WHO Perspectives on Integrated AMR Surveillance – South-East Asia

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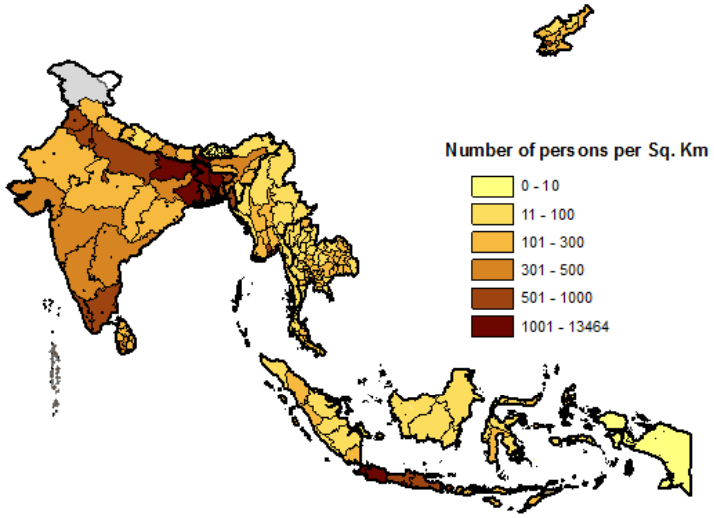
Outline

- Why do we need integrated surveillance?
- Where are we?
- What's next for the WHO South-East Asia Region?

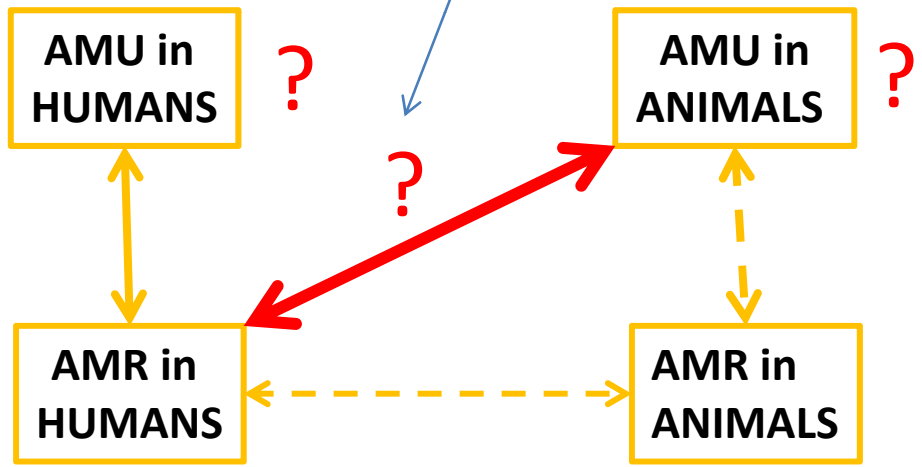


1.9 billion people

India, Indonesia and Bangladesh: 90%
Only 2 upper Middle Income Countries: THA and MAL

Why Integrated Surveillance matters?

Importance of AMR in food animal reservoirs on human health is unclear
No data on burden of AMR in humans
No data on burden of AMR in humans caused by animal related AMR



Strong evidence

Evidence from Europe
But no data from the Tropics

Some evidence from Salmonella/Campylobacter then from MRSA and C.difficile
But extent is unknown

Why Integrated Surveillance matters?

- Limited evidence for inducing behavioral changes in animal sector as reducing antibiotic use may compromise livestock health and production

- Need for **Integrated surveillance of AMR & AMU to** understand how resistance develops and spreads including how resistance circulated within and between humans, animals (thru food), water and the *environment*

