



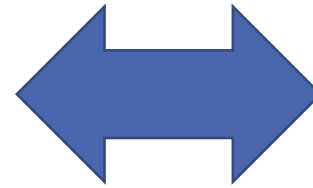
# Workstream 3: AMC surveillance



# WHO strategy for surveillance of use of antimicrobials

## Twofold approach for measuring the use of antimicrobials in countries

- ***Antimicrobial consumption***
- Routine surveillance
- Target: Manufacturers/Distributors
- Estimate which antimicrobials are used and how much
- Census data
- National ⇌ Facility

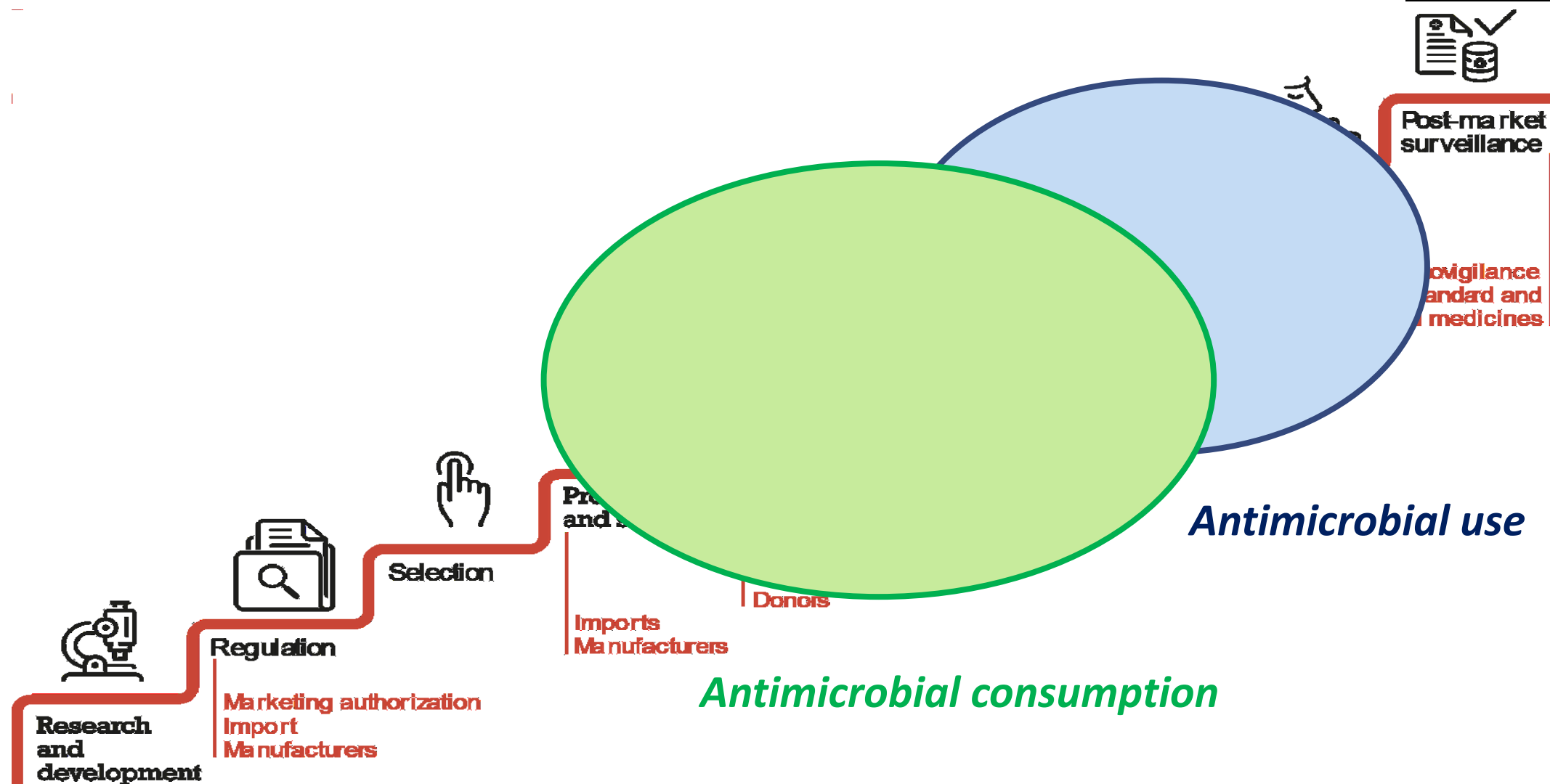


- ***Antimicrobial use***
- Surveys
- Target: patients, prescribers, dispensers
- Understand how antimicrobials are used
- Sample data





