Development of the regional roadmap on antimicrobial resistance, applying the One Health approach

This information document provides the background and pathway towards the development of a new European roadmap for the implementation of the global action plan on antimicrobial resistance (2015), using the One Health approach. The roadmap will be presented during the 73rd session of the WHO Regional Committee for Europe in September 2023.

The Regional Committee, at its 72nd session, is invited to take note and provide input on this information document and the consultation process outlined for the development of the new European roadmap on antimicrobial resistance.
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INTRODUCTION


1. The European Strategic Action Plan on Antibiotic Resistance (for the period 2011–2020), which was adopted by the WHO Regional Committee for Europe at its 61st session in resolution EUR/RC61/R6, has contributed to significant progress in tackling antimicrobial resistance (AMR) in the WHO European Region. In May 2015, the Sixty-eighth World Health Assembly, in resolution WHA68.7, endorsed the global action plan on antimicrobial resistance (A68/20), which includes antibiotic resistance – the most urgent drug resistance trend.

2. The final report of the European Strategic Action Plan, submitted to the 70th session of the Regional Committee (document EUR/RC70/8(E)), in line with resolution EUR/RC61/R6, provided an overview of the Action Plan’s implementation in the Region by the WHO Regional Office for Europe (WHO/Europe) and its close partners and collaborators.

3. Among the major achievements are the enhanced pan-European surveillance of AMR and antimicrobial medicine use through the establishment of the Antimicrobial Medicines Consumption network in 2011 and the Central Asian and European Surveillance of Antimicrobial Resistance network in 2012. These networks complement the AMR-related surveillance networks of the European Union (EU) and the European Economic Area (EEA) coordinated by the European Centre for Disease Prevention and Control (ECDC). Through a variety of capacity-building activities, 85% of the WHO European Member States contribute antimicrobial use and resistance surveillance data, which are published jointly by WHO/Europe and ECDC.

4. Well-functioning, sustainable laboratory services, operating according to international principles of quality and safety, are essential for strong health systems and crucial for obtaining accurate AMR surveillance data. A mentoring programme was set up in 2018 to assist AMR reference laboratories in the Region with implementing quality management systems.

5. Between 2017 and 2022, infection prevention and control (IPC) and surveillance of antibiotic resistance and health care-associated infections in health care settings were strengthened; the WHO guidelines on the core components of IPC programmes at the national and acute health care facility level were also implemented. WHO/Europe also supported point prevalence surveys on health care-associated infections and organized workshops to strengthen IPC capacities at both national and facility levels. Furthermore, WHO/Europe supported capacity-building, in-depth policy analyses and national assessments of water, sanitation and hygiene (WASH) conditions in health care facilities, which provided the basis for strengthening the regulatory enabling environment.

6. In 2020, WHO, jointly with the Food and Agriculture Organization of the United Nations (FAO) and the World Organisation for Animal Health, released a technical brief on WASH and wastewater management to prevent infections and reduce the spread of AMR. The brief emphasizes key areas for coordinated multisectoral action on WASH and AMR, to be embedded in national AMR policies and plans and to foster action in all sectors. WHO/Europe supported the development and dissemination of the technical brief and actively supports the integration of key action areas in national AMR action plans.

7. World Antibiotic Awareness Week, which was launched in 2015, built on the success of European Antibiotic Awareness Day and has become a truly global movement, with active involvement of the FAO, the World Organisation for Animal Health and many other organizations and initiatives. In 2021, acknowledging that knowledge alone is not enough to change behaviour to ensure appropriate use of antimicrobial medicines, WHO/Europe published tools on using behavioural insight methodologies to guide appropriate interventions on AMR.
Evolving context of AMR and the need for a One Health approach

8. During the decade of implementation of the European Strategic Action Plan, the AMR context has become increasingly complex, and an increasing number of bacteria, viruses, fungi and parasites associated with commonly acquired infections are becoming resistant to treatment.

