Overview of AMR NAP Implementation in the Eastern Mediterranean Region

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AMR-IPC
WHO EMRO

Outline

- Regional Context
- Regional Progress on AMR NAP Implementation
- AMR and COVID-19
- Challenges
- Way forward

Countries in the WHO Eastern Mediterranean Region

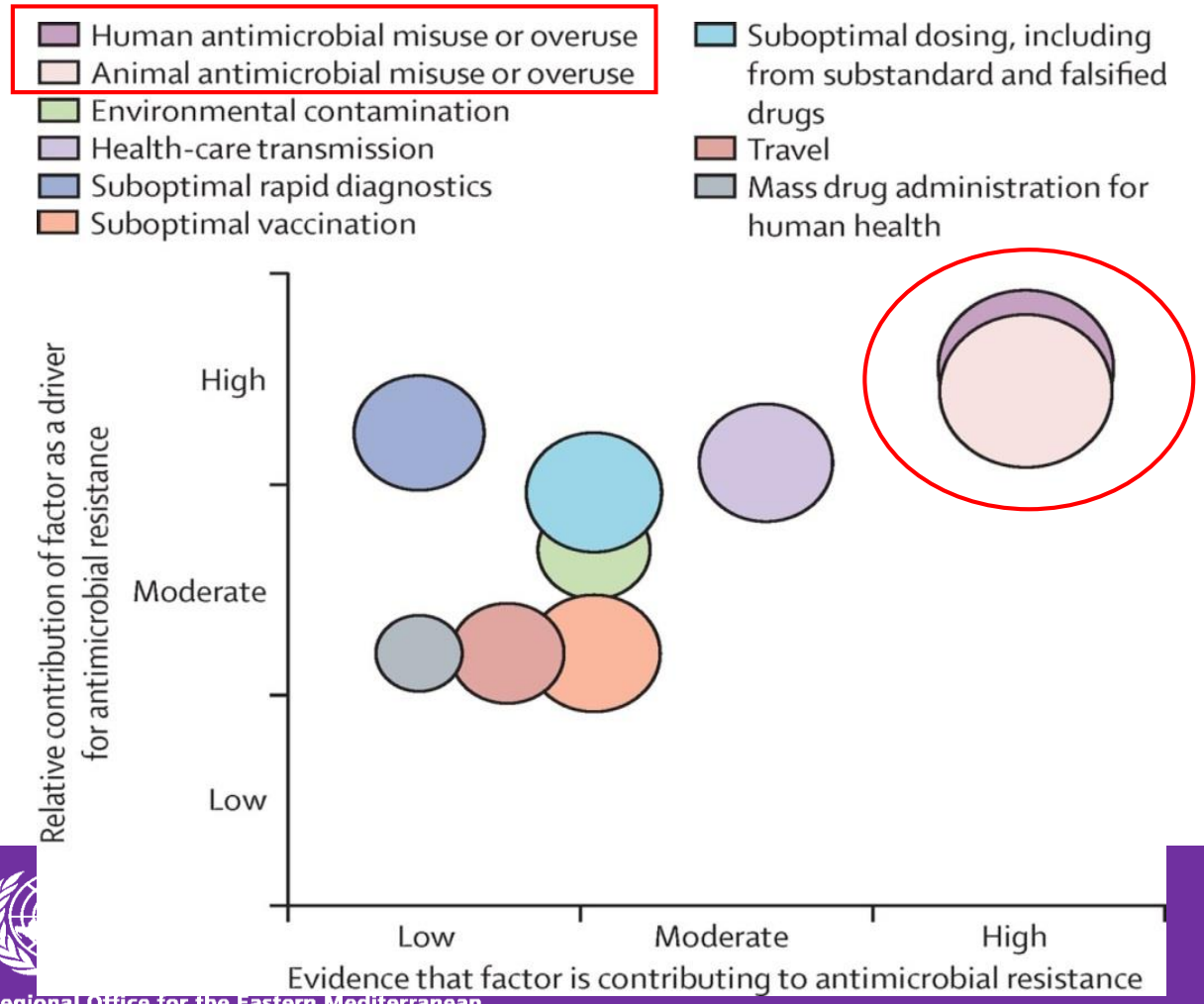
Countries in the WHO Eastern Mediterranean Region

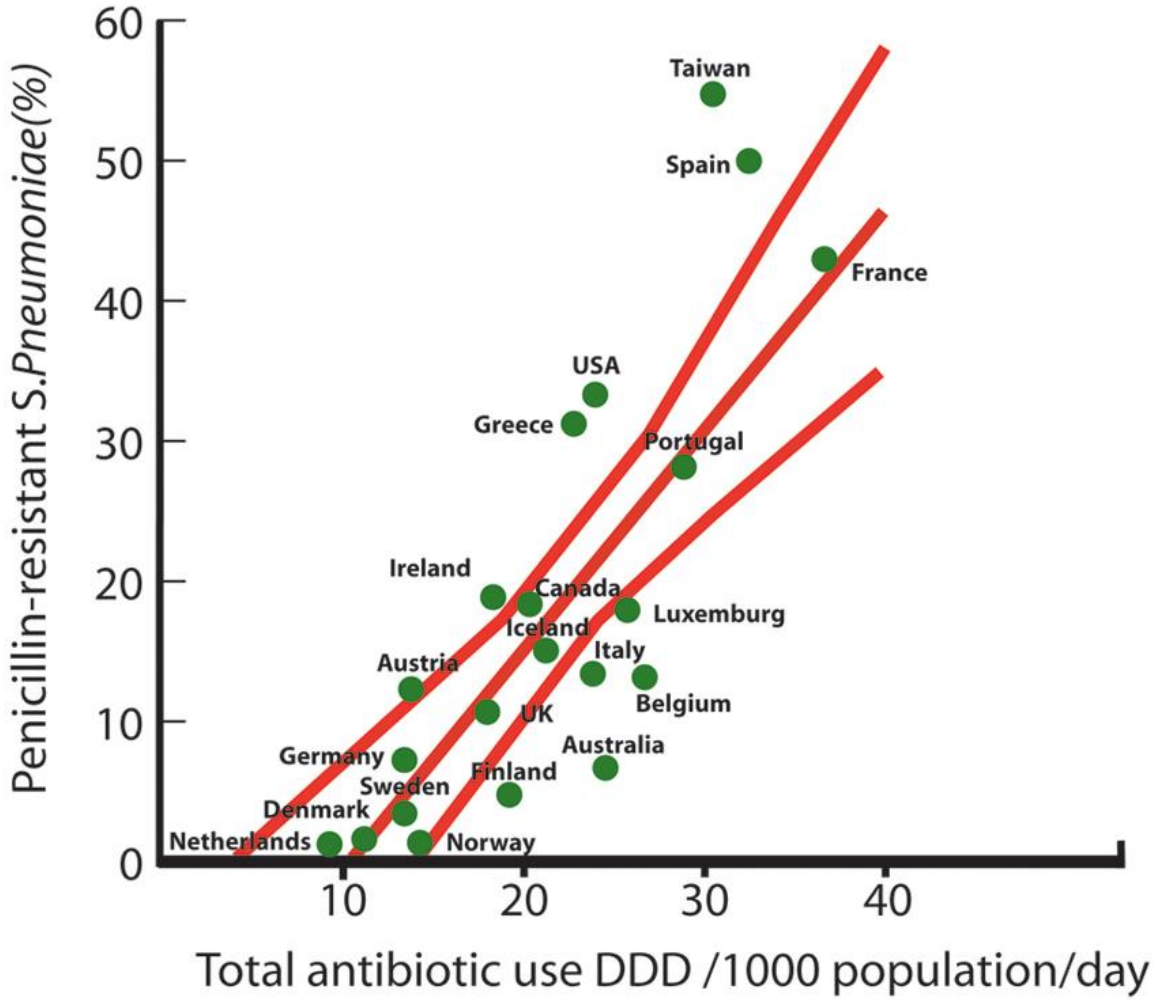
Afghanistan
Bahrain
Djibouti
Egypt
Iran
Iraq
Jordan
Kuwait
Lebanon
Libya
Morocco
Oman
Pakistan
Qatar
Saudi Arabia
Somalia
Sudan
Syrian Arab Republic
Tunisia
United Arab Emirates
Yemen

- 22 countries
- 664,000 population
- Varied economic and health system status
- 2/3 countries in crisis situation
  - fragile health systems
  - limited resources
  - competing health priorities

The More we use antibiotics, the More we lose them

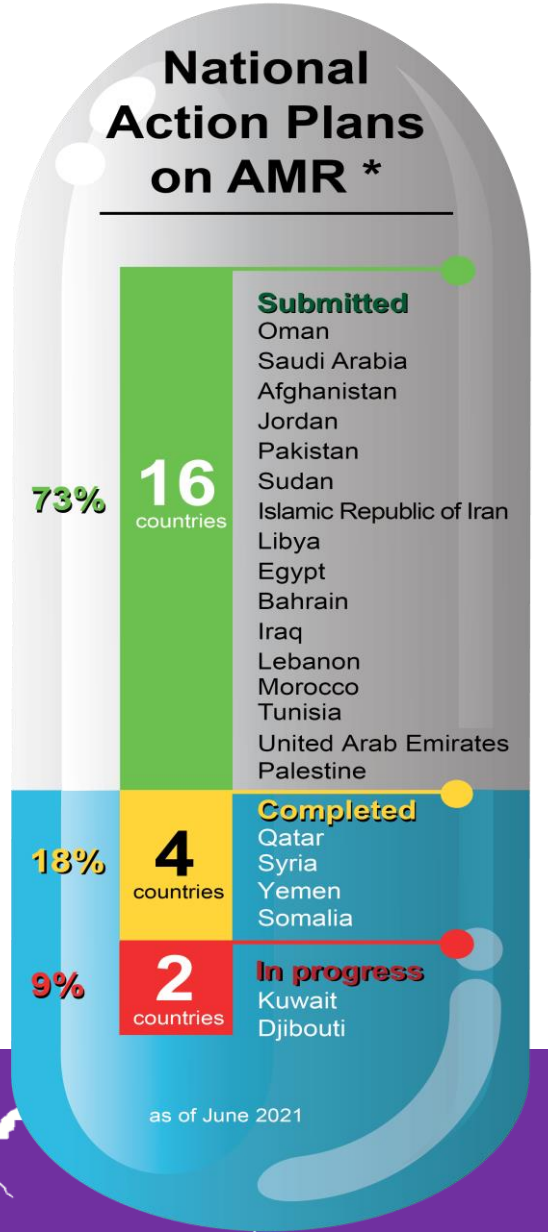
- **Widespread use of antimicrobials accelerates AMR (selection pressure on microorganisms)**
- **Documented association between AMU and AMR**





