World Health Organization

WHO GLOBAL AMR/USE SURVEILLANCE SYSTEM (GLASS)

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Training Seminar (Webinar) for OIE National Focal Points for Veterinary Products (Africa, English, Cycle VII)

23-24 Feb. 2021

Background: WHO Global AMR Surveillance System

- GLASS addresses Strategic Objective 2 of the Global Action Plan on AMR: **Strengthen knowledge and evidence base through surveillance and research.**

- WHO Global AMR Surveillance System (GLASS)
  - provides a standardized approach to the collection, analysis, and sharing of AMR data by countries, and enables the documentation of the status of existing or newly developed AMR surveillance systems;
  - promotes a shift from surveillance approaches based solely on laboratory data to a system that includes epidemiological, clinical and population-level data.

World Health Assembly

Member States request WHO to develop a global AMR surveillance system

http://www.who.int/antimicrobial-resistance/publications/global-action-plan/en/

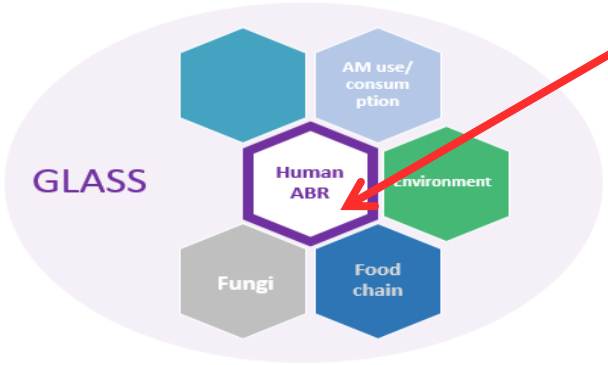
Objectives and Development of GLASS

Objective: Foster national AMR surveillance systems through harmonized global standards to:

- Monitor AMR trends,
- Detect emerging resistance,
- Inform the estimation of AMR burden.

Development

- Collaboration: WHO Collaborating Centres; International networks; partners,
- Consultation with Member States: e.g. Stockholm, Dec 2014; April 2017; October 2020.



Initial focus: Bacterial infections in humans but the principle may also apply to other pathogens, and in one health (i.e. including animal infections, environ-mental contami-nation, etc

Data Collected with GLASS

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

- **AMR data**
  - Specimens from patients suspected to have infections,
  - Priority specimens: blood, urine, stool, cervical and urethral specimens, cerebrospinal fluid (CSF); respiratory samples; and rectal and pharyngeal swabs
  - Population data:
    - ✓ overall number of patients tested per specific specimen.
    - ✓ age, gender, and infection origin (hospital versus community).

- **GLASS AMR Pathogen indicators**
  - 13 target pathogens
  - Rationale: Listed pathogens are commonly associated with community and hospital infections; pathogens account for emerging AMR for which there are few treatment options; Common indicators used in foodborne AMR surveillance include *E. coli* and *Salmonella* spp.

Stepwise Enrolment in GLASS

1. Enrolment: National body commits

- To develop national surveillance system
- To share data with GLASS

2. Share data on status of national surveillance system

3. Share data on AMR

- At least one surveillance site
- At least one indicator

GLASS Technical Support to Countries

- Manuals
- IT tools
- Help desk
- Webinars
- Country missions
- Training workshops
- EQA and procurement

