



Plenary sitting

B9-0258/2023/REV

31.5.2023

MOTION FOR A RESOLUTION

to wind up the debate on the statements by the Council and the Commission

pursuant to Rule 132(2) of the Rules of Procedure

on EU action to combat antimicrobial resistance
(2023/2703(RSP))

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European Parliament resolution on EU action to combat antimicrobial resistance (2023/2703(RSP))

The European Parliament,

- having regard to the Treaty on the Functioning of the European Union (TFEU), and in particular Article 168 thereof,
 - having regard to the Commission proposal of 26 April 2023 for a Council recommendation on stepping up EU actions to combat antimicrobial resistance in a One Health approach (COM(2023)0191),
 - having regard to its resolution of 13 September 2018 on a European One Health Action Plan against Antimicrobial Resistance (AMR)¹,
 - having regard to its resolution of 24 November 2021 on a pharmaceutical strategy for Europe²,
 - having regard to Rule 132(2) of its Rules of Procedure,
- A. whereas in July 2022, the Commission, together with the Member States, identified antimicrobial resistance (AMR) as one of the top three priority health threats in the EU³; whereas it is estimated that more than 35 000 people in the EU/EEA and more than 1.2 million people globally⁴ die each year as a direct consequence of an infection due to bacteria resistant to antibiotics; whereas the health impact of AMR is comparable to that of influenza, tuberculosis and HIV/AIDS combined and the trends in the latest data⁵ show a significant increase in the number of infections and attributable deaths for almost all bacterium-antibiotic resistance combinations, especially in healthcare settings, where around 70 % of cases of infections with antibiotic-resistant bacteria were healthcare-associated infections;
- B. whereas if no further action is taken, the global AMR death toll by 2050 could reach more than 10 million annually, higher than the expected number of deaths from cancer and diabetes combined, and could cause economic damage as catastrophic as the 2008-

¹ OJ C 433, 23.12.2019, p. 153.

² OJ C 224, 8.6.2022, p. 47.

³ https://health.ec.europa.eu/publications/hera-factsheet-health-union-identifying-top-3-priority-health-threats_en.

⁴ Murray, C.J.L., Ikuta, K.S., Sharara, F., et al. 'Global burden of bacterial antimicrobial resistance in 2019: a systematic analysis', *Lancet*, Vol. 399, No 10325, pp. 629-655: [www.thelancet.com/journals/lancet/article/PIIS0140-6736\(21\)02724-0/fulltext](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)02724-0/fulltext).

⁵ <https://www.ecdc.europa.eu/sites/default/files/documents/Health-burden-infections-antibiotic-resistant-bacteria.pdf> <https://www.ecdc.europa.eu/sites/default/files/documents/Health-burden-infections-antibiotic-resistant-bacteria.pdf> <https://www.ecdc.europa.eu/sites/default/files/documents/Health-burden-infections-antibiotic-resistant-bacteria.pdf>

2009 global financial crisis;

- C. whereas AMR has serious human health and economic consequences for healthcare systems as, by reducing the ability to prevent and treat infectious diseases, it threatens, among other things, the ability to perform surgery, the treatment of immunocompromised patients, organ transplantation and cancer therapy and results in high costs to the healthcare systems of EU/EEA countries⁶, which are already under pressure as a result of factors such as the COVID-19 pandemic; whereas AMR is also a threat to food safety and food security because of its impact on animal health and production systems;
- D. whereas, although AMR affects the Member States differently, action at EU level to address AMR can deliver clear added value, since no single Member State alone can provide an adequate solution to this cross-border and global issue;
- E. whereas AMR is a ‘One Health’ issue, meaning that it encompasses human health, animal health and the environment, and is a multifaceted cross-border threat to health that cannot be tackled by one sector independently or by individual countries alone, as combating AMR requires a high level of collaboration across sectors and between countries, including at global level;
- F. whereas the Commission communication of 29 June 2017 entitled ‘A European One Health Action Plan against Antimicrobial Resistance (AMR)’ (‘2017 AMR Action Plan’) (COM(2017)0339)⁷ outlines over 70 actions covering human health, animal health and the environment, whose progress has been regularly monitored⁸; whereas further action is needed, however, in all three components of the One Health triad to successfully address the threat of AMR; whereas this requires the Commission and the Member States to pay more attention to these areas and to engage with and foster collaboration between the human health, animal health, food, water and environmental sectors;
- G. whereas the EU4Health programme offers investment to combat AMR, in particular through direct grants to Member State authorities for the implementation of measures concerning AMR, such as One Health AMR national action plans (NAPs), infection prevention and the control of both community-acquired and healthcare-associated infections, as well as antimicrobial stewardship strategies, which should serve to support the implementation of the Council recommendation across the Member States;
- H. whereas the Horizon Europe programme will provide support for research and innovation actions and a One Health partnership on AMR⁹, while financing from the

⁶ <https://www.ecdc.europa.eu/en/news-events/eaad-2022-launch>.

⁷ <https://www.oecd.org/health/health-systems/AMR-Tackling-the-Burden-in-the-EU-OECD-ECDC-Briefing-Note-2019.pdf><https://www.oecd.org/health/health-systems/AMR-Tackling-the-Burden-in-the-EU-OECD-ECDC-Briefing-Note-2019.pdf>.

⁸ https://health.ec.europa.eu/system/files/2020-01/amr_2017_action_plan_0.pdf.

⁹ https://cordis.europa.eu/programme/id/HORIZON_HORIZON-HLTH-2024-DISEASE-09-01;

https://research-and-innovation.ec.europa.eu/system/files/2022-02/ec_rtd_he-partnerships-

European Investment Bank¹⁰ and assistance under the Technical Support Instrument¹¹ could provide additional support for the implementation of the Council recommendation;

- I. whereas the One Health AMR NAPs, if adequately funded, are essential for a coordinated AMR response across sectors; whereas, in the 2016 political declaration of the high-level meeting of the General Assembly on antimicrobial resistance¹², the UN member states committed to working at national, regional and global levels to develop, in accordance with World Health Assembly resolution 68.7, multisector action plans, in line with a One Health approach and the global action plan on AMR¹³;
- J. whereas, in its overview report of 18 October 2022¹⁴, the Commission found that, while national action plans are in place in all the Member States and most are based on a One Health approach at least to some extent, these vary considerably in content and detail, and concluded that many Member States should adopt more of a One Health approach, particularly regarding measures concerning the environment, which are often missing or not well developed; whereas most NAPs mention an intersectoral coordination mechanism, a key component of the One Health approach, but this mechanism often lacks a clear structure, mandate and composition; whereas One Health aspects of certain NAPs include the education and training of staff in charge of managing water in the environment, in particular wastewater treatment linked to residues from the production and usage of medicines, the reduction of untreated hospital waste and the collection of unused medicines from households and antimicrobials from farms; whereas, furthermore, core components such as the operational, monitoring and evaluation parts are generally not well developed in the NAPs themselves nor available in related documents, and budgeting information is mostly absent from the NAPs;
- K. whereas concerns have been raised about the sustainable implementation of the Member States' NAPs and the arrangements in place in the Member States to ensure that their strategic objectives are achieved effectively; whereas the Member States should therefore ensure that they have an NAP based on the One Health approach, underpinned by an appropriate structure and with specific monitoring and resources assigned for each activity;
- L. whereas robust surveillance and monitoring of AMR and antimicrobial consumption (AMC) at all levels in human health, but also in the veterinary, plant and environmental sectors, as well as water, sanitation and wastewater management measures, are crucial to assess the spread of AMR, support the prudent use of antimicrobials and inform

[onehealth- amr.pdf](https://research-and-innovation.ec.europa.eu/system/files/2022-02/ec_rtd_he-partnerships-onehealth-amr.pdf)[https://research-and-innovation.ec.europa.eu/system/files/2022-02/ec_rtd_he-partnerships-onehealth- amr.pdf](https://research-and-innovation.ec.europa.eu/system/files/2022-02/ec_rtd_he-partnerships-onehealth-amr.pdf).

