Food and Agriculture Organization of the United Nations

UN environment programme

World Health Organization

World Organisation for Animal Health
Founded as OIE

15 April 2025

Dear Colleagues,

On behalf of the Quadripartite organizations, the Food and Agricultural Organization of the United Nations (FAO), the United Nations Environment Programme (UNEP), the World Health Organization (WHO), and the World Organisation for Animal Health (WOAH), we are pleased to share with you the ninth round of the Tracking AMR Country Self-assessment Survey (TrACSS).

To ensure effective tracking of country progress in addressing antimicrobial resistance (AMR), we would urge the national AMR focal points in all countries to fully engage all the relevant sectors to help complete the questionnaire. It is also an opportunity to convene a meeting of the national Multisectoral Coordination Group on AMR to assess national progress and provide a consolidated response to the survey that is approved by all the relevant sectors. Please note that the United Nations General Assembly (UNGA) political declaration (paragraph number 102) on AMR in September 2024 includes a specific target that calls for 95% of all countries to submit responses to TrACSS annually.

186 countries responded to last year's survey, the highest response rate of all previous years. We thank all of you for your strong commitment and support for completing and submitting information on the implementation of the AMR national action plans through TrACSS.

We seek your continued support in completing and submitting responses to the ninth round of TrACSS. The data from TrACSS will contribute to the monitoring of various indicators of the monitoring and evaluation framework[1] of the Global Action Plan on AMR and UNGA targets.

We request you to submit one consolidated country response coordinated by the national AMR focal point by the **deadline of 15 June 2025**. For any additional questions or clarifications, or for support regarding the questionnaire, please write to tracss@who.int. The results of the survey, including country reports, will be available at https://new.amrcountryprogress.org/.

Links to various tools and guidance documents developed by the Quadripartite relevant to each question have been incorporated in the questionnaire. For this version in 2025, changes have been made in the content of the questionnaire, especially in the multisector, human health and environment sections. Appropriate footnotes have been included to guide your response. Like last year, the 2025 TrACSS questionnaire will be administered through the online platform launched in 2024.

We once again thank you for your efforts to implement and monitor multisectoral national action plans on AMR in your country. Through our joint efforts we can help address one of the greatest challenges to human and animal health, food security, environment, livelihoods, and economic growth, and that impacts a number of Sustainable Development Goals.

[1] https://www.who.int/publications/i/item/monitoring-and-evaluation-of-the-global-action-plan-on-antimicrobial-resistance; UNGA political declaration: https://digitallibrary.un.org/record/4064023?ln=en&v=pdf

Sincerely,

Dr Thanawat Tiensin Animal Production and Health Division **Food and Agricultural Organization of the United Nations - Headquarters**	Ms Jacqueline Álvarez Chief Chemicals and Health Branch Industry and Economy Division Economy Division **United Nations Environment Programme - Headquarters**	Dr Yukiko Nakatani Assistant Director-General *ad interim* Antimicrobial Resistance Division **World Health Organization - Headquarters**	Dr Montserrat Arroyo Kuribrena Deputy Director General International Standards and Science **World Organisation for Animal Health - Headquarters**

Contents

Tracking AMR Country Self-assessment Survey (TrACSS)
Deadline for Submission: 15 June 2025

Version 9.0

Introduction

The Global Action Plan on Antimicrobial Resistance (AMR)[2] was adopted in 2015 by all countries through decisions in the World Health Assembly, the Food and Agriculture Organization of the United Nations (FAO) Governing Conference and the World Assembly of World Organisation for Animal Health (WOAH, founded as OIE) Delegates. Countries agreed to have a national action plan on AMR that is consistent with the Global Action Plan, and to implement relevant policies and plans to prevent, control, and monitor AMR. To monitor country progress in the implementation of the national actions plans, an annual Tracking AMR country self-assessment survey (TrACSS) has been jointly administered since 2017.[3]

The results of the previous eight rounds of country self-assessment surveys are available at https://new.amrcountryprogress.org

Process of completing the questionnaire

Information on the process for completing the questionnaire is available in the Guidance Note. It is important that countries involve a multi-sectoral group in assessing national progress and provide consolidated responses agreed by all. Many countries have found that the process of completing the questionnaire is a useful review of progress for the national action plan (NAP) implementation team.

Each country is asked to submit one official response, validated by all involved sectors, which summarizes national progress. Like last year, the Ministry of Health national focal point participating in TrACSS will receive an email invitation to the AMR Monitoring & Evaluation platform from WHO to complete the questionnaire. They will then need to follow the instructions in the email to log on to the platform to complete and submit the survey. The national response should be submitted using the online questionnaire, and only one response is submitted per country.

Regional/subregional/ and country focal points from FAO, UNEP and WOAH will also receive a soft copy of the questionnaire to facilitate the completion of relevant sections of the questionnaire and to coordinate closely with the national AMR focal point to ensure they are accurately reflected in the final submission. Within the new platform, the regional/subregional/ and country focal points from FAO, UNEP and WOAH can also be invited to 'view' the survey for each country but will have 'view-only' access. This is done to ensure only one response is submitted per country.

Responses are requested by 15 June 2025. Data will be analyzed and published in late 2025.

[2] WHO, 2015, https://www.who.int/publications/i/item/9789241509763. The Global Action Plan was developed by WHO with the support of FAO and WOAH.

[3] TrACSS was renamed from 'Tripartite AMR country self-assessment survey' to 'Tracking AMR country self-assessment survey' in 2022 to reflect the inclusion of UNEP within the Quadripartite.

Structure of the questionnaire

The structure of the questionnaire is broken down by sector specific questions, to facilitate easier collection of higher quality data from the various sectors. The responses need to be finally consolidated and validated by the AMR focal point or multisector coordination group. Previously, the questions were grouped by GAP strategic objectives. After the TrACSS revision in 2022, while the structure still follows the order of the strategic objectives, sections are divided by sector, namely,

- Questions relevant to multiple sectors
- Questions relevant to human health
- Questions relevant to animal health
- Questions relevant to food and agriculture
- Questions relevant to environment sector

Strategic objective 5 of the global action plan is equally important, but this data will be collected through other channels.

Countries that have only recently started to develop their response to AMR may not be able to respond to all the questions; partial responses are acceptable. In this case, we would encourage you to please complete the mandatory questions, and any other questions that you can respond to and then submit your Country response. If the response needs to be amended after submission, please contact tracss@who.int. **We also request you, where feasible, to provide links to national documents, reports, legislations, and policies. You are also invited to add additional comments in some sections.**

The questionnaire was developed jointly between FAO, UNEP, WHO and WOAH, with WHO coordinating this annual global monitoring process. WHO will act as liaison point with FAO, UNEP and WOAH at global, regional and national levels. If there are questions on the process or the questionnaire, please contact Zlatina Dobreva in WHO at tracss@who.int.

Questions marked with * are mandatory.

Section I: Contact information

(This section will not be published publicly)

ATTENTION: Please involve the AMR multi-sectoral group and all relevant sectors to assess national progress and provide a consolidated response that is agreed by all. Many countries have found that the process of completing this questionnaire is a useful mechanism for national authorities to convene a meeting of all relevant sectors, and review progress in the implementation of their national action plan (NAP) on AMR. **Each country is asked to submit one official response, validated by all involved sectors, which summarises national progress.**

Name of country* …… **Date of completion** ……..

1.1 Name and email of-existing AMR focal points for relevant sectors:

Human Health:

Name……Email……

Terrestrial Animal Health:

Name……Email……

Aquatic Animal Health: Name

Name……Email……

Plant Health:

Name……Email……

Food Production:

Name……Email……

Food Safety:

Name……Email……

Environment:

Name……Email……

Animal Production (including feed):

Name……Email……

1.2 Name and email of AMR focal point in WHO country or regional office

Name……Email……..

1.3 Name and email of AMR focal point in FAO country or regional office

Name……Email……..

1.4 Name and email of WOAH national focal point on veterinary products

Name……Email……..

1.5 Name and email of AMR focal point in UNEP country or regional office

Name……Email……..

Section II Multi-sector questions

Questions marked with * are mandatory.

Please select the rating (A-E) for each question that most closely matches the country situation. Please note that for each question, higher ratings are expected to have achieved the progress level covered in lower ratings (e.g. countries selecting "D" should have achieved progress listed in both "B" and "C" as well as "D"). For questions covering multiple sectors, please select the appropriate rating for each sector separately, as indicated.

Multi-sectoral approach to addressing AMR*

Please select one rating that most closely matches the country situation.

		2.1 Multi-sector and One Health collaboration/coordination[4]*
O	**A**	No formal multi-sectoral governance or coordination mechanism on AMR exists.
O	**B**	Multi-sectoral coordination mechanism on AMR established with government leadership.
O	**C**	Formalized multisector coordination mechanism with technical working groups developed with clear terms of reference, regular meetings, and funding for working group(s) with activities and reporting/accountability arrangements defined.
O	**D**	Joint working on issues including agreement on common objectives.
O	**E**	Integrated approaches used to implement some activities of the national action plan on AMR with relevant data and lessons learned from all sectors used to adapt implementation of the action plan.

