

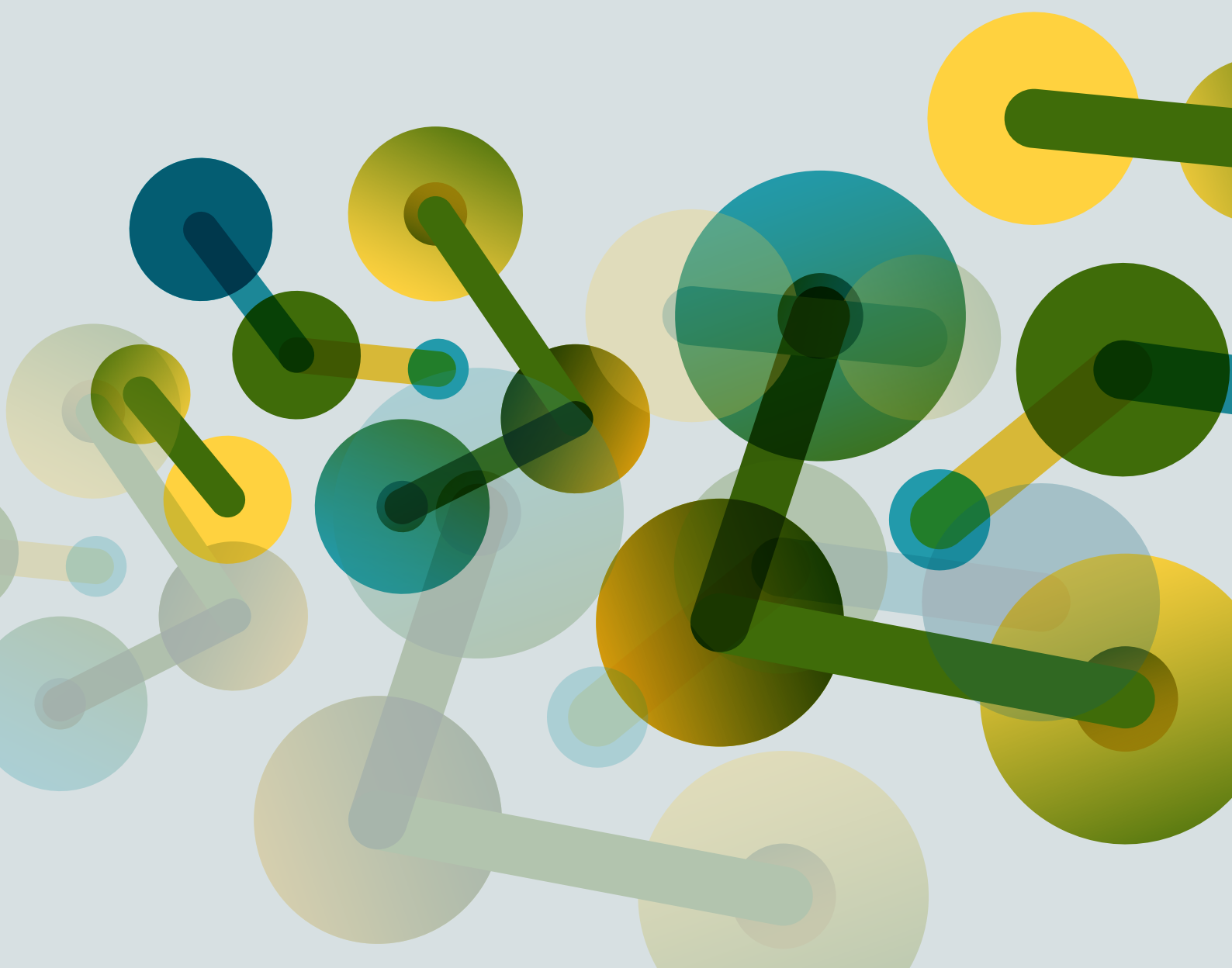
Sub-Regional workshop on Antimicrobial Resistance

National Action Plan Development and
Implementation

16-17 June 2021

Virtual meeting

Report



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This publication contains the report of the Sub-Regional virtual workshop on Antimicrobial Resistance National Action Plan Development and Implementation, hosted as a virtual meeting on 16-17 June 2021, and does not necessarily represent the decisions or policies of WHO. The named authors alone are responsible for the views expressed in this publication.

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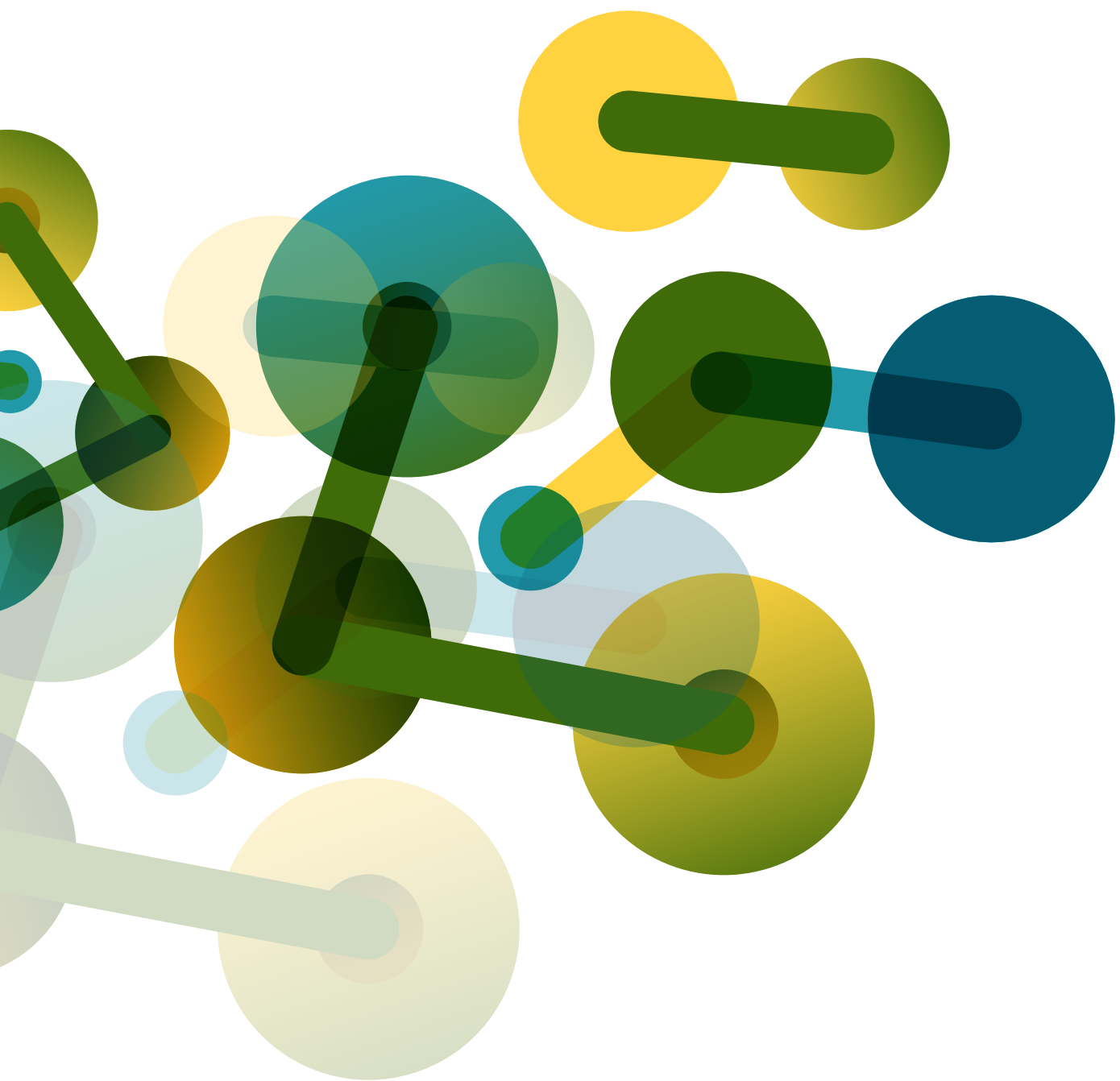
The meeting report was written by Liz Stokle (WHO Senior Consultant).



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Abbreviations

AMC	antimicrobial consumption
AMR	antimicrobial resistance
CAESAR	Central Asian and European Surveillance of Antimicrobial Resistance network
CDC	US Centers for Disease Control and Prevention
CPE	carbapenemase-producing Enterobacterales
DDD	Defined Daily Dose
EARSS	European Antimicrobial Resistance Surveillance System
EARS-Net	European Antimicrobial Resistance Surveillance Network
EC	European Commission
ECDC	European Centre for Disease Prevention and Control
EU	European Union
GAP	Global Action Plan
IPC	infection prevention and control
EU-JAMRAI	European Union – Joint Action Antimicrobial Resistance and Healthcare-Associated Infections
MRSA	methicillin-resistant <i>Staphylococcus aureus</i>
MDR	multi-drug resistant
MS	Member States
NAP	national action plan



1. Background

Antimicrobial resistance (AMR) has been described as one of the most important health threats of our time. AMR poses a risk to the attainment of the Sustainable Development Goals (SDGs), affecting health security, food safety and economic growth, and creating poverty and social gaps in society. The seriousness of the situation is reflected in the push for action in the past decade by the launch of the European Strategic Action Plan on Antibiotic Resistance (2011–2020), the European Commission (EC) Action Plan against the Rising Threats from AMR (2011–2016), the Global Action Plan (GAP) on Antimicrobial Resistance (2015), and the European One Health Action Plan against AMR (2017). Action is necessary across sectors and settings to prevent, mitigate and control AMR.

