

5 ANTIMICROBIAL RESISTANCE

Update on carbapenemase-producing Enterobacteriaceae

The Johannesburg and Cape Town Antimicrobial Resistance Laboratories of the Centre for Opportunistic, Tropical and Hospital Infections (COTHI) at the NICD/NHLS offer testing of referred suspected carbapenemase-producing Enterobacteriaceae (CPE) isolates for the presence of selected carbapenemase genes. For January 2015, a total of 42 Enterobacteriaceae isolates was

received. Thirty-eight isolates were screened, of which 26 (68%) were found to be carbapenemase-producing Enterobacteriaceae. Four isolates were not processed due to technical issues. Of the Enterobacteriaceae isolates screened, *Klebsiella pneumoniae* (18/38, 47%) and *Enterobacter cloacae* (7/38, 18%) were the most common organisms (Figure 3).

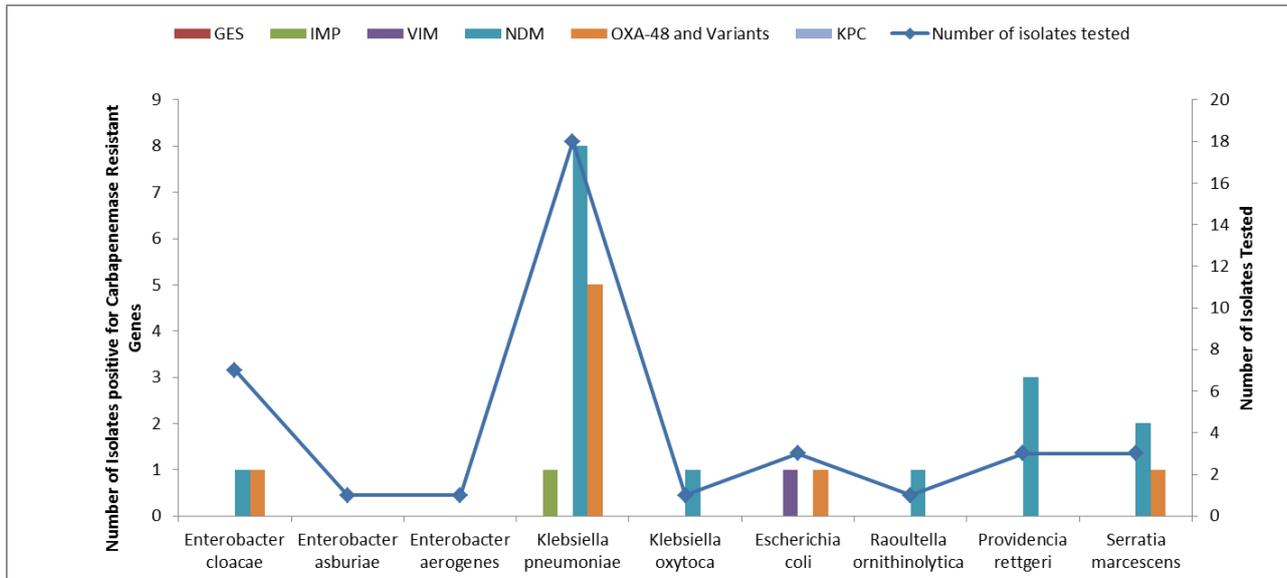


Figure 3. Enterobacteriaceae isolates screened (n=38) and confirmed CPE (n=26) during January 2015 at the Antimicrobial Resistance Laboratories, COTHI (NICD-NHLS)

Sixteen *bla*_{NDM}-positive isolates were identified: six from private hospitals in KwaZulu-Natal Province and ten from public hospitals (seven in Gauteng Province and three in Western Cape Province). Eight *bla*_{OXA-48}-positive isolates were identified: five from private hospitals (four from a single site in Gauteng Province, and one from KwaZulu-Natal Province). A further three *bla*_{OXA-48}-positive isolates from public hospitals were identified, one from Eastern Cape Province and two from Western Cape Province. A single *bla*_{VIM}-positive isolate and a single *bla*_{IMP}-positive isolate, both from the public sector in Gauteng Province, were also identified (Figure 4). 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 AMRRL, NICD/NHLS. Please telephone (011) 555 0342/44 or email ashikas@nicd.ac.za and olgap@nicd.ac.za for queries or further information. In the Western Cape area, please email COTHI.WC@NHLS.AC.ZA.

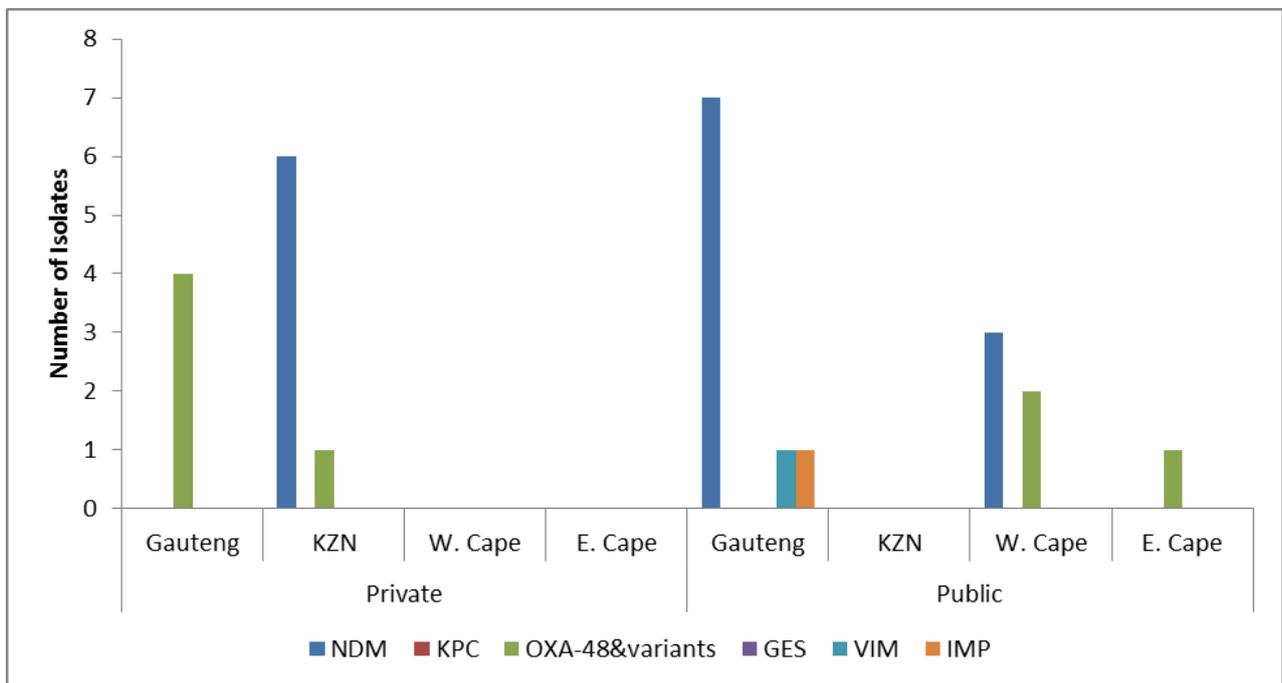


Figure 4. Distribution by province of confirmed CPEs (n=26), January 2015

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