ESCMID’s EUCAST defining resistance in future antimicrobial agents

EUCAST’s unheralded, but vital work, is helping to ensure responsible use by defining common standards for antimicrobial resistance globally

07 December 2015, Basel: The European Society of Clinical Microbiology and Infectious Disease (ESCMID) – an organization that pursues science, explores risk assessment, knowledge sharing and best practices in the fight against infectious disease – is currently researching the new critical breakpoints for antimicrobial agents in clinical development through its European Committee on Antimicrobial Susceptibility Testing (EUCAST). The group is highly respected amongst the world’s leading experts, but is relatively unknown amongst healthcare communities and the general public.

Having a common system to determine the defining and measuring of resistance is the ultimate goal of EUCAST and its members. Throughout Europe, 90% of countries are now following the EUCAST categorization of bacteria as susceptible and resistant to new and existing antimicrobial agents – rising from around 20-30% in 2008. This is considered a great breakthrough in the effort to unify scientists and laboratories around the world in their assessment of the resistance situation. It has created a snowball effect across the globe with countries as far reaching as Australia, New Zealand and South Africa either already adhering to the EUCAST system or seriously contemplating adopting it in a near future.

Jointly funded by ESCMID and the European Centre for Disease Prevention and Control (ECDC), EUCAST has been entrusted by the European Medicines Agency (EMA) for more than 10 years to determine the breakpoints for new antimicrobial agents – with over three active projects in development currently.

Despite being little understood outside of specialist circles, EUCAST is now playing an integral role in defining antimicrobial resistance both in Europe and globally. The results of which are the essential scientific underpinnings for administering the correct dosage in all existing and future antimicrobial agents. An antimicrobial breakpoint is an agreed concentration to identify at what point the growth of bacterium is inhibited – the minimum inhibitory concentration (MIC) – which essentially defines at what dose each bacteria is considered susceptible or resistant to antimicrobial therapy. Breakpoints of new agents are
absolutely vital in standardising a global definition of resistance and the point at which increased dosages are needed.

For the past 15+ years, EUCAST has been working to harmonize definitions and breakpoints throughout Europe and the rest of the world. Any variation in defining resistance hinders the universal fight against antimicrobial resistance. Gunnar Kahlmeter, Past President and Communications Officer for ESCMID and the Past Chairman of EUCAST, commented:

“There are a great and increasing number of people and groups around the world trying to prevent the development of antimicrobial resistance. This work is either aided by the fact that we unite behind one definition of antimicrobial resistance or hampered by our inability to do so.”

The new breakpoints EUCAST are currently working on will enable increased conservation of new antimicrobial agents and ensure scientists are comparing like for like resistance. Gunnar Kahlmeter added:

“Without a harmonized opinion on where to draw the line between which microorganisms can be treated and which can not, we’re unable to efficiently measure the development of resistance and unable to measure the rate at which resistance develops. Furthermore, patients moving between countries will experience differences in opinions as to whether or not their infection can be treated or not. In creating unified values, breakpoints and definitions, it will defer people from inappropriate antibiotic use and encourage the right use of antibiotics along with the right dose when necessary. This is one of the most important tools in defending ourselves against antimicrobial resistance.”

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ESCMID is a non-profit organisation dedicated to improving the diagnosis, treatment and prevention of infectious diseases in Europe and beyond. The Society promotes and supports research, education and training and shares good medical practice in the infection disciplines to build capacity throughout the world. www.escmid.org

About EUCAST
EUCAST is a standing committee jointly organized by ESCMID, ECDC and European national breakpoint committees. EUCAST was formed in 1997. It has been chaired by Ian Phillips (1997 -

EUCAST deals with breakpoints and technical aspects of phenotypic in vitro antimicrobial susceptibility testing and functions as the breakpoint committee of EMA and ECDC. EUCAST does not deal with antibiotic policies, surveillance or containment of resistance or infection control. The Steering Committee is the decision making body. It is supported by a General Committee with representatives from European and other countries, FESCI and ISC. The Steering Committee also consults on EUCAST proposals with experts within the fields of infectious diseases and microbiology, pharmaceutical companies and susceptibility testing device manufacturers. EUCAST has several subcommittees - see page Subcommittees.

Most antimicrobial MIC breakpoints in Europe have been harmonised by EUCAST. Breakpoints for new agents are set as part of the licensing process for new agents through EMA. EUCAST breakpoints are available in devices for automated susceptibility testing but with some limitations, depending on the system. A disk diffusion susceptibility test method calibrated to EUCAST MIC breakpoints is also available.

EUCAST invites anyone with an interest in antimicrobial agents in general and antimicrobial breakpoints in particular to contact EUCAST, ESCMID or one of the National Breakpoint Committees.

http://www.eucast.org/