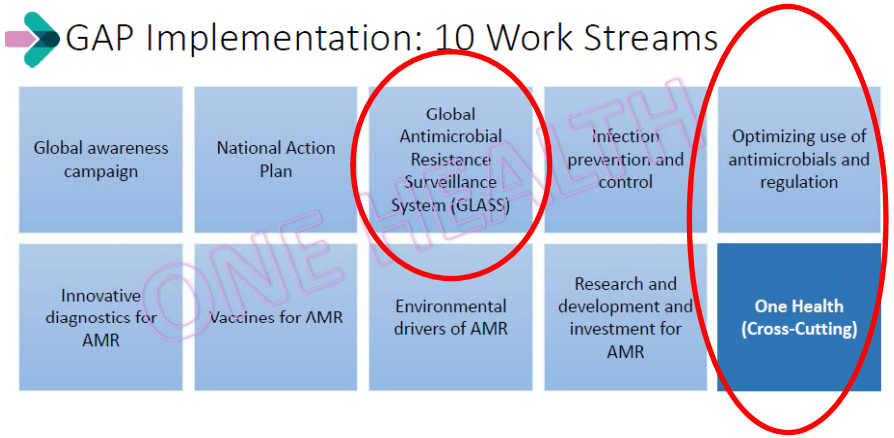
- Associated with burden of disease studies and effects of interventions at national level

Global Action Plan - AMR

- **WHO's strategic Milestone since 2015**
- **An obligation or major drive to developing NAPs**
- **GAP implementation:**
  - **Five strategic objectives**
  - **Guiding principles**

Global Action Plan - AMR

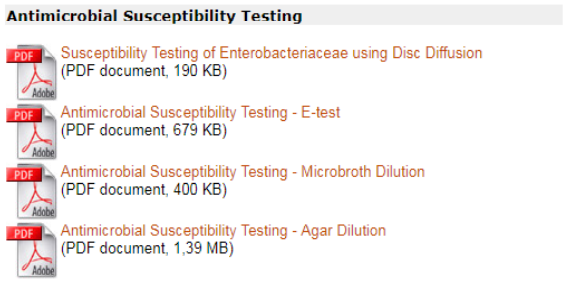
- **Five strategic objectives**
  - Improve awareness and understanding
  - Strengthen **knowledge thru surveillance** and research
  - Reduce incidence of infection
  - Optimize the **use of antimicrobials**
  - Ensure sustained investment



- **Guiding principles re surveillance**
  - Work Stream approach: 10 including GLASS and One-health
  - Partnership with OIE and FAO
  - Accounting for different capacities of member States

WHO Strategy for Integrated Surveillance

- **AGISAR** since 2008: WHO Advisory Group for Integrated Surveillance of AMR (36 experts)
- Goal is to support countries to minimize the impact of AMR associated with antibiotic use in food animals thru food chain
- Objectives and TORs for 2015-19
  - Contain AMR in food chain
  - Build integrated surveillance and monitor use of antimicrobials
  - Establish list of antibiotics critical for human medicine
  - Tripartite partnership activities and Codex for AMR
- Demonstration projects
- Training and workshops



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AGISAR/GFN Main Activities

- Training Workshops
- External Quality Assurance System (EQAS)
- Mentoring

- Reference Service- Lab protocols
- Focused Research Projects and Country Pilot Projects
- Fostering communication and cross sectoral collaboration
  - > 1 500 GFN Members
  - > 700 Institutions
  - >180 Member States
  - >20 AGISAR projects

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WHO-AMR One Health Approach

◆ WHO Global Workshop on Strengthening Integrated Surveillance of Foodborne Diseases and Antimicrobial Resistance through the Whole Genome Sequencing

◆ AGISAR Thematic Working Groups Meetings

Venue: Faculty of Public Health, Thammasat University, Rangsit Campus, Pathumthani Province, Thailand

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In South-East Asia Region

- **AGISAR-driven project in Bangladesh, Sri Lanka and Indonesia: ESBL Ec Tricycle**
- **One-Health Secretariat among Tripartite Partners**
- AMR surveillance in humans:
  - **Building national surveillance data for AMR**
  - Integrating AMU surveillance at a second stage
  - Laboratory strengthening
- Participate in GLASS

Surveillance Data Flow Chart

National Reference Lab

HAI & AMR in HCS

Sentinel labs
(private/public Labs)

AMR in community

Research Institutions

GLASS - HQ

Central National Surveillance Data Center

AMR Control Program

Surveillance of ATB use in Humans

In hospitals

In Community

One - Health

Data Harmonization:

- Standards
- Comparisons
- Interpretations

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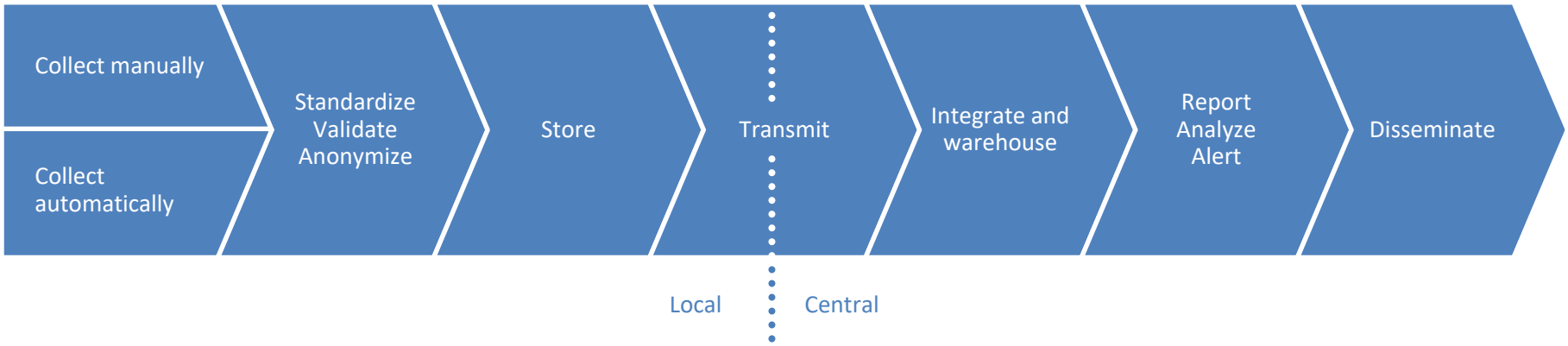
Framework regarding Surveillance Data Flow



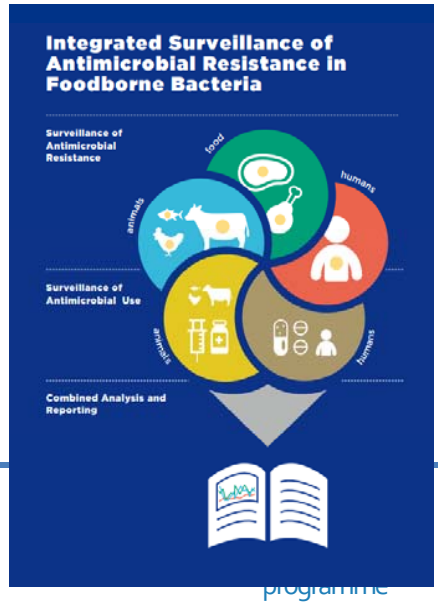
Support Countries to Centralize National Data

- Generate national surveillance data
- Reinforce global surveillance by allowing participation of the SEAR member states into WHO's GLASS initiative

- Focus on system building using IT as a **first step**:
  - Lab & clinical data validated
  - Data management process to central level validated
- Limited focus on comprehensiveness and representativeness of surveillance data

Country Pilot Projects - AGISAR

- **To fill the knowledge gap at the national level**
- **To inform policy**
- **Towards the establishment of a national program on integrated surveillance of antimicrobial resistance**



