

EU-JAMRAI: EUROPE FOSTERING SYNERGIES TO REDUCE THE BURDEN OF AMR

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The European Union Joint Action on Antimicrobial Resistance and Healthcare-Associated Infections (EU-JAMRAI) brings European Union member countries together to foster synergies and contribute to the global movement against microbial resistance to antibiotics. Coordinated by the French National Institute of Health and Medical Research (Inserm), with the support of the French Ministry of Health, EU-JAMRAI started in September 2017 and its implementation will last for 36 months. Being the first European Joint Action in the field, it will capitalize on existing initiatives and propose concrete steps to lessen the burden of antimicrobial resistance (AMR) and reduce healthcare-associated infections (HCAI).

On the edge of a post-antimicrobial era

Life-saving antibiotics revolutionized our society and economy curing previously deadly diseases and making surgeries, cancer treatments, neonatal care and organ transplants increasingly viable. This major achievement is now at risk, mainly due to the excessive and often inappropriate use of antibiotics. Today, antimicrobial resistance (AMR) is a worldwide public health threat. The increase of bacteria resistant to multiple antibiotics, even to last resort drugs, in combination with the lack of new antibiotics is increasingly resulting in cases where doctors are facing major difficulties to treat infections. AMR is responsible for thousands of deaths each year (1). Only in 2007, multi-resistant bacteria infections caused 25,000 deaths and 2.5 million extra hospital days across Europe (2). AMR does not recognize geographic borders and is currently present in every country of the world.

A global challenge requires a coordinated global response

AMR is a major health threat that decision-makers are well aware of and which has gained a high priority among public health challenges. The multiplication of national, European and international initiatives against AMR over the last decade

reflects a shared commitment to actively tackle this issue. To this end, the World Health Organization (WHO) – in collaboration with the Food and Agriculture Organization (FAO) and the World Organization for Animal Health (OIE) – has elaborated a Global Action Plan (GAP) (3). The GAP sets five major objectives and emphasizes the One Health approach, a holistic and multisectoral perspective which recognizes that human health, animal health and the environment are interconnected. Pathogens are transmitted from humans to animals and vice versa and must therefore be tackled in both sectors. Endorsing the WHO initiative, countries committed themselves to draft and implement national strategies aligned with the GAP by mid-2017. In June 2016, the European Union adopted ambitious Council Conclusions on the next steps under a One Health approach to combat antimicrobial resistance committing to set up a One Health network across Member States (4). In June 2017, the European Union published the European One Health Action Plan on Antimicrobial Resistance (5), which comprises three pillars: i) making the EU a best practice region; ii) boosting research, development and innovation, and iii) intensifying EU efforts to shape the global agenda on AMR. The EU-JAMRAI clearly belongs to the first pillar of the European action plan.

EU-JAMRAI objectives and added value

The overarching objective of EU-JAMRAI is to support European Union Member States to develop and implement effective One Health policies to combat antimicrobial resistance and reduce healthcare-associated infections (HCAI). Through appropriate involvement of each group within the different planned actions, the Joint Action will strengthen the existing public health policies both at national and European level and contribute to achieve the objectives of the WHO Global Action Plan on AMR, the Council Conclusions on AMR and the EU Action Plan on AMR (Table 1).

Strengthening national and international health security initiatives against the AMR challenge mandates a common European approach taking into account local features and existing initiatives. The Joint Action EU-JAMRAI provides the opportunity to strengthen and coordinate efforts directed to both AMR and HCAI issues, following a One Health approach. It is important to recognize that AMR and infection control are tightly linked, so that the fight against AMR will not be efficient without tackling infection control issues. EU-JAMRAI thus addresses both AMR and HCAI and emphasizes that infection prevention and control strategies should go hand in hand with prudent use of antibiotics, appropriate tools for monitoring and surveillance and accurate diagnostic tests to decide on the most appropriate therapy.

