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DEVELOPMENT
GOALS



One Health approach to AMR and pathogen surveillance at the international level

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The Role of Plant Agricultural Practices on Development of Antimicrobial
Resistant Fungi Affecting Human Health

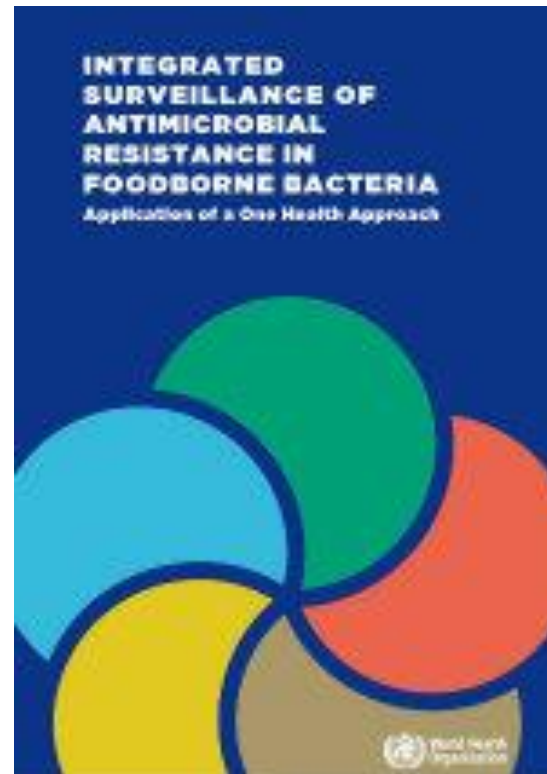
Washington DC, June 27 2022



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HOW
