Every Transfer Counts: Multidrug-Resistant Organism (MDRO) Communication Guide For Hospitals and Long-Term Care Facilities

Introduction

Purpose and Audience of the Guide

- This guide was created by the Virginia Healthcare-Associated Infections Advisory Group's (VHAG) annual priority workgroup addressing communication to combat the spread of multidrug-resistant organisms (MDROs) in Virginia.
- Its purpose is to provide practical tools and best practices to support hospital (acute care hospitals [ACHs] and long-term acute care hospitals [LTACHs]) and long-term care facilities' (skilled nursing facilities [SNFs], ventilator-capable SNFs [vSNFs], and nursing homes [NHs]) communication during patient/resident transfers. These actionable strategies can be tailored to a facility's workflows and resources.
- The audience is staff who are responsible for infection prevention and control (IPC) programs and evaluating processes for communication of MDRO statuses. This will vary by healthcare facility, but the roles may include but are not limited to: Infection Preventionists

(IPs), nursing leadership (Director of Nursing, Associate Director of Nursing), and case managers or care coordinators.

Background on MDROs and Communication

What Are MDROs

MDROs are microorganisms, mainly bacteria, that are resistant to one or more classes of antimicrobial agents (antibiotics and antifungals). Symptoms of MDRO infections may be mild in some people and severe in others, including death. Factors that can contribute to the infection's severity include history of antibiotic use, underlying health conditions, weakened immune response, and prolonged healthcare stays.

MDRO infections can be difficult to treat due to limited treatment options and can spread rapidly, especially in healthcare settings.

There are many different types of MDROs. Table 1 lists common MDROs and how they are defined based on microbiology results. If you need more information, please reach out to your local health department.

Table 1. MDRO Definitions

NAME	DEFINITION[+*]
Methicillin-resistant *Staphylococcus aureus* (MRSA)	*Staphylococcus aureus* that has tested resistant (R) to at least one of the following: oxacillin or cefoxitin
Vancomycin-resistant *Enterococcus* spp. (VRE)	Any *Enterococcus* spp. that has tested resistant (R) to vancomycin
Extended-spectrum cephalosporin-resistant Enterobacterales	Any *E. coli*, *Klebsiella oxytoca*, or *Klebsiella pneumoniae*. that has tested resistant (R) to at least one of the following: cefepime, ceftriaxone, cefotaxime, ceftazidime, ceftazidime-avibactam, or ceftolozane-tazobactam
Carbapenem-resistant Enterobacterales (CRE)	Any *Citrobacter* spp., *Enterobacter* spp., *E. coli*, *Klebsiella* spp., or *Serratia marcescens* that has tested resistant (R) to at least one of the following: imipenem, meropenem,doripenem, ertapenem, meropenem/vaborbactam, or imipenem/relebactam OR Any *Proteus* spp. or *Morganella morganii* that has tested resistant (R) to at least one of the following: meropenem, doripenem, ertapenem, or meropenem/vaborbactam
Carbapenemase-producing CRE	Enterobacterales with a positive result for carbapenemase production or produces one of the following enzymes: KPC, NDM, OXA-48, IMP or VIM.
Carbapenem-resistant *Pseudomonas aeruginosa* (CRPA)	*Pseudomonas aeruginosa* that has tested resistant (R) to at least one of the following: imipenem, meropenem, doripenem, or imipenem/relebactam

Multidrug-resistant *Pseudomonas aeruginosa*	*Pseudomonas aeruginosa* that has tested either intermediate (I) or resistant (R) to at least one drug in at least three of the following six categories: 1. Extended-spectrum cephalosporin (cefepime, ceftazidime, ceftazidime/avibactam, ceftolozane-tazobactam) 2. Fluoroquinolones (ciprofloxacin, levofloxacin) 3. Aminoglycosides (amikacin, gentamicin, tobramycin) 4. Carbapenems (imipenem, meropenem, doripenem, imipenem/relebactam) 5. Piperacillin/tazobactam 6. Cefiderocol
Carbapenemase-producing CRPA	*Pseudomonas aeruginosa* with a positive result for carbapenemase production or produces one of the following enzymes: KPC, NDM, OXA-48, IMP or VIM
Carbapenem-resistant *Acinetobacter* spp. (CRA)	Any *Acinetobacter* spp. that has tested resistant (R) to at least one of the following: imipenem, meropenem, or doripenem
Multidrug-resistant *Acinetobacter* spp.	Any *Acinetobacter* spp. that has tested either intermediate (I) or resistant (R) to at least one drug in at least three of the following seven categories: 1. Extended-spectrum cephalosporin (cefepime, ceftazidime, ceftriaxone, cefotaxime) 2. Fluoroquinolones (ciprofloxacin, levofloxacin) 3. Aminoglycosides (amikacin, gentamicin, tobramycin) 4. Carbapenems (imipenem, meropenem, doripenem) 5. Piperacillin/tazobactam 6. Ampicillin/sulbactam 7. Cefiderocol
Carbapenemase-producing CRA	*Acinetobacter* spp. with a positive result for carbapenemase production or produces one of the following enzymes: KPC, NDM, OXA-23, OXA-24/40, OXA-48, OXA-58, IMP or VIM.
***Candida auris* (*C. auris*)**	Detection of *C. auris* in a specimen using either culture or validated culture-independent test (e.g., nucleic acid amplification test [NAAT])