9. Since the adoption of the global action plan on antimicrobial resistance in 2015, there has been a steady increase in regional and global momentum for tackling AMR, as indicated by the adoption of subsequent Health Assembly resolutions making reference to AMR (e.g. WHA72.7 on WASH in health care facilities); the political declaration of the high-level meeting of the United Nations General Assembly on antimicrobial resistance in 2016; the creation of the Tripartite Joint Secretariat on Antimicrobial Resistance in 2019; the expansion of the Tripartite to include the United Nations Environment Programme, becoming the Quadripartite, in 2022; and the increasing number of initiatives and funds in this field. The increasingly complex and incohesive effort to address AMR illustrates the need for new architecture on which to base a sustainable AMR response and for better coordination to optimize the impact of available resources.

10. The importance of the environment as a pathway for the spread of and exposure to antimicrobials and resistant pathogens was mostly overlooked in the European Strategic Action Plan, as well as in many national action plans. Although antimicrobials may be easily degraded, the environment can serve as a reservoir for AMR accumulation, evolution and transmission in soil and water. In particular, wastewater and contaminated soils from hospitals, antimicrobial manufacturing facilities, and large-scale livestock, crop, plant and aquaculture operations are likely to contain elevated concentrations of antimicrobials and resistant pathogens, as well as genetic carriers, which have been shown to influence the spread of drug resistance.

11. Climate change may affect the spread of AMR in several ways. Reduced flows in natural water bodies may lead to concentration of AMR. More prevalent flood events may exacerbate the spread of AMR-polluted water. Rising temperatures affect the transmission dynamics and geographical spread of vectors, leading to the emergence, resurgence and redistribution of vector-borne diseases such as tick- and mosquito-borne infections, which in turn may lead to higher use of antiparasitic drugs. Climate change may also influence the spread or transmission of foodborne and waterborne pathogens and presents a threat to food safety.

12. The ongoing COVID-19 pandemic is a grim reminder that a One Health approach is needed to respond to health threats originating from animals or the environment and to progress towards sustainable development. WHO/Europe’s commitment to One Health was formalized in April 2021, through the creation of the One Health Coordination Mechanism for Europe and Central Asia, which brings together the regional Quadrupartite offices and other key partners to coordinate efforts to tackle AMR and other health threats through the One Health approach. The regional One Health Coordination Mechanism consists of three components: the Executive Group (i.e. heads of the regional Quadrupartite), the Technical Group (i.e. the Secretariat), and the Partner Platform. The Platform will bring together technical and financial agencies, international organizations, and experts to provide strategic advice, exchange information and plans and coordinate implementation of the One Health agenda in Europe and Central Asia for maximum impact at the country level.

13. In line with the recommendations of the Pan-European Commission on Health and Sustainable Development on the operationalization of the One Health concept at all levels in the Region, WHO/Europe has started developing a regional operational plan of action on One Health, which will be presented to the Regional Committee in 2024 for consideration. To guide the development of the operational plan of action, a technical advisory group on One Health will be established, and a systematic review of best practices and lessons learned will be conducted. The operational plan of action will build on the One Health Joint Plan of Action developed by the Quadrupartite and noted by the Health Assembly in 2022, as well as on other global frameworks and action plans, including the WHO Global Strategy for Food Safety 2022–2030 and the global action plan on antimicrobial resistance.
14. At the global level, the Global Antimicrobial Resistance and Use Surveillance System (GLASS) was revised in 2021 after extensive consultation following the early implementation phase (2015–2020). In addition to obtaining additional specimens, pathogens and antimicrobials, including data generated by molecular AMR diagnostics, GLASS aims to strengthen routine AMR surveillance, conduct periodic national AMR prevalence surveys in countries without surveillance systems, and provide guidance on the use of data for guidelines, advocacy and evidence generation. WHO/Europe is supporting Member States in the European Region in enrolling and contributing to GLASS. To date, 56% of WHO European Member States are enrolled in GLASS-AMR and 60% in GLASS-AMC (antimicrobial consumption).

15. Significant progress has been made in improving policies and strategies addressing environmental aspects related to AMR. The WHO Global Strategy on Health, Environment and Climate Change (2020) identified the goals to be achieved by this transformational approach. At the regional level, by adopting the Ostrava Declaration on environment and health, the Member States are committed to ensuring that action plans on AMR address safe water and sanitation in health care facilities and reduce the discharge of untreated wastewater from municipal sewerage, hospitals, antimicrobial manufacturing facilities and livestock operations.

