

EPI MONTHLY REPORT

FLORIDA DEPARTMENT OF HEALTH IN MIAMI-DADE COUNTY
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CDC Guidance for Control of New Carbapenem-Resistant Enterobacteriaceae (CRE)

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Summary

Carbapenem-resistant Enterobacteriaceae (CRE) are untreatable or difficult-to-treat multidrug-resistant organisms that are emerging in the United States.

Infections with CRE have been associated with mortality rates up to 50%. Because of increased reports of these multidrug-resistant organisms, the Centers for Disease Control and Prevention (CDC) is alerting clinicians about the need for additional prevention steps regarding CRE. Reports of unusual forms of CRE (e.g., New Delhi Metallo- β -lactamase and Verona Integron-mediated Metallo- β -lactamase) in the United States are increasing. Of the 37 unusual forms of CRE that have been reported in the United States, the last 15 have been reported since July, 2012. This increase demonstrates the need for health-care providers to act aggressively to prevent the emergence and spread of these unusual CRE organisms. Because the majority of these unusual organisms were isolated from patients who received overnight medical treatment outside of the United States, additional measures are now recommended for such patients hospitalized in the United States.

Background

Klebsiella species and *Escherichia coli* are examples of Enterobacteriaceae, a family of bacteria that normally live in water, soil and the human gastrointestinal tract. CRE are Enterobacteriaceae that have developed high levels of resistance to antibiotics, including last-resort antibiotics called

carbapenems. CRE infections most commonly occur among patients who are receiving antibiotics and significant medical treatment for other conditions.

Although there are a large number of mechanisms that can lead to carbapenem resistance among Enterobacteriaceae, the production of an enzyme that breaks down broad-spectrum carbapenem antibiotics (carbapenemases) has emerged as an important mechanism in the United States over the last decade. Most carbapenemase-producing CRE in the United States produce a carbapenemase called *Klebsiella pneumoniae* carbapenemase, or KPC, which was first reported in 2001 and has been found in many different types of Gram-negative bacteria.

KPC-producing Enterobacteriaceae appear to have spread throughout the United States since 2001 but still remain relatively uncommon in most hospitals. Enterobacteriaceae producing other carbapenemases, such as New Delhi Metallo- β -lactamase (NDM) and the Verona Integron-mediated Metallo- β -lactamase (VIM) have been very uncommon in the United States but are more common in other parts of the world. Many countries may not be actively looking for CRE; therefore, it is unclear which countries have experienced unusual carbapenemases (e.g., NDM, VIM) and it is difficult to know their overall incidence at any given time.



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Recommendations

Clinicians play a vital role in reducing the spread of CRE.

Rapidly identifying patients colonized or infected with these organisms and placing them in contact precautions when appropriate, using antibiotics wisely, and minimizing device use are all important parts of preventing CRE transmission. The CDC continues to recommend that clinicians follow the CDC guidance for preventing the spread of CRE in healthcare settings (<http://www.cdc.gov/hai/organisms/cre/cre-toolkit/index.html>).

Clinicians should:

- Ensure that the patient is on contact precautions.
- Reinforce and evaluate adherence to hand hygiene and contact precautions for healthcare personnel who come into contact with the patient (e.g., enter the patient's room).
- Since clinical cultures will identify only a minority of patients with CRE, screen epidemiologically linked patient contacts for CRE colonization with stool, rectal, or perirectal cultures. At a minimum, this should include persons with whom the CRE patient shared a room but could also include patients who were treated by the same healthcare personnel. A laboratory-based screening protocol is available at: (http://www.cdc.gov/HAI/pdfs/labSettings/Klebsiella_or_Ecoli.pdf).
- Should the patient be transferred to another healthcare facility, ensure that the presence of CRE colonization or infection is communicated to the accepting facility. An example transfer form is available at: (<http://www.cdc.gov/HAI/toolkits/InterfacilityTransferCommunicationForm11-2010.pdf>).
- Dedicate rooms and staff to CRE patients when possible. It is preferred that staff caring for CRE patients do not also care for non-CRE patients.

