



# APIC<sup>®</sup>

## Government Affairs

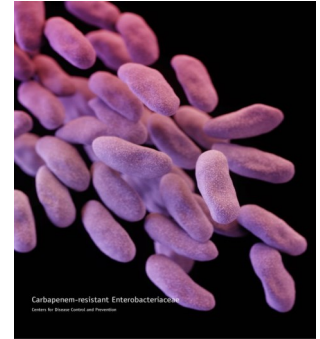


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THE ASSOCIATION FOR PROFESSIONALS IN INFECTION CONTROL AND EPIDEMIOLOGY

## Summary of State CRE Reporting Requirements

APIC has compiled CRE reporting information for the states that require statewide reporting. Helpful links are included in each summary to provide easy navigation to state government websites.



### Alaska

Effective December 29, 2013, healthcare providers or laboratories are required to report carbapenemase-producing *Enterobacteriaceae* (CRE) to the Alaska Department of Health and Social Services - Division of Public Health within five working days after suspecting or identifying the condition. Reports should include information on the name, address, date of birth, sex, ethnicity, and race of the person diagnosed as having the reported disease or other condition, whether that person is pregnant, whether the diagnosis is laboratory-confirmed, and the name and address of the healthcare provider reporting the disease or other condition. The state is currently developing surveillance requirements for identifying carbapenemase-producing *Enterobacteriaceae*.

[Alaska Department of Health and Social Services - Division of Public Health regulations](#)

### Colorado

Through regulatory action effective November 30, 2012, the Colorado Department of Public Health and Environment (CDPHE) made CRE reportable to the CDPHE or can be reported through the state's web-based system, Colorado Electronic Disease Reporting System by laboratories within seven days. CRE is defined as:

- *Escherichia coli*, *Klebsiella* species, and *Enterobacter* species that are intermediate or resistant to at least one carbapenem (including imipenem, meropenem, doripenem, or ertapenem) AND resistant to all third-generation cephalosporins tested (including ceftriaxone, cefotaxime, and ceftazidime);  
OR
- *Escherichia coli*, *Klebsiella* species, and *Enterobacter* species that test positive for carbapenemase production (by any method, including the Modified Hodge Test, disk diffusion, or PCR).

[Colorado Department of Public Health and Environment reportable conditions](#)



## Delaware

Effective September 11, 2013, carbapenem-resistant *Enterobacteriaceae* (CRE; invasive or urine only) was added to the Delaware Department of Health and Social Services list of notifiable diseases/conditions. Drug resistant organisms including CRE are required to be reported to the Division of Public Health within 48 hours.

[Delaware Department of Health and Social Services—Division of Public Health regulations](#)

## Florida

Through the regulatory process and effective June 4, 2014, Florida required laboratories to report to the Department of Health positive laboratory findings related to antimicrobial resistance for *Acinetobacter baumannii*, *Citrobacter* species, *Enterococcus* species, *Enterobacter* species, *Escherichia coli* species, *Klebsiella* species, *Pseudomonas aeruginosa*, *Serratia* species. The report must be made electronically through the Department's electronic laboratory reporting process before the close of the next business day; paper reports are not required. Laboratories are required to submit antimicrobial susceptibility results for the specified isolates that have been collected from a normally sterile site.

[Florida Department of Health regulations](#)

## Illinois

Effective November 1, 2013, Illinois Department of Public Health (IDPH) regulations require hospitals, hospital-affiliated laboratories, independent laboratories, long-term care facilities, and long-term acute care hospitals to report the first CRE isolate obtained from any source during each unique patient/resident encounter, including those obtained for active surveillance or clinical decision making that meets the surveillance criteria must be reported to IDPH's Extensively Drug-Resistant Organism (XDRO) registry within seven calendar days after the test result is finalized. Laboratory tests that may be used to detect CRE are:

- Molecular test (e.g., polymerase chain reaction [PCR]) specific for carbapenemase;
- OR
- Phenotypic test (e.g., Modified Hodge) specific for carbapenemase production
- OR
- For *Escherichia coli* and *Klebsiella* species only: nonsusceptible to one of the following carbapenems: doripenem, meropenem, or imipenem and resistant to all of the following third generation cephalosporin that were tested: ceftriaxone, cefotaxime, and ceftazidime.