+ CDC. National Healthcare Safety Network Antimicrobial Use and Resistance Module. January 2026.
* Council for State and Territorial Epidemiologists. *Candida auris* 2023 Case Definition; Carbapenemase-producing Organisms 2023 Case Definition.

Why MDRO Communication Is Important

Timely **direct** communication of MDRO status is critical throughout all patient/resident transfers. If communication about a person's MDRO status doesn't occur, infection control steps may not be used to prevent them from spreading. A few missed communications about MDRO status can have widespread and long-term impact.

- Many people carry MDROs without feeling sick. This is called being "colonized". People who are colonized can still spread MDROs. This is called "silent spread".
- People with MDROs, whether colonized or infected (have symptoms of an infection), can typically have other health conditions and often be readmitted or have admissions at multiple healthcare facilities over time.

- People can then be exposed and become colonized with an MDRO, especially if they are at higher risk. People who are colonized are more likely to later develop an infection caused by the MDRO.
- If a person with an MDRO gets sick and medical providers do not know the person has an MDRO, this can delay the right treatment. MDRO infections can be serious, costly, and even deadly.

Table 2 MDRO Case Study

When MDRO Communication Fails: A Real-Life Case

A resident who was colonized with *C. auris* was transferred from a **long-term acute care hospital** (LTACH) to a **long-term care facility** (LTCF) without proper notification of the resident's history of *C. auris*. Consequently, the LTCF did not know to implement **IPC measures**. During the stay, the resident shared rooms with two others.

The *C. auris* status was only discovered a month later when the resident was transferred to an acute care hospital. Subsequent screening and an onsite IPC assessment by the **local health department** (LHD) at the LTCF revealed:

- **Transmission**: Both roommates tested positive for *C. auris* colonization.
- **Environmental cleaning gaps**: The facility was not using disinfectants effective against *C. auris* (e.g., EPA list P products).

To prevent further spread, the LHD provided support to the LTCF implement multidrug-resistant organism (MDRO) containment measures and improve cleaning practices.

This real-life scenario highlights the consequences of failing to communicate MDRO status.

- **Patient/resident impact:** Exposed residents became colonized and at increased risk for developing life-threatening, drug-resistant infections.
- **Resource burden:** Containment efforts by the LTCF and public health require significant time and resources.

What You Can Do to Help

- Evaluate your organization's communication processes for transferring or receiving patients with MDROs using this communication guide.
- Incorporate tools and best practices from this communication guide to help communicate patient/resident MDRO status during transfers.
- Proactively identify patients/residents at higher risk for infection or colonization with MDROs.
- Follow Standard Precautions for every patient/resident.
- Use Contact or Enhanced Barrier Precautions (nursing homes only) when applicable

Learn more about IPC for MDROs on the [Virginia Department of Health (VDH) MDRO webpage](#).

MDRO Communication Essentials

What Should Be Included in MDRO Communication

Key point

- Consistent and clear communication from sending and receiving facilities during transfers of patients/residents with MDROs is critical for MDRO prevention.

Clear and **timely communication** about a patient's or resident's MDRO status during transfers, whether within or between healthcare facilities, is critical. Sharing this information with personnel involved in transfer and receiving departments or facilities ensures that IPC measures are maintained throughout transitions of care, significantly reducing the risk of MDRO transmission.

TRANSFER COMMUNICATION SHOULD INCLUDE:

Sending Facility

- Call report **prior** to sending a patient/resident to another healthcare setting to share the patient's/resident's MDRO status.
- Specify the MDRO type, result date, source, infection vs. colonization status, and required precautions (e.g., Contact or Enhanced Barrier [nursing homes only]).

