

# Antimicrobial Stewardship in Hungary

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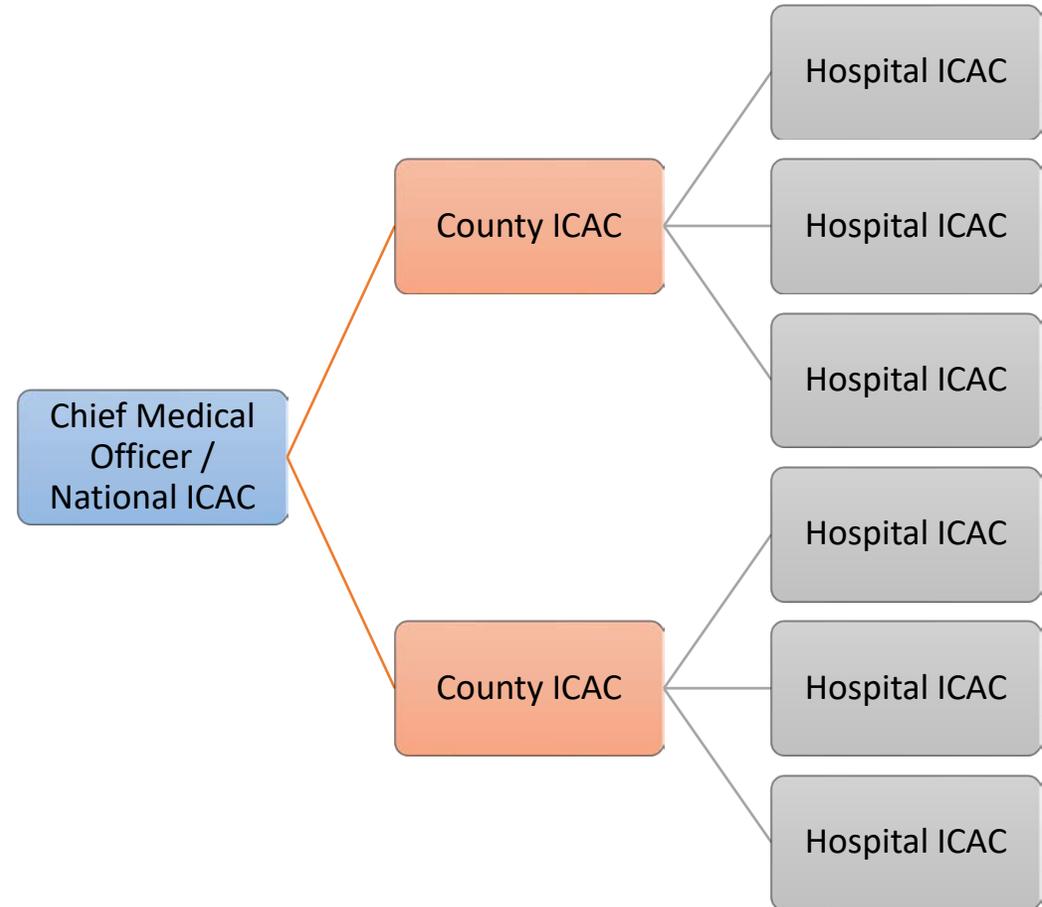
# Introduction: the health system of Hungary



- Health care is financed through a **statutory health insurance system**.
- The majority of publicly financed **hospitals** are directly run by the state.
- **Outpatient care** is provided by state-run hospitals, public as well as private outpatient clinics.
- **Primary care** is based on general practitioners (GPs). They usually work in solo practices, but the constitution of group practices is now incentivised.

# Stewardship institutions: infection control and antibiotic committees (ICACs)

- **Legal framework:** Ministry of Health Decree No. 20/2009 (VI.18.)
- Hospital ICACs are a **multidisciplinary advisory forum reporting to the hospital management** and chaired by the hospital director.
- Hospital ICACs **report on their activities to county-level ICACs** which further report to the Chief Medical Officer of Hungary.