[Illinois Department of Public Health amended regulations](#)

## Maryland

Beginning November 7, 2013, laboratory directors are required to report Carbapenem-resistant *Enterobacteriaceae* (CRE) to the Maryland Department of Health and Mental Hygiene (DHMH) Office of Infectious Dis-

eases Epidemiology and Outbreak Response within one business day. All CRE isolates should be reported to the DHMH Laboratories Administration. CRE is defined as *Enterobacteriaceae* (including but not limited to *E. coli*, *Klebsiella* spp, *Enterobacter* spp) from any source that is:

- Non-susceptible to any carbapenem (Imipenem, Meropenem, Doripenem or Ertapenem) AND resistant to all third-generation cephalosporins tested (Cefotaxime, Ceftriaxone, or Ceftazidime)  
OR
- Found to be a carbapenemase-producer via phenotypic testing (Modified Hodge Test, etc) or genotypic testing (PCR)

The preferred method of reporting CRE is through the electronic laboratory report, however the [DHMH CRE Case Report Form](#) or an automated testing instrument (ATI) report can be used when electronic reporting is not available. The reports should contain date of report; patient name; patient date of birth; patient sex; patient residence; lab name; lab accession number; specimen collection date; specimen source; organism isolated.

[Maryland DHMH CRE reporting notice](#)

## Massachusetts

In November 2013, carbapenemase-producing and/or carbapenem-resistant *Enterobacteriaceae* was added to the list of antimicrobial resistant organisms that all laboratories should report directly to the Massachusetts Department of Public Health through secure electronic laboratory reporting mechanisms. Laboratory reports should include the name of a laboratory contact, the specified test results, date of specimen collection, source of specimen, and the case's full name, date of birth, sex, race/ethnicity, full address, and name of principal healthcare provider, when available. The Clinical and Laboratory Standards Institute (CLSI) for reporting antimicrobial susceptibility apply when detecting CRE.

[Massachusetts Department of Public Health Final Regulations](#)

## Montana

Effective June 7, 2013, private and clinical laboratories began submitting, when possible, all suspected and identified CRE isolates to the Montana Public Health Laboratory (MTPHL). MTPHL analyzes and confirms the existence or absence of CRE. The state Healthcare Associated Infection Program works with all affected entities to address system issues associated with CRE.

[Montana Department of Public Health and Human Services Administrative Rules](#)

## New York

CRE became a statewide reportable condition as of July 1, 2013 through the regulatory process. Hospitals are required to report CRE infections of in-patients facility wide to NHSN. Carbapenem-resistant *Enterobacteriaceae* *Escherichia coli* and *Klebsiella* infections as identified by the laboratory should be reported. Specific testing for the presence of a carbapenemase is not required for the purposes of NHSN reporting. New

York uses the [NHSN definitions](#) for which isolates should be reported.

[New York State Department of Health HAI Reporting Program Getting Started Guide](#)

## North Dakota

Following regulatory actions, organisms with reduced susceptibility to carbapenem, including *Klebsiella pneumoniae* carbapenemase, and Carbapenem-resistant *Enterobacteriaceae*, have been required to be reported within seven days to the North Dakota Department of Health since January 1, 2011. Isolates or samples should be sent to the North Dakota Public Health Laboratory.

[North Dakota Department of Health reportable conditions](#)

## Oregon

CRE became a reportable event through regulatory action in 2011. Providers and laboratories should notify local public departments of a CRE case within one working day. Clinical and reference laboratories will forward isolates (collected from sterile sites and urine) to the Oregon State Public Health Laboratory. A confirmed case of CRE is defined as:

- are non-susceptible (i.e. intermediate or resistant) to ANY carbapenem (e.g. doripenem, ertapenem, imipenem, meropenem) AND resistant to ANY of the following third generation cephalosporins tested: cefotaxime, ceftriaxone, or ceftazidime. (Breakpoints for the carbapenems are listed below):

Agent	Breakpoints predating 2010 Update (µg/mL) (through Jan. 2010; M100-S-19)			2012 Breakpoints (µg/mL) (revised Jun. 2010 and Jan. 2012; M100-S22)		
	Susceptible	Intermediate	Resistant	Susceptible	Intermediate	Resistant
Doripenem	n/a	n/a	n/a	≤1	2	≥4
Ertapenem	≤2	4	≥8	≤0.5	1	≥2
Imipenem	≤4	8	≥16	≤1	2	≥4
Meropenem	≤4	8	≥16	≤1	2	≥4

- possess/contain a gene sequence specific for carbapenemase; (PCR) or
- are positive for carbapenemase production by a phenotype test (e.g., Modified Hodge).