This Joint Action will enhance cooperation between Member States, the European Commission and its agencies and other international organizations and will enable each target group to contribute to address the issue of AMR and HCAI.

Think global, act local

The efficiency of any action addressing AMR and HCAI relies on involving policy-makers of different sectors and other relevant stakeholders and on understanding the different contexts. The rationale underpinning the international action on AMR has to be "Think global, act local". This means that for each group, one has to consider its social, cultural, economic and political environment and identify the driving forces.

In this sense, the Joint Action will capitalize on national best practices and current European projects while acknowledging the specificities of various countries and target audiences:

- ➔ The different countries: although there are important differences in the epidemiology of AMR and organization of infection control activities across European countries, the principles underlying strategies to control AMR and prevent HCAI are shared (6). However, these national specificities and various approaches to infection prevention and control and antibiotic stewardship must be taken into account within the Joint Action's work and conclusions.
- ➔ The target audiences: EU-JAMRAI will develop campaigns

to raise awareness targeted to different audiences through various channels. These communication efforts should be tailored to the needs of the different groups taking into consideration their level of health literacy. Through cooperation with and involvement of professional organisations of the animal and human health sectors and of patient groups, the Joint Action will identify the appropriate means to reach the different categories of public, patients and healthcare professionals. The Joint Action has to identify achievable and realistic actions to confront the challenges on the ground.

Bridging the gap between declarations and actions

EU-JAMRAI aims to go beyond declarations. Therefore, it will propose concrete steps to implement best practices to tackle AMR and HCAI, so that good intentions lead to practical actions shared by the Member States. To efficiently implement concrete actions, the participation and commitment of policy-makers and competent authorities of all the European Union countries in the different project working areas is crucial to ensure that the national political contexts of AMR and HCAI status are taken into account in all the planned activities.

By involving policy-makers and competent authorities, EU-JAMRAI will also contribute to the implementation of the EU Action Plan on AMR and of the Council Conclusions and ensure convergence of Member States programmes and actions. By setting up a country-to-country peer review/assessment system, the EU-JAMRAI will evaluate the strengths and weaknesses of NAPs (national action plans) for AMR and HCAI.

In line with the EU Action Plan, this Joint Action will support the establishment of efficient and feasible national infection control programmes. It will be possible through the effective implementation of guidelines and other tools at national, regional and local level to prevent infections and thereby limit the use of antibiotics and prevent the spread of resistant bacteria in healthcare settings.

Acknowledging the differences between Member States, pilot studies will be conducted to identify gaps and barriers in the implementation of best practices in order to provide tailored recommendations and guidelines.

The Joint Action will contribute to a coordinated European response in regards to prioritizing and assisting the implementation of research and innovation related to AMR and HCAI. Identifying gaps in knowledge and contributing to ensure linkage between research on AMR, HCAI and public health policies, as well as encouraging that research is used consistently through evidence-based policy-making.

The elaboration of dynamic and diversified awareness campaigns directed to different target audiences will promote a responsible use of antibiotics by highlighting the importance of

Table 1: - EU-JAMRAI Objectives

General Objectives	Specific Objectives
1. Identify and test evidence-based measures to address AMR and HCAI in different contexts and provide recommendations to policy-makers.	1. Facilitate and optimize implementation of national strategies for HCAI prevention at national and local levels.
2. Bring together different networks of policy-makers, experts and organizations on AMR and HCAI.	2. Develop efficient tools and guidelines for antimicrobial stewardship and surveillance of resistance in humans and in animals.
3. Promote: → One Health approach. → One Health in all policies concept. → Health in all policies concept.	3. Identify the challenges to implement AMR and HCAI national action plans. 4. Ensure discussion among policy-makers on national action plans and strategies, measures taken and actions for improvement. 5. Ensure consistency between research programmes, identify gaps in knowledge and ensure linkage between research on AMR/HCAI and public health policies.
4. Produce concrete recommendations and promote awareness and commitment by governments and stakeholders for a European contribution to international initiatives.	6. Ensure that all Member States have developed and implement a One Health objective-driven national strategy. 7. Raise awareness on AMR and HCAI. 8. Disseminate the Joint Action activities and outcomes efficiently to ensure sustainability beyond the project end.

