WHO Tools for Integrated Surveillance of Antimicrobial Resistance

World Health Organization

Global Foodborne Infections Network-GFN- and Advisory Group on Integrated Surveillance of Antimicrobial Resistance

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May 2015:
Global Action Plan on Antimicrobial Resistance

World Health Assemby

> *"To ensure, for as long as possible, continuity of successful treatment and prevention of infectious diseases with effective and safe medicines that are quality-assured, used in a responsible way, and accessible to all who need them."*

Member States request WHO to develop a global AMR surveillance system

What is GLASS?

GLobal **A**ntimicrobial Resistance and Use **S**urveillance **S**ystem (GLASS)

➢The first global system to incorporate official national data from surveillance of AMR & AMU

- standardized approach to the collection, analysis, and sharing of AMR, AMC and AMU data

- epidemiological, clinical, and microbiological data

- One Health model for AMR surveillance

GLASS

Food chain

Human ABR

Environment

AMC

Initial focus:
Bacterial infections in humans

GLASS 2021

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ROUTINE DATA SURVEILLANCE	FOCUSED SURVEILLANCE	SURVEYS AND STUDIES
Antimicrobial Resistance surveillance (**GLASS-AMR**)	Emerging Antimicrobial Resistance Reporting (**GLASS-EAR**)	One Health AMR surveillance (**GLASS-One Health**)
Antimicrobial Consumption surveillance (**GLASS-AMC**)	Enhanced Gonorrhoeae surveillance (**GLASS-EGASP**) — INITIAL PHASE	Point Prevalence Survey methodology for antibiotic use in hospital — INITIAL PHASE
	Candida spp. AMR surveillance (**GLASS-Fungi**) — INITIAL PHASE	GLASS methodology for estimating attributable mortality due to AMR — INITIAL PHASE

Countries & territories enrolled in GLASS, as of 26 February 2021

N=105

Legend:
- Enrolled in both AMR and AMC
- Enrolled in AMR
- Enrolled in AMC
- Not Enrolled
- Not Applicable

Tripartite Antimicrobial Resistance (AMR) Country Self-Assessment Survey (TrACSS)

World Health Organization

Monitoring country progress on AMR

Tripartite Antimicrobial Resistance (AMR) Country Self-assessment Survey (TrACSS) 2019-2020

World Health Organization
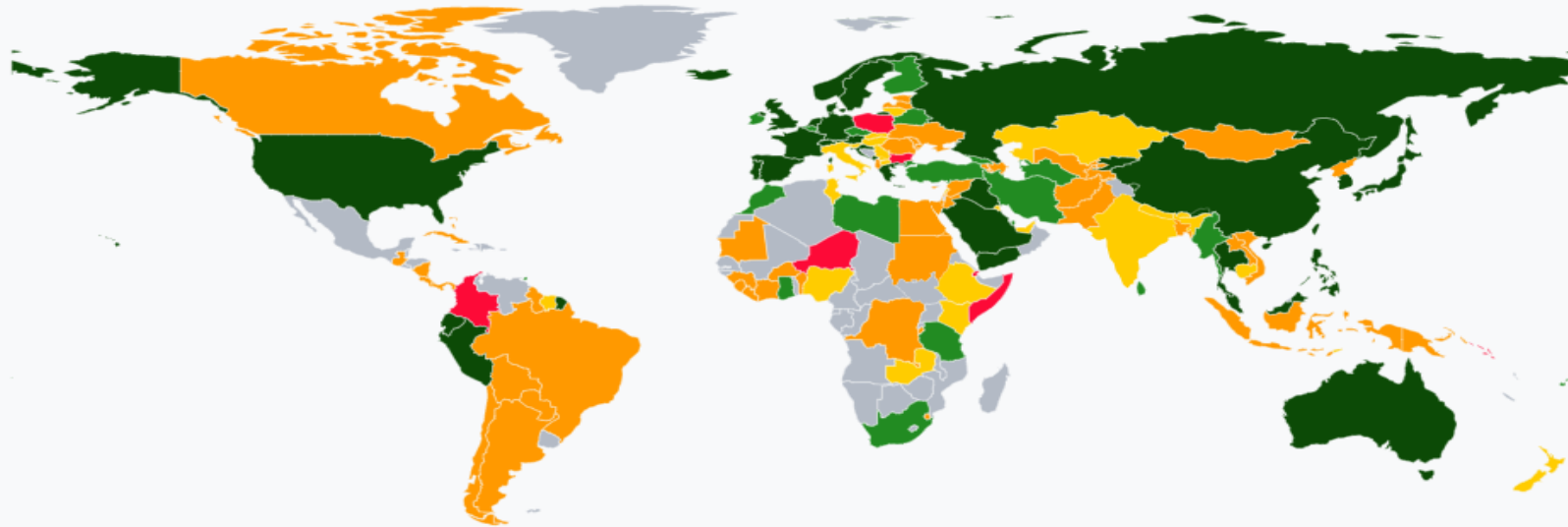
4.1 Multi-sector and One Health collaboration/coordination