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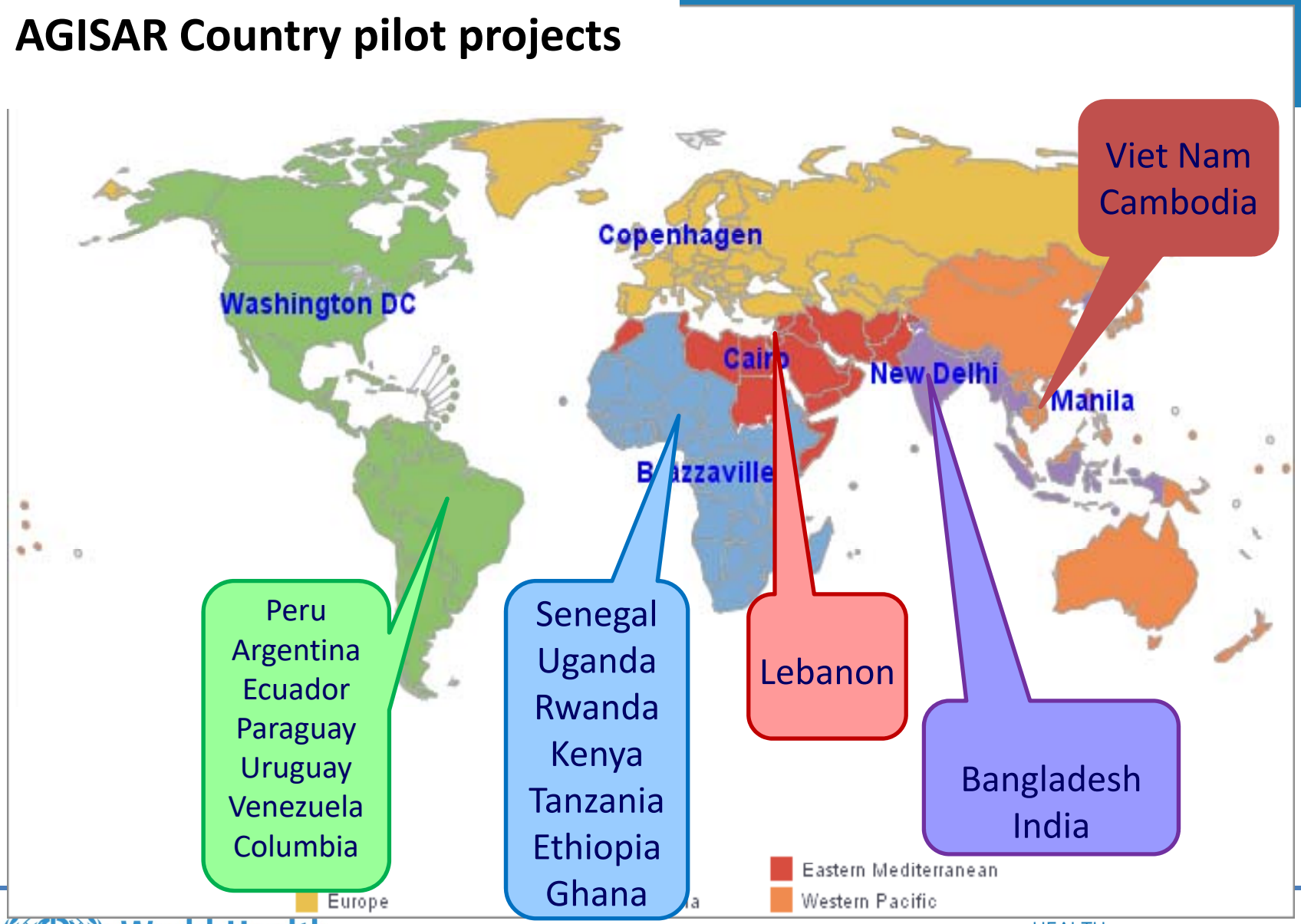
AGISAR Country pilot projects