2.2 Which sectors are members of the AMR multisector coordination mechanism? (please select all that apply) *

- o Human Health
- o Terrestrial Animal Health
- o Aquatic Animal Health
- o Plant Health
- o Food Production
- o Food Safety
- o Environment
- o Other, please specify ……..
- o Other, please specify ……..
- o Other, please specify ……..

[4] https://www.who.int/antimicrobial-resistance/publications/workingpaper1multisectoralcoordinationAMR/en/

Country progress with development of a national action plan on antimicrobial resistance (AMR)

Please select one rating that most closely matches the country situation.

2.3 Status of current national action plan on AMR? *

O National action plan on AMR exists (developed, being implemented, has expired, or being revised).
O No plan exists.

If yes, please answer 2.3.a below

2.3.a Country progress with implementation and monitoring of a national action plan on AMR*[5]

O	**A**	National action plan on AMR exists but is not endorsed by government and is not being implemented.
O	**B**	National action plan on AMR endorsed by government.
O	**C**	The endorsed national action plan on AMR is being partially implemented with limited resources.
O	**D**	Full implementation and monitoring of the national action plan on AMR with necessary financing available.
O	**E**	Progress of the implementation of the nation action plan on AMR is evaluated periodically and the results and lessons-learned are communicated to facilitate decision and policy making.

2.4 Which sectors and/or sub-sectors are addressed in the national action plan on AMR or any other national response to AMR (select all that apply)

- Human health
- Terrestrial animal health/food-producing animals
- Terrestrial animal health/companion animals
- Aquatic animal health
- Plant health
- Food production
- Food safety
- Environment
- Other sectors, please specify ……

2.5 Which stakeholders are actively involved in the development, implementation, and monitoring of the national action plan on AMR (please select all that apply)?

- Civil society organizations
- Local communities
- Academia

[5] https://www.who.int/antimicrobial-resistance/national-action-plans/manual/en/

- Professional associations (health, agriculture, veterinary, environment)
- Private sector
- UN/ other Inter-governmental organizations
- Other, please specify ……

2.6 Is a research component included in the national action plan on AMR?[6]	
O	Yes
O	No

If yes, please answer 2.6.a below.

2.6.a Research is included in which sectors in the national action plan on AMR (please select all that apply):

- Human
- Animal
- Plant
- Environment
- Multisectoral/One Health

2.7 Has your country developed an investment/economic case for implementing the national action plan on AMR to support resource mobilization (domestic and external funding) and advocacy?	
O	Yes
O	No

If you wish to provide additional information, for example what tools and methods were used, status of development, etc., please send to tracss@who.int or upload documents here:

2.8 To what extent do AMR policies and interventions in the national action plan on AMR take into account equity considerations, such as gender, social stratifiers, etc.[7]	
O	AMR policies and interventions in the national action plan on AMR do not include equity considerations.
O	AMR policies and interventions consider inequities impacting AMR policies and interventions based on national or international evidence.

If you wish to provide additional information, please send to tracss@who.int

[6] World Health Organization, Food and Agriculture Organization of the United Nations, United Nations Environment Programme & World Organisation for Animal Health. (2023). A one health priority research agenda for antimicrobial resistance. World Health Organization. https://iris.who.int/handle/10665/370279.

[7] Certain groups face increased risks or challenges and there is need for targeted efforts to address their specific needs and to promote inclusivity and equality. Marginalized populations in public health often include groups that face increased risks of health inequities due to factors such as socioeconomic status, ethnicity, race, gender, sex, age, disability, or other social determinants. These populations may experience barriers to accessing health care services, face discrimination and have poorer health outcomes compared with the general population.

2.9 Do you have adequate monitoring and evaluation technical capacity, resources and mechanisms in the country to collect monitoring and evaluation data across all relevant sectors?	
O	Yes
O	No

2.10 Are relevant data disaggregated by gender, geographic location, income, etc.?	
O	Yes
O	No

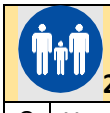
2.11 Is your country's national planning and budgeting on AMR integrated with other existing action plans or, strategies and budgets? *	
O	Yes
O	No

If yes, please select the relevant item (please select all that apply)?

- One Health Strategy or One Health mechanism
- Water, Sanitation and Hygiene (WASH)
- National health sector plan
- National immunization strategy for human health
- National action plan on health security
- Climate change, pollution or other environmental planning
- National development plans; United Nations Sustainable Development Cooperation Framework (UNSDCF)
- National Food Safety strategy and policies
- National Agriculture development plans and policies
- Other, please specify ……..

If you have published your AMR national action plan, please upload here…….....
If you wish to share a link to the AMR national action plan, please insert here……
Or, if you wish to share via email, please send to tracss@who.int.

AMR relevant country legislations and regulations



2.12 Country **has laws or regulations** on prescription and sale of antimicrobials for human use. *	
O	Yes
O	No

2.13 Country **has laws or regulations** that prohibit the use and sale of substandard and falsified medicines for human health. *	
O	Yes
O	No

2.14 Country **has laws or regulations** on prescription and sale of antimicrobials for terrestrial animal use. *	
O	Yes
O	No

2.15 Country **has laws or regulations** on prescription and sale of antimicrobials for aquatic animals. *	
O	Yes
O	No

2.16 Country **has laws or regulations** on prescription and sale of medicated feed. *	
O	Yes for terrestrial animals only
O	Yes for aquatic animals only
O	Yes for both terrestrial and aquatic animals
O	No

2.17 Country **has laws or regulations** that prohibits the use of antibiotics for growth promotion in terrestrial animals in the absence of risk analysis. *	
O	Yes
O	No

2.18 Country **has legislation** on the registration and use of applicable pesticides with antimicrobial effects, such as bactericides and fungicides used in plant production. *	
O	Yes
O	No

2.19 Country **has legislation** on waste management[8] to prevent and reduce the emergence and spread of AMR and antimicrobial residues in the environment. *	
O	Yes
O	No

[8] Sources of antimicrobials in waste:
Unused medicines (both expired and unexpired), manure, sludge, and others from key sectors: pharmaceutical industry, healthcare facilities, animal and plant production, and municipal/household.

	2.20 Country **has legislation** on wastewater management[9] to prevent and reduce the emergence and spread of AMR and antimicrobial residues in the environment. *
O	Yes
O	No

If you wish to share the relevant legislation, please upload here……
If you wish to share a link to the relevant legislation, please insert here……
Or, if you wish to share via email, please send to tracss@who.int.

Country progress on Strategic Objective 1: Improve awareness and understanding of AMR through effective communication, education, and training.

Please select one rating that most closely matches the country situation.

		2.21 To what extent does the national action plan on AMR incorporate evidence-based[10] behaviour change strategies?
O	**A**	The national action plan on AMR does not incorporate any behaviour change strategy.
O	**B**	The national action plan on AMR includes behaviour change strategies, but they are not evidence-based.
O	**C**	The national action plan on AMR includes some evidence-based behaviour change strategies for some sectors, however, they are not systematically applied across all sectors.
O	**D**	The national action plan on AMR systematically incorporates evidence-based behaviour change strategies, across all sectors to address key barriers and enablers of behaviour influencing the emergence and spread of AMR.
O	**E**	The national action plan on AMR systematically incorporates evidence-based behaviour change strategies, across all sectors to address key barriers and enablers of behaviour influencing the emergence and spread of AMR, with mechanism for monitoring and evaluation.

		2.22 Country capacity to support evidence-based behaviour change strategies?
O	**A**	There are no trained personnel in the country to support development and implementation of evidence-based behaviour change strategies, including public engagement, across all sectors.
O	**B**	Small number of trained personnel in the country and no dedicated team to support development and implementation of evidence-based behaviour change strategies, including public engagement, across all sectors
O	**C**	Trained personnel are available in some specific sectors, and small-scale initiatives are being launched in limited sites or communities.

[9] Sources of antimicrobials in wastewater:
Wastewater discharge from key sectors: pharmaceutical industry, healthcare facilities, animal and plant production, and municipal/household.

[10] Evidence-based in this context refers to interventions that are grounded in rigorous research, informed by behavioral science theories, adapted to the local context, and evaluated for their effectiveness in achieving measurable behavioural outcomes.

O	**D**	Adequate number of trained personnel are available in all sectors, but no dedicated team of technical experts or nation-wide initiatives to support evidence-based behaviour change, including public engagement, across all sectors.
O	**E**	All sectors have trained personnel and a dedicated team of technical experts, and there are nation-wide public engagement initiatives to support development and implementation of evidence-based behaviour change strategies across all sectors.

2.23 Raising awareness and understanding of AMR risks and response

*[11]

O	**A**	No awareness-raising activities on risks of antimicrobial resistance.
O	**B**	Some awareness-raising activities on AMR and actions to mitigate it.
O	**C**	Some government-supported awareness activities on AMR and actions to mitigate it, targeting priority stakeholders, based on stakeholder analysis.
O	**D**	Nationwide, government-supported antimicrobial resistance awareness raising campaign targeting priority stakeholder groups, utilizing targeted messaging accordingly within and across sectors.
O	**E**	Routine targeted, nationwide government-supported campaign implemented to raise awareness of priority stakeholders across sectors, with monitoring of outcomes and impact.

