Wisconsin Protocol for Local and Tribal Health Departments: WEDSS Surveillance and Response for Targeted Multidrug-Resistant Organisms

Healthcare-Associated Infections (HAI) Prevention Program
Division of Public Health
Wisconsin Department of Health Services
# Table of Contents

Introduction and Purpose ................................................................................................................... 2

Carbapenemase-Producing Carbapenem-Resistant Enterobacterales (CP-CRE) ................................. 3

- Case Definition ................................................................................................................................. 3
- Interpretation Of Laboratory Tests ...................................................................................................... 4
- WSLH Submission Guidelines ........................................................................................................... 5

Carbapenemase-Producing Carbapenem-Resistant *Pseudomonas aeruginosa* (CP-CRPA) .............. 6

- Case Definition ................................................................................................................................. 6
- Interpretation of Laboratory Tests ...................................................................................................... 6
- WSLH Submission Guidelines ........................................................................................................... 7

Carbapenemase-Producing Carbapenem-Resistant *Acinetobacter baumannii* (CP-CRAB) ............ 8

- Case Definition ................................................................................................................................. 8
- Interpretation of Laboratory Tests ...................................................................................................... 8
- WSLH Submission Guidelines ........................................................................................................... 9

Initial Response Procedure for CRE, CRPA, and CRAB ................................................................. 11

*Candida auris* .................................................................................................................................. 12

- Case Definition ................................................................................................................................. 12
- WSLH Submission Guidelines .......................................................................................................... 13

Initial Response Procedure For *Candida auris* ................................................................................ 14

General Case Investigation for Targeted MDROs ............................................................................. 15
INTRODUCTION AND PURPOSE

The Centers for Disease Control and Prevention (CDC) have designated several MDROs to be of special interest for surveillance and interventions. As of July 1, 2022, confirmed or probably cases of the following four organisms are considered Category II reportable diseases in Wisconsin:

- Carbapenemase-producing carbapenem-resistant Enterobacterales (CP-CRE)
- Carbapenemase-producing carbapenem-resistant *Pseudomonas aeruginosa* (CP-CRPA)
- Carbapenemase-producing carbapenem-resistant *Acinetobacter baumannii* (CP-CRAB)
- *Candida auris*

This guide is intended to provide local and Tribal health departments (LTHDs) an overview on these four organisms. This guide can help LTHDs interpret lab results and determine the appropriate follow-up needed. Additional information and resources for these organisms can also be found on the DHS MDRO reportables web page.

**Note:** Since the LTHD initial response procedure (including the process for entering information into the Wisconsin Electronic Disease Surveillance System [WEDSS]) is very similar for CP-CRE, CP-CRPA, CP-CRAB, the initial response process for these three organisms is discussed starting on page 7. The initial response process for *Candida auris* cases is discussed separately on page 10.
CARBAPENEMASE-PRODUCING CARBAPENEM-RESISTANT ENTEROBACTERALES (CP-CRE)

Enterobacterales is an order of bacteria that include some pathogenic species, but also many that exist as normal flora in the human gastrointestinal tract. They can cause infections in health care settings and in people with underlying medical conditions. Most CRE infections involve the urinary tract, though they can also cause bloodstream infections, ventilator-associated pneumonia, and wound infections. Carbapenem-resistant isolates are almost always multidrug-resistant organisms (MDROs) and can be difficult to treat. The type of CRE that is most relevant in the public health setting is carbapenemase-producing CRE (CP-CRE), which contain a gene for an enzyme that attacks carbapenem antibiotics.

Case Definition

According to Wis. Admin. Code ch. DHS 145, CP-CRE is considered a Category II level notifiable condition in the state of Wisconsin, which mandates that the disease is reported within 72 hours upon recognition of a case or suspected case to the patient’s local health officer or to the local health officer’s designee. The case can be reported either using an Acute and Communicable Disease Case Report (DHS F-44151) delivered to the fax number or address on the form, or entered into the Wisconsin Electronic Disease Surveillance System (WEDSS). This reflects a change announced in April 2022 for a change from Category I to Category II status as of July 1, 2022.

CP-CRE is defined according to this statute as any Enterobacterales species that tests positive or indeterminate for carbapenemase production by a phenotypic method or positive for a carbapenemase resistance mechanism by molecular testing methods.

