The growing emergence of multi-resistant microorganisms (MDRO) around the world, in addition to the lack of development of new antimicrobial agents, associated to the fact that approximately 20% to 50% of all antibiotics prescribed in acute care hospitals are either unnecessary or inappropriate, make it necessary to implement effective antimicrobial stewardship programs (ASPs). These programs are particularly important in developing countries where the resources are very limited. In that respect, we have developed and implemented a comprehensive ASP in our institution with the purpose to optimize clinical outcomes, while minimizing unintended consequences of antimicrobial use, including toxicity, and the selection and emergence of MDRO.

**OBJECTIVE**

To determine the impact of a comprehensive ASP through a multidisciplinary team at a tertiary care teaching hospital in a middle income country.

**PATIENTS AND METHODS**

Between April 2013 to March 2015, all adults patients admitted at our institution, for at least 24 hours, and receiving antimicrobial treatment at any time during the admission, were included into the study and were prospectively followed. Hospital Universitario Austral is a 142-bed tertiary care teaching hospital located in Buenos Aires, Argentina, with 10,100 admission and 47,000 patient-days per year.

A multidisciplinary antimicrobial stewardship team (Table 1) was convened to implement the following interventions: obtain the ASP approval from the hospital authorities, adapting international and national guidelines to the local epidemiology, provide educational ongoing and continuous education, implement auto-stop for surgical antimicrobial prophylaxis, perform prospective audit with intervention and feedback to prescriber; dose adjustments (e.g. in cases of organ dysfunction), and dose-optimization (e.g. including dose adjustments based on therapeutic drug monitoring, extended/short courses for betalactams, optimizing therapy for highly drug-resistant bacteria) (Figure 1). In order to evaluate the impact of the ASP, each quarter data were compared to the basal period (April-June 2013) through the following Indicators (Table 2): rate of inappropriate use, defined as Total Daily Doses (DDD) per 1000 total DDD, and quality indicators: mortality per 100 discharges, average length of stay (ALOS). The **RESULTS**

During the study period, 1,547 inappropriate-DDD were found in 85.137 total-DDD (18.17 i-DDD per 1,000-1,000-DDD, 95% CI 18.08–18.20). Of them, 53% were associated to empiric treatment, followed by targeted treatment (27%).

**CONCLUSION**

The limited follow-up time, no significant changes were seen in the incidence of MDRO.

**LIMITATIONS**

- Due to the limited follow-up time, no significant changes were seen in the incidence of MDRO.

**References**