Guidelines for Multi-Drug Resistant Organisms Outbreaks
in Long-Term Care Facilities (LTCFs)

West Virginia Department of HEALTH
BUREAU FOR PUBLIC HEALTH

Define the outbreak:

Multidrug-Resistant Organisms (MDROs)	Bacteria resistant to one or more classes of commonly used antimicrobial agents, such as methicillin-resistant *Staphylococcus aureus* (MRSA), vancomycin-resistant *enterococcus* (VRE), carbapenemase-producing organsisms (CPO) and carbapenem-resistant organisms (CRO), including *Enterobacterales*, *Acinetobacter, and Pseudomonas.*
Colonized	The presence of an organism, such as a novel or targeted MDRO, on or in an individual's body without causing signs or symptoms of infection. A colonized person is sometimes referred to as a "carrier".
Infection	MDRO in or on a body site WITH clinical signs of infection (e.g., fever, lesions, wound drainage) requiring medical evaluation. Infection usually warrants treatment.
Case Definition	A resident newly identified as infected or colonized with a MDRO.
Outbreak Definition	An increase in the number of MDRO cases above and beyond the endemic level (baseline level) in a certain facility/unit in a specific time period.
Note	Infection or colonization with a MDRO is not valid grounds for denial of admission to a LTCF.

Prior to having an outbreak:

1. **Administrative Measures**
   - Make MDRO prevention a patient safety priority.
   - Implement systems to communicate MDRO status.
   - Supply personnel and other resources necessary for prevention and control.
   - Make hand hygiene (HH) facilities available, accessible, and conveniently located.
   - Place alcohol-based hand hygiene dispensers as close to the entrance to resident-occupied areas as possible.
   - Maintain appropriate staffing levels.
   - Consider implementing enhanced barrier precautions
2. **Educate**
   - Provide training upon hire and annually (more often as necessary) and include return demonstration for performing HH.
   - Provide training upon hire and annually (more often as necessary) and include return demonstration for donning and doffing personal protective equipment (PPE).
   - Train residents and visitors on HH and infection prevention practices.
3. **Maintain Ongoing Surveillance**
   - Conduct audits for HH, PPE, and cleaning and disinfecting.
   - Review data on compliance with HH, contact precautions, environmental cleaning, antibiotic use, and other infection prevention measures.
   - Maintain systems to track MDRO status of residents. Should include a confidential line listing of residents colonized and/or infected with targeted MDROs.

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- Consider colonization screening for MDROs upon admission.
- Calculate rates of MDRO cases per 1000 resident days per month.
    - Share surveillance information with medical staff, infection control committee, and other committees as necessary.

4. **Antibiotic Use and Antibiotic Stewardship**
    - Implement and adhere to the core elements of antibiotic stewardship. https://www.cdc.gov/antibiotic-use/hcp/core-elements/nursing-homes-antibiotic-stewardship.html
    - Review the role of antimicrobial use in perpetuating the MDRO problem.
    - Use narrow spectrum agents, avoiding excessive duration of therapy and restricting use of more potent antibiotics to the treatment of serious infections.
5. **Frequently clean and disinfect high-touch surface areas (bed rails, doorknobs, bathroom fixtures, etc.)**

When you have an outbreak:

1. **Administrative Measures**
    - Report the suspected outbreak immediately to the local health department.
    - Notify the facility infection preventionist.
    - Consider obtaining infectious disease consultation.
        - Consultation with an infectious disease specialist is highly recommended when caring for patients with *C. auris* infection.
    - Ensure appropriate signage on the resident's door to alert health care personnel (HCP) and visitors of recommended precautions. www.cdc.gov/infectioncontrol/pdf/contact-precautions-sign-P.pdf
    - Depending on the extent of the outbreak and the MDRO involved, restricting admissions to the facility and/or transfers to the affected unit(s) may be considered while the outbreak is ongoing.
    - Notify receiving facilities and/or units of MDRO status. www.cdc.gov/hai/prevent/prevention_tools.html
    - Reinforce infection control procedures throughout the facility.
2. **Educate**
    - Boost staff training for HH, cleaning, and disinfecting.
    - Train residents and visitors on HH and infection prevention practices. Explain the risks of visitation during an outbreak.
3. **Surveillance**
    - Start a line listing of all known infected and colonized residents with the outbreak of the MDRO.
    - Review 3 months, retrospectively and prospectively, of microbiology records to identify unrecognized cases of the MDRO.
    - Increase HH, PPE, and Environmental Services (EVS) audits.
        - Ten audits per shift are recommended during outbreaks.
4. **Testing**
    - Save isolates of the MDRO for possible molecular typing.

- Colonization screening upon admission is recommended.
  - Additional screening will be recommended based on the tier level of the organism. www.cdc.gov/hai/mdro-guides/containment-strategy.html

5. **Room Placement**
   - Single patient rooms are preferred for patients who require Contact Precautions. If not available, consultation with infection control is recommended to decide which residents with MDROs can be cohorted. If cohorting is not possible, residents colonized or infected with MDROs should not be placed with roommates who are severely immunocompromised.
   - In multi-patient rooms greater than 3 feet of separation between beds is advised to reduce the opportunities for inadvertent sharing of items. Draw the privacy curtain between beds to minimize direct contact.
   - Establish a cohort of residents who are positive for the outbreak MDRO. Staff should be restricted to caring for only one cohort of residents. Restrict floating of staff.
   - Dedicate non-critical patient-care equipment to the isolated patient.
   - Change PPE and perform hand hygiene between contact with patients in the same room, regardless of whether one or both patients are on Contact Precautions.
   - Use Transmission Based Precautions. Institute Contact Precautions for residents who are positive for the outbreak MDRO.
6. **Increase cleaning and disinfecting.**
   - Use a U.S. Environmental Protection Agency (EPA) registered hospital-grade disinfectant effective against the MDRO, according to the manufacturer's instructions. (e.g. List P for *Candidozyma auris*.)
   - Intensify and reinforce education of environmental services staff. Pay special attention to recommended cleaning and disinfection procedures.
   - Consider assigning dedicated staff to target areas to standardize cleaning practices and monitor.

NOTE: These guidelines are not a substitute for literature review, professional judgment, and consultation with experienced infection preventionists.

REMEMBER: Outbreaks are immediately reportable to your local health department! For further questions or information contact the Office of Epidemiology and Prevention Services at 304-558-5358.

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