

MANAGING ANTIMICROBIAL RESISTANCE ACROSS THE HEALTH SYSTEM

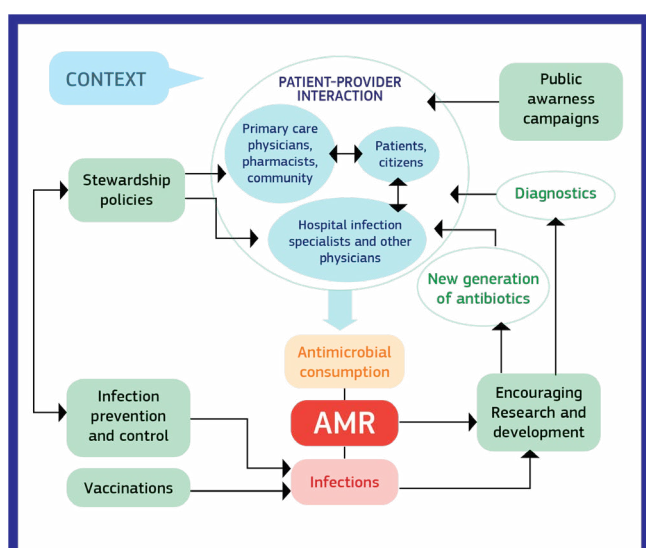
Fact sheet accompanying the Opinion by the Expert Panel on effective ways of investing in health (EXPH)

AMR IS A THREAT TO HUMAN HEALTH

Antimicrobial resistance (AMR) is recognised as a major contributor to disease burden now and one of the greatest threats to human health in the future. Moreover, AMR is a cross sectoral issue and needs to be addressed through a One Health approach, acknowledging the interlinkages between humans, animals, plants and the environment. If action isn't taken, this could lead to increased number of deaths from diseases and infections which are currently treated with antibiotics. Data from many parts of the world, including many high-income countries, are missing or incomplete. Based on combined data from a wide range of sources, it is estimated that 4.95 million deaths were associated with bacterial AMR globally in 2019 and 1.27 million deaths were attributable to it¹. Evidence suggests a clear association between antibiotic consumption and rates of resistance. In the EU, the consumption of antibiotics is monitored for both humans and food-producing animals.

WHAT IS AMR?

Antimicrobial resistance (AMR) is the ability of microorganisms, such as bacteria, to become increasingly resistant to an antimicrobial to which they were previously susceptible. AMR is a consequence of natural selection and genetic mutation. Such mutation is then passed on conferring resistance. This natural selection process is exacerbated by human factors such as inappropriate use of antimicrobials in human and veterinary medicine, poor hygiene conditions and practices in healthcare settings or in the food chain facilitating the transmission of resistant microorganisms. Over time, this makes antimicrobials less effective and ultimately useless.



A HEALTH SYSTEM PERSPECTIVE SHEDS LIGHT ON POSSIBLE POLICY INTERVENTIONS

The levels of infections and antimicrobial consumption are the two key determinants of AMR. Infections can be reduced through prevention and control, and through vaccination. Within the health system, antimicrobial consumption is prescribed both in hospitals, where infections are more severe, and in primary care (e.g. by a family doctor). Antimicrobial consumption is the outcome of the interaction between the patient and the healthcare provider, guided by the availability of diagnostic tools and range of available antibiotics. The patient-provider interaction can be influenced by stewardship policies aimed at altering the behaviour of prescribers, and by public awareness campaigns aimed at changing patients' attitudes. Innovative policies and mechanisms that stimulate research and development can facilitate the availability of new antimicrobials and the availability of new diagnostic tools for better precision of the prescribed antimicrobials.

WHAT ISSUES ARE COVERED IN THIS OPINION?

In this opinion, the Expert Panel identifies elements and conditions of effective management of AMR across the health system that could translate into policy interventions and National Action Plans. They consider new technologies such as apps and in vitro diagnostics as well as areas for urgent investment in the health system to tackle AMR. The opinion also highlights concrete strategies to implement existing and planned policies in the fight against AMR.