# Flexibility of data sources along the medicines value chain



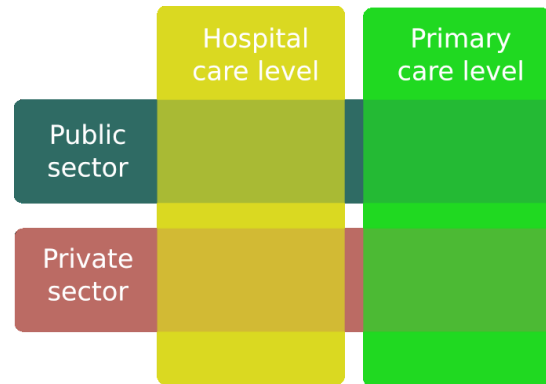


# Monitoring antimicrobial consumption

## National surveillance

- Provide estimates on types and quantities used at country level
- Targets: national policies, regulations, rational use, supply

## Data providers



## Facility surveillance

- Provide estimates on types and quantities used at facility level
- Targets: national/facility policies, supply, stewardship

## Data providers

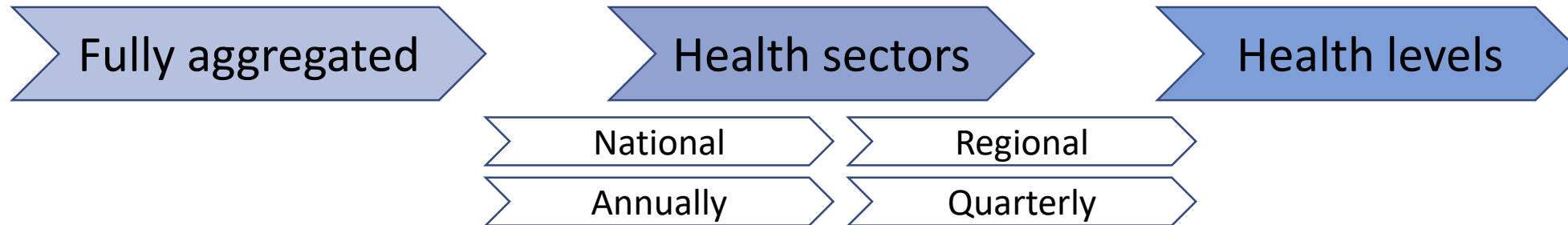




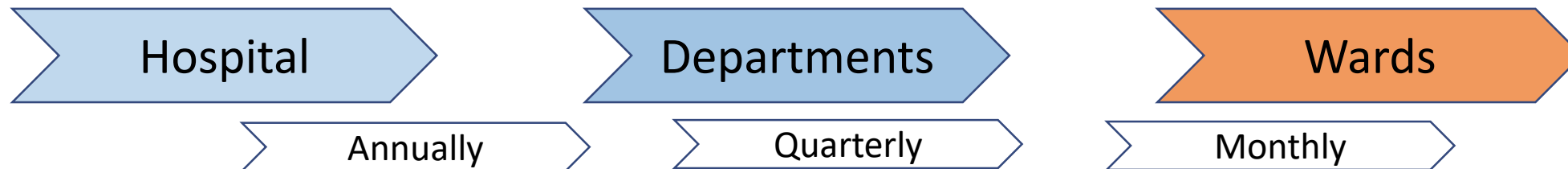
# Stepwise approach to AMC data collection