Governance and multisectoral coordination
"One Health Approach"

- Whole of society engagement in preparation and implementation of NAP
  - Human health, animal health, plants, agriculture, food, environment, laboratories, academia, private sector, civil society
- National AMR coordination committee
  - Multi-sectoral
  - Authority to act, accountable, dedicated funds, technical experts
  - Facilitate and oversee implementation, monitoring and evaluation of AMR NAP
  - Ensure regular data collection and information sharing among all relevant sectors and stakeholders



Global AMR Action Plan-Strategic Objectives

1. Improve awareness and understanding of AMR through effective communication, education and training
2. Strengthen the knowledge and evidence base through surveillance and research
3. Reduce the incidence of infection through effective sanitation, hygiene and infection prevention measures
4. Optimize the use of antimicrobial medicines in human and animal health
5. Develop the economic case for sustainable investment in new medicines, diagnostic tools, vaccines

World Health Organization

Regional Office for the Eastern Mediterranean

Antimicrobial resistance a shared responsibility

AMR Awareness

in the Eastern Mediterranean Region

Nov 2020

Improve awareness and understanding of antimicrobial resistance through effective communication, educatio

- **Annual WAAW Celebration**
  - ✓ **Annual global campaign** to increase awareness
  - ✓ **Technical Support to countries**
    - ✓ **Printed Materials, videos, social media posts**

www.emro.w

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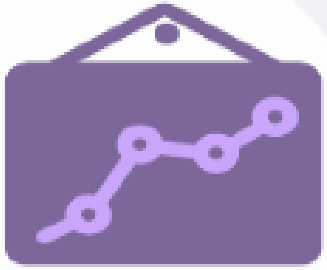
http://www.who.int/drugresistance/global_action_plan/en

What data does GLASS collect?

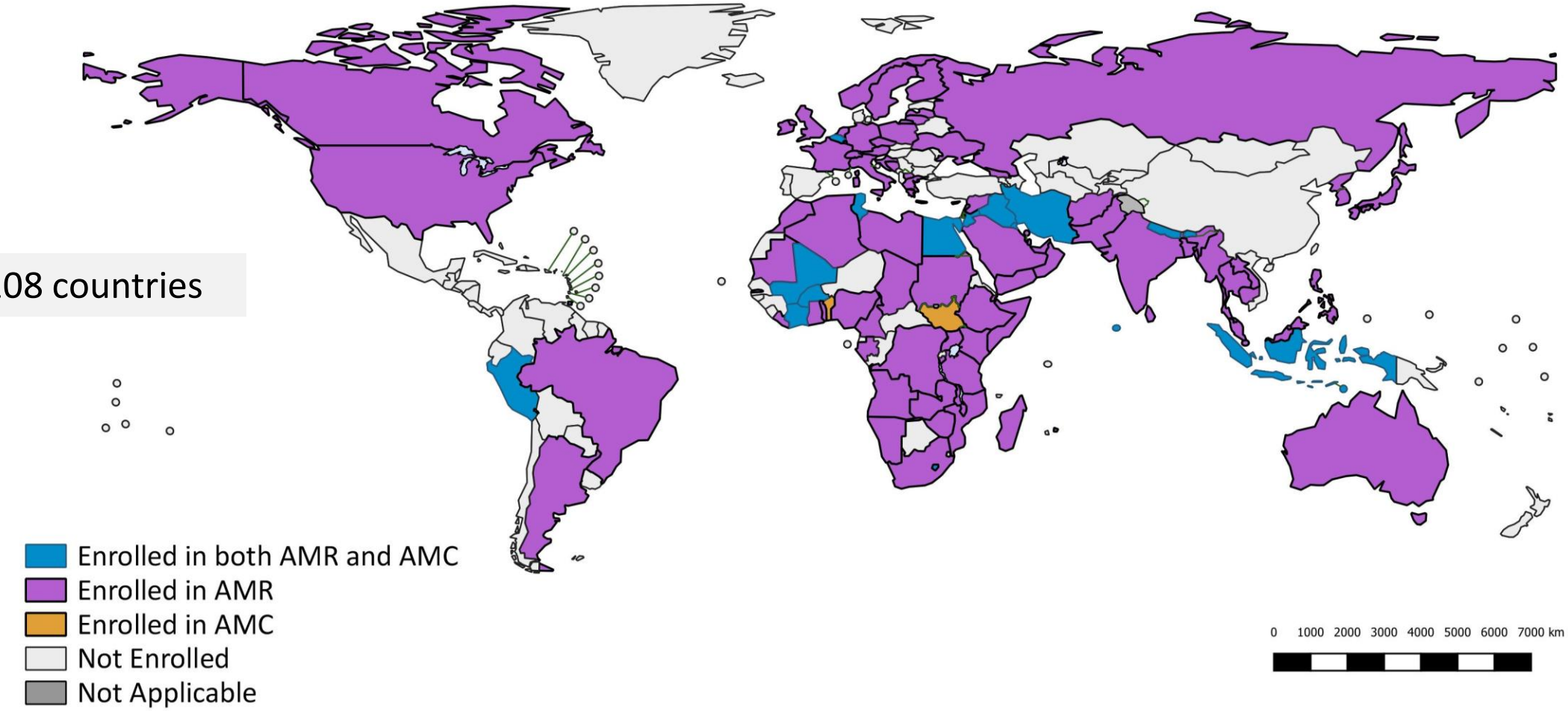
- Status of national AMR surveillance system
  - Indicators collected: overall coordination, surveillance system structure, and quality control



- AMR data
  - For 8 priority human bacterial pathogens isolated from clinical specimens from patients suspected to have infections
    - blood, urine, stool, and cervical and urethral specimens
  - population data:
    - ✓overall number of patients tested per specific specimen
    - ✓age, gender, and infection origin (hospital versus community)

