

Update on carbapenemase-producing Enterobacteriaceae (CPE)

The Johannesburg and Cape Town Antimicrobial Resistance Reference Laboratories (AMRRL) of the Centre for Opportunistic, Tropical and Hospital Infections (COHI) at NICD/NHLS have been testing referred isolates of suspected carbapenemase-producing Enterobacteriaceae (CPE) for the presence of selected carbapenemase

genes. For the months of August and September 2013, a total of 89 isolates was screened, the most common referral isolates being *Klebsiella pneumoniae* (57/89, 64%) and *Enterobacter cloacae* (22/89, 25%). Of these, a total of 58 isolates (65%) tested positive for selected carbapenemase genes (Figure 3).

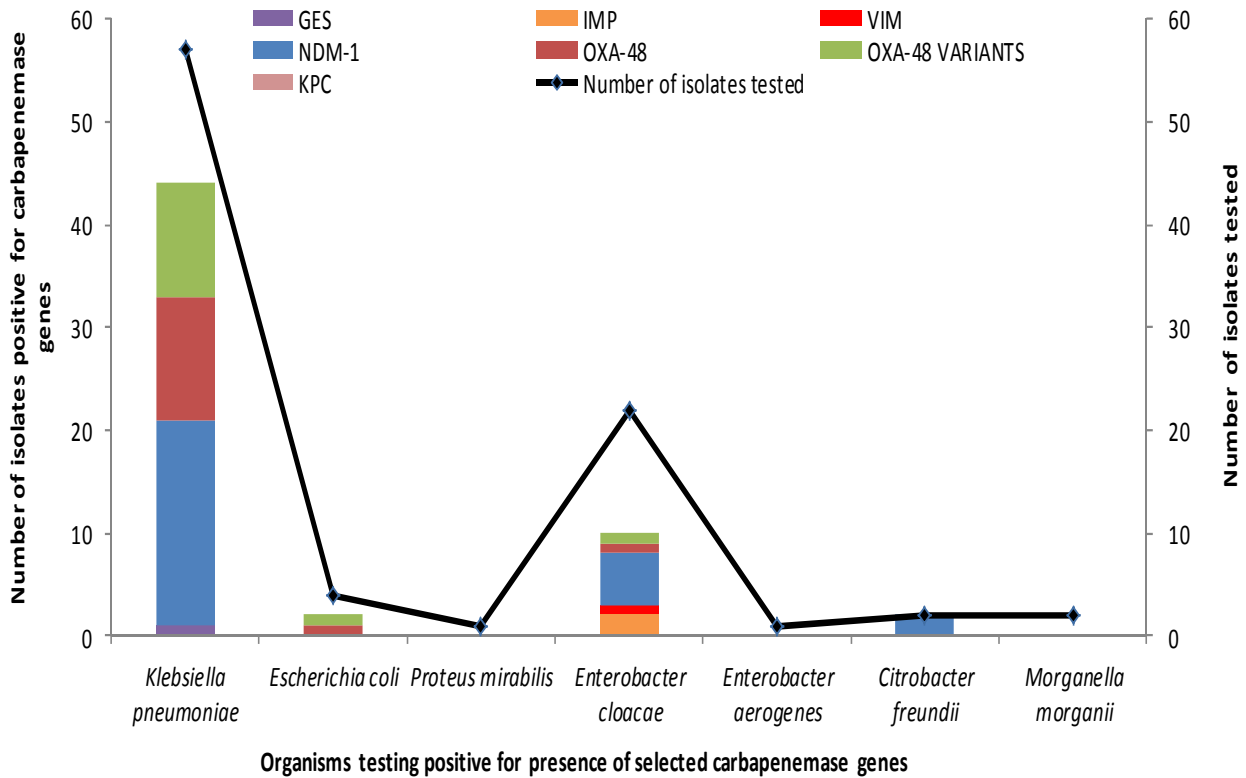


Figure 3. Enterobacteriaceae tested for presence of selected carbapenemase genes (n=89) showing distribution of isolates testing positive (n=58), August and September 2013, AMRRL (NICD-NHLS)

Twenty-seven NDM-positive isolates were identified (9 from private sector laboratories and 18 from public sector laboratories). Nine OXA-positive isolates were identified (7 from private and 2 from public laboratories respectively); the number and distribution of OXA-48 variant isolates was similar.