appropriate prescribing and use, as well as informing about the risks associated with overuse and misuse. Thus, this working area intends to promote healthy habits and to change harmful behaviours regarding antibiotics. Effective communication and dissemination of the Joint Action's main activities and results will be essential to keep the actors informed and aligned with the main objectives to reach other international initiatives. As the sustainability of EU-JAMRAI initiatives beyond the project end is a critical point, a sustainability plan will be formalized to maintain the motivation and the efforts of each stakeholder.

The Joint Action aims to pave the way from declaration to action through proposing concrete deliverables:

- Tools to implement guidelines on proper use of antimicrobials and real-time surveillance of AMR;
- Efficient infection control programmes;
- Evaluation of the national action plans using a country-to-country peer review/assessment system; based on the WHO Joint External Evaluation approach;
- Ensure linkage between research on AMR/HCAI and public health policies;
- Use of social media and communication tools to better understand the underlying sociocultural drivers of antibiotic misuse and resistance; and
- Develop and involve the One Health Network (OHN) in monitoring Member States' policies.

EU-JAMRAI impact beyond EU borders

This Joint Action strives to be an example of an initiative focused on achieving concrete results and testing innovative

approaches at the European level. The burden of AMR varies across the European Union and even more so in neighbouring countries outside the EU. Since AMR is a cross border health threat, measures taken within one Member State influence other States. Also, there are common issues and the recommended measures of EU-JAMRAI to a specific group of countries will also be applicable to non-EU countries.

Additionally, thanks to the involvement of international organisations, the geographical coverage and impact of the Joint Action will go beyond the borders of the European Union. Being also members of several multinational initiatives (such as G7, G20, or the GHSA), the coordinator France and other work package leaders (the Netherlands, Norway, Spain, Sweden) together with other Member States involved in the Joint Action, will ensure consistency between the outputs of EU-JAMRAI and discussions or initiatives at the international institutions level (UN, WHO, etc.).

Inclusive governance and commitment

Coordinated by the French National Institute of Health and Medical Research (Inserm), with the support of the French Ministry of Health, EU-JAMRAI brings together 44 European associate partners from 28 countries and more than 30 stakeholders to ensure that the Joint Action is strategically connected to the global challenges and developments in the AMR field. As previously mentioned, key international organizations such as WHO, OECD, OIE and FAO are part of the stakeholder forum of this Joint Action, driving the debate with their expertise and ensuring consistency with ongoing

initiatives. Additionally, representatives from healthcare professionals, patients, students and industry will play an important role as EU-JAMRAI is founded on the principle of inclusiveness and the belief that AMR cannot be tackled by only policy-makers.

This Joint Action is co-funded by the Health Programme of the European Union and by the participating countries. All the partners are already involved in the field of AMR and HCAI and have the capacity to run the activities foreseen in this Joint Action. The partners are not only ministries but also research institutes, clinical centres, public health agencies and universities. EU-JAMRAI will cover all the national specificities of AMR and HCAI as it gathers all European countries as

beneficiaries or collaborating partners. Moreover, most of the participants have already successfully collaborated in former or ongoing projects on AMR, in the human and animal areas, proving the excellence of the consortium.

The challenge is still ahead but the good news is that AMR is at the heart of the global political agenda. By joining EU-JAMRAI, the participating Member States have demonstrated their commitment to tackle AMR and reduce HCAI. EU-JAMRAI is an important step to ensure that all European initiatives work in the same direction. Jointly, we will act to lessen and control AMR, reduce antibiotic misuse and make sure that we leave a safer place for future generations. ■

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