Countries enrolled in GLASS as of April 2021

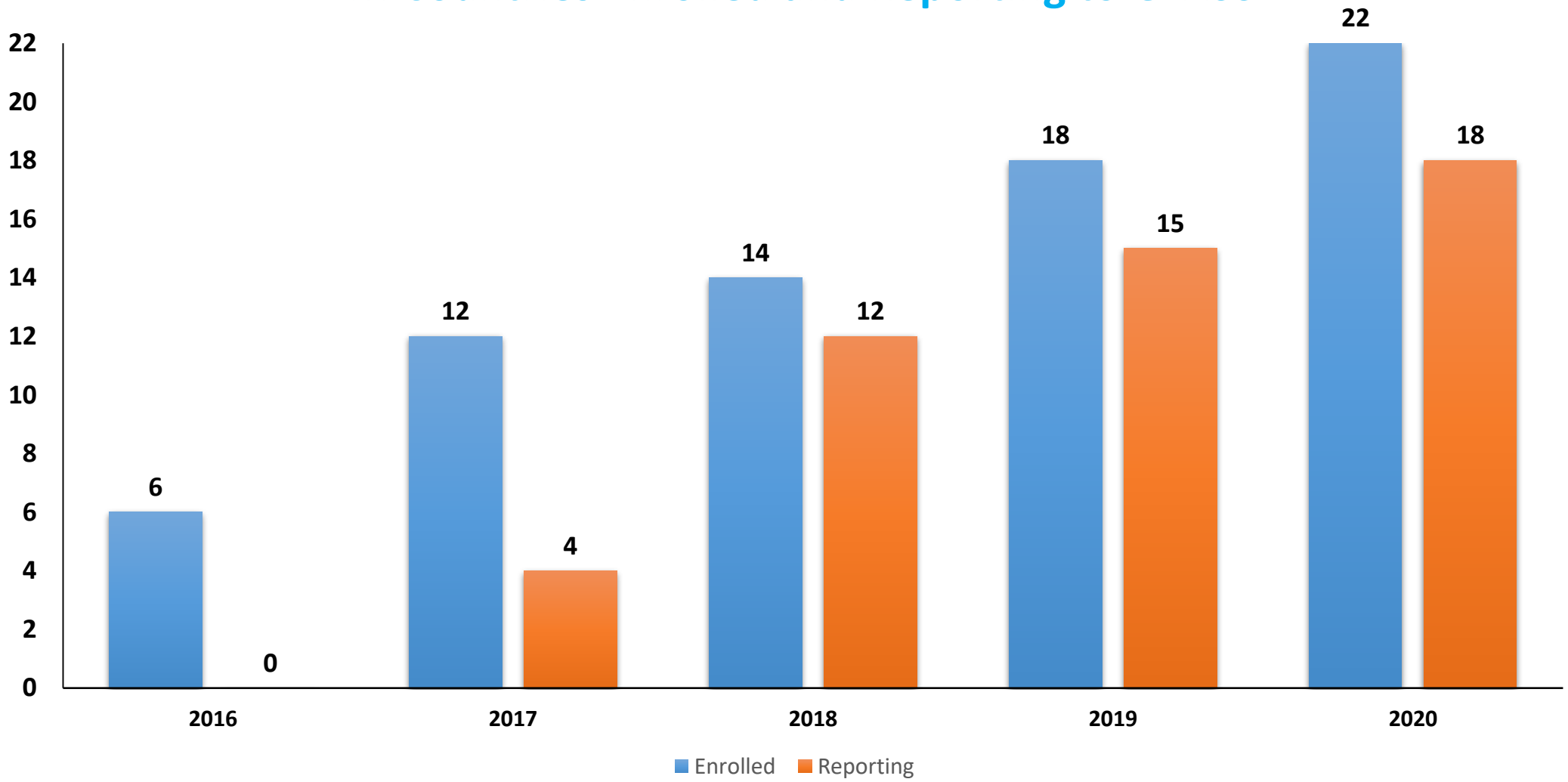
N = 108 countries



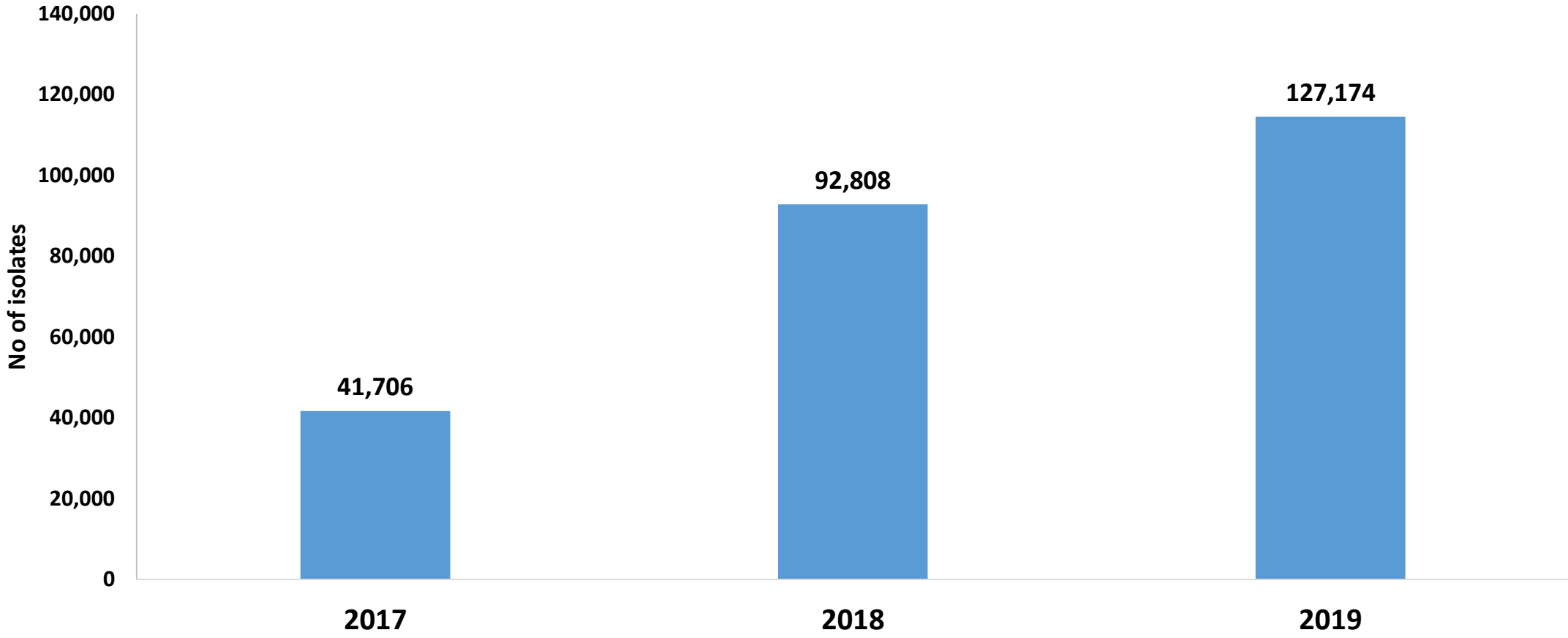
Data source: World Health Organization
Map production: Information Evidence and Research (IER)
World Health Organization

World Health Organization

EM Countries Enrolled and Reporting to GLASS

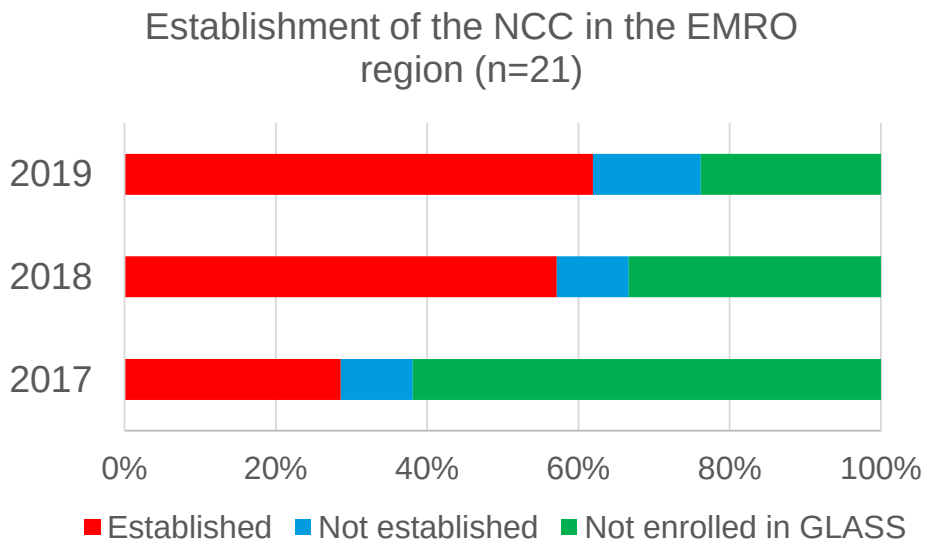


Total Number of isolates reported to GLASS platform, EM region, 2017 – 2019

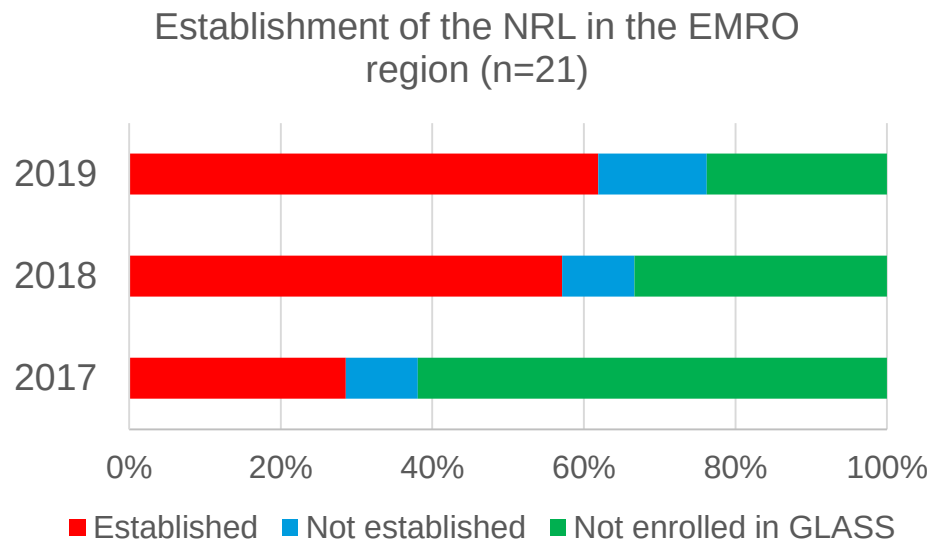


Summary status of national surveillance systems reported by 21 countries, territories and areas in EMRO

- More countries have established or are in the process of establishing NCCs and have designated the NRL



Establishment of National Coordination Centre (NCC) per EMRO countries, territories and areas and year

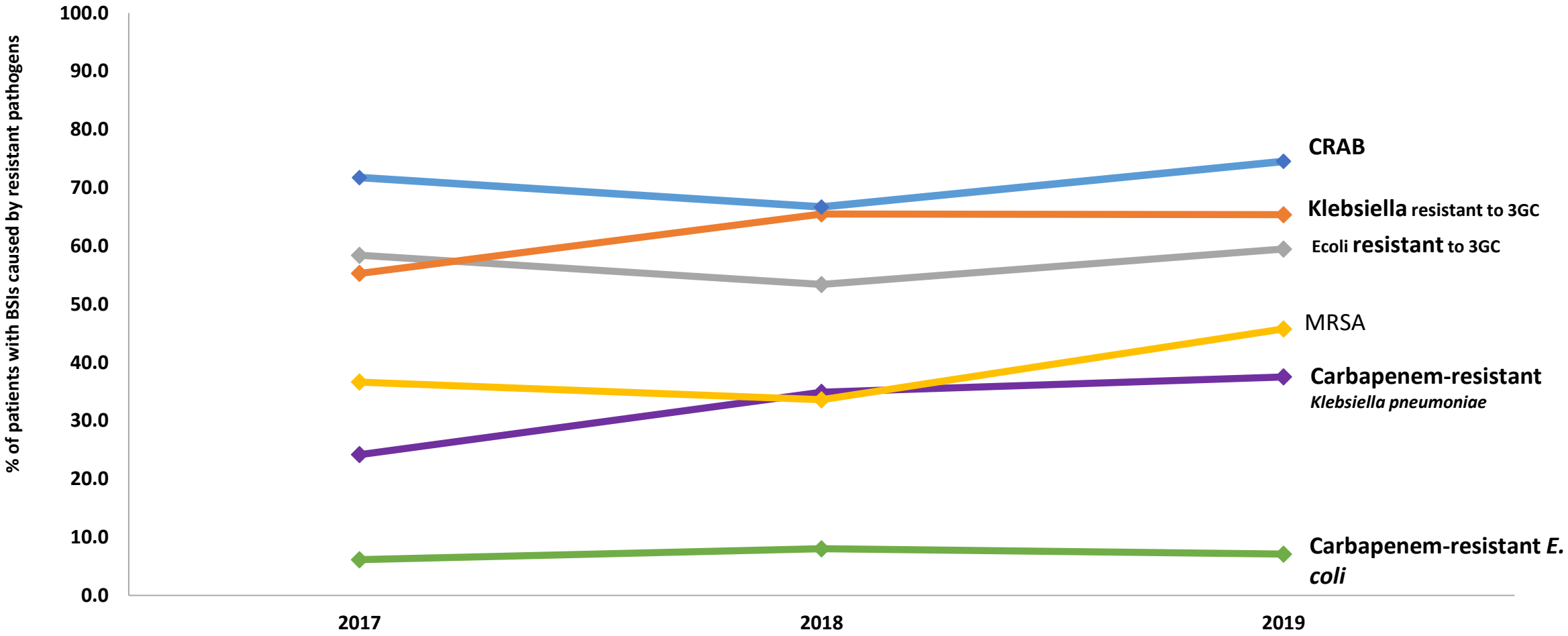


Establishment of national reference laboratory (NRL) per EMRO countries, territories and areas, by region and year