Sustainable Development Goal AMR Indicator

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

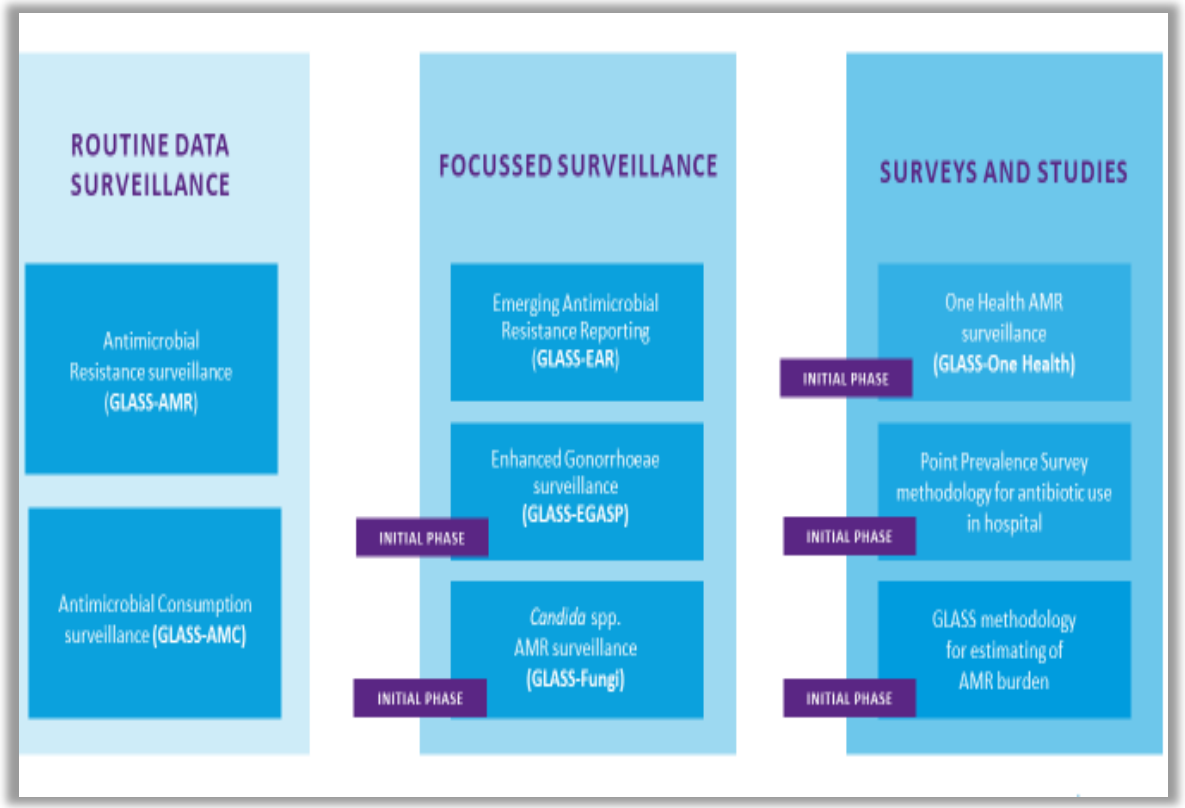
TARGET 3.d: Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks

INDICATOR 3.d.2: Proportion of bloodstream infections among patients due to

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

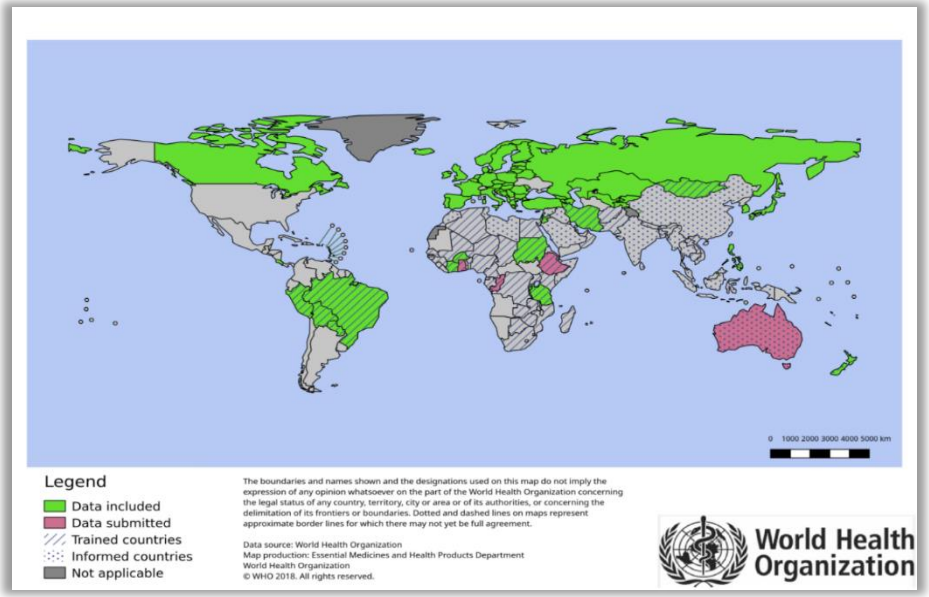
Further Development

- Monitoring of antimicrobial consumption data,
- AMR surveillance in the food chain and environment 2017-2018,
- Special project on AMR for gonorrhoea (Enhanced GASP or EGASP),
- AMR surveillance in invasive fungal infection,
- Special studies to assess burden of AMR disease.



WHO Global Report on Antimicrobial Consumption

- Information on volume of sales of antimicrobial medicines
  - Proxy for consumption or use in the population,
  - Map below and report on the right presents 2015 data on consumption of antibiotics from 65 countries and areas.