The impact that the COVID-19 pandemic has had on the advance of AMR is yet to be seen. However, AMR remains a major burden in health care settings. Prior to the pandemic, it was well recognized that robust infection prevention and control (IPC) was key to weakening the momentum of AMR. The pandemic has shown that establishing effective IPC is complex and requires not only focus and application from health care professionals but also from each individual person. It has also shown that universal understanding and the application of basic rules can have a positive impact. The need for antibiotics and their value in modern medicine has never been greater. The impact of the pandemic should serve to strengthen global commitment to address the AMR crisis once and for all.

Since the endorsement of the Global Action Plan on Antimicrobial Resistance in 2015, which called on all WHO Member States (MS) to have a national AMR action plan (AMR NAP) in place by May 2017, much work has been done within WHO European Region to shape the global agenda. An important step was the European Council's conclusions from June 2016 reiterating the importance of European Union (EU) MS to develop their AMR action plans based on a One Health approach.

Following intensive activity at national and international levels, some Member States are now successfully updating their plans for the next implementation period. However, several MS have either not yet finalized or adopted their national AMR action plan while, for others, progress in implementation is slow. The WHO Regional Office for Europe is supporting countries in the WHO European Region to assess and build on progress in the development of country-specific national strategies and action plans.

2. Introduction

Against this backdrop, on 16–17 June 2021, the Regional Office, in collaboration with the EC, organized and facilitated a virtual sub-regional workshop, consisting of two half-days, to which representatives from 18 countries were invited. The workshop objectives were to update MS on global, regional and national developments in AMR NAP implementation; showcase help and support mechanisms available through different programmes from the EC and WHO; and clarify what further support is needed by MS. The workshop provided a platform for sharing experiences, best practices and lessons learned, together with discussions about the remaining challenges, barriers and gaps.

Questions sent out to participants for an initial response ahead of the workshop were discussed in seven facilitated groups at two breakout sessions over the course of the workshop. Six of the seven groups were comprised of representatives from three countries per group, primarily representing the human health sector. The seventh group was comprised of representatives from the veterinary, food and agricultural sectors from participating Member States.

3. Participants

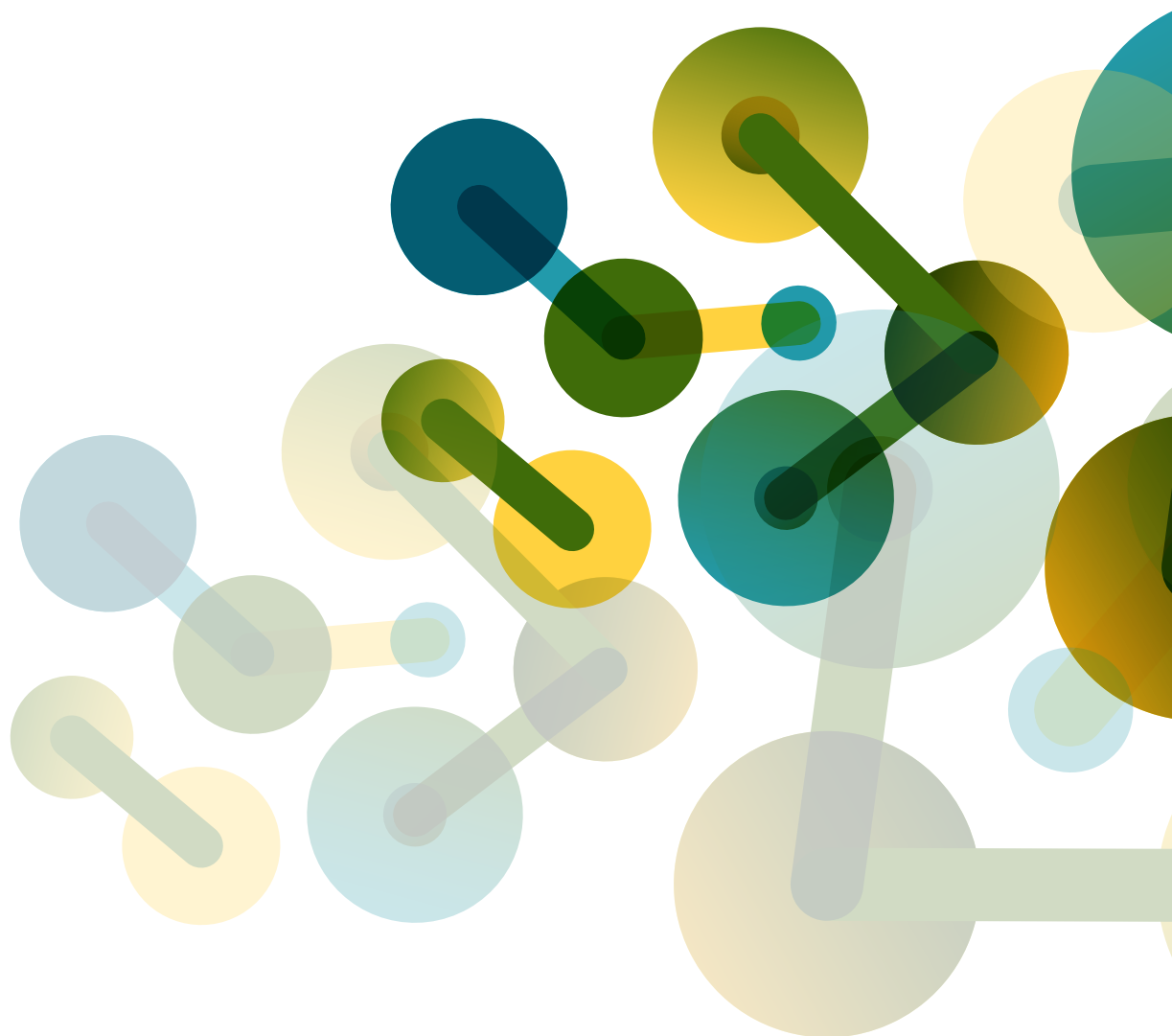
Countries attending the workshop included Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Poland, Portugal, Republic of Moldova, Romania, Serbia, Slovakia and Slovenia. Please, note that a full participant list is available in Annex 5.

Participants representing their countries included national focal points and key stakeholders who are or have been actively involved in the development and implementation of AMR NAPs. Additionally, invitations were extended to representatives from One Health-related agencies and other relevant partner organizations, and the EC and European Centre for Disease Prevention and Control (ECDC), together with regional and country representatives from WHO.

The participants were joined by experts from the AMR working group at the Regional Office, National Action Plan & Monitoring Unit (AMR Division) at WHO headquarters, Directorate-General Health and Food Safety (DG SANTE), Directorate-General for Structural Reform Support (DG REFORM) of the EC, EU Joint Action Antimicrobial Resistance and Healthcare Associated Infections (EU-JAMRAI), Italian National Institute of Health, Public Health Institute of Norway, and the University of Gothenburg.

4. What was discussed

Pre-event preparation and background consultation ensured that, in taking forward the AMR agenda, the programme reflected the needs of the audience and the countries they represented. The preparedness of the participants contributed to the success of the event, which was conducted in a spirit of openness, sharing and joint problem-solving. The presentations set the focus for subsequent discussions in breakout sessions at which participants were fully engaged. The topics generated many questions, with enthusiasm for change equally matched by frustration in relation to the challenges individual countries faced, often struggling to achieve political support and sustainable finances, which are a prerequisite to success. Discussions focused on the help needed and support available for countries to successfully operationalize their published, or soon to be published, NAPs. The workshop programme can be found in Annex 6.