AMR data: Progress in reporting in EMRO

Reported to GLASS - AMR	2017	2018	2019
Number of sites			
Hospitals	30	100	168
Outpatients clinics	26	128	204
Laboratories		6	1
Total	**56**	**234**	**373**

Proportion of Patients with BSI caused by resistant pathogens, 2017-2019



Sustainable Development Goal AMR Indicator

Goal 3: Ensure healthy lives and promote well-being for all at all ages

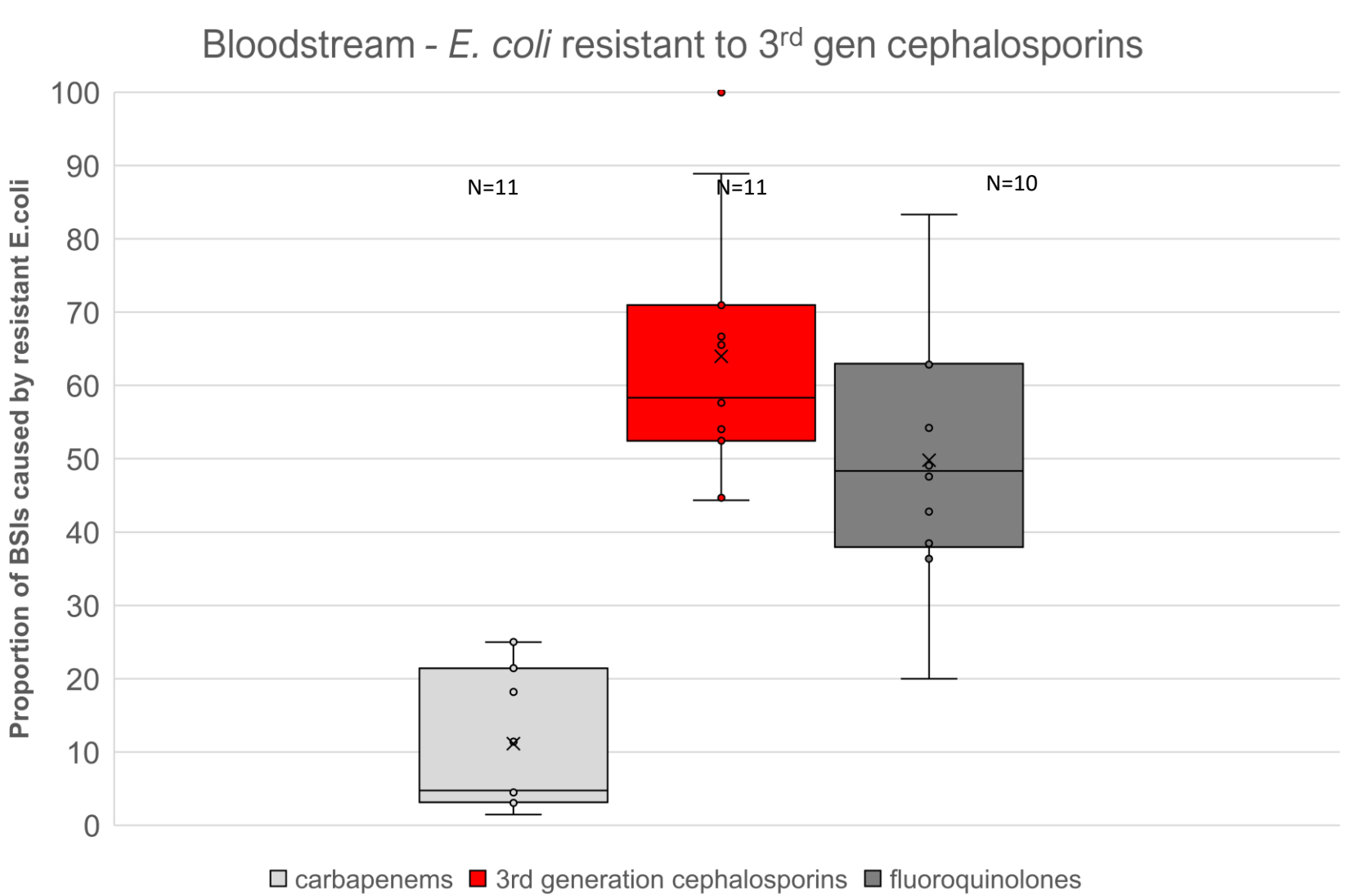
TARGET 3.d: Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks

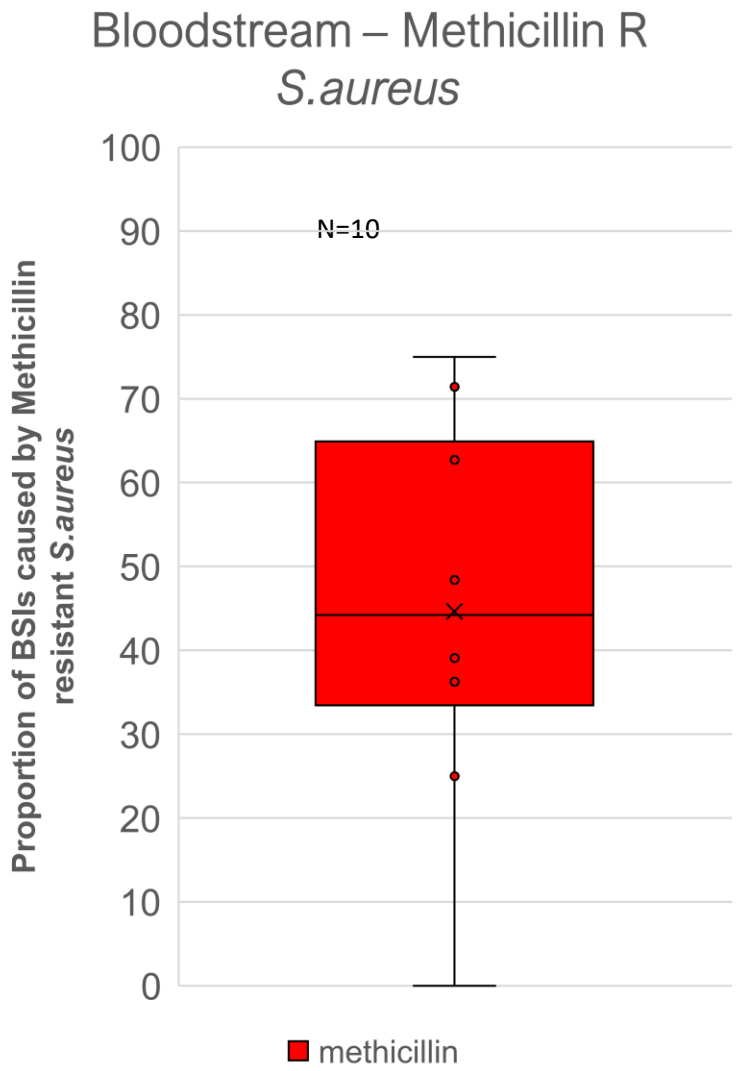
NEW Indicator 3.d.2 -Percentage of bloodstream infections due to selected antimicrobial-resistant organisms

- methicillin-resistant *Staphylococcus aureus* (**MRSA**)
- *Escherichia coli* resistant to 3rd generation cephalosporin

Representative surveys with geographic coverage and quality laboratory data

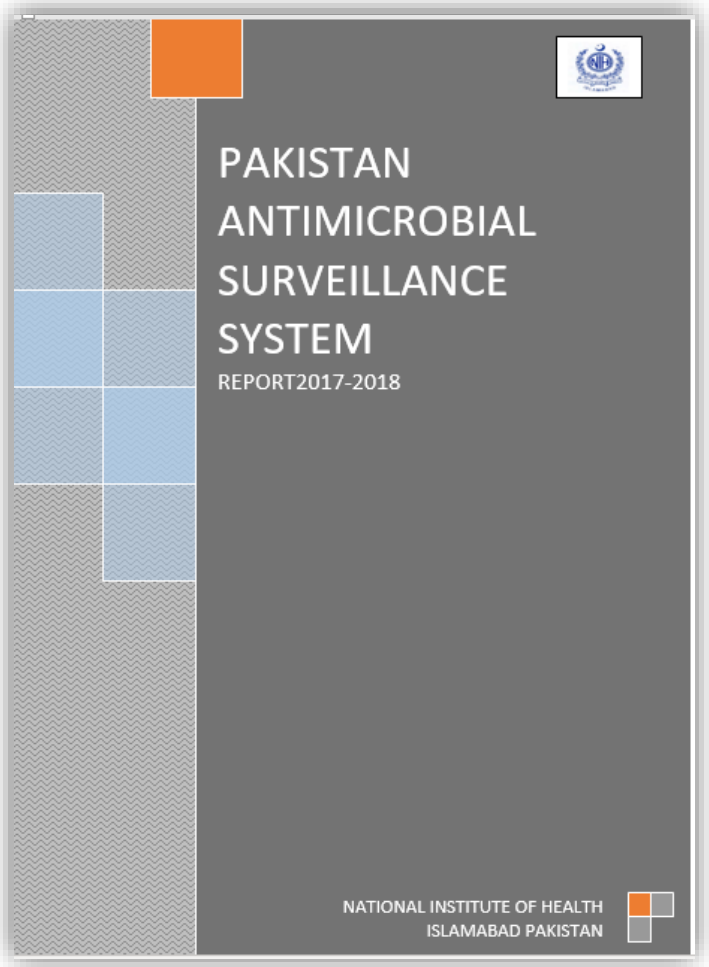
EMRO Bloodstream infections (2019 AMR data)