¹⁰ <https://www.eib.org/en/index.htm>.

¹¹ <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32021R0240> Regulation (EU) 2021/240 of the European Parliament and of the Council of 10 February 2021 establishing a Technical Support Instrument (OJ L 57, 18.2.2021, p. 1).

¹² <https://digitallibrary.un.org/record/845917#record-files-collapse-header>.

¹³ <https://www.who.int/publications/i/item/9789241509763>.

¹⁴ https://health.ec.europa.eu/publications/overview-report-member-states-one-health-national-action-plans-against-antimicrobial-resistance_en.

infection prevention and control responses;

- M. whereas a crucial component in infection prevention and control planning, identifying trends and addressing AMR is sound and comparable data on antimicrobial use, administration, disposal and sources, as well as sound and comparable data on the take-up and development of new and innovative antimicrobial treatments; whereas the Member States should consider the establishment of a one-stop-shop platform for this data and should contemplate the potential role of the European Health Emergency Response Authority (HERA) or the European Centre for Disease Prevention and Control (ECDC) in this regard;
- N. whereas the Member States have to collect relevant and comparable data on the volume of sales of veterinary antimicrobial medicinal products and the use of antimicrobial medicinal products per animal species; whereas the application and implementation of Regulation (EU) 2022/2371¹⁵ makes it possible to improve the collection of comparable and compatible data and information on AMR and AMC; whereas further action by the Member States is necessary to close existing surveillance and monitoring gaps and to ensure the completeness of data on both AMR and AMC at all levels, including by recommending data to be reported, exploring the potential of increasing the harmonisation of guidelines on the frequency of data updates, approaches to data analysis and the levels of detail in data reporting, and developing integrated systems for the surveillance of AMR and AMC that encompasses human health, animal health, plant health, food, wastewater and the environment;
- O. whereas the relative importance of all potential reservoirs and transmission routes for AMR is not yet known, and in recognition of the fact that full surveillance of the spread of AMR is not feasible, more primary research is still needed for the purpose of refining surveillance and monitoring of AMR and particularly to facilitate evidence-based decision-making in this regard;
- P. whereas the science of surveillance and monitoring is not static, and research into this should therefore be given high priority to ensure that relevant methodologies are applied;
- Q. whereas more evidence is needed on the development and spread of AMR through the exposure of pathogens to plant protection products and biocidal products; whereas the possibility of such resistance development should be taken into account as part of the safety evaluations and decision-making for plant protection products and biocidal products; whereas the Member States should, with assistance from the Commission, consider means of collecting valuable and comparable data on the potential causal link between plant protection products, biocides and AMR, as well as the role that the European Food Safety Authority (EFSA) and the European Chemicals Agency (ECHA) could have in evaluating this data and identifying EU-wide trends;
- R. whereas the environmental dimensions of AMR have been afforded less attention than AMR in human or animal health; whereas the 2023 UN Environmental Programme

¹⁵ Regulation (EU) 2022/2371 of the European Parliament and of the Council of 23 November 2022 on serious cross-border threats to health and repealing Decision No 1082/2013/EU (OJ L 314, 6.12.2022, p. 26).

report ‘Bracing for Superbugs: Strengthening environmental action in the One Health response to AMR’ provides evidence that the environment plays a key role in the development, transmission and spread of AMR and is a vital part of the solution for tackling AMR¹⁶; whereas the environmental dimensions of AMR include pollution from hospital and community wastewater, effluent from pharmaceutical production, run-off originating from plant and animal agriculture and other forms of waste and release; whereas the environmental monitoring of AMR in freshwater, wastewater, marine water and agricultural soils is essential to further understand the role that the presence in the environment of antimicrobial residues plays in the emergence and spread of AMR, the levels of environmental contamination and the risks posed to human health; whereas monitoring is also essential to complement clinical data by providing population-based data from the environmental surveillance of wastewater, using material sampled from a large population;

- S. whereas residues of medicinal products, notably from pharmaceutical industries and hospitals, and from wastewater treatment plants¹⁷, are widely found in freshwater (surface water and groundwater) and soils, and several publications have shown that various pharmaceuticals (including antibiotics), microplastics, metals and other chemicals can contribute to AMR;
- T. whereas the actions developed through AMR NAPs should include setting and monitoring effluent standards, working with production, water and wastewater engineers to promote the most suitable mitigation technologies to reduce AMR pollution, increasing inspections, improving system maintenance, taking greater responsibility for wastewater management and promoting the circular economy; whereas it is also necessary to develop robust surveillance of AMR in wastewater as a means of providing integrated information about AMR in the communities served and addressing a key need for environmental monitoring, while also informing the research needed to set appropriate discharge limits;
- U. whereas the Commission proposals of autumn 2022¹⁸ aim at strengthening the environmental monitoring of AMR in freshwater, wastewater and agricultural soils, but the need to engage in an integrated AMR One Health approach for surveillance systems, including the environment, has also been recognised¹⁹; whereas the integrated surveillance of findings on drug-resistant microorganisms in humans, animals, plants, food, wastewater and the environment is necessary in order to prevent, rapidly detect and manage infectious disease outbreaks and to tackle AMR across sectors, including through engagement with relevant branches of academia, and whereas closer cooperation across these sectors may also lead to financial savings; whereas this process

¹⁶ <https://www.unep.org/resources/superbugs/environmental-action>.

¹⁷ <https://www.nature.com/articles/s41579-021-00649-x.pdf>, p. 266.

¹⁸ Commission proposal of 26 October 2022 for a directive of the European Parliament and of the Council amending Directive 2000/60/EC establishing a framework for Community action in the field of water policy, Directive 2006/118/EC on the protection of groundwater against pollution and deterioration and Directive 2008/105/EC on environmental quality standards in the field of water policy (COM(2022)0540) and Commission proposal of 26 October 2022 for a directive of the European Parliament and of the Council concerning urban wastewater treatment (recast) (COM(2022)0541).