5. Day 1 Multicollaboration – How is it done?

Highlights and Recommendations from Presentations on Day 1

Moderator: Dr Sarah Paulin, WHO headquarters

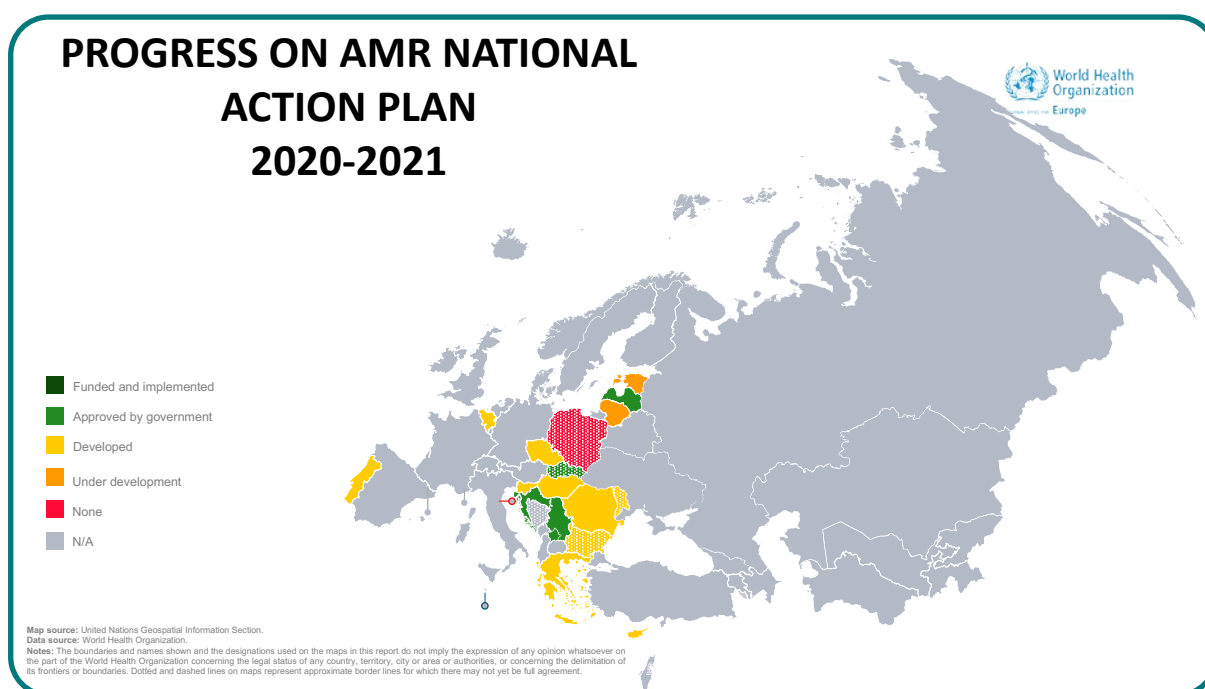
5.1 National Antimicrobial Resistance Action Plans in WHO European Region – Where are we?

By Dr Danilo Lo Fo Wong, Regional Adviser, Control of AMR for WHO Europe

Dr Lo Fo Wong retraced progress over the last five years and provided an insight into the Global Database for AMR Country Self-Assessment (see Annex 1.i), which is freely accessible and now in its 5th round (see Fig. 1). Globally, there had been a high response rate to the 4th Global Tripartite Self-Assessment Survey (2019–2020) with 136 out of 194 MS (70%) responding. In WHO European Region, 51 out of 53 MS responded. The adaptation of countries to self-assessment is demonstrated in the increased willingness to share both strengths and weaknesses. The database now includes the WHO's eight core components of IPC and covers all elements necessary for AMR One Health actions, as recommended in the GAP. It facilitates the presentation of survey results and provides a template for MS developing AMR NAPs. Since 2018, the EU has co-funded the efforts of the Regional Office to support the implementation of AMR NAPs in EU MS and countries participating in the 3rd Health Programme of the EU. A number of tools and materials have been developed with the support of this co-financing grant.

- An online course: Antimicrobial Stewardship: a competency-based approach (see Annex 2 x.a), has been developed in multiple languages
- A booklet: Antimicrobial stewardship interventions: a practical guide Available in multiple languages (see Annex 2 x.b),

Fig. 1. Progress on AMR National Action Plans (taken from the Global Database for AMR Country Self-Assessment)



Source: Slide from Dr Lo Fo Wong's presentation, reproduced with permission © WHO

- The Tailoring Antimicrobial Resistance Programme (TAP) (see Annex 2.xi) is a step-by-step practical approach to the design and implementation of a targeted behaviour change intervention to address drivers of AMR in human and animal health. Currently, TAP projects are being piloted in four countries with a new suite of guidance documents now available.
- The Roadmap for developing, adapting, adopting and monitoring IPC guidelines is an easy-to-read guide for a country approach, soon to be published.

In relation to establishing a functional National One Health Intersectoral Coordination Mechanism, Dr Lo Fo Wong's key message to organizations was, "We do not have to do everything together but together we must do everything". Similarly, at the regional level, a Regional Tripartite One Health Coordination Mechanism has been recently launched for synergistic actions in the European and central Asian region consisting of a One Health executive group, technical group, and partner platform.

Building surveillance in the Region

The launch of both the EC's and WHO's Regional Action Plan highlighted that growth across the Region required the inclusion of all 53 European MS, aligning methodology and learning from the experience of ECDC and others. In 1998, the European Antimicrobial Resistance Surveillance System (EARSS) was established, which later became EARS-Net in 2010 under the administration and coordination of ECDC. Building on the existing technical expertise, the Central Asian and European Surveillance of Antimicrobial Resistance network (CAESAR) was initiated in 2012 to support the countries not covered by EARS-Net, many of which had no established national surveillance at the time. Work now involves expanding surveillance throughout the Region using the same methodology to complete the regional picture of AMR. This year, on World Antimicrobial Awareness Week (WAAW)/European Antibiotics Awareness Day (EAAD),

the first joint results of EARS-Net and CAESAR were published in an executive summary. The first joint report was published in early 2022.

- Surveillance of antimicrobial resistance in Europe, 2020 data: executive summary¹
- Antimicrobial resistance surveillance in Europe 2022 – 2020 data (2022): first joint report²

5.2 EU as best practice region – where do we stand?

By Velina Pendolovska, Policy Officer at the Health Security Unit, EC DG SANTE

Ms Pendolovska reviewed the five years since the publication of the European One Health Action Plan on AMR, focusing predominantly on human health. With more than 33 000 annual deaths from AMR, the main health burden in the EU lies in health care settings, estimated at 75%. Ms Pendolovska argued the case for strengthened IPC, including primary prevention and the prudent use of antimicrobials. New classes of antibiotics in the market are needed, as is safeguarding the supply and use of existing antibiotics and strengthening both vaccine development and the uptake of diagnostics. Since 2015, 20 EU MS have adopted or updated their NAPs, which are publicly available. However, several MS have an action plan that has expired or covers one sector rather than taking the One Health approach.

Based on ECDC 2019 surveillance reports, Ms Pendolovska described a mixed picture between 2015 and 2019 with declines in monitored resistance in several bacterial species, notably an 18% decrease in methicillin-resistant *Staphylococcus aureus* (MRSA); large differences across countries with an evident north-to-south and west-to-east gradient, except for vancomycin resistance in *Enterococcus faecium*; and increasing trends for *Klebsiella pneumoniae* that are resistant to carbapenems (16% increase) and *Enterococcus faecium* resistant to vancomycin (74% increase). Although there were overall declines by 10% in antimicrobial consumption, large differences remain between countries, from 9.5 DDD/1000inh/day³ in the Netherlands to 34.1 DDD/1000inh/day in Greece in 2019.

Ms Pendolovska's key message was to use the momentum from the COVID-19 pandemic to strengthen preparedness and surveillance. COVID-19 had revealed structural weaknesses, including the fragmentation of efforts in the EU, market failures and a lack of medical countermeasures, vulnerabilities in global supply chains, and the need to strengthen collaborative defences. Work has commenced on strengthening the EU Health Security Framework, including strengthened mandates for ECDC and the European Medicines Agency (EMA), together with the setting up of a new EU Health Emergency Preparedness and Response Authority (HERA) (see Fig. 2).

-
- 1 WHO Regional Office for Europe and European Centre for Disease Prevention and Control. Surveillance of antimicrobial resistance in Europe, 2020 data: executive summary. Copenhagen: WHO Regional Office for Europe; 2021 (<https://apps.who.int/iris/handle/10665/348971>, accessed on 15 March 2022)
 - 2 WHO Regional Office for Europe and European Centre for Disease Prevention and Control. Antimicrobial resistance surveillance in Europe 2022 – 2020 data: first joint report; Copenhagen: WHO Regional Office for Europe; 2022 (<https://apps.who.int/iris/handle/10665/351141>, accessed on 15 March 2022)).
 - 3 Defined Daily Dose per 1000 inhabitants per day [website]. In: World Health Organization, tools and toolkits. Geneva: World Health Organization; 2022 (<https://www.who.int/tools/atc-ddd-toolkit/about-ddd>, accessed on 15 March 2022).

Fig. 2. EU Health Emergency Preparedness and Response Authority (HERA)



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5.3 Examples for Multisectoral collaboration on AMR

5.3.1 Development and implementation of a NAP in Italy: challenges, lessons learned, what will we do better next time?

By Dr Annalisa Pantosti, Director of the AMR Unit at the National Institute of Health, Italy

Dr Pantosti discussed the challenges in Italy in developing a strategy and health legislation in autonomous regions while, at the same time, reaching agreement on national health policy. The ECDC report on the country visit in January 2017 served to accelerate the preparation and finalization of the Italian NAP. Specifically, ECDC reported on a general lack of urgency and a tendency by many stakeholders to avoid taking charge of the problem, together with a lack of institutional support at national, regional and local levels and a lack of coordination of activities between and within levels.