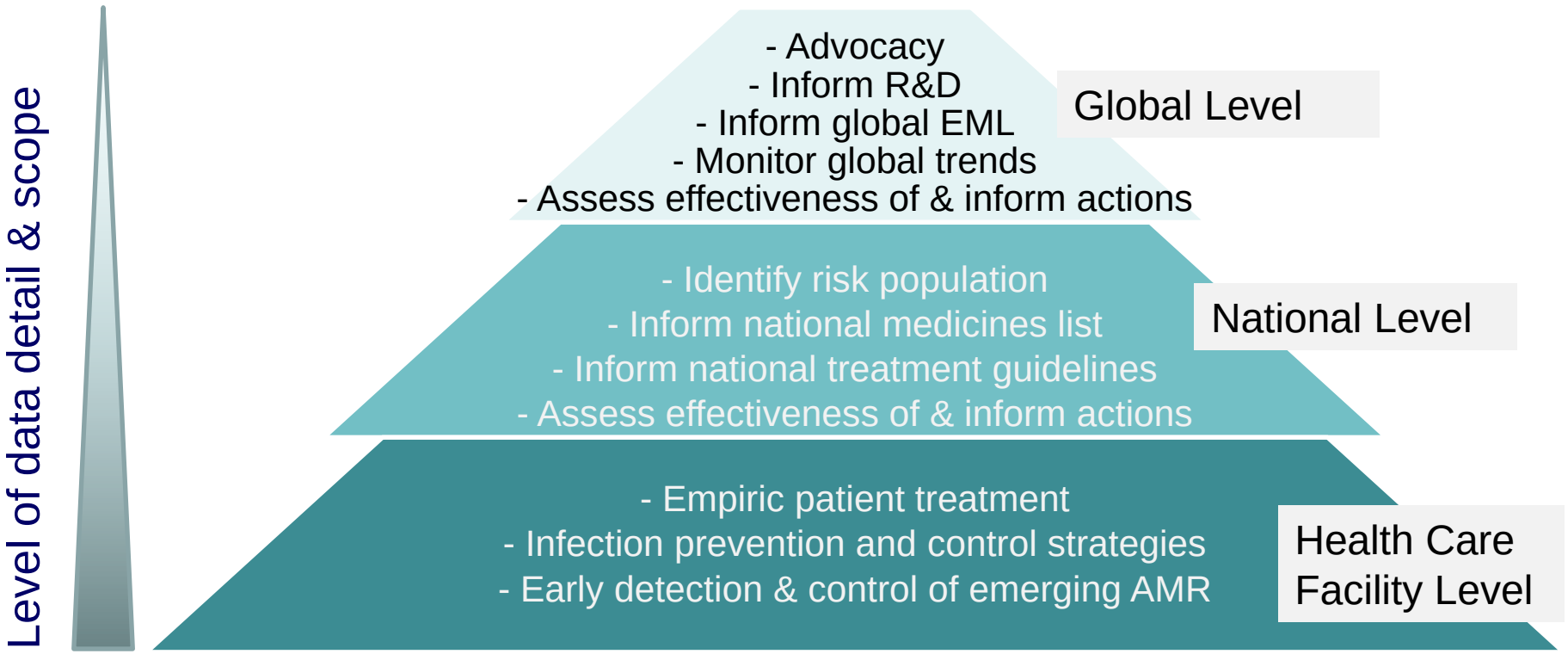
World Health Organization
REGIONAL OFFICE FOR Africa

