

### a Update on carbapenemase-producing Enterobacteriaceae

The Johannesburg Antimicrobial Resistance Laboratory and Culture Collection (AMRL-CC) of the Centre for Opportunistic, Tropical and Hospital Infections (COTHI) at the NICD have been testing referred isolates of suspected carbapenemase-producing Enterobacteriaceae (CPE) for the presence of selected carbapenemase genes. CPE have become a threat to healthcare and patient safety worldwide by compromising empiric antibiotic therapeutic choices and increasing morbidity, hospital costs and the risk of death. CPE surveillance is required to determine the extent of the problem as a first step in order to restrain the emergence and spread of CPE. For March 2016, a total of 165 Enterobacteriaceae isolates was received. Of 138 isolates screened, 111 of which expressed carbapenemases (Table 3). The majority of these CPE isolates were *Klebsiella pneumoniae* (93) followed by *Enterobacter cloacae* (13).

It is important to note that these figures do not represent the current burden of CPEs in South Africa. Given that CPE infections are currently not reportable or notifiable in South Africa, there is no platform for appropriate surveillance reports and consequently no locally representative data is available. This is of major concern, since meaningful data can inform public health policy and highlight priorities for action. Controlling the spread and limiting the impact of CPEs in South Africa will require intensive efforts in both the public and private healthcare sectors going forward. NHLS and private laboratories are encouraged to submit suspected CPE isolates based on antimicrobial susceptibility testing (AST) criteria to AMRL-CC, NICD/NHLS. Please telephone (011) 555 0342/44 or email: [olgap@nicd.ac.za](mailto:olgap@nicd.ac.za); for queries or further information.

**Source:** Centre for Opportunistic, Tropical, and Hospital Infections, NICD-NHLS; ([olgap@nicd.za.za](mailto:olgap@nicd.za.za))

**Table 3:** Enterobacteriaceae by CPE enzyme type, AMRL-CC, COTHI, NICD, March 2016 and January-February 2016

Organism	OXA-48 & Variants		NDM		GES		VIM	
	Jan-Feb 2016	Mar 2016	Jan-Feb 2016	Mar 2016	Jan-Feb 2016	Mar 2016	Jan-Feb 2016	Mar 2016
<i>Citrobacter amalonaticus</i>	1	1	-	-	-	-	-	-
<i>Citrobacter freundii</i>	-	1	2	2	-	-	-	-
<i>Enterobacter cloacae</i>	4	6	6	1	-	-	-	-
<i>Escherichia coli</i>	6	10		1	-	-	-	-
<i>Klebsiella pneumoniae</i>	66	50	42	25	-	2	-	1
<i>Morganella morganii</i>	-	-	-	2	-	-	-	-
<i>Proteus mirabilis</i>	1	-	-	-	-	-	-	-
<i>Proteus penneri</i>	-	-	-	-	-	-	-	-
<i>Providencia rettgeri</i>	-	-	4	2	-	-	-	-
<i>Serratia marcescens</i>	2	1	7	5	-	1	-	-
<b>Total</b>	<b>80</b>	<b>69</b>	<b>61</b>	<b>38</b>	<b>-</b>	<b>3</b>	<b>-</b>	<b>1</b>

**NDM:** New Delhi metallo-beta-lactamase; **OXA:** oxacillinase; **GES:** Guiana extended beta-lactamase; **VIM:** Verona integron-encoded metallo-beta-lactamase.