**Effect of the COVID-19 pandemic on AMR in the European Region**

16. The Region has been severely hit by several waves of COVID-19, and many Member States have redeployed health care staff and other resources to the COVID-19 response. Ninety per cent of countries in the Region have indicated that the implementation of their national AMR action plan has been affected by the COVID-19 pandemic. The short- and long-term effects of deploying human and financial resources from AMR to the COVID-19 response will surely affect the ability of countries to effectively address AMR. Further, it is not currently known to what scale or severity aggravating factors related to the management of patients with COVID-19, and any associated secondary infections, may impact the levels of antimicrobial use and resistance across the Region.

17. The majority of EU and EEA Member States reported a decrease in antibacterial consumption between 2019 and 2020. Although the direct cause has not been comprehensively evaluated, reduction in the use of health care services has been reported in many EU/EEA Member States across the European Region. However, the same trend of decreased antibacterial consumption was not observed in many other countries in the Region (outside the EU and the EEA), with some WHO Member States reporting an increase in total antibacterial consumption in 2020, often without prescription. Higher use of “Watch” antibiotics and over-the-counter sales of antimicrobials during the COVID-19 pandemic illustrate that existing issues with antimicrobial use can be exacerbated when regulations and clinical guidelines are not rigidly implemented.

18. The COVID-19 pandemic has emphasized the importance of investing in functional IPC programmes at national and facility levels. Before the COVID-19 pandemic, IPC programmes at national and facility levels were working intensively to develop guidance, train health workers, conduct surveillance of health care-associated infections, implement preventive and control measures (e.g. hand hygiene, appropriate use of personal protective equipment, environmental cleaning and disinfection), and monitor compliance with IPC practices. During the pandemic, IPC programmes at national and facility levels had to reduce regular efforts in order to support the COVID-19 response, which may have negatively affected efforts to encourage traditional IPC measures not associated with COVID-19. World Health Assembly resolution 75.13 on the global strategy on infection prevention and control requests that WHO develop a global strategy in alignment with other strategies on IPC efforts, such as the global action plan on antimicrobial resistance.

19. Recognizing deep concern for the morbidity and mortality caused by the COVID-19 pandemic in 2020, World Health Assembly resolution 73.1 on COVID-19 response urged countries to take measures to support access to safe WASH and IPC and to promote personal hygienic measures in all settings, including humanitarian settings, and particularly in health facilities. The Hand Hygiene for All Global Initiative, led by WHO and the United Nations Children’s Fund, emphasized the need to develop and implement a roadmap
for universal hand hygiene in all settings (e.g. community, public places, health facilities, educational facilities) and to ensure hand hygiene is a mainstay beyond the COVID-19 pandemic.

20. The COVID-19 pandemic clearly demonstrated that the AMR agenda is unfinished business. Despite global attention and substantial progress since 2011, much remains to be done to address the capacity gaps between countries and to adapt efforts to the evolving context of AMR and safeguard the capability to prevent and treat human and animal diseases in the future.

DEVELOPMENT OF THE EUROPEAN ROADMAP ON AMR

21. AMR is an ongoing and continuously evolving global health crisis that can no longer be neglected; it has earned itself the name “the silent pandemic”. Under a worst-case scenario, AMR could cause a reduction in global gross domestic product equal to that of the 2008 financial crisis. The economic impact would be worse in lower-income countries and would likely last longer. Although disasters and emergencies such as COVID-19 rightfully draw intense and acute attention from the global health community, the European Region cannot afford to lose its focus on long-term health threats and must continue to combat AMR using the One Health approach.

22. The AMR effort cannot stand alone and needs to be integrated into a wider regional approach to implementing health security and emergency preparedness programmes, ensuring universal health coverage and strengthening primary health care and essential public health functions as the core of integrated health services. This must include strong leadership, enhanced coordination, effective surveillance, IPC, improved WASH, improved wastewater management, research and innovation for new antimicrobial agents, and improved diagnostic tools.

23. A new European roadmap on AMR for the period 2023–2030 will be developed to implement the global action plan on antimicrobial resistance (2015), considering the challenges, needs and priorities specific to the Region and strengthening the One Health approach to tackling AMR. In full alignment with the strategic objectives of the global action plan, new and innovative courses of action will be developed. The European roadmap on AMR will (a) secure, through its bold new vision, high-level leadership, accountability and buy-in; (b) adopt a people-centred framework to inform a programmatic AMR response and implementation guide; (c) generate quality data and evidence to build the national investment case; and (d) advance the implementation of high-impact measures and policies.

