Los Angeles County Department of Public Health

Health Officer Order for the Reporting of Carbapenem-Resistant Enterobacteriaceae (CRE) and Antimicrobial Resistance (AR)

A Review of the Reporting Requirements and Instructions

February 2017
Overview

• CRE Overview and Definition
• Reporting for Facilities Enrolled in NHSN
  – Group info
  – Required elements
• Reporting for Facilities Not Enrolled in NHSN
  – Using the CRE Epidemiology Report Form- SNFs only
• Antibiogram Reporting Instructions
  – How to submit
  – Recommendations for preparation
• Updates and Resources
CRE in Los Angeles County

• Voluntary CRE data reported into NHSN in 2015 from 22 hospitals
  – Pooled mean HO rate: 0.94 per 10,000 pt days
• Public Health Lab Enhanced CRE surveillance program
  – Over 600 isolates submitted by 30 laboratories in LAC
  – Predominant carbapenemase identified: KPC
• No current estimates of CRE since 2010-2012 CRKP surveillance period
CRE and AR Health Officer Order

• Issued January 19, 2017 to acute care hospitals and skilled nursing facilities (SNFs) in Los Angeles County
• Mandated the following:
  – Facilities enrolled in NHSN report CRE via LabID
  – SNFs not enrolled in NHSN report via submission of CRE Epidemiology Report Form and lab report to LACDPH Morbidity Unit
  – All facilities that create an antibiogram to provide the most recent report to LACDPH annually
Reporting in Other Health Jurisdictions

- Pasadena Public Health Department and Long Beach Department of Health and Human Services issued their own Orders with the same reporting mandate to ACHs and SNFs in their jurisdictions
  - Facilities in those jurisdictions who are enrolled in NHSN will also join the LA County CRE NHSN group to fulfill the reporting requirement
  - Facilities not enrolled in NHSN will report to their local health department
CRE Surveillance Definition

Any *Escherichia coli*, *Klebsiella oxytoca*, *Klebsiella pneumoniae*, or *Enterobacter* spp. demonstrating resistance by one or more of the following methods:

- Resistant to imipenem, meropenem, doripenem, or ertapenem by standard susceptibility testing methods (i.e., minimum inhibitory concentrations of ≥4 mcg/mL for doripenem, imipenem and meropenem or ≥2 mcg/mL for ertapenem) **OR**
- Production of a carbapenemase (e.g., KPC, NDM, VIM, IMP, OXA-48) demonstrated using a recognized test (e.g., polymerase chain reaction (PCR), metallo-β-lactamase test, modified-Hodge test, Carba-NP, Carbapenem Inhibition Method (CIM)).
Reporting for Facilities Enrolled in NHSN
Compliance with Reporting Via NHSN

• Join new LA County CRE Group
• Confer rights to new group – February 28th deadline
• Add CRE to monthly reporting plan
• Create custom reporting fields
• Note this applies to all healthcare facilities enrolled in NHSN within Los Angeles County, Pasadena, and Long Beach Public Health jurisdictions
Joining **New** LA County CRE NHSN Group

- In the left menu bar select Group → Join
- In the Memberships page:
  - Enter Group ID: **49773**
  - Enter Group Joining Password: **lacdph** (all lowercase)
  - Click ‘Join Group’
- Click the LA County CRE name in the Groups box
- Click ‘Confer Rights’
Conferring Rights

- Order requires the inclusion of patient identifiers for all CRE cases
  - Specified Identifiers: Name, Gender, DOB, Ethnicity, Race
  - Surveys: going from 2017 forward (leave ‘to’ blank)
Conferring Rights (cont.)