- Remove temporary medical devices as soon as they are no longer needed.

In addition to that guidance, CDC now also recommends the following:

- When a CRE is identified in a patient (infection or colonization) with a history of an overnight stay in a healthcare facility (within the last 6 months) outside the United States, send the isolate to a reference laboratory for confirmatory susceptibility testing and test to determine the carbapenem resistance mechanism; at a minimum, this should include evaluation for KPC and NDM carbapenemases.
- For patients admitted to healthcare facilities in the United States after recently being hospitalized (within the last 6 months) in countries outside the United States, consider each of the following:
 - Perform rectal screening cultures to detect CRE colonization. Place patients on Contact Precautions while awaiting the results of these screening cultures.

If there is an outbreak of CRE in your facility, please contact The Florida Department of Health in Miami-Dade County (Miami-Dade County Health Department) Epidemiology, Disease Control & Immunization Services at 305-470-5660 (24/7).

Additional information about the prevention of CRE transmission is available in CDC's CRE toolkit located at (<http://www.cdc.gov/hai/organisms/cre/cre-toolkit/index.html>).

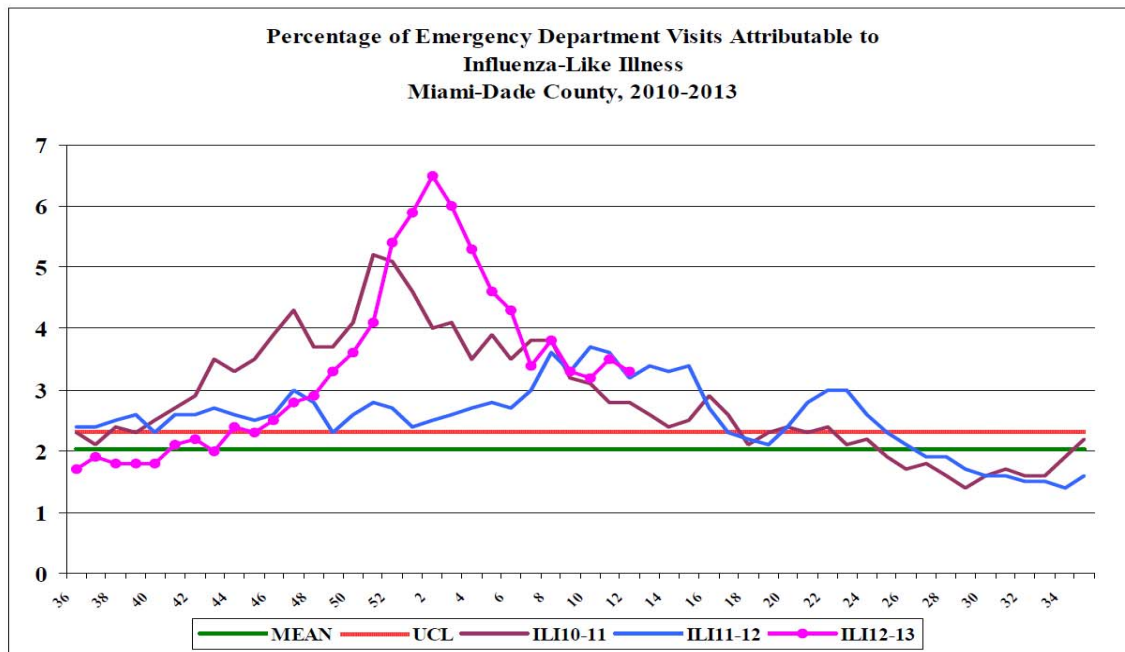


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Influenza-Like-Illness, All Age



During this period, there were 23,357 ED visits; among them 776 (3.3%) were ILI. At the same week of last year, 3.2% of ED visits were ILI.

