

## MEDIA STATEMENT

### Outbreak of New Delhi metallo-beta-lactamase 1 (NDM-1) identified in Gauteng

**Date: An outbreak of New Delhi metallo-beta-lactamase 1 (NDM-1) producing *Klebsiella pneumoniae*, a multidrug resistant strain of bacteria which normally lives in the gastro-intestinal tract, has been identified in Gauteng.**

As at 14 October, nine patients were confirmed to be either carriers of, or infected with NDM-1 producing *Klebsiella pneumoniae* at Life The Glynnwood Hospital in Benoni.

On identifying the outbreak, the hospital implemented additional infection prevention and control interventions. "The hospital's swift and thorough actions enabled early identification of the outbreak and contained the spread of this highly drug-resistant bacterium," says Dr Steve Taylor, medical director for Life Healthcare. "The outbreak continues to be monitored very closely."

NDM-1 is an enzyme produced by certain bacteria that makes them resistant to a broad range of antibiotics. Named after New Delhi, the capital city of India, it was first noted in 2009, but infections by bacteria producing NDM-1 enzyme have since been reported all over the world, including the UK, USA, Pakistan, Canada, Australia and Japan. Kenya was the first African country to report this specific enzyme in bacteria, followed recently by Morocco. In South Africa, only two other cases of infections caused by NDM-1 producing bacteria have been recently reported.

Until now, most patients infected with NDM-1 producing bacteria could be traced back to subjects who had recently visited India or received medical treatment there. However, the ability of NDM-1 bacterial resistance to spread rapidly means that secondary infections unrelated to travel to the Indian sub-continent have begun to surface around the world<sup>1</sup>. NDM-1 bacterial infections can occur in any healthcare facility worldwide and, in South Africa, have been identified in both private and public sector hospitals.

In most cases, the NDM-1 producing bacteria live within the gastro-intestinal tract of a person without causing harm. People can live for many months without even knowing they are carriers of these bacteria and will not present with any symptoms.

However, when human host immune systems become compromised, or when gut colonizing NDM-1 producing bacteria spread to extra-intestinal sites (e.g. bloodstream and urinary tract), or when they are spread from an infected source to a new patient, potentially serious infections can occur.

NDM-1 producing bacteria are highly transmissible - particularly in healthcare settings, and their early recognition as well as application of rigorous infection prevention and control precautions are crucial to containing outbreaks caused by these organisms. Although NDM-1 bacteria are highly resistant to most available antibiotics, fortunately, there are still a few drugs available that can be used to treat these infections.

On receiving a confirmed diagnosis of the organism, hospital management consulted with both international and national infectious disease experts and immediately and successfully implemented a range of measures to contain the spread of the bacteria.

All patients admitted to the ICU and High Care units at the hospital are being screened for *Klebsiella* NDM-1 and follow up screening is being conducted on a weekly basis. All hospital staff have also been screened.

“We have also highlighted the importance of the judicious use of antibiotics in all patients admitted to ICU and High Care,” says Taylor. “Doctors have been requested to review those patients who are on antibiotics for more than five days. We are extremely grateful to have been given expert assistance from Professor Adriano Duse (Head: Clinical Microbiology and Infection Control, NHLS and Wits University), Drs Adrian Brink and Jennifer Coetzee (Ampath Laboratories), and Drs Juanita Smit and Ben Prinsloo (Lancet Laboratories).”

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