¹⁹ Study – ‘Study on a future-proofing analysis of the 2017 EU AMR Action Plan’, European Commission, Directorate-General for Health and Food Safety, November 2022.

involves sharing data and information across sectors for a more effective and coordinated approach to combating AMR; whereas the data provided by these surveillance systems can enhance the understanding of the complex epidemiology of AMR and provide information to carry out risk assessments that can guide policy recommendations and help to develop initiatives to respond to AMR risks before they become large-scale emergencies;

- V. whereas robust infection prevention and control, in particular in acute care settings such as hospitals and in long-term care facilities, can contribute to fighting AMR, not least as the COVID-19 pandemic has heightened awareness of how infection prevention and control, including water, sanitation and hygiene measures (WASH), can reduce the transmission of microbes, including resistant ones; whereas, nevertheless, with over 70 % of the AMR burden coming from healthcare-associated infections, there is a need for greater provision and investment in developing high standards of infection prevention and control and safe WASH, through a strong commitment to the global infection protection and control strategy, increased stewardship opportunities for healthcare professionals, high standards of patient safety and direct investments by the Member States this area;
- W. whereas the efforts to fight AMR are also undermined by the increasingly common shortages of antibiotics worldwide and prescribers having to resort to alternative antimicrobials owing to the unavailability of the most appropriate and fit-for-purpose agents, resulting in drug-resistant infections and contributing to the burden of AMR; whereas there is, therefore, an urgent need to prevent and manage worsening medicine shortages;
- X. whereas it is well recognised that the inappropriate use of antimicrobials, as well as inadequate infection and prevention control, both in humans and in animals, are the main drivers behind increased levels of AMR; whereas there are nevertheless consistent reports of shortcomings in ensuring high levels of antimicrobial stewardship across the Member States; whereas the prudent use of antimicrobials and high standards of infection prevention and control at community level and in hospitals and long-term care facilities are essential aspects in reducing the emergence and development of AMR; whereas the Council recommendation complements the revision of the Union's pharmaceutical legislation, which proposes introducing, in the revised directive on the Union code relating to medicinal products for human use²⁰, specific regulatory measures to enhance the prudent use of antimicrobials;
- Y. whereas estimates show that 8 % of all antibiotics for human use are consumed without a prescription in the EU²¹; whereas the World Health Organization (WHO) surveyed EU-neighbouring countries from its European Region and estimated that as many as one in three people in those countries consume antibiotics without a medical prescription²²,

²⁰ Commission proposal of 26 April 2023 for a directive of the European Parliament and of the Council on the Union code relating to medicinal products for human use, and repealing Directive 2001/83/EC and Directive 2009/35/EC (COM(2023)0192).

²¹ 'Data on antimicrobial resistance (AMR): use of antibiotics in the EU decreases but more needs to be done', European Commission, 17 November 2022: https://ec.europa.eu/commission/presscorner/detail/en/IP_22_6951.

²² '1 in 3 use antibiotics without prescription, WHO/Europe's study shows', World Health Organization,

the main methods for obtaining antibiotics being buying them without a prescription at home or abroad (despite the applicable law), using leftovers or obtaining them from friends and family²³;

- Z. whereas the EU Joint Action on Antimicrobial Resistance and Healthcare-Associated Infections (EU-JAMRAI) identified a lack of efficient tools to influence the implementation of AMR stewardship at both country and European healthcare system levels²⁴; whereas there is a need to develop the core elements of European antibiotic stewardship programmes in order to translate them into practical and achievable policies at Member State and EU levels;
- AA. whereas AMR leads to increased morbidity and mortality of animals and endangers animal health, welfare and, therefore, productivity, meaning that it has a major socio-economic impact on the agricultural sector; whereas the safety of the food chain is affected by the health and welfare of animals, particularly those farmed for food production; whereas ensuring a high level of animal health and welfare leads to improved resilience in animals, making them less vulnerable to diseases, which helps to decrease antimicrobial use; whereas, when animal or human health is at risk, animal producers and veterinarians should nevertheless, as a last resort, have the option of making an appropriate use of antibiotics outside of the reserve list for human use;
- AB. whereas the European agricultural and animal-rearing sectors have already taken significant measures and achieved significant reductions in AMR risks, notably by prioritising the therapeutic use of antibiotics over prophylactic use²⁵;
- AC. whereas the use of antimicrobials in medicinal products for animals accelerates the emergence and spread of resistant microorganisms and compromises the effective use of the already limited number of existing antimicrobials to treat human infections; whereas studies in 2017 estimated that in absolute terms, 73 % of all antimicrobials sold globally are used in animals raised for food; whereas, according to those studies, pharmaceutical forms suitable for group treatment (oral solutions, premixes and oral powders) accounted for around 88 % of the total sales and those intended for the treatment of individual animals (injectables and other preparations) accounted for roughly 12 % of the total sales; whereas, according to the EFSA, progress has been made in reducing AMR in food-producing animals in several Member States in recent years;
- AD. whereas the use of sewage sludge and manure as fertilisers on agricultural soil may lead to the development of AMR through the spread of antimicrobial-resistant bacteria and antimicrobial resistance genes in the environment, further contaminating the food chain; whereas it is necessary to introduce prudent manure management practices, although

21 November 2022: <https://www.who.int/europe/news/item/21-11-2022-1-in-3-use-antibiotics-without-prescription--who-europe-s-study-shows>.

²³ Study – ‘Antimicrobial resistance and causes of non-prudent use of antibiotics in human medicine in the EU’, European Commission, Directorate-General for Health and Food Safety, April 2017.

²⁴ Policy brief – ‘Appropriate use of antibiotics in a One Health Perspective’, EU-JAMRAI, 2021: https://eu-jamrai.eu/wpcontent/uploads/2021/02/201020_EUJAMRAI_policy-brief_WP7_appropriate-use-of-antibiotics-one-health-perspective.pdf.

²⁵ Regulation (EU) 2019/6 of the European Parliament and of the Council of 11 December 2018 on veterinary medicinal products and repealing Directive 2001/82/EC (OJ L 4, 7.1.2019, p. 43).

more data is required to enable evidence-based actions to be initiated;

- AE. whereas setting concrete, measurable targets to accompany implementing measures, defined in consultation with relevant stakeholders, is an effective way to achieve goals for AMR prevention and reduction within a specified timescale and to monitor progress; whereas discussions on AMR targets have taken place internationally, for example in the context of the Transatlantic Task Force on Antimicrobial Resistance, the UN Sustainable Development Goals and the G7, and as more recently, in November 2022, the third Global High-level Ministerial Conference on Antimicrobial Resistance recognised the value of setting targets to galvanise strong national and global political action and consolidation of efforts and commitment;
- AF. whereas while a target for a 50 % reduction in overall EU sales of antimicrobials for farmed animals and in aquaculture by 2030 has been included in the farm to fork strategy and in the zero pollution action plan and the reduced use of antimicrobials in farmed animals should be monitored through the common agricultural policy support measures, there is currently no AMR-related target in the human health sector at EU level; whereas the Commission, with the ECDC, has designed concrete targets both at Union and Member States level that would reduce the unnecessary use of antimicrobials, where the recommended targets at Member States level take due consideration of each national situation and different existing levels of antimicrobial consumption and spread of key resistant pathogens and they reflect the level of efforts to be provided by each Member State to reach the EU common targets while not compromising patient health and safety, while they also allow for targeted support where necessary and for monitoring future progress;
- AG. whereas setting recommended targets at EU level on AMC and AMR is a useful means of achieving and monitoring progress in both the underlying factors influencing AMR, notably antimicrobial consumption, and the spread of AMR, in particular regarding pathogens that pose the highest burden and threat to public health in the EU, and while the recommended targets are based on existing data reported under EU surveillance in 2019, chosen as a baseline year, given that the situation in 2020 and 2021 is deemed exceptional, and therefore inappropriate to serve as a basis, due to the COVID-19 pandemic and the exceptional restrictive measures in place, the recommended targets should contribute to achieving common goals and can be complemented by national targets that cover other AMR-related aspects, such as infection prevention and control, antimicrobial stewardship, prescribing practices, training, and adequate pack sizes;
- AH. whereas the 2022 Special Eurobarometer on AMR reveals that knowledge about antibiotics is still lacking in the EU with only half of those questioned being aware that antibiotics are ineffective against viruses, and that there are still great differences in EU citizens' awareness across Member States and, in addition, almost one in ten EU citizens are taking antibiotics without a prescription, such results demonstrate the need to increase and improve enforcement of existing and upcoming legislation on pharmaceuticals in Member States and communication and awareness-raising activities on AMR and prudent use of antimicrobials at all levels as a means of increasing knowledge and stimulating behavioural change among citizens and healthcare professionals;