A - No formal multi-sectoral governance or coordination mechanism on AMR exists.

B - Multi-sectoral working group(s) or coordination committee on AMR established with Government leadership.

C - Multi-sectoral working group(s) is (are) functional, with clear terms of reference, regular meetings, and funding for working group(s) with activities and reporting/accountability arrangements defined.

D - Joint working on issues including agreement on common objectives.

E - Integrated approaches used to implement the national AMR action plan with relevant data and lessons learned from all sectors used to adapt implementation of the action plan.

TrACSS survey: monitoring the implementation of National Action Plan on AMR

Global Foodborne Infections Network –GFN-

- Formerly: WHO Global Salm-Surv (WHO GSS)

- Established in 2005 for building capacity to detect, control and prevent foodborne and other enteric infections from farm to table

- GFN is a network of institutions committed to enhancing the capacity of countries to detect, respond and prevent foodborne and other enteric infections.

- GFN network partners work with countries to build national capacities for integrated surveillance and foster collaboration among human health, veterinary, food and other relevant sectors

https://antimicrobialresistance.dk/protocols.aspx

GFN Laboratory Manuals

By pathogen

- *Salmonella*
- *Campylobacter*
- *E. coli O157*
- *Shigella*

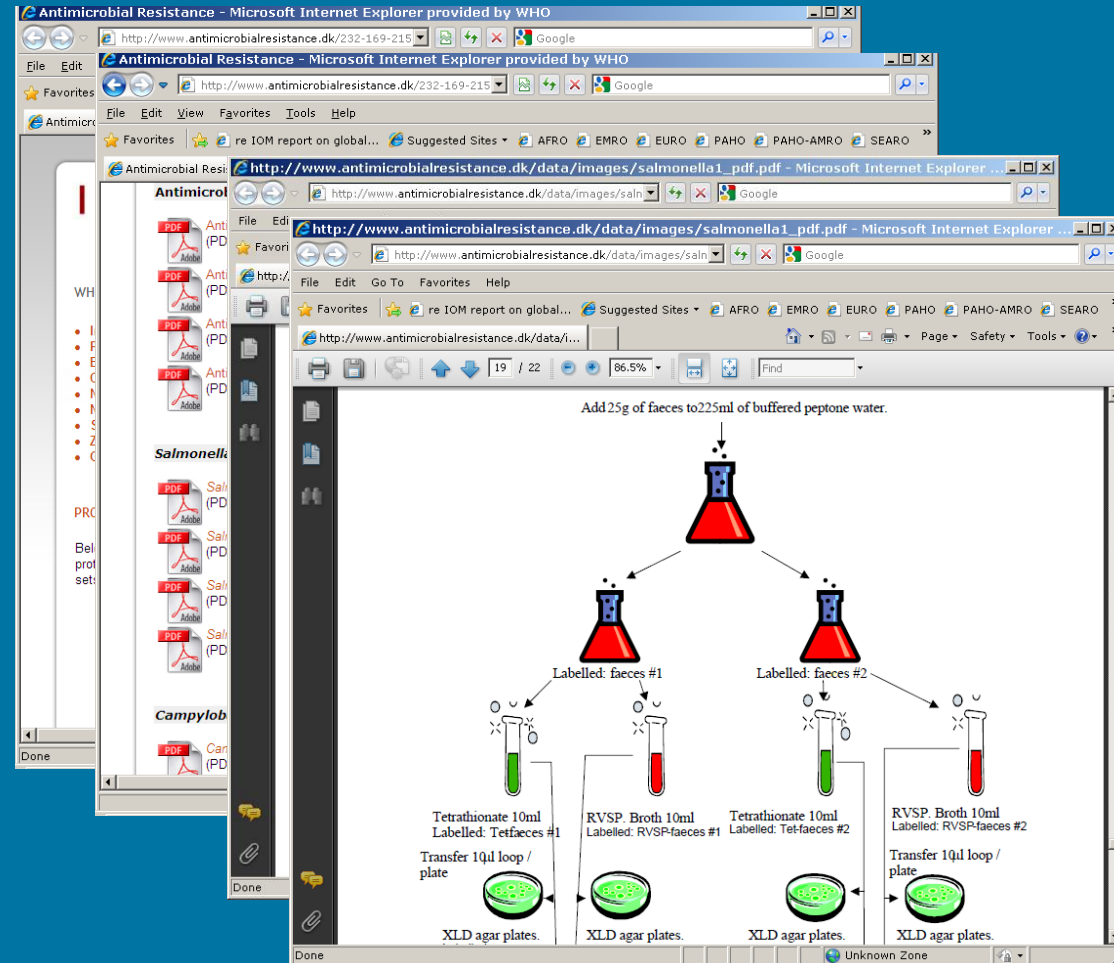**Antimicrobial Susceptibility Testing**

- *Disc Diffusion*
- *E-Test*
- *Microdilution broth*
- *Agar dilution*

By specimen source

- *Human*
- *Food*
- *Animal*

By basic and molecular methods

- **Isolation, ID, Serotyping**
- **AST, PCR, PFGE**

https://antimicrobialresistance.dk/protocols.aspx

WHO Advisory Group on Integrated Surveillance of Antimicrobial Resistance –AGISAR-

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- Established in 2008

- Mandated <u>to minimize the public health impact of AMR associated with the use of antimicrobials in food animals</u>

- 36 AMR experts: microbiologists, veterinarians, physicians, epidemiologists

AGISAR Support WHO on:

- Containment of AMR from the food chain

- Capacity building for integrated surveillance of AMR

- Monitoring of antimicrobial use

- WHO List of critically important antimicrobials (CIA list) for human medicine

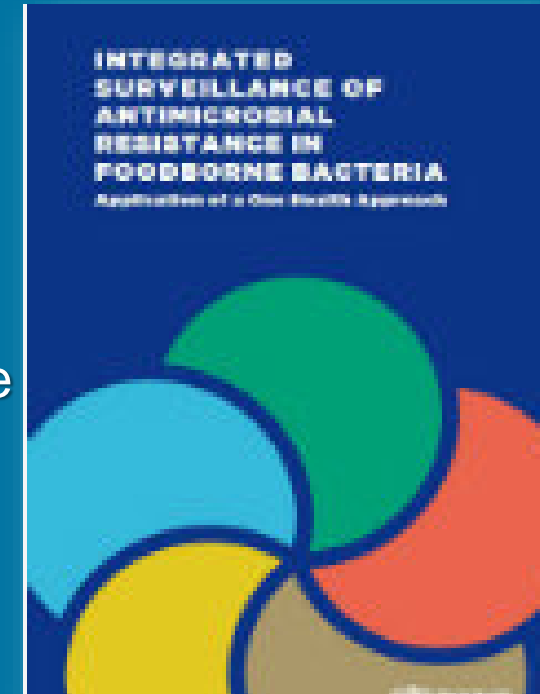- FAO/OIE/WHO tripartite activities and *Codex Alimentarius* activities on AMR