Note: The acronym CRE previously referred to “carbapenem-resistant Enterobacteriaceae,” where Enterobacteriaceae is a family of several common enteric bacterial species. Several of these were re-classified as their own families, and so the acronym changed in 2020 to refer to the order Enterobacterales instead. Many documents will probably still refer to Enterobacteriaceae and some providers will be more familiar with that nomenclature (see https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6989070/ for more background).

Confirmed: An isolate of Enterobacterales spp. that is positive for a carbapenemase resistance mechanism (e.g., KPC, NDM, VIM, IMP, OXA-48) by an FDA-approved or validated laboratory-developed test (e.g., PCR, Xpert® Carba-R), or sequencing method.

Probable: An isolate of Enterobacterales spp. for which the phenotypic test is positive or indeterminate (e.g., metallo-β-lactamase test, Carba NP, Carbapenem Inactivation Method [CIM], or modified CIM), but the molecular testing is negative or not performed.

Suspect: An isolate of Enterobacterales spp. that is resistant on antibiotic susceptibility tests at a clinical lab and is not sent to the Wisconsin State Laboratory of Hygiene (WSLH) or the test result at WSLH is inconclusive.
**Not a Case:** An isolate of Enterobacterales spp. that tests negative for production of carbapenemase. This includes any isolate that is not resistant to any carbapenem, as those will not be tested further.

**Interpretation Of Laboratory Tests**

Antibiotic susceptibility tests (AST) establish an antibiotic’s effectiveness against bacteria. Results can be “resistant” (antibiotic is not effective), “intermediate,” or “susceptible” (antibiotic is effective). Results of the test are reported on an antibiogram, which usually lists results for several different antibiotics. As part of its routine testing of CP-CRE, WSLH performs bacterial characterization, AST, the modified carbapenemase inactivation method (mCIM) phenotypic test for carbapenemase production, and if carbapenemase production is detected, individual PCR assays to identify what carbapenemases are present (KPC, NDM-1, IMP, VIM, and OXA-48.)

**Table 1. Resistant Results for Each Carbapenem**

<table>
<thead>
<tr>
<th>Carbapenem</th>
<th>MIC* breakpoints (µg/mL)</th>
<th>Zone Diameter (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doripenem</td>
<td>≥ 4</td>
<td>≤ 19</td>
</tr>
<tr>
<td>Ertapenem</td>
<td>≥ 2</td>
<td>≤ 18</td>
</tr>
<tr>
<td>Imipenem</td>
<td>≥ 4</td>
<td>≤ 19</td>
</tr>
<tr>
<td>Meropenem</td>
<td>≥ 4</td>
<td>≤ 19</td>
</tr>
</tbody>
</table>

**Table 2. Intermediate Results for Each Carbapenem**

<table>
<thead>
<tr>
<th>Carbapenem</th>
<th>MIC breakpoints (µg/mL)</th>
<th>Zone Diameter (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doripenem</td>
<td>2</td>
<td>20-22</td>
</tr>
<tr>
<td>Ertapenem</td>
<td>1</td>
<td>19-21</td>
</tr>
<tr>
<td>Imipenem</td>
<td>2</td>
<td>20-22</td>
</tr>
<tr>
<td>Meropenem</td>
<td>2</td>
<td>20-22</td>
</tr>
</tbody>
</table>

**Table 3.Susceptible Results for Each Carbapenem**

<table>
<thead>
<tr>
<th>Carbapenem</th>
<th>MIC breakpoints (µg/mL)</th>
<th>Zone Diameter (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doripenem</td>
<td>≤ 1</td>
<td>≥ 23</td>
</tr>
<tr>
<td>Ertapenem</td>
<td>≤ 0.5</td>
<td>≥ 22</td>
</tr>
<tr>
<td>Imipenem</td>
<td>≤ 1</td>
<td>≥ 23</td>
</tr>
<tr>
<td>Meropenem</td>
<td>≤ 1</td>
<td>≥ 23</td>
</tr>
</tbody>
</table>

*MIC = Minimum Inhibitory Concentration
Carbapenemase Production

• Phenotypic tests: non-specific tests that indicate production of any carbapenemase
  o Modified Carbapenemase Inactivation Method (mCIM): Zone 6–15 mm
  o Carba NP: Light orange, dark yellow, or yellow
  o Modified Hodge Test (MHT): Enhanced growth

• Molecular test
  o PCR (for KPC, NDM, OXA-48, OXA-23, OXA-24/40, OXA-58, IMP, or VIM)
  o Xpert Carba-R (for KPC, NDM, OXA-48, IMP, or VIM)