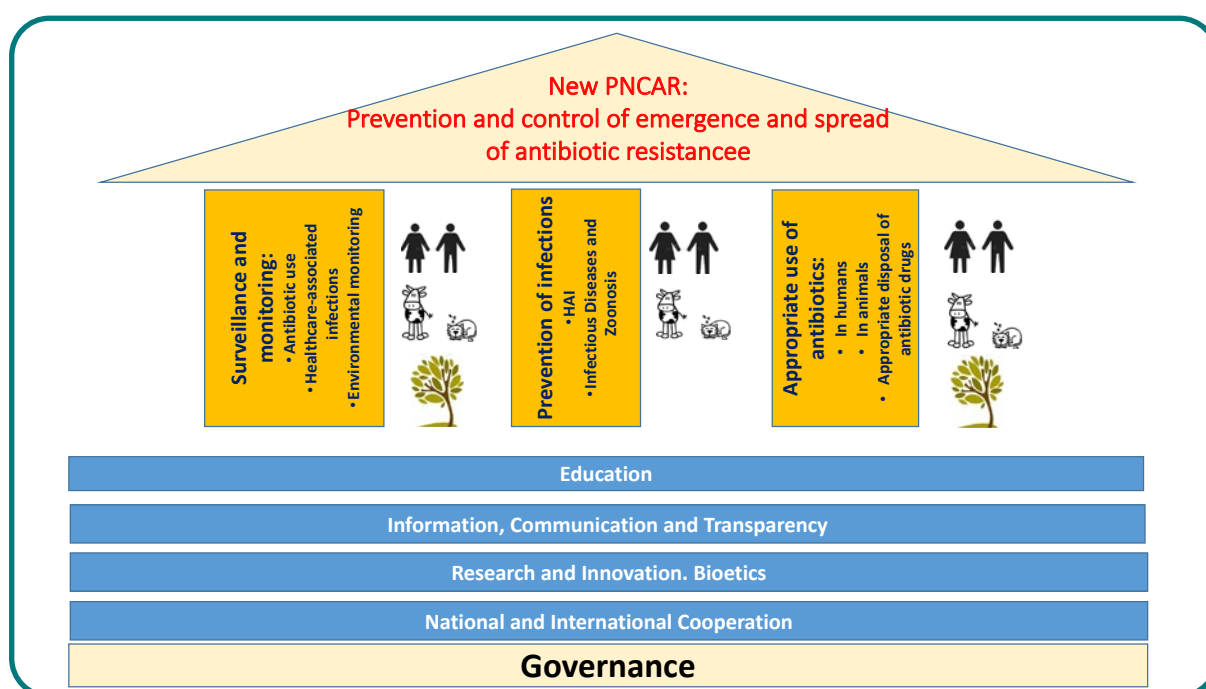
Approved in November 2017, the NAP, which included a One Health strategy, was ambitious in its goal to reduce antibiotic consumption – both overall systemic use and in certain classes, such as fluoroquinolones in the human sector and critically important antimicrobials in the veterinary sector. It also targeted a reduction in the prevalence of multi-drug resistant (MDR) organisms (MRSA and carbapenemase-producing *Enterobacteriales* (CPE)) by more than 10%. With a division of actions at central, regional and local levels, a complicated governance structure was required with a technical coordination group at the Ministry of Health. Most of the work is undertaken in working groups with external experts, as needed. An inter-regional committee covers human and veterinary areas.

The emergence of COVID-19 extended the life of the NAP to the end of 2021 while work has been undertaken to evaluate the NAP, which showed that several of its indicators had been successfully achieved, including reaching the target for a reduction in the use of fluoroquinolones in hospitals and the

community; and a reduction in the veterinary sector of critically important antibiotics (CIAs) and colistin. For MDR organisms, a reduction was achieved for the prevalence of CPE but not MRSA.

Inspired by the objectives used in EU-JAMRAI: Support to the National Plan for Combating Antimicrobial Resistance (SPiNCAR), a self-assessment programme has been developed to evaluate the National Plan to Combat Antimicrobial Resistance (PNCAR) at regional and local levels (see Fig. 3). The programme includes the undertaking of regional visits and the provision of a website with a scoring/traffic light system at the hospital level. Changes in the total use of antibiotics in the primary sector (showing reductions) and in hospitals (showing increases) were too early to evaluate due to the pandemic, which had a significant impact on health care activity in Italy. Additionally, €40 million per year have been allocated to regions for implementation purposes, conditional upon delivery.

Fig. 3. PNCAR developed to evaluate the NAP at regional and local levels



Source: Slide from Dr Annalisa Pantosti's presentation, reproduced with permission. © Dr Annalisa Pantosti.

The key message was that a greater focus on the environment is needed when planning the next round of NAP development. In terms of One Health, integration is more than just understanding each other's activities.

5.3.2 Support Between Countries – The EU Jamrai Experience Country-To-Country Peer Review and Visits

By Rosa M. Peran i Sala, Ministry of Health, Welfare and Sport, EU JAMRAI: Country-to-Country Support

The initiative involved supporting MS in working together in the development and implementation of their AMR strategies and NAPs and reporting these activities to the One Health network. The main objectives were to monitor country progress and identify gaps, best practices, and priority areas for further work (see Fig. 4). The work was led by the Netherlands in collaboration with 13 MS. The methodology used combined

mapping activities, self-evaluation, peer review and voluntary external evaluation. The advantages of the methodology used by the initiative include a de-centralization of supervision, the possibility to assess a country's progress via a mapping tool and a self-evaluation, and the sharing of learning through voluntary external evaluations. The establishment of a supervisory bodies network facilitates the sharing of experience and best practices and the identification of areas where action or improvement is needed. In total, 13 country-to-country visits took place. Work was divided into several activities including:

- + mapping of the current situation;
- + completion of a self-assessment tool, reflecting nationally on progress and gaps; and
- + participation in a voluntary country-to-country peer review system to evaluate each other's NAPs.

Fig. 4. Strengthening national response – country-to-country support



Source: A slide from Rosa M. Peran i Sala's presentation reproduced with permission. © EU-JAMRAI.

The main priorities identified by multiple countries (number indicated in brackets) were:

- + awareness and communication (6)
- + IPC (6)
- + prudent antimicrobial use (5)
- + surveillance and monitoring (4)
- + governance (4)
- + research, development and innovation (3).

Each of a handful of countries noted at least one of the following: improving guidance compliance, improving animal health and welfare, or establishing regional health care networks and early warning systems. Ms Peran I Sala shared the content of the JAMRAI website on EU One Health Country Visits featuring the results of the 13 country-to-country visits with access to a dashboard for each participating country (see Annex 2.vi)

5.3.3 Building A NAP – Experience From Partnering Between Countries (Romania and The Norwegian Public Health Institute)

Dr Alexandru Rafila, Professor at Matei Bals, University of Bucharest, Romania

Dr Rafila discussed problems in Romania relating to high levels of AMR in invasive infections and poor reporting of Health care Associated Infections (HAI), with the need for a marked and sustainable decrease in antimicrobial (AM) consumption. In 2017, following a visit to Romania, a joint ECDC and WHO evaluation reported on the strengths and weaknesses of the health system. The development of laboratory capacity in smaller towns in Romania remains limited. Attempts have been made to establish a standardized approach in laboratory diagnostics country-wide as well as the establishment of AM prescribing guidelines. The work of a technical group to develop the strategic framework, NAP and sector integration has been hindered by frequent political change and difficulties in retaining AMR on the political agenda. Despite having had an intersectoral group in place since 2018, the technical committee has met only twice.

In 2020, with financial support from Norway and technical support from the Regional Office, activities, including the twinning of Romania with the Norwegian Public Health Institute (PHI), assisted in data management work and the development of indicators in Romania. It is hoped that this work will provide evidence to politicians of the need for action. The National Institute for Infectious Diseases, the coordinating body, is involved in several projects to understand AMR problems in Romanian hospitals, including high numbers of critical cases of MDR infections despite low levels of reporting, which has sparked political interest.

With Norwegian and WHO support, the strategic framework and NAP have now been finalized, with a nomination from the Minister of Health for their endorsement. Emphasis has been placed on the development of technical tools and guidance focusing on microbiology, epidemiology and antibiotic prescribing in hospitals. The National Institute for Infectious Diseases, in partnership with the National Institute of Public Health and the Norwegian Institute of Public Health, will undertake a pilot to evaluate implementation of the guidelines in six hospitals across the country. In the veterinary sector, an AMR surveillance programme is in place.

Dr Oliver Kacelnik, Epidemiological Unit for Monitoring of HCAI and AMR at the Public Health Institute of Norway.

Dr Kacelnik commented that the twinning work with Romania has demonstrated that it is as important to work across countries on AMR as it is to work within one's own country. A mutual learning environment and understanding the experiences of other countries helps feed into processes on both sides. A huge benefit was gained from professionals sharing experiences. Norway is currently revising its AMR strategy and approaching a new cycle of NAP revisions.

5.4 Aggregate Analysis of Response to Preparatory Questions ahead of the workshop and breakout sessions

Participants were sent the following four questions to consider and asked to submit their responses ahead of the workshop. The questions would then be discussed in greater detail in the breakout sessions.

1. What were the three main challenges when developing the NAP in your country?
2. What are the three main challenges when working with implementation?
3. What are the three main priorities for your country's work on the NAP right now?

4. Where and how can WHO/EC support countries?

Aggregated responses to the questions were as follows.

Question 1. What were the three main challenges when developing the NAP?

A. Collaboration and framework challenges were to:

- gain political attention and understanding of the extent and urgency of the problem;
- receive political support beyond the short life of a governing party;
- agree on activities that everybody can support and endorse;
- broaden existing collaborations and bring in new stakeholders and experts; and
- have clearly defined mandates and responsibilities.

B. Challenges related to coordination and the allocation of resources were to:

- draw fragmented work into an integrated plan;
- engage sufficient expertise, allowing designated time to cover the work needed; and
- successfully facilitate the transfer of responsibility from decision-makers to those responsible for executing the plan and maintaining momentum.

