

AMS implementation in Croatia

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Development of AMS activities at the national level

- **1996: Croatian Committee for Antibiotic Resistance Surveillance (CARS)** at the Croatian Academy for Medical Sciences / activities: establishment of the national antibiotic resistance surveillance network, since 2002 antibiotic consumption surveillance within ESAC, education on rational antibiotic use
 - EARSS / EARS-Net / GLASS
 - ESAC / ESAC-Net
 - APUA Croatia Chapter
- **2003: Reference Center for Antibiotic Resistance Surveillance** of the Ministry of Health / provides laboratory service and QC for CARS surveillance
- **2006: ISKRA, the Intersectorial Coordination Mechanism (ICM) at the Ministry of Health** / coordinates all the activities, for the first time government financially supports AMR control activities (part of the national budget dedicated to antibiotic resistance control)
 - 2006: Interdisciplinary Section for Antibiotic Resistance Control, ISKRA (ICM)
 - Ministry of health and social welfare, Ministry of science, education and sports, Ministry of agriculture, Croatian academy of medical sciences, Medical societies for microbiology, ID, clin. pharmacology, chemotherapy, general practice, epidemiology, Croatian society of pharmacists, Health insurance institute
 - **2008: National strategy for antibiotic resistance control, updates every five years**
 - ✓ Surveillance
 - Antibiotic resistance surveillance
 - Antibiotic consumption surveillance
 - ✓ Prudent use of antibiotics
 - Education
 - Guidelines on antibiotic use
 - ✓ Infection control
 - ✓ Information technology
 - ✓ Research



A-team activities

- AMR data

facility-specific cumulative susceptibility reports for common bacterial pathogens

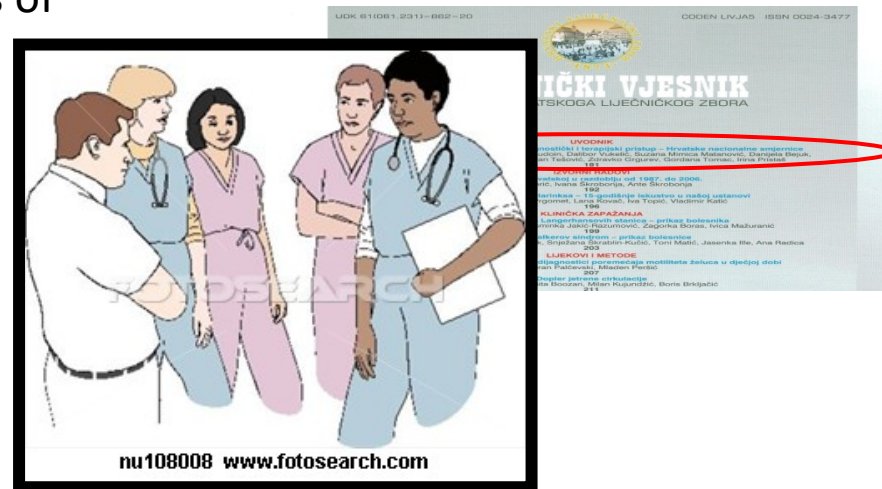
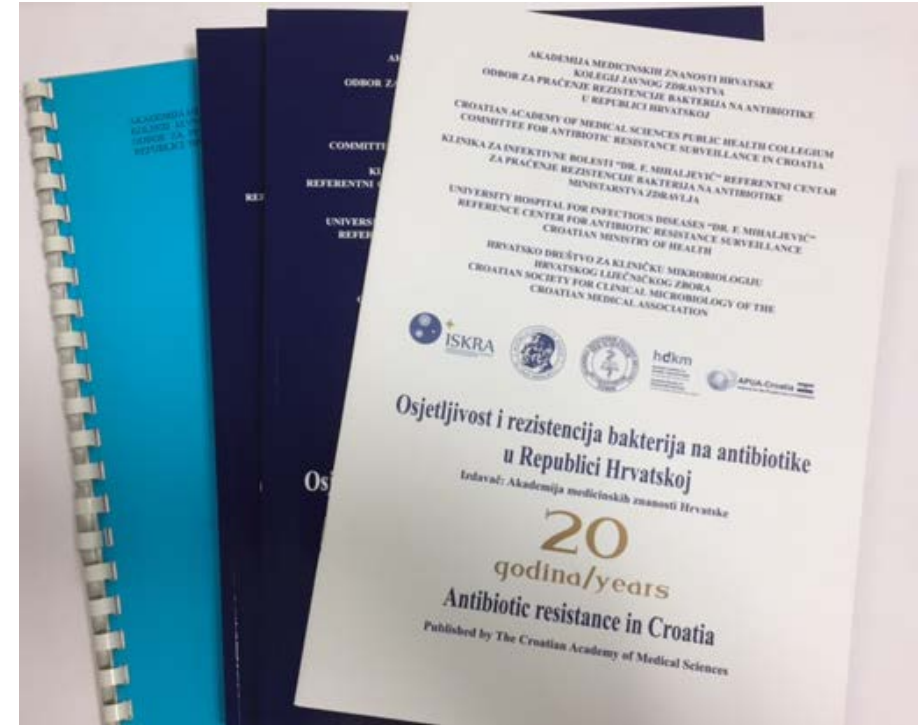
- AMC data

quality indicators and quantity metrics of antimicrobial use

- Appropriate use of ATB

Guideline development

PPS audits



dedicated staff / FTE?

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Antimicrobial Original Research Paper
Point prevalence survey on antibiotic use in a Croatian Infectious Disease Hospital

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Antibiotic use is the driving force for increasing antibiotic resistance. A large proportion of antibiotics in hospitals are used inadequately. The objective of this study was to evaluate antibiotic use at the Hospital for Infectious Diseases through point-prevalence surveys conducted in 2006, 2008, and 2009. Point prevalence surveys were part of the European Surveillance on Antimicrobial Consumption (ESAC) Hospital Care Subproject and patients' data were collected following ESAC protocol. Additionally, the adequacy of antimicrobial therapy and administration of the first line antibiotic according to the local guidelines were assessed by an infectious disease doctor and a clinical microbiologist. In the study period among the 599 patients admitted to hospital, 352 (58.8%) received antibiotics. Out of 448 antimicrobial treatments, 313 (69.9%) were administered parenterally and 135 (30.1%) orally. Altogether in years 2006, 2008, and 2009 the most commonly prescribed antibiotics were ceftriaxone (19.9%), co-amoxiclav (15.4%), ciprofloxacin (12.3%), narrow spectrum penicillins (6.5%), and gentamicin (6.5%).



EU Guidelines for the prudent use of antimicrobials in human health



- ▶ An antimicrobial stewardship team including ideally a clinician with training, expertise and professional involvement in the diagnosis, prevention and treatment of infections (if possible an infectious disease specialist), a hospital pharmacist and a microbiologist (if possible a clinical microbiologist). The composition of the team is dictated by the hospital size and level of care and by national and local provisions.



Clinical microbiologists should:

- ▶ Ensure that susceptibility testing and reporting are in accordance with treatment guidelines (selective reporting) and European (i.e. EUCAST) and national standards. Ensure timely diagnosis and communication of critical results (e.g. blood cultures).
- ▶ Provide facility-specific cumulative susceptibility reports for common bacterial pathogens against antibiotics that are recommended in the guidelines.
- ▶ Be available to clinicians for counselling on diagnostics of infectious diseases, including correct sampling and interpretation of test results, difficult-to-treat pathogens and complicated infections.
- ▶ As full members of the antimicrobial stewardship team, take on responsibilities that include coordination, planning, post-prescription review and feedback.