• Whole genome sequencing
  o Detected gene sequence for known resistance mechanism (KPC, NDM, OXA-48, IMP, or VIM)

**WSLH Submission Guidelines**

WSLH requests submission of isolates from all Enterobacterales species that meet any of the following categories:

• Resistant to any carbapenem antimicrobial*
• Positive for carbapenemase production using a phenotypic testing method
• Positive for a carbapenemase gene using molecular methods

*For bacteria that have intrinsic imipenem non-susceptibility (i.e., *Morganella morganii*, *Proteus* spp., *Providencia* spp.), resistance to a carbapenem other than imipenem is required.
CARBAPENEMASE-PRODUCING CARBAPENEM-RESISTANT PSEUDOMONAS AERUGINOSA (CP-CRPA)

*Pseudomonas aeruginosa* is a bacterial species that is commonly found in soil and water. Isolates of *P. aeruginosa* often have intrinsic resistance to many antibiotics. Carbapenemase-producing CRPA is rare, found in about two to three percent of *P. aeruginosa* isolates in the United States, but invasive infections with *P. aeruginosa* can cause serious illness or death. CP-CRPA has been associated with travel and receiving medical care abroad.

**Case Definition**

According to [BCD memo 2022-06](#), carbapenemase-producing carbapenem-resistant *Pseudomonas aeruginosa* (CP-CRPA) is considered a Category II level notifiable condition in the state of Wisconsin, which mandates that the case should be reported either using an Acute and Communicable Disease Case Report ([DHS F-44151](#)) delivered to the fax number or address on the form, or entered into the Wisconsin Electronic Disease Surveillance System (WEDSS), within 72 hours.

CP-CRPA is defined as any *Pseudomonas aeruginosa* isolate that tests positive or indeterminate for carbapenemase production by a phenotypic method or positive for a carbapenemase resistance mechanism by molecular testing methods.

**Confirmed**: An isolate of *Pseudomonas aeruginosa* that is positive for a carbapenemase resistance mechanism (e.g., KPC, NDM, VIM, IMP, OXA-48) by an FDA-approved or validated laboratory-developed test (e.g., PCR, Xpert® Carba-R), or sequencing method.

**Probable**: An isolate of *Pseudomonas aeruginosa* for which the phenotypic test is positive or indeterminate (e.g., metallo-β-lactamase test, Carba NP, Carbapenem Inactivation Method [CIM], or modified CIM), but the molecular testing is negative or not performed.

**Interpretation of Laboratory Tests**

Antibiotic susceptibility tests (AST) establish an antibiotic’s effectiveness against bacteria. Results can be “resistant” (antibiotic is not effective), “intermediate,” or “susceptible” (antibiotic is effective). As part of its routine testing of CP-CRPA, WSLH performs bacterial characterization, AST, the modified carbapenemase inactivation method (mCIM) phenotypic test for carbapenemase production, and if carbapenemase production is detected, individual PCR assays to identify what carbapenemases are present (KPC, NDM-1, IMP, VIM, and OXA-48.)

Table 4. Resistant Results for Each Carbapenem

<table>
<thead>
<tr>
<th>Carbapenem</th>
<th>MIC breakpoints (µg/mL)</th>
<th>Zone Diameter (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doripenem</td>
<td>≥ 8</td>
<td>≤ 15</td>
</tr>
<tr>
<td>Imipenem</td>
<td>≥ 8</td>
<td>≤ 15</td>
</tr>
<tr>
<td>Meropenem</td>
<td>≥ 8</td>
<td>≤ 15</td>
</tr>
</tbody>
</table>
Table 5. Intermediate Results for Each Carbapenem

<table>
<thead>
<tr>
<th>Carbapenem</th>
<th>MIC breakpoints (µg/mL)</th>
<th>Zone Diameter (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doripenem</td>
<td>4</td>
<td>16-18</td>
</tr>
<tr>
<td>Imipenem</td>
<td>4</td>
<td>16-18</td>
</tr>
<tr>
<td>Meropenem</td>
<td>4</td>
<td>16-18</td>
</tr>
</tbody>
</table>

Table 6. Susceptible Results for Each Carbapenem

<table>
<thead>
<tr>
<th>Carbapenem</th>
<th>MIC breakpoints (µg/mL)</th>
<th>Zone Diameter (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doripenem</td>
<td>≤ 2</td>
<td>≥ 19</td>
</tr>
<tr>
<td>Imipenem</td>
<td>≤ 2</td>
<td>≥ 19</td>
</tr>
<tr>
<td>Meropenem</td>
<td>≤ 2</td>
<td>≥ 19</td>
</tr>
</tbody>
</table>

Note: Ertapenem is not effective as a treatment for *Pseudomonas aeruginosa*.

