6 ANTIMICROBIAL RESISTANCE

Update on carbapenemase-producing Enterobacteriaceae

The Johannesburg Antimicrobial Resistance Laboratory Culture Collection (AMRL-CC) of the Centre for Opportunistic, Tropical and Hospital Infections (COTHI) at the NICD/NHLS offer testing of referred isolates of suspected carbapenemase-producing Enterobacteriaceae (CPE) for the presence of selected carbapenemase genes. For March 2015, a total of 71 Enterobacteriaceae isolates were received. Sixty-eight isolates were screened, 75% (53/71) of which were confirmed to be carbapenemase-producing Enterobacteriaceae (CPE). The commonest referred isolates were *Klebsiella pneumoniae* (50%, 34/68) followed by *Enterobacter cloacae* (19%, 13/68) and equal numbers of *Serratia marcescens* and *Escherichia coli* (each 10%,7/68) (Figure1).

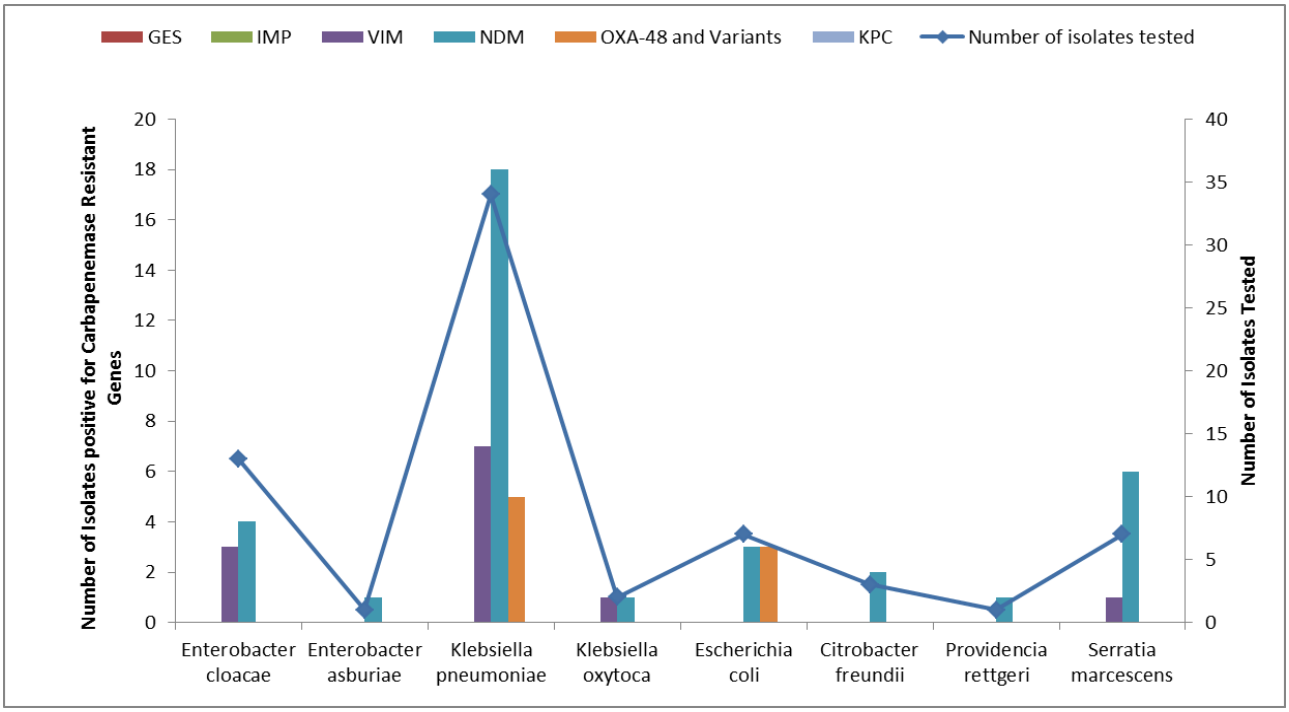

Figure 1. Enterobacteriaceae isolates screened (n=68) and confirmed CPE (n=57) during March at the Antimicrobial Resistance Laboratory-Culture Collection, COTHI (NICD-NHLS)

