inmate linens, change bedding, or perform similar duties with used linens should wear gowns and gloves when working with those from the rooms of individuals who are colonized or infected with MDROs. Facilities need to be able to clearly identify which linens may require additional PPE use.

Other than linen handling, PPE for housekeeping duties in the cells of individuals who are colonized or infected with an MDRO should be dictated by facility policy and standard precautions for anticipated exposures to body fluids, chemicals, and contaminated surfaces. Individuals on contact precautions have a different level of expectation for transmission, so staff and inmate workers should wear gowns and gloves whenever cleaning those rooms, not just for certain cleaning activities. Again, [appropriate door signage](#) will assist housekeeping staff in knowing what type of PPE should be worn for their safety and to minimize transmission.

Environmental cleaning resources

- CDC, [Options for Evaluating Environmental Cleaning webpage](#)
- CDC, [Resident Care Equipment Cleaning Audits](#) (PDF)
- DHS, [Disinfectant Considerations for MDROs, P-03400](#) (PDF)
- DHS, [MDRO Cleaning and Disinfection in Health Care Facilities, P-03147](#) (PDF)
- Textile Rental Services Association, [Laundry Tour Planner for Healthcare Professionals](#) (PDF)

Sustainability

Responding to MDROs in the prison and jail setting can be an in-depth process and requires the commitment of both leadership and staff. In addition to initial response activities, the following practices will also likely be needed:

- **Reducing the burden of MDROs should be an institutional goal that is supported by administrative and managerial leadership.** Administration should ensure that all necessary resources are available to the facility's infection prevention program, and management personnel should promote, support, and exemplify infection prevention practices among their staff.

- **Continue observing and auditing staff and inmate workers' practices** (for example, hand hygiene, proper donning and doffing of PPE, and environmental cleaning). Facility leadership should round in the facility routinely to observe staff members' natural practices and provide immediate feedback and support as needed.
- **Conduct regular environmental rounds.** Have facility leadership, including those responsible for housekeeping and facilities management, tour the facility on a routine basis to assess the cleanliness and condition of the overall environment, cells, shared spaces, and shared medical equipment.
- **Provide continuing education for staff and inmate workers.** Plan for how all staff and inmate workers will be educated on preventing the transmission of MDROs. Evaluate education provided in new employee orientation and annual training and revise or supplement educational materials as needed.
- **Review facility policies.** Facility policies and procedures regarding topics such as MDROs, contact precautions, hand hygiene, and environmental cleaning should be reviewed and updated as needed. Educate staff and inmate workers on any updates that are made.

Remember that the Wisconsin HAI Prevention Program and your LTHD is available to assist and advise you and your facility throughout the process of responding to an MDRO. Contact the Wisconsin HAI Prevention Program via email at DHSWIHAIPreventionProgram@dhs.wisconsin.gov or by phone at 608-267-7711. **Contact information for Wisconsin HAI Program Infection Preventionists and other HAI Program staff is available on the Wisconsin [HAI Prevention Program's webpage](#).**

Documents and Resources

See each section of the guide for links to resources related to that topic. In addition, the following general resources may also be helpful.

- CDC, [Antibiotic Resistance Threats in the United States](#)
- CDC, [Epidemiology of MDROs: Management of multidrug-resistant organisms in health care settings](#)
- CDC, [Interim Guidance for a Public Health Response to Contain Novel or Targeted Multidrug-Resistant Organisms \(MDROs\)](#)
- DHS, [Guidelines for Prevention and Control of MDROs for Health Care Settings, P-42513](#) (PDF)
- DHS [Wisconsin HAI Prevention Program staff contacts webpage](#)
- DHS, [Wisconsin HAI Prevention Program Reportable MDROs webpage](#)
- EPA, [Selected EPA Registered Disinfectants](#)