Carbapenemase Production

- Phenotypic tests: types and results that indicate carbapenemase production.
  - Modified Carbapenemase Inactivation Method (mCIM): Zone 6–15 mm
  - Carba NP: Light orange, dark yellow, or yellow
  - Modified Hodge Test (MHT): Enhanced growth

- Molecular test
  - PCR positive (for KPC, NDM, OXA-48, IMP, or VIM)
  - Xpert Carba-R positive (for KPC, NDM, OXA-48, IMP, or VIM)

- Whole genome sequencing
  - Detected gene sequence for known resistance mechanism (KPC, NDM, OXA-48, IMP, or VIM)

WSLH Submission Guidelines

WSLH requests submission of *Pseudomonas aeruginosa* isolates that meet the following criteria:

- Resistant to at least one carbapenem (other than ertapenem) AND
- Non-susceptible (intermediate or resistant) to cefepime or ceftazidime.

This resistance profile has been shown to be much more likely to harbor carbapenemase genes. Exceptions can be made for isolates that are susceptible to cefepime and/or ceftazidime but are suspected of producing a carbapenemase. This may include, but is not limited to, when an isolate is from a patient with a history of hospitalization outside the United States or when there is suspicion of transmission within a facility.

Please do not submit CRPA isolates from cystic fibrosis patients. These isolates can be highly resistant but are most likely due to factors other than the presence of a carbapenemase.
CARBAPENEMASE-PRODUCING CARBAPENEM-RESISTANT ACINETOBACTER BAUMANNII (CP-CRAB)

*Acinetobacter baumannii* is of increasing concern to CDC and recent data indicates that many resistant isolates are carbapenemase-producing. Infections with carbapenemase producing CRAB (CP-CRAB) tend to occur among patients with indwelling medical devices, such as tracheostomies, and chronic wounds. Because CRAB can survive on surfaces in the patient environment, it can be very difficult to contain transmission between patients and residents, especially in long-term care facilities (LTCFs).

**Case Definition**

According to BCD memo 2022-06, carbapenemase-producing carbapenem-resistant *Acinetobacter baumannii* (CP-CRAB) is considered a Category II level notifiable condition in the state of Wisconsin, which mandates that the case should be reported either using an *Acute and Communicable Disease Case Report* (DHS F-44151) delivered to the fax number or address on the form, or entered into the Wisconsin Electronic Disease Surveillance System (WEDSS), within 72 hours.

CP-CRAB is defined as any *Acinetobacter baumannii* isolate that tests positive for a carbapenemase resistance mechanism by molecular testing methods.

**Confirmed**: An isolate of *Acinetobacter baumannii* that is positive for a carbapenemase resistance mechanism (e.g., KPC, NDM, VIM, IMP, OXA-48, OXA-23, OXA-24/40, or OXA-58) by an FDA-approved or validated laboratory-developed test (e.g., PCR, Xpert® Carba-R), or sequencing method.

Phenotypic tests for carbapenemase production, such as the modified carbapenemase inactivation method (mCIM), are not effective in CRAB and, therefore, not used.

**Interpretation of Laboratory Tests**

Antibiotic susceptibility tests (AST) establish an antibiotic’s effectiveness against bacteria. Results can be “resistant” (antibiotic is not effective), “intermediate,” or “susceptible” (antibiotic is effective). Results of the test are reported on an antibiogram, which usually lists results for several different antibiotics. As part of its routine testing of CP-CRAB, WSLH performs bacterial characterization, AST, and individual PCR assays to identify any carbapenemases (KPC, NDM-1, IMP, VIM, OXA-48, OXA-23, OXA-24/40, and OXA-58.)