# Stewardship-related documents

- **Evidence brief for policy:** “Promoting the appropriate use of antibiotics to contain antibiotic resistance in human medicine in Hungary” (WHO, 2018)
- **Methodological guidelines for the development of ASPs** at national and provider level, both in inpatient and outpatient care, published by the “Methodological development of the Hungarian healthcare system” project in 2018
- **Strategic documents:** “Action plan to strengthen infection prevention and control and to combat antimicrobial resistance in human medicine in Hungary” & “One Health National Action Plan against antimicrobial resistance”

# Monitoring of antimicrobial consumption (local/institutional level)

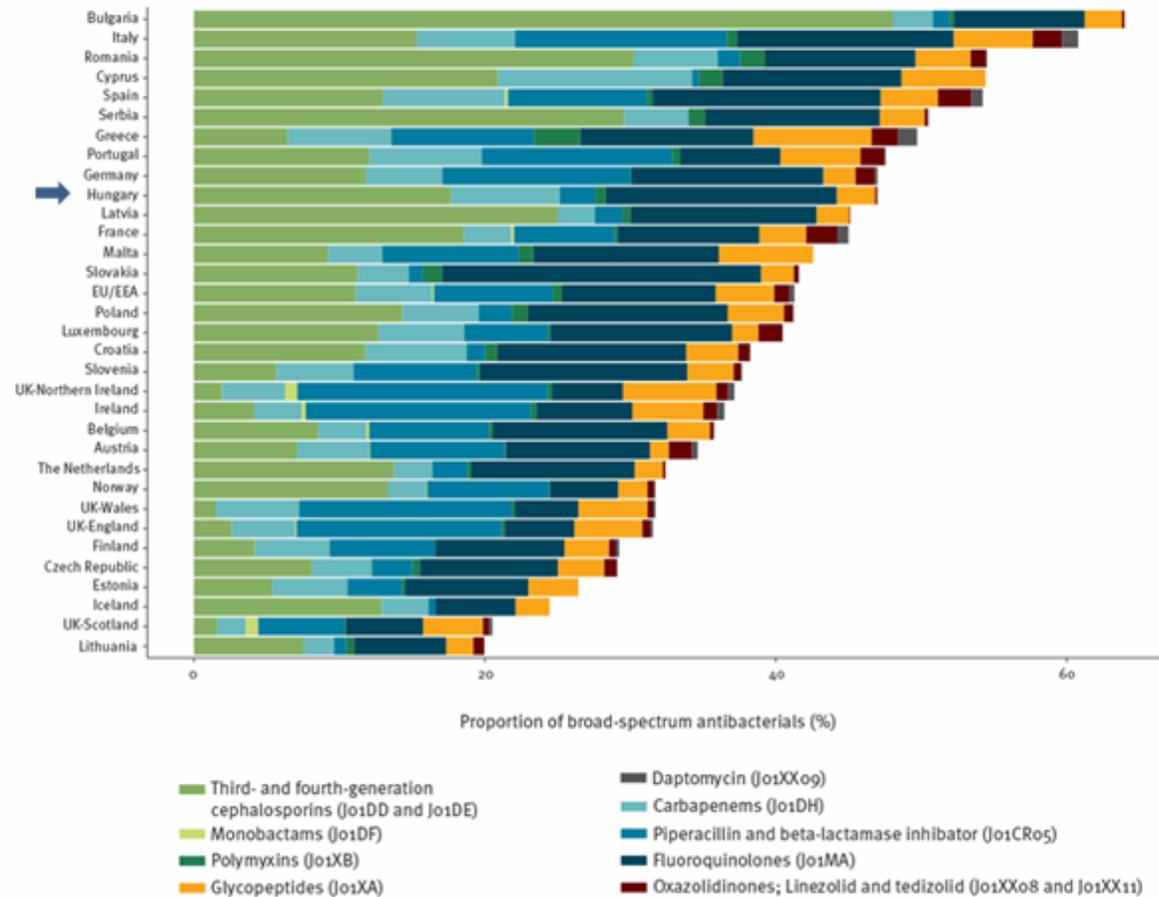
- **In-patient care:** Hospital ICACs are mandated to monitor antimicrobial consumption at facility level, but there is currently no national methodology on how to do so.
- **Primary care:** The National Health Insurance Fund Administration (NHIFA), within its quality indicator framework, is regularly monitoring antibiotic prescription rates of individual general practitioners (GPs).