- AI. whereas education, upskilling, awareness and training of professionals working in the human health, veterinary and agronomy sectors on AMR, on infection prevention and control and on the One Health approach play an important role in the fight against AMR, due in particular to their roles as advocates for prudent antimicrobial use and educators of patients and farmers; whereas continuous evidence-based education programmes and curricula should include mandatory cross-sectoral training and competence courses on AMR, on infection prevention and control, on environmental risks, on biosecurity and on antimicrobial stewardship, as appropriate;
- AJ. whereas a major component in addressing AMR will be public awareness and behavioural change; whereas taking an inclusive and bottom-up approach to encouraging behavioural change, and the potential benefit of facilitating the sharing of knowledge and best practices will be needed;
- AK. whereas according to the WHO, 11 new antibiotics have been approved (by either the Commission or the US Food and Drug Administration or both) since July 2017 and, with some exceptions, the newly approved antibiotics have limited clinical benefit over existing treatments, as over 80 % are from existing classes where resistance mechanisms are well established and rapid emergence of resistance is expected;
- AL. whereas there are currently 43 antibiotics and combinations with a new therapeutic entity being developed, only a few of them meet at least one of the WHO innovation criteria (i.e. absence of known cross-resistance, new binding site, mode of action and/or class), which means that the overall, the clinical pipeline and recently approved antibiotics are insufficient to tackle the challenge of increasing emergence and spread of AMR;
- AM. whereas bacteriophages have considerable potential to become an affordable and effective tool for bacterial control as a potential alternative to or complement for antibiotic therapy, and an appropriate regulatory framework for registering bacteriophages both as feed additives and as veterinary medical products in line with European Medicines Agency (EMA) ‘Guidelines on quality, safety and efficacy of veterinary medicinal products specifically designed for phage therapy’ should be prioritised;
- AN. whereas the failure to develop and release effective new antibiotics or new antimicrobial agents is exacerbating the impact of AMR; whereas there is, therefore, an urgent need to develop and implement new incentives and look at alternative treatments such as bacteriophages, while ensuring the accessibility and affordability of publicly supported products;
- AO. whereas the Commission aims to promote advanced research into new and old antimicrobials, alternative treatments, including bacteriophages, diagnostics and vaccines against resistant pathogens, and to develop medical countermeasures and related technologies and address market challenges;
- AP. whereas globally almost 50 % of human antibiotic treatments are initiated without a proper diagnosis and with the wrong drug, underlining the potential of diagnostics in

avoiding inappropriate and excessive use of antibiotics²⁶;

- AQ. whereas since the 2017 AMR action plan, several proposals for new economic models to bring new antimicrobials to the market have been put forward, including in the conclusions of the JAMRAI, which, on 31 March 2021, set out a strategy for implementing multi-country incentives in Europe to stimulate antimicrobial innovation and access;
- AR. whereas the Commission commissioned a study entitled ‘bringing AMR Medical Counter Measures on the market’ simulating four types of pull mechanisms of different financial size to reward innovation and ensure access to antimicrobials, namely revenue guarantee, market entry rewards combined with revenue guarantee, lump-sum market entry rewards and milestone payments, accompanied by options for their implementation at EU level; whereas the study also acknowledged the broad agreement that pull mechanisms should be complemented by push mechanisms;
- AS. whereas further investment into the research and development of innovative diagnostic tools would complement efforts to improve prevention and treatment; whereas faster and more acute diagnostic tools would facilitate more prudent use of antimicrobials in all healthcare settings;
- AT. whereas the EU4Health work programme 2023 offers investment in combating AMR, in particular through the specific action ‘Support innovation and access to antimicrobials’, which will enable the creation a network supporting the Commission and the Member States for the preparation and implementation of procurement(s) of medical countermeasures and reserve capacities for the production of or access to targeted AMR medical countermeasures;
- AU. whereas actions on research and innovation supported by the Horizon 2020 and the Horizon Europe programmes are key for the development, evaluation and implementation of measures against AMR, continued support and collaboration remain crucial to strengthen the impact of research and innovation for the detection, prevention and treatment of infections caused by resistant pathogens and should be reinforced;
- AV. whereas AMR is a pressing issue for which there is no short-term solution; whereas it should remain a funding priority at EU and Member State level beyond the current budget cycles and benefit from continuous EU-level support;
- AW. whereas vaccines are cost-effective and powerful tools for preventing communicable diseases in both humans and animals, and therefore have the potential to curb the spread of AMR infections and reduce the use of antimicrobials; whereas it is therefore necessary to promote the use of vaccination through measures to increase awareness among citizens and healthcare professionals about the importance of vaccines and by addressing vaccine hesitancy, in all age groups but particularly for at risk groups as well as the development of, the availability of and the access to vaccines;
- AX. whereas Member States’ cross-sectoral cooperation and stakeholders’ involvement are

²⁶ <https://www.bcg.com/publications/2022/model-for-tackling-antimicrobial-resistance>

crucial to ensure the full and effective implementation of One Health AMR policies and actions and this cooperation should be enhanced, particularly through the EU AMR One Health Network;

- AY. whereas the high level of cooperation between EU agencies ((EFSA, ECDC and EMA should be further strengthened and extended to include the European Environmental Agency (EEA) and the ECHA, to ensure a consistent, One Health, evidence-based response to AMR;
- AZ. whereas combating AMR in the context of the One Health approach is a priority in the EU global health strategy⁵, including through the inclusion of concrete provisions on AMR in the context of the negotiation through the WHO of a potential international agreement on pandemic prevention, preparedness and response, while global attention to AMR is growing, fostering international cooperation, is needed to ensure a coordinated response from the global community and adequate support mainstreamed towards priorities established at global and regional levels for funding, research and policy efforts and in that respect enhanced cooperation should take place, in particular in the context of the United Nations, G7, G20 and with the quadripartite organisations (the Food and Agriculture Organization of the United Nations (FAO), the United Nations Environment Programme (UNEP)⁴⁸, the World Organization for Animal Health (WOAH) and the WHO) but also bilaterally between Member States and non-EU countries;
- BA. whereas the implementation of the 2017 AMR action plan and of the Council recommendation should be monitored regularly to measure progress towards achieving their objectives and identify gaps in the efforts to tackle AMR;

