

## P2864 Trends in antibiotic resistance in Portugal (2014-2017): the bad and the good news

Vera Manageiro<sup>1</sup>, Ana Silva<sup>2</sup>, Cláudia Furtado<sup>2</sup>, Eugénia Ferreira<sup>1</sup>, Manuela Caniça\*<sup>1</sup>

<sup>1</sup> National Institute of Health Dr. Ricardo Jorge, Lisbon, Portugal, <sup>2</sup> INFARMED, Lisbon, Portugal

**Background:** We are seeing across Europe, namely in Portugal, an increasing number of patients with multidrug-resistant infections, meaning there is no effective treatment available. Therefore, surveillance systems for antibiotic-resistance (AR) in bacteria causing serious infections is mandatory, as the data reported might serve as important indicators on the occurrence and spread of AR.

**Methods:** The data presented here were collected from Portuguese laboratories reporting AR data from invasive isolates from 2014 to 2017, with a catchment population of 97%, in 2017. The statistical significance of trends in the last four years was assessed by the Cochran–Armitage test, and a p-value of  $\leq 0.05$  was considered significant. Susceptibilities were evaluated with methods and guidelines in use by the reporting laboratories.

**Results:** The occurrence of AR and multidrug-resistant (MDR) *Klebsiella pneumoniae* continued to increase significantly in the last 4-years. For instance, MDR increased from 22.8%/2014 to 28.4%/2017, with 9.7% of isolates being non-susceptible to at least one carbapenem. Indeed, a statistically significant increase was observed for all antimicrobial groups under surveillance. Carbapenem-non-susceptible *Escherichia coli* isolates remained sporadic in 2017 (0.39%), despite higher than the EU/EEA population-weighted mean percentage, and significantly increasing since 2014. These data oppose the statistically significant decreasing trend of carbapenems consumption (J01DH) observed in Portugal during the period 2014-2017. In contrast, the trends for AR in *E. coli*, *Pseudomonas aeruginosa* and *Acinetobacter* spp decreased significantly during the study period. In agreement with the trends in Europe, the occurrence of methicillin-resistant *Staphylococcus aureus* (MRSA) in Portugal significantly decreased from 47.4%/2014 to 39.2%/2017. However, Portugal is still the third European country with the highest MRSA resistance. Regarding *Streptococcus pneumoniae*, Portugal showed increasing non-susceptibility trends for penicillins, although not statically significant in the last 4-years. For *Enterococcus* spp., of notice was the significantly decreasing trend for vancomycin-resistant *E. faecium* and for high-level gentamicin-resistant *E. faecalis*.

**Conclusions:** The AR situation in Portugal displays wide variations depending on the bacterial species and antibiotic group. The good news is the decreasing frequency of invasive MRSA; the bad news is the worsening increasing frequency of invasive *E. coli* and *K. pneumoniae* isolates with resistance to carbapenems.