

Position Paper on the PHARMACEUTICAL STRATEGY FOR EUROPE

Antimicrobial Resistance (AMR) represents a global health threat, which continues to worsen, despite the emerging realisation of the severity and magnitude of this problem, including beyond expert spheres. Furthermore, the coronavirus (COVID-19) pandemic has seen an increase in the use of antibiotics, a lack of antimicrobial stewardship, and capacity challenges in terms of syndromic testing, thus having the unintended consequence of AMR spreading further, particularly in low- and middle-income countries (LMICs), but also across Europe.

The European Commission's new [Pharmaceutical Strategy for Europe](#) proposes a series of actions that are either directly aimed at combating AMR or that are relevant in the fight against AMR. These proposed initiatives are a step in the right direction, which ought to be celebrated. Nevertheless, their scope and ambition largely remain to be assessed. It is, therefore, essential that the vision laid out in the Pharmaceutical Strategy is turned into reality and concrete actions, with sound monitoring of the ways in which they contribute towards combating this global health threat.

One of the key elements mentioned in the Pharmaceutical Strategy is the need to stimulate patient-centred innovation in areas of unmet need, such as the development of new antimicrobial options, both medicinal treatments and vaccines. In relation to the antimicrobial innovation pipeline, the document calls for new business approaches. This should include new pricing systems and new incentives to develop antimicrobials, as well as evidence-based guidance on existing and new diagnostics, and the promotion of prudent use of antibiotics. At the same time, the Commission has noted a worrying lack of transparency of research costs or return on investment that can influence decisions impacting affordability and ultimately access for patients. On this basis, it proposes to review the system of incentives, which may include greater 'conditionality' of incentives to support broader access for patients and ways to increase competition.

The Commission also notes that action is required throughout the lifecycle of medicines to reduce resource use, emissions and levels of pharmaceutical residues in the environment. Concern is expressed given the rising levels of antimicrobials present in water and soil, as this may play a role in accelerating the development and spread of resistant strains of bacteria. Currently, pharmaceutical plants can act as hotspots of activity resulting in the [release of large amounts of antibiotics into the environment](#).

Recommendations

Recommendation 1: Empower and bring together all health professionals

Health professionals are key in the fight against AMR, both in terms of directly influencing the consumption of antibiotics they prescribe and provide, and in terms of behavioural change in consumption patterns for the general public, by raising awareness and bridging information asymmetry. Given the critical role of health professionals, the undersigned stakeholders draw attention to the need for stewardship programmes that bring together all health professionals ensuring interprofessional training and collaboration.

These kinds of programmes involve structural costs (e.g. case audits, stewardship meetings). EU funds should be made available to concretely support such programmes, as they will benefit EU countries across borders. Collaboration across specialisations and professions, including those focusing on different species (animals and plants), should provide a solid foundation for tackling AMR from a One Health perspective. This should include good practice sharing and learning opportunities. In this context, mobility of health professionals in the EU should be considered for more concrete collaboration between health professionals, from different countries and different health systems.

Recommendation 2: Explore new business models, better fit for the antimicrobial market and antimicrobial management

The Pharmaceutical Strategy acknowledges the need for new antimicrobials and for new business models in the development of antimicrobials, stimulated by new incentives and pricing mechanisms.

These new incentives and pricing mechanisms should not be limited to new antimicrobials but also to creating mechanisms to reward an optimised care management. An AMR management, which includes the use of advanced technologies to avoid the spread of bacterial infection and to obtain a timely and well-informed status of bacterial infections, which will in turn enable preventive measures of further colonization and appropriate stewardship of antibiotics, should be considered as part of the solutions to focus on. The Research & Innovation initiatives should be fostered to provide EU level evidence-based guidance on existing and new diagnostics and the use of advanced technologies (incl. AI) in the management of AMR.

The undersigned stakeholders critically note that no new class of antibiotics has been discovered in over 30 years. Continuing to use the existing market-based business model of the pharmaceutical industry needs to be critically examined and structurally changed. Product Development Partnerships represent one of the models that has successfully de-risked R&D investment and built affordability and access into the business model.

