National Focal Point for Scientific and Technical Matters for EFSA
efsa.focalpoint@land.gov.sk

MINISTERSTVO PÔDOHOSPODÁRSTVA A ROZVOJA VIDIEKA SLOVENSKEJ REPUBLIKY

SK EU2016
Slovak Presidency of the Council of the European Union

Antimicrobial Resistance - Activity of the National FP

Milo Bystrický, Zuzana Bírošová

National Focal Point for EFSA

Department of Food Safety and Nutrition
Ministry of Agriculture and Rural Development of the Slovak Republic

efsa.focalpoint@land.gov.sk

Background for Risk Assessment

Report on zoonoses and zoonotic agents in the Slovak Republic

- In SR, the consumers express an interest in the are of zoonotic diseases and in microbial resistance (according to EU Barometer)

- The National report on zoonoses, foodborne and waterborne diseases in the Slovak Republic

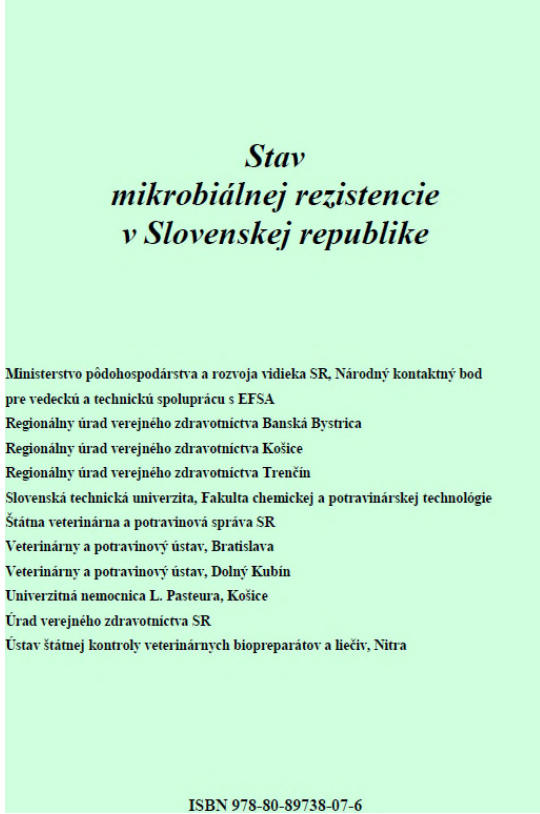
- Annual report from 2008

- Cooperation of experts from the control and research in the human and veterinary field

- Content:
  - by causative agents
  - human epidemiological situation
  - animals - epizootological situation
  - foodstuffs
  - feed
  - environment
  - **ANTIMICROBIAL RESISTANCE**

Report on state of antimicrobial resistance in SR

- crucial to link human, veterinary, food and microbiological areas
- joint work and cooperation (use the data)
- released in 2016, web, electronic version with ISBN
- the report evaluate the situation in antimicrobial resistance in Slovakia
- the report describes the state of resistance in human, veterinary and food sector and in the environment
- basis for national risk assessment in this area.