Oregon uses a [three tier system](#) for assessing the relative importance of a particular CRE organism; Tier 1: Carbapenemase-Producing CRE (CP-CRE); Tier 2: CRE with acquired resistance NOT due to carbapenemase production; Tier 3: CRE due to intrinsic (natural) resistance.

[Oregon Health Authority CRE reporting guidelines](#)

## South Carolina

In January 2011, CRE (*Escherichia coli* and *Klebsiella pneumoniae*) was included on the South Carolina De-

partment of Health and Environmental Control’s list of reportable conditions through regulatory actions. CRE was also included on the 2012 list of reportable conditions, but was not included on the 2013 list. However, officials from the Department of Health and Environmental Control confirm that CRE is a mandatory reportable condition and must be reported using NHSN.

[South Carolina Department of Health and Environmental Control CRE page](#)

## South Dakota

As of July 1, 2013, CRE was added to the list of mandatory reportable disease list following regulatory action. CRE must be reported to the South Dakota Department of Health within three days. CRE is defined as Enterobacteriaceae (namely *Klebsiella* species and *Escherichia coli*) that are:

- nonsusceptible to one of the following carbapenems: Doripenem, meropenem, or imipenem;  
AND
- Resistant to all of the following third-generation cephalosporins: ceftriaxone, cefotaximen, and ceftazidime.

South Dakota uses the following breakpoints for susceptibility:

Agent	Breakpoints predating 2010 Update (µg/mL) (through Jan. 2010; M100-S-19)			2012 Breakpoints (µg/mL) (revised Jun. 2010 and Jan. 2012; M100-S22)		
	Susceptible	Intermediate	Resistant	Susceptible	Intermediate	Resistant
Doripenem	n/a	n/a	n/a	≤1	2	≥4
Ertapenem	≤2	4	≥8	≤0.5	1	≥2
Imipenem	≤4	8	≥16	≤1	2	≥4
Meropenem	≤4	8	≥16	≤1	2	≥4

[South Dakota Department of Health list of reportable conditions](#)

## Tennessee\*

Beginning in 2011 after regulatory additions, Carbapenem-resistant *Enterobacteriaceae* infections are required to be reported to the local, regional or state health departments along with a PH-1600 form within one week. Isolates are required to be submitted to the State Laboratory. Case report data should be entered into the National Electronic Disease Surveillance System (NEDSS). At present, resistance (intermediate or resistant) to any of the carbapenems among any of the *Enterobacteriaceae* from any specimen source is reportable in Tennessee. The state uses the following Clinical Laboratory Standards Institute (CLSI) guidelines for resistance:

Agent	Disk Diffusion (mm)			MIC (µg/mL)		
	Susceptible	Intermediate	Resistant	Susceptible	Intermediate	Resistant
Doripenem	≥23	20-22	≤19	≤1	2	≥4
Ertapenem	≥23	20-22	≤19	≤0.25	0.5	≥1
Imipenem	≥23	20-22	≤19	≤1	2	≥4
Meropenem	≥23	20-22	≤19	≤1	2	≥4

[Tennessee Department of Health list of reportable diseases](#)

\* Tennessee is currently revising the case definition for CRE.

## Texas

Through the regulatory process, Texas Department of State Health Services mandated the reporting of carbapenem-resistant E. Coli and Klebsiella species beginning April 20, 2014. The criteria for reporting is:

- Nonsusceptible (i.e. intermediate or resistant) to ANY one of the following carbapenems: doripenem, meropenem, or imipenem;
- A positive phenotypic test for carbapenemase production (e.g., Modified Hodge Test), or
- A positive gene sequence test, specific for a carbapenemase (a positive PCR test). Current PCR carbapenemase tests include: KPC, NDM, VIM, IMP, or OXA48-like.