**Table 7. Resistant Results for Each Carbapenem**

<table>
<thead>
<tr>
<th>Carbapenem</th>
<th>MIC breakpoints (µg/mL)</th>
<th>Zone Diameter (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doripenem</td>
<td>≥ 8</td>
<td>≤ 14</td>
</tr>
<tr>
<td>Imipenem</td>
<td>≥ 8</td>
<td>≤ 18</td>
</tr>
<tr>
<td>Meropenem</td>
<td>≥ 8</td>
<td>≤ 14</td>
</tr>
</tbody>
</table>
Table 8. Intermediate Results for Each Carbapenem

<table>
<thead>
<tr>
<th>Carbapenem</th>
<th>MIC breakpoints (µg/mL)</th>
<th>Zone Diameter (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doripenem</td>
<td>4</td>
<td>15-17</td>
</tr>
<tr>
<td>Imipenem</td>
<td>4</td>
<td>19-21</td>
</tr>
<tr>
<td>Meropenem</td>
<td>4</td>
<td>15-17</td>
</tr>
</tbody>
</table>

Table 9. Susceptible Results for Each Carbapenem

<table>
<thead>
<tr>
<th>Carbapenem</th>
<th>MIC breakpoints (µg/mL)</th>
<th>Zone Diameter (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doripenem</td>
<td>≤ 2</td>
<td>≥ 18</td>
</tr>
<tr>
<td>Imipenem</td>
<td>≤ 2</td>
<td>≥ 22</td>
</tr>
<tr>
<td>Meropenem</td>
<td>≤ 2</td>
<td>≥ 18</td>
</tr>
</tbody>
</table>

Note: Ertapenem is not effective as a treatment for *Acinetobacter baumannii*.

Carbapenemase Production

- Phenotypic tests: not used for CRAB isolates
- Molecular test
  - PCR (for KPC, NDM, IMP, VIM, OXA-48, OXA-23, OXA-24/40, OXA-58)
- Whole genome sequencing
  - Detected gene sequence for known resistance mechanism (KPC, NDM, IMP, VIM, OXA-48, OXA-23, OXA-24/40, OXA-58)

WSLH Submission Guidelines

WSLH requests submission of *Acinetobacter baumannii* isolates that meet any of the following categories:

- Resistant to any carbapenem antimicrobial
- Positive for a carbapenemase gene using molecular methods
INITIAL RESPONSE PROCEDURE FOR CRE, CRPA, AND CRAB

Import case into WEDSS.

1. CRPA and CRAB cases use the Carbapenemase-Producing Organisms Disease Incident.
2. CRE uses the Carbapenemase-Producing Carbapenem-Resistant Enterobacterales Disease Incident.

Determine case type (see case definition for more information).

1. If the lab result isn’t from WSLH or if the test is inconclusive:
   - Ensure that the isolate (if it meets WSLH submission guidelines) has been sent to WSLH for further testing.
   - Resolution status: Suspect.
2. If isolate is positive for a carbapenemase:
   - Follow up with submitting facility to get information on patient or resident and recommend appropriate precautions as outlined in this document.
   - Fill out case report form (CRF) and enter information into WEDSS.
   - Resolution status: Confirmed.
3. If the isolate is positive for a carbapenemase by a phenotypic test (mCIM, Carba-NP) and negative for any specific carbapenemase by PCR (this is rare):
   - Follow up with submitting facility to get information on patient or resident and recommend appropriate precautions as outlined in this document.
   - Fill out CRF and enter information into WEDSS.
   - Resolution status: Probable.
4. If the isolate tests negative for all carbapenemases (usually at WSLH):
   - Resolution status: Not a Case.

For all confirmed and probable cases:

1. Determine health care facility of origin and any other recent health care exposures.
2. Call infection control for any facility where the patient or resident was admitted or resides.
3. Ensure that the patient or resident has been placed into proper precautions, based on facility type and organism/mechanism:
   - Hospitals: contact precautions
   - LTCF: contact precautions or enhanced barrier precautions
   - Consult with your HAI Program Regional Infection Preventionist with questions regarding the appropriate precautions for the situation.

When resolution status is final and above steps are complete, set “process status” to sent to state.
**CANDIDA AURIS**

*Candida auris* is an emerging fungal pathogen that exhibits resistance against several important antifungals and is associated with high morbidity and mortality in infected patients. *Candida auris* (*C. auris*) can also be very difficult to identify using most identification methods. Any unusual *Candida* species isolated at clinical laboratories should be submitted to WSLH for further identification and antifungal susceptibility testing.

**Case Definition**

**Laboratory Criteria:**

Confirmatory laboratory evidence:

- Culture and identification of *C. auris* in a specimen collected from any body site
  OR
- Demonstration of *C. auris*-specific nucleic acid or protein in a specimen collected from any body site using a validated assay (e.g., PCR).