Achievements in implementation of national AMR surveillance in EMRO countries:

- 10 priority EMRO countries to establish national AMR surveillance
- IT solutions developed to support compilation of national AMR surveillance data
- Expansion of national surveillance sites
- Development of national AMR surveillance plans
- Launching national AMR surveillance reports
- National capacities to train on WHONET
- Utilization of national AMR data for designing and implementing national AMS programmes



One Health AMR surveillance
ESBL Ec Tricycle project

Simple surveillance across the three main sectors

Simple microorganism and resistance mechanism as indicator

- Establish an Integrated Surveillance System to monitor ESBL producing E. coli in three main areas, human, food chain and the environment
- Establish a simple and standardized methodology to isolate and monitor ESBL producing E. coli
- Compare the prevalence of ESBL E. coli in each of the 3 areas

Human

Food chain

Environment

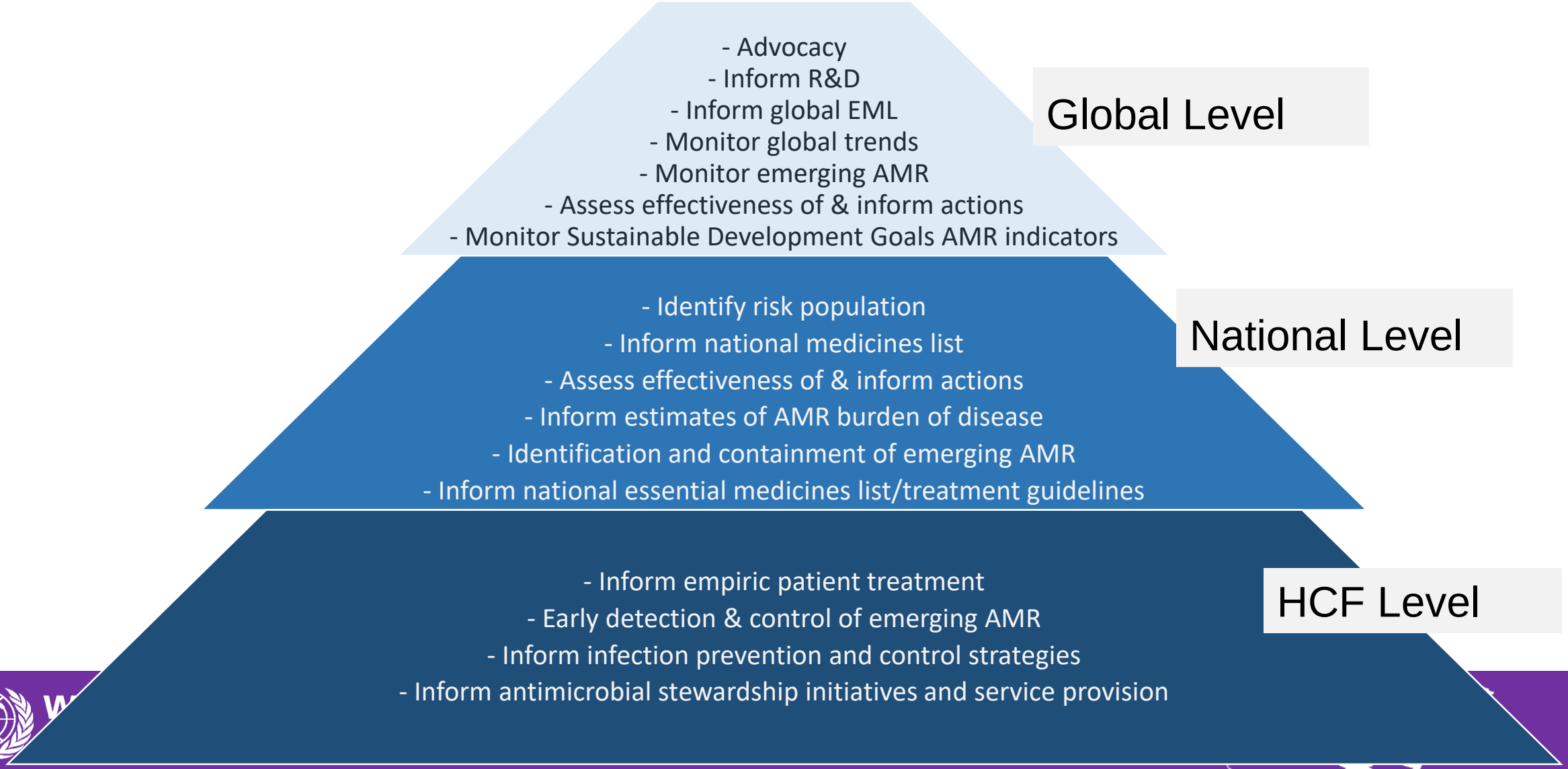
Overview – ESBL E. coli integrated One Health Surveillance

- Pakistan is one of the first global pilot countries

- 5 countries are currently implementing the survey
  - Pakistan, Iran, Jordan, Morocco & Sudan

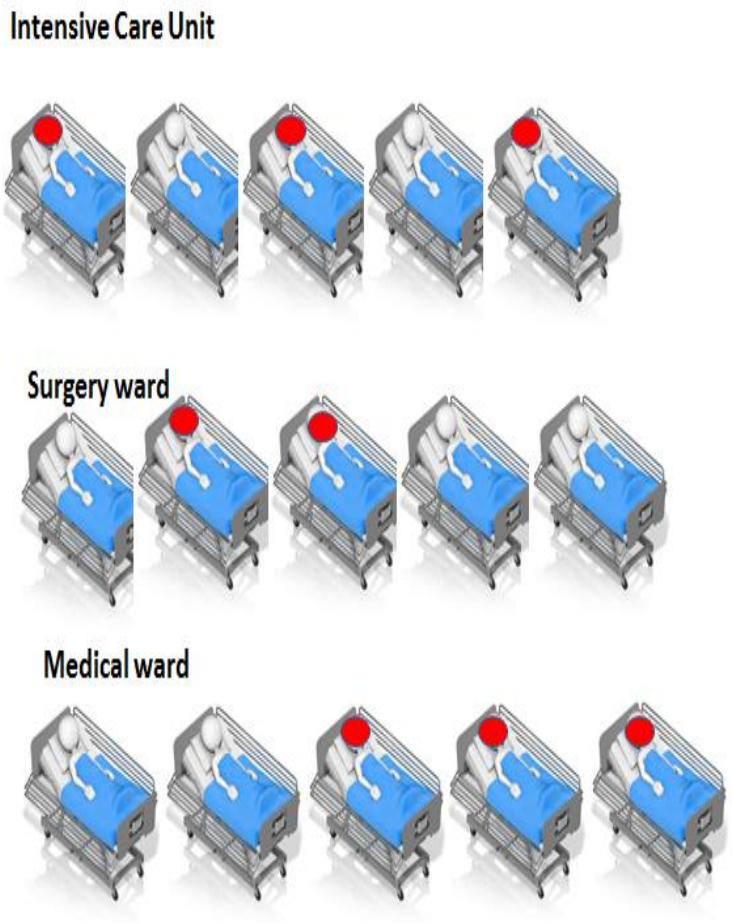
- All are middle income countries with high animal food production

The use of AMR / AMU data at different levels



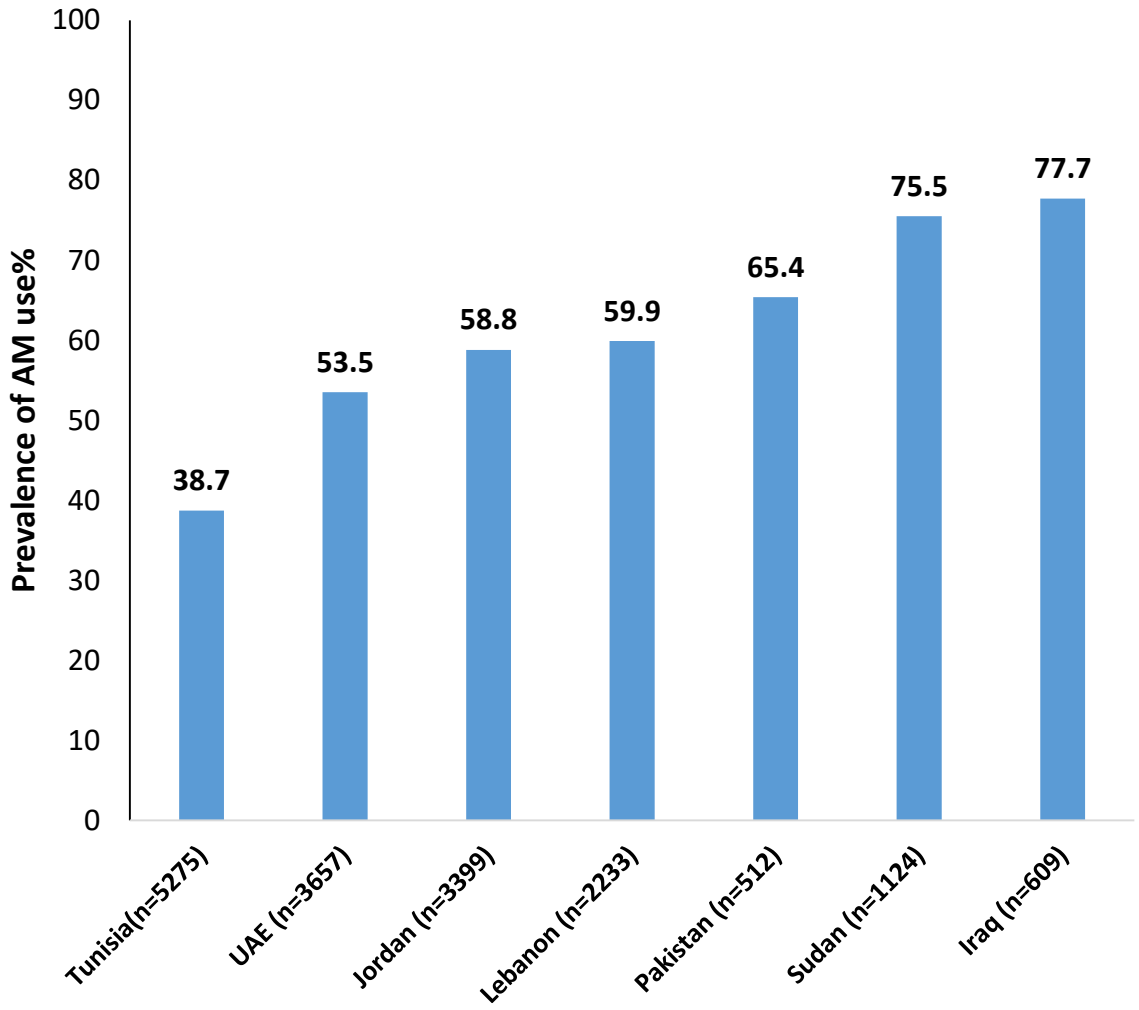
Point Prevalence Surveys on Antimicrobial Use
EMR countries 2019 -2020