General

1. Remains deeply concerned by the global health threat posed by antimicrobial resistance (AMR) and regrets the recurrent and ever-increasing loss of life, in the EU and elsewhere, caused by AMR; is fully convinced that AMR requires a multi-faceted strategy in the EU, based on the One Health approach;
2. Welcomes the Commission's proposal for a Council recommendation on stepping up EU measures to combat antimicrobial resistance based on the One Health approach and calls on the Council to adopt a recommendation taking this resolution into account as a way to step up action in areas complementing legislation under the proposed pharmaceuticals package;
3. Recalls, however, that powers to adopt binding Union acts to 'fight ... major health scourges', '[combat] serious cross-border threats to health' and to '[set] high standards of quality and safety for medicinal products and devices for medical use' remain subject to the ordinary legislative procedure according to Article 168 TFEU; therefore, takes the view that should measures achieved under a recommendation be insufficient, further legislative action at EU level will be needed;
4. Stresses that addressing AMR successfully requires a three-pronged approach combining prudent use of antibiotics for humans and animals, implementing good infection prevention and control measures, especially in healthcare settings and

promoting research and development into novel antimicrobials and alternatives to antimicrobials; stresses that actions in these areas are only complementary to each other and must not serve as a reason to lower the ambitions in any other field;

National action plans against AMR

5. Calls on Member States to put in place, publicise and implement a national action plan against AMR (NAP), based on the One Health approach and in line with the objectives of the World Health Organization Global Action Plan and the 2016 Declaration of the United Nations high-level meeting of the General Assembly on AMR by 1 March 2024, and regularly update such the National Action Plans. Member States should in particular:
 - a. ensure that combating AMR and promoting the prudent use of antimicrobials feature as priorities of national health systems in NAPs;
 - b. ensure that NAPs include implementation and monitoring plans, capacity building, appropriate human and financial resources and mechanisms to ensure their effective governance;
 - c. ensure that NAPs include intersectoral coordination mechanisms with a clear mandate, operating structure and composition, including experts and practitioners from the human health, animal health and the environmental sectors;
 - d. ensure that NAPs include specific measures to achieve measurable overarching goals, implementation modalities and indicators to assess progress towards achieving these goals, including the costs of multi-resistant human infections and unmet medical needs and that they include the recommended targets set out in section E of this recommendation;
 - e. ensure that the NAP refers to the relevant elements of the national common agricultural policy strategic plans to combat AMR;
 - f. ensure that the NAP adopts a risk-based approach and includes evidence-based measures to prevent, monitor and reduce the spread of AMR in the environment;
 - g. allocate appropriate and sufficient human and financial resources for the effective implementation of the NAP, defining priorities and distributing resources accordingly, while ensuring implementation in neglected areas such as the environment;
 - h. ensure that AMR is addressed or considered in other national action plans or guidance, for instance cancer plans, child and maternal health plans, pandemic planning and long-term care plans;
 - i. evaluate NAPs regularly, i.e. at least every two years, and assess their effects and take action to address the result of the evaluation and any other relevant inputs, while taking into account new findings and emerging trends; and
 - j. make available to the public all data used in this regard on a dedicated website;

Surveillance and monitoring of AMR and antimicrobial consumption (AMC)

6. Calls on Member States to close existing surveillance and monitoring gaps and ensure the completeness of the data, including real-time data where appropriate, by 2030, both on AMR and AMC at all levels (such as in the community, hospitals and long-term care facilities) to support the prudent use of antimicrobials in human health, by:
 - a. ensuring, in coordination with the ECDC, that surveillance of AMR in bacteria from humans encompasses not only bloodstream and cerebrospinal fluid isolates (invasive isolates) but also all other isolates from clinical microbiology laboratories, and that the corresponding data are regularly reported to the ECDC to rapidly detect and better gauge the scale and spread of antimicrobial resistant pathogens within and across Member States;
 - b. requiring that infections caused by critical multidrug-resistant organisms, e.g. carbapenem-resistant *Acinetobacter baumannii*, carbapenem-resistant Enterobacteriaceae (e.g. *Klebsiella pneumoniae*, *Escherichia coli*) and *Candida auris*, are notifiable diseases under national legislation;
 - c. expanding surveillance of AMR in humans to pathogens with emerging or established AMR, due to their exposure to substances in the environment, in particular those used in plant protection products or biocidal products;
 - d. collecting data on the prescription and dispensing of antimicrobials for human use at the appropriate levels, and using data on electronic prescriptions, and other digital infrastructure for collecting and sharing health data, notably the European Health Data Space, to allow the monitoring of the prescribing of antimicrobials and to provide feedback on prescription trends and patterns involving prescribers, pharmacists and other parties collecting such data; the collection of this data should be limited to the purposes of the prudent use of antimicrobials in human health and should always be in line with the EHDS Regulation and include strong safeguards to respect data subjects' personal data and privacy;
 - e. developing integrated systems for the surveillance of AMR and AMC encompassing human health both at tertiary and community level, as well as animal health, plant health, food, waste water and the environment (in particular water and soil); such integrated and continuous monitoring must be designed to efficiently and rapidly detect outbreaks but equally, in the case of soil and water bodies, to determine the presence of AMR genes, the trends and their toxicity, and the results of this surveillance must inform effective strategies to tackle AMR across sectors;
 - f. exploring the potential of increasing the harmonisation of guidelines for surveillance, namely frequency of data updates, approaches to data analysis, levels of detail in data reporting, definitions of indicators and their measuring units, in order to enable comparability of results across Member States;
7. Calls on the Commission to establish an EU-level database of data on AMR and AMC in human health, animal health and the environment;

8. Invites the Commission to assess animal diseases caused by bacteria resistant to antimicrobials, on the basis of opinions of the EFSA), to ascertain if any of these diseases need to be listed in Regulation (EU) 2016/429²⁷ with a view to categorising them for any regulatory surveillance, control or other management measures;

Infection prevention and control, and water, sanitation and hygiene

9. Calls on the Member States to ensure that infection prevention and control measures in human health are implemented and continuously monitored to contribute to limiting the spread of antimicrobial resistant pathogens, in particular by:
 - a. strengthening infection prevention and control and improving WASH, environmental cleaning and waste management in healthcare settings and long-term care facilities by:
 - i. ensuring core competencies for infection prevention and control and WASH for hospital hygiene professionals;
 - ii. ensuring adequate resources to implement the minimum requirements, and where possible core components of infection prevention and control programmes;
 - iii. ensuring adequate financial and human resources for infection prevention and control and WASH service improvement programmes;
 - iv. enhancing the availability of diagnostic tools;
 - v. quality control;
 - vi. surveillance;
 - vii. evaluation;
 - viii. developing appropriate guidelines; and
 - ix. awareness raising and training activities available to all relevant healthcare professionals;
 - b. upgrading existing hospital infrastructure and human resources to ensure a high level of infection prevention and control, while adhering to environmental sustainability criteria;
 - c. ensuring strong links to patient safety and prevention of healthcare associated infections, including sepsis, notably by improving surveillance, the training of healthcare personnel and ensuring high quality microbiological support and

²⁷ Regulation (EU) 2016/429 of the European Parliament and of the Council of 9 March 2016 on transmissible animal diseases and amending and repealing certain acts in the area of animal health ('Animal Health Law'). OJ L 84, 31.3.2016, p. 1.

