Antimicrobial Resistance Surveillance in Germany: First results for *E. coli*, *K. pneumoniae* and *P. mirabilis* from urine samples in ambulatory care, 2008-2009

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**Objectives**

In 2008, Germany expanded the scope of its national antimicrobial resistance surveillance system to the sector of ambulatory care. This presentation gives a first insight into resistance in the most frequent gram-negative pathogens isolated from urine samples from outpatients in 2008/2009. Data will be stratified by age, sex and selected geographical regions.

**Materials & Methods**

The dataset is taken from the German Antimicrobial Resistance Surveillance (ARS) System. Four laboratories with continuous data collection in 2008 and 2009 submitted data on 96,191 urine samples collected in 2405 practices in Germany; composition of the sample by region, specialty, sex and age group of patients is shown in table 1. From these specimens, a total of 113,697 pathogens were isolated: the most frequent gram-negative pathogens were *E. coli*, *P. mirabilis* and *K. pneumoniae*. Frequencies and percentages are shown in table 2.

Analysis of susceptibility is based on non-duplicate isolates. Species identification and antimicrobial susceptibility testing is performed by VITEK 2, results are evaluated according to CLSI guidelines. Proportions of susceptible isolates were calculated for the following antibiotics: ampicillin (AMP), ampicillin/sulbactam (AMS), piperacillin (PIP), piperacillin/tazobactam (PIT), cefotaxime (CTX), ciprofloxacin (CIP), co-trimoxazole (SXT).

**Results**

Results of susceptibility testing are displayed as percentages of susceptible isolates of all non-duplicate isolates tested in table 3. In *E. coli* overall proportions of susceptibility for the most frequently used antimicrobials in urinary tract infections as AMP, AMS, SXT and CIP vary from 54.5% (AMP) to 84.3% (CIP), in *P. mirabilis* the corresponding range spans from 64.2% (SXT) to 92.5% (AMS) and in *K. pneumoniae* proportions for selected antibiotics are all above 80%.

**Conclusion**

These first large-scale data from ambulatory care indicate that non-susceptibility of *E. coli* and to a lesser degree of *P. mirabilis* from urine to first-line antibiotics is highly prevalent, that it is even higher in patients older than 60 and that there are some regional variations. Interpretation of the data should consider that in ambulatory care settings specimens are mainly taken from pre-treated patients.

**References**

ARS-Website: https://ars.rki.de

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