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

WEST VIRGINIA Department of Health & Human Resources
BUREAU FOR PUBLIC HEALTH

Definitions

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), carbapenem-resistant Enterobacteriaceae (CRE), and multi-drug resistant *Acinetobacter or Pseudomonas.*

Colonized: MDRO in or on a body site; WITHOUT clinical signs or symptoms of illness or infection

Infected: MDRO in or on a body site WITH clinical signs of infection (e.g., fever, lesions, wound drainage) requiring medical evaluation.

Case definition: A resident newly identified as infected or colonized with an MDRO

Outbreak Definition: An increase in the number of MDRO cases above and beyond the endemic level (baseline level) in certain facility/unit in a specific time period.

Prior to Having an Outbreak:

1) **Administrative measures:** Make MDRO prevention and control an organizational priority and supply personnel and other resources necessary for prevention and control. Identify a trained infection preventionist to support these efforts.
2) **Maintain ongoing MDRO surveillance:** Identify cases of MDROs by monitoring laboratory reports. Record information for each MDRO case on a line list. Calculate rates of MDRO cases per 1000 resident days per month. Share surveillance information with medical staff and infection control committee. Use surveillance data to detect outbreaks and unusual clusters or patterns of transmission.
3) **Tracking and notification:** Maintain a system to track MDRO status of residents. When transferring patients to other facilities notify them of patient MDRO status.
4) **Educate:** *Staff* should receive regular training on MDROs, hand hygiene (HH), standard and isolation precautions and appropriate use of PPE (personal protective equipment). *Residents and families* should also be educated on HH and standard personal hygiene.
5) **Hand washing facilities:** Make HH facilities available, accessible and conveniently located. Place alcohol-based hand hygiene dispensers as close to the entrance to resident-occupied areas as possible and between each bed in multiple-bed rooms. Check supplies of soap and towels regularly.
6) **Room placement:** Place MDRO colonized / infected patients in a private room. If private rooms are not available, cohort patients with the same MDRO in the same room. If cohorting is not possible, MDRO patients may be placed with a non-colonized roommate IF:
   - Roommate has NO immunosuppression or broken skin (includes recent post-operative patients) or renal failure AND
   - Both roommates are able to wash their hands AND
   - MDRO patient DOES NOT HAVE high risk characteristics such as urinary or fecal incontinence or draining wound
7) **Modified contact precautions:**
   - For mainly independent residents, use standard precautions, making sure that gloves and gowns are used for contact with uncontrolled secretions, pressure ulcers, draining wounds, stool incontinence and ostomy tubes/bags.
   - For residents totally dependent upon healthcare personnel for healthcare and activities of daily living and for those residents whose secretions or drainage cannot be contained, use contact precautions:
     - Wear gloves when touching the patient's intact skin or surfaces and articles in close proximity to the patient. Don gloves upon entry into the room.
     - Wear a gown whenever anticipating that clothing will have direct contact with the patient or potentially contaminated environmental surfaces or equipment in close proximity to the patient. Don gown upon entry into the room. Remove gown and perform HH before leaving the patient-care environment.
     - After gown removal, assure that clothing does not contact patient or patient care environment
   - For MDRO patients without draining wounds, diarrhea, or uncontrolled secretions establish ranges of permitted ambulation, socialization, and use of common area based on their risk to other patients and on the ability of the patient to observe proper HH and other recommended precautions to contain secretions and excretions.

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8) **Environmental measures:** Prioritize room cleaning and disinfection of frequently touched surfaces (e.g., bed rails, bedside commodes, bathroom fixtures in patient room, doorknobs) and equipment in the immediate vicinity of the patient. Use hospital grade disinfectant according to manufacturer's instructions. Dedicate non-critical items (e.g., blood pressure cuff, thermometer) for use on individual MDRO patients.
9) **Antimicrobial stewardship:** Establish multidisciplinary (i.e., medical staff, nursing, pharmacy) efforts to improve antibiotic use.
10) **Monitor** staff compliance with HH, standard and isolation precautions and environmental cleaning on a regular basis. Monitor antibiotic use. Share data with facility administrators and supervisors and infection control (or Quality Assurance) committee. If performance is inadequate, intervene to improve performance.
11) It is not recommended that LTCF denies admission or require pre-admission culture to any MDRO infected or colonized individuals. The facility should develop strategies to accommodate these individuals

When you have an Outbreak

1) Report the suspected outbreak immediately to your local health department.
2) **Administrative measures:** Obtain expert infection prevention consultation. Review data on compliance with HH, contact precautions, environmental cleaning, antibiotic use and other infection prevention measures. Assure the LTCF has adequate staffing and adequate resources for infection prevention and control.
3) **Education:** Intensify education of patients and family. Intensify staff training about HH, room placement, contact precautions, environmental cleaning.
4) **Antimicrobial stewardship:** Review the role of antimicrobial use in perpetuating the MDRO problem. Consider obtaining infectious disease consultation.
5) **Surveillance:**
   - Start a line listing of all known infected and colonized residents with the outbreak MDRO.
   - Review 6-12 months of microbiology records to identify unrecognized cases of the MDRO.
   - Save isolates of the MDRO for possible molecular typing.
   - Consult an experienced infection preventionist or epidemiologist regarding:
     - Point prevalence surveys or active surveillance cultures
     - Case-control or descriptive epidemiological studies
     - Observational studies of HH, compliance with contact precautions and environmental cleaning
     - Cultures of environmental surfaces or healthcare workers, if epidemiologically indicated
6) **Contact precautions:** Intensify contact precautions for the MDRO of interest:
   - Don gowns and gloves before or on entry to the patient's room
   - Allow MDRO patients whose site of colonization or infection can be appropriately contained and who can observe good hand hygiene practices to enter common areas and participate in group activities.
   - Consider cohorting residents and staff.
   - If the outbreak is uncontrolled despite intensive measures, stop new admissions to the affected facility or unit until the outbreak is controlled.
7) **Environmental measures:** Intensify environmental control measures.
   - Implement patient-dedicated use of non-critical equipment.
   - Intensify training and enforcement of environmental cleaning measures.
   - Monitor environmental cleaning.
   - Consider assigning dedicated staff to target areas in order to standardize cleaning practices.
8) **Monitor and adjust interventions according to surveillance data.**

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 DIDE.

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