Support

GAP

World Health Organization

AGISAR

GLOBAL ACTION PLAN
ON ANTIMICROBIAL RESISTANCE

World Health Organization

AGISAR Activities: Overview

Strategic Framework: 5 Thematic Working Groups

1. Knowledge management and communication

2. Critically Important Antimicrobials (CIA) list

3. Optimal use of antimicrobial agents in food production (Tripartite Collaboration)

4. Laboratory methods in antimicrobial susceptibility testing

5. Data integration and analysis

Capacity building in countries

- Protocols and Guidance

- Training workshops

- Pilot Projects

Antimicrobial Susceptibility Testing

Susceptibility Testing of Enterobacteriaceae using Disc Diffusion
(PDF document, 190 KB)

Antimicrobial Susceptibility Testing - E-test
(PDF document, 679 KB)

Antimicrobial Susceptibility Testing - Microbroth Dilution
(PDF document, 400 KB)

Antimicrobial Susceptibility Testing - Agar Dilution
(PDF document, 1,39 MB)

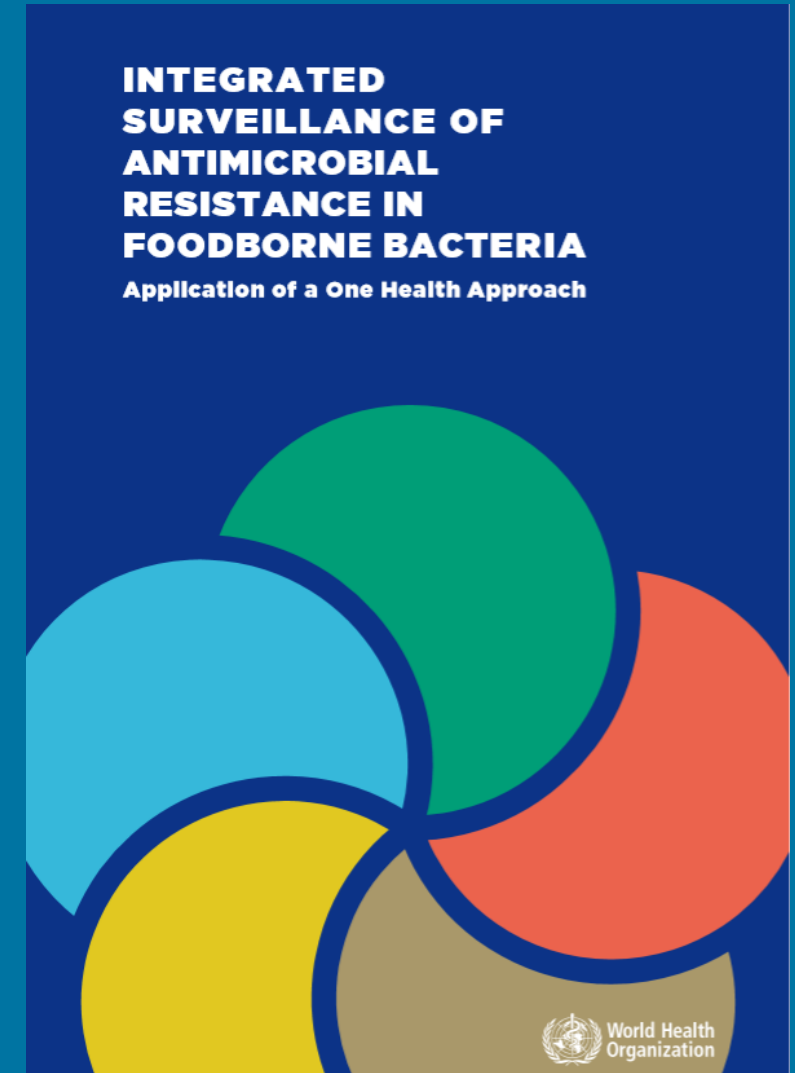# Guidance on Integrated Surveillance of AMR in Foodborne bacteria
Application of a One Health approach