The undersigned stakeholders support innovative approaches in this area but regret that the principle of delinkage is not more prominently focused and elaborated upon, as we consider it represents a promising and effective R&D financing model to be systematically explored and pursued. The importance and relevance of this aspect has already been highlighted by the

agreement in the Political Declaration of the high-level meeting of the UN General Assembly on antimicrobial resistance in 2016; delinking the cost of investment in R&D on AMR from the price and volume of sales can facilitate equitable and affordable access to new medicines, diagnostic tools, vaccines and other results to be gained through R&D, whereas, so far, pull incentives have in general received an inordinate amount of attention given the state of the current clinical pipeline for antibiotics. [The Declaration](#), to which all UN Member States have agreed, emphasises the importance of ensuring full delinkage of R&D costs from sale revenues - i.e., sales volumes and prices - to address problems with affordable access as well as ensure stewardship to slow down the development of resistance.

Moreover, the new approaches need to give a clearer impetus to businesses to focus their R&D efforts on the areas of high need and priority as set out by the WHO's priority Pathogen's List. Effective and efficient R&D that is truly based on global health needs can only be developed through coordination at the EU level. Comparing the WHO Priority Pathogens List with the antibiotics currently in the clinical pipeline, one notes not only the scarcity of new drugs but also and particularly the unaddressed threat of priority pathogens. The EU should signal the importance of specific pathogens and encourage directing resources towards them. This is in line with the WHO recommendation that targeting priority pathogens be one of the key points to consider in developing new antibiotics, together with overcoming existing resistance and addressing a public health need.

Recommendation 3: Reduce dependence on antibiotics through consumption targets, prevention activities, research into non-antibiotic options and practices

The development of antimicrobial resistance is a naturally occurring phenomenon and avoiding unnecessary use of antimicrobials is one of the crucial ways to delay its development. The undersigned stakeholders regret that the Strategy does not propose to set EU-wide consumption targets to reduce inappropriate prescribing practices and calls on the Commission to follow up with concrete action on its proposal to introduce measures to restrict and optimise the use of antimicrobial medicines by 2022.

Communication towards the general public and health professionals should focus on both informing them on appropriate use of antimicrobials and the correct disposal of unused medicines. Sound empowerment across communities and investment in primary care to engage and raise awareness in professionals and citizens alike is of paramount importance. The integration of public health and primary care can contribute towards developing and deploying context-relevant health promotion and prevention programmes, also, encompassing behavioural change and communication on the risks of inappropriate antibiotic prescription and consumption. Furthermore, the role of life-course immunization and the benefits of vaccination ought to be systematically discussed in the context of AMR countermeasures.

There exists a body of evidence on the role health promotion and prevention can play in combating this challenge, therefore, systematic efforts and investment is required to identify best practices and to promote them across the levels of care, including via the integration of primary and public health priorities.

Recommendation 4: Strengthen institutions and clarify the role of HERA

The COVID19 crisis has highlighted the need for a stronger and more resilient institutional setup. As part of this, the European Health Union package proposes to extend the role of the EMA to monitor shortages and of the ECDC to provide support to Member States and the Commission. Both initiatives are supported by the undersigned stakeholders.

The undersigned stakeholders also closely follow the development of the new Health Emergency Preparedness and Response Authority (HERA). Given that AMR is [recognised by EU law as a serious cross-border threat](#) to health that requires concerted EU action, and clear competence in terms of actions in veterinary issues, food safety and research, if it is assessed that HERA would hold an advantage in tackling AMR compared to other already-existing and ongoing efforts at EU level, the undersigned stakeholders would support making it a coordinating and centralising body in this field. To this end, it should systematically explore how subsidies and incentives for development of new antibiotics can transform the current landscape. More attention and effort is required to determine which mechanisms can be the most effective in stimulating the pipeline for priority pathogens, whilst guaranteeing access to and affordability of new and existing antimicrobial products, giving due consideration to stewardship too.