Receiving Facility

- Review the transfer information (e.g., forms and electronic records) to determine precautions needed and room placement (e.g., private room, appropriate cohorting).
- Inform the care team of the patient's/resident's MDRO status **prior** to receiving the patient/resident.
- Verify the MDRO status is flagged in the patient's/resident's chart.

General MDRO Communication Tools

How to Evaluate MDRO Transfer Communication

Key Point

- Evaluating existing communication processes, use of tools, and stakeholder collaboration is key to identifying and addressing any gaps to enhance communication.

Facilities should first identify key stakeholders and assess current processes to identify which information or tools are most relevant to strengthen MDRO transfer communication.

Use these questions to guide your assessment:

- **When does MDRO communication occur?**
  - At the time of transfer planning, not just at discharge?
  - Before patient or resident arrival at the receiving facility?
  - Immediately upon identification of MDRO status if discovered after transfer?
  - When an MDRO is identified from a pending lab culture collected before admission (i.e., from the transferring facility)?
  - When an MDRO is identified from a culture collected upon admission?
  - During readmissions or returns to healthcare facilities (e.g., after ED visits)?
- **How is information communicated?**
  - Is information communicated verbally and in writing?
  - Are standardized methods or tools used to communicate?
  - Does the patient's/resident's MDRO history make it into a chart for flagging for infection prevention precautions?
- **Where is MDRO status documented?**
  - Is it located where it is clearly visible and easy to find?
- **What is communicated?**
  - Is the type of MDRO, colonization vs. infection, specimen source, and result date communicated?
  - Are current infection prevention precautions communicated?
- **Who is communicating and receiving information?**
  - Who is communicating a patient's/resident's MDRO status?
  - Who is receiving a patient's/resident's MDRO status?
    - Does this include healthcare personnel responsible for implementing precautions and ensuring appropriate room placement?
    - If personnel receiving MDRO status are not responsible for implementing precautions, what are the facility's internal communication processes for ensuring appropriate room placement and precautions?

How to Improve MDRO Communication

The following are general MDRO communication resources available to hospitals and long-term care facilities that can be modified and adapted to help improve MDRO communication processes:

- **Admission Checklist** customizable for screening patients/residents during the admissions process
- **Interfacility Transfer Form** to send with a patient/resident during transfers
- **Virginia Healthcare Coordination Network Program Flags and Alerts** for *C. auris* and CPOs to identify at-risk patients upon admission to Virginia healthcare facilities
- **Emergency Medical Services (EMS) Communication Tool** to support communication about MDROs with EMS partners

Read on to learn more about these valuable resources.

Admission Checklist

VHAG encourages the use of a comprehensive admission checklist that can be used prior to admission of patients or residents.

- An example checklist created by VHAG can be modified and used by facilities lacking a current process or incorporated into an existing facility process. This checklist addresses only initial screening considerations for potential infectious conditions.

Inter-facility Transfer Form

An example inter-facility infection control transfer form, available from the Centers for Disease Control and Prevention (CDC), can assist in fostering communication during care transitions.

- Some of the information to note includes current or history of infections or colonization with MDROs or other infectious organisms, vaccinations, invasive devices, and wounds. Facilities can modify and adapt this tool to meet their specific needs.

Virginia Healthcare Coordination Network Program (VHCNP) MDRO Flags and Alerts

In addition to the required direct communication during patient/resident transfers, the VHCNP provides flags and alerts for ***C. auris*** and **CPOs.** These flags and alerts help identify Virginia residents with a history of ***C. auris*** or **CPOs** upon admission to participating Virginia healthcare facilities. Learn more about VHCNP on their webpage.

- The MDRO flags will show up in an enrolled facility's electronic health record (EHR) when patients/residents are admitted. These flag locations will vary based on the facility's electronic health record.
- In addition, email alerts are available to be sent to IPC staff or designated personnel.

- Note: These Flags are not meant to replace the recommended communication between transferring and receiving staff. They are an additional tool, as the alerts will only include *C. auris* and CPO information for Virginia residents known to VDH, and the data transfer is not in real time.