- patient records;
- d. ensuring continuous training on infection prevention and control and WASH+ for all personnel in community, hospital and long-term care facilities;
 - e. enhancing training on waste disposal and the cross-sectoral links that contribute to the spread of infection and AMR of all personnel in community, hospital and long-term care facilities;
 - f. ensuring AMR-related issues are included on the curriculums of all healthcare related studies and apprenticeships, and national immunisation programmes are fully developed and implemented for all age groups but particularly for at-risk groups, reviewing the programmes with AMR prevention perspectives, and taking measures to progressively eliminate vaccine preventable diseases on the basis of the Council Recommendation of 7 December 2018 on strengthened cooperation against vaccine-preventable diseases²⁸;
10. Calls on the Commission and the Member States to take measures to improve the health and welfare of food-producing animals in order to decrease the occurrence and spread of infectious diseases in farming and consequently reduce the need for antimicrobial use, in particular by:
- a. strongly encouraging veterinary surgeons and other relevant players to advise farmers on preventive and control measures against infectious diseases including alternative methods that support the implementation of the ban on the prophylactic use of antimicrobials in food production included in the latest revision of the veterinary medicines legislation;
 - b. limiting the antibiotics used in animals to those the WHO has listed as being ‘least important’ to human health, and restricting the use of those classified as ‘highest priority critically important’²⁹;
 - c. encouraging the uptake of biosecurity and infection prevention and control measures on farms;
 - d. implementing a bottom-up approach to behavioural changes in the farming industry through education and by facilitating the sharing of knowledge and best practices;
 - e. making use of the support available through the common agricultural policy to implement preventive measures against infectious diseases that go beyond EU minimum legal requirements;
 - f. making use of the European Maritime, Fisheries and Aquaculture Fund (2021-2027) for projects included in the national programmes, and in accordance with

²⁸ Council Recommendation of 7 December 2018 on strengthened cooperation against vaccine-preventable diseases. OJ C 466, 28.12.2018, p. 1.

²⁹ <https://apps.who.int/iris/bitstream/handle/10665/312266/9789241515528-eng.pdf>.

the eligibility rules defined by the Member States concerned, as well as providing additional financial or structural support when required;

- g. implementing the Member State actions outlined in the Annex to the strategic guidelines for a more sustainable and competitive EU aquaculture for the period 2021 to 2030 (COM(2021)0236);
 - h. encouraging the use of alternatives to antibiotics in aquaculture;
 - i. promoting the use of vaccination, including in aquaculture, and alternatives to help prevent certain diseases and avoid the unnecessary use of antimicrobials;
 - j. promoting the development and use of innovative feed additives, and promoting nutritional interventions to maintain and improve stock health and for prevention of disease and need for antimicrobial use;
 - k. improving animal health through implementing biosafety, biosecurity, vaccination and good animal husbandry programmes;
 - l. developing strategies to improve hygiene and waste-water management in food production, animal waste management and waste-water treatment;
 - m. developing targeted measures by sector once data on the use of antimicrobials by species of food-producing animals becomes available under Article 57 of Regulation (EU) 2019/6;
 - n. developing targeted pre-treatment of waste across the farm to slaughterhouse continuum to remove AMR microorganisms and to reduce antimicrobials before discharge into the environment or general sewerage systems;
 - o. improving the availability and economic efficiency of diagnostic tools;
 - p. reducing the use of those antibiotics the scientific evidence suggests should be used as a last resort in human medicine;
11. Calls on the Commission to put forward a proposal for the revision of EU legislation on farm animal welfare, based on the recommendations from EFSA, since, as recognised in the EU farm to fork strategy, better welfare helps strengthen animals' immune systems;
12. Calls on the Member States to implement good, evidence-based, manure management practices and good sewage-sludge management practices addressing their application in agriculture to reduce environmental exposure to substances with antimicrobial properties and to AMR determinants;
13. Calls for optimisation of the monitoring and evaluation system for antimicrobials used in plant protection at regional and country level following UNEP recommendations;³⁰

³⁰ <https://www.unep.org/resources/superbugs/environmental-action?gclid=CjwKCAjw3ueiBhBmEiwA4BhspORyl2FvYKYC7fLimOJhkw0cUCYkdzVm->

14. Insists that EU infection prevention and control guidelines in human health, notably for hospitals and long-term care facilities need to be put in place by 1 June 2026 at the latest with appropriate links and updates to clinical guidelines, and that when these guidelines are developed, international guidelines should be taken into account and close collaboration with European and national professional societies should be ensured;

Antimicrobial stewardship and prudent use of antimicrobials

15. Calls on the Member States to ensure that human-health measures are implemented to support the prudent use of antimicrobial agents, in particular by:
- a. implementing EU guidelines for the treatment of common infections and for perioperative prophylaxis and adapting these guidelines to national circumstances, where necessary, in order to adhere to best practices and optimise the prudent use of antimicrobials;
 - b. designing measures for health professionals to ensure that they follow prudent-use guidelines;
 - c. facilitating the exchange of knowledge and best practices among healthcare professionals at all levels of healthcare;
 - d. encouraging healthcare professionals to make patients aware of the risk of misuse, overuse and incorrect disposal of antimicrobials;
 - e. improving the availability, cost-effectiveness, and timeliness of diagnostic tests, with specific consideration given to rapid tests conducted prior to prescription of antimicrobial treatment, in particular in primary care, to ensure the optimal prescription and sustainable use of antibiotics and so optimise antimicrobial treatment reduction in the use of broad-spectrum antibiotics; and
 - f. where possible, restricting antibiotic prescription to face-to-face consultations;
16. Calls on the Commission to put in place exchanges of best practice between the Member States on effective antimicrobial stewardship programmes;
17. Calls on the Member States to put in place programmes for the collection and safe disposal of unused, expired and leftover antimicrobials from the community, hospitals and long-term care facilities, farms, veterinary medicine providers, and production facilities, and ensure that the public can make use of these disposal facilities via a local healthcare facility;
18. Calls on the Member States and the Commission to work together to ensure consistent implementation of Regulation 2019/6, in a way that takes into account Member States' differences in the veterinary use of antimicrobials, in order to ensure that veterinary surgeons are not obliged to use more antibiotics than they deem necessary for treatment

[iNEyTrumAw90gQ2ap7nBRoC6LgQAvD_BwE](#)

of an animal, and which does not unduly restrict more frequent use of medical countermeasures, such as vaccines;

19. Calls on the Commission to work towards the development of EU guidelines for the treatment of major common infections in humans and for perioperative prophylaxis in humans, which would include information on the use of adequate diagnostic tests, notably including recommendations to strive to always carry out diagnostic tests, including rapid tests when available, prior to prescription of antimicrobial treatment, the need for antibiotics, the choice of the appropriate antibiotic (if necessary, based on an assessment by the medical professional following a diagnostic test), the dose and dose intervals, and the duration of treatment/prophylaxis, taking into account the best available practice, the availability of antibiotics and the need to ensure their optimal and most prudent use, taking into account the WHO AWaRe antibiotic book³¹ when developing these guidelines and ensuring close collaboration with European and national professional societies;
20. Calls on the Member States to consider the risk of development of resistance to human and veterinary antimicrobials from the use of plant protection products or biocidal products, based on scientific evidence, as part of the safety evaluation and decision-making on these products, and, if necessary, in consultation with the affected stakeholders, to implement appropriate conditions or restrictions of use for the concerned products;

