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 offers testing of referred isolates of suspected carbapenemase-producing Enterobacteriaceae (CPE) for the presence of selected carbapenemase genes. For April 2015, a total of 48 Enterobacteriaceae isolates were received. Forty-seven isolates were screened, 85% (40/47) of which were confirmed to be carbapenemase-producing Enterobacteriaceae (CPE). The commonest referred isolates were *Klebsiella pneumoniae* (64%, 30/47) followed by *Escherichia coli* (11%, 5/47) and equal numbers of *Serratia marcescens* and *Providencia rettgeri* (each 6%, 3/47) (Figure 3).

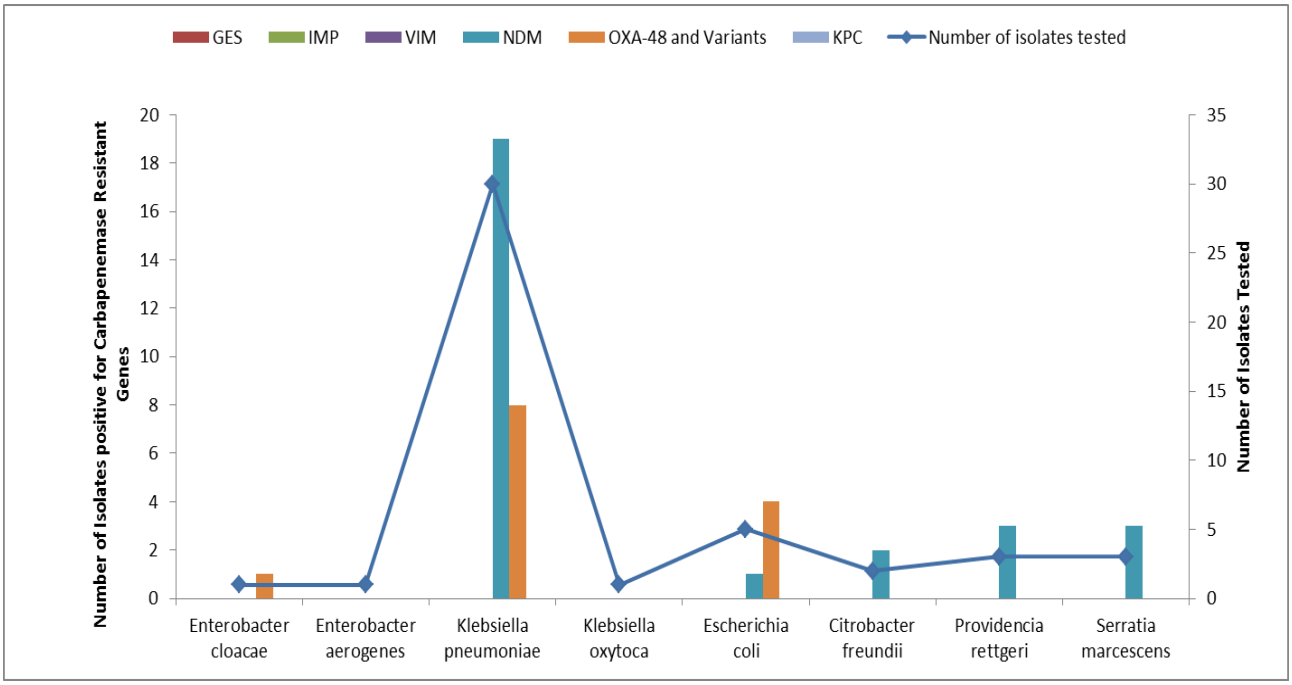

Figure 3. Enterobacteriaceae isolates screened (n=47) and confirmed CPEs (n=40) at the Antimicrobial Resistance Laboratory-Culture Collection, COTHI (NICD-NHLS), April 2015

Twenty-seven *bla*$_{NDM}$-positive isolates were identified: six from private hospitals (all in KwaZulu-Natal Province (KZN) and 21 from public hospitals (nine from Gauteng Province (GP) and 12 from KZN). Thirteen *bla*$_{OXA-48}$-positive isolates were identified: four from private hospitals in GP and nine isolates from public hospitals (six in GP and two in Eastern Cape Province (ECP) and one in KZN). No other CPE enzyme types were identified in April (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 AMRL-CC, NICD/NHLS. Please telephone (011) 555 0342/44 or email olgap@nicd.ac.za for queries or further information.

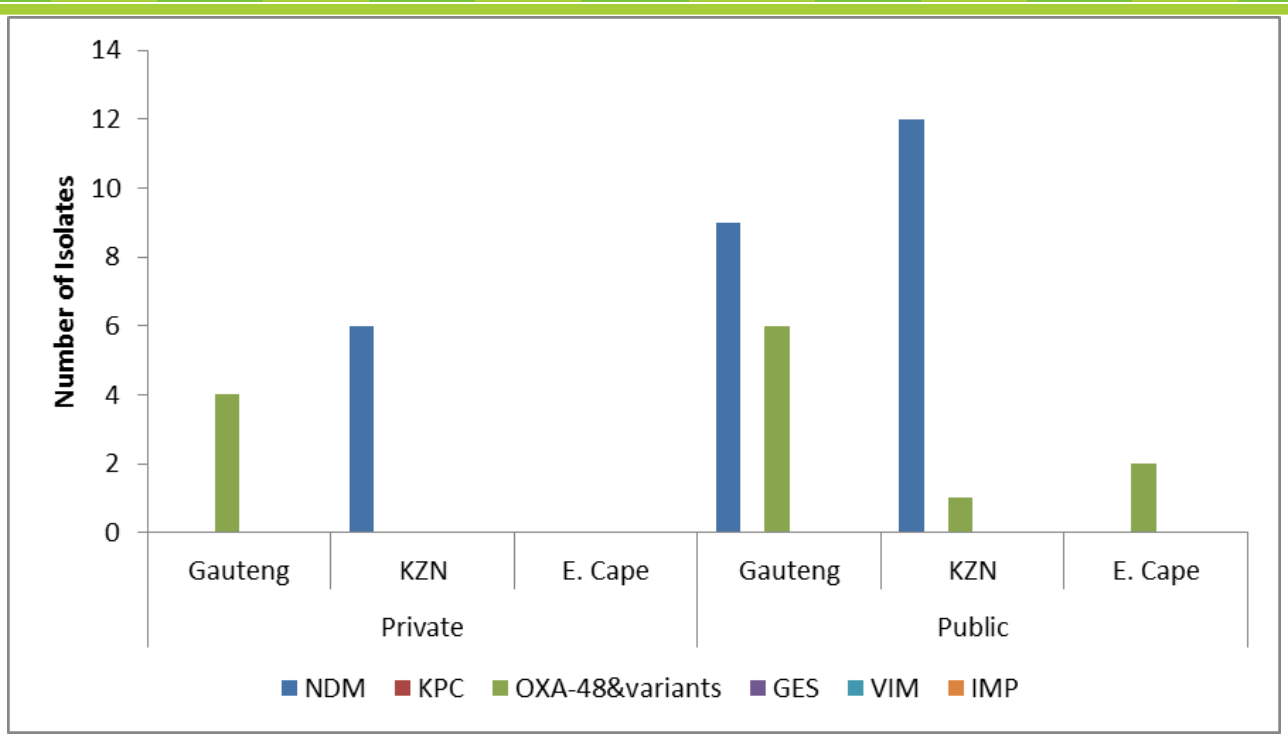

Figure 4. Distribution of confirmed CPEs (n=40) by province and healthcare sector, April 2015

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