To ensure all countries can measure their use of antimicrobials to some degree

## *Country based surveillance program*



## *Hospital based surveillance program*



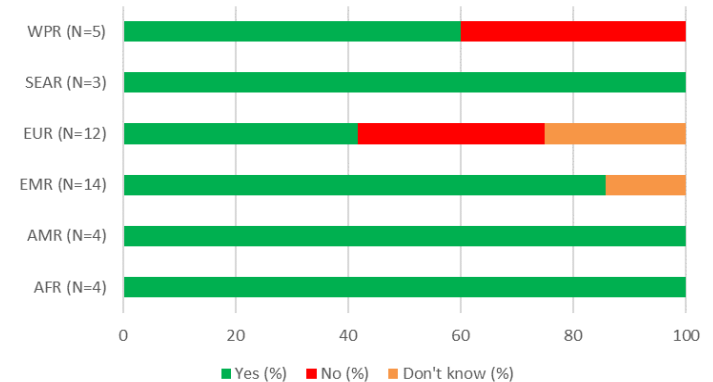
- Balance between objectives and available resources
- Depends on availability of data, IT infrastructure, manpower

# GLASS Guide for national surveillance of AMC at hospital level

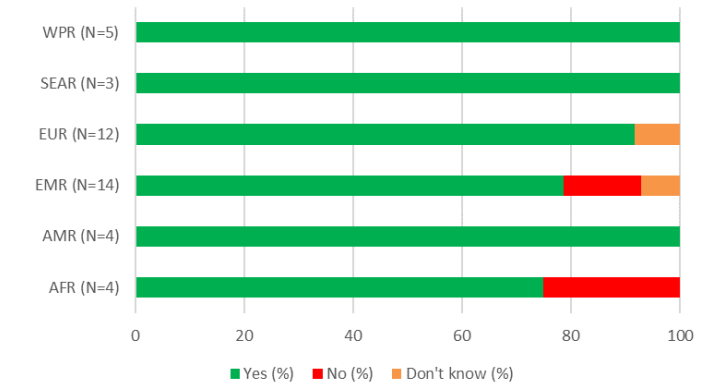


## *Summary of feedback on methodological approach*

- Separation of inpatient/outpatient data in countries at hospital level
  - 75% Yes
  - Comments:
    - Heterogeneity of hospitals and IT solutions, case by case
    - Private sector involvement
- Availability and level of dispensing data in hospitals
  - 90% Ward dispensation
  - Comments:
    - Some countries reports that ward information is reported on the individual patient purchase/prescription



## Separation inpatients/outpatients data



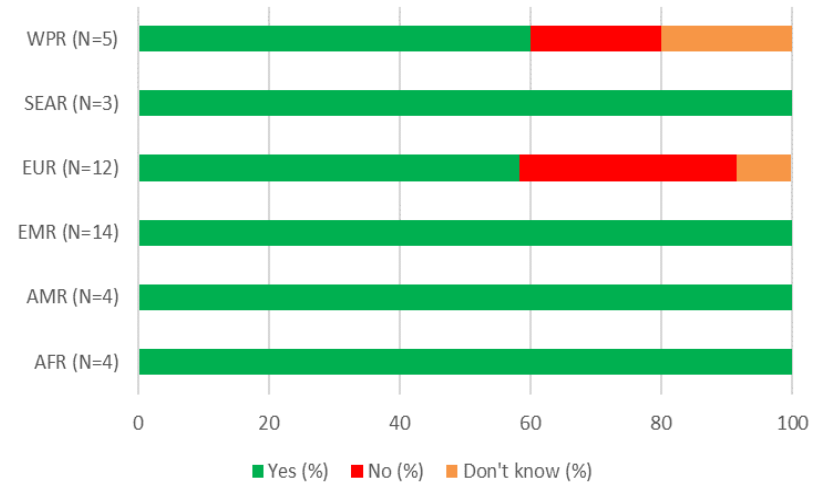
## Ward dispensation/Patient individual purchase data