2.24 Please indicate the extent of involvement of the sectors in AMR awareness activities below.

- Human Health:
  - ☐ this sector is a main focus of campaign
  - ☐ some activities done in this sector
  - ☐ this sector not involved
- Terrestrial Animal Health:
  - ☐ this sector is a main focus of campaign,
  - ☐ some activities done in this sector
  - ☐ this sector not involved
- Aquatic Animal Health:
  - ☐ this sector is a main focus of campaign,
  - ☐ some activities done in this sector
  - ☐ this sector not involved
- Plant Health:
  - ☐ this sector is a main focus of campaign,
  - ☐ some activities done in this sector
  - ☐ this sector not involved

[11] World Antibiotic Awareness Week Toolkit | WHO: https://www.who.int/campaigns/world-antimicrobial-awareness-week/2020; https://who.canto.global/v/AntimicrobialResistance/folder/M0FHE?display=fitView&viewIndex=0&gSortingForward=false&gOrderProp=uploadDate&from=fitView

- Food Production:
  - ☐ this sector is a main focus of campaign,
  - ☐ some activities done in this sector
  - ☐ this sector not involved
- Food Safety:
  - ☐ this sector is a main focus of campaign,
  - ☐ some activities done in this sector
  - ☐ this sector not involved
- Environment:
  - ☐ this sector is a main focus of campaign,
  - ☐ some activities done in this sector
  - ☐ this sector not involved

2.25 Youth education and AMR: Do school-going children and youth (primary and secondary) receive education on antimicrobial resistance, as a long-term investment in mitigating AMR? *	
O	Yes
O	No

2.26 Is the ministry of education involved in the implementation of the national action plan on AMR, such as awareness raising, capacity building, curriculum improvement and/or pre-service training on AMR? *	
O	Yes
O	No

Country progress on <u>Strategic Objective 2</u>: Strengthen the knowledge and evidence base through surveillance and research.

 **2.27 Is the country using relevant antimicrobial consumption/use data to inform operational decision making and amend policies?**	
O	Yes
O	No

2.27.a If yes, for which sector/s (select all that apply)

- Human health
- Terrestrial animal health
- Aquatic animal health
- Plant health
- Food production
- Food safety

- Environment

 **2.28 Is the country using relevant antimicrobial resistance surveillance data to inform operational decision making and amend policies?**	
O	Yes
O	No

2.28.a If yes, for which sector/s (select all that apply)

- Human health
- Terrestrial animal health
- Aquatic animal health
- Plant health
- Food production
- Food safety
- Environment

 **2.29 Has the country established or starting the implementation of an Integrated Surveillance System for Antimicrobial Resistance[12]**	
O	Yes
O	No

2.29.a If yes, involving which sector/s - Must select at least two

- Human health
- Terrestrial animal health
- Aquatic animal health
- Plant health
- Food production
- Food safety
- Environment

[12] Guidelines of the Integrated Monitoring and Surveillance of Foodborne Antimicrobial Resistance, within the Foodborne antimicrobial resistance; COMPENDIUM OF STANDARDS https://www.fao.org/documents/card/en/c/cb8554en

Section III: Questions specific to the Human Health sector

Country progress on Strategic Objective 1: Improve awareness and understanding of AMR through effective communication, education and training.

Please select one rating that most closely matches the country situation.

		3.1 Training and professional education on AMR in the human health sector[13]*
O	**A**	No training for human health workers on AMR.
O	**B**	Ad hoc AMR training courses in some human health related disciplines.
O	**C**	AMR is covered in 1) some pre-service training and in 2) some in-service training or other continuing professional development (CPD) for human health workers.
O	**D**	AMR is covered in pre-service training for all relevant cadres. In-service training or other CPD covering AMR is available for all types of human health workers nationwide.
O	**E**	AMR is systematically and formally incorporated in pre-service training curricula for all relevant human health cadres. In-service training or other CPD on AMR is taken up by relevant groups for human health nationwide, in public and private sectors.

Country progress on Strategic Objective 2: Strengthen the knowledge and evidence base through surveillance and research.

Please select one rating for each question that most closely matches the country situation.

		3.2 National system for national antimicrobial use[14] in humans
O	**A**	No national plan or system for monitoring use of antimicrobials.
O	**B**	System for monitoring national antimicrobial use in place but no regular collection and reporting of data.
O	**C**	Data on national antimicrobial use, including data by AWaRe categories, are regularly (at least every 2 years) collected but not publicly reported.
O	**D**	Data on national antimicrobial use, including data by AWaRe categories, are regularly (at least every 2 years) collected and publicly reported, including through WHO GLASS AMU.
O	**E**	Data on national antimicrobial use, including data by AWaRe categories, are regularly (at least every 2 years) collected, publicly reported, including WHO GLASS AMU, and used for specific interventions to improve antimicrobial use.

[13] WHO Competency Framework for Health Workers' Education and Training on Antimicrobial Resistance & Curricula Guide https://iris.who.int/handle/10665/272766, https://apps.who.int/iris/bitstream/handle/10665/329380/9789241516358-eng.pdf.

[14] National antimicrobial use surveillance is medicine-level surveillance, previously known as antimicrobial consumption. surveillance. This does not refer to healthcare facility/hospital-based surveillance but applies to data from both public and private sector. Data sources include representative data at the national level, such as: import, local manufacturing, distribution, electronic prescribing or dispensing databases, or reimbursement records.

		3.3 Monitoring system for facility-level / hospital antimicrobial use[15] in human health
O	**A**	No national system for monitoring hospital antimicrobial use in place and no data collected even at individual hospitals.
O	**B**	No national system for monitoring hospital antimicrobial use in place but data collected in individual hospitals as part of ad hoc local initiatives.
O	**C**	National system for monitoring medicine-level hospital antimicrobial use in place and medicine-level data systematically collected in a few select hospitals.
O	**D**	In addition to C, clinical-level[16] antimicrobial use data are regularly (at least every 2 years) collected in a defined network of hospitals to assess appropriateness of prescribing.
O	**E**	In addition to D, data are regularly (at least every 2 years) and publicly reported and used for specific interventions to improve antimicrobial use.

		3.4 National monitoring and reporting system for substandard and falsified antimicrobials in humans
O	**A**	No national system for monitoring and reporting substandard and falsified antimicrobials.
O	**B**	A system has been designed for monitoring and reporting substandard and falsified antimicrobials.
O	**C**	Substandard and falsified antimicrobials are actively monitored and reported at the national level.
O	**D**	Regular surveys are conducted to assess the quality of antimicrobials in the country.
O	**E**	A standardized national survey is in place for collecting data on the prevalence of substandard and falsified antimicrobials and country reports to WHO on sub-standard and falsified antimicrobials.

		3.5 National surveillance system for antimicrobial resistance (AMR) in humans
O	**A**	No capacity for generating data (antimicrobial susceptibility testing and accompanying clinical and epidemiological data) and reporting on antibiotic resistance.
O	**B**	AMR data is collected locally for common[17] bacterial infections in hospitalized and community patients [18], but data collection may not use a standardized approach and national coordination and/or quality management are lacking.
O	**C**	AMR data are collected nationally for common bacterial infections in hospitalized and community patients, but data collection may not use a standardized approach and lacks national coordination and/or quality management are lacking.
O	**D**	There is a standardized national AMR surveillance system collecting data on common bacterial infections in hospitalized and community patients, with established network of surveillance sites, designated national reference laboratory for AMR, and a national coordinating centre producing reports on AMR.
O	**E**	The national AMR surveillance system links AMR surveillance with antimicrobial consumption and/or

[15] Medicine-level hospital antimicrobial use was previously known as hospital antimicrobial consumption.

[16] Clinical-level data are patient level data which include information about patient demographics, indication and treatment.

[17] Common: in this context refers to infections that occur most frequently in both hospitalized and community patients and constitute a majority of indications for antimicrobial treatment (such as urinary tract infections, enteric infections, bloodstream infections, respiratory infections etc). Also indicates that the spectrum is broader than e.g. epidemic-prone (notifiable) infections. Bacterial pathogens causing these infections could be called common pathogens, but just because they cause common infections and so isolated most frequently.

[18] Community patients would be in many instances outpatients or those patients within 48 hours of admission in line with GLASS definition.

		use data for human health[19].

Assessment of capacities related to clinical laboratory services (for patient management)

Coverage and capacity of clinical microbiology laboratories for the routine clinical diagnosis of common bacteria and critical fungi (TB/TBDR diagnosis is excluded from this assessment)

3.6 Coverage of bacteriology lab services

How many clinical bacteriology laboratories perform phenotypic (culture-based) isolation, identification and antimicrobial susceptibility testing (AST) of common bacteria in the public and private sector?[20]

O Total number of clinical laboratories in the country: [+] O Number of clinical laboratories performing culture and AST (***both*** public and private sectors): [+]
O Total number of clinical laboratories in the public sector: [+] O Number of clinical laboratories performing culture and AST (public sector ***only***): [+]

[+] Please provide absolute number.