Emergency Medical Services (EMS) Communication Tool

Hospitals and LTCFs should work with their EMS partners to ensure a system to communicate MDRO status is established. VDH recommends using the Quick Guide for Emergency Medical Services (EMS) Multidrug-Resistant Organism (MDRO) Prevention from the Pennsylvania Department of Health which includes:

- IPC information on the background, transmission routes, and prevention measures for the following MDROs: *C. auris*, carbapenem-resistant organisms (e.g., Enterobacterales, *Acinetobacter baumannii*, *Pseudomonas aeruginosa*), and carbapenem-producing organisms.
- Interfacility communication examples (see Figure 1)

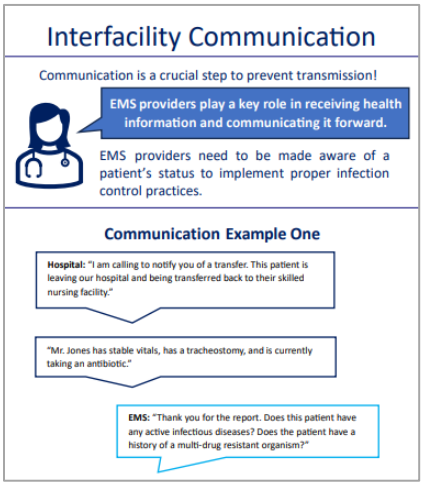


Figure 1: EMS Communication Example

Hospital and Long-Term Care Facility (LTCF) MDRO Communication Best Practices

Hospitals and LTCFs can leverage EHRs to improve communication of MDRO status and help proactively identify patients/residents who may have MDRO risk factors. Ways to optimize EHRs for MDRO communication include the following:

- **Integrate MDRO admission assessment questions** for the proactive identification of patients who may have risk factors for certain MDROs, such as *C. auris* or CPOs. At a minimum, this should include international healthcare exposure.
- **Improve visibility** of MDRO infection and isolation information in transfer documentation.
- **Share EHR access** with connected healthcare facilities.

Hospital Best Practices

Integrating MDRO Admission Assessment Questions

One best practice is to embed assessment questions into a facility's EHR to help them identify patients upon admission that may be at risk for being colonized with a CRO and implementing proactive precautions to prevent potential spread. Carilion Clinic Infection Prevention and Control has done this within their EHR (EPIC) admission assessment (Nursing Admission database):

- Automated assessment questions are based on their infection prevention risk assessment and included evaluating laboratory data to identify patients with CROs and associated risk factors. Example risk factors include:
    - Transfers from a high-risk facility (e.g., ventilator-capable skilled nursing facility) identified to more frequently have patients with CROs
    - Overnight international healthcare or invasive procedures within the past six months
    - Ventilator-dependent
- If a patient meets one of the risk factor criteria, an alert populates to instruct nursing to place the patient on Contact Precautions and collect surveillance cultures.
    - If the patient screens negative, precautions are discontinued, unless indicated for another reason. If the patient screens positive, precautions are continued and an MDRO flag is added to the patient's chart.