# GLASS Guide for national surveillance of AMC at hospital level



## *Summary of feedback on tools*

- Practical tools
  - >80% Yes, the WHO guide is a practical tool
  - Comments:
    - Consumption calculation:
      - having tools to calculate consumption
      - centralized vs decentralized calculation
    - Adding concrete examples
    - Coordination tools
    - IT solutions



Practical tools



# Discussion points

## 1. Methodological questions

- Feedback: most of countries replied that inpatients / outpatients consumption data are separated.
  - Q1: Can inpatients / outpatients consumption data be easily extracted on routine basis?
    - *Yes or Yes in selected facilities*
    - *If Yes, what allows you to do so, what is your experience?*
    - *If No, what are the barriers, what would be needed to extract the data separately on routine basis?*
- Feedback: most of countries replied that ward dispensations is the main option for dispensation in hospitals
  - Q2: Can this be done on routine basis?
  - Q3: For countries that use the inpatients direct purchasing from hospital pharmacy
    - Can you capture individual purchase data and aggregate them by wards/departments and inpatients/outpatients?
    - Can you capture data on purchase/dispensing of antimicrobials outside the hospital?

## 2. Additional tools for surveillance of antimicrobial consumption

- IT needs: data computation, transfer, reporting
- Tools (survey, questionnaires) for deep dive (supply / shortage, prescribing vs dispensing, inpatients / outpatients consumption, in/out hospital dispensing...)





# WHO Guide on use of data

## - Under development-

- Objectives

*to provide a framework for using and considering quality-assured AMRU surveillance data to inform strategies and action to tackle AMR*