3.7 Capacity to perform antimicrobial **susceptibility testing (AST) for critically important bacteria**

Does the country have one or more national bacteriology/AMR reference laboratory/s for AMR performing antimicrobial susceptibility testing (AST) for:

1. *Acinetobacter baumannii*
2. *Pseudomonas aeruginosa*
3. Enterobacterales (*E. coli*, *Klebsiella* spp., *Proteus* spp.)
4. *Enterococcus faecium*
5. *Staphylococcus aureus*
6. *Campylobacter* spp.
7. *Neisseria gonorrhoeae*
8. *Streptococcus pneumoniae*
9. *Haemophilus influenzae*
10. *Shigella* spp
11. Non-typhoidal *Salmonella* spp.
12. *Salmonella enterica* serovar Typhi and *Salmonella enterica* serovar Paratyphi A

O	Yes, the country has one or more national bacteriology/AMR reference laboratory/s for AMR performing AST for ***all*** the 12 bacteria listed.
O	Yes, the country has one or more national bacteriology/AMR reference laboratory/s for AMR performing AST for ***some*** of the bacteria listed. If yes, select all that apply 1. *Acinetobacter baumannii* 2. *Pseudomonas aeruginosa*

[19] The term consumption refers to estimates that are derived from aggregated data sources, mainly sales data, and serves as proxy for actual use of antibiotics.
Data on antibiotic *use* refers to estimates derived from individual level data, and may be accompanied by information on patient characteristics and indication of treatment.

[20] Common bacteria include *Staphylococcus aureus*, *Streptococcus pneumoniae*, Enterobacterales, *Pseudomonas aeruginosa*, *Enterococcus* spp., *Salmonella* spp.

	3. Enterobacterales (*E. coli*, *Klebsiella* spp., *Proteus* spp.) 4. *Enterococcus faecium* 5. *Staphylococcus aureus* 6. *Campylobacter* spp. 7. *Neisseria gonorrhoeae* 8. *Streptococcus pneumoniae* 9. *Haemophilus influenzae* 10. *Shigella* spp 11. Non-typhoidal *Salmonella* spp. 12. *Salmonella enterica* serovar Typhi and *Salmonella enterica* serovar Paratyphi A
O	No, the country does not have a national bacteriology/AMR reference laboratory performing AST for any of the bacteria
O	Unknown

3.8 Capacity to perform antifungal susceptibility testing for important fungi Does the country have one or more national mycology reference laboratory/s to perform identification AND susceptibility testing of *Candida* and/or *Aspergillus* spp.?	
O	No
O	Yes only for *Candida* spp.
O	Yes only for *Aspergillus* spp.
O	Yes for both *Candida* and *Aspergillus* spp.
O	Unknown

3.9 Continuity of services for National Bacteriology /AMR reference laboratory/s Please indicate number of days with disruptions in laboratory services at the national bacteriology/AMR reference laboratory/s due to stock-outs over the last 3 months
Number[+] of days with disruptions in laboratory services due to stock-outs (e.g., lack of reagents, consumables, media) over the last 3 months:
Unknown

[+]Please provide absolute number.

3.10 Continuity of services for clinical bacteriology laboratories In your country, is there a mechanism in place to monitor stock status and report stock-outs of reagents/consumables for bacterial detection, identification, and antimicrobial susceptibility testing in clinical **bacteriology laboratories** in the public health sector?	
O	Yes, all laboratories regularly report stock-status at the national level.
O	Yes, some laboratories regularly report stock-status at the national level.
O	No, each bacteriology laboratory manages stock status without compulsory reporting.
O	Unknown

3.11 Adherence to standardized AST guidelines. To what extent do the national bacteriology/AMR reference laboratory/s and clinical bacteriology laboratories at all levels of the public health system adhere to standardized antimicrobial susceptibility testing (AST) guidelines (e.g. CLSI, EUCAST)?	
O	The national bacteriology/AMR reference laboratory/s and ***all*** clinical bacteriology laboratories adhere to standardized AST guidelines.
O	The national bacteriology/AMR reference laboratory/s and ***some*** clinical bacteriology laboratories use standardized AST guidelines.
O	The national bacteriology/AMR reference laboratory/s use standardized AST guidelines but information about the clinical laboratories is unknown.
O	Only the national bacteriology/AMR reference laboratory/s uses standardized AST guidelines.

O	Neither the national bacteriology/AMR reference laboratory/s nor the clinical bacteriology labs use standardized AST guidelines.
O	Unknown

3.12 External quality-assurance for AMR in bacteriology laboratory services To what extent is an external quality assurance (EQA) programme for AMR implemented in bacteriology laboratories within the country?	
O	No EQA programme is in place for AMR in any bacteriology laboratory.
O	EQA programme is in place only for the national bacteriology/AMR reference laboratory/s.
O	EQA programme is in place for ***some*** bacteriology labs (e.g. those enrolled in the national AMR surveillance system), including the national bacteriology/AMR reference laboratory/s.
O	EQA programme is in place for ***all*** bacteriology laboratories in the country, including the national bacteriology/AMR reference laboratory/s.
O	Unknown

3.13 Does the country have a national list of essential in-vitro diagnostics (IVDs) that includes all essential diagnostic tests for AMR (microscopy, bacterial culture including blood culture and antimicrobial susceptibility testing)?	
O	No national list of essential IVDs exists.
O	A national list of essential IVDs exists, but it does not include all essential AMR diagnostics.
O	A national list of essential IVDs exists and includes all essential AMR diagnostics.
O	Unknown

Country progress on <u>Strategic Objective 3</u>: Reduce the incidence of infection through effective sanitation, hygiene, and infection prevention measures.

Please select one rating for each question that most closely matches the country situation.

 **3.14 Infection Prevention and Control (IPC) in human health care**		
O	**A**	No national IPC programme or operational plan is available.
O	**B**	A national IPC programme or operational plan is available. National IPC and water, sanitation and hygiene (WASH) and environmental health standards exist but are not fully implemented.
O	**C**	A national IPC programme and operational plan are available and national guidelines for health care IPC are available and disseminated. Selected health facilities are implementing the guidelines, with monitoring and feedback in place.
O	**D**	National IPC programme available according to the WHO IPC core components guidelines[21] and IPC plans and guidelines implemented nationwide. All health care facilities have a functional built environment (including water and sanitation), and necessary materials and equipment to perform IPC, per national standards.
O	**E**	IPC programmes are in place and functioning at national and health facility levels according to the WHO IPC core components guidelines. Compliance and effectiveness are regularly evaluated and published. Plans and guidance are updated in response to monitoring.

[21] WHO Guidelines on core components of IPC programmes at the national and acute health care facility level, http://www.who.int/infection-prevention/publications/core-components/en/
https://www.who.int/infection-prevention/campaigns/ipc-global-survey-2019/en/

Country progress on Strategic Objective 4: Optimize the use of antimicrobials.

Please select one rating for each question that most closely matches the country situation.

		3.15 Optimizing antimicrobial use in hospitals
O	**A**	No/weak national policies† for appropriate antimicrobial use including availability, quality, and disposal of antimicrobials.
O	**B**	National policies† promoting appropriate antimicrobial use/antimicrobial stewardship activities developed for the community and health care settings.
O	**C**	National guidelines‡ for appropriate use of antimicrobials are available and antimicrobial stewardship programmes are being implemented in some healthcare facilities.
O	**D**	National guidelines‡ for appropriate use of antimicrobials are available and antimicrobial stewardship programmes are being implemented in most health care facilities nationwide. Monitoring and surveillance results§ are used to inform action and to update treatment guidelines and essential medicines lists.
O	**E**	National guidelines‡ on optimizing antibiotic use are implemented for all major syndromes and data on use is systematically fed back to prescribers.

† Broad or overarching directives administered by relevant government authorities, such as medicines registration requirements or national essential medicines lists.

‡ Practical guidance on the prevention, diagnosis, severity scoring, epidemiology and/or treatment of infectious diseases, such as prescribing, clinical practice or treatment guidelines.

§ Data on antimicrobial resistance, use and impact of antimicrobial stewardship activities.

		3.16 Optimizing antimicrobial use in primary care
O	**A**	No national policies† or guidelines to optimize antimicrobial use in primary care in place.††
O	**B**	Basic national policies and /or treatment guidelines to optimize antimicrobial use in primary care are being developed but have not yet been implemented and /or disseminated.
O	**C**	National policies and treatment guidelines (no older than 5 years and integrating AWaRe and stewardship principles) to optimize antimicrobial use in primary care, covering at least respiratory and urinary tract infections, are officially adopted and disseminated to primary care providers.
O	**D**	National policies and treatment guidelines (no older than 5 years and integrating AWaRe and stewardship principles) to optimize antimicrobial use in primary care covering a comprehensive list of infections encountered in primary care officially adopted and disseminated to all primary care providers.
O	**E**	Comprehensive national policies and treatment guidelines to optimize antimicrobial use in primary care are fully implemented, with systems in place for continuous quality improvement based on data.

† Treatment guidelines provide clinical advice on how to diagnose, treat and prevent specific infections in patients while national policies refer to a more general framework for optimizing antimicrobial use at the population level including regulation, education, research etc.