should we do it?



WHO. 2017. [Integrated Surveillance of Antimicrobial Resistance in Foodborne Bacteria: Application of a One Health Approach](#)

Integrated Surveillance of Antimicrobial Resistance in Foodborne Bacteria

Surveillance of Antimicrobial Resistance



Surveillance of Antimicrobial Use



Combined Analysis and Reporting

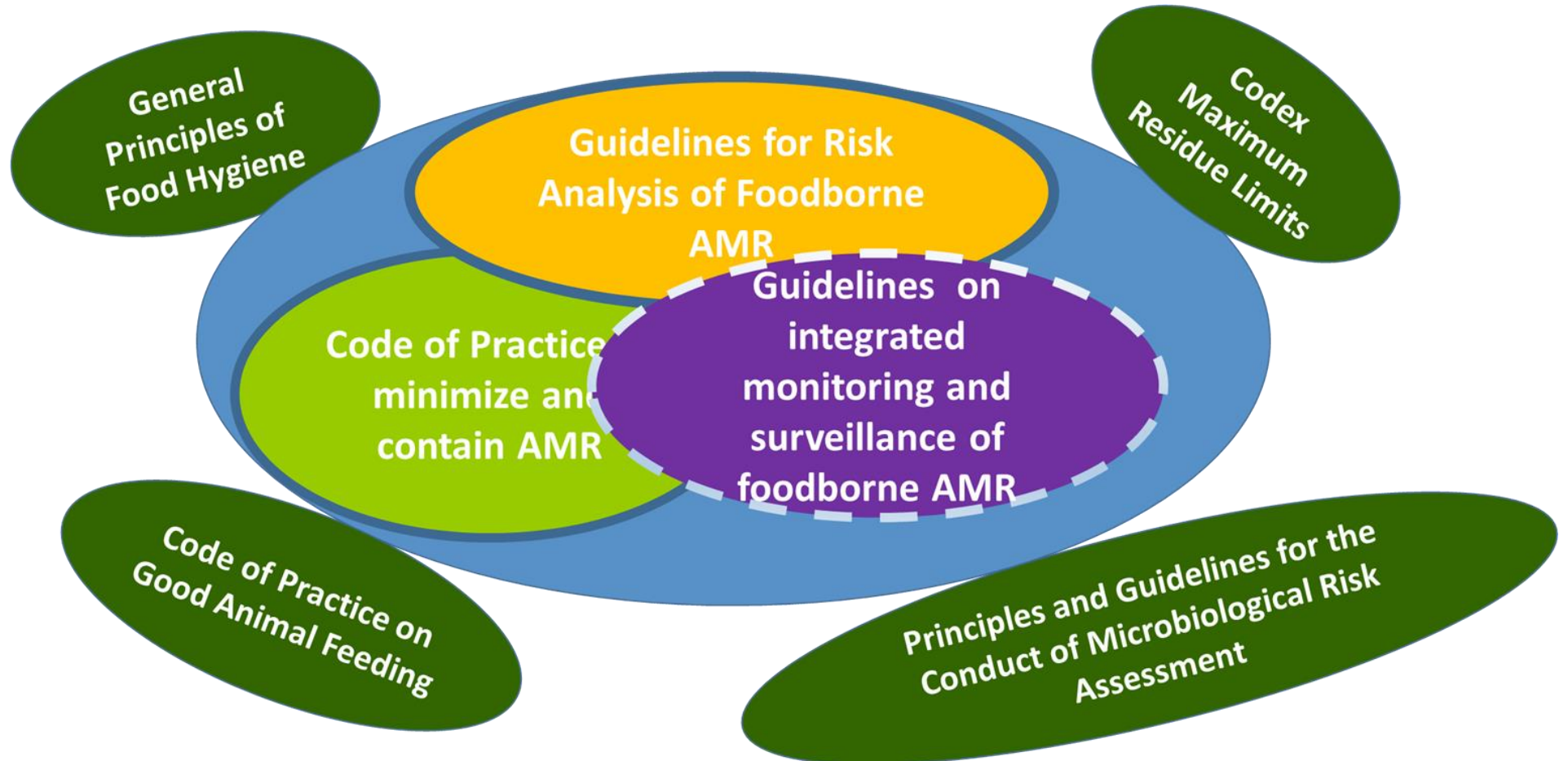
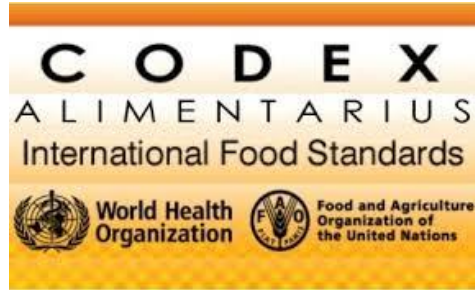