Although AMR is a complex and cross-sectoral issue, unclear mandates run the risk of diluting responsibility and policy initiatives. Furthermore, all R&D efforts ought to be both needs-driven, and evidence-based, aligned to European values and needs.

Recommendation 5: Walk the talk on environmentally sustainable antibiotics

The Pharmaceutical Strategy for Europe holds significant potential to drive sustainability in the pharmaceutical sector. As the second largest market in the world for pharmaceuticals, the EU has a significant responsibility to take measures to reduce harm to our health and our environment.

The undersigned stakeholders call on the Commission to include environmental criteria in the Good Manufacturing Practices (GMP) framework to control antibiotic manufacturing discharges and to make it compulsory for pharmaceutical companies to disclose supply chain information regarding the origin of antibiotic Active Pharmaceutical Ingredients (APIs) to ensure oversight.

It also calls on the Commission to be ambitious in its reform of the environmental risk assessments of human medicinal products by including them in the benefit-risk assessment and broadening their scope to encompass all environmental risks, including those of antibiotic manufacturing discharges and of increased AMR emerging from the production stage to the final usage of medicines.

Finally, it needs to be recognised that the reduction in harm to the environment and patients from pharmaceuticals will also result from promoting interdisciplinary research across all the areas for which innovation is required to adopt measures and better comprehend how the goal of a healthier and more resilient population can be reached. Such effort ought to encompass R&D, as well as systematic efforts for the introduction of greener medicines.

Recommendation 6: Explore the role of health promotion and prevention, and patient resilience as a strategy of prevention

Since infection is always the result of two factors — exposure to a microbe and the person's susceptibility — building up resilience by maintaining an effective and balanced immune system is an effective coping mechanism that offers a sustainable prevention strategy for the population.

There is ample evidence that mental health issues and psychological stress, poor sleep, and sedentary lifestyle can attenuate the immune system. Also, decreased diversity of the microbiota, e.g. due to antibiotic exposure, negatively impacts patient resilience.

Studies show that the strengthening of humans' and animals' resilience to infections is one of the factors that can lead to the prescription and consumption of fewer antibiotics. General healthy-living strategies are likely to help immune function and come with other proven health benefits. Health promotion can help people change their lifestyle towards a state of optimal health, a naturally reinforced immune system and stronger health resilience. Health promotion and patient resilience should thus be an integral part of any strategy to prevent and tackle AMR, alongside sound preparedness and surveillance, as well as vaccine development.

The undersigned stakeholders therefore call for more research investment to explore the role of wellbeing and resilience at individual, family, and community levels., i.e. the effects of diet, exercise, age, psychological stress, and other factors on the immune response, organic food, in humans, animals, and plants.

A more healthy and resilient population (humans, animals, and plants within a 'One Health' perspective) will result in a reduction of the number of cases that need to rely on the use of antibiotics.

Supporting Organisations:

1. Association Nationale Des Etudiants en Pharmacie de France (ANEPF)
2. Association of Natural Medicine in Europe (ANME)
3. Biotech Companies in Europe Combatting Antimicrobial Resistance (BEAM Alliance)
4. European Complementary and Alternative Medicine Platform (EUROCAM)
5. European Committee for Homeopathy (ECH)
6. European Forum for Primary Care (EFPC)
7. European Hospital and Healthcare Federation (HOPE)
8. European Midwives Association (EMA)
9. European Pharmaceutical Students' Association (EPSA)
10. European Public Health Alliance (EPHA)
11. European Public Health Association (EUPHA)
12. European Specialist Nurses Organisation (ESNO)
13. Federation of European Academies of Medicine (FEAM)
14. Health Care Without Harm (HCWH) Europe
15. International Association of Veterinary Homeopathy (IAVH)
16. International Federation of Anthroposophic Medical Associations (IVAA)
17. Karkinaki: Awareness for Childhood & Adolescent Cancer
18. Malta Health Network (MHN)
19. Norwegian Cancer Society (NCS)