††The availability of legislation / regulations regarding over-the-counter use of antimicrobials should not be considered here

		3.17 Adoption of "AWaRe" classification of antibiotics[22] in the National Essential Medicines List
O	**A**	Country has no knowledge or information about the AWaRe classification of antibiotics.
O	**B**	Country has knowledge about the AWaRe classification of antibiotics but has not yet adopted it.
O	**C**	Country has adopted the AWaRe classification of antibiotics in their National Essential Medicines List.
O	**D**	Country has adopted the AWaRe classification of antibiotics in their National Essential Medicines List and is monitoring its antibiotic use and reporting it according to the AWaRe classification.
O	**E**	Country has adopted the AWaRe classification of antibiotics in their National Essential Medicines List, is monitoring its antibiotic use and reporting it according to the AWaRe classification and has incorporated AWaRe into its antimicrobial stewardship strategies (e.g. treatment guidelines).

If you wish to provide additional information on either the adoption of the AWaRe classification or your country's antibiotic stewardship strategies for human health, please insert here:

If you wish to share a copy of the National Essential Medicines List that includes the AWaRe classification of antibiotics, please upload here……
If you wish to share a link to the National Essential Medicines List that includes the AWaRe classification of antibiotics, please insert here……
Or, if you wish to share via email, please send to tracss@who.int.

[22] https://adoptaware.org/

Section IV: Questions specific to the Animal Health sector

Country progress on Strategic Objective 1: Improve awareness and understanding of AMR through effective communication, education and training. *Please select one rating that most closely matches the country situation*.

		4.1 Training and professional education on AMR and AMU in the veterinary sector[23] *
O	**A**	No training of veterinary related professionals (veterinarians, veterinary paraprofessionals, and Community Animal Health Workers (CAHW)) related to AMR.
O	**B**	Ad hoc AMR and AMU training courses available for veterinary related professionals.
O	**C**	AMR and prudent use of antimicrobial agents are covered in core curricula for graduating veterinarians and for veterinary paraprofessionals in some educational institutions.
O	**D**	Continuing professional training on antimicrobial resistance and antimicrobial use is available nationwide for veterinary related professionals.
O	**E**	AMR and AMU are systematically and formally incorporated in curricula for graduating veterinarians and veterinary paraprofessionals and continuing professional training is a formal requirement.

		4.2 Training and professional education on AMR in the aquatic animal health sector[24]*
O	**A**	No training of aquatic animal health professionals related to AMR.
O	**B**	Ad hoc AMR training courses available for aquatic animal health professionals.
O	**C**	AMR and prudent use of antimicrobial agents are covered in core curricula for graduating aquatic animal health professionals in some educational institutions.
O	**D**	Continuing professional training on antimicrobial resistance and antimicrobial use is available nationwide for aquatic animal health professionals.
O	**E**	AMR is systematically and formally incorporated in curricula for aquatic animal health professionals and continuing professional training is a formal requirement.

		4.3 Progress with strengthening veterinary services
O	**A**	No systematic approach at national level to strengthening Veterinary Services.
O	**B**	Veterinary services assessed and plans developed to improve capacity, through a structured approach such as WOAH Performance of Veterinary Services (PVS) Evaluation and PVS Gap Analysis missions.
O	**C**	Implementation of plan to strengthen capacity gaps in Veterinary Services underway.

[23] https://www.oie.int/en/what-we-offer/improving-veterinary-services/pvs-pathway/targeted-support/veterinary-and-veterinary-paraprofessional-education/

[24] https://www.oie.int/en/what-we-offer/improving-veterinary-services/pvs-pathway/targeted-support/veterinary-and-veterinary-paraprofessional-education/

O	**D**	Monitoring of Veterinary Services performance carried out regularly, e.g. through PVS Evaluation Follow Up missions.
O	**E**	Documented evidence of strong capacity in compliance with WOAH standards on the quality of Veterinary Services[25].

4.4 Progress with strengthening aquatic animal health services

O	**A**	No systematic approach at national level to strengthening aquatic animal health services.
O	**B**	Aquatic animal health services assessed, and plans developed to improve capacity, through a structured approach such as Evaluation of Performance of Aquatic Animal Health Services (PVS Evaluation (Aquatic))[26] and PVS Gap Analysis (Aquatic) missions.
O	**C**	Implementation of plan to strengthen capacity gaps in aquatic animal health services underway.
O	**D**	Monitoring of aquatic animal health services performance carried out regularly, e.g. through PVS Evaluation Follow Up (Aquatic) missions.
O	**E**	Documented evidence of strong capacity in compliance with WOAH standards on the quality of aquatic animal health services[27].

Country progress on <u>Strategic Objective 2</u>: Strengthen the knowledge and evidence base through surveillance and research.

Please select one rating for each question that most closely matches the country situation.


4.5 National monitoring system for antimicrobials intended to be used in animals (terrestrial and aquatic) (sales/use)

4.5 a Do you have a national plan or system in place for monitoring sales/use of antimicrobials in animals?	☐ Yes, terrestrial animals only ☐ Yes, aquatic animals only ☐ Yes, both aquatic and terrestrial ☐ No
4.5 b: Do you submit AMU data to the WOAH Database on Antimicrobial agents intended for use in animals? [28]	☐ Yes ☐ No ☐ don't know

If yes to question 4.5. b, then answer 4.6.

[25] https://www.woah.org/fileadmin/Home/eng/Health_standards/tahc/current/en/chapitre_vet_serv.pdf

[26] https://www.oie.int/en/document/pvs-aquatic-tool-2021/

[27] https://www.oie.int/en/what-we-do/standards/codes-and-manuals/aquatic-code-online-access/?id=169&L=1&htmfile=chapitre_quality_aahs.htm

[28] This question can be answered by the WOAH Delegate or WOAH Focal Point (FP) for Veterinary Products in country.

4.6 WOAH Reporting Options for the antimicrobial use database

O	**A**	WOAH Reporting Option: Baseline information On a regular basis, only baseline information is reported to the WOAH
O	**B**	WOAH Reporting option 1 On a regular basis, data is collected and reported to the WOAH on the overall amount sold for use/used in animals by antimicrobial class, with the possibility to separate **by type of use.**
O	**C**	WOAH Reporting option 2 On a regular basis, data is collected and reported to the WOAH on the overall amount sold for use/used in animals by antimicrobial class, with the possibility to separate **by type of use and animal group**.
O	**D**	WOAH Reporting option 3 On a regular basis, data is collected and reported to the WOAH on the overall amount sold for use/used in animals by antimicrobial class, with the possibility to separate **by type of use, animal group and route of administration**.
O	**E**	Data on antimicrobials used under veterinary supervision in animals are available for individual animal species.

4.7 National surveillance system for antimicrobial resistance (AMR) in live terrestrial animals

O	**A**	There are no local or national strategies/plans for generating AMR surveillance data from animals for an AMR surveillance system.
O	**B**	National plan for AMR surveillance in place but laboratory and epidemiology capacities for generating, analysing and reporting data are lacking.
O	**C**	Some AMR data is collected at local levels, but a nationally standardized approach is not used. National coordination and/or quality management is lacking.
O	**D** **(if selected D, move to 4.7.1)**	Priority pathogenic/ commensal bacterial species have been identified for surveillance. Data systematically collected and reported on levels of resistance in at least one of those bacterial species, involving a laboratory that follows quality management processes e.g. proficiency testing.
O	**E** **(if selected E, move to 4.7.1)**	National system of AMR surveillance established for priority animal pathogens, zoonotic and commensal bacterial isolates which follows quality assurance processes in line with intergovernmental standards. Laboratories that report for AMR surveillance follow quality assurance processes.

Please answer this next question **only** if you have selected either D or E to 4.7 (check all that apply)

4.7.1 AMR surveillance is routinely undertaken in live terrestrial animals for the following categories:

O	Terrestrial animal isolates linked to animal disease.
O	Zoonotic pathogenic bacteria (e.g. *Salmonella* spp. in terrestrial animals)
O	Commensal isolates (e.g. *E. coli* for terrestrial animals)
O	Specific resistance phenotypes (e.g. ESBL producing indicator *E. coli* obtained from healthy animals in key food producing species). Please specify below
O	If specific resistance phenotype is checked then, please specify, ……..

	4.8 National surveillance system for antimicrobial resistance (AMR) in aquatic animals	
O	**A**	There are no local or national strategies/plans for generating AMR surveillance data from aquatic animals for an AMR surveillance system.
O	**B**	National plan for AMR surveillance in place but laboratory and epidemiology capacities for generating, analysing and reporting data are lacking.
O	**C**	Some AMR data is collected at local levels, but a nationally standardized approach is not used. National coordination and/or quality management is lacking.
O	**D (if selected D, move to 4.8.1)**	Priority pathogenic/ commensal bacterial species have been identified for surveillance. Data systematically collected and reported on levels of resistance in at least one of those bacterial species, involving a laboratory that follows quality management processes e.g. proficiency testing.
O	**E (if selected E, move to 4.8.1)**	National system of AMR surveillance established for priority animal pathogens, zoonotic and commensal bacterial isolates which follows quality assurance processes in line with intergovernmental standards. Laboratories that report for AMR surveillance follow quality assurance processes.

Please answer this next question **only** if you have selected either D or E to 4.8 (check all that apply)

	4.8.1 AMR surveillance is routinely undertaken in live aquatic animals for the following categories:
O	Aquatic animal isolates linked to animal disease (e.g. *Aeromonas* spp.).
O	Zoonotic pathogenic bacteria (e.g. *Vibrio parahaemolyticus*)
O	Commensal isolates (e.g. non-pathogenic *Aeromonas hydrophila*)
O	Specific resistance phenotypes. Please specify: ……..