Healthcare providers should use the [EPI-2 form](#) for reporting purposes and include a copy of the lab report, carbapenems tested, susceptibility of antibiotics, minimum inhibitory concentration (MIC), positive phenotypic or PCR test, if applicable.

[Texas Department of State Health Services CRE webpage](#)

## Utah

In May 2013 following regulatory change, CRE described as:

- *Acinetobacter* species with resistance or intermediate resistance to carbapenem (meropenem and imipenem) from any site;
- *Escherichia coli* with resistance or intermediate resistance to carbapenem (meropenem, ertapenem, and imipenem) from any site;
- *Klebsiella* species with resistance or intermediate resistance to carbapenem (meropenem, ertapenem, and imipenem) from any site;

are reportable to the local health department or to the Bureau of Epidemiology within the Utah Department of Health within three business days. Isolates are not required to be submitted.

[Utah Department of Health list of reportable diseases](#)

## Washington

The Washington State Department of Health began tracking CRE in October 2012 by voluntary reporting of cases. Healthcare facilities, providers and laboratories are requested to report suspected cases of CRE to the local health jurisdiction. Laboratories should submit suspected CRE isolates to the Washington State

Department of Health Public Health Laboratories within two business days for confirmatory testing. The suspected CRE case definition is:

- Enterobacteriaceae in a human biological specimen that is non-susceptible (intermediate or resistant) to ertapenem, doripenem, imipenem, or meropenem;  
AND
- resistant to all tested 3rd generation cephalosporins.

The confirmed CRE case definition after testing at a lab that uses traditional methods of antimicrobial susceptibility testing and follows the latest CLSI breakpoints (M100-S22) is:

- *Escherichia coli*, *Klebsiella* species, and *Enterobacter* species resistant to all third generation cephalosporins and non-susceptible to one or more carbapenems;  
OR
- other Enterobacteriaceae resistant to all third generation cephalosporins and non-susceptible to two or more carbapenems.

Confirmed cases of CRE undergo polymerase chain reaction (PCR) testing for common carbapenemase genes, including KPC, NDM, VIM, IMP and OXA 48.

[Washington State Department of Health CRE reporting guideline](#)

## West Virginia

Effective August 12, 2013 laboratories are required to report all positive CRE tests to the local health department within one week. CRE is defined as *Enterobacteriaceae* that are:

- Nonsusceptible (intermediate or resistant) to one of the following carbapenems: doripenem, meropenem, or imipenem  
AND
- Resistant to all of the following third-generation cephalosporins that were tested: ceftriaxone, cefotaxime, and ceftazidime.

Laboratories should follow CDC/Clinical and Laboratory Standards Institute (CLSI) guidelines for testing for carbapenem resistance. For CRE surveillance purposes, the West Virginia Bureau for Public Health is interested in carbapenem-resistant *Klebsiella pneumoniae*, *Escherichia coli* and *Enterobacter cloacae*. However, other species of CRE should be reported as "Other" on the [West Virginia Electronic Disease Surveillance System CRE Report Form](#).

[West Virginia Bureau of Public Health CRE notification Protocol](#)

## Wisconsin

In December 2011, the Chief Medical Officer and State Epidemiologist for Communicable Diseases and Emergency Response declared that all Wisconsin acute care hospitals (including children's, orthopedic, and heart hospitals), critical access hospitals and long-term acute care hospitals were to report