Question 2. What are the three main challenges when working with implementation?

Challenges included:

- a lack of timeliness in relation to top-level coordination and support;
- finding the legal framework to introduce changes in the health care system;
- financial support for rapid diagnostics and laboratory resources; and
- accepting that momentum starts at a slow pace and setbacks don't necessarily mean that it's not going to work.

Question 3: What are the three main priorities for your country's work on NAP right now?

1. Human health priorities included:

- introducing expert teams on antibiotic use in hospitals and supporting local and national monitoring of Antimicrobial Consumption (AMC), including the definition of indicators; and
- securing the legal framework for medical supplies and accessibility, including that of old and new drugs and equipment.

2. Human and veterinary sector priorities included:

- strengthening AMR and AMC surveillance systems in both the human and veterinary sectors and commencing the integration of environmental measures.

Question 4: Where and how can WHO/EC support countries?

Support included:

- the promotion of an innovative collaborative program among countries, highlighting successful models and strategies;
- continued country visits with expert teams; and
- the development and dissemination of training programs for health professionals, veterinarians and the agricultural sector

5.5 Break-out session. Day 1: Key steps, moving from planning to implementation, sharing experiences

The responses to the questions sent out to participants ahead of the meeting were used in the break-out session as a starting point for more in-depth discussion within the groups. However, some flexibility was built in to allow discussions to flow according to areas that stimulated the need for greater discussion. Below are the main areas that were discussed:

What do you think were the biggest challenges when moving from planning to implementation? Identify the top three challenges.

There was significant cross-over between countries describing the same challenges. In summary, the most common challenges were:

- a lack of an appropriate legal framework to support action on AMR, including rational antibiotic use in sectors;
- a lack of human and financial resources, including technical capacity, at different levels, which had worsened due to multitasking during the COVID-19 pandemic;
- communication with different elements within the veterinary sector (e.g. aquaculture versus farm animals) and the human health sector;
- weak political commitment and instability, frequent changes in government, and having to revisit the same messages;
- weak engagement and clarification of roles, responsibilities and mandates, in both the public and private sectors and in professional associations;
- achieving compliance with clinical guidelines; and
- poor awareness of AMR outside the hospital, demonstrating a need for societal awareness and engagement.

Other challenges mentioned were:

- moving from informally to formally shaping national strategies;
- having the environment included in NAPs, which is hampered by the multisectoral nature of the work, such as the need to include different ministries in activities that are cross-cutting.
- the lack of knowledge on AMR among senior health care workers, and cultural attitudes among health care staff and society.
- the lack of dedicated IPC personnel and opportunities to approach tasks creatively, which are particularly needed to operationalize NAPs;
- the involvement of the private sector where, in some countries, there are many private health care organizations operating at the primary care level;

- the lack of comparability of data across sectors, which demonstrates a need for balancing the surveillance of antibiotic use between human health care providers and veterinarians;
- the absence of integrated national AMR data and national reference laboratories; and
- the impact of COVID-19 on the consumption of antimicrobials.

Identify best practice examples or recommend key steps to move from planning to action. Identify the top three steps.

Key steps included:

- identifying a national AMR leader within the intersectoral committee with responsibility for NAP coordination;
- strengthening the intersectoral coordinating committee with all critical players included;
- developing an operational plan based on the prioritization of NAP implementation;
- using a step-wise implementation approach with measurable indicators and targets;
- focusing on IPC in health care settings;
- raising AMR awareness among the general public with strong, efficient investment in communications and awareness raising;
- conducting citizens' awareness campaigns, professionally undertaken with behavioural science elements;
- having funding for implementation plans and stewardship programmes for hospitals; and
- increasing the use of electronic tools.

Other steps mentioned were:

- achieving cross-sector interest and involvement in AMR and AMC surveillance, including data sharing;
- addressing compliance by focusing on behaviour change and professional practices;
- making a business case with clear goals and focusing on the small steps that will allow for the opportunity to achieve goals;
- putting training in place to ensure guidelines and other guidance pathways are explicitly part of the NAP;
- clearly defining the role and responsibilities of the public health specialist involved in antimicrobial stewardship programmes;
- participating in EvipNet (see Annex 2.ix) – doing so brings surveillance data, together with supporting evidence, to the attention of decision-makers.
- similarly, joint interagency work between human and animal health agencies will help increase understanding of antimicrobial consumption and occurrence of antimicrobial resistance in bacteria from humans and food-producing animals.
- use of WHO Antimicrobial Stewardship e-learning course available online; and
- enforcing (or making) mandatory intersectoral collaboration where possible to do so.

What were the top three steps to move from planning to action?

The top three steps were:

1. engaging politicians and local leaders, and persuading your own government that this is a priority;
2. establishing a national coordinating committee with an identified lead responsible for maintaining progress and ensuring roles and responsibilities are clarified; and
3. focusing on operational and financial planning.

5.6 Key lessons and messages from Day 1

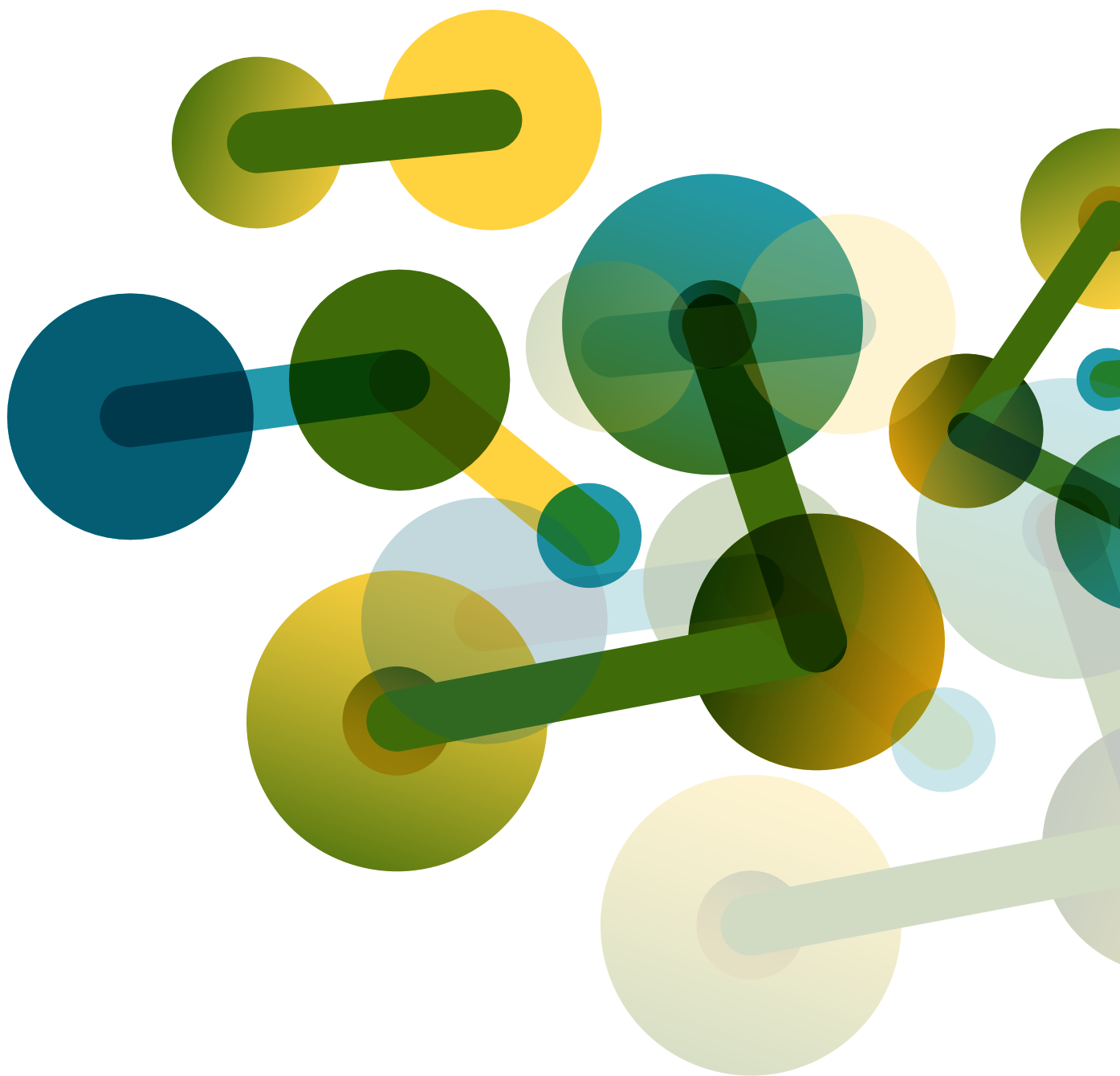
Day 1 provided an opportunity to update colleagues on progress in addressing AMR across the WHO European Region. This was presented from different angles and perspectives, through taking stock of current capacities to combat AMR, and describing the roles and responsibilities of relevant stakeholders to address the gaps. Colleagues discussed successes and failures when working with the development and operationalization of their NAPs; and identified lessons, that were not yet learned, together with positive experiences and common frustrations.

Key lessons learned relating to NAP development and implementation included:

- involving all relevant sectors and levels (including those at the regional level)
- clear and measurable indicators and targets
- empowering citizens and including the participation of MS in twinning programmes
- keeping the AMR NAP simple and smart throughout its development.