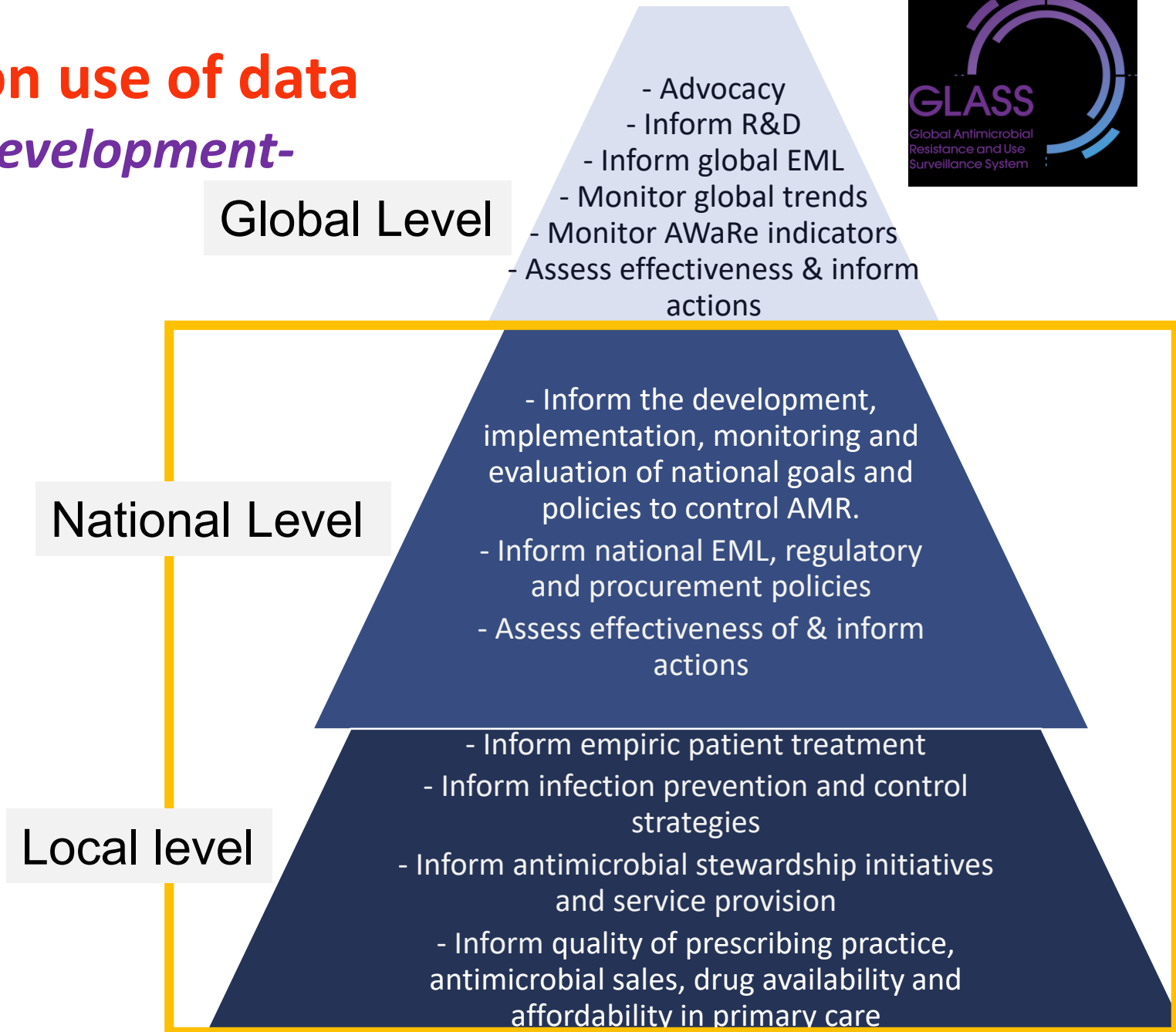
- Structure

- Facility/National
- Hospital/Primary care
- AMR / AMC data

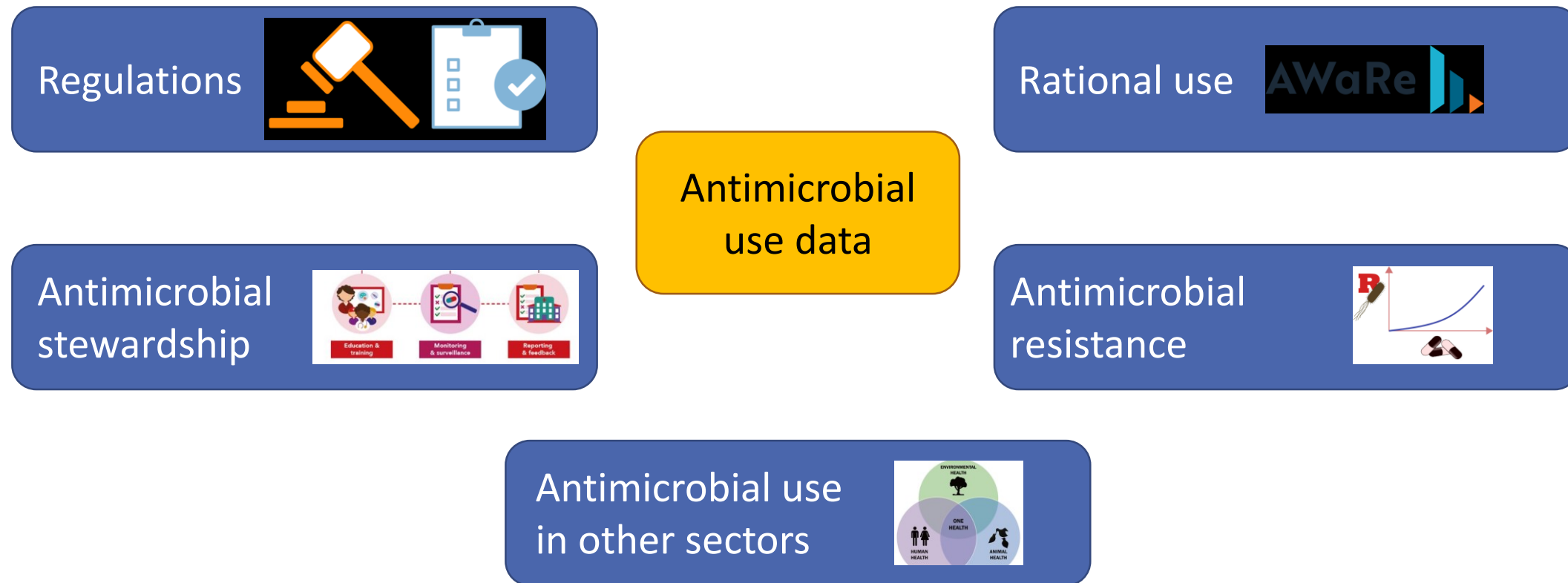
- Content

- Domain
- Data needed
- Analyses
- Indicators or metrics
- Limitations, Requirements and biases
- Target audience