How You Can Incorporate This Best Practice

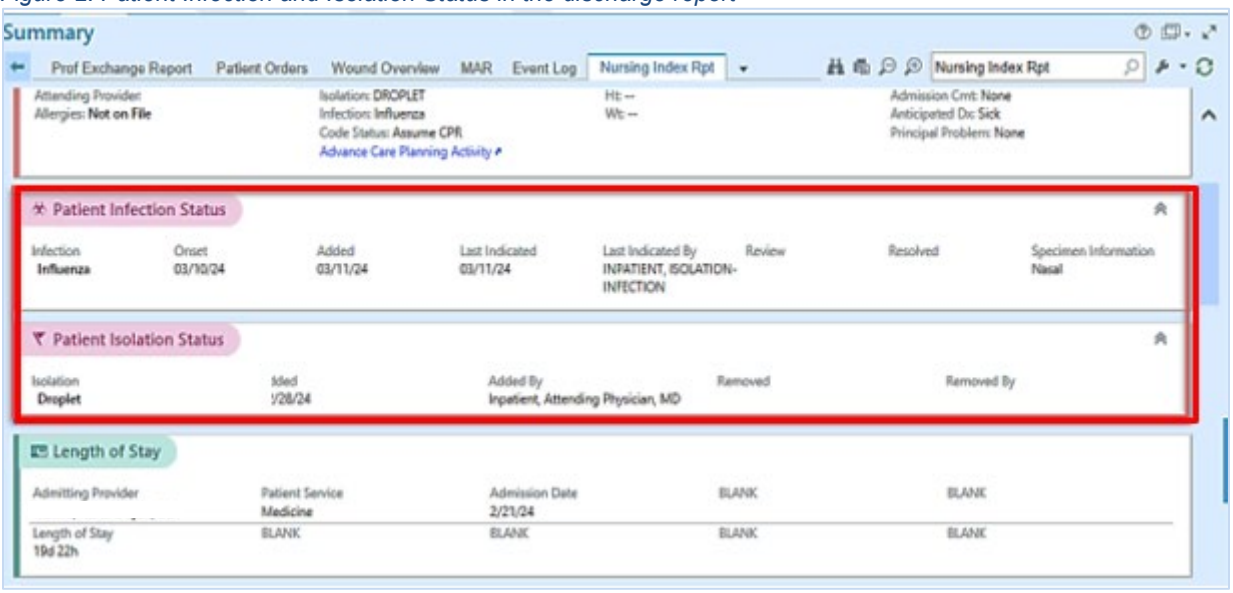
- Based on your IPC program's risk assessment, determine which MDROs of concern require proactive admission screening and the prompt infection prevention precautions. Priority MDROs should include CROs/CPOs or *C. auris*.
- Identify MDRO risk factors to capture during admission assessments.
    - At a minimum, CDC recommends identifying patients for preemptive Contact Precautions and screening if they have received healthcare outside the United States (e.g., overnight stay or invasive procedure) within the past 12 months for *C. auris* or 6 months for CPOs.
- Evaluate current admission assessment questions to identify if they are sufficient to identify patients with MDRO risk factors.
- Coordinate with EHR, Nursing, and related teams on implementing MDRO-specific assessment questions and interventions.
- Provide education to frontline staff on the purpose of the MDRO admission screenings and precautions when a patient is flagged with risk factors.

Improving Visibility of MDRO Infection and Isolation Information in Transfer Documentation

Carilion Clinic Infection Prevention and Control worked with their Information Technology/Epic teams to improve visibility of the infection and isolation information in their Epic Nursing Index Report and Transfer Report. This information is now located at the top of the reports.

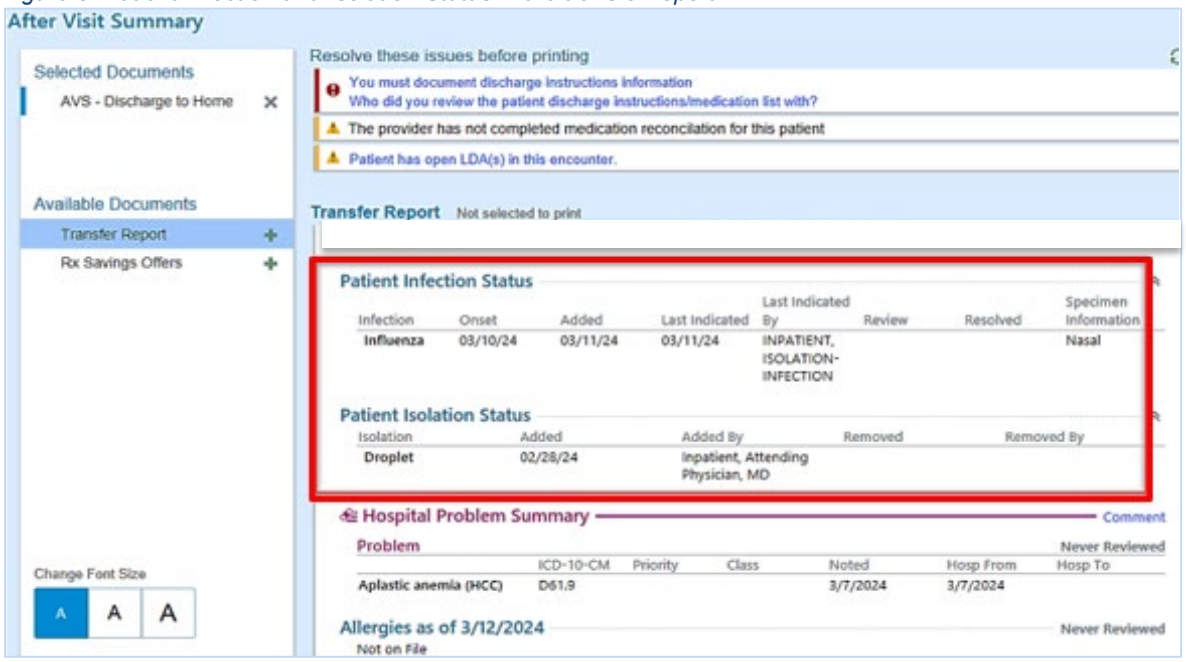
- Figure 2 shows the discharge report (DC to Nursing Home Index) and the Patient Infection Status and Patient Isolation Status (within the red box).

