Q&A

Early implementation protocol for Inclusion of *Candida* spp.

1. **Why is candidemia surveillance important?**

Fungi is now a major cause of human disease and death, and resistance to antifungal medications is a growing problem, as it is for antibiotic drugs. One of the major limitations in addressing the threat of antifungal-resistant fungi is a lack of data at the global level. Few countries have effective surveillance systems for fungal diseases, and consequently, statistics on their incidence, resistance, and related burden of disease are limited.

2. **Why is *Candida* surveillance just focused on bloodstream infections?**

As the spectrum of invasive antifungal-resistant infections is broad, bloodstrem infections cause by *Candida* spp is raising, the GLASS Fungal AMR effort will initially focus on invasive fungal bloodstream infections (BSIs) caused by *Candida* spp. Bloodstream infections caused by *Candida* spp is the most common type of invasive fungal disease. Antifungal susceptibility data of invasive *Candida* isolates, especially from patients in high-risk hospital units (e.g. intensive care units (ICUs), neonatal ICUs), that will be available through GLASS will provide an overview of the emerging resistance in *Candida* spp.

3. **How does candidemia surveillance differ from bacteria surveillance?**

Unlike bacteria, accurate identification and antifungal susceptibility testing (AFST) of *Candida* spp. are still major challenges as many laboratories worldwide lack this capability. A fundamental limitation is that resistance breakpoints differ by individual species, with many species lacking defined breakpoints, and most laboratories rely on phenotypic *Candida* spp identification methods that cannot reliably differentiate beyond the most common species of *Candida*. Also, the databases of automated commercial microbial identification methods used in routine microbiology laboratories to identify *Candida* spp. may lack emerging and new *Candida* spp., thus requiring molecular methods for accurate identification. The AFST expertise to perform the reference broth microdilution methods for *Candida* spp. is generally restricted to specialized laboratories, and breakpoints for interpreting the susceptibility by reference broth microdilution methods have been established for only the common *Candida* spp.

4. **Can I just identify that it is a *Candida* isolate, or must I identify the specific *Candida* spp.?**

Antifungal resistance has emerged, and resistance rates has increase in the last decades, the emerging resistance has been associated to specific *Candida* spp., for example, *Candida auris* shows high resistance to those antifungals available to treat infections cause by this specie, some outbreaks cause by this *Candida* spp. has been detected in some countries.

5. **What if the local lab is not able to identify the species?**

When the local laboratories have not capacity to identify the species of *Candida*, it is highly recommended to get the support for a specialized laboratory to perform the identification and antifungal susceptibility testing, those specialized laboratories could be the National Reference Laboratories. The National Reference Laboratory can offer support and also capacity building in the local level to perform identification and antifungal susceptibility testing or can be the institution supporting the national surveillance of *Candida* spp.

6. **Can we participate if we have limited or no capacity for fungal identification or susceptibility testing?**

The GLASS consultation currently in action, offers to countries the opportunity to analyze the national capacity to implement and include the *Candida* spp surveillance in the National Surveillance System of Antimicrobial Resistance. Through this consultation, GLASS secretariat will establish the roadmap in support to countries in the implementation of the *Candida* spp protocol. All comments, suggestions and ideas provided by countries during this consultation will be collected to facilitate the development of a roadmap to support countries in the different regions in the implementation of this surveillance.