Under MDRO/CDI Events:
1. Location Type: FACWIDE
2. Location: FacWIDEIn
   i. **NOTE**: Selecting FacWIDEIn will automatically add ED and 24-HR observation areas to your reporting locations.
3. Specific Organism Type: CRE – CRE (CRE-Ecoli, CRE-Enterobacter, CRE-Klebsiella)
4. Event Type: LABID – Laboratory-identified MDRO or CDI Event
   i. **NOTE**: Do not select Blood Specimens only. The Health Officer Order specifies CRE from any specimen source is to be reported.
Adding CRE to Monthly Reporting Plan

• If you already have LabID CRE in your monthly reporting plan check to make sure you are reporting All Specimens

• From NHSN menu bar selecting Reporting Plan → Find
  – In Month field select ‘January’
  – In Year field select ‘2017’
  – Once in the January 2017 plan scroll down to bottom of screen and select ‘Edit’
### Adding CRE to Monthly Reporting Plan (cont.)

**Add Monthly Reporting Plan**

Mandatory fields marked with *

- **Facility ID**: NHSN State Users Test Facility #1 (ID 12345)
- **Month**: January
- **Year**: 2012

- **No NHSN Patient Safety Modules Followed this Month**

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**Multi-Drug Resistant Organism Module**

<table>
<thead>
<tr>
<th>Location</th>
<th>Specific Organism Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACWIDEIN - Facility-wide Inpatient (FacWIDEin)</td>
<td>CRE - CRE (CRE-Ecoi, CRE-Enterobacter, CRE-Klebsiella)</td>
</tr>
<tr>
<td><strong>Process and Outcome Measures</strong></td>
<td></td>
</tr>
<tr>
<td>Surveillance</td>
<td>AST-Timing</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>ER - EMERGENCY ROOM</td>
<td>CRE - CRE (CRE-Ecoi, CRE-Enterobacter, CRE-Klebsiella)</td>
</tr>
<tr>
<td><strong>Process and Outcome Measures</strong></td>
<td></td>
</tr>
<tr>
<td>Surveillance</td>
<td>AST-Timing</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>LAB ID ER - LAB ID ER</td>
<td>CRE - CRE (CRE-Ecoi, CRE-Enterobacter, CRE-Klebsiella)</td>
</tr>
<tr>
<td><strong>Process and Outcome Measures</strong></td>
<td></td>
</tr>
<tr>
<td>Surveillance</td>
<td>AST-Timing</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>OBS - 24 HOUR OBS</td>
<td>CRE - CRE (CRE-Ecoi, CRE-Enterobacter, CRE-Klebsiella)</td>
</tr>
</tbody>
</table>
Custom Reporting Fields

• Additional information is being requested for reported cases including prior healthcare exposures

• Note: 5 Custom Fields must be created in the order listed on the next slide, as NHSN will label the variables ‘custom 1’, ‘custom 2’, etc.
Custom Reporting Fields (cont.)

1. **ADMIT_FACILITY**: name of facility that transferred the patient to your facility
2. **DATE_LAST_CRE**: Enter the date of the last CRE positive test for the patient in the current admission, regardless of specimen source
3. **DISCHARGED_TO**: If known, indicate the name of the facility to which the patient was discharged
4. **DIED**: Indicate Yes, No, or Unk if the patient died during current hospitalization
5. **DATE_DEATH.D/C**: Enter the date the patient was discharged; or if the patient died, enter the date of death here
1. Click under ‘Label’ field and type in ADMIT_FACILITY
2. Click under ‘Type’ field and from drop down menu select Alphanumeric
3. Click under ‘Status’ field and select ‘Active’
4. Click ‘Add Row’ to add the next Custom Variable Field and continue until all 5 variables are created
Summary Data Entry

• For each month you report into NHSN, you must enter corresponding facility level data
  – i.e., Total Patient Days, Total Facility Admissions, etc.

