

Antimicrobial resistance

Antimicrobial agents are medicines used to treat infections caused by bacteria in particular. They are essential to both human and animal health, but in recent years, some bacteria have demonstrated full or partial resistance to various antimicrobial agents. This phenomenon, called antimicrobial resistance (AMR), is rising concern for both public and animal health. Many of the actions implemented to improve animal health depend on the availability and appropriate use of quality veterinary medicines, and notably antimicrobial agents. Animal health is a key component of policies to improve animal welfare, food security and food safety. The OIE believes it is vital to enable adequate access to effective antimicrobial agents to treat animal diseases, but emphasises the need to regulate that access through the intervention of well-trained veterinarians, whose ethics are ensured by national Veterinary Statutory Bodies as laid down by law.

KEY POINTS

- Essential for treating human and animal diseases of bacterial origin, antimicrobial agents are a global public good.
- Combating antimicrobial resistance must be coordinated between public health, animal health and environmental actors.
- Access to and responsible and prudent use of antimicrobial agents for animals must be regulated and monitored by well-trained veterinarians, whose ethics are ensured by a Veterinary Statutory Body.

ANTIMICROBIAL RESISTANCE, A GLOBAL AND MULTISECTORAL CONCERN

As the use of antimicrobial agents for human and animal health has become widespread in recent decades, the world has been confronted with the accelerated emergence of antimicrobial resistance. The discovery of new treatments is not keeping up with bacteria, the microorganisms responsible for sometimes serious diseases in humans and animals. It is therefore vital to ensure adequate access to effective antimicrobial agents to treat animal diseases, protect human health, and guarantee food safety.

The globalisation of trade in food products, as well as both conventional and medical tourism enable resistant bacteria to colonise the entire globe, in spite of preventive measures applied locally: the risky behaviour of one country can endanger the efficacy and availability of antibiotics worldwide.

THE 'ONE HEALTH' CONCEPT IS ESSENTIAL

60% of pathogens dangerous to man are of animal origin: humans and animals share the same bacteria, which need to be combated and prevented at the national, regional and global levels. Curbing the emergence of antimicrobial resistance therefore requires global, multi-sector harmonisation of the strategies and measures designed to improve the coordination of public health, animal health and environmental policies.

In terms of animal health, the responsible and prudent use of antimicrobial agents is essential for maintaining their therapeutic efficacy. That is the goal pursued by the OIE, particularly through its intergovernmental standards developed with the support of its network of expertise and adopted democratically by its 180 Member Countries.

A LONGSTANDING COMMITMENT BY THE OIE

The OIE has been working actively for more than ten years on the issue of [veterinary products](#) such as antimicrobials, notably through [international conferences](#). The OIE has developed a global strategy for veterinary products, in close connection with its global network of expertise, all of its 180 Member Countries and its international partners.

The OIE seeks to improve control of the production, authorisation, import and distribution of antimicrobial agents and to regulate their use in animals through adequate legislation, qualified practitioners, and a structured veterinary profession. The organisation also supports countries that need assistance through programmes of international solidarity.

GLOBAL, INTERSECTORAL COLLABORATION

Moreover, since 2010, the OIE, alongside the WHO and FAO, has been engaged in a [Tripartite Alliance](#) that stipulates the respective responsibilities of the three organisations in the fight against diseases with a high health and economic impact, particularly zoonotic diseases, through the implementation of the "One Health" concept. Combating antimicrobial resistance is one of the organisations' three priorities.

The tripartite actions consist in coordinating strategies to combat antimicrobial resistance in the short, medium and long terms at global level, and in supporting their implementation at the national and regional levels.

They have set themselves the following goals:

- ensure that antimicrobial agents maintain their efficacy
- promote prudent and responsible use of these agents
- facilitate access to quality drugs.

The OIE also collaborates with many other international organisations, such as the Codex Alimentarius Commission (CAC) which are key partners for sharing information and formulating recommendations.

Global action plan on antimicrobial resistance

The OIE recently made a strong contribution to the WHO's [global action plan on antimicrobial resistance](#), adopted in 2015, which seeks to ensure, for as long as possible, the treatment of infectious diseases with effective, quality antimicrobial agents. By proposing key actions to be implemented in the next five to ten years, the plan emphasises the importance of the OIE's intergovernmental standards and supports the implementation by the OIE of a [global database on the use of antimicrobial agents in animals](#) (see [overleaf](#)). The OIE's 180 Member Countries have pledged their support for the plan through a [Resolution](#) adopted unanimously in May 2015.



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THE OIE'S INTERGOVERNMENTAL STANDARDS

For almost ten years now, the OIE has published intergovernmental standards on the responsible and prudent use of antimicrobial agents in [terrestrial](#) and [aquatic](#) animals.

Fully updated in May 2015, these texts cover the use of antimicrobial agents, as well as surveillance programmes, monitoring of quantities, and the assessment of the risks of the emergence or spread of resistant bacteria as a result of their use in animals. The OIE also publishes intergovernmental standards related to the [List of Antimicrobials of Veterinary Importance](#).

REGULATING AND MONITORING THE USE OF ANTIMICROBIAL AGENTS ON THE GROUND

The success of the fight against antimicrobial resistance depends on the implementation of global strategies by the public health, veterinary and environmental authorities of all countries across the five continents. With respect to animal health services, the implementation of OIE standards implies, at national level:

- adequate legislation on the use of antimicrobial agents
- good governance of national animal health systems
- a well-trained veterinary profession regulated by law

Ensuring good governance of the Veterinary Services through adequate legislation

Antibiotics are not ordinary products that can be sold and used without restriction. Sales of antibiotics must be regulated by law, with severe penalties for the distribution of fake drugs.

Furthermore, the OIE advocates regulating the veterinary profession by law, in order to ensure professional ethics and good governance of the Veterinary Services. The OIE therefore develops intergovernmental standards and programmes on the creation and operation of national and regional [Veterinary Statutory Bodies](#) endowed by law with the power to control qualifications, ethics, professional excellence and the exclusion of practitioners whose conduct is substandard.

Fostering excellence in the veterinary profession

The veterinary profession, which incorporates both public and private practitioners, has a crucial role to play in fighting antimicrobial resistance, particularly in controlling the prescription and delivery of these products. The OIE therefore also provides guidelines on [initial veterinary education](#), which sets forth the essential basis for an organised profession consisting of practitioners who have received a high quality education.

Capacity-building programmes for national Veterinary Services

International solidarity is crucial to assisting developing and emerging countries to apply OIE standards, as well as develop the necessary legislation, organisations and the human and financial resources.

The OIE therefore offers constant support to help improve the performance of the Veterinary Services, chiefly through the [PVS Pathway](#).

Furthermore, the OIE trains and connects national focal points appointed by their governments to design or amend legislation on the production, import, distribution and use of veterinary products and monitor antibiotic consumption. The focal points provide technical assistance to the OIE national Delegates.

Monitoring the use of antimicrobial agents

Today, in many countries, including developed countries, antimicrobial agents are widely available, directly or indirectly, practically without restriction. Of 130 countries recently evaluated by the OIE, more than 110 do not yet have relevant legislation on the appropriate conditions for the import, manufacture, distribution and use of veterinary products, including antimicrobial agents. Consequently, these products circulate uncontrolled like ordinary goods and are often falsified.

To date, there is no harmonised system of surveillance on the worldwide use and circulation of antimicrobial agents. That information is necessary, however, to monitor and control the origin of medicines, obtain reliable data on imports, trace their circulation, and evaluate the quality of the products in circulation. It is in this context that the OIE was mandated by its member countries to gather that missing information and create a global database for monitoring the use of antimicrobial agents, linked to the OIE's [World Animal Health Information System \(WAHIS\)](#).

That mandate is also supported by FAO and the WHO within the framework of the WHO's global action plan on antimicrobial resistance. The database will form a solid basis for the three organisations' work to combat antimicrobial resistance.

CHALLENGES AHEAD

In order to implement the global strategies, countries now need to commit and invest at national level. International cooperation must remain active to ensure effective regulation of the production, import, authorisation, distribution and use of antimicrobial agents at the global level.

Prevention is better than cure

The OIE advocates policies to provide minimum veterinary coverage to ensure animal health surveillance, which enables early detection of potential epizootic diseases (including zoonotic diseases) and rapid response to contain them in the outbreak area. Minimum veterinary coverage also ensures a general level of animal health, which facilitates the judicious, appropriate and limited use of veterinary products such as antibiotics.

Supporting research into alternative treatments to antibiotics

The OIE supports new research into alternatives to antibiotics (particularly vaccines) and in 2012 hosted an [international symposium](#) on this theme, organised by the International Alliance for Biological Standardisation (IABS) and the US Department of Agriculture (USDA).

For more information:

- [Terrestrial Code](#) (Chapter 6.6, Chapter 6.7, Chapter 6.8, Chapter 6.9 and Chapter 6.10)
- [Aquatic Code](#) (Chapter 6.2, Chapter 6.3, Chapter 6.4 and Chapter 6.5)
- [Terrestrial Manual](#) (Guideline 3.1)
- [Antimicrobial agents and antimicrobial resistance](#)
- [OIE List of Antimicrobial Agents of Veterinary Importance](#) (drafted by the OIE and updated in 2015)
- [AMR portal](#)
- [Resolution No. 26: Combating Antimicrobial Resistance and Promoting the Prudent Use of Antimicrobial Agents in Animals](#) (adopted in May 2015)
- [Proceedings of the OIE Global Conference on the Responsible and Prudent Use of Antimicrobial Agents for Animals](#) (March 2013)
- [FAO/OIE/WHO factsheet on antimicrobial resistance](#)