

TOGETHER FOR ONE HEALTH

Strategic Framework for collaboration on antimicrobial resistance



Food and Agriculture
Organization of the
United Nations



World Health
Organization



TOGETHER FOR ONE HEALTH

Strategic Framework for collaboration on antimicrobial resistance



Food and Agriculture
Organization of the
United Nations



World Health
Organization



Strategic framework for collaboration on antimicrobial resistance – together for One Health

ISBN (WHO) 978-92-4-004540-8 (electronic version)

ISBN (WHO) 978-92-4-004541-5 (print version)

ISBN (FAO) 978-92-5-135818-4

ISBN (OIE) 978-92-95121-21-8

© **World Health Organization (WHO), Food and Agriculture Organization of the United Nations (FAO) and World Organisation for Animal Health (OIE), 2022**

All rights reserved. WHO, FAO and OIE encourage the reproduction and dissemination of material in this information product. Any proposed reproduction or dissemination for non-commercial purposes will be authorized free of charge upon request, provided the source is fully acknowledged. Any proposed reproduction or dissemination for resale or other commercial purposes, including educational purposes, is prohibited without the prior written permission of the copyright holders, and may incur fees.

Suggested citation. WHO, FAO, OIE, UNEP. Strategic framework for collaboration on antimicrobial resistance – together for One Health. Geneva: World Health Organization, Food and Agriculture Organization of the United Nations and World Organization for Animal Health; 2022. Licence: [CC BY-NC-SA 3.0 IGO](https://creativecommons.org/licenses/by-nc-sa/3.0/).

Requests for permission to reproduce or translate WHO publications – whether for sale or for non-commercial distribution – should be addressed to WHO Press through the WHO web site <https://www.who.int/copyright>.

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization (WHO), the Food and Agriculture Organization of the United Nations (FAO) or of the World Organisation for Animal Health (OIE) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or products of manufacturers, whether or not these have been patented, does not imply that these are or have been endorsed or recommended by WHO, FAO and OIE in preference to others of a similar nature that are not mentioned. The published material is being distributed without warranty of any kind either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall WHO, FAO and OIE be liable for damages arising from its use. The views expressed herein are those of the authors and do not necessarily represent those of WHO, FAO, OIE.

Publications of the World Health Organization are available on the WHO web site www.who.int or can be purchased from WHO Press, World Health Organization, 20 Avenue Appia, 1211 Geneva 27, Switzerland. Tel.: +41 22 791 3264; fax: +41 22 791 4857; e-mail: bookorders@who.int.

FAO information products are available on the FAO website www.fao.org/publications and can be purchased through Publications-sales@fao.org

Publications of the World Organisation for Animal Health are available either on the OIE web site www.oie.int or can be purchased through the OIE online bookshop www.oie.int/en/ebookshop/.

CONTENTS

FOREWORD	1
1 INTRODUCTION	2
1.1 Purpose and scope	2
1.2 Advancing a One Health response to AMR	2
1.3 Methodology	2
1.4 Monitoring and evaluation	2
2 THE TRIPARTITE AND UNEP COLLABORATION	3
2.1 Background	3
2.2 Comparative advantage	4
3 THE STRATEGIC FRAMEWORK	6
3.1 Overview	6
3.2 Goal and objectives	6
3.3 Towards country impact	7
3.4 Intermediate outcomes: Tripartite and UNEP work in countries and at global and regional levels	9
3.5 Assumptions and risks	12
4 IMPLEMENTATION ARRANGEMENTS	13
ANNEX - AMR STRATEGIES AND ACTIVITIES OF THE ORGANIZATIONS	14

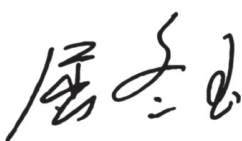
FOREWORD

This strategic framework on antimicrobial resistance represents an important milestone in the decades-long history of collaboration between the Tripartite organizations - a collaboration that now is even stronger as a result of our close engagement with the United Nations Environment Programme. The framework sets out for the first time what our organizations - as leaders in the multilateral system on human, animal, plant and environmental health - will do jointly to support countries' efforts to scale up national responses to antimicrobial resistance. We strongly encourage all countries and our many partners to replicate and amplify the One Health approach used in the framework, based on their own contexts and needs.

Pandemic prevention and preparedness are at the top of everyone's mind as the world continues to tackle the COVID-19 pandemic. During this time, however, the threats posed by the silent pandemic of antimicrobial resistance to human, animal and plant health, and food production and the environment have not ceased and are steadily growing.

More than ever before, we know that addressing the interlinked and multi-faceted challenges posed by antimicrobial resistance requires that we work together - across sectors, government, academic disciplines, civil society, the private sector, and in the multilateral system - to advance a One Health approach.

We look forward to further strengthening collaboration among our four organizations and with our partners as we work to implement the framework in the coming years. Most importantly, we hope that by leveraging our organizations' respective resources and strengths that the multilateral system will make a strong contribution to results and impact across all sectors as the world strives to prevent and mitigate the impact of antimicrobial resistance.



QU Dongyu

Director-General

Food and Agriculture
Organization of the United
Nations



Monique Eloit

Director-General

World Organisation for
Animal Health



**Tedros Adhanom
Ghebreyesus**

Director-General

World Health Organization



Inger Andersen

Executive Director

United Nations
Environment Programme

INTRODUCTION

1.1 Purpose and scope

This Strategic Framework:

- Presents the background and context for the collaboration between the Food and Agriculture Organization of the United Nations (FAO), the World Organisation for Animal Health (OIE) and the World Health Organization (WHO) (“the Tripartite”) with the United Nations Environment Programme (UNEP) on antimicrobial resistance (AMR);
- Describes the comparative advantage and catalytic role of the four organizations in the One Health response to AMR in support of efforts by their Members, civil society, the private sector and other stakeholders; and
- Presents a theory of change including the goals, objectives, desired impact at country level, intermediate outcomes and related Tripartite and UNEP functions.