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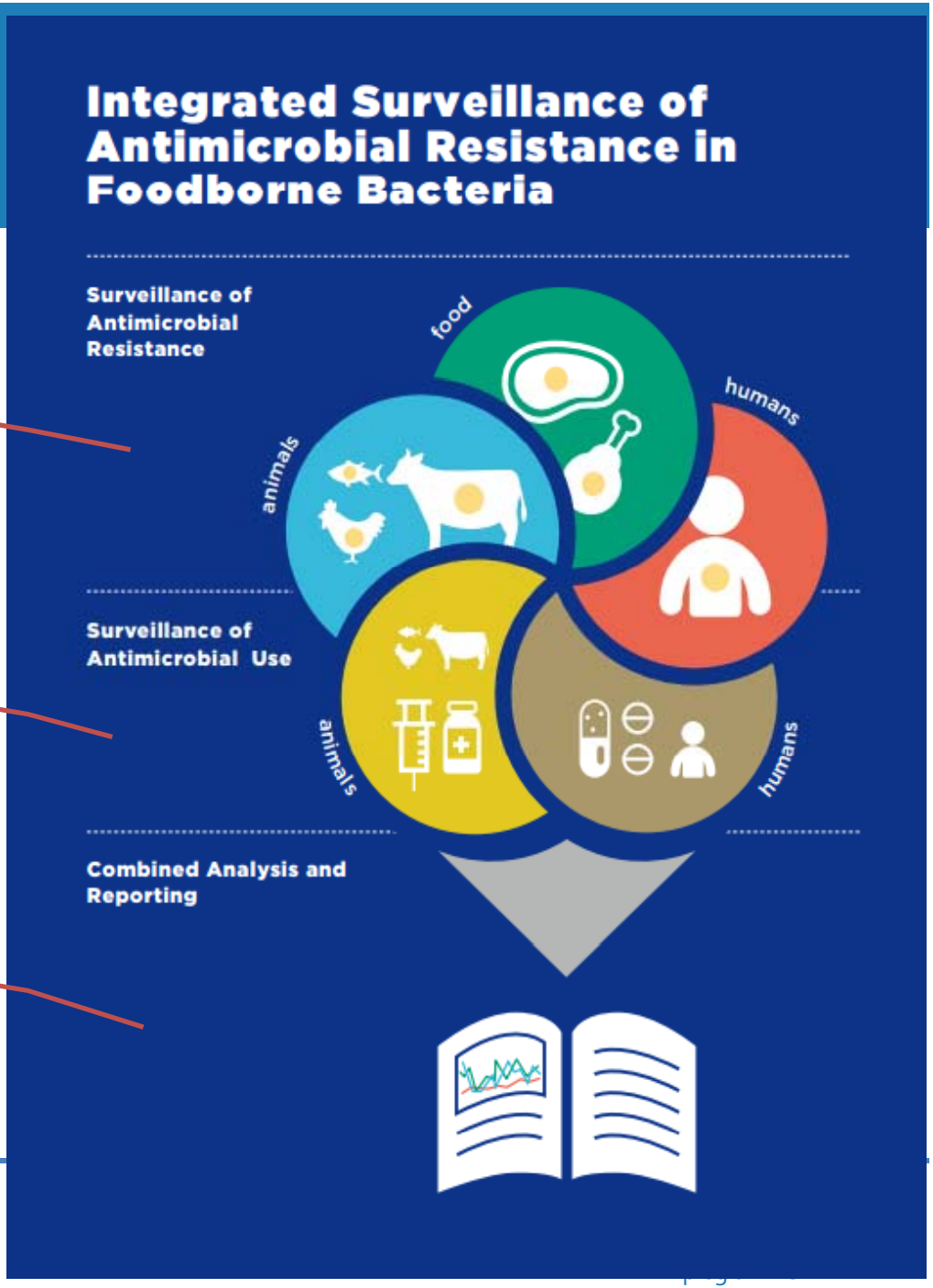
Recent WHO guidance (issued in June 2017)

Surveillance of resistance in animals, food, humans

Surveillance of use **in animals, humans**

Combined analysis and reporting



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ESBL *E. coli* Tricycle as Demonstration Project

- A global protocol to implement a simplified, integrated trans-sectoral surveillance
- Focus on a single key indicator, the frequency of extended-spectrum beta-lactamase (ESBL) producing *E. coli*, measured yearly in strictly identical and controlled conditions in humans, in the food-chain and in the environment
- Patterns of transmission of resistance between sectors and cluster analysis – rather quantitative analysis of AMR rates between sectors
- Results will be analyzed globally, by region, and by country. Subsets of ESBL-*E. coli* isolates will be archived for in-depth molecular analysis to characterize genetic properties and changes over time.
- Strength: standardized/comparable, simplified, training in lab, country ownership to adopt integrated surveillance and global interest

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Thank You

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