Figure 2: Patient Infection and Isolation Status in the discharge report



- Figure 3 shows the Patient Infection Status and Patient Isolation Status which are included in the transfer report (After Visit Summary)
    - Tip: If the information is not electronically shared through compatible EHR systems, ensure the print configuration shows the infection and isolation status early in the report (on the first page).

Figure 3: Patient Infection and Isolation Status in the transfer report



How You Can Incorporate This Best Practice

- Review your Epic Nursing Index Report and Transfer Report (or similar reports in your EHR) to identify if the infection and isolation information is visible and easily accessible for the receiving facility.

- Work with your Information Technology/EHR teams to optimize these reports to improve infection and isolation visibility.

LTCF Best Practice

One best practice for MDRO communication involves LTCFs and hospitals that share residents, also sharing EHR access. This ensures critical infection data is available whenever a resident is transferred between the facilities.

- Goodwin House Bailey's Crossroads staff have been granted access to the EHRs of the local hospitals they frequently receive residents from. This access has helped streamlined how they identify MDROs in newly admitted residents. By securely sharing this information, staff can implement the appropriate infection prevention precautions right away while still complying with privacy requirements.
    - **Access Process:** The Director of Health Information Services manages this process and requests access for specific team members. Once the hospital approves the request, the staff member receives an email with their login credentials.

How You Can This Incorporate This Best Practice

- Contact a representative at your local hospital (e.g., Infection Preventionist) to determine whether this access option is available and the appropriate department and procedure for requesting access.

References & Resources

Regulatory References

- Centers for Medicare and Medicaid Services (CMS)
    - Hospitals
        - 42 CFR 482.24(d) Condition of participation: Medical record services; Standard: Electronic notifications.
            - Psychiatric Hospitals: 42 CFR 482.61(f)
            - Critical Access Hospitals: 42 CFR 485.638(d)
        - 42 CFR 482.42(a) Infection prevention and control program organization and policies
        - 42 CFR 482.43 Condition of participation: Discharge planning
    - Long-Term Care Facilities
        - 42 CFR 483.15(c) Admission, transfer, and discharge rights; Transfer and discharge
        - 42 CFR 483.21(c) Comprehensive person-centered care planning; Discharge planning
        - 42 CFR 483.80 Infection control
- Det Norske Veritas (DNV) National Integrated Accreditation for Healthcare Organizations (NIAHO) Standards SR.6b The organization shall have a documented process, policies and procedures to define how infections and communicable diseases are prevented, controlled and investigated throughout the organization, to include not only the organization but between the organization and other institutions or settings. These policies and procedures will include:
    - A process for identifying, reporting, investigating, preventing, controlling infections and communicable diseases, to include both inpatient and outpatient populations as well as organization staff.
- The Joint Commission 2026 National Performance Goal #5 (NPG): Preventing and Controlling Infection Elements of Performance 1: To prioritize the program's activities, the hospital identifies risks for infection, contamination, and exposure that pose a risk to patients and staff based on the following:

- Its geographic location, community, and population served
- The care, treatment, and services it provides
- The analysis of surveillance activities and other infection control data
- Relevant infection control issues identified by the local, state, or federal public health authorities that could impact the hospital
- Note: Risks may include organisms with a propensity for transmission within health care facilities based on published reports and the occurrence of clusters of patients (for example, norovirus, respiratory syncytial virus, influenza, measles, organisms with antimicrobial resistance such as Carbapenem-resistant Enterobacterales [CRE] and *Candida auris*)

MDRO Guidance and Resources

- CDC Management of Multidrug-Resistant Organisms in Healthcare Settings
- CDC Enhanced Barrier Precautions (EBP) for Nursing Homes
- CDC Containment Strategy for Novel or Targeted MDROs
- CDC Prevention Strategy for Novel or Targeted MDROs
- VDH Multidrug-Resistant Organisms (MDROs) webpage
- VDH Carbapenem-Resistant Organisms and Carbapenemase-Producing Organisms: Infection Prevention and Control for Healthcare Facilities
- VDH *C. auris*: Infection Prevention and Control for Healthcare Facilities
- VDH Epidemiology Fact Sheets