The Strategic Framework is intended to reflect the joint work of the four organizations to advance a One Health response to AMR. This joint work will be described in detail in biennial Tripartite and UNEP work plans based on this Strategic Framework, the first of which will be developed for the period 2022–2023. In some cases, advancing the One Health response to AMR also involves ensuring that sector-specific work undertaken by the organizations individually is coherent and well-coordinated in line with their respective organizational strategies and mandates (See Annex).

1.2 Advancing a One Health response to AMR

AMR represents a major global threat across human, animal, plant, food, and environmental sectors. Limiting the emergence and spread of resistant pathogens is critical to preserving the world’s ability to treat diseases in humans, animals, and plants, reduce food safety and security risks, protect the environment and maintain progress towards the Sustainable Development Goals, including those on poverty, hunger, health and well-being, inequality, clean water and sanitation, work and economic growth, sustainable consumption and production, and partnerships.

Because AMR has multiple drivers and needs to be tackled on many fronts, a One Health approach is essential to ensure that all sectors and stakeholders communicate and work effectively together.

One Health is an integrated, unifying approach that aims to achieve optimal and sustainable health outcomes for people, animals, and ecosystems. It recognizes that the health of humans, domestic and wild animals, plants, and the wider environment (our ecosystems) are closely linked and inter-dependent. Inherent in the approach is the mobilization of multiple sectors, disciplines and communities at all levels of society to work together to tackle threats to health and ecosystems, while addressing our collective needs for healthy food, water, energy and air, taking action on climate change, and promoting sustainable development. The Tripartite and UNEP collaboration on AMR and this Strategic Framework are grounded in advancing the One Health approach.

1.3 Methodology

The Strategic Framework was developed through a participatory process led by the Tripartite and UNEP Joint Secretariat on AMR involving staff engaged in AMR across headquarters, regional and country levels of the four organizations. This included a series of virtual workshops to develop the theory of change. Oversight and guidance were provided by the Tripartite Senior Management Group comprising deputy/assistant directors-general and the relevant directors/heads of departments of the Tripartite organizations. Key inputs for the development of the Strategic Framework included a results matrix developed for the AMR Multi-Partner Trust Fund in 2019 and joint work in 2020 to develop a Tripartite collaboration framework.

1.4 Monitoring and evaluation

Monitoring and evaluation of the collaboration will primarily be based on progress made against deliverables set out in biennial Tripartite and UNEP work plans with joint and/or individual accountability to the four organizations’ Principals, Tripartite and UNEP Senior Management Group, or the organizations’ respective governing bodies and resource partners, as appropriate. In addition, as part of the first work plan for 2022–23, the four organizations will develop an approach to monitoring and evaluation based on selected indicators from existing monitoring and evaluation frameworks including those developed jointly by the Tripartite organizations for the Global Action Plan on AMR and the AMR Multi-Partner Trust Fund.

THE TRIPARTITE AND UNEP COLLABORATION

2.1 Background

In 2015, the World Health Assembly adopted the Global Action Plan on Antimicrobial Resistance, developed by WHO in collaboration with FAO and OIE. The accompanying resolution called for strengthened collaboration between FAO, OIE and WHO to advance sector-specific and a multisectoral One Health approach on AMR. As indicated in the theory of change, this Strategic Framework broadly supports implementation of the five pillars of the Global Action Plan as well as strengthening governance of the AMR response.

The Tripartite organizations have a significant history of working together. They first formalized their intent to share responsibilities and coordinate global activities on health-risks at the interfaces of animal-human ecosystems in a [concept note](#) in 2010 focusing on joint work on AMR, rabies and zoonotic influenza. Since then, they have collaborated extensively on shared priorities at global, regional and country levels, including support for development of national action plans on AMR; multisectoral coordination mechanisms; integrated surveillance, monitoring and evaluation; food safety; and engagement of regional political and economic organizations. In 2016, the organizations launched the first Tripartite Annual Country Self-Assessment Survey (TrACSS) through which countries report progress on implementing a One Health response to AMR; the survey has since been conducted annually. The Tripartite organizations updated their [commitment](#) in 2017 and signed a formal [Memorandum of Understanding](#) in 2018. While there is collaboration among the organizations on several One Health issues, this Strategic Framework focuses only on the collaboration related to AMR.

This Strategic Framework broadly supports implementation of the five pillars of the Global Action Plan as well as strengthening governance of the AMR response.

The 2016 [political declaration](#) of the United Nations High Level Meeting on Antimicrobial Resistance emphasized the need for a coordinated approach that engages the human, animal, plant and environmental health sectors and requested that the Secretary-General of the United Nations establish an ad hoc Interagency Coordination Group (IACG) on AMR. In its 2019 [report](#), the IACG made several recommendations in the area of global governance that require strengthened collaboration among and leadership by the Tripartite organizations. These included the creation of a Global Leaders Group on AMR, the convening of an Independent Panel on Evidence for Action against Antimicrobial Resistance in a One Health Context to monitor and provide Members with regular reports on the science and evidence related to AMR, and the establishment of a constituency-based multi-stakeholder partnership platform with diverse representation facilitated and managed by the Tripartite to develop a shared global vision, narrative and targets for the One Health response.

