



# Antimicrobial resistance global crisis

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Antimicrobial resistance (AMR) is a global health threat. Although resistance to antimicrobial agents can occur naturally in organisms, the misuse of antimicrobials in humans and animals has led to an accelerated global crisis.

**S**elective pressure, mutations, gene transfer, societal pressure, inappropriate antimicrobial drug use, inadequate diagnostics, hospital and agricultural misuse are some of the mechanisms that drive AMR.



Appropriate diagnostic and management principles in all the fields of infectious diseases and especially applicable to southern Africa, will be one of the focus areas during the 8<sup>th</sup> Federation of Infectious Diseases Societies of Southern Africa (FIDSSA) Congress to be held from 7 to 9 November 2019 at the Indaba Hotel and Conference Centre, Gauteng.

Timeous collection of appropriate clinical isolates for antimicrobial susceptibility testing (AST) is essential for guiding therapy and for surveillance of AMR. There are two commonly used methodologies worldwide for AST; namely the:

- » Clinical and Laboratory Standards Institute (CLSI)
- » European Committee for Antimicrobial Susceptibility Testing (EUCAST).

### Recommended by GLASS

Both methods of AST are recommended by the World Health Organization's Global Antimicrobial Resistance Surveillance System (GLASS). Different regions prefer either method, with the CLSI predominately used in the United States and many regions outside Europe, whilst the EUCAST is preferred in most parts of Europe. Fundamental differences in these AST methods have precluded them from merging or coordinating the breakpoints.

South African laboratories have recently incorporated the new EUCAST system to determine AST breakpoints. Some of the benefits of EUCAST include the strictness of EUCAST breakpoint-setting processes apparent in their documentation.

Other advantages and guidelines to the user-friendly nature of the EUCAST AST reporting system will be discussed in further detail by both national and international keynote speakers at the congress.

Rapid and appropriate antibiotic use in sepsis patients, ideally within the first hour, should be balanced with strict antibiotic stewardship programmes. The drive to make empiric antibiotic prescribing in sepsis and septic shock, appropriate and effective while minimising the duration of antibiotic administration is an important consideration in AMS and emergency management programmes/protocols. The synergies and challenges that exist in trying to marry these concepts will be discussed by an international expert during one of the plenary sessions at this year's meeting.

Many international infectious diseases specific guidelines exist, but often with limited applicability to the southern African region. For this reason, it is exciting and inspiring to have a few sessions during the FIDSSA congress that will focus on new local infectious diseases management guidelines.

The South African Society for Clinical Microbiology *Clostridium difficile* working group completed their recommendations for the diagnosis and treatment of *C. difficile* in 2018. The guideline addresses diagnostic questions around the case definition of *C. difficile* infection (CDI), who to test, how to grade CDI severity, the performance characteristics of available CDI diagnostic assay types, the appropriate testing strategy (for patients fitting the case definition for CDI), and the role of repeat laboratory testing.

### Guidelines

The best treatment options for an initial CDI episode and recurrent CDI based on the severity of disease in adults and in children, as well as consideration for drug availability in public healthcare facilities were summarised in the guidelines. Faecal microbiota transplantation (FMT) as a management strategy in *C. difficile* infections will be further debated during the conference. Interest in FMT already expands beyond CDI treatment.

Conditions known to be associated to the microbiota such as antibiotic resistant infections, inflammatory bowel disease, and metabolic disease, and the possible benefit of FMT in the management of these conditions remain relevant.

The new South African guideline for hospital containment of antimicrobial resistance provides a patient-centred approach to prevent and contain AMR, following the patient from the time of admission to diagnosis and treatment of hospital-acquired or community-acquired infections, and includes the precautions that should be applied to prevent hospital-acquired infections.

It consists of two main components, infection prevention and antimicrobial stewardship, which are underpinned by training to improve healthcare professional skills. The focus on drug resistance and infection prevention will also be discussed in terms of emerging resistant fungal infections in South Africa. *Candida auris* is an important cause of nosocomial fungal sepsis that healthcare workers need to be aware of.

A steward is tasked with taking care of or supervising something. In the era of emerging AMR, healthcare workers need to be antimicrobial stewards. We are each tasked to work within a programme, which seeks to ensure that the right antimicrobial is given to the right patient at the right time, with the right dose and the right route, causing the least harm to the patient and future patients.

Please join us at the 8<sup>th</sup> FIDSSA conference and liaise with experts and likeminded healthcare workers to unite against the threat of AMR and gain valuable knowledge in the correct diagnosis and management of current infectious diseases in South Africa. [SF](#)



Save  
the Date

FIDSSA Congress

7 to 9 November 2019

Gauteng