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ACT PROJECT

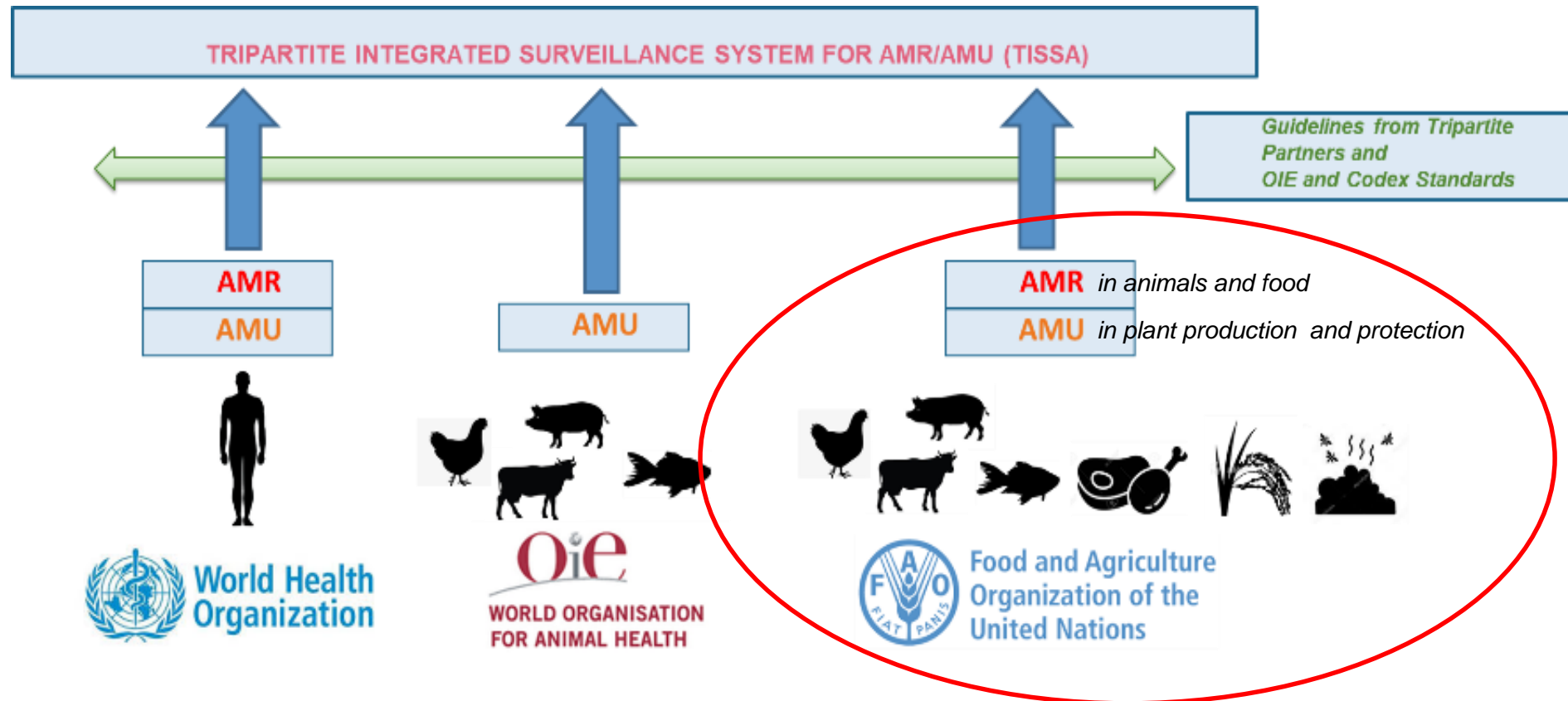




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TISSA



FAO had not established data sharing mechanisms to support the collection of AMR data from food and agriculture sectors at the global level



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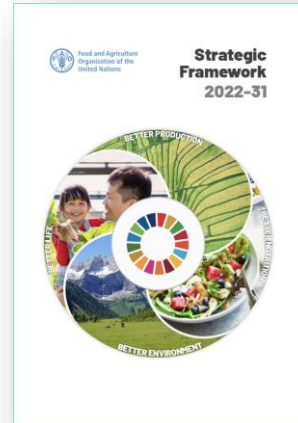
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InFARM

Why InFARM is key for FAO's support ?

Obtaining AMR/AMU data under FAO's remit is necessary to meet **Members' expectations** and contribute to Tripartite One Health efforts:

- FAO to deliver on PPAs under the new Strategic Framework
- FAO to strengthen country capacities for AMR surveillance
- FAO to facilitate the global dialogue on AMR in agri-food systems based on evidence
- FAO to contribute to the M&E of the Global Action Plan on AMR
- FAO to contribute to global integrated surveillance (TISSA platform)