• **Note:** if you did not have a positive test for one or more of the specific CRE organisms in the Summary Data months, you must check the ‘Report No Events’ box for the individual organism

<table>
<thead>
<tr>
<th>Specific Organism Type</th>
<th>CRE- Ecoli</th>
<th>Report No Events</th>
<th>CRE- Enterobacter</th>
<th>Report No Events</th>
<th>CRE- Klebsiella</th>
<th>Report No Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infection Surveillance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LabID Event (All specimens)</td>
<td>✔️ ✔️</td>
<td>✔️</td>
<td>✔️</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LabID Event (Blood specimens only)</td>
<td>✔️ ✔️</td>
<td>✔️</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Sample Event Entry – Patient Information

Ensure that you are entering the required patient information fields, including name, DOB, Gender, and Race/Ethnicity.
Completion of this section is also required by the Health Officer Order if your laboratory tests for the presence of a carbapenemase.
If the last physical overnight location for the patient was a SNF or other inpatient facility please complete this section regardless of when the specimen was collected during the admission.
NHSN Summary

- Ensure you join and confer rights to the new LA County CRE NHSN group
- Add CRE reporting of all specimens to monthly plan
- Create custom variables
- Ensure reporting of carbapenemase testing
Reporting for Facilities Not Enrolled in NHSN
Reporting in Other Jurisdictions

- SNFs in Pasadena Public Health Department or Long Beach Department of Health and Human Services jurisdictions will report to the appropriate health department.

- Long Beach DHHS reporting info
  - Submit lab report via fax to (562) 570-4374
  - Questions to Emily Holman: emily.holman@longbeach.gov

- Pasadena PHD reporting info
  - Submit CMR and lab report via fax to (626) 744-6115
  - Questions to (626) 744-6089
Reporting to LACDTPH Morbidity Unit

- CRE Epidemiology Report Form will be available at http://ph.lacounty.gov/acd/EpiForms.htm
- Submit completed CRE Epi Form and laboratory report with susceptibility data to:
  - LACDTPH Morbidity Unit at (888) 397-3778
- Note: reference lab submission of lab report does not fulfill the reporting requirement; CRE Epi Form must be submitted
CRE Epidemiology Form – Patient Information

• Similar to the standard LACDPH CMR form, include:
  – patient information (name, DOB, etc.)
  – reporting facility name, address
  – name and phone number of the person submitting the report
CRE Epidemiology Form - Diagnostic Information

• This section of the form is similar to the NHSN event entry form
  – Specimen and organism information
  – Testing methods
    • Was the isolate tested for carbapenemases?
    • If so, what was the result?

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**DIAGNOSTIC TESTS**

<table>
<thead>
<tr>
<th>Organism identified:</th>
<th>Date of collection:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Klebsiella spp.</td>
<td></td>
</tr>
<tr>
<td>E. coli</td>
<td></td>
</tr>
<tr>
<td>Enterobacter spp</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specimen source:</th>
<th>Date of collection:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood</td>
<td></td>
</tr>
<tr>
<td>Sputum</td>
<td></td>
</tr>
<tr>
<td>Wound- sterile site</td>
<td></td>
</tr>
<tr>
<td>Wound- non-sterile site</td>
<td></td>
</tr>
<tr>
<td>Urine</td>
<td></td>
</tr>
<tr>
<td>Rectal swab</td>
<td></td>
</tr>
<tr>
<td>Other:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Patient status at time specimen was collected:</th>
<th>Date of collection:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colonization</td>
<td></td>
</tr>
<tr>
<td>Infection</td>
<td></td>
</tr>
<tr>
<td>Unsure/unknown</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Was the bacterial isolate tested for the presence of a carbapenemase?</th>
<th>Date of collection:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Unk</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>If Yes, which tests were done (check all performed):</th>
<th>Date of collection:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broth MIC</td>
<td></td>
</tr>
<tr>
<td>PCR</td>
<td></td>
</tr>
<tr>
<td>ETest</td>
<td></td>
</tr>
<tr>
<td>CarbaNP</td>
<td></td>
</tr>
<tr>
<td>MHT</td>
<td></td>
</tr>
<tr>
<td>Unk</td>
<td></td>
</tr>
<tr>
<td>Other (specify):</td>
<td></td>
</tr>
</tbody>
</table>

If Yes, what carbapenemase was detected (check all that apply):

