



## Reporting Criteria for Carbapenem-resistant *Enterobacteriaceae* (CRE) Infection

### (1) Definition

Infectious diseases caused by bacteria belonging to *Enterobacteriaceae*, resistant to carbapenem antimicrobials such as meropenem and broad-spectrum  $\beta$ -lactam antimicrobials.

### (2) Clinical signs and symptoms:

CREs cause respiratory tract infections such as pneumonia and urinary tract infections, surgical site infections, catheter-related bacteremia, sepsis, meningitis and variety of other infections. While more common among immune compromised patients, postoperative patients or patients treated with antimicrobials for an extended period of time. CREs may also cause infection in otherwise healthy individuals and asymptomatic intestinal carriers are not uncommon.

### (3) Reporting criteria

#### a) “Patient (confirmed cases)”

In compliance with Article 12 paragraph 1 of the Infectious Diseases Control Law, if a physician examines a patient with clinical characteristics as described in (2), suspects carbapenem-resistant *Enterobacteriaceae* infection from clinical pictures/findings, and makes a diagnosis of carbapenem-resistant *Enterobacteriaceae* infection based on the results obtained by the laboratory methods and specimen as described below, the physician must notify the case within 7 days.

#### b) “Deceased”

In compliance with Article 12 paragraph 1 of the Infectious Diseases Control Law, if a physician suspects carbapenem-resistant *Enterobacteriaceae* infection in a deceased patient with clinical characteristics as described in (2), and diagnoses that the death was due to carbapenem-resistant *Enterobacteriaceae* infection based on the results obtained by the laboratory methods and specimen as described below, the physician must notify the case within 7 days.

**(4) Laboratory findings required for notification**

Laboratory method	Specimen
<p>Isolation/identification of <i>Enterobacteriaceae</i> bacteria and confirmation of resistance to carbapenem antimicrobials and to broad-spectrum <math>\beta</math>-lactams using either of the methods/criteria below:</p> <ul style="list-style-type: none"><li>a. MIC for meropenem <math>\geq 2\mu\text{g/ml}</math>, or zone diameter of meropenem disk (KB) <math>\leq 22\text{mm}</math></li><li>b. Fulfillment of both i) and ii):<ul style="list-style-type: none"><li>i) MIC for imipenem <math>\geq 2\mu\text{g/ml}</math>, or zone diameter of imipenem disk (KB) <math>\leq 22\text{mm}</math></li><li>ii) MIC for cefmetazole <math>\geq 64\mu\text{g/ml}</math>, or zone diameter of cefmetazole disk (KB) <math>\leq 12\text{mm}</math></li></ul></li></ul>	<p>Blood, ascites, pleural effusion, cerebrospinal fluid, or other specimens that are normally sterile</p>
<p>Fulfillment of all of the following criteria</p> <p>Isolation/identification of <i>Enterobacteriaceae</i> bacteria and confirmation of resistance to carbapenem antimicrobials and to broad-spectrum <math>\beta</math>-lactams using either of the methods below:</p> <ul style="list-style-type: none"><li>a. MIC for meropenem <math>\geq 2\mu\text{g/ml}</math>, or zone diameter of meropenem disk (KB) <math>\leq 22\text{mm}</math></li><li>b. Fulfillment of both i) and ii)<ul style="list-style-type: none"><li>i) MIC for imipenem <math>\geq 2\mu\text{g/ml}</math>, or zone diameter of imipenem disk (KB) <math>\leq 22\text{mm}</math></li><li>ii) MIC for cefmetazole <math>\geq 64\mu\text{g/ml}</math>, or zone diameter of cefmetazole disk (KB) <math>\leq 12\text{mm}</math></li></ul></li><li>c. Determination that the bacterial isolates are the causative agent(s) of the infection</li></ul>	<p>Sputum, pus, urine, or other specimens that are normally not sterile</p>