Country progress on Strategic Objective 3: Reduce the incidence of infection through effective sanitation, hygiene, and infection prevention measures.

	4.9 Biosecurity[29,30] and good animal husbandry practices[31,32] to reduce the use of antimicrobials and minimize development and transmission of AMR in terrestrial animal production	
O	**A**	No systematic efforts to improve good animal husbandry and biosecurity practices.
O	**B**	Some activities in place to develop and promote good animal husbandry and biosecurity practices.

[29] Biosecurity means a set of management and physical measures designed to reduce the risk of introduction, establishment and spread of animal diseases, infections or infestations to, from and within an animal population.

[30] Reduce the Need for Antimicrobials for Sustainable Agrifood System Transformation (RENOFARM) Innovation, technologies and hand-in-hand partnerships to address antimicrobial resistance for healthier agrifood systems:https://openknowledge.fao.org/items/cd02ad12-b89a-4782-8f10-1787e4beaf51

[31] Animal husbandry practices are all the measures adopted at farm level to ensure that animals are healthy and that their welfare is not compromised at any step of the rearing process until slaughter. These measures may include; provision of nutritious, safe feed and clean water, protection from poor weather, housing in animals in buildings with good ventilation and temperature control amongst others.

[32] https://openknowledge.fao.org/items/41d1495a-caad-45cd-9dd6-e5d5c0c01158

O	**C**	National plan to ensure good animal husbandry and biosecurity practices developed in line with international standards (e.g. WOAH Terrestrial Codes, Codex Alimentarius).
O	**D**	National plan to ensure good animal husbandry and biosecurity practices implemented at local farm and food production level.
O	**E**	Implementation of the nation-wide plan is monitored periodically.

4.10 Biosecurity[33] and good animal husbandry practices to reduce the use of antimicrobials and minimize development and transmission of AMR in aquatic animal production

O	**A**	No systematic efforts to improve good animal husbandry and biosecurity practices.
O	**B**	Some activities in place to develop and promote good animal husbandry and biosecurity practices.
O	**C**	National plan agreed to ensure good animal husbandry and biosecurity practices in line with international standards (e.g. WOAH Aquatic Code, Codex Alimentarius). Nationally agreed guidance for good practices developed, adapted for implementation at local farm and food production level.
O	**D**	Nationwide implementation of plan to ensure good animal husbandry and biosecurity practices. and national guidance published and disseminated.
O	**E**	Implementation of the nation-wide plan is monitored periodically.

Country progress on <u>Strategic Objective 4</u>: Optimize the use of antimicrobials.

Please select one rating for each question that most closely matches the country situation.

4.11 Optimizing antimicrobial use in terrestrial animal health

O	**A**	No national policy or legislation regarding the quality, safety and efficacy of antimicrobial products (veterinary medicines and medicated feed containing antimicrobials), and their distribution, sale or use.
O	**B**	National legislation covers some aspects of national manufacture, import, marketing authorization, control of safety, quality and efficacy and distribution of antimicrobial products.
O	**C**	National legislation covers all aspects of national manufacture, import, marketing authorization, control of safety, quality and efficacy and distribution of antimicrobial products.
O	**D**	The national regulatory framework[34] for antimicrobial products incorporates all the elements included in the related international standards on responsible and prudent use of antimicrobials (e.g. WOAH Terrestrial Animal Health Codes, Codex Alimentarius) according to animal species and/or production sector. [35]
O	**E**	Enforcement processes and control are in place to ensure compliance with legislation.

[33] Biosecurity means a set of management and physical measures designed to mitigate the risk of introduction of pathogenic agents into, or spread within, or release from, aquatic animal populations

[34] Including legislation, standards, guidelines and other regulatory instruments

[35] WOAH: Responsible and prudent use of antimicrobial agents in veterinary medicine
https://www.oie.int/index.php?id=169&L=0&htmfile=chapitre_antibio_use.htm
https://www.oie.int/index.php?id=171&L=0&htmfile=chapitre_antibio_resp_prudent_use.htm

 **4.12 Optimizing antimicrobial use in aquatic animal health**		
O	**A**	No national policy or legislation regarding the quality, safety and efficacy of antimicrobial products (veterinary medicines and medicated feed containing antimicrobials), and their distribution, sale or use.
O	**B**	National legislation covers some aspects of national manufacture, import, marketing authorization, control of safety, quality and efficacy and distribution of antimicrobial products.
O	**C**	National legislation covers all aspects of national manufacture, import, marketing authorization, control of safety, quality and efficacy and distribution of antimicrobial products.
O	**D**	The national regulatory framework[36] for antimicrobial products incorporates all the elements included in the related international standards on responsible and prudent use of antimicrobials[37] (e.g. WOAH Aquatic Animal Health Code, Codex Alimentarius) according to animal species and/or production sector.
O	**E**	Enforcement processes and control are in place to ensure compliance with legislation.

 **4.13 Legislations to monitor and address substandard and falsified antimicrobials for animals**		
O	**A**	No legislation to monitor and address substandard and falsified antimicrobials for animals in place.
O	**B**	Legislation is under development or drafted but not yet approved.
O	**C**	Legislation has been developed and approved, but not implemented for sale, recall, storage and custody, destruction, and disposal.
O	**D**	Legislation is being implemented, and the sale, recall, storage and custody, destruction and disposal of sub-standard and falsified antimicrobials are being regulated with some monitoring of progress and outcomes.
O	**E**	Fully implemented legislation with regular monitoring and demonstrated presence of high quality of antimicrobials and evidence of reduction of sub-standard or falsified antimicrobials in the country.

 **4.14 Does your country have a defined vaccination strategy(ies), with an implementation plan, against any of the WOAH-defined priority animal diseases for which vaccines can reduce antimicrobial use (AMU)? Select the level that most closely matches your country's situation?[38]**		
O	**A**	No vaccination strategy has been defined/ developed.
O	**B**	Vaccination strategy(ies) is under development or drafted but has not yet been approved.
O	**C**	The vaccination strategy(ies) was approved with an implementation plan but has not yet been funded or rolled out.
O	**D**	Vaccination strategy(ies) is being implemented with some monitoring of progress and outcomes.
O	**E**	Fully implemented vaccination strategy (ies) with funding secured, regular monitoring, and demonstrated reductions in AMU.

[36] Including legislation, standards, guidelines and other regulatory instruments

[37] https://www.oie.int/en/what-we-do/standards/codes-and-manuals/aquatic-code-online-access/?id=169&L=1&htmfile=chapitre_antibio_resp_prudent_use.htm

[38] Including legislation, standards, guidelines and other regulatory instruments.

 **4.15 Antimicrobial stewardship programme in the animal health sector**		
O	**A**	No national stewardship programme in the animal health sector exists.
O	**B**	National stewardship programme exists, but only in pilot projects.
O	**C**	Nationwide implementation of stewardship programme exists but limited to priority animal health sectors (e.g. poultry, cattle, pets).
O	**D**	Nationwide implementation of National stewardship programme (all relevant terrestrial and aquatic animals) with national guidance published and disseminated.
O	**E**	Nationwide implementation, of National stewardship programme (all relevant terrestrial and aquatic animals) exists with periodic monitoring systems in place.

Section V: Questions specific to the food and agriculture sectors

Country progress on <u>Strategic Objective 1</u>: Improve awareness and understanding of AMR through effective communication, education, and training.

Please select one rating for each question that most closely matches the country situation.

5.1 Training and professional education on AMR provided to the agriculture (animal and plant), food production, food safety and the environment sectors*

O	**A**	No training provision on AMR for key stakeholders, e.g. agricultural extension workers, farmers, food safety officers, food and feed processors and retailers, environmental specialists.
O	**B**	Tailored ad hoc AMR training courses available for at least two groups of key stakeholders.
O	**C**	Tailored ad hoc AMR training courses are available for all or the majority of key stakeholders.
O	**D**	Tailored AMR training courses are routinely available nationwide for all key stakeholders and completion of training is a formal requirement for at least two groups of key stakeholders.
O	**E**	Tailored AMR training courses are routinely available nationwide and completion of training is a formal requirement for all key stakeholders.

If you wish to add additional comments on training/professional education for specific sectors (agriculture, food production, food safety, environment), please insert here:

…….

Country progress on <u>Strategic Objective 2</u>: Strengthen the knowledge and evidence base through surveillance and research.

Please select one rating for each question that most closely matches the country situation.

5.2 National monitoring system for antimicrobial-pesticide use in plant production including bactericides and fungicides

O	No national plan or system for monitoring use of pesticides including antimicrobial pesticides such as bactericides and fungicides[39].
O	National plan or system under development for monitoring amount of pesticides used including antimicrobial pesticides applied such as bactericides and fungicides.
O	National plan or system in place to collect data[40] and report on the amount of pesticides sold/used nationally, including antimicrobial pesticides such as bactericides and fungicides.

If you have additional comments, please insert here

…….