Recommended targets for antimicrobial consumption and antimicrobial resistance

21. Calls on the Member States to take appropriate national measures to ensure that, by 2030, the total consumption of antibiotics by humans (in terms of the defined daily dose (DDD) per 1 000 inhabitants), in the community and hospital sectors combined, including in long-term care facilities, is reduced by 20 % in the EU compared with the baseline year 2019 with a highest DDD of 15 in any Member State;
22. Calls on the Member States to take appropriate national measures to ensure that, by 2030, at least 70 % of the total human consumption of antibiotics belongs to the Access group of antibiotics, as defined in the WHO's AWaRe classification;
23. Calls on the Member States to take appropriate national measures to ensure that, by 2030, the total incidence of bloodstream infections with methicillin-resistant *Staphylococcus aureus* (MRSA) (per 100 000 population) is reduced by 15 % in the EU, compared to the baseline year 2019;
24. Calls on the Member States to take appropriate national measures to ensure that, by 2030, the total incidence of bloodstream infections with third generation cephalosporin-resistant *Escherichia coli* (per 100 000 population) is reduced by 10 % in the EU, compared to the baseline year 2019;
25. Calls on the Member States to take appropriate national measures to ensure that, by 2030, the total incidence of bloodstream infections with carbapenem-resistant *Klebsiella*

³¹ <https://www.who.int/publications/i/item/9789240062382>

pneumoniae (per 100 000 population) is reduced by 5 % in the EU, compared to the baseline year 2019;

26. Calls on the Member States to set indicators that would support the attainment of the recommended targets as well as targets on other AMR-related aspects such as infection prevention control, antimicrobial stewardship, prescription practices and training, and the measures put in place should ensure a strong, yet sustainable, effort to reaching these targets with a year-on-year reduction to prevent back loading and protect patient safety;
27. Calls upon the Commission to put in place appropriate measures to contribute to the achievement of the farm to fork strategy and zero pollution action plan target of a 50 % reduction of the overall EU sales of antimicrobials used for farmed animals and in aquaculture by 2030, and underlines that progress already made at Member State level must be taken into account and animal welfare needs to be ensured, while farmers should be given support to implement the measures put in place;
28. Calls on the Commission to give priority to publishing the remaining delegated acts for Regulation (EU) 2019/6 pertaining to veterinary products, to rebalance the playing field between EU meat products and those imported from non-EU countries by ensuring animals are subject to the same standards on antimicrobial use regardless of whether they are farmed in the EU or elsewhere;

Awareness, education and training

29. Calls on the Member States to ensure, in cooperation with higher and professional education institutions as well as stakeholders, that national continuous *evidence-based* education programmes and curricula, in areas such as medicine, nursing, pharmacy, dentistry, veterinary medicine, farming schools and agronomic sciences include mandatory cross-sectoral training on AMR, infection prevention and control, environmental risks, biosecurity and alternatives to antibiotics, as well as on antimicrobial stewardship, including prudent use of antimicrobials and the impact of reducing the need for antibiotics, as appropriate;
30. Calls on the Member States to raise awareness among the public and health professionals working in the human health and veterinary sectors and among pharmaceutical producers about the existence of programmes for the collection and safe disposal of unused, expired and leftover antimicrobials and the importance of those programmes in the prevention of AMR;
31. Calls on the Member States to encourage and, where appropriate, facilitate cross-sectoral development of training programmes and the sharing of best practices between sectors;
32. Calls on the Member States to increase and improve communication and awareness-raising on AMR and prudent use of antimicrobials to promote knowledge and behavioural change by:
 - a. providing professionals working in the human health, veterinary and agronomy sectors with regularly updated information about AMR at national and local levels

as well as information materials on AMR and the importance of effective infection prevention and control, environmental risks, enhanced animal welfare standards, biosecurity, surveillance and antimicrobial stewardships, including the prudent use of antimicrobials and improving prescription practices;

- b. running public awareness-raising activities and large-scale communication campaigns on AMR, notably its prevention through hygiene, in particular hand hygiene, and prudent use of antimicrobials, including their safe disposal, at national level, notably as regards which infections are treatable through antibiotics and which are not, while taking into account local population differences and best practice with regard to effective communication;
 - c. running targeted communication campaigns to raise awareness in specific population groups, using appropriate means and channels of communication for these specific groups;
 - d. running cross-sectoral communication campaigns, where appropriate, to encourage resource sharing;
 - e. facilitating communication between stakeholders and industries that are the target of behavioural change, to encourage the sharing of knowledge and best practice;
 - f. developing behavioural change interventions targeting key professional groups, patients or the general public in the One Health AMR ecosystem, based on experience from other public health threats, e.g., COVID-19, HIV, or smoking;
 - g. running initiatives to raise awareness among parents and school-age children of the importance of good hygiene in combating AMR, including as part of primary education on food, health and home economics;
33. Calls on the Commission to coordinate the foregoing awareness-raising activities and communication campaigns and inform the relevant EU agencies and other bodies in order to maximise their impact;
34. Calls on the Commission, the ECDC and EMA to support and complement Member States' awareness-raising activities on AMR and prudent use of antimicrobials with EU-wide communication actions when relevant through training opportunities such as the AMR-EDUCare project³²;
35. Calls on the Commission to support the Member States on the continuous training and lifelong learning of professionals working in the human health, veterinary and agronomy sectors about the threat of AMR and its prevention following the One Health approach through training opportunities such as the Better Training for Safer Food initiative³³;

³² <https://www.amreduce.eu/>

³³ https://food.ec.europa.eu/horizontal-topics/official-controls-and-enforcement/legislation-official-controls/better-training-safer-food_en

Research and development and incentives for innovation and access to antimicrobials and other AMR medical countermeasures

36. Strongly calls on the Member States and the Commission to support research data sharing and technological innovation for the detection, prevention and treatment of infections in humans caused by antimicrobial resistant pathogens, including the establishment of, and significant investment in, a European partnership to allow coordination, alignment and funding of cross-sector research and innovation on ‘One Health AMR’; calls for this partnership to be built on the sustained involvement of stakeholders, including industry, civil society, notably patient organisations, academia, such as the European Universities initiative and non-governmental experts, throughout policy development and implementation; calls on the Member States to ensure that participation in a European partnership on ‘One Health AMR’ is in practice also accessible to SMEs;
37. Calls on the Member States and the Commission to promote the development and accessibility of antimicrobials, as well as the use of other medical countermeasures relevant to combating AMR in humans, notably diagnostic tests and vaccines targeting antimicrobial-resistant pathogens;
38. Calls on the Commission and the Member States to continue to provide sufficient resources to support research and development addressing AMR in the existing budget cycle and commit themselves to its being a priority in the next budget cycle by:
 - a. supporting Member States in identifying priority antimicrobial resistant pathogens at EU and Member State level, in mapping existing, upcoming and missing medical AMR countermeasures, and in defining target product profiles;
 - b. supporting research and development of medical AMR countermeasures, notably by coordinating funding of translational research and late-stage development of AMR medical countermeasures, avoiding undue duplication of work, including clinical trials for antimicrobials with due consideration of the potential role of DG HERA as an effective ‘medical R&D coordinator’ steering research in the EU to speed up the development of novel antibiotics and alternatives;
 - c. supporting research into alternative treatments, including bacteriophages;
 - d. preventing medicine shortages and significantly improving the continuity of supply of antimicrobials and other medical AMR countermeasures in the EU, notably by supporting and coordinating Member States’ initiatives on manufacturing, procurement and stockpiling, while avoiding becoming ‘locked-in’ to specific medical countermeasure technologies;
 - e. improving demand forecasting, and assessing and addressing antibiotic supply chain vulnerabilities, and stockpiling targeted antibiotics to avoid shortages;
 - f. coordinating grants and running support programmes with particular attention on early-stage research and development by academia and SMEs;
39. Calls on the Member States and the Commission to contribute to the design and

governance of an EU-wide multi-country pull incentive scheme to enable a sustainable, long-term innovation environment, expedited development and access to antimicrobials; notes that such a scheme could take the form of revenue guarantees, market entry rewards combined with revenue guarantees, lump-sum market entry rewards or milestone payments; calls for relevant industry and other stakeholders to be consulted during the design process to complement the regulatory framework applicable to medicinal products for human use;