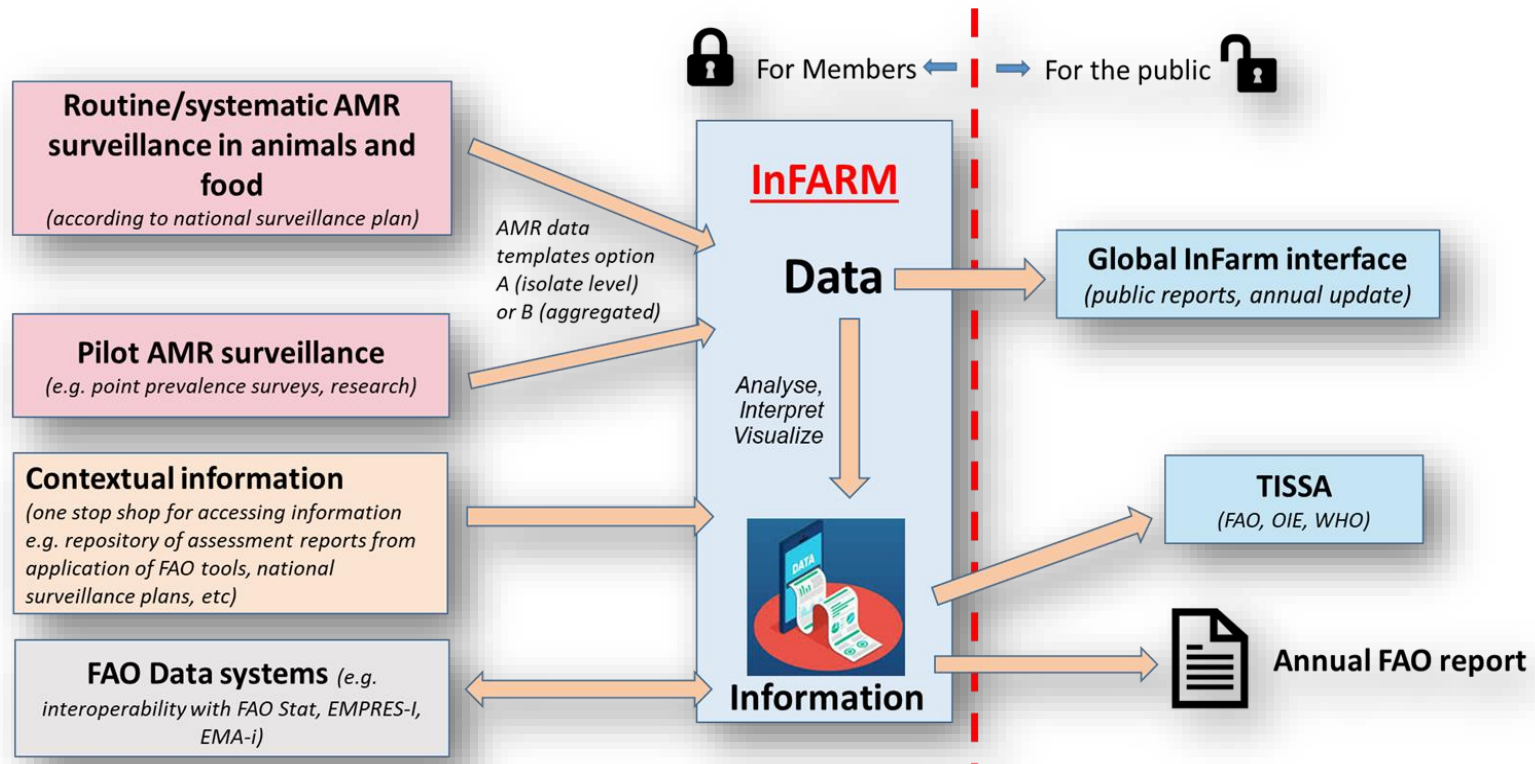


One Health
PPA

	III. Patterns and trends in resistance for indicator <i>E.coli</i> from priority food producing species	Resistance in commensal <i>E.coli</i> from key food producing animals, as follows: a: Percentage of <i>E.coli</i> isolates showing resistance to third-generation cephalosporins (i.e. presumptive ESBL-producing <i>E.coli</i>) b: Patterns of resistance in <i>E.coli</i> to a defined panel of antimicrobials	FAO platform (to be confirmed)
	4.6 Levels and trends in sales/use of pesticides for the purpose of controlling bacterial or fungal disease in plant production	a: Total amount of pesticide (active substance) intended to repel, destroy or control bacterial or fungal disease (tonnes) b: Percentage of the above total composed of each of the following antimicrobial classes: aminoglycosides, tetracyclines, triazoles, oxolinic acid	FAOSTAT (to be confirmed)



The International FAO Antimicrobial Resistance Monitoring (InFARM) IT platform



*Proposed flow of data and dissemination of information in private and public
InFARM interfaces*



Key InFARM specifications for IT prototype

Reporting levels

Description

PRIVATE ONLY: data in private interface and only visible for country

PUBLIC WITH GEOGRAPHICAL AGGREGATION: data in private interface and data migration to publicly available interface, protecting country identity by aggregation at regional/subregional levels

PUBLIC AT COUNTRY LEVEL: data in private interface and data migration to publicly available interface showing country identity