[39] Pesticides applied to plants include bactericides and fungicides, which may impact development of resistance in bacteria on plants or in the surrounding environment. The impact this has in respect to the overall burden of pesticide resistance, contribution to AMR and impact on human and animal health, and indeed on our ability to treat plant diseases, is an important area of research. Note that the terminology commonly used for chemicals or products in plant health varies from that applied in animal and human health, as reflected in the wording of this question.

[40] Pesticide data is disaggregated by class of active ingredient and by the plant variety/species it is used for.

		5.3 National surveillance system for antimicrobial resistance (AMR) in food (terrestrial and aquatic animal and plant origin)
O	**A**	No national plan for an AMR surveillance system.
O	**B**	National plan for AMR surveillance in place but capacity (including laboratory and reporting) is lacking.
O	**C**	Some AMR data is collected - but a standardized approach is not used. National coordination and/or quality management is lacking.
O	**D [If selected move to 5.3.1]**	Priority food borne pathogenic/ indicator bacterial species have been identified for surveillance. Data systematically collected and reported on levels of resistance in at least one of those bacterial species, involving a laboratory that follows quality management processes e.g. proficiency testing.
O	**E [If selected move to 5.3.1]**	National system of AMR surveillance established for priority foodborne pathogens and/or relevant indicator bacteria which follows quality assurance processes in line with intergovernmental standards. Laboratories that report for AMR surveillance follow quality assurance processes.

Please answer this next question **only** if you have selected either D or E to 5.3

		5.3.1 AMR surveillance is systematically undertaken in food (terrestrial and aquatic animal and plant origin) in the following categories:
A	**Food borne pathogenic bacteria (e.g.** *Salmonella* spp., *Campylobacter* spp., *Vibrio spp.*)	Terrestrial animal origin: ☐ yes ☐ no Aquatic animal origin: ☐ yes ☐ no Plant origin: ☐ yes ☐ no
B	**Indicator bacteria** *(e.g. E.coli, Enterococcus* spp.*)*	Terrestrial animal origin: ☐ yes ☐ no Aquatic animal origin: ☐ yes ☐ no Plant origin: ☐ yes ☐ no

5.4 National AMR Laboratory network in animal health and food safety sectors+

+includes laboratories that process samples from food producing terrestrial and aquatic animals and from food; countries which also have a national programme for AMR surveillance in plant health and/or the environment should include these laboratories too.

a) Effective integration of laboratories in the AMR surveillance in the animal health and food safety sectors		
O	**A**	Information not available.
O	**B**	Laboratories perform antimicrobial susceptibility testing (AST) for own purposes and are not included in the national AMR surveillance system.
O	**C**	Some laboratories performing AST are integrated in the national AMR surveillance system.
O	**D**	All laboratories performing AST are integrated in the AMR surveillance system but the role should be better formalized and the network better developed.
O	**E**	All laboratories performing AST are integrated in the national AMR surveillance system, have a clear position, and are linked to a national network coordinated by a National Reference Laboratory.
b) Level of the standardization and harmonization of procedures among laboratories included in the AMR surveillance system in the animal health and food safety sectors		
O	**A**	Information not available.
O	**B**	No standardized national AST guidelines are in place or less than 30% laboratories follow the same AST guidelines.
O	**C**	Between 30% to 79% of laboratories follow the same AST guidelines.
O	**D**	Between 80% and < 100% of laboratories use the same AST guidelines.
O	**E**	100% of laboratories use the same AST guidelines.
c) Relevance of diagnostic (bacteriology) techniques used by laboratories included in the AMR surveillance system in the animal health and food safety sectors		
O	**A**	Information not available.
O	**B**	AST, bacterial isolation and identification protocols are not relevant considering the national AMR surveillance objectives.
O	**C**	Major modifications in the AST, bacterial isolation and identification protocols used are required to improve their adaptation to national AMR surveillance objectives.
O	**D**	Minor modifications in the AST, bacterial isolation and identification protocols used would improve their adaptation to the national AMR surveillance objectives.
O	**E**	AST, bacterial isolation and identification protocols are perfectly suited to the national AMR surveillance objectives.
d) Technical level of data management of the laboratory network in the AMR surveillance system in the animal health and food safety sectors		
O	**A**	Information not available.
O	**B**	AST data are handled manually, or AST data management is not computerized in all laboratories of the network and/or there are problems in the recording of the samples and their traceability along the analysis chain.
O	**C**	Most laboratories of the network use computers to manage part of their data but important improvements in the system are required.
O	**D**	Some minor improvements are required in some laboratories of the network to improve the computerized management of AMR laboratory data (sample input procedures, sample storage information, computerized transmission of data, etc.…).
O	**E**	All laboratories use ongoing optimal data management (e.g. samples and test results are identified using a complete computerized management system covering each step in the analysis chain, including the storage of epidemiological information, data validation protocol and the computerized transmission of

		results, conforming perfectly to the requirements of the national AMR surveillance system).

National monitoring and surveillance system for AMR in animals and food [41]

5.5 Country has a national plan or system in place for AMR monitoring and surveillance in animals and food? Please select all that apply

O	Yes, for healthy terrestrial animals
O	Yes, for diseased terrestrial animals
O	Yes, for healthy aquatic animals
O	Yes, for diseased aquatic animals
O	Yes, for food (animal or plant origin)
O	No

5.6 Do you submit AMR data in animals and food to FAO InFARM system?[42]

O	Yes
O	No

If Yes to 5.6, please respond to question 5.6.a below

5.6.a Reporting Options for information and AMR data in the FAO InFARM system [43]

O	**A**	Only information on status of implementation of AMR surveillance activities in animals and food through the InFARM surveillance questionnaire is submitted.
O	**B**	Information on status of implementation of AMR surveillance activities in animals and food through the InFARM surveillance questionnaire, and AMR data - in only one surveillance programme as per the InFARMframework is submitted.

[41] https://openknowledge.fao.org/items/93aec625-e525-459b-b3b6-c25eadc8d0ef

[42] FAO. 2024. *The International FAO Antimicrobial Resistance Monitoring (InFARM) system – Manual for implementation 2024*. Rome. https://doi.org/10.4060/cd0805en

[43] "The InFARM system can encompass up to five monitoring and surveillance programmes: i) in healthy terrestrial animals potentially expanded to cover their production environment; ii) in healthy aquatic animals potentially expanded to cover their production environment; iii) in food at processing and/ or point of sale; iv) in diseased terrestrial animals; and v) in diseased aquatic animals." FAO. 2024. *The International FAO Antimicrobial Resistance Monitoring (InFARM) system – Manual for implementation 2024*. Rome. https://doi.org/10.4060/cd0805en

O	**C**	Information on status of implementation of AMR surveillance activities in animals and food through the InFARM surveillance questionnaire, and AMR data - in two or more surveillance programmes as per the InFARM framework is submitted.
O	**D**	Information on status of implementation of AMR surveillance activities in animals and food through the InFARM surveillance questionnaire, and AMR data in - three or more surveillance programmes as per the InFARM framework is submitted, covering the entire food chain (from primary production to consumption).

		5.7 Does the country undergo assessment of AMR surveillance systems and laboratory networks in food and agriculture sectors
O	**A**	No capacity assessments have been done for AMR laboratories and national surveillance systems.
O	**B**	Yes, but only in laboratories processing samples from some sectors (terrestrial or aquatic animals or food safety) (i.e. no assessment of coordinated surveillance system capacities).[44]
O	**C**	Yes, for the laboratories processing samples and for the coordinated functions of the surveillance system in some specific sectors (terrestrial or aquatic animals, plant health or food safety)
O	**D**	Yes, for both the laboratory networks and the coordinated functions of the surveillance system including all food and agriculture sectors (terrestrial and aquatic animal health, plant health, public health and food safety) using systematic methods such as FAO-Assessment Tool for Laboratories and AMR Surveillance Systems (ATLASS) [45]

Country progress on <u>Strategic Objective 3</u>: Reduce the incidence of infection through effective sanitation, hygiene and infection prevention measures.

Please select one rating for each question that most closely matches the country situation.

		5.8 Good manufacturing and hygiene practices to reduce the development and transmission of AMR in food processing
O	**A**	No systematic efforts to improve good manufacturing (GMP) and hygiene practices (GHP).
O	**B**	Some activities in place to develop and promote good manufacturing (GMP) and hygiene practices (GHP).
O	**C**	National plan agreed to ensure good manufacturing (GMP) and hygiene practices (GHP) in line with international standards (e.g. Codex Alimentarius). Nationally agreed guidance for good practices developed and adapted for implementation according to local food processing approaches.
O	**D**	Nationwide implementation of plan to ensure good manufacturing (GMP) and hygiene practices (GHP) and national guidance published and disseminated.
O	**E**	Implementation of the nation-wide plan is monitored periodically.

[44] AMR surveillance system assessments include e.g. evaluating capacities for programming surveillance activities, for centralizing and analyzing data, and for disseminating the information to stakeholders periodically.