Key messages from speakers and participants included the following.

- The role of vaccination in NAPs should not be forgotten.
- Within the One Health approach, we do not have to do everything together, but together we must do everything by understanding our roles and responsibilities and having a functional coordination mechanism with relevant stakeholders around the table.
- A greater focus on the environment is needed in future planning.
- Country-to-country peer review and twinning work has demonstrated that it is as useful to work across countries on AMR as it is to work within one's own country – lessons learned go both ways.
- Peer review is intended to add value to, rather than duplicate, other audit and assessment activities.
- Where there is political instability, there is a need to look to opportunities to 'seize the moment' to achieve the adoption of NAPs.
- Look across the EU MS at progress indicators and targets. These could provide an additional 'push for national action' – what we measure and see is what pushes action and provides visibility.
- A greater focus on the environment is needed when planning the next round.
- In terms of One Health, integration is greater than just understanding each other's activities.



6. Day 2: Securing resources

Moderator: Dr Peter Sousa Hoejskov, Food Safety & Zoonotic Disease Programme, WHO Regional Office for Europe

6.1 EU support mechanisms for the development and implementation of NAPs

6.1.1 The EU4Health Programme

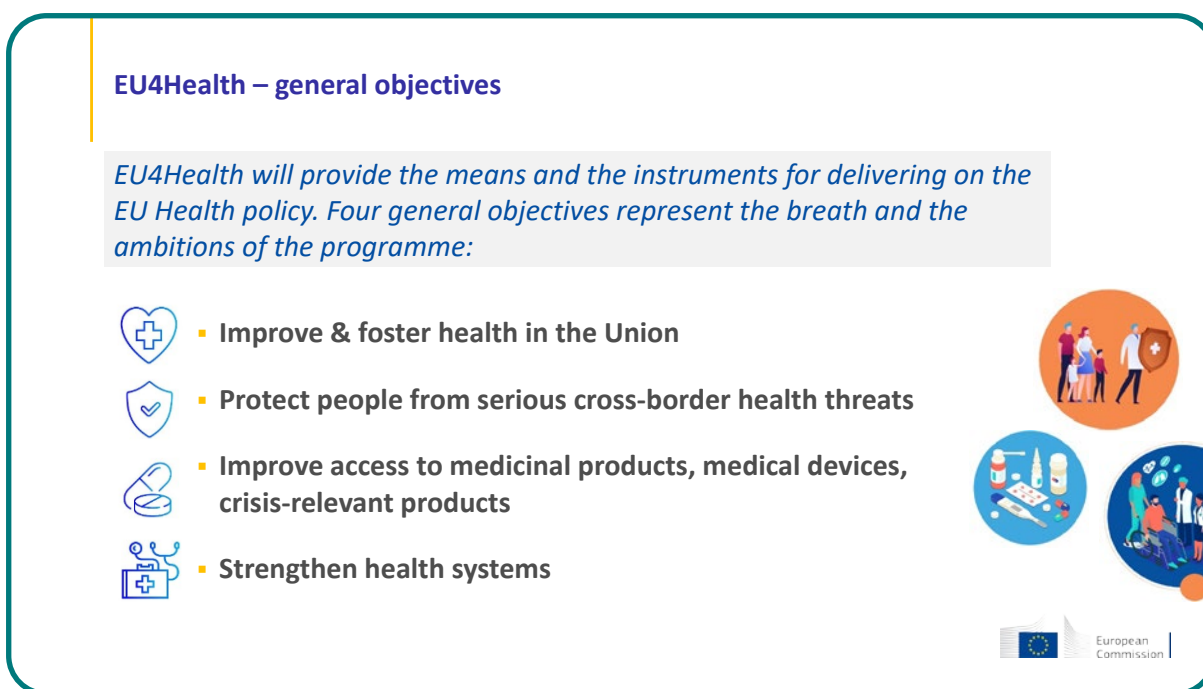
By Velina Pendolovska, Policy Officer at the Health Security Unit

The EU4Health Programme (see Fig. 6) is a new financial instrument, with over €5.3 billion to be invested in health during the next seven years (2021–27). A minimum of 20% will be reserved for health promotion and disease prevention activities. Work will support and complement national health policies aimed at strengthening and modernizing health systems, reducing inequalities, and overcoming shared challenges. The EU4Health Programme was formally adopted in March 2021.

Ms Pendolovska described the adoption of the programme as a clear message that public health is a priority for the EU and an instrument to help achieve a European Health Union. EU4Health will provide the means and the instruments for delivering on the EU health policy.

The programme comprises four general objectives which are linked to public health, as can be seen in Fig. 6.

Fig. 6. The EU4Health Programme



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Funding is not intended to support large-scale infrastructure projects and cannot replace the core responsibilities of MS to guarantee access to health care services, but it can provide operational financial support.

Several actions linked to AMR have been included in the EU4Health work programme 2021 (see Annex 1.ii).

1. A call for proposals includes €7 million for action grants that support training activities, implementation and best practice, focusing primarily on IPC and AMR in hospitals and long-term care facilities, given the associated burden of disease from AMR in these settings, as well as AMS in primary care.
2. Support for the implementation of the 2017 EU One Health Action Plan includes €1.5 million for a study looking at, inter alia, intangible barriers to NAP development and implementation, such as behavioural and organizational barriers; and, secondly, funding for a special Eurobarometer on AMR.
3. AMR preparation for Health Emergency Preparedness and Response (HERA) includes € 2 million for service contracts focusing on preparatory actions.

In addition, Ms Pendolovska provided examples of projects under EU structural funds in the period 2014–2020, including projects funded through the European Regional Development Fund (ERDF), such as: antimicrobial preparation for treatment of *Paeruginosa infection* in Lithuania; development of new antimicrobial agents targeting Gram-positive bacterial sortase in Latvia; and the establishment of an antibiotic network in Germany.

6.1.2 Cohesion Policy Funds 2021–2027

By Dr Loukianos Gatzoulis, Policy Analyst, Performance of National Health Systems, Directorate Health Systems, Medical Products and Innovation, DG SANTE, EC

Dr Gatzoulis provided an overview of other EU funding instruments (see Fig. 7), focusing on Cohesion Policy funds (Annex 1.iii), which can provide a bigger pool of money to support the implementation of AMR NAPs. Cohesion Policy funds can support a more tailored approach to regional development and, in this context, could finance the undertaking of AMR research at the national or regional level. Additionally, these funds can support investments in health infrastructure – such as for modernizing hospital infrastructure to facilitate better control of AMR or developing laboratory capacity for surveillance – and in training of health workers in AMR. Even if AMR is not an explicitly specified area for funding, MS and their regions can define their own funding priorities in health and consider including AMR-related actions.

Fig. 7. EU funding instruments



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6.1.3 The Work of DG REFORM SANTE Technical Support Instrument: DG REFORM

By Dr Christoph Schwierz, Deputy Head of Unit; and Federico Paoli, Policy officer at the unit Labour Market, Education, Health and Social Services, DG REFORM, EC

DG REFORM helps EU MS carry out reforms to stimulate job creation and sustainable growth. The Technical Support Instrument (TSI) (see Fig. 8) offers technical, tailor-made support based on the demand of MS for the design and implementation of structural reforms.

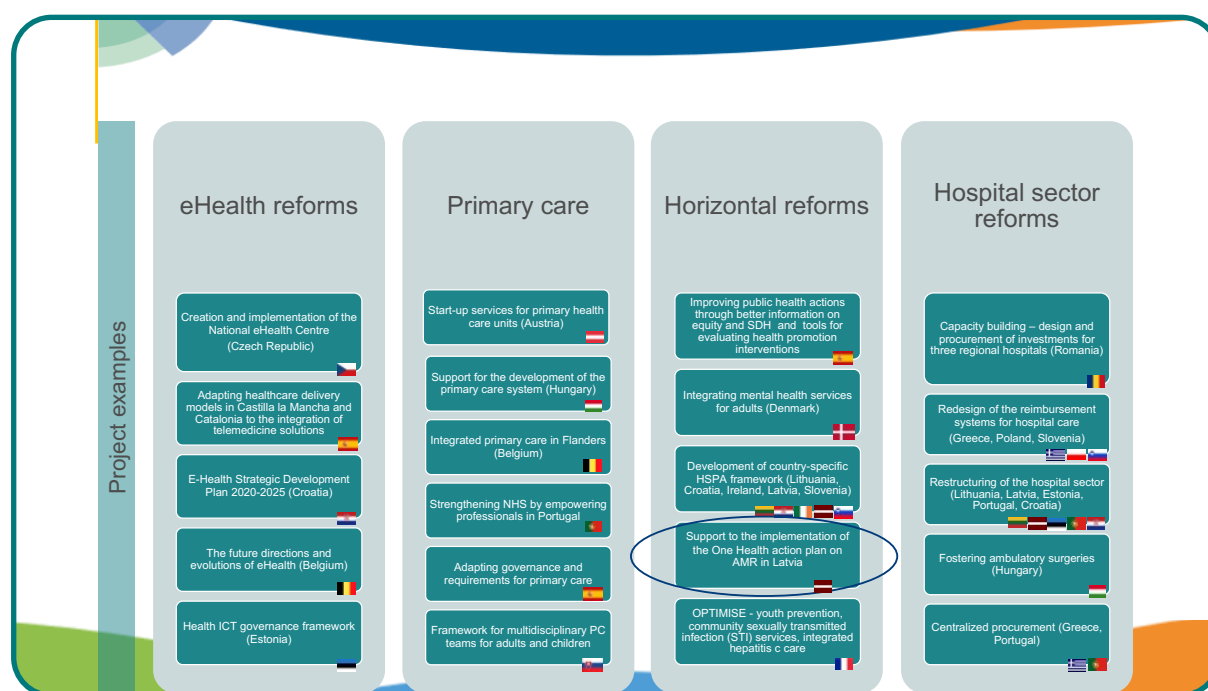
A project example where DG REFORM provided support was work on the implementation of the One Health action plan on AMR (2019–2023) in Latvia. The work sits under the heading of Horizontal Reforms, providing cross-sector support for the human health and agricultural sectors.