Key InFARM specifications for IT prototype

Automatically generated reports

Volumes of data

Description of AMR targets per country

Number of countries enrolled and number of surveillance sites

Total number of isolates

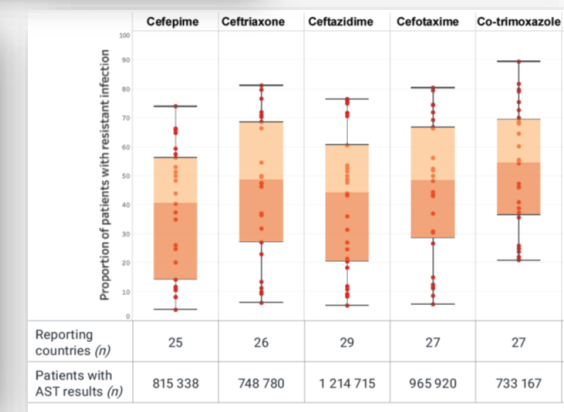
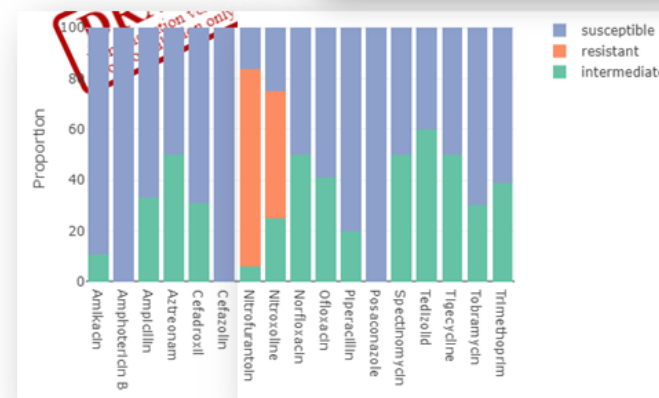
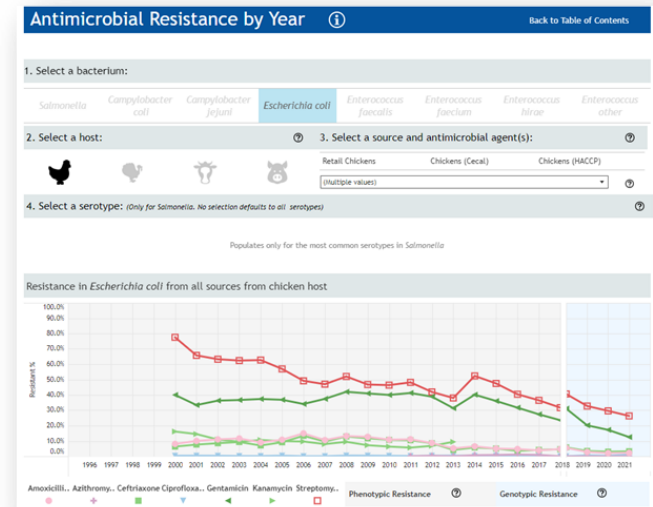
AMR analyses

Frequencies (absolute and relative) of Resistant-Intermediate-Susceptible (RIS) isolates

Geographically aggregated measures of RIS proportions

Trends and patterns with RIS frequencies:

- line charts / histograms
- Multidrug resistance
- Maps

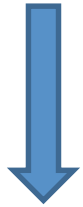




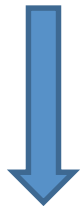
Long term plan

InFARM

Year 2022



Year 2023



Year 2024

- **Developing, piloting and validating** the International FAO AMR Monitoring (InFARM) IT data platform prototype , initially focusing on hosting AMR data from animals and food
- **Global roll out** of InFARM through **annual open calls** for data, and FAO contribution to TISSA
- **Inclusion of additional AMR/AMU surveillance programs** under FAO's remit (e.g. AMU in crops, WGS information...)





fao.org/faostat/en/#search/fungicides

① Pesticides Trade (Land, Inputs and Sustainability)

Fungicides and Bactericides + (Total) (Item) ←

① Pesticides Use (Land, Inputs and Sustainability)

Show Data Download Data

Fungicides and Bactericides + (Total)

Data preview

de	Domain	Area Code	Area	Element Code	Element	Item Code	Item	Year Code	Year	Unit	Value	Flag	Flag Description
	Pesticides Use	3	Albania	5157	Agricultural Use	1331	Fungicides and Bactericides	1990	1990	tonnes	44	F	FAO estimate
	Pesticides Use	3	Albania	5157	Agricultural Use	1331	Fungicides and Bactericides	1991	1991	tonnes	44	F	FAO estimate
	Pesticides Use	3	Albania	5157	Agricultural Use	1331	Fungicides and Bactericides	1992	1992	tonnes	44	F	FAO estimate
	Pesticides Use	3	Albania	5157	Agricultural Use	1331	Fungicides and Bactericides	1993	1993	tonnes	44	Qm	Official data from

- ✓ Participation in voluntary
- ✓ Contribution is inconsistent
- ✓ No data on purpose for use
- ✓ Data is public



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Thank you

<https://www.fao.org/antimicrobial-resistance/key-sectors/surveillance-and-monitoring/en/>

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