One Health AMR Surveillance

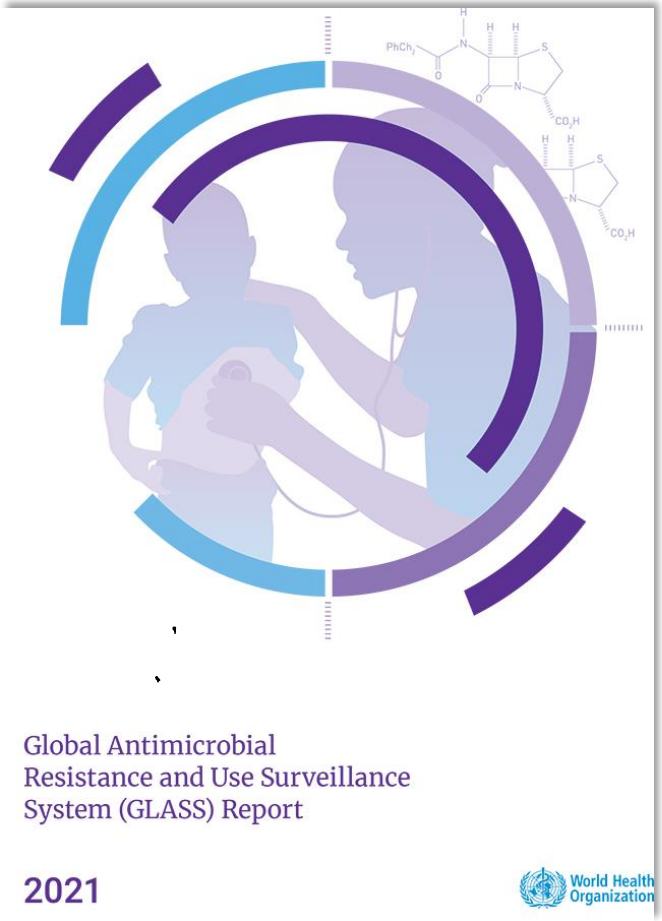
The Tricycle Project - WHO Integrated Global Survey on Extended Spectrum Beta-Lactamase (ESBL) *E.coli*

- WHO has established in Member States an Integrated Surveillance System to monitor ESBL producing *E. coli* in humans, the food chain and the environment *(3 compartments).*
- The Project uses a simple and standardize methodology to monitor ESBL producing *E. coli* strains, permits comparison among countries regarding the presence of ESBLs in the 3 compartments, and allows the detection of the effect of interventions.
- The protocol is being implemented in four WHO Regions, AFRO included.

Levels of AMR Surveillance and Consumption Data for Policy & Decision Making in Health Systems

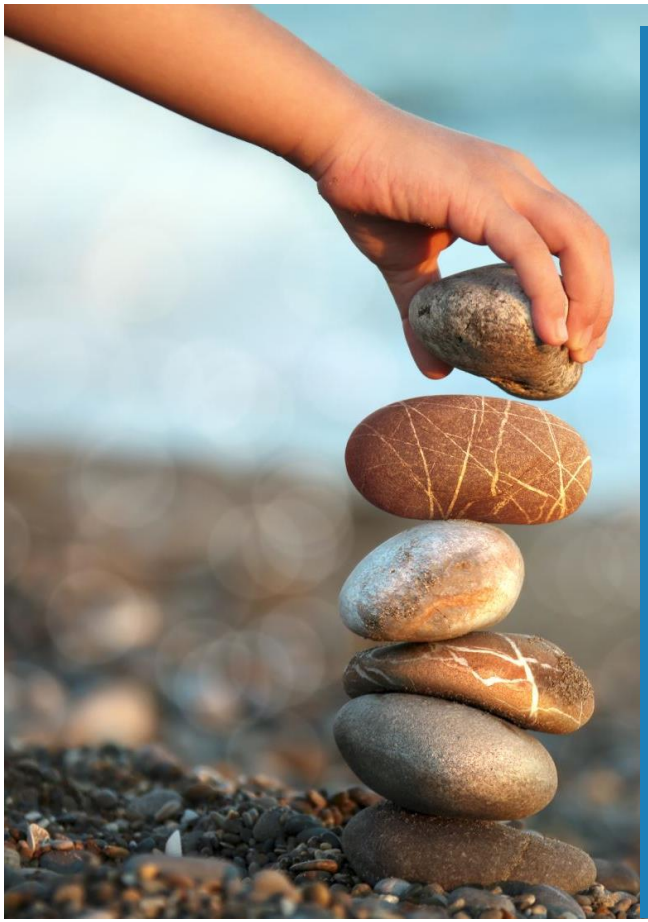


Data limitations!



- Limited representativeness
  - Lack of sampling strategy,
  - Few surveillance sites per country,
  - Small sample size.
- Limited access to lab tests
  - Limited lab capacity,
  - Patients need to pay out of pocket for the tests.
- Limited completeness of data.
- Most data are from hospitals.
- However, the data limitations should not impede surveillance,
  but rather be used to improve it and make it more robust and reliable

Key Milestones



- Countries have enrolled and are contributing data to GLASS
- More and more countries are working towards achieving a status that will enable them to **report data in a more complete and systematic manner**
- GLASS has enabled WHO to establish and monitor the **functionality of national surveillance system for AMR** and Antimicrobial Consumption
- Data contributed to GLASS **is available online**
- **Steps** for establishing National surveillance system **have been clearly outlined**
- Countries of the AFRO region are implementing the tricycle project, an Integrated Global Surveillance on ESBL producing *E.coli strains*

References

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