- Aim: Measure the prescription practices of antibiotics among hospitalized patients
- Standardized WHO methodology
- 7 countries
  - Iraq, Sudan, Tunisia, Pakistan, Jordan, Lebanon & United Arab of Emirates
- 142 hospitals

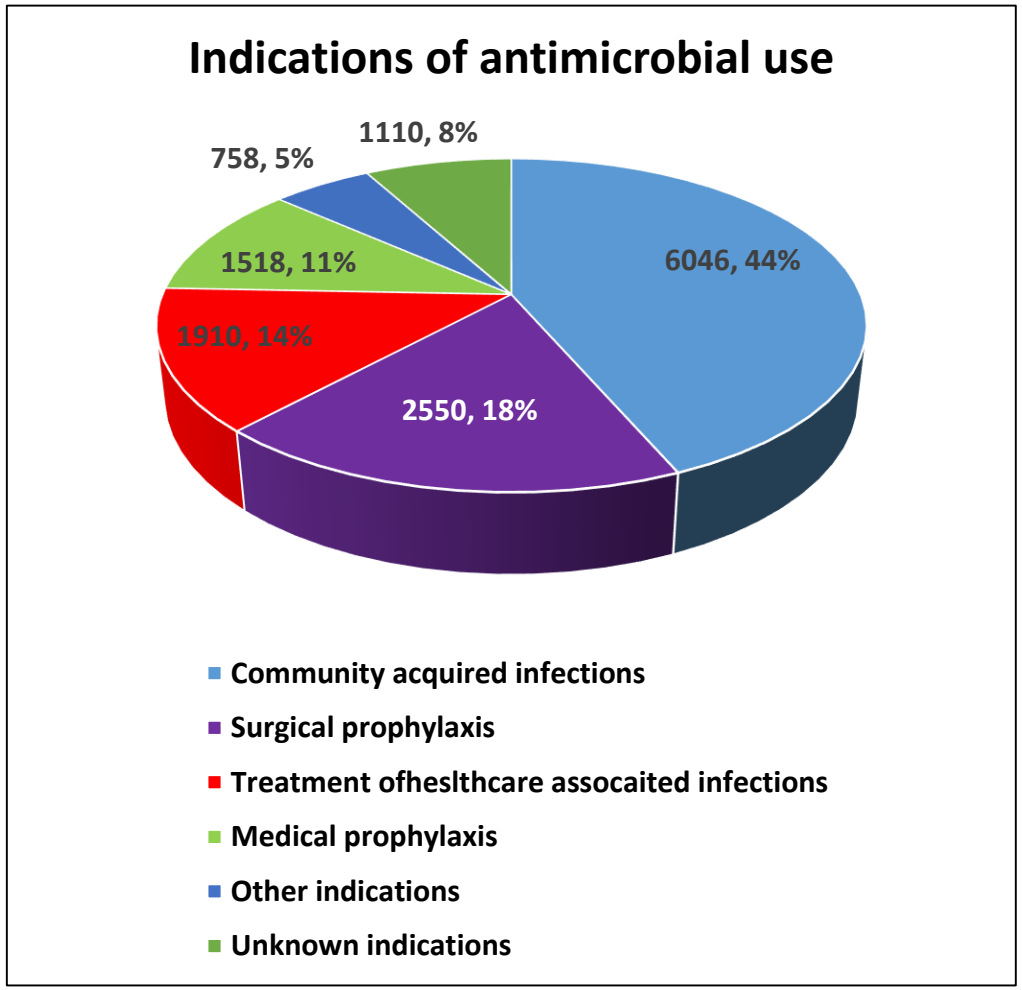


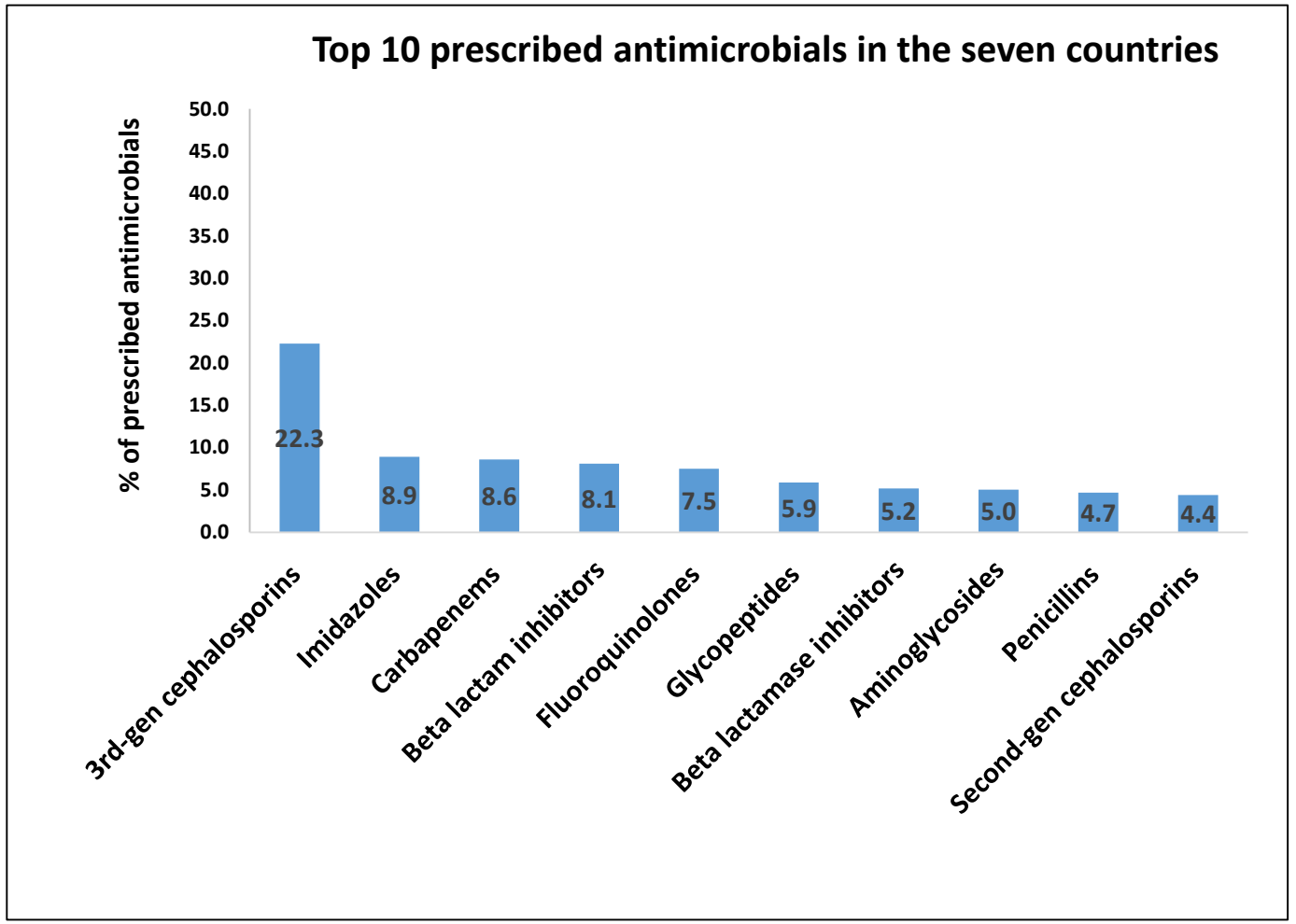
Point Prevalence Surveys of Antimicrobial use-EMRO

- Standardized regional protocol developed
- Aim: Measure the prevalence and types of antimicrobials prescribed for hospitalized patients
- Seven countries participated
  - Jordan, Sudan, Pakistan, United Arab of Emirates, Tunisia, Lebanon, and Iraq
  - 128 hospitals
  - 16,551 patients surveyed
  - 8,814 (53.3%) patients received antibiotics

