COUNTY OF LOS ANGELES
Public Health

Infection Control Risk Assessment Guidelines for Long Term Care Facilities

CRE: ☐ **MDRO:** ☐ **Novel MDRO (specify organism):** ______________________

CRE Definition
• **Carbapenem-resistant Enterobacteriaceae (CRE):** Any *Escherichia coli*, *Klebsiella oxytoca, Klebsiella pneumoniae,* or *Enterobacter* spp. testing resistant to imipenem, meropenem, doripenem, or ertapenem
Novel MDRO Definitions
• **Rare carbapenemase-producing organisms:** ○ **Non-KPC producing CRE:** CRE that test positive for IMP, NDM, VIM, and/or OXA carbapenemases via PCR ○ **Carbapenemase-producing *Pseudomonas aeruginosa*: *Pseudomonas aeruginosa*** that test positive for KPC, IMP, NDM, VIM, and/or OXA carbapenemases via PCR ○ **Carbapenemase-producing *Acinetobacter baumanii*: *Acinetobacter baumanii*** that test positive for KPC, IMP, NDM, VIM, and/or OXA carbapenemases via PCR • **Colistin-resistant organisms (via mcr gene):** Enterobacteriaceae isolates with MIC to colistin of 4 μg/ml or higher; OR by production of the *mcr-1, -2*, or *-3* gene demonstrated by PCR. Note: *Proteus, Providencia, Serratia*, or *Morganella* have intrinsic resistance to colistin and do not require *mcr* testing. • **Vancomycin-intermediate or resistant *Staphylococcus aureus* (VISA/VRSA)** • ***Candida auris***

COUNTY OF LOS ANGELES Public Health

- **Use the below guidelines to:**
    - Identify "High Risk" and "Low Risk" residents in your facility
    - Follow recommendations below regarding infection control measures and inter-facility transfers:

High Risk Residents **Contact precautions are necessary if one or more of the following risk factors are present:**	**Low Risk Residents** **Contact precautions may not be necessary but enhanced standard precautions are recommended for lower risk CRE colonized or infected residents who have all of the following:**
☐ 1. Post-acute care and still debilitated by recent hospitalization ☐ 2. Completely dependent on assistance for activities of daily living (ADLs) ☐ 3. Ventilator-dependent ☐ 4. Incontinent of stool or urine and stool or urine cannot be reliably contained ☐ 5. Wounds with drainage that is difficult to control ☐ 6. Cognitively unable to maintain personal hygiene	☐ 1. Continent of stool and urine ☐ 2. Less dependent on staff for activities of daily living ☐ 3. Cognitively able to follow instructions to perform hand hygiene ☐ 4. Do not have draining wounds

RECOMMENDATIONS	
A. Infection Control Measures	
High	**Low**
• Ensure strict contact precautions for high risk residents colonized or infected with CRE/MDRO. • For high risk residents, use dedicated staff and monitor staff adherence to hand hygiene and/or environmental cleaning policies.	• Strict standard precautions should be observed. • Consider contact precautions: ○ If the resident is dependent on staff for assistance with ADLs (e.g. toileting, bathing, changing briefs) ○ Contact with colonized/infected sites or body fluids such as dressing changes
• **The determination to discontinue contact precautions should be made on a case-by-case basis**, depending on the clinical and functional status of the resident, i.e., when the resident's	

COUNTY OF LOS ANGELES Public Health

secretions or drainage can be contained, and how dependent the resident is on staff for activities of daily living. Repeated bacterial culturing to demonstrate CRE clearance is not necessary to discontinue contact precautions.

- **Daily resident care equipment** such as a blood pressure cuff, pulse oximeter, thermometer, glucometer, and stethoscope should be dedicated for use by only the resident with CRE/MDRO. Non-dedicated equipment should be disinfected after use and before leaving the CRE/MDRO resident's room.
- **If more than one CRE/MDRO infected or colonized resident** is identified at a facility, staff caring for residents with CRE should be cohorted, if feasible (i.e., staff caring for residents with CRE/MDRO should not care for residents who do not have CRE on the same shift).
- **As a supplemental measure**, daily chlorhexidine bathing should be considered for all LTCF residents in facilities with a resident with CRE/MDRO, particularly if there are multiple cases of CRE. If residents with CRE/MDRO are cohorted to one ward, chlorhexidine use may be confined to that ward.

Room Placement

- Residents known to be infected or colonized with CRE/MDRO should be placed in a private room with a private bathroom whenever feasible. Priority for a private room should be given to residents who are at higher risk of transmission and those being treated for an active CRE/MDRO infection.
- If private rooms are not available, efforts should be made to cohort residents with CRE/MDRO (the same infectious agent) to confine their care to one area, and to prevent spread to susceptible patients, otherwise compatible residents who are at lower risk for acquiring CRE (e.g. residents that do not have indwelling devices, do not have open wounds, and are less dependent on staff for ADLs).