Two IMP-positive isolates, one GES-positive isolate and one VIM-positive isolate were also identified. The majority of carbapenemase-positive isolates were from patients hospitalised in Gauteng (42/58, 72%) and Western Cape (9/58, 15%) provinces (Figure 4).

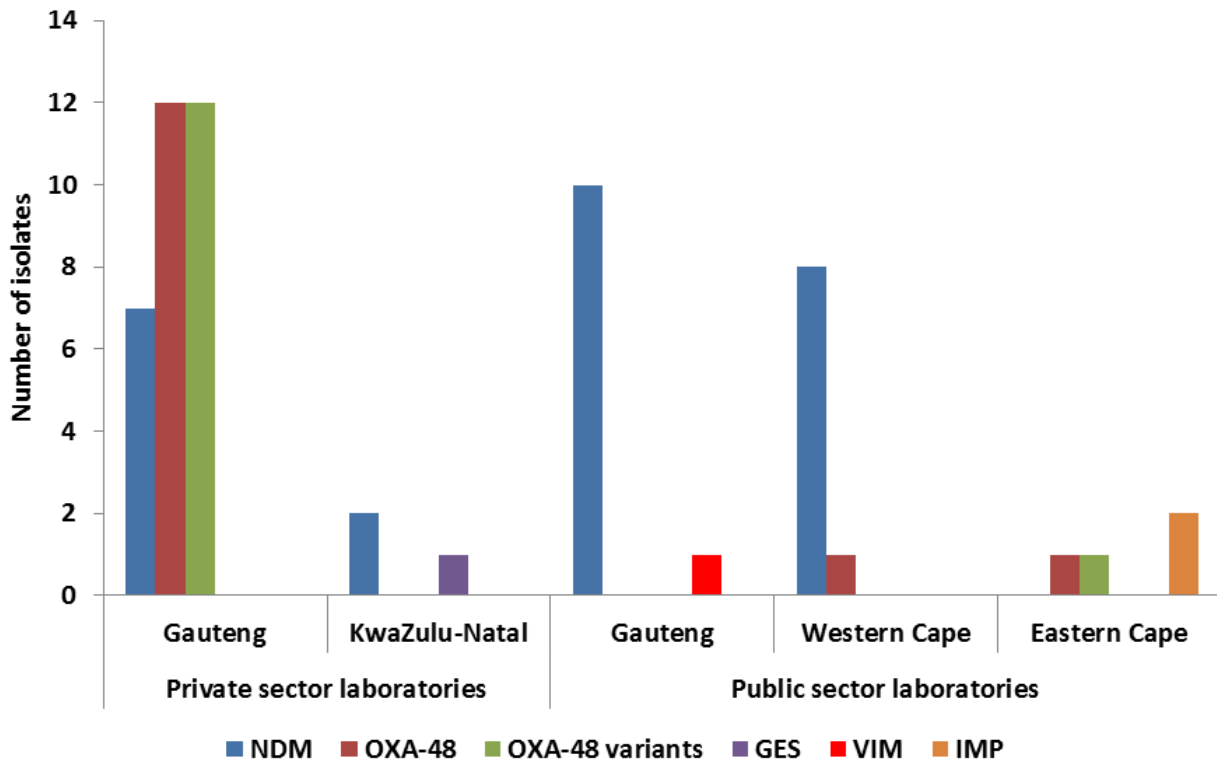


Figure 4. Provincial and healthcare sector distribution of isolates positive for selected carbapenemase genes (n=58)

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 by both the public and private healthcare sectors going forward.

antimicrobial susceptibility testing (AST) criteria to the AMRRL, NICD/NHLS. Information and case report form (CRF) can be obtained from NICD/NHLS web sites.

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NHLS and private laboratories are encouraged to submit suspected CPE isolates based on

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