In 2019 the UN Secretary-General [reported](#) to the UN General Assembly on follow-up to the 2016 political declaration on AMR, emphasizing actions by UN Member States as well as individual actions and joint efforts undertaken by the Tripartite organizations to implement the Global Action Plan on AMR. The latter included development of a [monitoring and evaluation framework](#) for the Global Action Plan on AMR and the creation in 2019 of the [AMR Multi-Partner Trust Fund](#), a multi-donor fund managed by the Tripartite to support One Health actions in low- and lower middle-income countries and joint, global-level, Tripartite activities. The Secretary-General's report highlighted the need for further efforts to enhance multisectoral One Health action on AMR and called for greater urgency in the response, intensified involvement of stakeholders, enhanced efforts to implement national action plans and scaled-up investments.

The IACG requested that the Tripartite organizations and other key partners enhance their organizational capacity and provide adequate and sustainable core funding for their AMR-related activities. Both the IACG and the 2019 UN Secretary-General's reports, drafted by the Tripartite, called for a strengthened Tripartite Joint Secretariat on AMR. The Tripartite Joint Secretariat was established in 2019, is hosted by WHO and includes Liaison Officers from FAO and OIE. Its role is to coordinate the joint AMR activities of the Tripartite based on a common work plan; support Tripartite collaboration with UNEP, the World Bank and other UN and international organizations, Members, civil society and the private sector; and coordinate the work of the AMR Multi-Partner Trust Fund.

The Tripartite organizations' engagement with UNEP on AMR reflects the increased awareness of the importance of the environment in AMR development, transmission and spread over recent years. The collaboration aims to strengthen the integration of environmental aspects of AMR into joint work. While there has been longstanding collaboration between the four organizations in other technical areas, collaboration on AMR is relatively new and is now increasing. Along with the Tripartite organizations, UNEP was an institutional member of the IACG. The four organizations have worked together on one of the AMR Multi-Partner Trust Fund technical areas of reducing AMR risks in the environment, and awareness raising and capacity building activities such as events related to World Antimicrobial Awareness Week. UNEP has provided input into several Tripartite documents and publications to increase attention to the environmental aspects of AMR and the Tripartite has contributed to the report that UNEP is developing on the environmental dimensions of AMR. Moreover, the principals of the four organizations are ex-officio members of the Global Leaders Group on AMR. UNEP supports the Joint Secretariat with a liaison officer as of January 2022. The four organizations are also coordinating more closely at country and regional levels to advance a One Health approach. This increased collaboration has been welcomed in global and regional political and economic fora and by other stakeholders including civil society organizations and academia.

2.2 Comparative advantage

The four organizations have different mandates, constituencies, structures and capacities to respond to AMR. In many cases, responses need to be sector-specific and are supported by the individual organizations and their partners. At the same time, each organization is strongly committed through its governing body and individual AMR strategy to supporting delivery of the Global Action Plan on AMR by advancing both sector-specific and joint One Health responses.

The comparative advantage of the Tripartite and UNEP collaboration lies in leveraging the respective mandates, resources, programming and political influence of the four organizations in support of a One Health response. Multisectoral, One Health collaboration across a broad and complex range of issues is by its nature challenging and the four organizations play a key role in fostering this approach and helping countries to adopt it. By focusing on areas where collaboration adds value, the joint action contributes to more coherent and coordinated approaches, helps to reduce silos and duplication, enables coordinated engagement with a broader range of partners and constituencies, and allows a more comprehensive understanding of the multiple drivers of AMR and shared challenges and opportunities in key policy and technical areas. The overall role of the Tripartite and UNEP is intended to catalyse and support a One Health response, recognizing that many of the actions needed to address AMR are sector-specific and the responsibility of governments, civil society and the private sector.

The comparative advantage of the Tripartite and UNEP collaboration lies in leveraging the respective mandates, resources, programming and political influence of the four organizations in support of a One Health response.

In light of the enhanced role for the Tripartite recommended by the IACG and the establishment of the Tripartite Joint Secretariat on AMR and AMR Multi-Partner Trust Fund in 2019, the three organizations agreed in 2020 to develop this first, formal Strategic Framework on AMR to guide their collaboration and help align delivery of Tripartite work across the different levels of the three organizations over the coming years. Given the importance of the environmental dimension of the One Health approach and the ongoing collaboration, UNEP was engaged in the development of the Strategic Framework.

FIGURE 1: Theory of change for the FAO-OIE-WHO-UNEP collaboration on antimicrobial resistance

GOAL: To preserve antimicrobial efficacy and ensure sustainable and equitable access to antimicrobials for responsible and prudent use in human, animal and plant health contributing to achieving the SDGs

OBJECTIVE 1:
Optimize the production and use of antimicrobials along the whole life cycle from research and development to disposal

OBJECTIVE 2:
Decrease the incidence of infection in humans, animals and plants to reduce the development and spread of AMR

IMPACT: Countries have the capacity to design and sustainably implement evidence-informed One Health responses to AMR

OUTCOME 1:
Policy and law support effective country-owned One Health AMR responses

- Countries have the capacity to ensure policy coherence across sectors.
- Countries recognise AMR as a priority in the broader development agenda, acknowledging the need for sector-specific and joint action from all AMR-related sectors.
- Countries have the capacity to identify and strengthen their AMR-relevant legislation and regulation aligned with international standards/policies.
- Countries have the capacity to consider, research and analyze the effects of the incentives and disincentives of legal regulation when designing laws and policies.

OUTCOME 2:
Systems and structures, including institutional capacities, are in place to support effective implementation of country-owned AMR responses

- National action plans on AMR regularly updated and national AMR multisectoral coordinating mechanisms strengthened.
- Access to good-quality antimicrobials strengthened for all sectors.
- Guidelines up to date and implemented to encourage responsible and prudent use measures across all sectors.
- Monitoring and surveillance of AMR and AMU are undertaken.
- Strategies employed to prevent and detect infection in humans, animals, and plants and to reduce food safety risks.

OUTCOME 3:
Increased, sustained resourcing is in place for country-owned One Health AMR responses

- National action plans on AMR, representative of all sectors, are prioritised and resourced.
- Priority actions from national action plans on AMR mainstreamed into national plans and budgets.