- + Support is provided by DG REFORM over 24 months in the form of continuous technical support and advice which includes:
 - + a literature review
 - + interviews, workshops, study visits and training
 - + a pilot study
 - + the design of a sustainability plan for implementing the One Health NAP
 - + the provision of a farm and hospital toolbox
 - + a roadmap for increased national, intersectoral communication.

The expected results from the provision of the TSI are as follows.

1. The Centre for Disease Prevention and Control and Food and Veterinary Service of Latvia is empowered to best implement the One Health action plan.
2. Human and animal health professionals and animal farmers are provided with skills and tools for the prudent use of antimicrobials to prevent and contain AMR.
3. An intersectoral coordinating mechanism (ICM) is put in place to support information sharing and collaboration between sectors on various aspects of AMR among relevant professionals.

Fig. 8. The Technical Support Instrument (TSI)



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6.2 What are the main incentives for, and what prevents countries from, committing to work on AMR?

By Dr Christine Årdal, Co-lead of EU JAMRAI Work Package 9: Research and Innovation, Norwegian Institute of Public Health

Ms Årdal discussed several publications (links for which can be found in Appendix 7).

'Stemming the Superbug Tide', a 2018 publication by the Organisation for Economic Co-operation and Development (OECD) (11), advised that investment in best buy measures could pay for themselves within just one year and produce savings of about US\$1.5 for every dollar invested thereafter. Interventions include improving hygiene in health care facilities, including the promotion of handwashing and better hospital hygiene; stewardship programmes on using antibiotics more prudently (see Fig. 9); the use of rapid diagnostic tests to detect whether an infection is bacterial or viral; delayed prescription; and public awareness campaigns.

The targeted systematic review into the need for updated guidance to prevent surgical site infections, by the Centers for Disease Control and Prevention (CDC) based in the United States of America, demonstrated that there is insufficient data and research on IPC. In the paper 'Surgical Site Infection Prevention: What we know and what we do not know' by Lipsett, (2017) (12), investigating IPC in the AMR NAPs of eight participating countries, showed a strong commitment to IPC programmes, but insufficient research: 100% of the participating countries were implementing IPC strategies in health care facilities, but only 57% of the participants had undertaken research on how to implement IPC programmes.

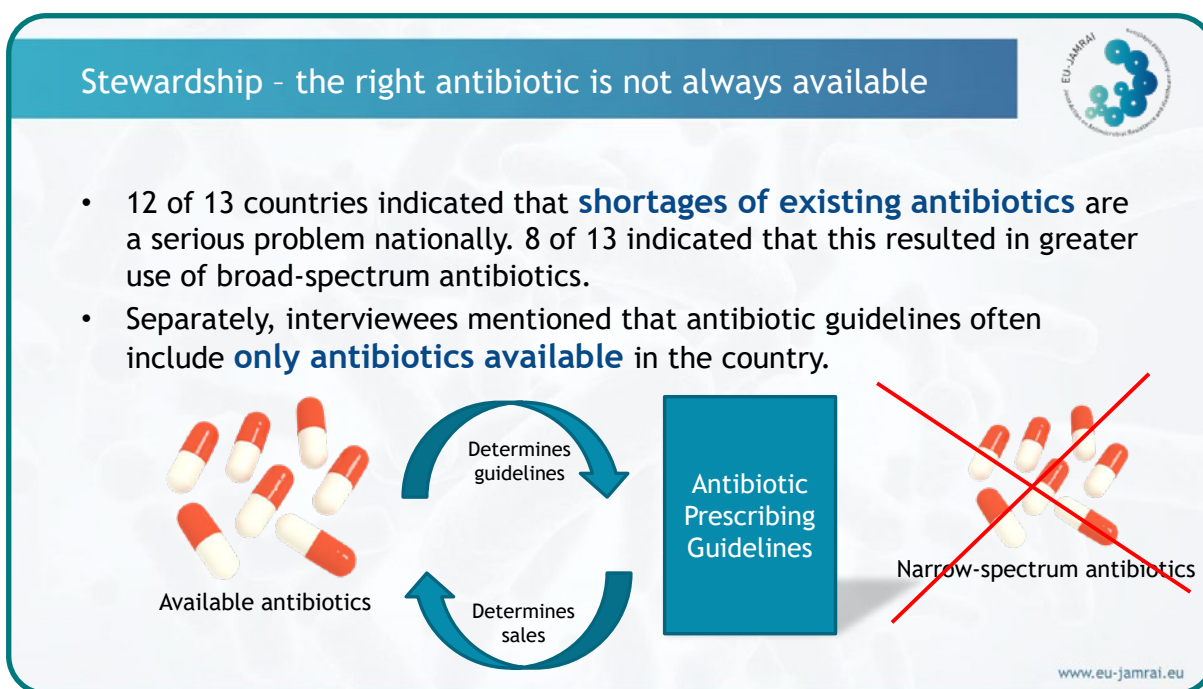
The publication, 'Infection prevention and control research priorities: what do we need to combat healthcare-associated infections and antimicrobial resistance? Results of a narrative literature review and survey analysis' (13), written by Yohann Lacotte, Marie-Cécile Ploy and Christine Årdal on behalf of EU JAMRAI, which looked at IPC research priorities, found the following investigation needs:

1. factors facilitating success in, and the barriers and challenges to, implementing effective IPC programmes;
2. the impact of infrastructure, at the facility level, on the reduction of infections and resistance; and
3. the patient-to-bed ratio for the spread of infections and resistance, including a number of potential influencing factors, such as instances of overcrowding, staff workload, available staffing (including the presence of IPC professionals), bed occupancy, and visitor frequency.

A secondary publication, 'National Facilitators and Barriers to the Implementation of Incentives for Antibiotic Access and Innovation' (14), included in-depth interviews of policy-makers in 10 European countries and policy-makers and AMR experts in Canada, Japan and South Africa, under the Chatham House rules⁴, to understand facilitators and barriers to incentives.

4 Chatham House Rules: "Its guiding spirit is: share the information you receive, but do not reveal the identity of who said it... It is used around the world to encourage inclusive and open dialogue in meetings." (Parmar, I S. / Chatham House. Oxford Companion to 20th-Century British Politics. Oxford: Oxford University Press, 2000.<https://www.chathamhouse.org/about-us/chatham-house-rule>).

Fig. 9. Stewardship programmes and access to the right antibiotics



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6.3 National Action Plans, Objectives and strategies

By Dr Jon Pierre, Professor of Political Science and affiliated scholar with the Center for Antibiotic Resistance Research (CARE), Gothenburg University

Looking at 27 EU countries, Dr Pierre focused on three areas – objectives, structure of the NAP, and international cooperation – ranking each country according to certain criteria and a scoring system comprised of basic characteristics, such as: appropriately using antimicrobials in humans and animals; and taking a leading role in both international cooperation and domestic AMR governance arrangements. The information was used to develop a matrix looking at network strategies by the level of horizontal versus vertical network activity⁵ undertaken (Fig 10.). The results indicated whether the country's network strategy identified them as Isolationists, Globalists, Europeanists or Hubs in terms of their strategic approach. This could be useful to inform EU strategy or international organizations on how to approach countries struggling with AMR.

⁵ Horizontal activity refers to domestic activity or networking within the EU. Vertical activity refers to linking domestic activity (networking) with global institutions, such as WHO.

Fig. 10. Matrix of network strategies by the level of horizontal versus vertical network activity



NETWORK STRATEGIES			
Horizontal network activity	Vertical network activity		
		Low	High
	Low	Isolationists	Globalists
	High	Europeanists	Hubs

UNIVERSITY OF GOTHENBURG

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6.4 Headquarters update on development of Tools and Guidance to support AMR National Action Plans: planning, implementation, monitoring

By Mr Anand Balachandran, Unit Head of AMR National Action Plan and M&E (NPM) unit, Surveillance, Prevention, Control Department, AMR Division, WHO headquarters, Geneva, Switzerland

Mr Balachandran provided an update of the WHO AMR NAP implementation tools that are available or under development as follows.

Published tools include a:

- WHO Webinar Series to Support Implementation of National Action Plans on Antimicrobial Resistance (see Annex 2.x), launched in the summer of 2021, which is a global series of monthly AMR webinars, 60–90 minutes duration, on topics related to NAP implementation at the country level;
- WHO AMR Costing and Budgeting Tool for NAPs (see Annex 2.xi), launched in October 2021; and
- AMR NAP Implementation Handbook, (see Annex 2.xii) published online February 2022.