24. The new European roadmap on AMR will contribute to implementation of the European Programme of Work, 2020–2025 – “United Action for Better Health in Europe” (EPW). The EPW is aligned with the WHO Thirteenth General Programme of Work, 2019–2023, across its three interconnected strategic priorities to promote healthy lives and well-being for all at all ages: moving towards universal health coverage; promoting health and well-being; and protecting against health emergencies. The European roadmap on AMR will contribute to these strategic priorities within the domain of the One Health approach to promote the prudent use of antimicrobials and tackle other challenges that result in AMR, such as residues in food products; contaminated soil and water bodies, including wastewater releases from manufacturing and large-scale livestock and aquaculture operations; and hospital and pharmaceutical industry waste.

25. The flagship initiatives under the EPW will underpin renewed action on AMR in the Region. The European Immunization Agenda 2030 will contribute not only to preventing life-threatening diseases caused by bacterial and viral infections but also to reducing antimicrobial (and especially antibiotic) use and AMR. Leveraging behavioural and cultural insights will contribute to more effective behaviour change interventions on the use of antimicrobials and to increased awareness of AMR as a public health issue. Empowering people through digital health will afford opportunities to leverage technology to optimize antimicrobial use and will enable the health workforce to track the impact of interventions in health care settings and monitor antimicrobial use and resistance.
26. The strategic elements of the roadmap will be developed in consultation with Member States and other stakeholders. New and innovative courses of action on AMR will complement and accelerate WHO’s ongoing work to strengthen multisectoral coordination; conduct surveillance of AMR and use of antimicrobials; prevent and control health care-associated infections; ensure prudent use of antimicrobials in human and animal health; ensure universal access to safely managed WASH services, including in health care settings; improve the effective treatment and safe reuse of wastewater; and enhance innovation and research, behavioural insights, community awareness and patient safety.

27. The new European roadmap on AMR will include a framework for stepwise implementation to guide Member States and international partners, as well as an AMR best buys model for rigorous monitoring and evaluation to assess progress and impact.

Consultation process

28. At its third session (March 2020), the Twenty-seventh Standing Committee of the Regional Committee for Europe indicated general support for the development of a new regional roadmap on AMR (2023–2030). Due to the COVID-19 pandemic, this agenda item and subsequent work was postponed. At its second session (December 2021), the Twenty-ninth Standing Committee confirmed its support for the development of a new European roadmap. Work was resumed, and Member State comments were addressed in the concept note.

29. In preparation for the 72nd session of the Regional Committee, this information document describes the principles for the development of the new European roadmap on AMR, which will:

- take account of and build on the experience gained from implementing the previous European Strategic Action Plan;
- align with the global action plan on antimicrobial resistance (incorporating regional specificities), as well as with other relevant global and regional action plans (e.g. Regional action plans for ending AIDS and the epidemics of viral hepatitis and sexually transmitted infections 2022–2030; the tuberculosis action plan for the WHO European Region 2023–2030; the European Immunization Agenda 2030; the WHO Global Strategy on Infection Prevention and Control), roadmaps, strategic frameworks, global governance structures (e.g. the Interagency Coordination Group on Antimicrobial Resistance, the Global Leaders Group on Antimicrobial Resistance), and other developments;
- consult and proactively engage with all Member States and ensure coordination across sectors and stakeholders to make the most of available national resources; and
- include a broader consultation with non-State actors and foster civil society engagement using a One Health approach, clearly incorporating the environmental dimension.

30. The consultation process will set the core principles, define the strategic objectives, outline the stepwise implementation framework, develop the monitoring and evaluation framework to measure impact, and ensure relevance for all WHO European Member States. The process will include internal and external technical expert consultation, followed by online consultation with Member States and key partners and then open consultation on the near-final draft with the broader stakeholder community.

ACTION BY THE REGIONAL COMMITTEE

31. The Regional Committee is invited to comment and provide input on this information document and the consultation process outlined for the new European roadmap on AMR.