INTERMEDIATE OUTCOME 1:
With Tripartite support, country-owned, sustainable One Health governance ensures effective and balanced national AMR responses

- Multisector coordination facilitates a One Health approach to AMR and understanding of its drivers
- Effective multistakeholder coordination underpins AMR responses through AMR national action plans

INTERMEDIATE OUTCOME 2:
The global response to AMR is supported through effective Tripartite leadership and coordination, working through constituencies and Members to influence global investment and scale up of actions on AMR

Demonstrated political engagement and resourcing

- Increased resourcing for sustained joint One Health and sector-specific AMR responses.
- AMR included in the development agenda with increased activity and scale up by international financial institutions and development organisations.
- Strengthened, long-term commitment to joint One Health and sector-specific AMR responses, including in international and regional political and economic fora.

OUTPUT 1:
The capacity and knowledge of countries are strengthened to prioritise and implement context specific collaborative One health approaches to control AMR in policies legislation and practice

- 1a Tripartite and UNEP support One Health approaches to AMR in low- and middle-income countries
- 1b Guidance, tools and technical standards and guidelines on One Health approaches to AMR developed
- One Health technical support and capacity development provided;
 - Technical standards and guidelines developed;
 - Convening, advising and advocacy for One Health responses to AMR;
 - Impact assessments on the effects of AMR;
 - Monitoring and evaluation

OUTPUT 2.1:
Global and regional initiatives and programmes influence and support One Health responses to AMR

- Tripartite and UNEP global and regional action and mechanisms strengthened.
- Tripartite and UNEP Joint Secretariat on AMR resourced and functions effectively to support coordinated action.
- Global guidance on AMR provided and regularly updated.
- AMR Multi-Partner Trust Fund scaled-up to maximise impact of investments.
- Global and regional partnerships in place to strengthen effectiveness of the multisectoral AMR response.
- Advocacy on AMR strengthened and coordinated.
- One Health research & development and innovation agenda on AMR shaped.

OUTPUT 2.2:
Global Governance structures are established, resourced and function effectively

- Global Leaders Group
- Independent Panel on Evidence for Action on AMR
- Partnership Platform for Action on AMR

Applied to GAP pillars	Awareness & behaviour change	Surveillance & research	Prevention of infections	Optimised use	Research & sustainable investment	Governance
------------------------	------------------------------	-------------------------	--------------------------	---------------	-----------------------------------	------------

THE STRATEGIC FRAMEWORK

3.1 Overview

The Strategic Framework on AMR is based on a theory of change jointly developed by the four organizations (Fig. 1). The framework has three main components:

- The goal and objectives to which the Tripartite and UNEP aim to contribute with countries, partners and other stakeholders (purple boxes in Fig. 1);
- The overall impact and longer-term outcomes to which the Tripartite and UNEP aim to contribute, focusing on countries (blue boxes in Fig. 1); and
- Two intermediate outcomes and related functions/outputs at 1) country level (orange boxes in Fig. 1) and 2) global/regional levels (green boxes in Fig. 1).

Delivery by the four organizations on the theory of change and Strategic Framework is dependent on management of a set of assumptions and risks described at the end of this section. The approach to monitoring and evaluation of the Strategic Framework is described in Section 1.4.

3.2 Goal and objectives

The goal is **to preserve antimicrobial efficacy and ensure sustainable and equitable access to antimicrobials for responsible and prudent use in human, animal and plant health, contributing to achieving the Sustainable Development Goals (SDGs).**

To achieve this goal, the **objectives** of the four organizations are to:

<p>OBJECTIVE 1</p> <p>Optimize the production and use of antimicrobials along the whole life cycle from research and development to disposal; and</p>	<p>OBJECTIVE 2</p> <p>Decrease the incidence of infection in humans, animals, and plants to reduce the development and spread of AMR.</p>
---	---

While the Tripartite and UNEP aim to take a leadership role in contributing to and supporting the achievement of the goal and objectives, the four organizations cannot realize them alone. Doing so requires a concerted One Health response at country, regional and global levels from all sectors and stakeholders, including other multilateral organizations.

The two objectives are closely linked. Objective 1 recognizes that because new and existing antimicrobials are global goods their utilization must be optimized through all steps of their lifecycle beginning with a healthy and adequately resourced research and development pipeline, including for alternatives to antimicrobials and antimicrobial use. To minimize the emergence and transmission of resistant pathogens, policies, regulatory frameworks, systems, guidelines and financing are all needed to ensure equitable access to existing and new antimicrobial products for all who need them, preserve antimicrobial efficacy through responsible and prudent use, ensure the safe management of wastes from antimicrobial production, health facilities, farms and communities, and reduce food safety risks.

Objective 2 recognizes that infection prevention measures are important because they reduce both the need for antimicrobials and the emergence and spread of resistant pathogens. Infection prevention and control measures in farms, food systems, health facilities and communities are part of a broad One Health agenda and include clean water, sanitation and hygiene; biosecurity; containment of environmental pollution and measures to reduce risks to food safety. Reducing the incidence of infection also requires attention to human, animal and plant health through good health and sustainable production practices such as nutrition, animal welfare, vaccination and the promotion of good agricultural practices in order to improve resilience to diseases and pests and reduce the need and demand for antimicrobials in all sectors.

Because AMR has implications and impact across development sectors, achieving the Tripartite and UNEP goal and objectives can deliver gains across multiple SDGs, particularly SDG 1 (no poverty); SDG 2 (zero hunger); SDG 3 (health and well-being, including indicator 3.d.2 on reducing the percentage of bloodstream infections due to selected antimicrobial-resistant organisms); SDG 6 (clean water and sanitation); SDG 8 (decent work and economic growth); SDG 12 (sustainable consumption and production); and SDG 17 (partnerships), as well as other SDGs such as those on gender equality, climate change, life on land and life under water. This is elaborated in the [guidance of the four organizations on AMR in development cooperation frameworks](#).