Purpose

To assist WHO Member States, and other stakeholders, in the **establishment and development of programmes** of integrated surveillance of antimicrobial resistance in foodborne bacteria
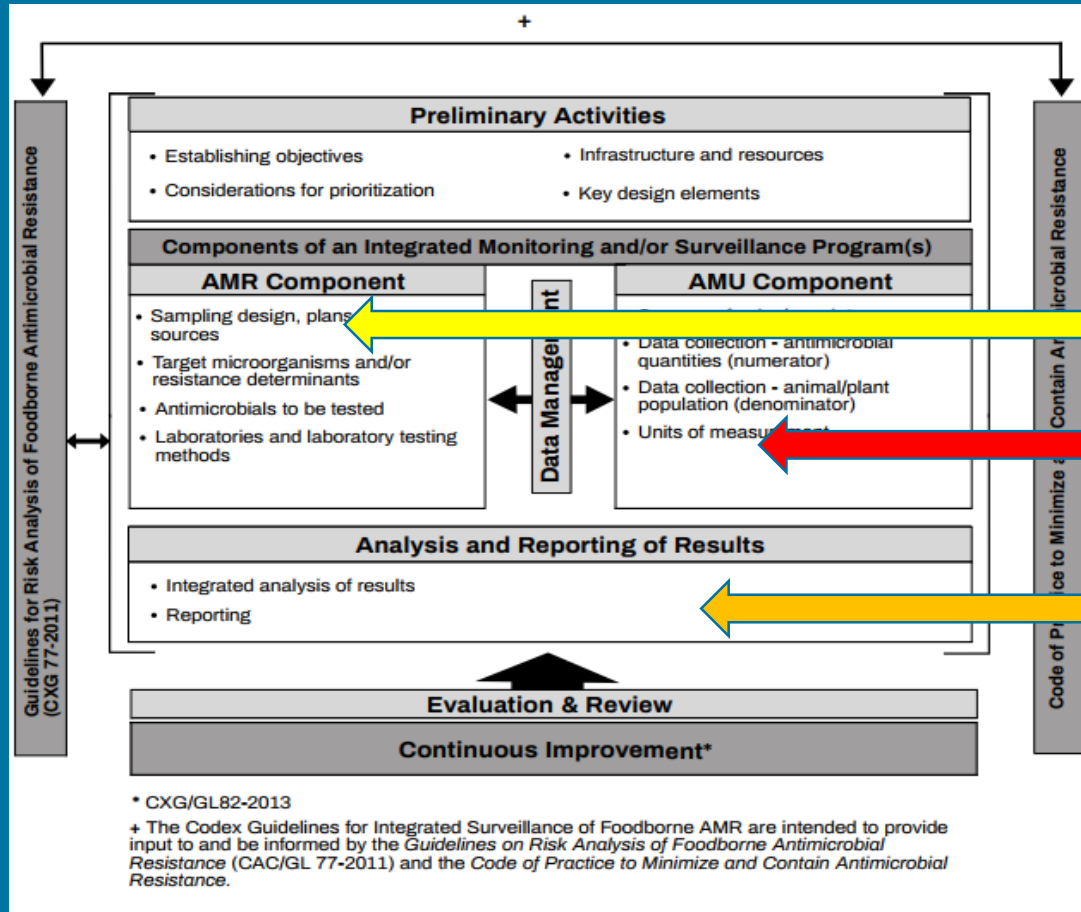
Integrated surveillance of antimicrobial resistance in foodborne bacteria therefore **includes data from relevant food chain sectors (animals, food and humans) and includes data on both antimicrobial resistance and antimicrobial use.**