Antimicrobial consumption



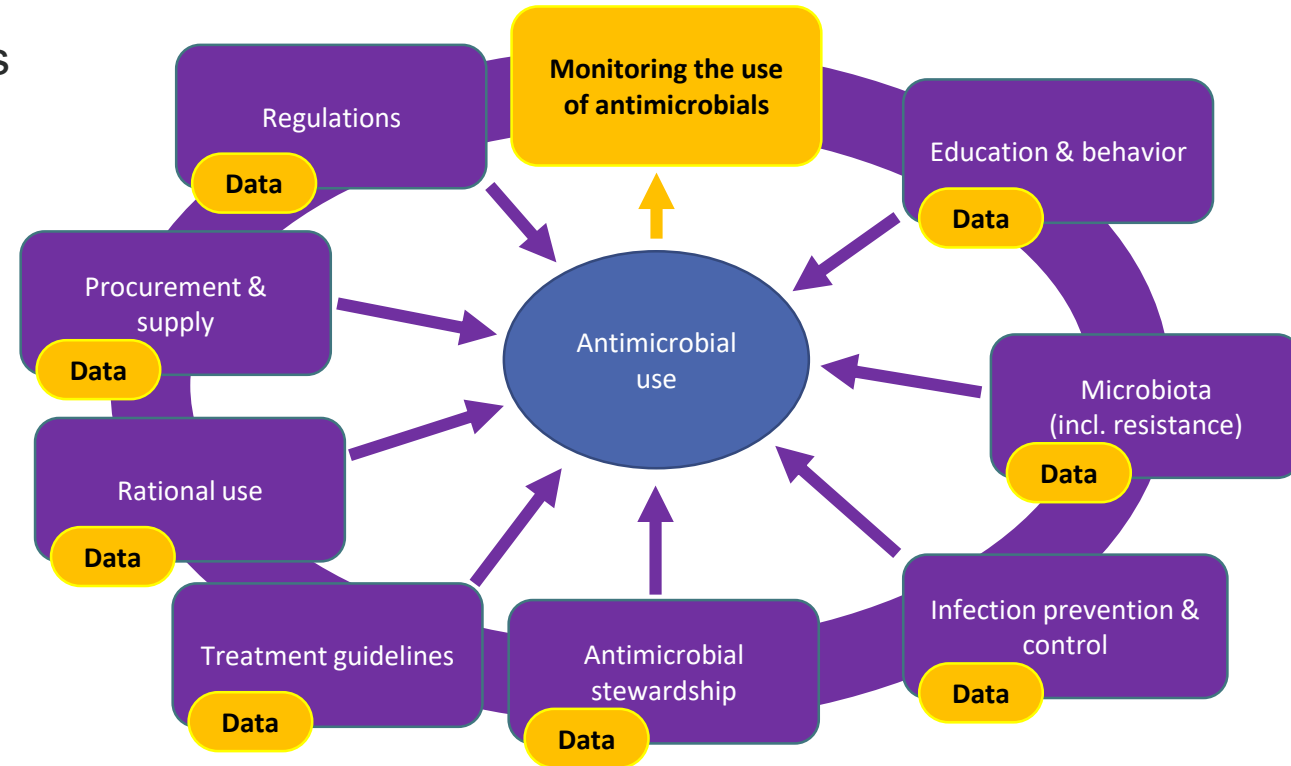
# Domains of interest for surveillance of antimicrobial use