3.3 Towards country impact

The overall impact to which the four organizations aim to contribute through their collaboration is for **countries to have the capacity to design and sustainably implement evidence-informed One Health responses to AMR**.

Countries are at the heart of a successful response to AMR because it is in countries that the work of addressing its many challenges ultimately takes place. The Tripartite and UNEP are well placed to support their efforts due to the presence of FAO and WHO providing technical and political support in many countries in collaboration with OIE national Delegates and Focal Points, and UNEP regional and country offices. The organizations have strong regional and subregional offices to support country-level activities.

The annual TrACSS surveys show that country progress, capacity, resources and context differ widely, with many higher-income countries having implemented national One Health action plans on AMR over many years while many low- to middle-income countries could take significantly longer to develop and implement a One Health response to AMR.

Achieving this impact will involve countries having in place the three outcomes described below based on comprehensive One Health national action plans that promote sustainable responses to AMR including the prudent use of antimicrobials and are underpinned by policy frameworks, institutional capacity and the resources needed for implementation.

OUTCOME 1 Policy and law support effective country-owned One Health AMR responses

The Tripartite and UNEP will contribute to this outcome by supporting countries to:

- Have the capacity to ensure policy coherence across sectors;
- Recognize AMR as a priority in the broader development agenda, acknowledging the need for sector-specific and joint actions from all AMR-related sectors;
- Have capacity to identify and strengthen their AMR-relevant legislation and regulations aligned with international standards/policies; and
- Have the capacity to consider, research and analyze the effects of the incentives and disincentives of legal regulation when designing laws and policies.

Policies to support effective One Health AMR responses encompass a broad range of strategic and technical areas depending on country context, such as surveillance and monitoring and the identification and implementation of best practices. While these may often be sector-specific, coherence of policies and laws across sectors is critical for a One Health approach. The four organizations focus on supporting countries to embed best practice and guidance by the organizations relating to the production, prescription, dispensing, sale, use and disposal of antimicrobials within legal and regulatory frameworks across sectors in a coherent and coordinated manner. Due to resource constraints, monitoring compliance with and enforcing policies, laws and regulations remains a major challenge for many countries.

OUTCOME 2 Systems and structures including institutional capacities are in place to support effective implementation of country-owned One Health AMR responses

The Tripartite and UNEP will contribute to this outcome by supporting countries so that:

- National action plans on AMR are regularly updated and national multisectoral AMR coordinating mechanisms are strengthened;
- Access to good-quality antimicrobials is strengthened for all sectors;
- Guidelines are up-to date and implemented to encourage responsible and prudent use measures across all sectors;
- Monitoring and surveillance of antimicrobial resistance and use are undertaken in humans, animals and plants, and analysed in an integrated manner;
- Strategies are employed to prevent and detect infection in humans, animals and plants and to reduce food safety risks.

The Global Action Plan on AMR included an urgent call for countries to develop national action plans on AMR by 2017. Strong national action plans aim to strengthen surveillance of AMR and antimicrobial consumption and use, raise awareness and change behaviour, ensure antimicrobial stewardship and implement or strengthen infection prevention and control programmes in a way that contributes to the overall strengthening of systems across sectors. TrACSS data show that while most countries have now developed these plans and the number of countries with multisectoral AMR coordination mechanisms has been increasing, few countries have an approved, budgeted operational plan for implementation. In many countries, implementation is often fragmented and poorly coordinated across sectors and some countries lack basic capacity to coordinate, monitor and adapt responses to AMR, particularly where human, animal and plant health and food and environmental systems are weak. Investments in knowledge, skills, systems and infrastructure are needed across sectors to strengthen the capacity of institutions to set and achieve goals related to AMR.

In parallel with reducing inappropriate use of antimicrobials, it is also important to ensure that there is a reliable source of quality products when needed. The Tripartite will advocate for improved access to good-quality antimicrobials and where appropriate vaccines, diagnostics and laboratory reagents.

Many low- and middle-income countries are unable to generate reliable and representative data on antimicrobial resistance across sectors due to inadequate laboratory and diagnostic capacity, coordination mechanisms, and financial and human resources. In many countries, antimicrobial consumption and use monitoring is also not yet available for all sectors. The Tripartite and UNEP focus is on strengthening sector-specific data for surveillance of AMR and antimicrobial consumption and use at country level. They also support effective, integrated reporting and analysis and sharing across all sectors to support the development, implementation and updating of evidence-based One Health policies and legal frameworks and to support decision-making based on local context.

While antimicrobial resistance occurs naturally, it is also driven by overuse and misuse of antimicrobial agents in human, animal and plant health, and food production. The Tripartite and UNEP focus on supporting countries to strengthen and monitor implementation of policies and laws regarding the appropriate prescription, dispensing, sale, use and disposal of antimicrobials, while at the same time ensuring universal access to essential antimicrobials and diagnostics.

Data from TrACSS surveys indicate that less than half of countries have nationwide implementation of national infection prevention and control plans in human health facilities based on WHO guidelines and there has been little improvement in recent years. Only about a quarter of countries have reported a national plan for good biosecurity and management practices in animal production practices, and only about 20% of countries have similar plans for food processing. While there has been some improvement in baseline figures for farms, there is only a marginal improvement in countries reporting national plans for good management and hygiene practices for food processing. Priority is given to guidance and support at country level – particularly in the areas of capacity building, behaviour change, awareness raising and education – on measures that prevent and control infection in health facilities, farms and community settings that are essential to minimize the spread of antimicrobial-resistant microorganisms. The Tripartite and UNEP also advocate for improved water, sanitation, hygiene, animal health and welfare and food safety as essential components of infectious disease prevention at the national level.