Thirty-six *bla*$_{NDM}$-positive isolates were identified; thirteen from private hospitals – twelve from the KwaZulu-Natal province and one from the Gauteng province and 15 from public hospitals – 18 from Gauteng and five from KwaZulu-Natal. Nine *bla*$_{OXA-48}$ -positive isolates were identified; two from private hospitals in Gauteng and seven isolates from public hospitals- three from Gauteng province and four from the Eastern Cape. A total of twelve *bla*$_{VIM}$-positive isolates were identified- one each from public hospitals in Gauteng and KwaZulu-Natal and ten from private hospitals of which nine were from Gauteng and one from the Eastern Cape (Figure 2).

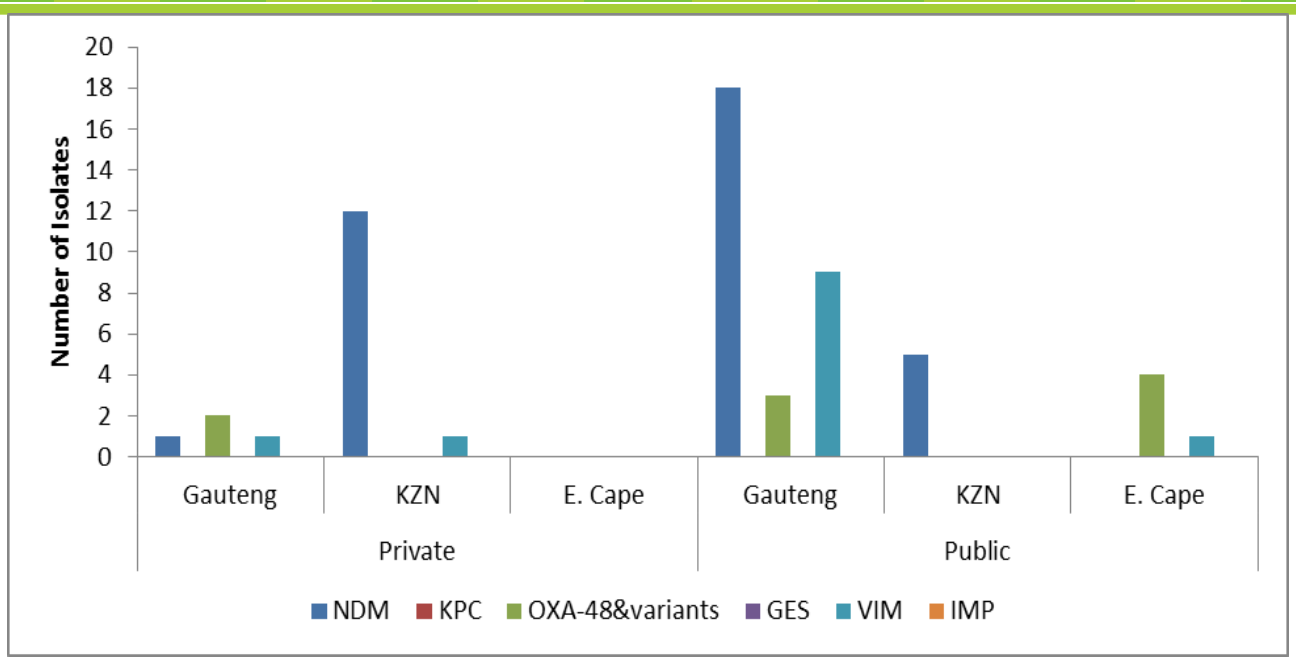

Figure 2. Distribution by province of confirmed CPEs (n=57), March 2015

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 the AMRL-CC, NICD/NHLS. Please telephone (011) 555 0342/44 or email: olgap@nicd.ac.za; for queries or further information.

Source: Centre for Opportunistic, Tropical and Hospital Infection, NICD-NHLS