INTEGRATED SURVEILLANCE OF ANTIMICROBIAL RESISTANCE IN FOODBORNE BACTERIA
Application of a One Health Approach

World Health Organization

Codex GLIS and AGISAR Guidence

WHO Guideline on Integrated Surveillance Contents

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Surveillance of AMR

- Scope
- Elements of a programme of integrated surveillance of antimicrobial resistance in foodborne bacteria
- Sample sources
- Target bacteria
- Sampling design
- Laboratory testing methodology
- Data management, validation, analysis and reporting
- Establishing and improving programme of integrated surveillance of antimicrobial resistance in foodborne bacteria

Surveillance of Antimicrobial Use

- Surveillance of the use of antimicrobials in humans
- Surveillance of use of antimicrobials in animals
- Data management to support surveillance of antimicrobial use

Combined Analysis and Reporting

- Description and examples of combined analysis and reporting
- Reporting options including risk communication
- Example for starting a programme
- Evolution towards combined analysis and reporting

True integration: resistance and use in humans and animals
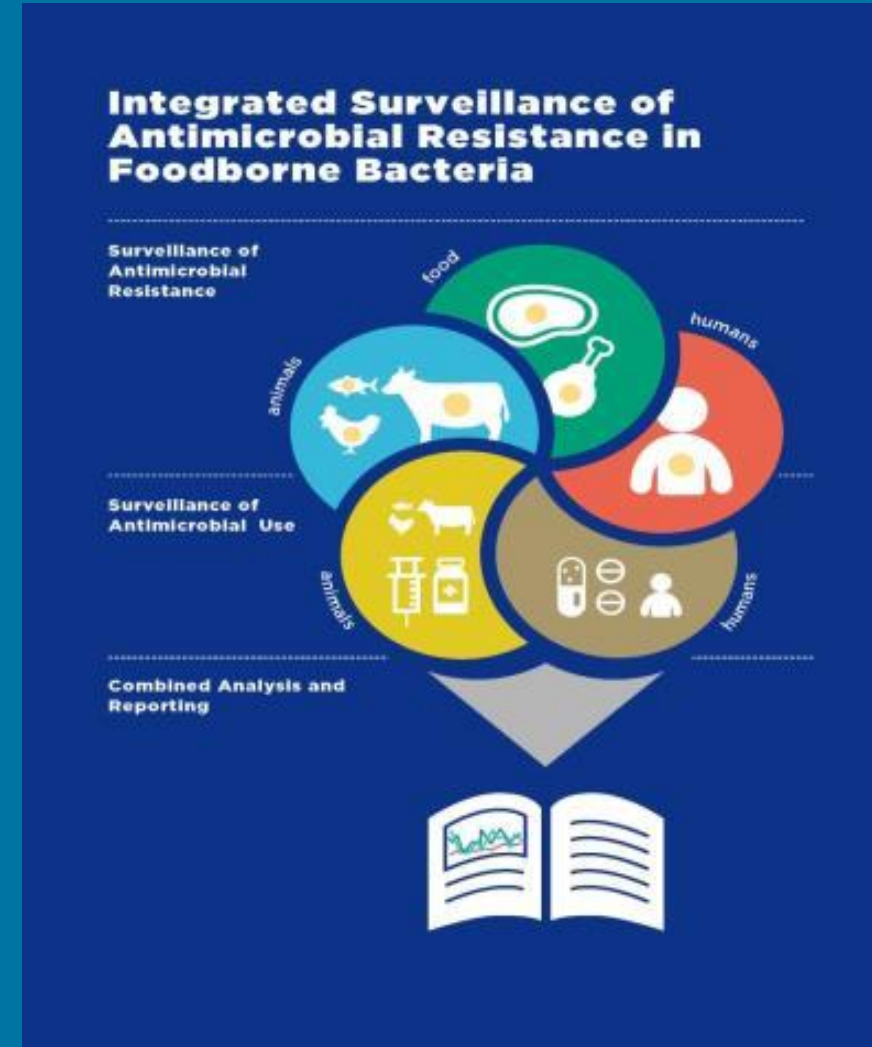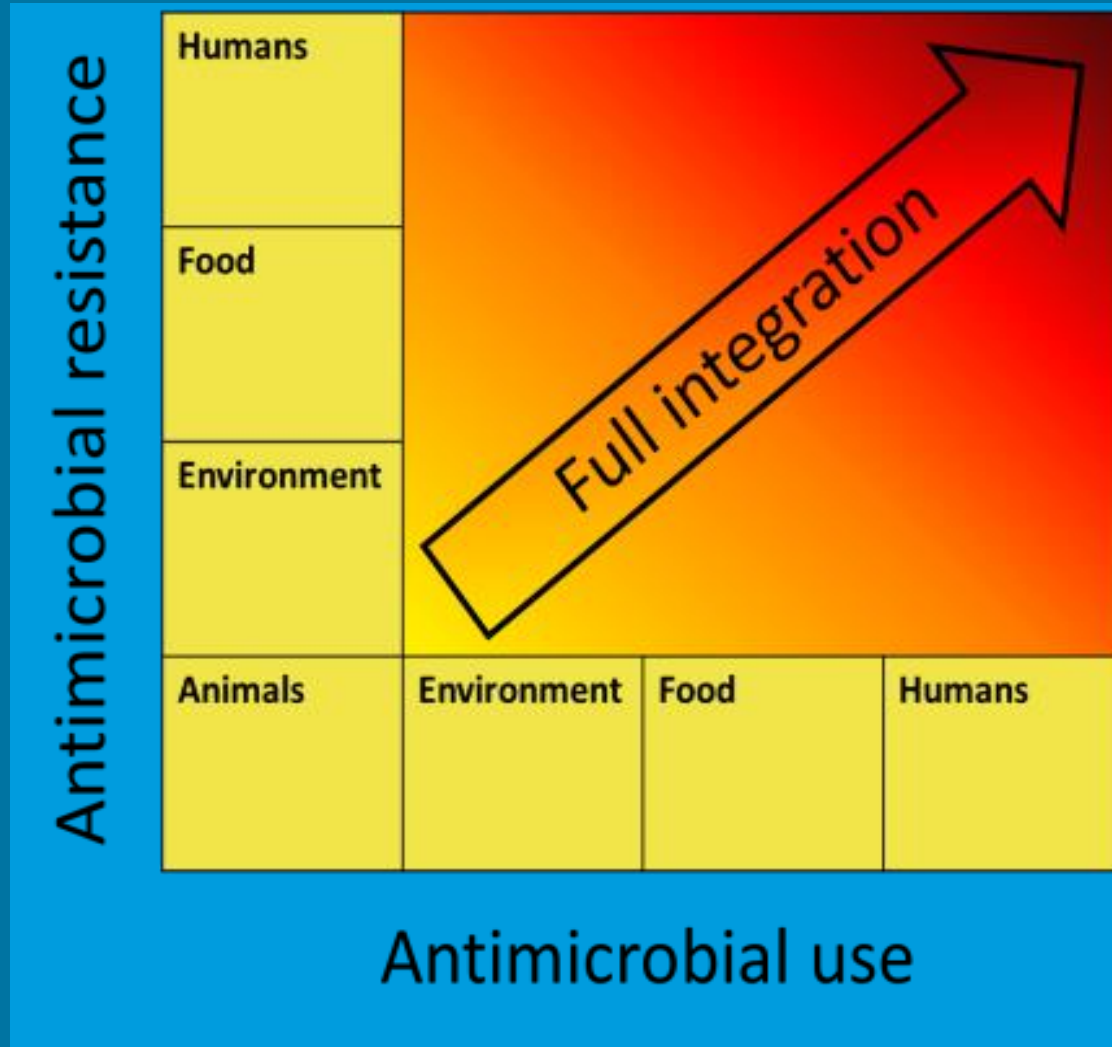
Thank you

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