Background for risk assessment

State of antimicrobial resistance in Slovak Republic

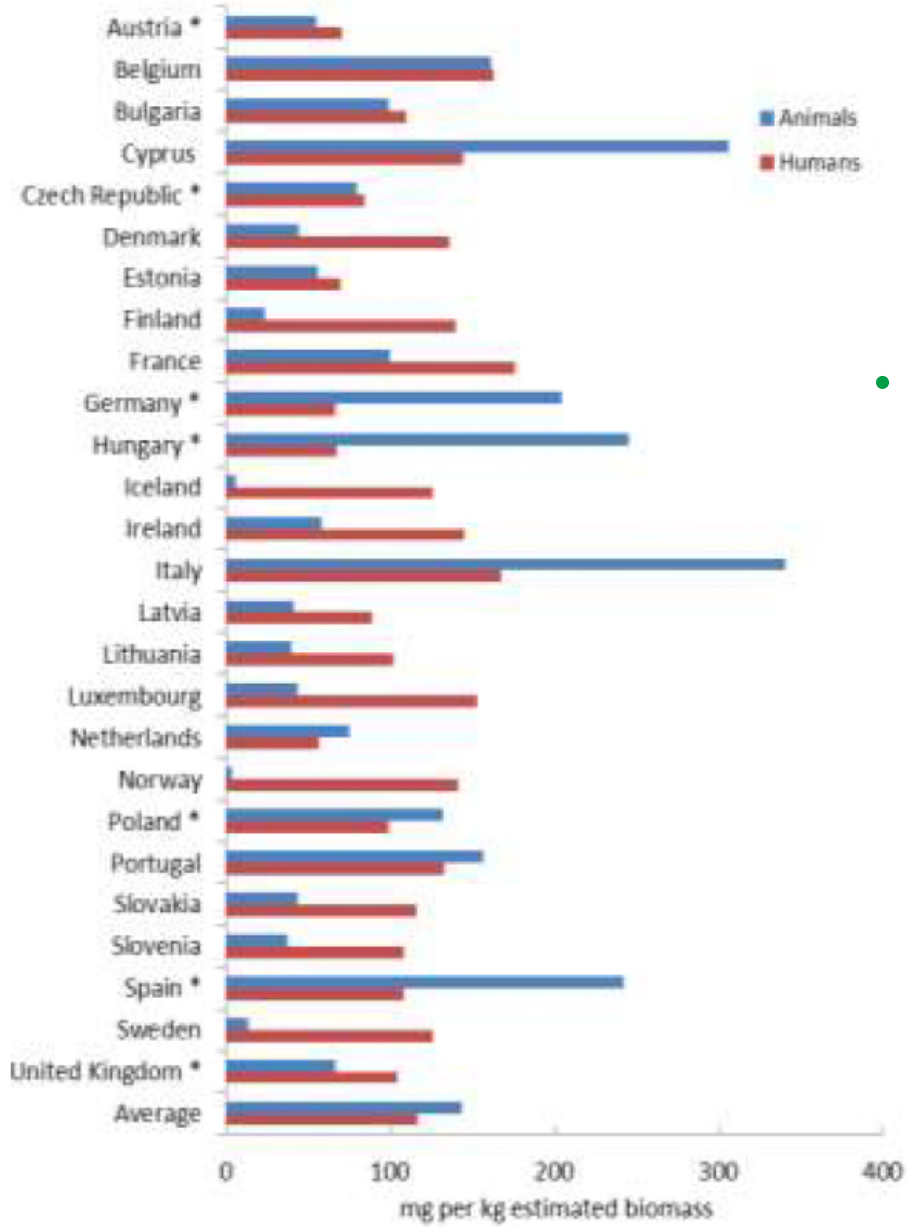
24 experts from 11 scientific and control organizations.

- **Ministry of agriculture and rural development of SR – National focal point for EFSA**
- **Regional public health authority in Banská Bystrica**
- **Regional public health authority in Košice**
- **Regional public health authority in Trenčín**
- **Slovak University of Technology, Faculty of chemical and food technology**
- **State Veterinary and Food Administration of SR**
- **Veterinary and Food Administration in Bratislava**
- **Veterinary and Food Administration in Dolný Kubín**
- **Louis Pasteur University Hospital in Košice**
- **Public Health Authority SR**
- **Institute for State Control of Veterinary Biologicals and Medicaments Nitra**

ISBN 978-80-89738-07-6

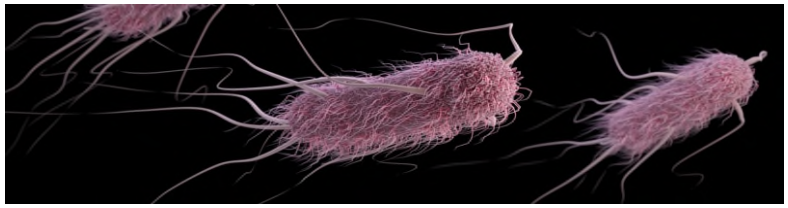
Content:

Comparison of biomass-corrected consumption of antimicrobials (milligrams per kilogram estimated biomass) in humans and food-producing animals by country in 26 EU/EEA countries



- consumption of veterinary antimicrobial agents in Slovakia is by more than half lower than is the average consumption in the EU

Escherichia coli



Human (2014)

resistance to aminopenicilins 56,6% (EU); 64,5% (SR).
resistance to fluoroquinolons 22,4% (EU); 43% (SR).
resistance to cephalosporins 31,8% (3rd.generation SR).
resistance to aminoglycosides 9,4% (EU); 22,8% (SR).

Poultry (2014)

resistance to ampiciline 67% (SR), 33% (in pigs).

resistance to fluoroquinolons was comparable to the resistance in human.

Resistance to ciprofloxacin 55% (EU); 44% (SR), 7% (in pigs).

- percentages related to the isolates from animals, namely a poultry show low resistance to gentamicin
- isolates of E.coli from poultry showed a highest percentage of resistance to the sulfamethoxazole, trimethoprim and tetracycline
- Highest resistance in E.coli isolates from pigs were related to tetracycline and sulfamethazol

Salmonella spp.