The COVID-19 pandemic has further highlighted the threat of untreatable infections and the critical importance of stewardship programs to promote appropriate prescription and responsible and prudent use of antimicrobials based on quality diagnosis and professional advice and sustained efforts to reduce and prevent infections. The pandemic has also highlighted the well-documented disconnect between knowledge and behaviour, underlining the four organizations' plan to engage more actively in behavioural science research and in the robust application of behavioural insights to facilitate behaviour change.

OUTCOME 3

Increased, sustained resourcing is in place for country-owned One Health AMR responses

The four organisations will contribute to this outcome by supporting countries in their efforts to ensure that:

- National action plans on AMR representative of all the sectors on AMR are prioritized and resourced; and
- Priority actions from national action plans on AMR are mainstreamed into national plans and budgets.

Recent TrACSS data show that even where countries have developed comprehensive One Health national action plans on AMR, very few have been adequately resourced, reflecting the low political priority afforded to AMR and limited resources at the national level. Many countries face competing development priorities and fiscal constraints – which are likely to be compounded by the impact of the COVID-19 pandemic – and need support to prioritize implementation of national action plans based on their specific context. Countries also need support to incentivize the inclusion of AMR-specific and AMR-sensitive responses in national development plans and budgets across ministries and government bodies. The Tripartite and UNEP have a strong mandate and comparative advantage in supporting governments in this prioritization and coordination function, as well as in promoting awareness and improving political engagement to increase sustainable resourcing for AMR.

3.4 Intermediate outcomes: Tripartite and UNEP work in countries and at global and regional levels

Support provided by the four organizations to help countries achieve the impact described in this framework is based on two intermediate outcomes. These outcomes are interim steps necessary for the achievement of the longer-term outcomes described in Section 3.2.

The first intermediate outcome relates to the support provided at country level, while the second is focused on Tripartite and UNEP action at global and regional levels in support of countries' efforts.

INTERMEDIATE OUTCOME 1 (Country level)

With Tripartite and UNEP support, country-owned, sustainable One Health governance ensures effective and balanced national AMR responses.

Effective multisectoral and multi-stakeholder coordination are central to One Health governance because they facilitate a broad understanding of the multiple drivers of and responses needed to address AMR across sectors and underpin the effective implementation of national One Health action plans on AMR. TrACSS data show that while the number of countries with functional multisectoral working groups on AMR is increasing, little more than half of reporting countries had a fully functional group with clear terms of reference, regular meetings, defined activities, funding and reporting/accountability arrangements. More than 90% of the established working groups included both human and animal health representatives. Less than a third of countries reported having balanced representation across human, animal and plant health and the environment. Support for strengthening national One Health governance and coordination is a key added value of the collaboration at the country level.

The Tripartite and UNEP work to achieve this intermediate outcome through the following output and sub-outputs:

OUTPUT 1

The capacity and knowledge of countries are strengthened to prioritize and implement context-specific collaborative One Health approaches to control AMR in policies, legislation, and practice

- **Sub output 1a:**
Tripartite and UNEP support One Health approaches to AMR in low and middle-income countries
- **Sub output 1b:**
Guidance, tools and technical standards and guidelines on One Health Approaches to AMR are developed

Output 1 and its two sub-outputs are achieved through the following cross-cutting functions:

- One Health advice, technical support and capacity development provided;
- Technical standards and guidelines developed;
- Stakeholders convened and advocacy for One Health responses to AMR supported ;
- Impact assessments on the effects of AMR; and
- Monitoring and evaluation

In selected low- and middle-income countries the Tripartite and UNEP will collaborate to catalyze the development and implementation of One Health approaches to AMR. Delivery will be in line with the [AMR MPTF Results Matrix](#). Experience from these countries will be captured and shared widely.

Development of technical standards and guidelines includes but is not limited to standards for data collection on antimicrobial resistance and use; guidance on the use of antimicrobials, infection prevention control and biosecurity; and research, testing and application of behavioural insights. This work will build on examples of recent collaborative efforts in technical areas of common interest such as a [compilation](#) of International instruments on the use of antimicrobials across the human, animal and plant sectors and a joint [technical brief](#) on water, sanitation, hygiene and wastewater management to prevent infections and reduce the spread of AMR, both of which were published by the Tripartite in 2020. Impact assessments undertaken jointly may address issues such as food security, the environment and animal health.

As indicated in the theory of change (Fig.1), the Tripartite undertakes these functions across the five thematic pillars of the 2015 Global Action Plan on AMR, i.e., 1) awareness raising and behaviour change; 2) surveillance and research; 3) reducing the incidence of infections; 4) optimized use of antimicrobials; and 5) developing the economic case for sustainable investment, as well as in the area of One Health governance.

The four organizations acknowledge that data and action on AMR will evolve and will adapt the support provided to countries accordingly.

INTERMEDIATE OUTCOME 2 (Global and regional levels)

The global response to AMR is supported through effective Tripartite and UNEP leadership and coordination, working through constituencies and Members to influence global investment and scale-up of actions on AMR.

In addition to their presence and work at the global level, the four organizations all have a significant presence at the regional level and work closely with regional bodies such as political and economic cooperation organizations that play a key role in helping countries to achieve broad consensus and impact through common approaches on issues relevant to AMR. This intermediate outcome therefore aims to mobilize **demonstrated political engagement and resourcing** at the global and regional levels which support responses to AMR at the country level in the form of:

- Increased resourcing for sustained, joint One Health and sector-specific AMR responses;
- The inclusion of AMR in the development agenda with increased activity and scale-up by international financial institutions and development organizations; and
- Strengthened, long-term commitment to joint One Health and sector-specific AMR responses, including in international and regional political and economic fora.

