

## O0534 **Surveillance of antimicrobial consumption in Belgian hospitals (BeH-SAC): a reviewed methodology**

Eline Vandael\*<sup>2</sup>, Koen Magerman<sup>1</sup>, Boudewijn Catry<sup>2</sup>

<sup>1</sup>Belgian Antibiotic Policy Coordination Committee (BAPCOC), Working group Hospital Medicine,  
<sup>2</sup>Scientific Institute of Public Health (WIV-ISP)

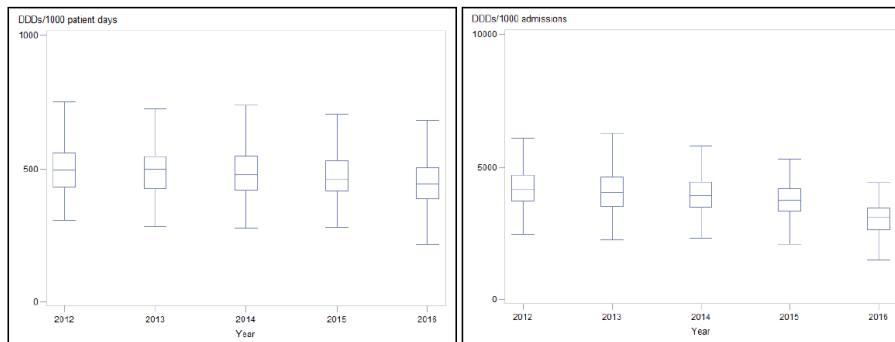
**Background:** Studies abundantly have demonstrated the link between antimicrobial consumption and the development of antimicrobial resistance. Surveillance of antimicrobial consumption is one of the action points of the 'One Health Action Plan against Antimicrobial Resistance' of the European Commission. Here we introduce a new methodology for a national surveillance of antimicrobial consumption in Belgian hospitals (BeH-SAC).

**Materials/methods:** Reimbursement data were collected from the National Institute for Health and Disability Insurance (NIHDI), and consisted of both numerator (consumed units per drug; WHO ATC-codes: A07A, D01BA, J01, J02, P01AB, J04A, J05) and denominator data (patient days and admissions) collected per trimester and per hospital/service. Numerator data were translated in defined daily doses (DDDs); the antimicrobial consumption was expressed in DDDs/1000 admissions and DDDs/1000 patient days. Feedback reports per hospital are provided on an interactive platform Healthstat, with benchmarking and stratification at different levels (per kind (acute/chronic), type (primary/secondary/tertiary), size). The reports were pilot tested in six Belgian hospitals in 2017.

**Results:** In 2016, based on preliminary results, the median consumption of antibacterials for systemic use (J01) in acute care Belgian hospitals (N=101) was 446.3 DDDs/1000 patient days and 3126.1 DDDs/1000 admissions, which is lower than the previous years (see figure). The consumption was substantially higher in teaching hospitals (N=7, median: 575.9 DDDs/1000 patient days and 3846.6 DDDs/1000 admissions). 'Combinations of penicillins with beta-lactamase inhibitors' (J01CR, 34.5% of DDDs in J01) was the most used subclass, followed by 'Fluoroquinolones' (J01MA, 11.2%).

**Conclusions:** Main advantages in comparison with the old methodology were a lower workload for the hospitals, a decreased variation in data collection, and an optimized reporting. Based on preliminary results for 2016, a small decrease was found in the antibacterial consumption in acute care Belgian hospitals. The responsible use of antimicrobial agents should further be promoted. The methodology of BeH-SAC can further be improved with more detailed data per diagnose and a shorter delay (real-time feedback).

**Figure: Evolution of the consumption of antibacterial agents for systemic use (J01) between 2012-2016 in acute care Belgian hospitals (N=101), expressed in DDDs/1000 patient days (left) and DDDs/1000 admissions (right)**



\* Legend boxplot:  $\begin{array}{c} \text{a} \quad \text{b} \quad \text{c} \quad \text{d} \quad \text{e} \\ \text{---} \text{---} \text{---} \text{---} \text{---} \\ \text{---} \text{---} \text{---} \text{---} \text{---} \end{array}$  a. maximum (without outliers), b. 75 percentile, c. median, d. 25 percentile, e. minimum (without outliers)

\* 2016: other source of denominator data (WIV-ISP, NSIH surveillances, [www.nsih.be](http://www.nsih.be))