Human (2014)

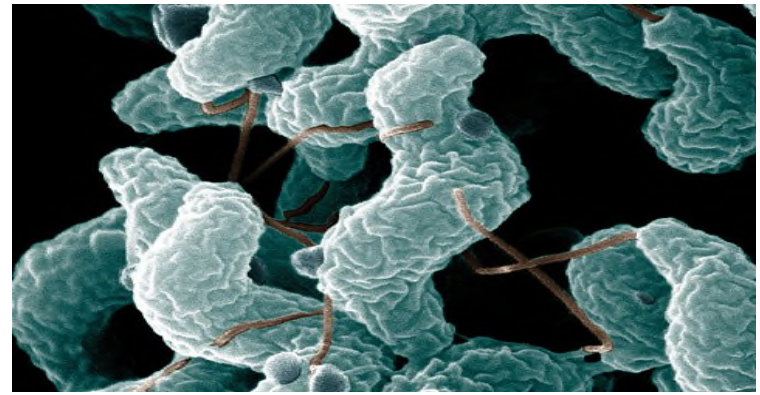
resistance to tetracyclines 30,3% (EU); 12,3% (SR).
resistance to ampiciline 28,2% (EU); 12,1% (SR).
resistance to cephalosporins 1,1% (EU); 1,5% (SR).
resistance to fluoroquinolons 8,8% (EU); 1,2% (SR).

- a higher percentages of resistance reported in Slovakia than was the EU average was recorded for cephalosporins – 1,5% of resistant isolates to cefotaxime.
- 30,8% was resistant to chloramphenicol in human isolates and this value was also the highest percentage among all of the EU states.

Poultry (2014)

- no resistance of Salmonella spp. to cefotaxime and chloramphenicol was recorded among the broilers
- The resistance of Salmonella spp. to ciprofloxacin in isolates from broilers in 2014 was higher than the EU average (78,9%).
- the percentage of resistance to tetracyclines from human isolates was 12,3% the percentage in broilers was 68,4%.

Campylobacter spp



Human (2014)
C. jejuni
resistance to ciprofloxacin 60,2% (EU); 50,6% (SR).
resistance to tetracycline 46,4% (EU); 25,5% (SR)
C. coli
resistance to ciprofloxacin 68,9% (EU); 61,4% (SR).
resistance to tetracycline 53,8% (EU); 31,3% (SR).

- Campylobacterioses are most commonly associated with *C.jejuni* and *C.coli*.
- highest resistance of *C.jejuni* in EU countries in 2014 was recorded at the human isolates to ciprofloxacin and tetracycline.

Broilers (2014)
C. jejuni
resistance to ciprofloxacin 69% (EU); 45% (SR).
resistance to tetracycline 54% (EU); 27% (SR)
C. coli
resistance to ciprofloxacin 74% (EU); 92% (SR).
resistance to tetracycline 59% (EU); 44% (SR).

- no isolate of *C. jejuni* and *C. coli* from slaughter broilers were resistant to gentamicin

Staphylococcus aureus

- in 2014, the presence of MRSA in human isolates 28% (SR) 18,3% (EU)
- the waste water from hospitals contained up to 83% of S. aureus resistant to vancomycin, 67% resistant to erythromycin
- Strains resistant to methicilin, penicilin, erythromycin, gentamycin and vancomycin were dominating in 2014 and their level of resitance ranged from 38 to 98%
- In Slovakia, MRSA has been monitored since 2012, in samples of food from sales network and in drinking water while the percentage of MRSA ranges from 3 to 19%
- Monitoring of MRSA in livestock and pet animals has been performed since 2013

5th Annual Scientific Congress on

ZOONOSES, FOODBORNE AND WATERBORNE DISEASES - PROTECTION OF PUBLIC AND ANIMAL HEALTH

18th – 20th October 2016

Bratislava, Slovak Republic

2016 EU Slovak Presidency

Meetings, conferences and workshops organised by the Slovak Focal Point for EFSA

Meetings

1. Advisory Forum, 27.-29.09.2016
2. Advisory Forum Communication Working Group, 04.-05.10.2016
3. HoA, 21.10.2016
4. Scientific network EREN, 14.-15.11.2016

Conferences and workshops

1. **5th Annual Scientific Congress on zoonoses, foodborne and waterborne diseases - protection of public and animal health, 18.-20.10.2016**
2. **Workshop – The spread of harmful organisms in terms of protection of the human and animal health, 16.11.2016**
3. **9th Annual Scientific Conference for young scinetists - Safety of the food chain, 06.-07.12.2016**

National Focal Point for Scientific and Technical Matters for EFSA

efsa.focalpoint@land.gov.sk