40. Calls on the Member States and the Commission to pool resources, run collaborative initiatives, financially contribute to the implementation of the pull incentive scheme, and undertake to participate in the network referred to under the EU4Health work programme 2023;
41. Calls on the Member States and the Commission to review the scheme and its impact on the development and accessibility of antimicrobials at regular intervals and whenever appropriate, and notes that this should include consultation with all relevant stakeholders;
42. Calls upon the Member States and the Commission to incentivise the development and placing on the market of alternatives to antimicrobials, as well as innovative diagnostic tests and vaccines for animal health and alternatives to antimicrobials, such as local anaesthetics or psychopharmacological drugs, including a design for degradable antibiotics;

Cooperation

43. Calls on the Member States to report data on AMR and on antimicrobial consumption to the Global Antimicrobial Resistance and Use Surveillance System (GLASS)³⁴;
44. Calls on the Member States to take advantage of the regular meetings of the EU AMR One Health Network and other relevant committees and working groups discussing AMR to:
 - a. enhance the cooperation between them and with the Commission, with the relevant EU agencies, and with AMR stakeholders, professionals and experts;
 - b. exchange best practices, notably on measures to ensure healthcare professionals' adherence to prudent use guidelines;
 - c. share NAPs on AMR and related implementation reports and evaluations with each other, with the Commission and with relevant EU agencies, and enable the peer-review of those documents;
45. Calls on the Member States to enhance the cooperation on AMR between professionals working in the human health, veterinary and agronomy sectors and with stakeholders, in order to improve the One Health approach on AMR;

³⁴ <https://www.who.int/initiatives/glass>

46. Calls upon the Commission to enhance the cooperation on AMR between itself, EFSA, EMA, ECDC, EEA and ECHA and reinforce the One Health approach on AMR through an interagency AMR working group that should:
 - a. provide an effective platform by holding regular meetings to ensure the exchange of information on AMR and discuss upcoming requests and mandates; and
 - b. foster the integration of surveillance data across sectors in line with the One Health approach;
47. Calls on the Commission to develop a monitoring framework to assess the progress and results achieved in the implementing the 2017 AMR action plan and this recommendation;
48. Calls upon the Member States to collect and make available all data used in this regard and establish an EU-wide database and calls upon the Commission to make this data publicly available on a dedicated website to foster transparency;

Global action

49. Calls on the Member States and the Commission to advocate for the development and the implementation with non-EU countries of standards promoted by international standard-setting bodies, in particular:
 - a. for more ambitious WOAHA standards and guidelines on the responsible and prudent use of antimicrobial agents in veterinary medicine, which should reflect the need to phase out the use of antimicrobials to promote growth or increase yield in animals worldwide;
 - b. for the development of guidance on the prudent use of antimicrobial agents for phytosanitary purposes by the International Plant Protection Convention³⁵;
 - c. for the implementation of the revised Codex Alimentarius Code of Practice to Minimize and Contain Foodborne Antimicrobial Resistance³⁶ and Guidelines on Integrated Monitoring and Surveillance of Foodborne Antimicrobial Resistance³⁷;
50. Calls on the Member States and the Commission to work towards the inclusion of concrete provisions on AMR following a One Health approach in the context of negotiations on a potential WHO international agreement on pandemic prevention, preparedness and response; asks in this regard for particular priority to be given to measures related to clean water, sanitation and hygiene;

³⁵ <https://www.ippc.int/en/>

³⁶ https://www.fao.org/fao-who-codexalimentarius/sh-proxy/en/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252Fstandards%252FCXC%2B61-2005%252FCXC_061e.pdf

³⁷ https://www.fao.org/fao-who-codexalimentarius/sh-proxy/en/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252Fstandards%252FCXG%2B94-2021%252FCXG_94e.pdf

51. Calls on the Member States and the Commission to support WHO initiatives to prepare guidance on how good manufacturing practices should be implemented to waste and waste-water management in the context of the production of antimicrobials, following the WHO's Executive Board decision of 30 November 2018 on this issue;
52. Calls on the Member States and the Commission to advocate for AMR to feature as a high political priority in G7 and G20 settings, with a view to achieving ambitious commitments at global level, including establishing and advocating for the adoption of guiding principles in order to share the financial burden arising from pull incentives for antimicrobials fairly among the G20 or G7 countries;
53. Urges the Member States and the Commission to advocate for the planned UN high-level conference on AMR in 2024 to raise global commitments to address AMR, including targets for antimicrobial use building on the Muscat ministerial manifesto on AMR;
54. Calls on the Member States and the Commission to strengthen their collaboration on key areas of tackling AMR, such as research, surveillance, communication and knowledge-sharing both worldwide and in the EU's neighbourhood; calls in particular for further opportunities for collaboration between DG HERA and international counterparts to be explored;
55. Calls on the Member States and the Commission to support and engage actively in the Quadripartite's 'AMR Multi-Stakeholder Partnership Platform'³⁸, to help establish a shared global vision and build more consensus on AMR;
56. Calls on the Member States and the Commission to provide development capacity and to support AMR initiatives in low- and middle-income countries, in particular by:
 - a. engaging in the Team Europe Initiative with Africa on sustainable health security taking a One health approach, which notably aims to help tackle AMR;
 - b. supporting the implementation of AMR One Health national action plans in low- and middle-income countries, in particular through the UN AMR Multi- Partner Trust Fund (MPTF)³⁹;
 - c. contributing to efforts to tackle infectious diseases and AMR in low- and middle-income countries such as through the European and Developing Countries Clinical Trial Partnership (Global Health EDCTP3 Joint Undertaking)⁴⁰;
 - d. supporting vaccine programmes;
 - e. supporting the collection, sharing and analysis of reliable surveillance data;
 - f. prioritising addressing the economic, social and environmental root causes of health and disease, in line with the EU Global Health Strategy, notably access to

³⁸ <https://www.fao.org/antimicrobial-resistance/quadripartite/the-platform/en/>

³⁹ <https://mptf.undp.org/fund/amr00>

⁴⁰ https://research-and-innovation.ec.europa.eu/research-area/health/edctp_en

clean water and sanitation systems;

Reporting

57. Invites the Commission to report to the European Parliament and the Council four years after adoption of this resolution on the progress in its implementation;

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58. Instructs its President to forward this resolution to the Member States, the Council, to the Commission and to the World Health Organization.