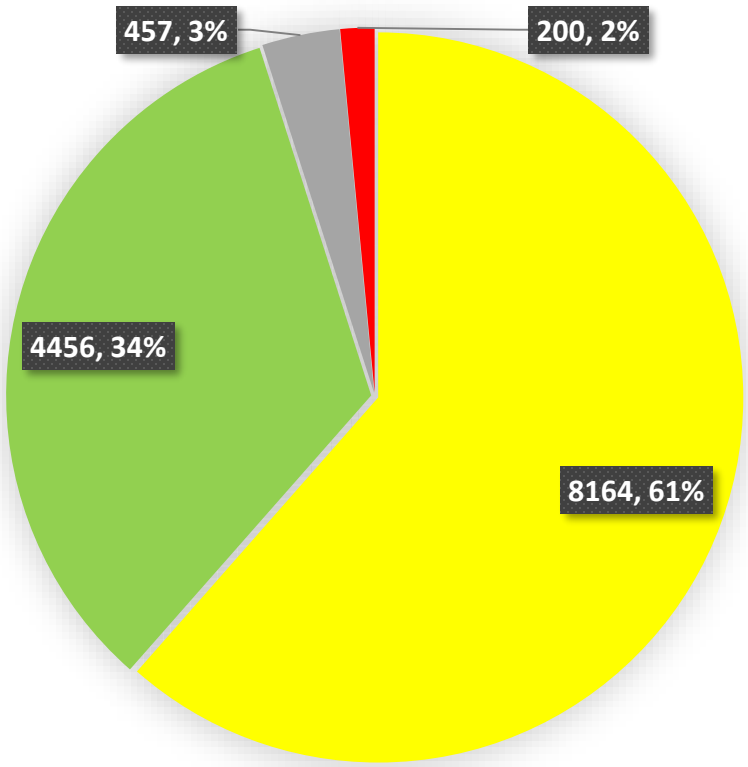


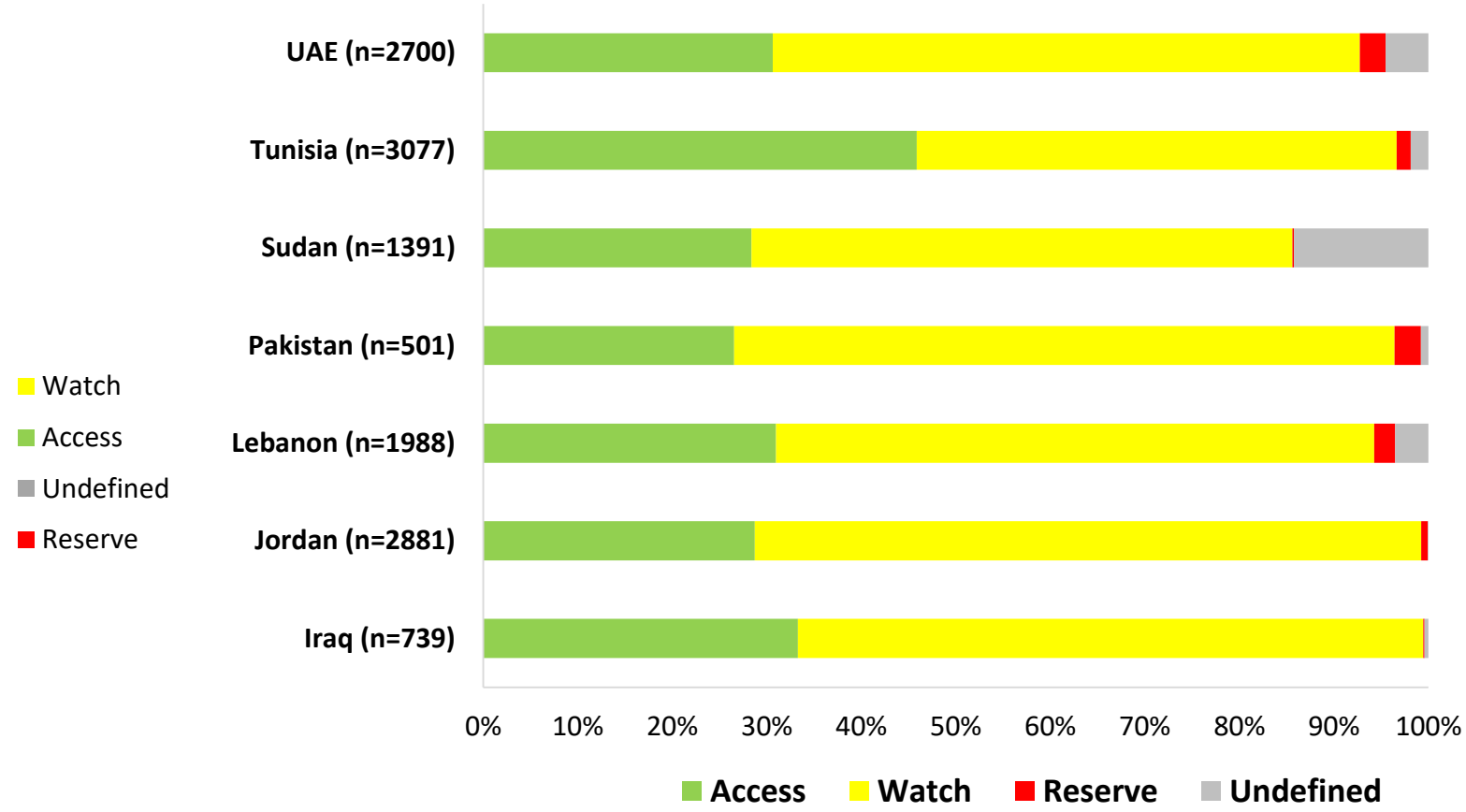
Antimicrobial use - Indications





Antimicrobial use – AWaRe classification





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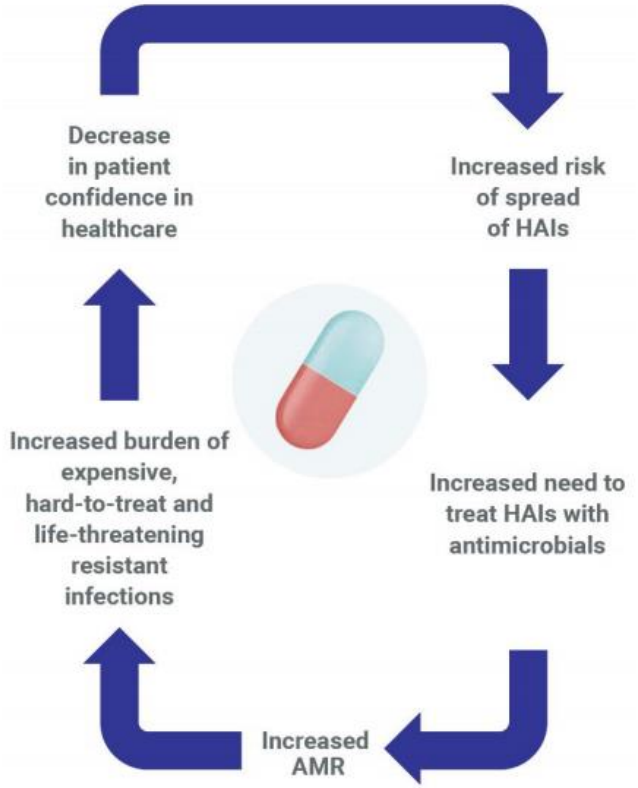
AMR and Infection Prevention & Control (IPC)

Achieve implementation/improvement of the full requirements of all core components to effectively reduce HAIs and AMR



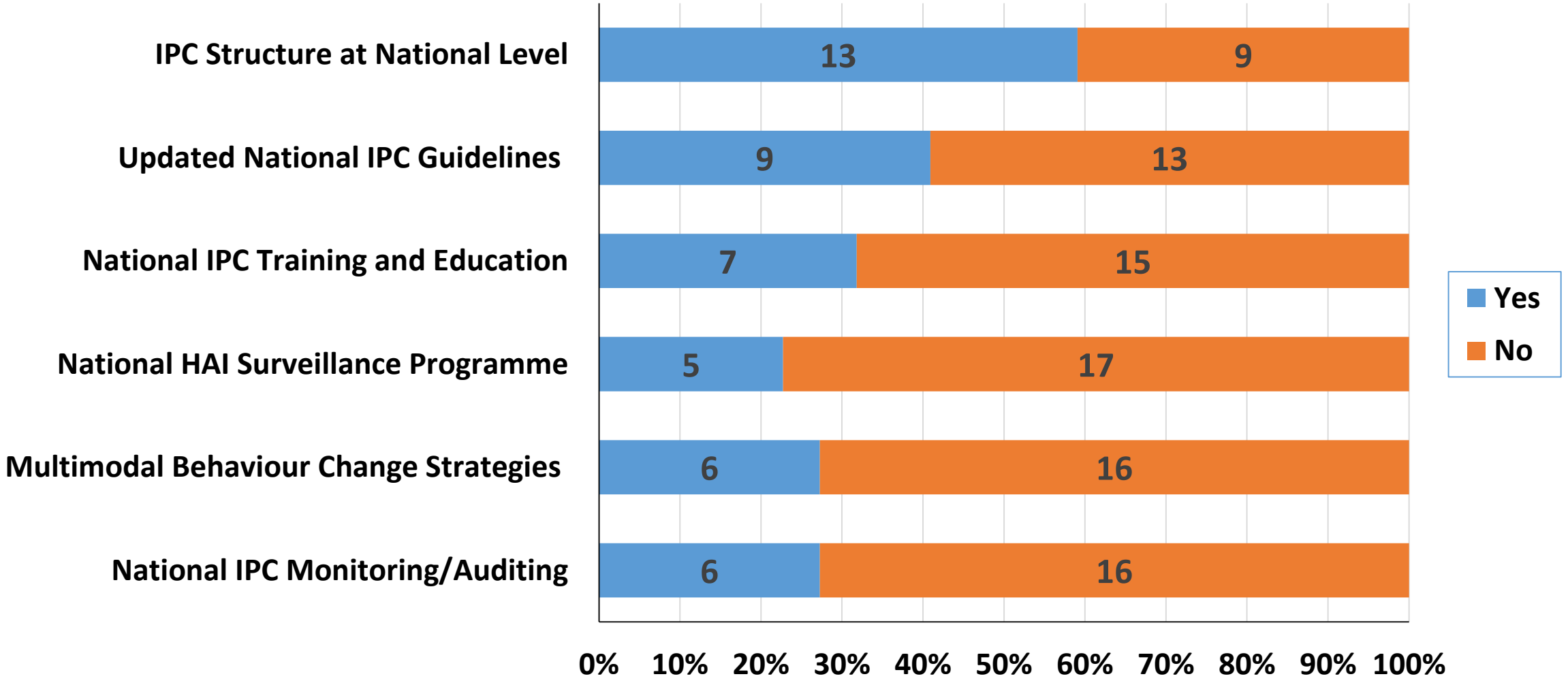
Source: https://www.who.int/infection-prevention/tools/IPC_AMR_A4.pdf?ua=1

"Strong IPC is vital for protecting health, stopping the spread of drug resistance bacteria and preparing for and responding to outbreaks."