- Klebsiella pneumoniae carbapenemase (KPC)
- New Delhi metallo-β-lactamase (NDM)
- Imipenemase (IMP)
- OXA-48-like
- Verona integron-encoded metallo-β-lactamase (VIM)
- Negative/none detected
- Other specify:________________________
CRE Epidemiology Form - Healthcare Presentation

• Information for this section should be taken from the resident’s current admission
  – If resident was admitted from a different healthcare facility in the 4 weeks prior to current positive test, indicate the type of facility and its name (if known)
  – Indicate if and where the resident has been discharged to, or if they have died - include dates

<table>
<thead>
<tr>
<th>HEALTHCARE PRESENTATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of admission:</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Was the resident admitted from a healthcare facility in the four weeks prior to their current positive test?</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

If Yes, what type of facility?
- Hospital  □  LTAC  □  Other SNF

Facility name: _______________________

Disposition:
- Current resident  □  Discharged to hospital  □  Discharged to LTAC  □  Discharged to another SNF
- Discharged home  □  Date of discharge: ____________  □  Died - Date of Death: ____________

Additional notes:
Non-NHSN Reporting Summary

• For facilities in Pasadena and Long Beach:
  – Report to your health department using the appropriate CMR form

• For facilities in LAC:
  – Report to the LACDPH Morbidity Unit
  – Complete the CRE Epidemiology Report Form, and include the final lab report including susceptibility testing
Antibiogram Reporting Instructions
Submission of Antibiogram Data

• Mandated facilities include:
  – General acute care hospitals
  – Long-term acute care hospitals
  – Skilled nursing facilities

• Submit annual antibiograms via email by June 1st
  – LA County and Long Beach: hai@ph.lacounty.gov
  – Pasadena: hai@cityofpasadena.net
Requirements

• Submit data in Excel format (.xls or .xlsx)
• Include (%S) from all specimen sources
• Report number of isolates tested for each drug-bug combo
• Report 1 year of inpatient data only

More information can be found in Section 1 of the “Instructions for Complying with the 2017 Antibiogram Reporting Requirements” document
Recommendations for Preparation of an Antibiogram

• Include only final, verified results
• Include only drugs that are routinely tested
  – Do not include those tested on request, by reflex, or via stepped/cascade testing protocol
• Include the first isolate per patient per year
• Exclude results obtained from surveillance studies
• Use most current breakpoints (when possible)

More information can be found in Section 2 of the “Instructions for Complying with the 2017 Antibiogram Reporting Requirements” document
### Example Submission Template

<table>
<thead>
<tr>
<th>Organism Name</th>
<th>Ampicillin</th>
<th>Ceftaroline</th>
<th>Ceftriaxone</th>
<th>Ciprofloxacin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total number of isolates (N)</td>
<td>N isolates tested</td>
<td>%S</td>
<td>N isolates tested</td>
</tr>
<tr>
<td>E. faecalis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E. faecium</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enterococcus spp.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methicillin-resistant Staphylococcus aureus</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methicillin-sensitive Staphylococcus aureus</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Streptococcus agalactiae (Group B Strep)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Streptococcus pneumoniae (Group A Strep)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Streptococcus pneumoniae (meningitis)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Streptococcus pyogenes</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

N/A: not applicable  
*less than 30 isolates tested

1. Available at: [http://publichealth.lacounty.gov/acd/antibiogram.htm](http://publichealth.lacounty.gov/acd/antibiogram.htm)
Antimicrobial Stewardship & Resources

LACDPH Website:
http://publichealth.lacounty.gov/acd/AntimicrobialStewardship.htm
Updates & More Resources

LACDPH Website:
http://publichealth.lacounty.gov/acd/antibiogram.htm
LACDPH CONTACTS

- LA County hospitals: contact your LA County LPHN
- LA County SNFs: hai@ph.lacounty.gov

- CRE reporting updates: http://publichealth.lacounty.gov/acd/Diseases/CRE.htm
- Antibiogram reporting updates: http://publichealth.lacounty.gov/acd/antibiogram.htm