Workstream 3: AMC surveillance
WHO AMC SURVEILLANCE STRATEGY, METHODOLOGIES AND TOOLS
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

**Facility surveillance**

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

**Data providers**
Global Antimicrobial Resistance and Use Surveillance System (GLASS)

Stepwise approach to AMC data collection

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

**Country based surveillance program**

- Fully aggregated
- Health sectors
  - National
  - Regional
  - Annually
  - Quarterly

**Hospital based surveillance program**

- Hospital
  - Annually
- Departments
  - Quarterly
- Wards
  - Monthly

- 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
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
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…)

Global Antimicrobial Resistance and Use Surveillance System (GLASS)

World Health Organization
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USE OF AMC
SURVEILLANCE
DATA
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

Global Level

- Advocacy
- Inform R&D
- Inform global EML
- Monitor global trends
- Monitor AWaRe indicators
- Assess effectiveness & inform actions

National Level

- Inform the development, implementation, monitoring and evaluation of national goals and policies to control AMR.
- Inform national EML, regulatory and procurement policies
- Assess effectiveness of & inform actions

Local level

- Inform empiric patient treatment
- Inform infection prevention and control strategies
- Inform antimicrobial stewardship initiatives and service provision
- Inform quality of prescribing practice, antimicrobial sales, drug availability and affordability in primary care

Antimicrobial consumption
Domains of interest for surveillance of antimicrobial use

- Regulations
- Rational use
- Antimicrobial use data
- Antimicrobial stewardship
- Antimicrobial resistance
- Antimicrobial use in other sectors
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?
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WHO COUNTRY SUPPORT
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!**

- Reasons:
  - Lack in education (university degree, professional trainings)
  - Too complicated (even high-income countries have difficulties)?

- Solutions:
  - Better training
  - Automatization
  - Alternatives?

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