The Tripartite and UNEP work to achieve this intermediate outcome by providing the following deliverables at global and regional levels:

OUTPUT 2.1 Global and regional initiatives and programmes influence and support One Health responses to AMR i.e.:

- Tripartite and UNEP global and regional action and mechanisms strengthened;
- Tripartite and UNEP Joint Secretariat that is resourced and functions effectively to support coordinated action;
- Global guidance on AMR provided and regularly updated;
- AMR Multi-Partner Trust Fund scaled-up to maximize the impact of investments;
- Global and regional partnerships are in place to strengthen the effectiveness of the multisectoral AMR response;
- Advocacy on AMR strengthened and coordinated; and
- One Health research & development and innovation agenda on AMR shaped.

OUTPUT 2.2 Global governance structures established, resourced and function effectively, i.e.:

- [The Global Leaders Group on AMR](#);
- The proposed Independent Panel on Evidence for Action on AMR; and
- The proposed Partnership Platform for Action on AMR.

Specific deliverables by the four organizations under these output areas will be detailed in the two-year workplan for the period 2022–2023.

3.5 Assumptions and risks

The assumptions and risks that underpin this Strategic Framework are shown in Table 1.

Table 1: Assumptions and risks underpinning the Strategic Framework

ASSUMPTIONS
1. Tripartite and UNEP are recognized as global guiding bodies on AMR and as authoritative references for One Health policy making and standard setting, and respectively maintain the confidence of their Members through their institutional governance mechanisms to play this role and to collectively lead implementation of the Global Action Plan on AMR.
2. The four organizations have sufficient capacity and resources for joint work.
3. Tripartite and UNEP agreement on AMR at the global level translates to agreement at regional and country levels in the context of decision-making structures.
4. Evidence on antimicrobial resistance, use and consumption is appropriate, relevant, understandable and available when needed for decision makers to effectively prioritise AMR.
5. There is sufficient technical and political engagement at all levels to develop and leverage investment of political capital in AMR solutions.
6. AMR is a recognised priority and development challenge at the national level for early action.
7. There are no major shifts in the evidence base or policy priorities for the AMR response.
8. Sector programmes are strengthened to allow effective collaboration with other international and multilateral organizations, public-private partnerships, development financing institutions, civil society, the private sector including private foundations, professional associations and academic and research institutions and consortia.
RISKS
1. The impact of COVID-19 and/or other extraneous shocks limit progress.
2. Failure to make the political or economic case for tackling AMR as a development priority or AMR not seen as a current threat.
3. Political issues that make coordination difficult and undermine the implementation of overarching AMR regulatory frameworks.
4. Competition among/within ministries at the national level undermines multisectoral collaboration.
5. Limited resources within ministries and sectors at the national level to implement national action plans.
6. Inadequate/unsustainable/asymmetric resources to perform functions in the Strategic Framework, including for the AMR Multi-Partner Trust Fund.

Appropriate measures to mitigate major risks will be included in biennial Tripartite and UNEP work plans.

4

IMPLEMENTATION ARRANGEMENTS

Financing

Biennial Tripartite and UNEP work plans will support the delivery of this Strategic Framework. The AMR Multi-Partner Trust Fund will be used to provide resources for the work plans. In addition, each organization will mobilize resources to support their contribution to the delivery of the Strategic Framework.

Human resources

Depending upon the context, the framework and work plan will be implemented by staff across multiple departments and all levels of the four organizations, with ongoing coordination support from the Tripartite and UNEP Joint Secretariat, guidance by the Tripartite and UNEP Senior Management Group, which meets quarterly, and oversight from the organizations' Principals, who meet annually.

Partnerships

The four organizations have different constituencies and work through different systems, thereby extending their collective reach. They also collaborate individually and jointly with a wide range of partners and stakeholders, including governments, bilateral agencies, other international and multilateral organizations, public-private partnerships, development financing institutions, civil society, and the private sector comprising private foundations, professional associations and academic and research institutions and consortia.

ANNEX

AMR STRATEGIES AND ACTIVITIES OF THE ORGANIZATIONS

FAO, UNEP and WHO are UN organizations with headquarters in Rome, Nairobi and Geneva, respectively, and significant presence at regional and country levels. OIE, based in Paris, is an intergovernmental, non-UN organization with a regional and sub-regional presence. This annex provides background information on AMR related activities conducted in addition to joint work, by each of the organizations according to their mandates.

The **Food and Agriculture Organization of the United Nations (FAO)** is leading the global response to AMR in the food and agriculture sectors. FAO Conferences in 2015 and 2019 underscored the importance and urgency of addressing the growing global threat of antimicrobial resistance (AMR) in all countries through a coordinated, multi-sectoral, One Health approach. FAO published its first, five-year Action Plan on AMR in 2016. Current work on AMR is guided by FAO Action Plan on AMR (2021–2025) in full alignment with the GAP. FAO brings expertise in aquatic and terrestrial animal health and production, food and feed safety, genetic resources, crop production, natural resource management, risk communication and behavioural change. FAO champions multi-sectoral and multi-disciplinary responses to AMR, coordinated through strong governance, informed by surveillance and evidence, and promotes good production practices and responsible antimicrobial use. FAO works with key stakeholders at the country level, from national authorities to farmers, providing technical assistance to strengthen their capacities and capabilities to manage AMR risks in food and agriculture sectors and food production environments. FAO supports the development of national and regional regulatory frameworks, as well as the implementation of AMR-relevant standards, such as the standards approved by the Codex Alimentarius Commission and the International Plant Protection Convention. It also supports the establishment of target-setting, norm-setting and bottom-up processes of collective action to empower stakeholders to improve their practices.