Presumptive laboratory evidence:

- Culture and identification of *Candida haemulonii* in a specimen collected from any body site using a yeast identification method that is not able to detect *C. auris* (see CSTE position statement 18-ID-05, Appendix 1)
  AND
- Isolate/specimen is not available for further testing OR isolate/specimen has not yet undergone further testing.

**Specimen Descriptions:**

- A **clinical specimen** is collected for the purpose of diagnosing disease in the normal course of care. It may be collected from any body site.
- A **colonization or screening specimen** is a swab collected from an individual without clinically compatible illness for the purpose of screening for *C. auris*, regardless of site swabbed. Typical screening specimen sites are skin (for example, axilla, groin), nares, rectum, or other external body sites.

**Wisconsin Surveillance Case Definition:**

*Candida auris*, clinical:

- **Confirmed**: An individual with clinical illness and a clinical specimen with confirmatory laboratory evidence of *C. auris*.
- **Probable**: An individual with clinical illness whose clinical specimen meets presumptive laboratory evidence and has an epidemiologic linkage.
• **Suspect**: An individual with clinical illness whose clinical specimen meets presumptive laboratory evidence but has no epidemiologic linkage.

*Candida auris*, colonized:

• **Confirmed**: An individual whose colonization or screening specimen meets confirmatory laboratory evidence.

• **Probable**: An individual whose colonization or screening specimen meets presumptive laboratory evidence.

**Criteria To Distinguish a New Case:**

• A person meeting clinical case criteria is counted once and **should not** be counted as a colonization or screening case if colonization is detected after clinical illness.

• A person meeting colonization or screening case criteria who later develops illness and meets clinical case criteria **should** be counted in both categories (in other words, separate WEDSS disease incidents).

**WSLH Submission Guidelines**

WSLH requests submission of *Candida* isolates that meet any of the following categories:

• *C. auris* or suspect *C. auris*

• Invasive isolates of *C. glabrata*

• *Candida* sp. that are unable to be identified

• Unusual *Candida* species (species other than *C. albicans*, *C. parapsilosis*, *C. dublinensis*, *C. lusitaniae*, *C. tropicalis*, or *C. krusei*)

• *Candida* sp. resistant to two or more antifungal classes
INITIAL RESPONSE PROCEDURE FOR CANDIDA AURIS

Import case into WEDSS.

Determine case type (see case definition for more information).

1. Determine if existing laboratory evidence is confirmatory or presumptive.
2. Determine if specimen is clinical or colonization
3. Classify case accordingly in WEDSS (Candida auris, clinical; Candida auris, colonized; Candida auris, unknown).
4. Determine whether case is confirmed, probable, or suspect.
   - For all probable and suspect cases, ensure that the isolate (if it meets WSLH submission guidelines) has been sent to WSLH for further testing.

For all confirmed and probable cases:

1. Determine health care facility of origin and any other recent health care exposures.
2. Call infection control for any facility where the patient or resident was admitted or resides.
3. Ensure that the patient or resident has been placed into proper precautions, based on facility type and organism/mechanism.
   - Hospitals: contact precautions
   - LTCF: contact precautions or enhanced barrier precautions
   - Consult with your HAI Program Regional Infection Preventionist with questions regarding the appropriate precautions for the situation.

When resolution status is final and above steps are complete, set “process status” to sent to state.
GENERAL CASE INVESTIGATION FOR TARGETED MDROS

Routine Case Investigation:

1. Collect patient or resident demographic and exposure information. The exposure information includes information on the health care encounter where the specimen was collected, the patient or resident’s health care encounter history from the previous year, and the patient or resident’s current living situation. An Infection Preventionist or Director of Nursing can typically gather this from the patient or resident’s medical record.
   ⇧ If you’re unsure where the patient’s specimen was collected, you may need to call the clinical lab that did the initial testing to find out.
2. Once information has been collected, enter it into the WEDSS disease incident.
3. Look for indications that the organism may have been acquired from the health care encounter or any indications of local transmission. This can include:
   ⇧ Previous negative cultures.
   ⇧ The first culture of this specific MDRO.
   ⇧ Culture collected ≥ 4 days since admission to the facility.
   ⇧ Other patients with the same MDRO in the same facility, unit, or wing around the same time.
4. Epidemiologists can pull exposure information from WEDSS to look for clusters of similar MDROs.
5. Connect with the HAI Prevention Program for next steps or any questions along the way.