# Integrated approach for optimal use of antimicrobials

- Surveillance of antimicrobial use and consumption is part of a broader, formal framework
- Data needs to be shared and analyzed based on objectives and target audience
- Surveillance data sharing could be passive (like a repository of data: users request data) or can be active (data are proposed to users)
- Upstream discussion between data providers and data users needs to happen in order to collect the right data to answer actual needs





# Discussion points

- Domains of interest
  - Which domains are you working on?
  - What are the bottlenecks to work on the proposed domains? What is needed for overcoming them?
  - What are your country experiences?
- Integrated approach
  - Do you have formal collaboration (NAP, Access to Medicines, Disease programs, Strengthening pharmaceutical systems, UHC)?
  - Which groups participants you are working with? Any outcome, impact?
  - What are the facilitators or bottlenecks for collaboration?





# Drug utilization and the ATC/DDD system

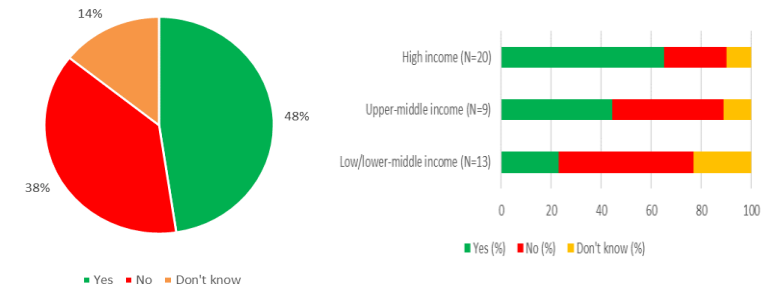
- **Surveillance of antimicrobial use/consumption IS drug utilization**
- **The ATC/DDD system is the basis for AMC**
  - ATC: Codification of antimicrobial medicines
  - DDD: metrics for consumption
  - To ensure standardization and comparability
- Globally, is the level of knowledge on these notions adequate for AMC?

**Looks not!**



**Q4: Are hospital pharmacists in your country knowledgeable on ATC/DDD system to undertake AMC monitoring in facilities?**

- **Reasons:**
  - Lack in education (university degree, professional trainings)
  - Too complicated (even high-income countries have difficulties)?
- **Solutions:**
  - Better training
  - Automatization
  - Alternatives?





# Areas for support

- **Feedback from countries based on the online questionnaire**
- 3 areas identified
  1. Support on surveillance program
    - Technical
      - Protocols, Data collection and analysis
    - Financial
      - IT equipment in facilities
  2. Tools
    - Directed to the surveillance program (e.g., software for AMC/DDD calculation...)
    - Improving health information systems (e.g., HIS, electronic patient databases...)
  3. Support on use of surveillance data, integration, NAP implementation
- Under which umbrella at national level these AMC/AMU activities are implemented in countries?
  - AMR, Access to medicines, Pharmaceutical Systems, Disease Programs, Universal Health Coverage



# How to provide country support

- Development of additional tools / guidance
- Training
  - Online training / course
    - *WHO Online course on AMC / WHO Academy course on surveillance of AMR and AMC / WHO ATC DDD Toolkit*
  - Physical workshops
  - Education
    - Improve curriculum content
    - Professional training
- Activity support
  - Workshops
  - Remote support / helpdesk
- Networking
  - Community of practice / WHO regional networks / Academia
- Coordination of support among donors/groups
  - Structure/Body for international support coordination at country level
  - Integration to general frameworks for support:
    - AMR, Access to medicines, Pharmaceutical Systems, Disease Programs, Universal Health Coverage



# Discussion points

## 1. Drug utilization and ATC/DDD

- What would be your solutions to improve knowledge on these notions among health professionals?  
Short term / Long term solutions

## 2. Support on surveillance of antimicrobial use and consumption

- Online training
- Networks
  - Are you part of international networks, which ones? What about WHO regional network on AMU?
- Donors/Partners coordination
  - Will upstream coordination between partners/donors on country support for surveillance of AMC at global or regional level facilitate your work at national level?