RECOMMENDATIONS

In developing our recommendations, we recognise the considerable work that has already taken place, and in particular, the commitments set out in the European One Health Action Plan against AMR², which we fully endorse. Consequently, we do not seek to repeat what is in that plan, but rather to go beyond it.

All member states should ensure that they have comprehensive, up-to-date National Action Plans to tackle AMR and robust governance arrangements in place to implement them.

While governance systems are specific to national contexts, the following key principles could apply to all:

THIS REQUIRES:

- **Transparency** with near real-time reporting of data on AMR and on the implementation conditions.
- **Accountability** with clear reporting lines to all competent authorities.
- **Participation** should ensure that all relevant stakeholders are included.
- **Integrity**, underpinned by an appropriate legal framework and measures to enforce compliance where required.
- **Capacity** to monitor the AMR situation, identify challenges, and act on them.

While recognising the different competencies given to the European Union by the Treaties in the areas of human and animal health, we recommend that the European Commission be more ambitious in taking advantage of the opportunities that exist to bring the two together, consistent with the concept of One Health.

The Expert Panel understands the historical and political reasons why animal and human health have been treated differently in the Treaties, reflecting the differing implications for the single market and the application of the principle of subsidiarity. However, these differences are of no concern to the microorganisms that move between humans and animals.

The Expert Panel notes, with approval, measures that have been adopted to restrict the use of some antibiotics to humans, enacted under food safety provisions³. The requirement that “A high level of human health protection shall be ensured in the definition and implementation of all Union policies and activities”, set out in Art. 168 TFEU, coupled with the 2016 Council Conclusions on a One Health approach offers the potential to do more to develop a One Health approach to AMR. Actions could involve legislation where this is possible but, where it is not, other measures, including research and the exchange of knowledge⁴.

The European Commission should prioritise the development of a comprehensive set of indicators and structured data to measure progress on tackling AMR, ensuring integration with relevant regulatory data collection requirements.

The European Commission, in its One Health Action Plan against AMR, committed to defining a limited number of key outcome indicators to measure progress in the fight against AMR. However, as noted in a 2019 report by the Court of Auditors, these outcome indicators were not consistently used by Member States. It is essential that this is prioritised but beyond the commitment in the Action Plan. The Expert Panel recommends that these indicators are integrated in relevant regulatory frameworks.

Member States should focus research on understanding why policies and practices on their territories continue to create risks of AMR and the European Commission should support exchange of the knowledge in this field.

The Expert Panel recommends that Member States establish programmes of research that seek to understand the structural factors that underlie inappropriate practices in the use of antimicrobials. Such programmes might cover clinical decision-making, integration of innovations in testing and medical technologies into clinical practice, the expansion of roles of pharmacists, a critical approach towards reimbursement strategies, and the use of insights from behavioural sciences, psychology, and marketing research.

The European Commission should conduct a foresight exercise to inform future policy on AMR.

Foresight exercises offer a means to convene expert knowledge to develop potential future scenarios and to develop responses to them. The Expert Panel calls on the European Commission to identify conditions now and in the future that increase the risk of AMR.

1 [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(21\)02724-0/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)02724-0/fulltext)

2 https://health.ec.europa.eu/system/files/2020-01/amr_2017_action_plan_0.pdf

3 <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32022R1255>

4 https://health.ec.europa.eu/antimicrobial-resistance/eu-action-antimicrobial-resistance_en



About the Expert Panel on effective ways of investing in health: The Expert Panel's mission is to provide sound and independent advice in the form of opinions in response to questions (mandates) submitted by the Commission on matters related to health care. The opinions of the Expert Panel present the views of the independent scientists who are members of the Expert Panel. They do not necessarily reflect the views of the European Commission. For more information and to read the opinions in full: [Opinions | Public Health \(europa.eu\)](#)