# Monitoring of antimicrobial consumption (national level)

- Hungary is contributing to the European Centre for Disease Prevention and Control's (ECDC) **European Surveillance of Antimicrobial Use Network (ESAC-Net)**, reporting **annual sales data** on antimicrobial consumption in both the **inpatient and outpatient sectors**.
- All hospitals providing acute care in Hungary are obliged to participate in the **ECDC point prevalence survey (PPS) of healthcare-associated infections and antimicrobial use**.
- Sales and PPS data indicate a **widespread misuse of antibiotics in Hungary** (e.g. proportionally high use broad-spectrum agents, particularly quinolones, low use of narrow-spectrum antibiotics, and high seasonal variation), even though **the country is among the lower antibiotic users in the European Union in terms of quantity**.

# Quality indicator (inpatient care)

**Broad-spectrum antibiotic use rates** as defined by ECDC, EMA and EFSA, based on the results of the European Point Prevalence Survey 2016-2017.



Source: [Plauchouras et al. \(2018\)](#)

# Quality indicators (outpatient care)

**ESAC-Net quality indicators** for antibiotic consumption in the community in Europe, value in Hungary against the distribution of reporting countries, expressed in DDD per 1000 inhabitants per day or as percentage (as applicable), 2019

| Indicators                  |           | Hungary | Minimum value | 25th percentile | 50th percentile | 75th percentile | Maximum value |
|-----------------------------|-----------|---------|---------------|-----------------|-----------------|-----------------|---------------|
| <b>Consumption</b>          | J01       | 13.3    | 8.7           | 12.7            | 17.4            | 19.8            | 32.4          |
|                             | J01C      | 4.6     | 2.8           | 5.0             | 6.6             | 9.2             | 13.4          |
|                             | J01D      | 2.1     | <0.1          | 0.8             | 1.7             | 2.7             | 7.6           |
|                             | J01F      | 2.8     | 0.5           | 1.9             | 2.8             | 3.6             | 6.6           |
|                             | J01M      | 1.9     | 0.3           | 0.6             | 0.9             | 1.8             | 5.8           |
| <b>Relative consumption</b> | J01CE%    | 0.9%    | <0.1          | 0.5             | 1.8             | 6.3             | 26.7          |
|                             | J01CR%    | 29.2%   | 0.2           | 10.8            | 19.0            | 28.7            | 37.4          |
|                             | J01DD+DE% | 2.6%    | <0.1          | 0.1             | 0.7             | 2.8             | 10.1          |
|                             | J01MA%    | 14.5%   | 2.0           | 4.3             | 7.3             | 9.2             | 19.3          |
| <b>Broad / narrow</b>       | J01_B/N   | 71.6    | 0.2           | 4.5             | 15.2            | 53.5            | 597.7         |
| <b>Seasonal variation</b>   | J01_SV    | 44.4%   | 7.2           | 15.3            | 23.1            | 29.5            | 44.4          |
|                             | J01M_SV   | 42.5%   | 2.8           | 7.1             | 11.7            | 18.2            | 42.5          |

Notes: Coding is according to the Anatomical Therapeutic Chemical (ATC) classification classes of the WHO: J01, systemic antibiotics; J01C, penicillins; J01CE, beta-lactamase sensitive penicillins; J01CR, combination of penicillins, including beta-lactamase-inhibitor; J01D, cephalosporins; J01DD, 3rd generation cephalosporins; J01DE, 4th generation cephalosporins; J01F, macrolides, lincosamides and streptogramins; J01M, quinolones; J01MA, fluoroquinolones

Colour coding: light green = value within the first quartile, dark green = value within the second quartile, light orange = value within the third quartile dark orange = value within the fourth quartile

Source: Own editing, based on ECDC (2018)

# Conclusion

- Strong legal and institutional background
- Well-functioning data reporting system, but lack of national methodology on hospital-level data collection on antimicrobial consumption
- Antimicrobial stewardship programme not yet implemented at national level

Thank you for your kind  
attention!