Dr Tedros Adhanom Ghebreyesusand,
Director General WHO

- Without effective IPC, it is impossible to achieve quality health care delivery and the capacity to respond to outbreaks is severely compromised

Status of IPC Programs at EMRO Countries- 2020



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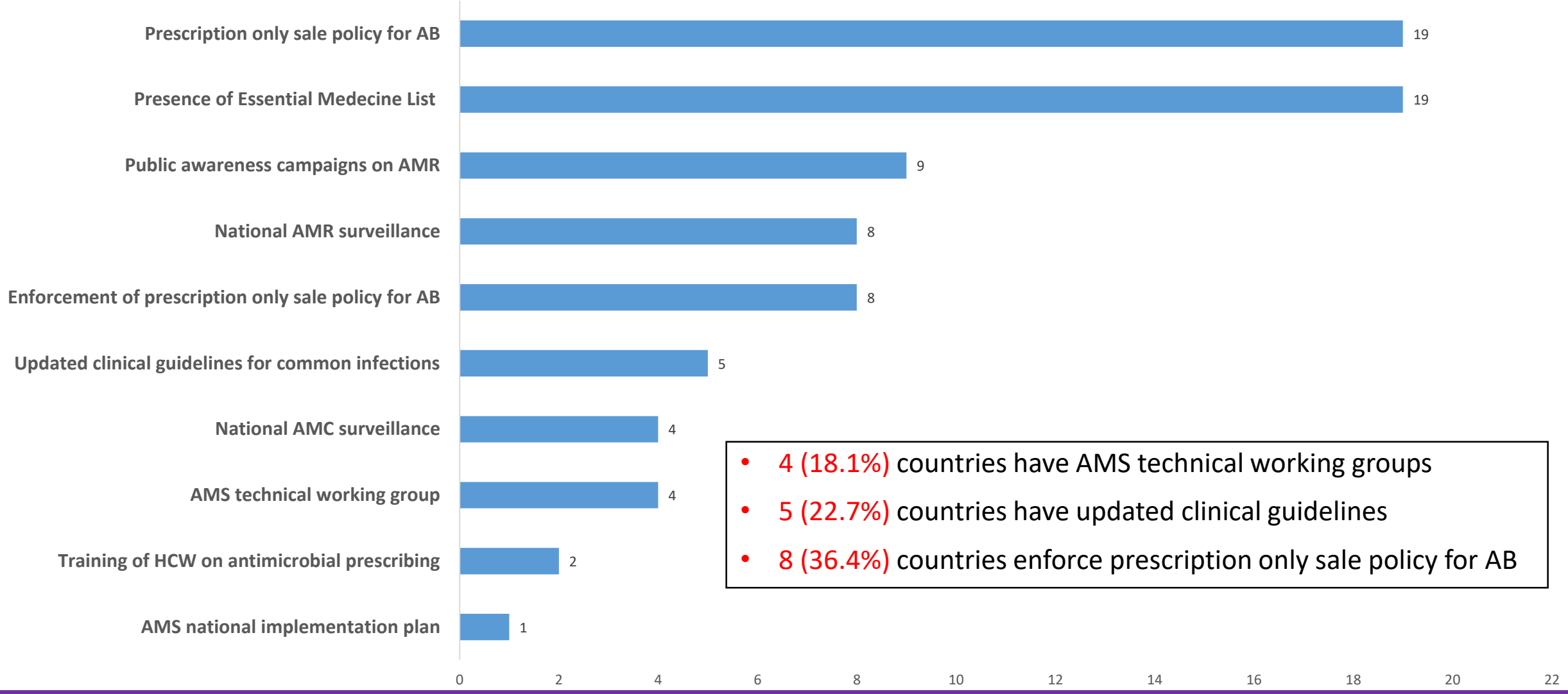
AMS capacities using WHO tool



- 4 (18.1%) countries have AMS technical working groups
- 5 (22.7%) countries have updated clinical guidelines
- 8 (36.4%) countries enforce prescription only sale policy for AB

WHO policy on integrated antimicrobial stewardship activities

Pillar 1: Establish and Develop National Coordination Mechanisms for antimicrobial stewardship and Develop Guidelines.
1. Establish and maintain a National Coordinating Mechanism for antimicrobial stewardship that is functional at national, subnational and district levels.
2. Develop national treatment and stewardship guidelines, standards and implementation tools
Pillar 2: Ensure Access to and Regulation of Antimicrobials
3. Improve access to essential, quality assured, safe, effective and affordable antimicrobials
4. Regulate social triggers and remuneration policies that promote antimicrobial prescription and dispensing behaviors
5. Legislate and regulate responsible and appropriate use of antimicrobials
Pillar 3: Improve Awareness, Education and Training.
6. Improve awareness and engagement to support behavioral change of antimicrobials use
7. Strengthen health worker capacity through the provision of tailored education and training packages according to health worker roles and functions.
Pillar 4: Strengthen Water, Sanitation and Hygiene and Infection Prevention and Control.
8. Enhance Water, Sanitation and Hygiene in health facilities and communities
9. Implement Infection Prevention and Control core components in health facilities
Pillar 5: Surveillance, Monitoring and Evaluation
10. Surveillance of antimicrobial use and consumption
11. Surveillance of antimicrobial resistance
12. Monitoring and evaluation of antimicrobial stewardship activities

Finalized following a global virtual consultation on the draft policy 2-3 December 2020

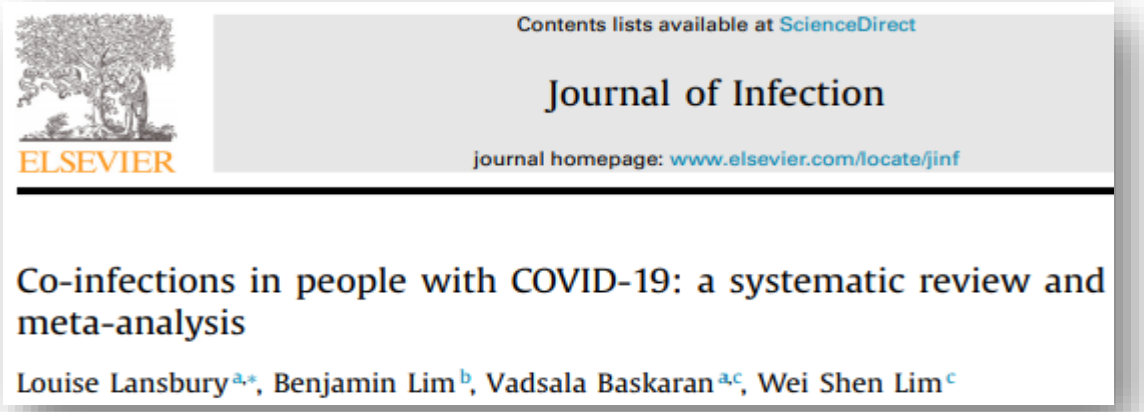
AMR and COVID-19

Bacterial and Fungal Coinfection in Individuals With Coronavirus: A Rapid Review To Support COVID-19 Antimicrobial Prescribing FREE

Timothy M Rawson, Luke S P Moore, Nina Zhu, Nishanthy Ranganathan, Keira Skolimowska, Mark Gilchrist, Giovanni Satta, Graham Cooke, Alison Holmes

Clinical Infectious Diseases, ciaa530, https://doi.org/10.1093/cid/ciaa530

Published: 02 May 2020 **Article history** ▾



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Journal of Infection

journal homepage: www.elsevier.com/locate/jinf

Co-infections in people with COVID-19: a systematic review and meta-analysis

Louise Lansbury[a,*], Benjamin Lim[b], Vadsala Baskaran[a,c], Wei Shen Lim[c]

- Major abuse of antibiotics for COVID-19 infections when not indicated
- 72% received antibiotic therapy - broad-spectrum antibiotics
- 7-8% hospitalized COVID-19 patients had secondary co-infections
- Higher proportion of antibiotic use among ICU patients
- Impact of antibiotic abuse on AMR to be further studied

Challenges

- Political unrest and crisis in many countries
  - Yemen, Syria, Iraq, Afghanistan, Djibouti, Somalia, Lebanon, Palestine
- Weak healthcare systems
- Buy-in, domestic funding and resource mobilization
- Limited Tripartite coordination at the country level between WHO, FAO & OIE
- Limited inter-sectoral collaboration between human, animal, environment
- Limited awareness on AMR and IPC across all sectors
- Limited capacities at national levels in low resourced settings

Challenges

- Poor-quality of medicines, insufficient regulation & inappropriate use of antimicrobials,
- Inadequate or inexistent programs for infection prevention and control
- Weak microbiology laboratory capacity & inadequate surveillance
- Underutilization of microbiological diagnostics in clinical practice
- Insufficient incentives to change actions to conserve antibiotic effectiveness
  - Patients, physicians, hospitals, pharmaceuticals, agricultural

AMR and UHC/health systems strengthening
Challenges and Opportunities

Challenges of AMR to health systems strengthening

- Higher mortality and morbidity
- More difficult to treat infections
- Longer hospital stay
- Need for more costly treatment
- Up to 25% increase in health-care costs in low income countries
- Heavy burden on health systems

Addressing AMR is core for strengthening health systems

- ✓ Resilient health system to prevent, diagnosis and manage infections
- ✓ Cleaner and safer health-care facilities
- ✓ Optimize use of antibiotics
- ✓ Health workforce that understands and appropriately manages infections/AMR
- ✓ Effective collaboration with other sectors

Acknowledgements

- National AMR teams in EMRO countries
- WHO Country Office focal points
- AMR/IPC unit team
- WHO HQ AMR colleagues

Thank you