Environmental Considerations

- Alert facilities management services (or housekeeping equivalent) to the room number of any CRE infected or colonized resident.
- Ensure thorough daily (or more frequently, if visibly soiled) cleaning and disinfection of high-touch surfaces in the room, particularly those near the resident (e.g., bed, bed rails, bed table), and outside the room in common areas.
- Ensure that cleaning and disinfection are performed using a product registered as an EPA detergent/disinfectant, and that the manufacturer's recommendations for dilution and contact time are followed.
    - If feasible, monitor the thoroughness of cleaning (e.g., UV fluorescence marker, ATP bioluminescence monitor, etc.).

B. Inter-facility Transfer

- Before any transport of a resident with CRE/MDRO to a different healthcare facility, the receiving facility and transport team must be notified of the resident's CRE/MDRO status using an inter-facility transfer form
    - The transfer form may be found in the resources section below

COUNTY OF LOS ANGELES
Public Health

- Facilities with ongoing CRE/MDRO outbreaks should inform facilities where they transport or transfer residents about the presence of CRE/MDRO in their resident population. Receiving facilities may screen such residents for CRE/MDRO and place them in pre-emptive contact precautions pending the result.
- Per the 2010 California Department of Public Health All Facility Letter 10-27, HCF cannot refuse admission or re-admission of a patient/resident based on colonization or infection status alone. You may work with your facility's infection preventionist (IP) to provide infection control recommendations to the transferring facility or refer them to the Healthcare Outreach Unit for additional guidance and/or resources.

- **For more detailed guidance see California Association or Communicable Disease Controllers (CACDC).** Recommendations for Infection Control for Residents with CRE in Long-Term Care Facilities. 1-6. and other resources provided below.

COUNTY OF LOS ANGELES Public Health

Carbapenem-resistant Enterobacteriaceae (CRE) and Novel MDROs Resources

Resources for Healthcare Facility Staff

1. **LACDPH CRE webpage: http://publichealth.lacounty.gov/acd/Diseases/CRE.htm**

2. **CDPH Recommendations for Infection Control for Residents with CRE in Long-Term Care Facilities from the CRE Workgroup of California Association of Communicable Disease Controllers (CACDC) January 21, 2016**
   https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/CareofCREinLongTermCareFacilities.pdf

3. **CDPH CRE Quicksheet (March 2018)**
   https://www.cdph.ca.gov/Programs/CHCQ/HAI/CDPH%20Document%20Library/CREQuicksheetMarch2018.pdf#search=CDPH%20CRE%20Quicksheet%20%28March%202018%29

4. **CDPH CRE webpage:**
   https://www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/CRE_InfectionPreventionStrategies.aspx

5. **CDPH – Adherence Monitoring Tools:**
   https://www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/MonitoringAdherenceToHCPracticesThatPreventInfection.aspx

6. **CDPH- All Facility Letter (AFL) 10-27: (Update Pending)**
   https://www.cdph.ca.gov/Programs/CHCQ/LCP/Pages/LNCAFL10.aspx

7. **CDC Facility Guidance for Control of Carbapenem-resistant Enterobacteriaceae (CRE) November 2015 Update - CRE Toolkit** https://www.cdc.gov/hai/pdfs/cre/CRE-guidance-508.pdf

8. **CDC Carbapenem-resistant Enterobacteriaceae (CRE) Infection: Clinician FAQs**
   https://www.cdc.gov/hai/organisms/cre/cre-clinicianFAQ.html

9. **CDC Carbapenem-resistant Enterobacteriaceae in Healthcare Settings**
   https://www.cdc.gov/HAI/organisms/cre/

10. **CDC Interim guidance for Public Health Response to Contain Novel or Targeted MDROs**
    https://www.cdc.gov/hai/outbreaks/docs/Health-Response-Contain-MDRO.pdf

Inter-Facility Communication Tools (When transferring a resident to other healthcare facilities)

1. **LACDPH- Healthcare Facility Transfer Form (template):**
   http://publichealth.lacounty.gov/acd/docs/FacilityTransferForm.pdf

Educational Resources for Patients and Their Families

1. **LACDPH- Carbapenem-Resistant Enterobacteriaceae (CRE) An informational booklet**
   http://publichealth.lacounty.gov/acd/docs/CREBooklet.pdf

2. **CDPH HAI Program "Me and My Family" webpage**:
   https://www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/MeAndMyFamily.aspx

3. **CDC- Get Smart about Antibiotics webpage**: https://www.cdc.gov/getsmart/community/index.html

4. **CDC- CRE Information for Patients**: https://www.cdc.gov/hai/organisms/cre/cre-patients.html

5. **Carbapenemase-Producing Organisms Patient Education:**
   http://publichealth.lacounty.gov/acd/Diseases/CPO.htm