Towards a Healthier Future for All

Progress in Animal Health to Contain Antimicrobial Resistance

World Organisation
for Animal Health

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Introduction

Antimicrobials are medicines used to prevent, control and treat infectious diseases. They rank among humanity's most spectacular achievements and paved the way for better living conditions for both humans and animals. Before the advent of antimicrobials, common bacterial infections could potentially lead to death.

Antimicrobial resistance (AMR) is a natural phenomenon that occurs when bacteria, viruses, fungi and parasites no longer respond to antimicrobials. When drug resistance occurs, antibiotics and other types of antimicrobials become ineffective and infections become difficult or impossible to treat, increasing the risk of disease spread, severe illness and death.

AMR is a threat to the wellbeing of both people and animals, as well as a danger to plant health and the environment. While antibiotics remain generally effective to treat infectious diseases in animals today, a future rise in resistance levels in pathogens of veterinary importance would threaten the health and welfare of animals and those who rely upon them for their livelihoods. High levels of AMR in animals could reduce livestock production in developing countries by as much as 11%, while placing animals at risk of painful, untreatable diseases. As a result, AMR is not solely a human health issue; it must also be addressed to create a sustainable future for animals and those who depend on them.

Prevention is the most effective strategy for preserving antimicrobials efficacy. Tools and practices like biosecurity measures, vaccination, nutrition and good husbandry practices means animal keepers, breeders and owners avoid the need for antimicrobial use, minimising the chances of resistance development, whilst keeping their animals healthy. Prevention is a central principle of AMR management.

Global action is necessary to address AMR. The threat of resistance is not limited to one country or continent. Irresponsible use of antimicrobial agents in one region can generate resistance that ultimately affects people and animals worldwide. Drug-resistant pathogens can cross borders and require international action to preserve antimicrobials.

One Health must be at the core of our shared vision. Drug-resistant pathogens can spread between people, animals and plants, travelling through the environment. It's why we all share 'One Health' and any approach to AMR must be coordinated across sectors. This means collective actions to promote responsible use, research to understand pathogen transfer pathways, and shared commitment to prevention are necessary to achieve progress.

Evaluating progress is critical for establishing future goals. This report explores how the animal health sector has approached the AMR challenge in recent decades, with a focus on actions since the 2016 Political Declaration. This will help stakeholders understand how this work helped advance the Global Action Plan on AMR, the WOAH AMR strategy, and the shared principles of One Health. Furthermore, it can help accelerate action in the future.

Report Contributors

A selection of WOAH Members and partners were invited to provide input and outline actions they have undertaken, which can be found throughout the report. Contributors include:

Countries & Regions

Africa: Eswatini, Kenya, Morocco

Americas: Canada, Costa Rica, Chile

Asia and the Pacific: Bangladesh, Indonesia, Thailand

Europe: Bosnia and Herzegovina, European Union, Tajikistan

Middle East: Saudi Arabia

Partner Organisations

HealthforAnimals, International Coalition on Animal Welfare, International Dairy Federation, International Egg Commission, International Horse Sports Confederation, International Meat Secretariat, International Poultry Council, International Salmon Farming Association, World Aquatic Veterinary Medical Association, World Farmers Organization, World Small Animal Veterinary Association, World Veterinary Association.

A Note from the Director General

Antimicrobials are essential tools for the successful management of infectious diseases in animals, ensuring their health and welfare, and protecting humans from potential spillover of zoonotic diseases. While prevention remains the first line of defence, antimicrobials must be used when necessary. Therefore, ensuring that these medicines remain effective is paramount.

For decades, the World Organisation for Animal Health (WOAH) has worked with its Members, One Health partners, veterinarians, academia, industry, and other relevant stakeholders to raise awareness of and address antimicrobial resistance. It has been 25 years since the World Assembly of WOAH Delegates adopted a resolution calling for the development of the first guidelines on AMR in the animal health sector and several milestones have been achieved ever since.

Following the High-Level Meeting on AMR in 2016, the United Nations General Assembly issued a Political Declaration urging all nations to develop a National Action Plan (NAP) on AMR. Since then, WOAH has provided expertise and guidance to countries to help them fulfil this commitment.

As a result, we have seen significant action undertaken in the animal health sector that helped advance the Global Action Plan (GAP) on AMR as well as WOAH's AMR Strategy, notably by reducing the need for antimicrobials globally and optimising their use. Our Quadripartite partners – FAO, UNEP and WHO – have also been critical in ensuring that this work is coordinated across all One Health domains.

Despite the progress made, the threat of AMR persists, requiring further efforts in the coming years. As a new political declaration has been adopted at the second High-Level Meeting on AMR in September 2024, it is valuable to reflect on the lessons learned to guide our future actions. This report reviews 25+ years of work in animal health, emphasising several key areas:

- **Key Actions and Achievements:** A selection of animal health activities throughout the years that have kept AMR high on the agenda, supported local action and advanced responsible use.
- **Foundation for Action:** An overview of pre-2016 animal health efforts that laid the groundwork for global action following the first Political Declaration.
- **Advancing the AMR Strategy:** An examination of actions from WOAH, its Members and partners that helped advance the GAP and WOAH AMR Strategy, including data on global impacts.
- **Looking ahead:** Insights on how the experiences of the past 25+ years can inform future activities.

The report highlights significant successes and progress worldwide but emphasises that more action, investment and collaboration are needed. AMR remains one of the world's most urgent health challenges and I am confident that the animal health community, empowered by the One Health key underlying principle of equitable investments across sectors, will continue to play a pivotal role in the years to come.

'We have seen significant action undertaken in animal health that has helped advance the Global Action Plan on AMR and WOAH AMR strategy.'

Emmanuelle Soubeyran
Director General
World Organisation for Animal Health

Key Actions and Achievements

A selection of animal health work across the years

Continued efforts by the animal health sector have led to a better understanding of antimicrobial use and resistance, greater adoption of prevention as the foundation of disease control, and improved corroboration across sectors. The following sections offer a selection of actions and achievements that have taken place within animal health, led by public, private and international partners. This list is not exhaustive, but it illustrates the diversity of actions happening to tackle the global challenge of AMR.

Continued attention to AMR throughout the decades

The animal health sector has recognised the challenge of antimicrobial resistance for decades and supports efforts to address the challenge. Key points in the timeline include:

1952 — WOAH Members adopt the first ever resolution recognising the need to prudently use antimicrobials to avoid resistance, as well as the first principles of what today is known as 'antimicrobial stewardship'.

1999 — WOAH Members agree to develop global AMR guidelines for animals.

2006 — First list of 'Antimicrobial agents of Veterinary Importance' adopted by WOAH Members.

2009–10 — Resolution #25 is passed at the World Assembly of Delegates in 2009 calling for focal points to be appointed by each Member to advance AMR standards and best practices. At the same time, the 'Tripartite' formally agrees to work together.

2015 — World Assembly of Delegates agrees in Resolution #26 to set up an official harmonised national system, based on OIE standards, for the surveillance of antimicrobial resistance and the collection of data on the use of antimicrobial agents in animals, and actively participate in the development of what today has become WOAH's global ANIMUSE database.

2016 — WOAH Delegates pledge to fulfil commitments under the Global Action Plan on AMR while WOAH launches the first 'Global Strategy on AMR and Prudent use of Antimicrobials' for animal health.

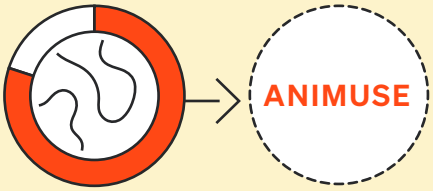
2024 — The 183 WOAH Delegates unanimously approve the revised chapter 6.10 of the Terrestrial Animal Health Code, expanding its scope to companion animals and environmental concerns: 'All measures to keep animals healthy, such as preventing infectious diseases…contribute to a decreased need of using antimicrobial agents in animals, thus reducing the risk for development and spread of AMR.

WOAH Members have also taken actions throughout the years to implement global standards and support responsible use. For instance:

- **Surveillance:** Many Members reported antimicrobial sales data even before the creation of the ANIMUSE database. Ranging from the European Union in 2010 to Chile in 2014 to Korea (Rep. of) in 2003 and more.
- **Oversight:** Members have improved antimicrobial oversight for responsible use. Removal of growth promotion claims has been a critical step for many countries, for instance, when the government of Canada did this in 2017/18 for medically important antimicrobials.

Surveillance systems with regular evidence-based knowledge reporting

The number of countries with antimicrobial use and/or resistance surveillance systems has tripled in the last 10 years. As a result, around 80% of WOAH Members now provide data to the ANImal antiMicrobial USE Global Database (ANIMUSE), generating an unprecedented level of understanding of antimicrobial use in animals to support national action plan implementation and global progress tracking.



80% of WOAH Members
provide input into ANIMUSE data collection nearly every year.

Furthermore, many countries are also tracking resistance, which provides actionable insights to ensure these medicines remain effective in animals and helps guide efforts to avoid resistance spillover to people. Many of these surveillance systems have found AMR rates in animals are low or even declining in certain countries or regions, for instance:

Thailand

In recent reporting (2021), the AMR rate for chicken and pork of *E. coli* to third-generation cephalosporins was under 15%, whilst colistin resistance was below 5% and no resistance to meropenem was detected. Additionally, resistance to vancomycin in *Enterococcus spp*. was less than 2%.

Australia

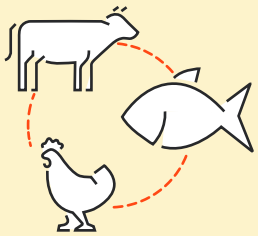
The government found that 'AMR [in animals] was either low or negligible against antimicrobials of human importance....and our animal industry provides little risk to AMR.'

European Union

The European Food Safety Authority (EFSA) reports 'encouraging progress in reducing AMR in food-producing animals' in several member states over the last 7 years.

Costa Rica

Since 2019, Costa Rica has conducted resistance surveillance in pathogenic and indicator bacteria samples from cattle, pigs and birds, and expanded it to aquaculture in 2022.



Morocco

Morocco has established an annual national surveillance plan on resistance in various bacteria of epidemiological and public health interest.

United Kingdom

Recent reporting on food-producing animals found 'resistance was low across all species' for *E. coli* and resistance to 'Highest Priority Critically Important Antimicrobials for humans was generally low' for salmonella.

Towards more responsible use of antimicrobials

Global trends show that:

Antimicrobial use in animals has **significantly decreased** since 2015, but we must remain vigilant, as shown by our 2024 ANIMUSE report

Use of antimicrobials for growth promotion is **no longer a practice** for nearly

3 out of 4 WOAH Members

The majority of antimicrobials used in animals are not from those considered **'critically important' to human health**

This work has been directly supported through action by countries as well as the value chain. For instance:

European Union

The **European Union** has committed to reduce its overall sales of antimicrobials for farmed animals and aquaculture by 50% before 2030, having already achieved half of that target in 2022

In **Thailand**, antimicrobial consumption has been reduced by 49.0% (2017 to 2019), and 39.3% (2017 to 2021), which has surpassed the target of 30% in 2017 as published in Thailand's One Health Report on Antimicrobial Consumption and Antimicrobial Resistance in 2021.

WVA
WORLD VETERINARY ASSOCIATION

The **World Veterinary Association (WVA)** hosts an annual Global One Health Summit for veterinarians, animal health professionals, human health professionals, scientists, and international organisations such as WOAH, FAO, WHO and UNEP, to align on frontline actions to use antimicrobials more responsibly.

WSAVA
WORLD SMALL ANIMAL VETERINARY ASSOCIATION

The **World Small Animal Veterinary Associations (WSAVA)** has supported critical research, such as a 2023 study in several countries that found a commonly prescribed antibiotic (amoxicillin-clavulanic acid) could be a falsified version, helping support awareness of falsified medicine risks amongst veterinarians across the world.

Health for Animals
global animal health association

HealthforAnimals, the global animal health association, reports that global antibiotic sales by its Members fell 30%, while vaccine sales rose 33% from 2015 to 2022, demonstrating how prevention helps reduce the need for antibiotics.

ISFA

The **International Salmon Farming Association** has shown how Norway used vaccination to prevent disease in salmon and rainbow trout, which resulted in a reduction of antimicrobial use from 50 tons in 1987 to 300 kg today, while production rose by 3300% during the same period (from 50.000 tons to 1.700.000 tons).

Strengthening awareness & capacity building

Addressing AMR and improving responsible use requires institutional support across public and private sectors. Some examples include:

Public Sector

In **Indonesia**, more than

10,000 veterinarians and veterinary paraprofessionals,

5,000 farmers and

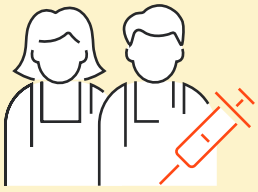
95 journalists

have been trained on the prudent use of antimicrobials, biosecurity, AMR testing, surveillance, etc.

Bangladesh has routinely organised a Farmers' Field Day (FFD) since 2019.

In 2023, more than

300K



farmers were trained on good farming practices, including AMR management.

Bosnia and Herzegovina's Veterinary Office and Entity Ministries of Agriculture conduct annual field training,

providing a higher level of biosecurity measures

to prevent disease and the use of antimicrobials in animals as much as possible.

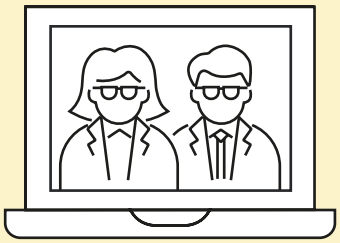
Chile developed and implemented an electronic prescription system for veterinary antimicrobials in 2023.

After eight months,

4,200+ veterinarians have registered with

40,000

prescriptions issued.

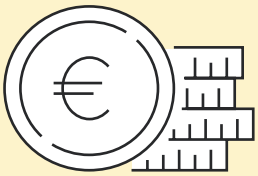


The **European Union** has launched a

€600 million

'push' partnership mechanism on animal health and welfare,

with research on biosecurity, vaccines and alternatives to antimicrobials among the first projects to start.



The **Kingdom of Saudi Arabia** created in 2023

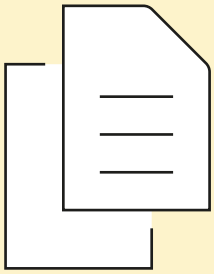
a list of ten animal health priority research topics

for antimicrobial resistance.

Strengthening awareness & capacity building

Addressing AMR and improving responsible use requires institutional support across public and private sectors. Some examples include:

Private Sector



Guidelines

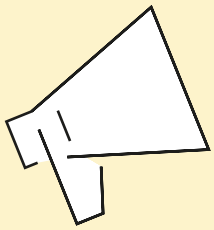
The **International Poultry Council** (IPC) has developed Best Practices Guidance to Reduce the Need for Antibiotics in Poultry Production, while the **International Dairy Federation** (IDF) has created a Guide to Prudent Use of Antimicrobial Agents in Dairy Production.

The **World Small Animal Veterinary Association** (WSAVA) has developed The Six Moments of Antimicrobial Prescribing, highlighting the key steps to be taken in antimicrobial decision-making.

Training

The **International Egg Commission (IEC)** delivers biosecurity training for emerging commercial egg producers in developing regions such as Eswatini, Mozambique and Zimbabwe through its charity the International Egg Foundation.

The **World Aquatic Veterinary Medical Association** (WAVMA) offers continuing professional development and provides certification routes for aquatic veterinary surgeons (CertAqV) and veterinary nurses/technicians (CertAqVNT).



Awareness & Reporting

Members of the **International Meat Secretariat (IMS)** contribute to the reporting of antimicrobials used in their countries, while **International Horse Sports Confederation** (IHSC) run awareness campaigns so veterinarians can optimise antimicrobial use and minimise the potential for the development of AMR.

The **World Farmers' Organisation** (WFO) plays an important role in AMR advocacy campaigns all over the world, recognising that farmers' existence depends on healthy animals and the long-term availability of effective antimicrobials.

HealthforAnimals pledged to complete 25 actions to address AMR by 2025 in their Roadmap to Reducing the Need for Antibiotics with the most recent progress report showing over US$6 billion in R&D and 70+ vaccines delivered to date.

Collective Actions Guided by One Health

Addressing AMR requires coordination across human, animal and environmental health. WOAH, as well as numerous countries and organisations, has been advancing this One Health approach as the foundation for action.

Globally

The Quadripartite – FAO, UNEP, WHO and WOAH – has deepened cross-sectoral collaboration and are leading global efforts to tackle AMR across human, animal, plant and environmental health. As a natural continuation of their collaboration to contain AMR, the One Health Joint Plan of Action reinforced and expanded guidance to address shared health issues such as reducing the risks from emerging and re-emerging zoonotic epidemics and pandemics.

Nationally

Many WOAH Members have enabled One Health coordination, including:

Thailand is developing its second National Strategic Plan on AMR 2023–2027, incorporating all sectors, under the National Policy Committee on Antimicrobial Resistance: The Ministry of Public Health, the Ministry of Agriculture and Cooperatives, and the Ministry of Natural Resource and Environment.

Kenya has established a multisectoral National Antimicrobial Stewardship Interagency Committee (NASIC) Secretariat, which is connected to the 15 County Antimicrobial Stewardship Interagency Committees (CASIC) established to coordinate AMR activities.

Eswatini established a multisectoral Antimicrobial Resistance Containment Committee in 2016, under the leadership of its Ministry of Health, Ministry of Agriculture (Veterinary Services) and Ministry of Natural Resources.

Tajikistan approved its second National Action Plan NAP 2.0 (2023–2025) in 2022 at the level of nine authorised ministries and departments, including activities like infection prevention and strengthening antimicrobial use in both the public health veterinary, and agriculture, sectors.

Non-Governmental Organisations also help advocate for local efforts to enhance responsible use, such as the **International Coalition on Animal Welfare (ICFAW),** whose member, Four Paws, helped guide European Union Member States in implementing the Veterinary Medicinal Products Regulation (EU) 2019/6.

Section 1

Building a Foundation for Action Prior to the 2016 Political Declaration on AMR

While the 2016 Political Declaration was a galvanising moment for many stakeholders, AMR has been on WOAH's agenda for many decades. In 1952, WOAH Members already recognised the risk of AMR to the welfare of animals when they agreed:

> *'Use of antibiotics against insensitive germs or specifically resistant, utilization of too weak doses or through a too short time frame, can reveal resistant germs…harming a method that, when judiciously and correctly applied, has saved numerous human and animal lives'*

In 1997, WOAH Members further elevated AMR onto the global agenda by recognising it as a '*key issue for public health, animal health and animal welfare.*'

Since then, WOAH and its partners have provided tools, including guidelines, standards and data to help nations optimise use in animals and manage antimicrobial resistance. Below is an overview of key steps taken from 1949 to 2016, when the Political Declaration was released.

1949–52

Discussions begin on emerging knowledge about resistance, resulting in the first WOAH resolution acknowledging that AMR can jeopardise antimicrobials as tools that 'have saved numerous human and animal lives.' This serves as a guiding principle for many years to come.

1971–72

OIE Regional Committee for Europe assesses the use of antimicrobials in animal production in formal sessions during their 5th and 6th conferences.

1999

International Committee of OIE agrees to create an *ad-hoc* expert group to develop the first global AMR guidelines for animals, a critical step to promote collaboration.

2000–01

WOAH *Ad-hoc* Expert Group delivers the five core AMR guidelines, leading to Members formally adopting resolution XXV promoting prudent use and requesting international standards. The Second OIE International Conference on AMR, attended by 41 countries, brings these guidelines to a national level for implementation and fosters regional collaboration.

2003–05

FAO, WOAH and WHO Expert Workshops on Non-Human Antimicrobial Usage and Antimicrobial Resistance recommend development of 'critically important antimicrobials' in veterinary medicine and human medicine. This recommendation is later adopted and has been a pillar of global responsible use efforts.

2006

WOAH World Assembly (then known as the International Committee of the OIE) adopts a preliminary List of Antimicrobial Agents of Veterinary Importance (Resolution XXXIII), fulfilling the Expert Workshop recommendations and creating a tool that is still used across the world today. Efforts also grow as FAO, WOAH and WHO expand their Expert Workshop collaboration to aquaculture.

2009

Resolution 25, adopted at the WOAH General Session, calls for prudent use of antimicrobials and requests countries nominate national Focal Points, which will advance WOAH AMR standards and best practices locally

2010–11

WOAH World Assembly approves the OIE 5th Strategic Plan (2011–2015), which calls for application of a One Health approach to AMR, while the Tripartite (WHO, OIE and FAO) formally agree to work together on antimicrobial resistance. This built the framework for global collaboration that still guides efforts today

2013

OIE hosts 1st World Conference on Antimicrobial Resistance with 100+ countries in attendance, which helps spur adoption of a revised list of antimicrobial agents of veterinary importance at the World Assembly of Delegates later in the year. This supports a science-based approach to AMR that evolves alongside new research.

2015

Global Action Plan on AMR is published by WHO in coordination with FAO and WOAH, while WOAH begins development of a Global AMR Strategy with a One Health lens.

Result: Critical Momentum for the Political Declaration

In 2016, the United Nations General Assembly (UNGA) – 193 countries worldwide – committed to accelerating global action against AMR in the landmark 'Political Declaration' that followed the first-ever High-Level Meeting of the General Assembly on AMR.

It was only the fourth time that UNGA had issued a Declaration on a health issue, reflecting an increased global concern about AMR for our shared future. The Declaration recognised that recent advances in human and veterinary medicines 'are now gravely challenged' due to resistant bacterial diseases and the 'keys' to addressing it are improved infection prevention across human and animal health. Countries agreed to:

- Develop national action plans
- Mobilise sustainable financial resources
- Strengthen antimicrobial use monitoring
- Improve AMR awareness to encourage behavioural change
- Support a One Health approach

While the Declaration was a result of many years of work across sectors and regions, **animal health actions prior to 2016 provided valuable momentum and offered a foundation for global efforts in the years to follow.**

Regional & National Actions

Several governments and local organisations also took action to address AMR and responsible use of antimicrobials in animals prior to the 2016 Political Declaration on AMR. This work provided valuable frameworks for data collection and cooperation that nations could leverage when developing NAPs. For instance, in use and sales data:

European Union began reporting sales data in 2010 from Member States and European Economic Area

United States of America was mandated to collect and report sales data in 2008

United Kingdom began publishing annual sales and resistance data in 2012

Australia was mandated to collect data in 2013

New Zealand has published data since 2004

Japan has published sales data since 2005

Korea (Rep. of) has shared sales and resistance data since 2003

Chile has published antimicrobial sales since 2014

South Africa has collected data since 2014

Sri Lanka has publicly shared use data since 2015

Some countries also developed National Action Plans prior to the declaration, while reports like the EU's 2001 Community Strategy against AMR and UK's 2014 'Review on Antimicrobial Resistance' also built greater awareness of AMR and support for One Health actions. Collaboration was also seen in the agri-food chain in organisations such as the UK Responsible Use of Medicines in Agriculture (RUMA) coalition and the European Platform for Responsible Use of Medicines in Agriculture, established in 1997 and 2005 respectively.

This is not a comprehensive list of national and regional actions, and many other countries have also begun publicly sharing data through ANIMUSE. However, these examples demonstrate how this work generated important knowledge that other countries could use when developing NAPs and local AMR strategies in animal health following the 2016 Political Declaration.

Section 2

Advancing a Global AMR Strategy

In November 2016, WOAH published its Strategy on Antimicrobial Resistance and Prudent Use of Antimicrobials. The document was unambiguous in recognising the importance of addressing AMR, stating that 'preserving the efficacy of these life-saving medications...is essential to preserve our future.'

WOAH and its Members highlighted within the Strategy that the continued availability, efficacy and appropriate use of antimicrobials is essential 'to continue to progress in disease control management and in improving animal welfare,' and, therefore, AMR must be addressed. These are essential medicines to preserve animal health and avoid suffering.

The strategy outlined goals and tactics Members could use to develop and implement cross sectoral National Action Plans (NAPs) as well as the important role of the Quadripartite partnership at a global level. The foundation of WOAH's Strategy was four primary objectives:

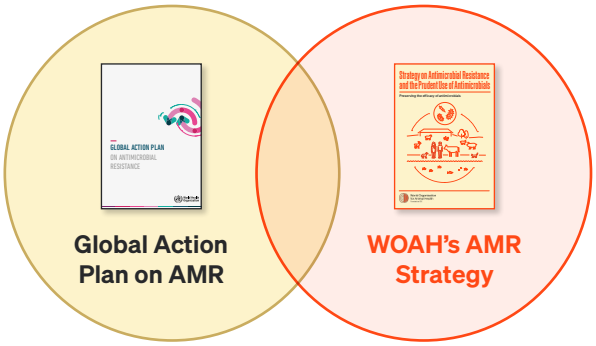
- Improve awareness and understanding
- Strengthen knowledge through surveillance and research
- Support good governance and capacity building
- Encourage implementation of international standards.

Each objective was accompanied by a workplan outlining actions to support Members in creating a NAP and achieving their AMR goals. Since adoption of the Strategy, WOAH has taken significant steps to advance these workplans.

This has relied on action not only from WOAH and other Intergovernmental Organisations but also WOAH Members, NGOs and industry partners. Their efforts and on-the-ground work support the implementation of standards addressing AMR and optimising the use of antimicrobials.

Section 2 of this report provides an overview of key actions undertaken across the animal health sector by some of our Members, as well as by other stakeholders with whom WOAH has a formal collaboration, leading to meaningful outcomes within each workplan of the AMR strategy.

A One Health Approach



The WOAH AMR Strategy is intended to support the Global Action Plan on AMR, recognising that work undertaken in animals must be integrated into a coordinate strategy across multiple sectors. For instance, the WOAH AMR Strategy specifically advances awareness and understanding within animal health, as called for in the Global Action Plan, while also undertaking complementary objectives like implementation of international standards where WOAH leadership can help ensure AMR remains on the agenda within animal health. This approach creates a One Health 'foundation' for all activities where animal health can do its part, while contributing to broader success across sectors.

Recognising the Challenge Ahead

As for many other global challenges, public understanding is a necessary first step that leads to change. Improving the use of antimicrobials is built upon stakeholder awareness. When actors across the value chain, including veterinarians, veterinary services, industry, NGOs and animal breeders, owners and keepers, recognise not just the threat of AMR, but what can be done to address it, they can play an active role in the global effort. Awareness leads to action, and action provides a path towards change. This is why WOAH AMR Strategy begins with 'Improving Awareness and Understanding'.

WOAH has been a leading voice in the global AMR discussion, communicating with stakeholders across the value chain on their role in addressing this challenge. Several materials directed towards Members, Veterinary Services, farmers, the pharmaceutical industry, human and environmental health actors, general public and others have been developed. These resources outline the role of each stakeholder and calls on them to act. Materials include videos, factsheets, Q&As, guidance for professionals, information for concerned citizens, and other resources to get involved.

WOAH consistently disseminates and promotes AMR materials and information through several channels and social media, leveraging different opportunities such as its annual General Assembly, Global Conferences on AMR, focal point trainings, and others. Materials have reached 100+ countries and territories and have been used locally to generate greater national awareness of the risk of AMR to animal health and welfare.

'Building a common foundation of principles and values means we can work towards a shared vision.'

As a leading organisation driven by science, expert groups within WOAH continually advance understanding and knowledge around AMR. In recent years, the following topics have been addressed in their scientific publications:

- Integrated surveillance of use and resistance
- Antimicrobial alternatives that can reduce need for use
- Reducing risks of human exposure to AMR originating from the livestock supply chain
- Monitoring and surveillance of AMR in aquatic animals
- Veterinary Services and AMR at the livestock-human interface
- Cost-effectiveness of AMR surveillance.

WOAH regional and sub-regional offices work together with our membership in the development and dissemination of awareness materials, adapted to the regional context, using local languages and the most used media (i.e. social media, radio, jingles, etc.). For instance, Colombia's experience in new ways of communicating about AMR is one of the many examples developed in collaboration with our membership in the Americas.

AMR Portal

WOAH has made numerous communications materials available through the AMR portal, including videos, fact sheets, social media toolkits, how-to guides, and more. WOAH used these resources to reach 27 million people in digital communications campaigns in 2023, a 500% increase from the previous year, while traffic to the AMR portal rose 53% during the same time period.

In 2018, WOAH, FAO and WHO signed a historic Memorandum of Understanding (MoU) to strengthen their Tripartite partnership by providing a formal and legal framework to their collaboration with a particular emphasis on AMR. This enabled the three organisations to work together more closely to advance the Global Action Plan and support efforts at different levels to address AMR. This historic collaboration was further expanded in 2022 when the United Nations Environment Programme (UNEP) joined, expanding the group to a Quadripartite and ensuring all aspects of One Health were integrated in global AMR efforts.

The result has been a more coordinated, unified approach to AMR, as illustrated by the 'Don't let antimicrobial resistance (AMR) take control!' campaign, available in 5 languages: English / Mandarin Chinese / Nepali / Khmer / Mongolian.

For nearly a decade, the members of the Tripartite and then later the Quadripartite have supported the annual World AMR Awareness Week (WAAW), providing a platform to raise awareness and understanding of AMR worldwide, promoting best practices among One Health. Materials are jointly created, such as global Campaign Guides, so respective memberships as well as involved stakeholders can spread the understanding that AMR is a threat that can be addressed through combined efforts.

Individual Members build on these efforts at a country level through local activities. For instance, Kenya hosted the first regional version of AMR Awareness Week in 2019 in collaboration with the Tripartite. The session was a galvanising event that brought together government officials and other stakeholders for discussions on how to help address a global challenge with local action. Across the world, WAAW remains a critical collaboration that shows a continued commitment to a One Health approach to AMR.

The first Regional World Antibiotic Awareness Week in Nairobi Kenya, 2019

WOAH, along with its Quadripartite partners has also been supporting global leadership on AMR, creating different awareness materials targeting policymakers through the Quadripartite Global Leaders Group on AMR (GLG). Established in November 2020, following the recommendation of the Inter-agency Coordination Group (IACG) on AMR to strengthen global political momentum and leadership on AMR, the GLG provides critical guidance, such as the animal health and welfare and antimicrobial use report, placing prevention at the forefront of best practices in animal health. All materials are available on their dedicated website, highlighting two important ones for advocacy at ministerial levels: The pocket guide for ministers across sectors and the integrated surveillance pocket guide.

Measuring Enables Management

Responsible use of antimicrobials requires a science-based approach that can properly measure antimicrobial use across species and various drug-pathogen combinations.

This level of surveillance requires regularly sampling biological specimens and isolating microorganisms across populations, so incidence and prevalence of resistance can be monitored. It requires investigating associations, correlations and causality relationships between use and resistance. Overall, robust surveillance relies upon data collection, data analysis, as well as data reporting, at national, regional and global levels.

This is why AMR/AMU surveillance are at the core of the WOAH AMR Strategy, because management requires measurement. Setting and consolidating surveillance systems must be part of any national action plan; decision-making based on surveillance data is essential to optimise investments and increase the chances of success in containing development and spread of AMR. Within the animal health sector, significant work has been done to build surveillance systems, increasing our understanding of antimicrobial use patterns, sharing facts and figures with concerned stakeholders worldwide

WOAH's core mandate has always been to collect the data necessary to monitor animal disease. This is why WOAH took the lead in building a global database of antimicrobial use in animals in 2015, with the full support of the tripartite and in the framework of the Global Action Plan.

This eventually led to the creation of ANIMUSE, a global system for collection, analysis and validation of antimicrobial use data from Members, and some non-WOAH Members. This has provided unprecedented insights into how antimicrobials are being used in animals across the world with over 150 countries providing input each year.

> 'At a global level, the result was the creation of a global surveillance and data collection framework for antimicrobial use across 150+ countries.'

Reliable data supports national authorities and the international community in making evidence-based decisions to improve global health. To this end, WOAH has made the global data on antimicrobial use in animals widely available for access and further analysis.

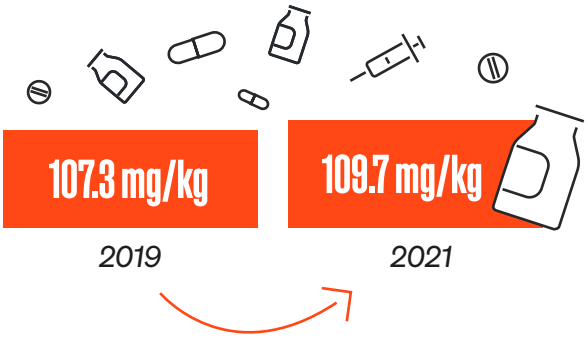
The annually published 'Report on the Use of Antimicrobial Agents in Animals' has been recently completed by an online interactive report, available for Members and stakeholder consultation. From farmers to Veterinary Services, all actors involved in animal health systems rely on solid data to manage risks and make everyday choices, sometimes in adverse economic environments. This ultimately helps farm systems maximise prevention, which will reduce the need to use antimicrobials and help preserve their effectiveness.

WOAH's ANIMUSE database, combined with reporting done by national authorities across the world, has provided a new level of understanding of AMR and antimicrobial use within animal health. WOAH data alone covers the majority of global animal biomass and nearly all antimicrobial use worldwide.

ANIMUSE data gathered and analysed between 2016 and 2024 shows positive progress towards reducing antimicrobial use in animals, minimising usage of critically important antimicrobials for humans and avoiding inappropriate use. However, progress towards optimal use needs reinforcement, as indicated by some signs of slow down.

Key Findings from Global, Regional & National Antimicrobial Data Reporting

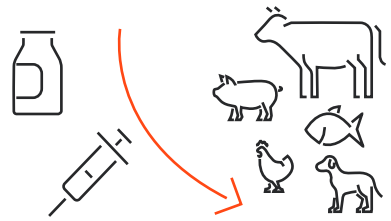
Global antimicrobial use in animals rose by 2% from 2019–21



The use of antimicrobials critical to human health in animals is low

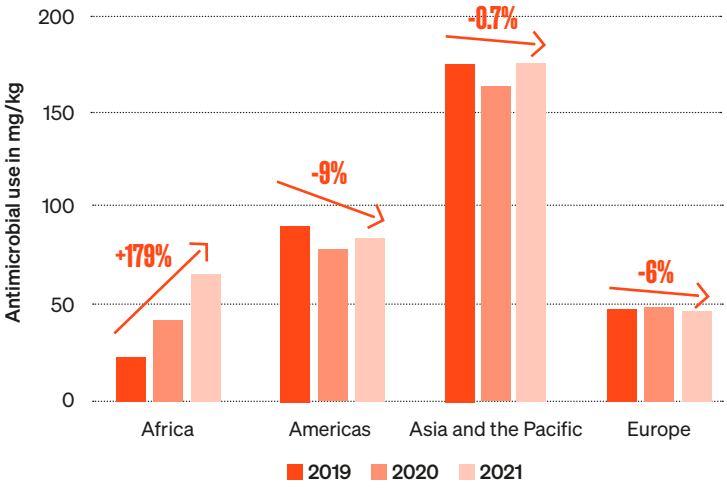
<16%

of antimicrobials used in animals in 2021 were of **'highest priority critically important'** for human health



Global trends become clearer with regional analysis

A deeper look at the data shows changes in use can vary by region. While Africa's rise may be attributed to improved monitoring systems, it accounts for just 10% of total animal biomass and 2% of antimicrobial use in the 81 countries analysed. In contrast, the Americas and Asia and the Pacific, which hold much greater importance in use and biomass, as well as Europe, show moderate declines after years of significant decrease. This combination indicates a slowdown in the global downward trend observed previously. Limited validated quantitative data from the Middle East could not be included due to confidentiality concerns.



Regional and national reporting finds reductions in antibiotic use

United Kingdom ↓ **59%** from 2014–22

European Union ↓ **53%** from 2011–22

China ↓ **22%** from 2017–20

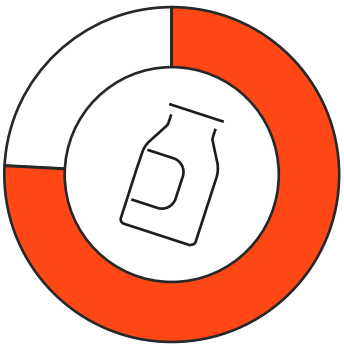
United States ↓ **36%** from 2015–22

Thailand ↓ **49%** from 2017–19

South Africa ↓ **52%** from 2014–20

The use of antimicrobials for growth promotion has declined, but more work lies ahead

While significant progress has been made, more work remains to be done. 20% of WOAH Members still use antimicrobials for growth promotion and from these, 76% do not implement any preliminary risk analysis, as required by the Global Action Plan on AMR and WOAH's List of Antimicrobial Agents of Veterinary Importance.



Over 70%

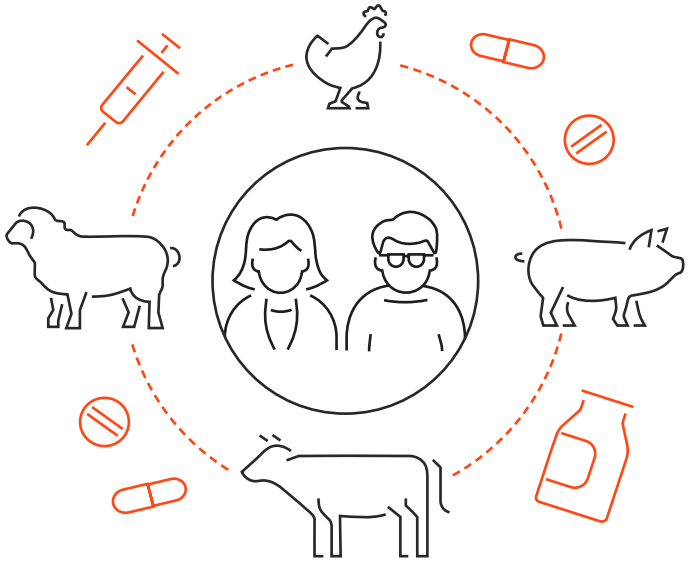
of WOAH Members have phased out the use of antimicrobials for growth promotion

One Health monitoring is limited but can provide value

Only a small number of countries collect and publish use data across humans and animals. For example:

- UK data shows that two-thirds of antibiotics are used in humans and one-third are used in animals.
- EU data found consumption decreased 53% in animals since 2011, and decreased approximately 10% in humans since 2013.

This type of One Health use monitoring is limited across other countries and accurate global figures comparing human and animal use do not exist (see box below for more detail).



The Importance of Reliable Data

In developing ANIMUSE, WOAH committed to 'build and maintain a global database on the use of antimicrobial medicines in animals.' Almost a decade of data collection has demonstrated how this information can guide efforts to address AMR and improve responsible use. Collected data through a standardised and peer-reviewed methodology are validated by WOAH, to be then given back to Members' competent authorities to help them implement and assess progress of their national action plan on AMR. Today, more than 125 WOAH Members have a baseline on antimicrobial use, with a level of detail (by antimicrobial class, by year, etc.) that has not been achieved elsewhere, enabling them to set appropriate actions and track progress targeting optimal use.

Using outdated and unverifiable data on animal antimicrobial use risks shifting resources and attention away from areas where action is necessary. For instance, there is a common claim that animals use 70–80% of antimicrobials globally. This calculation is based on national figures, often outdated, from a few selected countries and inappropriately extrapolated to the global level. In the absence of a global system today integrating data from ANIMUSE and WHO Global Antimicrobial Resistance and Use Surveillance System (GLASS), this claim is totally inaccurate and should not be relied upon to support development of policies and interventions.

The Value of Surveillance

As part of the One Health approach, animal health data can support responses from the public health sector and others to better ensure the efficient prevention of global health risks.

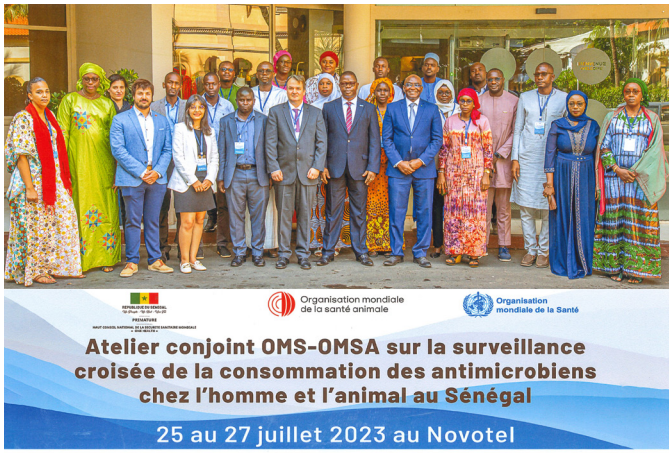
This requires setting and consolidating AMR and AMR surveillance systems, which can be sector-specific or integrated across two or more sectors (e.g. animals, humans, plants/crops and the environment). Surveillance data is important to assess trends of AMU and AMR over time, explore correlations and associations between AMU and AMR, inform risk analysis and evaluate impact of interventions and policies. While some countries and regions have paved this road with the publication of national and regional reports (i.e. Canada, United Kingdom, European Union), many WOAH Members, particularly in low- and middle-income settings, lack sector-specific surveillance programmes.

WOAH, in collaboration with Quadripartite partners, and GLG members are mobilised to provide guidance, tools and capacity building opportunities to countries to support the gradual implementation of integrated surveillance across relevant sectors (animal, human, plants/crops and environment) to enhance important aspects such as: intersectoral analyses of antimicrobial consumption for targeted action decision-making, transmission pathways between animals, humans and vice versa, association, correlation and even causality relationships between use and resistance, etc.

Furthermore, it is critical that surveillance extend beyond just antimicrobial consumption. Antimicrobial stewardship principles indicate that the right antimicrobial is to be administered to the right subject, at the right time, with the right dose, during the right period. An additional 'right' is to be added to these principles: 'using the right product'. In 2022, a review from Oxford University indicated that '52% of the 1,246 veterinary medicine samples collected in Asia and Africa tested for quality were substandard or falsified.'

'Antimicrobial stewardship principles indicate that the right antimicrobial is to be administered to the right subject, at the right time, with the right dose, during the right period. An additional 'right' is to be added to this principles: "using the right product"'.

Since 2021, WOAH has been developing in close collaboration with its membership, the establishment of VSAFE, the global surveillance system to alert and report on the presence of substandard and falsified veterinary products including antimicrobial agents. As of July 2024, up to 61 WOAH Members have joined the initiative, soon to be completed by the release of guidelines on how to efficiently carry out post-market surveillance for enhanced reporting. These actions are all designed and developed in close collaboration with WHO, World Customs Organization (WCO) and Interpol.

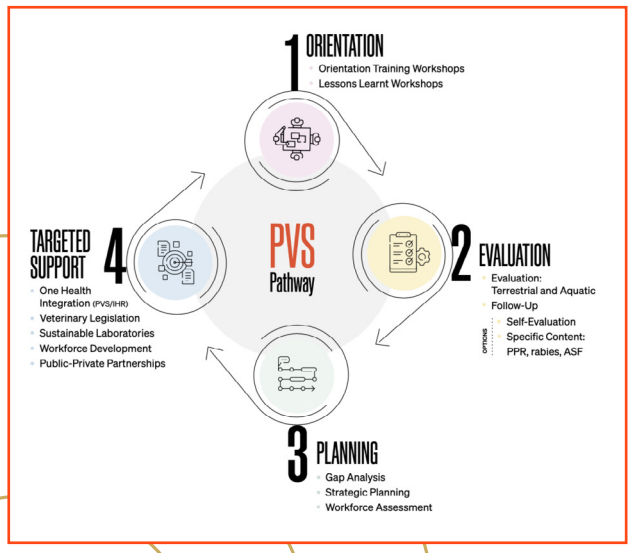


Integrated Surveillance training in Senegal

Developing Frameworks for Progress

Collaboration is the foundation of global action against AMR. It is a challenge that cannot be solved by one sector, organisation or group; it calls for close cooperation and complementary action that targets activities in the areas that can deliver outsized results. This requires understanding local needs and working with leaders to deliver the necessary resources to enhance on-the-ground capacity for addressing AMR. For instance, this can include training programmes, consultations with regulators and policymakers, promotion of appropriate standards, and more. WOAH has invested time and resources for decades to help its membership build good governance as well as appropriate regional and local capacities for progress in tackling AMR.

The third objective of WOAH's AMR Strategy targets the development of stronger national action plans to advance global AMR goals, and to increase capacity for veterinary medicine oversight and responsible use. In that sense, WOAH's Pathway on the Performance of Veterinary Services (PVS) is key. PVS is a voluntary assessment for the sustainable improvement of Veterinary Services and Aquatic Animal Health Services, based on WOAH international standards on animal health and welfare. It consists of a four-stage cycle, across which several stages are relevant for controlling AMR, providing a useful external perspective that can reveal gaps, inefficiencies and opportunities for innovation. One of its components offers



'Collaboration is the foundation of global action against AMR.'

targeted support to assess legislation relevant for AMR, such as veterinary medicinal products, food safety, responsibilities and powers of competent authorities and the veterinary profession. This Veterinary Legislation Support Program (VLSP) has been recently empowered around AMR, through the Quadripartite One Health Legislative Assessment Tool for AMR (OHLAT).

Legislation can be a powerful instrument to curb AMR, as it has the unique capacity to translate policy objectives into concrete obligations and responsibilities for governments, industries and the private sector alike. It can also play a pivotal role in facilitating antimicrobial stewardship, ensuring prudent and equitable access and use, as well as preventing contamination of food and the environment with antimicrobial residues. Countries can enact national legislation that aligns with the international reference standards, global guidance, and best practices, across all sectors relevant to AMR.

The OHLAT tool supports these efforts by assisting countries in the identification and analysis of their AMR-relevant legislation across all sectors. Developed by the legal and AMR technical teams of the Quadripartite organisations (FAO, UNEP, WHO and WOAH), thanks to the generous financial support of the AMR Multi-Partner Trust Fund (MPTF), OHLAT has been piloted in three MPTF priority countries representing different continents and legal systems (Cambodia, Morocco and Zimbabwe), and has also been deployed in the context of one MPTF national project in Peru. This tool is now available for all WOAH Members to support decision-making in the design and implementation of National Action Plans, ensuring that limited resources are directed towards the most effective solutions for addressing AMR.

Accelerating One Health action through targeted financial support

To support the implementation of AMR National Action Plans (NAPs), an AMR Multi-Partner Trust Fund was launched in 2019 with US$5 million initial financial commitment from the Government of Netherlands. By mid-2021, the United Nations Environment Programme (UNEP) officially became a co-signatory of the AMR MPTF. Established for an initial five-year period (2019–2024), the Fund's operational period was extended to 31 December 2030, to effectively support the multi-year country programmes in line with the SDG timelines. While its primary focus is to catalyse and accelerate progress of One Health approaches to AMR in low- and middle-income countries (LMICs), the fund also empowers global programmes such as the OHLAT, the Quadripartite Integrated System for Surveillance on Antimicrobial Resistance and Use, the Monitoring & Evaluation Program, etc.

The MPTF plays a critical role by providing financial support to countries that seek to increase their action against AMR. This builds infrastructure and frameworks that can strengthen further action in the future. Successes to-date have been seen across the world, facilitated by the MPTF.

Cambodia

Developed treatment guidelines and training manuals for animal producers to minimise the risks associated with the use of antimicrobials.

Zimbabwe

A vaccine production and implementation plan for Theileriosis was finalised and adopted, and more than 300,000 doses of the Theileriosis vaccine were produced by 2024.

Tajikistan

Sequenced a selection of *E. coli* genomes to better understand the interconnectedness between human, animal and environment, and AMR genes.

Peru

Created a series of training sessions and learning events that strengthened laboratory technicians' capacity for AMR surveillance, including in AMR diagnostic methods.

Ethiopia

Training provided to poultry producers and animal healthcare providers on biosecurity, disease prevention and good farming practices. In addition, Ethiopia's Government drafted national biosecurity, AMU and AMR management guidelines for poultry production.

Global

In 2023, the MPTF supported Cambodia, Ethiopia and Zimbabwe in developing monitoring and evaluation plans for their AMR National Action Plans. In addition, the MPTF provided M&E capacity-building training to the AMR multi-sectoral coordination committees of these countries. This support will enable them to effectively monitor and evaluate their AMR strategy plans, facilitating evidence-based decision-making.

Strengthening WOAH Cooperation with Members and Partners

One of the five pillars of WOAH's seventh strategic plan is to optimise cooperation with partners to better respond to global challenges, such as AMR. For many years, WOAH has supported regional activities through organisations and partnerships like ASEAN in Asia, CAMEVET in the Americas, and UEMOA in Africa. These initiatives support collaboration across the value chain, advance veterinary products harmonisation and promote adoption of WOAH standards at national level, which can promote better disease prevention and reduce the need for antimicrobials.

WOAH Focal Points are also criticial in ensuring collaboration between WOAH and its Members as they serve as a point of contact on key issues, helping to improve communications and establish national networks for information dissemination. Currently, WOAH has focal points across eight different areas, including veterinary products. WOAH regularly offers trainings to Focal Points on key issues of importance. For the veterinary products group, WOAH has conducted trainings that involve responsible use, antimicrobial resistance, and proper data use through ANIMUSE.

In addition to the 300+ Collaborating Centers and Reference Laboratories across the world, WOAH has 70+ Memoranda of Understanding (MoUs) signed with different organisations across the entire animal health spectrum and beyond. This includes veterinary representatives, pharmaceutical companies, producer groups, non-governmental organisations, and more. These MoUs provide an essential foundation for activities by ensuring WOAH and its partners share a mutual vision for addressing global priorities, including AMR and other One Health issues.

'WOAH has 70+ MoUs with organisations across the animal health spectrum.'

Regular joint consultations organised in the framework of the MoU allow WOAH to collaborate with its partners to advance the responsible use of antimicrobials. For instance, WOAH has provided support to leading veterinary organisations as they develop 'essential medicine lists' that help promote our mutual goal of improving access to important veterinary medicines, including vaccines and effective antimicrobials.

- The World Small Animal Veterinary Association (WSAVA), published the second edition of the Essential Medicines List for Cats and Dogs in 2023, which supports the availability of the basic drugs a veterinarian requires in clinical practice.
- Together with the World Veterinary Association and Brooke, WOAH is advising on the development of an essential veterinary medicines list for different food-producing and working animal species such as large ruminants, equids, sheep, goats, etc. This work builds upon WVA's existing Global Repository of Guidelines for Responsible Use of Antimicrobials in Animal Health.

WOAH has also prioritised partnering and engaging with the 'next generation' that will continue AMR advocacy in the decades ahead. Together with our Quadripartite partners, a Quadripartite Working Group on Youth Engagement for AMR was created in October 2023 with 14 youth-led or youth-serving organisation representatives from different countries around the world. Among other activities, they participate in and promote AMR-related capacity building opportunities widely, particularly with youth networks, in order to increase knowledge on AMR and ensure voices of the next generation are well represented in global discussions.

Implementing Best Practices through International Standards

Facing a global challenge like AMR requires stakeholders to collaborate with a unified vision and shared tools, ensuring that national efforts align towards a common goal. WOAH international standards, based on the most recent scientific and technical information, offer the ideal basis for its Members to design and develop local AMR frameworks that help ensure animal health, transparency, international solidarity and a sustainable sanitary situation.

Furthermore, building cooperation across global institutions through mechanisms like the Quadripartite means these efforts in animal health can properly complement those in other domains. This fosters a One Health approach to AMR that is necessary to achieve progress. That is why the fourth pillar of the WOAH AMR Strategy is related to the implementation of international standards.

Each year, WOAH's World Assembly of Delegates discusses and adopts various updates to the Terrestrial and Aquatic Codes, reflecting new technical guidance from international expert groups. Chapters 6.7 to 6.11 of the *Terrestrial Animal Health Code* and 6.1 to 6.5 of the *Aquatic Animal Health Code* directly address AMR. This includes recommendations for controlling AMR, harmonising national AMR surveillance and monitoring programmes, monitoring use, etc. These are complemented by chapter 2.1.1 in the Terrestrial Manual, related to laboratory methodologies for antimicrobial susceptibility testing, as well as by the list of antimicrobial agents of veterinary importance, updated in its recommendations section through a constant dialogue and joint discussion with the World Health Organization, in light of protecting those antimicrobials of critical importance for human health.

> 'Animal health is our health. It's everyone's health.'

A regional dashboard from the TrACCS showing progress in national action plan implementation

Implementing these standards is essential to effectively address AMR and advance responsible use of antimicrobials. The WOAH Observatory, a project to measure uptake of international standards on animal health, enables continuous monitoring on how Members are implementing WOAH standards related to AMR. For instance, the Observatory reports that around 60% of Members implement and/or monitor a National Action Plan on AMR in the animal sector and that 12% of Members are still using critically important antimicrobials as growth promoters in animals. These data points demonstrate achievements, as well as gaps to close, including recommendations for both the Organisation and its Members. Examples from Members and partners are highlighted in the results section of this report.

The WOAH Observatory is complemented, from the One Health approach, by the Global Database for Tracking Antimicrobial Resistance through a Country Self-Assessment Survey (TrACSS), an open access database allowing users to view and assess progress through individual country reports and regional dashboards.

Working Together to Advance Standards and Strategy

Implementation of WOAH Standards and AMR strategy requires robust communications with global networks to ensure stakeholders are not just aware, but also understand how they can contribute to their advancement.

In October 2018, for the second time since 2013, WOAH brought together AMR experts, policymakers and stakeholders in Marrakesh, Morocco for a landmark three-day Global Conference on AMR. The session produced a series of 18 recommendations for WOAH and its Members, many of which have been executed, to further accelerate efforts to address AMR. The Conference also led to the development of the Working Group on Antimicrobial Resistance, which replaced the existing *ad hoc* group, and operation guidance for the implementation of the AMR strategy.

In 2019, WOAH Director General established the Working Group on Antimicrobial Resistance (WG AMR) following Resolution No. 14 adopted by the World Assembly at the 87th WOAH General Session. The WG AMR is responsible for:

- Supporting WOAH AMR Strategy implementation;
- Supporting WOAH and its Members when implementing recommendations from the 2nd Global Conference on AMR and Prudent Use;
- Assisting in identifying risks and risk-management options associated with AMR;
- Providing advice and input to WOAH on AMR-related activities.


WORLD ORGANISATION FOR ANIMAL HEALTH
Protecting animals, preserving our future

REPORT OF THE MEETING OF THE OIE *AD HOC* GROUP ON PRIORITISATION OF DISEASES FOR WHICH VACCINES COULD REDUCE ANTIMICROBIAL USE IN ANIMALS[1]
Paris, 21 – 23 April 2015

1. Opening

Vaccines are a proven method for preventing disease and thus reducing the need for antimicrobials in animals. WOAH supports increased vaccination, which is why *ad hoc* groups were created to identify the diseases that should be prioritised for vaccination to reduce antimicrobial use. Experts identified the diseases where antimicrobial use may be low, medium or high and current constraints to vaccine use, enabling stakeholders to work towards addressing these constraints in the future. This critical work can help improve prevention and reduce the need for antimicrobials.

Since its creation, the WG AMR has met numerous times to develop recommendations that can help WOAH meet its goals and advance the AMR strategy. One of the most recent achievements is the revision of chapter 6.10 within the Terrestrial Animal Health Code, unanimously adopted in May 2024 by the 183 Members of the World Assembly of Delegates. Following this adoption, AMR standards have been expanded in scope to include companion animals, reinforce environmental safeguards and update recommendations of the list of antimicrobial agents of veterinary importance.

WOAH's *ad hoc* groups, created by the Director General to provide expert advice on a topic, gather internationally recognised experts taking into consideration geographical representation and gender balance. These groups have delivered useful guidelines and technical materials such as the lists of priority diseases where vaccines could reduce antimicrobial use (poultry, swine, sheep, goats and bovines, and aquatic animals), and different updates by animal species of the list of antimicrobials of veterinary importance.

Furthermore, WOAH maintains formal relationships with other international standard-setting bodies to promote cooperation and alignment. The World Trade Organization identifies WOAH as the animal health standard-setting body as recognised by the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS). Collaboration between WTO and WOAH supports harmonisation of sanitary and phytosanitary measures, many of which affect control of bacterial disease and AMR. WOAH and WTO's cooperation was formalised in 1998 and has been consistently maintained since then.

'Implementation of WOAH Standards and AMR strategy requires robust communications with global networks to ensure stakeholders not just aware but understand how they can contribute to their advancement.'

WOAH has also contributed to the efforts of the Codex Task Force on AMR, a specialised group established under the Codex Alimentarius Commission. The primary goal of the Task Force is to develop and promote science-based guidance and standards to mitigate the risks posed by AMR in the food supply chain. WOAH contributed to this group during its first mandate, as well as when it was renewed from 2017 to 2021.

Regulatory Oversight of Antimicrobials

Implementing WOAH standards and managing antimicrobial use can necessitate governments implementing regulations for oversight. This can help ensure local stakeholders are taking the necessary actions needed to support NAPs and global AMR goals. Some examples of regulations implemented by WOAH Members include:

Indonesia

The Indonesia Ministry of Agriculture issued Regulation no. 14 of 2017 concerning the Classification of Animal Drugs, which prohibits the use of antibiotic growth promoters since 2018 and colistin since 2019. This regulation is also the basis for technical instructions for the use of therapeutic feed to treat disease in livestock populations.

Bangladesh

In 2019, the Directorate General of Drug Administration (DGDA) banned 34 antibiotics used in veterinary practices that are critically important for human use (e.g. Colisitin, Fosfomycin and Azithromycin) as an initiative to curb antimicrobial resistance associated with the animal health sector.

Bosnia & Herzegovina

Legislation at both the national and state level, including regulations around the use of antimicrobials as growth promoters and a requirement for antimicrobials to only be used on prescription, supports responsible use in the country.

Morocco

Regulations in Morocco were revised to prohibit unauthorised use of antimicrobials and prohibit the use of antimicrobials for growth promotion. Following these efforts, an 18% reduction in antimicrobial use in the veterinary sector was recorded.

Costa Rica

In 2020, Costa Rica adopted WOAH and CODEX standards on AMR under the framework of the Central American Technical Regulation RTCA 65.05.51:18, 'Veterinary medicines, related products and their establishments. Sanitary registration and control requirements.' The Veterinary Medicines Directorate requests compliance with these standards through amendments to the registration procedures on the labelling of antimicrobials.

Section 3

Momentum in the Years Ahead

The Burden of AMR: The Case for Investing in Animal Health

Achieving progress to contain AMR and ensuring antimicrobials remain effective for future generations requires significant work and compelling investments.

Researchers need support to improve our understanding of AMR transfer so it can be prevented. Infrastructures like cold chains need to be strengthened to ensure tools like vaccines that reduce the need for antibiotics can reach the veterinary workforce across the world.

In addition, significant financing will be needed. Data from the Global AMR R&D hub has found that while the private sector has invested approximately US$1.57 billion per year in animal health R&D over the past four years, animal health remains a small fraction of overall AMR financing from the public-philanthropic sectors.

Current levels of investment in animal health are inadequate to maintain current progress, which means meeting future goals will be extremely difficult.

Global support for animal health and veterinary services remain inadequate

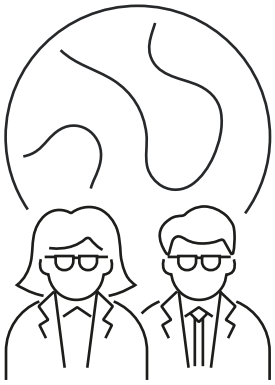
Animal health investments from the public and philanthropic sectors represented

only 7%

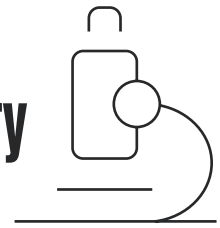
of total funding in AMR research and development (R&D) from 2017 to 2024.

Veterinary Services vary significantly across regions

Veterinarians and paraprofessionals in Asia and the Pacific and Africa are responsible for six times as many veterinary livestock units compared to those in Europe (3833:1 in Asia and the Pacific, 3530:1 in Africa, 612:1 in Europe).



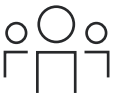
6 cents for every 10 USD



were allocated to R&D in animal health vaccines from 2017 to 2024.

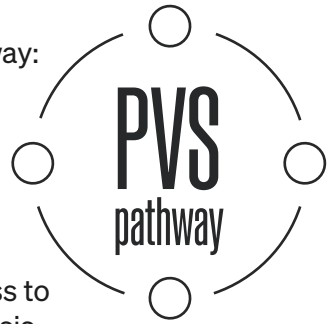
Among the 43 WOAH Members

who have gone through the PVS pathway:



93% don't have sufficient workforce capacity

and only 50% have access to veterinary laboratory diagnosis.



Inaction around antimicrobial resistance can lead to a cumulative global loss up to GDP US$ 950 billion between 2025 and 2050 due to AMR's impact on livestock, and up to US$ 5.2 trillion cumulative GDP losses from the further spread of resistant pathogens from animals to humans.

Conversely, taking action today leading to a 30% global reduction in animal antimicrobial use over the next five years, will boost global GDP by US$ 14 billion by 2050. By preventing animal disease, we can reduce the overall burden and cost effectively curb the situation.

Prevention, prevention and more prevention must be the guiding mantra for countries and stakeholders. It is the most cost-effective way to prevent occurrence of infectious diseases and preserve animal welfare, and must be the cornerstone of every AMR plan and investment. Inaction would not only lead to severe effects for animal health, it would cost nations much more in the long term. The World Bank has found that US$9 billion in AMR containment measures in LMICs today can help avoid global GDP shortfalls of over US$1 trillion annually after 2030.

Funding for surveillance and national action plans must also be strengthened. In 2023, only 25% of countries had costed and budgeted the activities of their National Action Plans on AMR and had an effective monitoring system in place. Existing and new funding mechanisms must be strategically adapted to the needs of the different health sectors, ensuring that they are proportionate to the actions planned, regardless of the specific sector involved. This means that sustainable and predictable sources of funding need to be established at national and global levels to support the implementation of cost-effective interventions in all sectors, based on evidence provided by surveillance programmes.

Targeted investment in One Health AMR research is necessary to strengthen the evidence available for interventions. Research that improves our understanding of AMR transmission, drivers and impact means actions can be prioritised in a manner that delivers outsized results. The Quadripartite One Health Priority Agenda for Antimicrobial Resistance provides a clear roadmap for this work.

'The Global Leaders Group on AMR estimates that a package of One Health interventions, including stewardship in animal health, can avert nearly US$7.7 trillion in costs to our world between now and 2035.'

The return on these investments would be significant for both animals and people. The Global Leaders Group on AMR estimates that a package of One Health interventions, including stewardship in animal health, can avert nearly US$7.7 trillion in costs to our world between now and 2035. However, if AMR is left unchecked, not only will there be an impact on animal health and welfare, but productivity levels will fall, particularly in developing regions. This would harm livelihoods and increase hunger in the most vulnerable regions.

Looking Ahead: How to Progress the AMR Strategy

While significant action has been undertaken over the past 20 years, AMR continues to pose a serious risk to the health of animals, humans, plants and the environment. More work is needed in the upcoming years. However, we can learn from decades of activities led by the animal health sector to ensure that what we do today provides the greatest return while protecting our future.

Within animal health, we have seen that the most effective ways to work include:

- **Collaborating** with and learning from each other in a One Health capacity
- **Focusing** our limited resources in areas that make the greatest impact
- **Partnering** wherever possible to bring more actors to the table
- **Tracking** progress through data to ensure we understand how actions affect our goals
- **Building** platforms for stakeholders to communicate and collaborate
- **Communicating** with others to raise awareness and generate more engagement
- **Inviting** stakeholders to the table as everyone has a role to play
- **Promoting** prevention as the first line of defence against disease and AMR.

WOAH will use these lessons to continue to advance its *Strategy on Antimicrobial Resistance and the Prudent Use of Antimicrobial Agents* and the workplan within each objective. However, managing AMR and ensuring our world has the tools to protect humans and animals in the coming decades will not be easy. We urge stakeholders across the public and private sectors to help support these efforts by focusing on five areas of action:

- **Prevention:** Stopping disease before it occurs is the most effective and responsible way to reduce the need for antimicrobial use. Helping livestock keepers implement prevention tools and practices like biosecurity, vaccination, improved genetics and more will help ensure antimicrobial use continues to decline. However, this will require new investments, better cooperation and the necessary infrastructure to reach animals in need.
- **Cross-sectoral collaboration:** Animal health sector must work together with other sectors to advance national AMR strategies. This includes clearly identifying and funding priority needs and ensuring the establishment of cross-sectoral coordination mechanisms. AMR efforts require the commitment of the entire value chain, from producers to policymakers.
- **Resourced surveillance:** Robust data is the only way to know if our efforts to manage AMR are succeeding. Surveillance systems on AMR and AMU need to be sustainably resourced and upgraded at the national level. Harmonised data should be shared and analysed across sectors as part of integrated surveillance efforts and used to support One Health decision making.
- **Adequate funding:** AMR initiatives must be better resourced as current investments are inadequate to deliver the next phase of progress. This means that sustainable and predictable sources of funding need to be established at national and global levels to support the implementation of cost-effective interventions in all sectors, based on evidence provided by surveillance programmes.
- **One Health:** Working together across disciplines - animal, human, plants and ecosystems - to implement key underlying principles such as equity between sectors and transdisciplinary collaboration, including the responsibility of humans to adopt sustainable solutions that recognise the importance of animal welfare and the integrity of the whole ecosystem. One Health must remain the foundation of all our work.

These five areas of action can provide a path for all actors – governments, IGOs, private sector, NGOs, researchers and the wider public – to contribute to our shared goals. Because while progress has been made since the 2016 Political Declaration, much more is needed to advance the Global Action Plan in the years ahead. It is important for the world to continue to work together in a One Health manner to raise awareness and ensure AMR remains at the top of the global agenda with the necessary societal support.

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