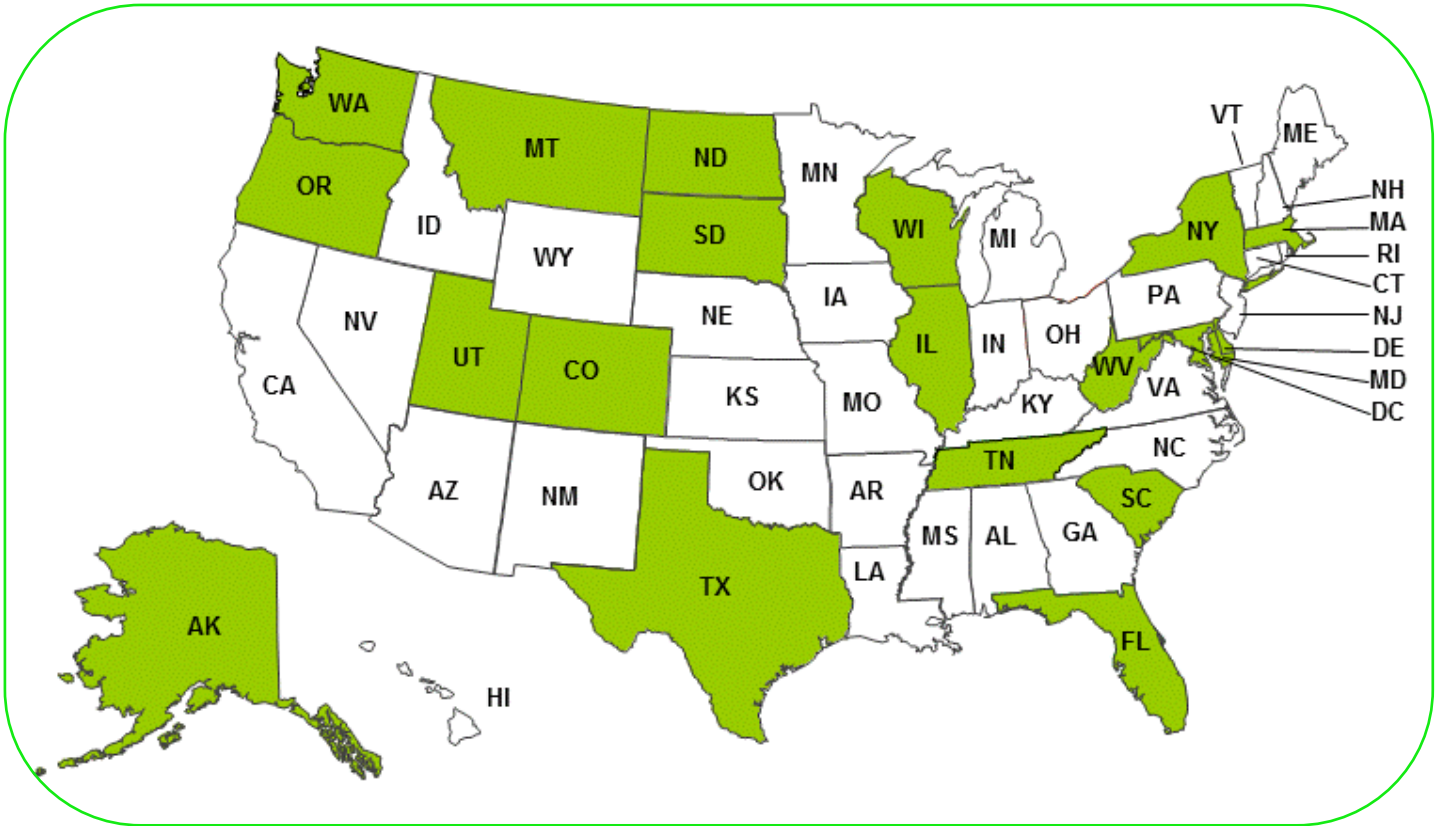



carbapenem-resistant *Klebsiella* and carbapenem-resistant *Escherichia coli*. Facilities are to report through NHSN and to follow the LabID protocol in the multidrug-resistant organism (MDRO) module. [Wisconsin Department of Health Services CRE memo](#)

[Wisconsin Department of Health Services list of notifiable conditions](#)



## States with CRE Reporting Requirements



 **Statewide CRE Reporting**

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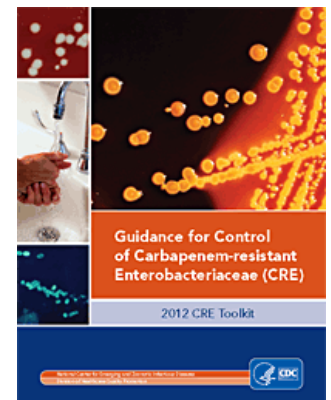
## Additional CRE Resources

[The Centers for Disease Control and Prevention CRE Toolkit](#)

[The Centers for Disease Control and Prevention Antibiotic Resistance Report](#)

[March 2013 CRE Vital Signs report](#)

[APIC CRE Map](#)



Please contact [APIC](#) with additional information regarding CRE reporting or resources in your state.