[45] https://www.fao.org/antimicrobial-resistance/resources/tools/fao-atlass/en/

5.9 Has your country developed and implemented specific policies or measures to monitor and reduce the release of antimicrobial-resistant bacteria, genes, and residues into the environment from food and agricultural activities? For example, such measures might include improved manure management, wastewater treatment, or reduced antimicrobial use in plant and animal production.		
O	**A**	No policies or measures to monitor and reduce the release of antimicrobial-resistant bacteria, genes, and residues into the environment from food and agricultural activities developed.
O	**B**	Policies or measures to monitor and reduce the release of antimicrobial-resistant bacteria, genes, and residues into the environment from food and agricultural activities in development.
O	**C**	Policies or measures to monitor and reduce the release of antimicrobial-resistant bacteria, genes, and residues into the environment from food and agricultural activities in place.
O	**D**	Policies or measures to monitor and reduce the release of antimicrobial-resistant bacteria, genes, and residues into the environment from food and agricultural activities are being implemented.

Country progress on Strategic Objective 4: Optimize the use of antimicrobials.

Please select one rating for each question that most closely matches the country situation.

5.10 Optimizing antimicrobial pesticide such as bactericides and fungicides use in plant production[46]		
O	**A**	No national policy or legislation regarding the quality, safety and efficacy of pesticides including antimicrobial pesticides such as bactericides and fungicides and their distribution, sale or use.
O	**B**	National legislation covers some aspects of national manufacture, import, marketing authorization, control of safety, quality and efficacy and distribution of pesticides including antimicrobial pesticides such as bactericides and fungicides.
O	**C**	National legislation covers all aspects of national manufacture, import, marketing authorization, control of safety, quality and efficacy and distribution of pesticides including antimicrobial pesticides such as bactericides and fungicides.
O	**D**	The national regulatory framework for antimicrobial pesticides such as bactericides and fungicides incorporate all the elements in the related international standards on responsible and prudent use according to plant type/species.
O	**E**	Enforcement processes and control are in place to ensure compliance with legislation on use of antimicrobial pesticides such as bactericides and fungicides.

5.11 National regulation for the manufacture, distribution, and use of antimicrobials in plant health?[47,48]		
O	**A**	No national policy or legislation regarding the quality, safety and efficacy of antimicrobial pesticides and their distribution, sale or use.

[46] http://www.fao.org/agriculture/crops/thematic-sitemap/theme/pests/ipm/en/

[47] http://www.fao.org/agriculture/crops/thematic-sitemap/theme/pests/ipm/en/

[48] https://openknowledge.fao.org/server/api/core/bitstreams/7a41503a-1870-44a6-98c7-7317e85bd37e/content

O	**B**	National legislation covers some aspects of national manufacture, import, marketing authorization, control of safety, quality and efficacy and distribution of antimicrobial pesticides.
O	**C**	National legislation covers all aspects of national manufacture, import, marketing authorization, control of safety, quality and efficacy and distribution of antimicrobial pesticides.
O	**D**	The national regulatory framework+ for antimicrobial pesticides incorporates all the elements included in the related international standards on safe, responsible, and prudent use of antimicrobials (International Code of Conduct on Pesticide Management, International Plant Protection Convention).
O	**E**	Enforcement processes and control are in place to ensure compliance with legislation.

+Including legislation, standards, guidelines and other regulatory instruments.

Section VI: Questions specific to the environment

Country progress on Strategic Objective 1: Improve awareness and understanding of AMR through effective communication, education and training.
Please select one rating that most closely matches the country situation

		6.1 Training and professional education on environmental dimensions of antimicrobial resistance (AMR)*
O	**A**	No training is available for professionals on environmental dimensions of AMR (e.g., environmental scientists, healthcare professionals, veterinarians).
O	**B**	Environmental dimensions of AMR training courses are being developed and available on an ad hoc basis for professionals.
O	**C**	Environmental dimensions of AMR are included in the core curricula of some environmental science programmes (e.g., microbiology, environmental engineering) or in other educational institutions (e.g., medical schools).
O	**D**	Continuing professional training on environmental dimensions of AMR is available nationwide for professionals.
O	**E**	Environmental dimensions of AMR are systematically incorporated into core curricula for graduating professionals, and continuing professional education on environmental dimensions of AMR is a formal requirement.

Country progress on Strategic Objective 2: Strengthen the knowledge and evidence base through surveillance and research.
Please select one rating for each question that most closely matches the country situation.

		6.2 National surveillance system for antimicrobial resistance (AMR) in the environment
O	**A**	No capacity to generate data on AMR in the environment and no systems for reporting on AMR in the environment (e.g., wastewater, solid waste, drinking water, rivers, soil, air).
O	**B**	Data on AMR in the environment is collected locally, but coordination and standardization are lacking.
O	**C**	Data on AMR in the environment is collected nationally, but national coordination and standardization are lacking.
O	**D**	A national surveillance system for AMR in the environment is in place, featuring standardized methods, an established network of sampling sites, a national reference laboratory, and a coordinating center generating reports on AMR in the environment.
O	**E**	The national surveillance system for AMR in the environment integrates environmental AMR data with data on antimicrobial residues in the environment, as well as antimicrobial use and AMR in humans, animals, and plants.

Country progress on Strategic Objective 3: Reduce the incidence of infection through effective sanitation, hygiene and infection prevention measures.

Please select one rating for each question that most closely matches the country situation.

		6.3 Initiatives (e.g., regulations, policies, and/or standards) for preventing and reducing the emergence and spread of AMR and antimicrobial residues in wastewater and waste from key sectors, including the pharmaceutical industry, healthcare facilities, animal production, plant production, and municipal/household into the environment[49]
O	**A**	No preventive and management initiatives.
O	**B**	Some ad hoc preventive and management initiatives exist in limited sectors but there is no national coordination or systematic approach.
O	**C**	National preventive and management initiatives have been developed for all sectors, but adoption is inconsistent.
O	**D**	A coordinated national structure is in place for preventive and management initiatives for all sectors.
O	**E**	Comprehensive national preventive and management initiatives are systematically implemented across all sectors.

	6.4 Country has preventive and management initiatives (e.g., regulations, policies, and/or standards) for *wastewater* to prevent and reduce the discharge of AMR and antimicrobial residues into the environment. **Please select all that apply.**
O	Yes, for pharmaceutical industry
O	Yes, for healthcare facilities
O	Yes, for agriculture production
O	Yes, for plant production
O	Yes, for municipal/household
O	No

	6.5 Country has preventive and management initiatives (e.g., regulations, policies, and/or standards) for *solid waste* to prevent and reduce the discharge of AMR and antimicrobial residues into the environment.[50] **Please select all that apply.**
O	Yes, for pharmaceutical industry
O	Yes, for healthcare facilities

[49] United Nations Environment Programme [UNEP], 2023. Bracing for Superbugs Strengthening environmental action in the One Health response to antimicrobial resistance. https://www.unep.org/resources/superbugs/environmental-action

https://www.unep.org/topics/chemicals-and-pollution-action/pollution-and-health/antimicrobial-resistance-amr

[50] Disposal of unused antimicrobials as solid waste is covered in 6.6.

O	Yes, for agriculture production
O	Yes, for plant production
O	Yes, for municipal/household
O	No

Country progress on Strategic Objective 4: Optimize the use of antimicrobials in human, animal and plant health and the environment.
Please select one rating for each question that most closely matches the country's situation.

6.6 Initiatives (e.g., regulations, guidelines, and/or take-back schemes) for safe disposal of unused antimicrobials from the key sectors, including the pharmaceutical industry, healthcare facilities, animal production, plant production, and municipal/household.

O	**A**	No or limited initiatives across all sectors.
O	**B**	Initiatives exist in some sectors but are limited in others.
O	**C**	National initiatives are available with programmes in some sectors but coverage in other sectors is inconsistent.
O	**D**	National initiatives are available and implemented across most sectors with monitoring and periodic updates.
O	**E**	Comprehensive national initiatives are fully implemented across all sectors, with regular monitoring, reporting, and data-driven updates.

6.7 Country has safe disposal of unused antimicrobial initiatives (e.g., regulations, guidelines, and/or take-back schemes).

Please select all that apply.

O	Yes, for pharmaceutical industry
O	Yes, for healthcare facilities
O	Yes, for agriculture production
O	Yes, for plant production
O	Yes, for municipal/household
O	No

If you wish to share the relevant initiatives (e.g., regulations, policies, standards, and/or guidelines), please upload them here…….
If you wish to share a link to the relevant initiatives (e.g., regulations, policies, standards, and/or guidelines), please insert it here……
Alternatively, you can email the information to tracss@who.int.
In addition, please specify the responsible authority for the development and implementation of the relevant initiatives (e.g., regulations, policies, standards, and/or guidelines) related to AMR.

Details of person(s) who coordinated the national response to this self-assessment*

Name……..Title ……..Email……

Name……..Title ……..Email……

Name……..Title……..Email……

Name……..Title ……..Email……

Name and email of AMR focal points who led the completion of the relevant sections:

Section II Multisector questions:

Name……Email……

Section III Human Health:

Name……Email……

Name……Email……

Name……Email……

Section IV Animal Health:

Name……Email……

Name……Email……

Name……Email……

Section V Food and agriculture:

Name……Email……

Name……Email……

Name……Email……

Section VI Environnent:

Name……Email……

Name……Email……

Name……Email……

COMMENTS BOX: If wish you to share additional comments or feedback on the entire questionnaire, please insert here: