

## **EPSA and IVSA Europe Joint Statement on AMR**

The International Veterinary Students' Association (IVSA) is a student-run organisation representing over 38.000 students from over seventy countries. IVSA strives to benefit the animals and humans of the world by harnessing the potential and dedication of veterinary students to promote the international application of veterinary skills, education, and knowledge. Its Standing Committee on One Health (SCOH) aims to promote the importance of the One Health approach and the role of veterinarians in guaranteeing public health. Given the focus of the present paper on a major public health issue, SCOH played a crucial role in its development.

European Pharmaceutical Students' Association (EPSA) is a non-profit organisation representing over 100.000 pharmaceutical students from all over Europe. The Association was established in 1978 and has headquarters in Brussels, Belgium. EPSA's mission is to actively engage at student and professional levels, bringing pharmacy, knowledge and students together while promoting personal development.

### **Glossary**

- AMEG: Antimicrobial Advice Ad Hoc Expert Group
- AMR: Antimicrobial Resistance
- AMU: Antimicrobial Use
- ECDC: European Centre for Disease Prevention and Control
- ECHA: European Chemicals Agency
- EEA: European Environment Agency
- EFSA: European Food Safety Authority
- EMA: European Medicines Agency
- ESCMID: European Society of Clinical Microbiology and Infectious Diseases
- ESVAC: European Surveillance of Veterinary Antimicrobial Consumption
- EU: European Union
- EUCAST: European Committee on Antimicrobial Susceptibility Testing
- FAO: Food and Agriculture Organization
- NAPs: National Action Plans
- WHO: World Health Organization
- WOAH: World Organisation for Animal Health
- UNEP: United Nations Environment Programme

### **Background on AMR**

#### **Impact of AMR on humans, animals and the environment**

Antimicrobials – including antibiotics, antivirals, antifungals, and antiparasitics – are medicines used to prevent and treat infectious diseases in humans, animals and plants.

Antimicrobial Resistance (AMR) happens when microorganisms stop responding to antimicrobial medicines. This phenomenon leads to the ineffectiveness of antimicrobial medications, making it hard or impossible to treat infections and increasing the chances of

disease spread, longer recovery time, increased treatment costs, severe illness, disability, and even death.

AMR is a natural process that happens over time through genetic changes in pathogens. Human activity accelerates its emergence and spread, mainly due to the misuse and overuse of antimicrobials to treat, prevent, or control infections in humans, animals, and plants.

AMR poses a significant threat to public health. It jeopardises most of the progress made in modern medicine, making it much more challenging to cure infections and raising issues associated with other medical procedures and treatments, such as surgery and cancer chemotherapy (*Antimicrobial Resistance*, 2023)

There are numerous negative impacts associated with AMR from both veterinary and pharmaceutical perspectives. It threatens food security, drives up healthcare costs, weakens immunity to various infectious diseases, leads to the re-emergence of previously controlled diseases, negatively impacts the economy, diminishes trust in human and veterinary medicine, and so on. (*Monitoring Antimicrobial Resistance*, 2024)

AMR is a crucial One Health issue because it affects human, animal, and environmental health. The interconnectedness of health challenges across these domains underscores the importance of a holistic, interdisciplinary approach to addressing AMR within the One Health framework.

### **European organisations that address AMU and AMR**

- The Quadripartite Organizations – the Food and Agriculture Organization of the United Nations (FAO), the United Nations Environment Programme (UNEP), the World Organisation for Animal Health (WOAH, founded as OIE), and the World Health Organization (WHO) - have developed the [One Health Joint Plan of Action \(2022–2026\) \(OH JPA\)](#). The OH JPA is built around six interdependent action tracks that collectively contribute to achieving sustainable health and food systems, reduced global health threats and improved ecosystem management, among which “Action track 5: Curbing the silent pandemic of AMR”.
- In May 2024, the European Food Safety Authority (EFSA), the European Centre for Disease Prevention and Control (ECDC), the European Chemicals Agency (ECHA), the European Environment Agency (EEA) and the European Medicines Agency (EMA) published a [joint framework](#) to strengthen cooperation to support the implementation of the One Health agenda in the European Union, addressing the AMR issue too. This collaboration is rooted in the [European Parliament resolution](#) of 13 September 2018 on a [European One Health Action Plan against Antimicrobial Resistance \(AMR\)](#) (2017/2254(INI)): the three main goals of the plan were to make the EU a best-practice region, to boost research, development and innovation, and to shape the global agenda.
- The European Medicines Agency (EMA) supports the development of new medicines and treatment approaches, promotes responsible use of existing antibiotics, and collects antimicrobial consumption data to guide policy and research (e.g. the European Surveillance of Veterinary Antimicrobial Consumption, [ESVAC](#), project).

Through a One Health approach, it also encourages close and integrated cooperation between the human and veterinary fields.

- EMA's Antimicrobial Advice Ad Hoc Expert Group (AMEG) has divided antibiotics into [four categories](#) (A "Avoid", B "Restrict", C "Caution" and D "Prudence") based on the potential consequences to public health of increased AMR when used in animals and the need for their use in veterinary medicine. The categorisation is intended as a tool to support decision-making by veterinarians (*Categorisation of Antibiotics for Use in Animals - for Prudent and Responsible Use*, n.d.). The risk management measures applied to the individual AMEG categories should be seen as complementary to the provisions in the Regulation (EU) 2019/6 on veterinary medicinal products.
- The European Centre for Disease Prevention and Control (ECDC) tackles AMR through a multi-pronged approach, including data collection and surveillance, supporting EU countries, promoting best practices and raising awareness. Its disease networks (namely, EARS-Net, the European Antimicrobial Resistance Surveillance Network, EURGen-Net, the European Antimicrobial Resistance Genes Surveillance Network, ESAC-Net, the European Surveillance of Antimicrobial Consumption Network, and HAI-Net, the Healthcare-associated infections Surveillance Network) make it a key player in addressing the challenge of AMR in Europe.
- The European Committee on Antimicrobial Susceptibility Testing ([EUCAST](#)) is a standing committee jointly organised by ESCMID, ECDC and European national breakpoint committees. EUCAST deals with breakpoints and technical aspects of phenotypic in vitro antimicrobial susceptibility testing and functions as a breakpoint committee to assist EMA and ECDC. EUCAST does not deal with antibiotic policies, surveillance or containment of resistance or infection control.

### **Current legislation already in place contrasting AMR**

Legal provisions laid down in medicine legislations and related guidelines in force in the European Union are pivotal to safeguarding the effectiveness, accessibility and availability of antimicrobials. There are some significant differences in antibiotic management between human and veterinary fields. The differences lie mainly in the therapeutic target group, which is more heterogeneous on the veterinary medicine side (Schmerold et al., 2023).

Here are the pillar provisions for the veterinary medicine field.

- The [Regulation \(EU\) 2019/6](#) of the European Parliament and of the Council of 11 December 2018 on veterinary medicinal products "lays down rules for the placing on the market, manufacturing, import, export, supply, distribution, pharmacovigilance, control and use of veterinary medicinal products.", including antimicrobials. It has been amended by the [COMMISSION DELEGATED REGULATION \(EU\) 2021/805 of 8 March 2021](#) and [2023/183 of 23 November 2022](#).
- It is also important to remark that the last antimicrobial growth enhancer in the EU was banned from 2006 onwards ([Reg. \(EC\) No 1831/2003, 2003](#), Article 11).

Here are the pillar provisions for the pharmacy field.

- The [Directive 2013/55/EU of the European Parliament and of the Council of 20 November 2013](#) amending Directive 2005/36/EC on the recognition of professional qualifications and Regulation (EU) No 1024/2012 on administrative cooperation through the Internal Market Information System ('the IMI Regulation') ensures pharmacists are equipped with the education and training to gain necessary knowledge about pharmacists' general duties in analysing prescriptions and dispensing medications. This connection extends to the dispensation of antibiotics and the risk of AMR, highlighting the pharmacist's role in mitigating this risk.
- The [Commission notice \(C/2017/4326\) on EU Guidelines for the prudent use of antimicrobials in human health](#) recognizes that pharmacists are key players in ensuring the safe and effective use of antibiotics both in community and hospital settings, that they can help to prevent the overuse of antibiotics, and that to this end, they need to be provided with appropriate training, guidelines and information.

The importance of adopting a One Health approach, also to contrast AMR, is highlighted by:

- The [EU4health programme \(2021–2027\)](#), which supports and complements national policies to promote and improve human health in the EU and ensures human health protection in all EU policies and activities in line with the One Health approach.
- The [Regulation \(EU\) 2022/2371 on serious cross-border threats to health](#), which lays down rules to design a more robust mandate for coordination and cooperation to respond more effectively to serious cross-border health threats, including antimicrobial resistance.

### Call for Action

We urge European governments to take decisive action on the following fronts to combat Antimicrobial Resistance (AMR):

- **Policy and Strategy:** Establish collaborative international policies to combat AMR, ensuring a coordinated approach across ministries and international organisations for a holistic mitigation strategy, and sharing best practices and resources.
- **Regulatory Framework:** Strengthen the regulatory framework governing the sales and use of antibiotics in both human and animal sectors.
- **Education:** Increase educational efforts targeting healthcare providers, physicians, veterinarians, pharmacists, and farmers on prudent antibiotic use.
- **Public Awareness:** Develop and implement public awareness campaigns to educate the general population about the dangers of the misuse and overuse of antibiotics. Encourage the adoption of antibiotic stewardship programs in clinics and hospitals, and develop and disseminate evidence-based antibiotic prescribing guidelines widely for healthcare professionals to promote a more patient-centred approach and to ensure responsible antibiotic use.
- **Research and Innovation:** Allocate resources and financial support for research on AMR, including developing new antibiotics and alternative treatments like phage therapy.
- **Private Sector Engagement:** Engage with pharmaceutical companies, pharmacies, and private healthcare providers to ensure responsible antibiotic use practices.
- **Pharmacy Oversight:** Strengthen the sales monitoring of antibiotics in pharmacy shops strictly to ensure proper distribution of drugs according to prescriptions.

- **Data Sharing:** Promote transparency and authentic data sharing among stakeholders, including healthcare providers and pharmaceutical companies from both the human and veterinary fields, to enable effective monitoring and analysis of antibiotic use.
- **Infrastructure Investment:** Invest in healthcare infrastructures to ensure equal access to quality medical and veterinary services, reducing infection risks. Strengthen national reference laboratories and hospitals for microbiology and AMR testing to ensure accurate diagnostics and surveillance.

We urge Healthcare Institutions to:

- **Support National Action Plans:** Collaborate with national governments and local institutions to support developing and implementing national action plans and strategies to combat AMR.
- **Promote One Health Collaborations:** Foster One Health collaborations among international organisations and member countries to identify the underlying causes for the increasing prevalence of AMR in specific geographies or countries to enable the development or suggestion of effective policies for AMR mitigation. Advocate for a multi-sectoral approach that includes the agriculture, health, and environment sectors to comprehensively address AMR through a One Health approach.
- **Enhance Financial Support:** Increase financial support for conducting studies, expanding resources, carrying out public awareness campaigns, and educating local farmers and outreach communities about the responsible use of antibiotics, the dangers of AMR, and the importance of completing antibiotic courses in animals as prescribed.

We urge academia to:

- **Improve Curricula:** Despite efforts, gaps persist in educating healthcare students across the EU on AMR, who often lack confidence and comprehensive knowledge in antibiotic stewardship, a crucial strategy to combat AMR. Many countries have National Action Plans (NAPs) that incorporate education and training criteria for AMR, but their implementation is frequently inadequate, especially for healthcare workers who are not prescribers. The World Health Organization (WHO) has identified essential areas for AMR education and recommends postgraduate programs emphasising prudent antimicrobial use and infection control. However, effective AMR education demands substantial investment, often hampered by budget constraints. Furthermore, there are considerable disparities in AMR education delivery across different regions and institutions. However, some countries are beginning to standardise education modules for all healthcare workers.

We urge pharmaceutical companies to:

- **Implement Responsible Manufacturing Practices** that prioritise quality and safety in antibiotic production. Comply with international quality standards and Good Manufacturing Practices (GMP) to minimise the potential for antibiotic contamination.
- **Enhance Funding Support for Research and Development** of new antibiotics and alternative treatments to counter the challenge of AMR.
- **Encourage Transparency and Data Sharing** within the pharmaceutical industry to monitor and analyse antibiotic qualities.

- **Contribute to Public Awareness** campaigns to educate communities about the responsible use of antibiotics.
- **Collaborate** with researchers and scientists to contribute to the body of knowledge on AMR.

We urge veterinarians to:

- **Use Antibiotics Judiciously:** Prescribe select antibiotics only after confirming bacterial infections and strain sensitivity through clinical diagnosis and antibiotic sensitivity testing.
- **Adopt a Prevention Strategy:** Minimise the risk of infection by implementing preventive strategies, including biosecurity, vaccination plans, and improving animal welfare.

We urge pharmacists to:

- **Inform Patients:** Keep evaluating prescriptions, ensuring that the patients and owners of veterinary patients receive the right medicine at the right dose at the right duration and the necessary information about medication use.
- **Provide Personalised Advice** on the appropriate use of antimicrobials, stressing the importance of using them only when necessary.
- **Engage in Antimicrobial Stewardship:** Lead AMS programs in hospitals and clinics, ensuring adherence to best practices in antimicrobial prescribing.

We urge both professional categories, veterinarians and pharmacists, to:

- **Communicate Effectively** with patients, ensuring they understand the importance of following prescribed treatments, including proper dosage and duration.
- **Raise Awareness and Educate the General Public** on the dangers of AMR by participating in events or organising and supporting events such as public health campaigns. Educate local communities about the importance of proper antibiotic use in humans and animals, and advise on proper disposal and management practices.
- **Stay Updated on the Best Practices** for responsible antibiotic use by participating in educational programs and training sessions.
- **Actively Participate in Research and Innovation** related to AMR, such as exploring alternative and effective treatments, epidemiological studies of diseases, and diagnostic methods.
- **Engage in Policy and Advocacy activities:** Participate in developing national and regional policies and guidelines related to AMR and advocate for their implementation.
- **Contribute to AMR Surveillance** efforts by transparently sharing data on antibiotic use, resistance patterns, and patients' health.
- **Collaborate Interprofessionally:** Facilitate interprofessional partnerships between healthcare professionals, professional associations, student associations, and other organisations working to combat AMR, fostering knowledge exchange and collaboration to optimise antimicrobial therapy.

## Conclusions

The fight against AMR requires a multi-pronged, collaborative effort across all stakeholders. This paper highlights the critical roles of European governments, healthcare institutions, academia, pharmaceutical companies, veterinarians, and pharmacists.

We can create a more unified European front against AMR by implementing the proposed actions.

Key focus areas include

- **Strengthened Policy and Regulation:** Collaborative international policies, a robust regulatory framework for antibiotic use, and investment in infrastructure are crucial.
- **Enhanced Education and Awareness:** Educational efforts targeting healthcare professionals, the public, and farmers are essential. Curricula for healthcare students should be revamped to include in-depth training on AMR. Public awareness campaigns can promote responsible antibiotic use and completion of prescribed courses.
- **Research and Development:** Increased funding and collaboration are necessary to develop new antibiotics, alternative treatments, and improved diagnostics.
- **One Health collaboration:** Fostering collaboration among human, animal, and environmental health sectors is critical to address the interconnectedness of AMR.
- **Responsible Practices:** Veterinarians and pharmacists play a key role by prescribing antibiotics judiciously, promoting preventive strategies, and educating clients. Pharmaceutical companies must prioritise responsible manufacturing and research & development of new treatments.

By working together, we can ensure the continued effectiveness of antibiotics and safeguard human, animal, and environmental health for future generations.

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## Stakeholders List

<b>Organisations/ Stakeholders</b>	<b>Contact and who contacts them? *</b>	<b>What are their working areas / what is our plan for them?</b>
ECDC (European Center for Diseases Control)	EPSA	infectious diseases / we can send an email
EMA (European Medicines Agency)	EPSA	Medicines, for public and animal health / we can send an email
FVE (Federation of Veterinarians of Europe)	IVSA	
FECAVA (Federation of European Companion Animal Veterinary Associations)	IVSA	
EAEVE	IVSA	
PGEU (Pharmaceutical group of the European Union)	EPSA	Community pharmacy, public health / contact through the EPSA intern
EPHA (European Public Health Alliance)		
EFSA		
European Commission	EPSA	We can contact them via email
EAHP (European Association of Hospital Pharmacists)	EPSA	Hospital pharmacy, public health / contact through the EPSA intern
Health First Europe	EPSA	(they are very interested in collaborating with us on a Manifesto regarding European Elections, we can implement our key asks there)
Members of the European Parliament Relevant MEPs:	EPSA	
EAFP (European Association of Faculties of Pharmacies)	EPSA	
European Healthcare Students Organisations (EDSA (dental), EMSA (medical), EFPSA (psychological), ENSA (nurses))	EPSA	Healthcare student organisations / we can contact them through EHSA connections
National Institutes of Health (NIH)		
Vaccines Europe	EPSA	Vaccines, access to treatment / contact through the EPSA intern

Vaccines today		
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\*What I propose is to have the statement and request for collaboration sent by the person interacting the most with them for example FVE it would be IVSA, or PGEU it would be EPSA (and we should always put the other association in CC). I will put EPSA to all our stakeholders, if you also collaborate with them, please also put in IVSA and we can split and define to who we reach out after :)

European Union Council?