- [Report of the Conference of FAO, Thirty-ninth Session, Including Resolution 4/2015 on AMR](#)
- [Report of the Conference of FAO, Forty-first Session, Including Resolution 6/2019 on AMR](#)
- [The FAO Action Plan on Antimicrobial Resistance 2016–2020](#)
- [The FAO Action Plan on Antimicrobial Resistance 2021–2025: Supporting innovation and resilience in food and agriculture sectors](#)

The **World Organisation for Animal Health (OIE)** is the standard setting organisation for animal health and zoonoses recognized by the World Trade Organization (WTO). Established in 1924, the OIE has a long history of working on issues related to antimicrobial resistance (AMR) since 1948. In 2015, its 180 Members committed to supporting the Global Action Plan on AMR and in 2016 the OIE General Assembly mandated the development of the OIE Strategy on Antimicrobial Resistance and the Prudent Use of Antimicrobials with a related workplan. The OIE's standards related to the responsible and prudent use of antimicrobials are contained in the OIE Terrestrial Animal Health Code and Aquatic Animal Health Code. Further guidance on laboratory methodologies for bacterial antimicrobial susceptibility testing and on quality management in veterinary testing laboratories is provided in the OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals. The OIE promotes the responsible and prudent use of antimicrobial agents in animals, collects global data on use of antimicrobials in animals, and supports AMR surveillance in animals. The OIE Delegate of each Member appoints specific Focal Points including the Focal Point for Veterinary Products and AMR. OIE's two Global Conferences on AMR and Prudent Use of Anti-Microbials, most recently in 2018, have provided recommendations on policy direction for standard setting and implementation, incorporated into OIE's work programmes primarily through the OIE AMR and Veterinary Products Department.

- [The OIE Strategy on Antimicrobial Resistance and the Prudent Use of Antimicrobials \(2016\)](#)
- [OIE Global database on antimicrobial agents intended for use in animals](#)
- [Communication campaign supporting responsible use of antimicrobials “We need you”](#)
- [OIE 2nd Global Conference on AMR and Prudent Use of Antimicrobials Recommendations](#)

The **World Health Organization (WHO)** has long recognized AMR as a growing global health threat. Through several resolutions spanning decades, the World Health Assembly has called upon WHO Member States and the international community to take action against the spread of AMR. Since 1998, WHO work on AMR has steadily increased, culminating in the development of the first Global Action Plan (GAP) on AMR in 2015. Based on the GAP, WHO leads the global response to AMR in the human health sector through 1) the provision of technical assistance to countries; 2) developing global public goods in key areas such as development and implementation of AMR national action plans; surveillance and monitoring; infection prevention and control; antimicrobial stewardship and awareness; and monitoring and evaluation; and 3) priority-setting and coordination of research and development. It also provides leadership and coordination of global One Health AMR governance. WHO's main entry point with national authorities is the Ministry of Health. AMR is a flagship priority under WHO's 13th General Programme of Work and cuts across its "triple billion targets" including water, sanitation and hygiene; infection prevention and control; universal health coverage; and emergency preparedness and response. In 2019, an AMR Division was established at WHO headquarters to strengthen coordination of AMR activities across the organization.

- [Global Action Plan on Antimicrobial Resistance \(2015\)](#)
- [Thirteenth General Programme of Work 2019–2023](#) approved by the Seventy-first World Health Assembly in resolution WHA71.1 on 25 May 2018 (page 31)
- [The WHO Programme Budget 2022–2023](#) approved by the Seventy-fourth World Health Assembly in resolution WHA74.3 on 31 May 2021. The full program budget is contained in document A74/5 Rev. 1 (pages 63-65)

The **United Nations Environment Programme (UNEP)** recognizes that the environment is key to tackling antimicrobial resistance. The United Nations Environment Assembly (UNEA) is the world's highest-level decision-making body on the environment and the governing body of UNEP. At its third session in 2017 UNEA recognized that AMR was an increasing threat and challenge to global health, food security and sustainable development in all countries and requested UNEP to support efforts by Member States to identify and characterize risks arising from anthropogenic antimicrobial resistance in the environment, and to prepare a report on the environmental impacts of AMR and the causes for the development and spread of resistance in the environment. This report will contribute to better understanding and strengthening of the environmental dimensions of AMR in the One Health context. Besides building the body of evidence for environment responses to addressing the AMR threat, UNEP is mobilizing the environmental community at global, regional and national levels to raise awareness, increase understanding and build capacities with regard to the environmental dimensions of AMR. UNEP is also working very closely with other sectors to prevent and mitigate environmental and health threats through the One Health approach in a variety of AMR-related tools and plans. As part of the preventive measures, UNEP is developing technical and discussion papers on relevant aspects of environmentally persistent pharmaceutical pollutants such as sustainable procurement, waste management and take-back provisions.

- [For people and planet: the United Nations Environment Programme strategy for 2022–2025 to tackle climate change, loss of nature and pollution](#)
- [UNEA Resolution 3/4. Environment and health](#)

For more information contact:

Food and Agriculture Organization of the United Nations

Viale delle Terme di Caracalla
00153 Rome
Italy

Tel: (+39) 06 57051
E-mail: Antimicrobial-Resistance@fao.org
Website: www.fao.org/antimicrobial-resistance

World Organisation for Animal Health

Publications Unit
12, rue de Prony
75017 Paris
France

E-mail: publications.unit@oie.int
Website: www.oie.int

World Health Organization

Antimicrobial Resistance Division
Avenue Appia 20
1211 Geneva 27
Switzerland

E-mail: amr-tjs@who.int
Website: www.who.int/health-topics/antimicrobial-resistance

United Nations Environment Programme

Publishing Unit
P.O. Box 30522
Nairobi 00100
Kenya

E-mail: UNEP-publications@un.org
Website: www.unep.org