PARTICIPATE IN INFLUENZA SENTINEL PROVIDER SURVEILLANCE

Florida Department of Health in Miami-Dade County NEEDS Influenza Sentinel Providers!

Sentinel providers are key to the success of the Florida Department of Health's Influenza Surveillance System. Data reported by sentinel providers gives a picture of the influenza virus and ILI activity in the U.S. and Florida which can be used to guide prevention and control activities, vaccine strain selection, and patient care.

- Providers of any specialty, in any type of practice, are eligible to be sentinel providers.
- Most providers report that it takes **less than 30 minutes a week** to compile and report data on the total number of patients seen and the number of patients seen with influenza-like illness.
- Sentinel providers can submit specimens from a subset of patients to the state laboratory for virus isolation **free of charge**.

For more information, please contact
Lakisha Thomas at 305-470-5660.

TO REPORT ANY DISEASE AND FOR INFORMATION CALL:
Epidemiology, Disease Control & Immunization Services

Childhood Lead Poisoning Prevention Program305-470-6877
Hepatitis305-470-5536
Immunizations or outbreaks305-470-5660
HIV/AIDS Program305-470-6999
STD Program305-575-5430
Tuberculosis Program305- 575-5415
Immunization Service305-470-5660
To make an appointment.....786-845-0550

About the Epi Monthly Report

The Epi Monthly Report is a publication of the Florida Department of Health in Miami-Dade County: Epidemiology, Disease Control & Immunization Services. The publication serves a primary audience of physicians, nurses, and public health professionals. Articles published in the Epi Monthly Report may focus on quantitative research and analysis, program updates, field investigations, or provider education. For more information or to submit an article, contact Esther Bell at (305) 470-6918.



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Miami-Dade County Monthly Report Select Reportable Disease/Conditions February 2013

Diseases/Conditions	2013 Current Month	2013 Year to Date	2012 Year to Date	2011 Year to Date
HIV/AIDS				
AIDS*	72	131	117	93
HIV	121	246	210	207
STD				
Infectious Syphilis*	27	46	57	59
Chlamydia*	770	1574	1517	1382
Gonorrhea*	200	388	411	332
TB				
Tuberculosis**	4	9	9	15
Epidemiology, Disease Control & Immunization Services				
Epidemiology				
Campylobacteriosis	23	36	55	48
Ciguatera Poisoning	0	0	0	4
Cryptosporidiosis	1	3	2	4
Cyclosporiasis	1	1	0	0
Dengue Fever	4	6	1	1
E. coli, O157:H7	0	0	2	3
E. coli, Non-O157	0	0	0	0
Encephalitis, West Nile Virus	0	0	0	0
Giardiasis, Acute	20	32	21	53
Influenza Novel Strain	0	0	0	0
Influenza, Pediatric Death	0	0	0	0
Legionellosis	3	7	1	5
Leptospirosis	0	0	0	0
Listeriosis	0	0	0	0
Lyme disease	0	0	0	0
Malaria	2	5	1	3
Meningitis (except aseptic)	2	4	4	6
Meningococcal Disease	2	4	5	1
Salmonellosis	20	54	56	43
Shigellosis	4	5	4	14
Streptococcus pneumoniae, Drug Resistant	11	19	21	18
Toxoplasmosis	0	0	0	0
Typhoid Fever	0	0	0	0
Vibriosis	0	0	0	1
West Nile Fever	0	0	0	0
Immunization Preventable Diseases				
Measles	0	0	0	0
Mumps	0	0	0	0
Pertussis	1	1	6	0
Rubella	0	0	0	0
Tetanus	0	0	0	0
Varicella	6	9	9	8
Hepatitis				
Hepatitis A	4	5	2	3
Hepatitis B (Acute)	2	2	2	0
Lead				
Lead Poisoning	15	16	11	18

*Data is provisional at the county level and is subject to edit checks by state and federal agencies.

** Data on tuberculosis are provisional at the county level.