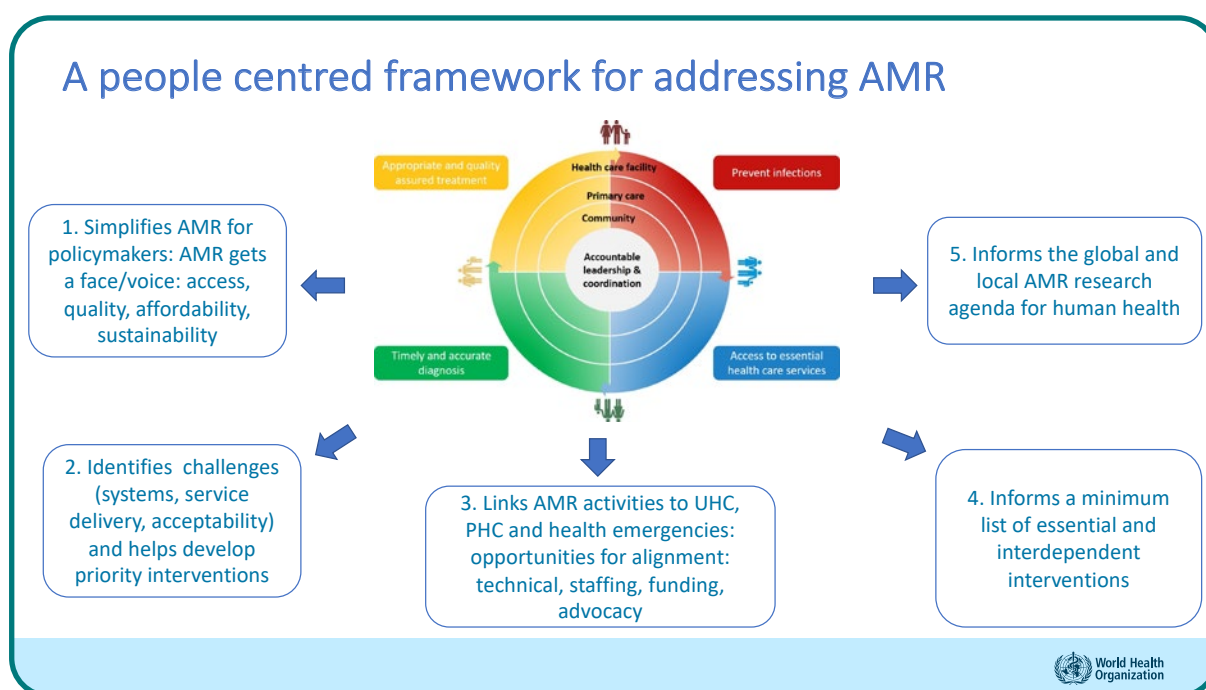
Tools under development.

- A training package on Leadership Skills to Implement Multisectoral NAPs will be finalized in November 2021 and translated and rolled out to countries in 2022–2023.
- The NAP Country Guidance for Establishing a Monitoring & Evaluation Framework will be finalized

and tested in five countries as part of the Multi-Partner Trust Fund Global Monitoring and Evaluation Project.

- A NAP Assessment Tool for the human health sector will assist countries to identify their capacity levels (i.e.scores) in various technical areas and provide them with specific benchmarks at each capacity level to help with target-setting. The tool will help to identify gaps where technical assistance is urgently needed.
- The AMR Patient Pathway: A Framework, is a patient-centred framework that puts patients at the centre of the AMR response (see Fig. 11). It is a proposed programmatic approach to manage the AMR response, focusing on the need to strengthen health systems to ensure equitable access and sustainability. It also highlights the need to recognize the interdependent nature of interventions and prioritize actions. Lastly, it makes AMR more visible to policymakers by giving a face and voice to AMR.

Fig. 11. AMR Patient Pathway: A Framework



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6.5 Break-out session Day 2: Securing resources, and the top three priorities that would prosper from additional internal or external support

Following questions were asked during the break-out session on day 2:

- Please discuss the specific challenges related to a lack of resources. Does the support you receive match your needs?
- What kind of support would you like for your activities? Identify three top priorities that would prosper from additional internal or external support

6.5.1 Aggregated summary of comments from break-out session day 2

In answer to (A) above, challenges include:

- the establishment of a multisectoral coordination body and improvement of intersectoral collaboration;
- leadership and a lack of involvement of technical experts;
- the absence of integrated national data regarding AMR and of a national reference laboratory;
- defining realistic and measurable objectives in the NAP;
- not properly identifying national needs, and needs are difficult to match and even more difficult to prioritize;
- the absence of epidemiologists at the national level;
- a lack of resources at all levels, including financial resources, which creates difficulties in prioritizing. EU project financial support - not a flexible budget;
- information and resources from international organizations not always reaching those who need it.
- a lack of knowledge among senior health care professionals and the public on AMR, with challenges in increasing knowledge and awareness;
- communications of AMR teams at different levels (e.g. local, regional);
- organizational/infrastructural problems in hospitals, such as the need for an isolation department in each hospital;
- completing what COVID-19 delayed; and
- a lack of financial resources, and having funds that are not specific for NAPs;

In answer to (B) above, the following priorities in need of support were identified.

Needs for political support included the following.

- WHO and EC should press for more political commitment for the creation of NAPs and the implementation of AMR-specific targets.
- Awareness should be raised at high levels of government to gain political commitment and support for the adoption of NAPs and national financing.
- Lobbying by EU, ECDC and health care institutions is needed to gain political commitment.

Funding prioritization is needed:

- to ensure dedicated tools are available at different levels;
- for programme activities, such as for setting up management consultancies for hospital directors to implement systems;
- to support compliance with the new EU regulatory framework on veterinary medicinal products (VMP) and data collection;
- for short-term, flexible funding for collaborative research projects and networking; and
- to provide information on what funding is available and support how to request it effectively.

Technical support is needed:

- to define realistic and measurable objectives in NAPs;
- to secure integrated IT systems for the human and veterinarian sectors;
- for better surveillance of antimicrobial prescribing by veterinarians, including private practices, related to the new EU regulations 2019/6 on veterinary medicinal products, to provide learning ahead of the new platform in 2023;

- with the introduction of point-of-care testing in primary health care, especially for the paediatric population;
- with monitoring and evaluation mechanisms;
- with interpreting NAPs at an operational level, with expert advice from the EU and EC;
- to establish a multisectoral coordination body and improve intersectoral collaboration;
- in relation to twinning projects (e.g. JAMRAI or country-to-country); and
- to provide WHO expert external evaluations of progress, beyond having only qualitative evaluations, which would be helpful based on experience from EU-JAMRAI.

Information and training needs included:

- information sharing in relation to ongoing projects, new resources and new platforms
- practical information on tools available for EU projects, such as sequencing tools
- how to access and apply for projects, particularly those mentioned in the workshop
- identifying and applying for funding and using funding tools
- training and IT tools to support feedback at an individual level
- the Use of online courses for antimicrobial stewardship
- guidelines from the WHO on how to manage the anti-science movement
- more creativity for research projects.

Network needs included:

- use existing networks more for information sharing (i.e. going back to the basics)
- the establishment of AMR and HCAI networks
- having official AMR national contact points

Raising awareness needs included:

- increasing knowledge and awareness on antimicrobial resistance among health care professionals;
- reaching the general population with important messages; and
- how to introduce health education and awareness raising in schools.

Resource needs included:

- assisting in the establishment of a department for infectious diseases in hospitals.

6.6 Key discussions and messages from Day 2

Discussions on day two focused on WHO and EU support mechanisms for the development and implementation of AMR NAPs. The main incentives to, and what prevents countries from, committing to work on AMR and the NAP were explored. The focus of research was discussed – namely, what defines the area of interest and how do results feed into policy-making and guidelines. This covered new and existing tools; and financial and technical assistance available to countries to support the development and implementation of their NAPs (see details on available tools and funding in appendices 1 and 2).

The key messages of the day included the following.

- Calls for proposals for EU4Health will come during the summer with expected deadlines in September 2021.
- The deadline for the submission of requests for technical support from DGREFORM is set for the end of October 2021.
- Insufficient research has been undertaken into IPC.
- Countries work in very different ways in terms of their degree of collaboration and cooperation with other countries.
- The priority is to finish the work that was delayed by the COVID-19 pandemic.



Annex 1: Overview of available resources and financial support for Member States

i. **The Global Database for AMR Country Self-Assessment (freely accessible)**

The Global Database includes the WHO's eight core components of IPC and covers all elements necessary for AMR One Health actions, as recommended in the GAP. It facilitates the presentation of survey results and provides a template for MS developing AMR NAPs. The database can be found at: <https://amrcountryprogress.org/>.

ii. **AMR in EU4Health: Several actions linked to AMR have been included to date, under the 2021 Work Programme.**

Call for Proposals: Action grants supporting training activities, implementation and best practice: capacity building, training and implementation of enhanced IPC practices and antimicrobial stewardship in hospitals and long-term care facilities as well as antimicrobial stewardship in primary care.

Support for the implementation of the 2017 EU One Health Action Plan (EUR 1.5M): contracts for inventory of existing barriers to the development and implementation of national action plans on AMR and a special Eurobarometer on AMR.

AMR – Preparation of HERA (EUR 2M): a service contract for needs assessment and technology review reports (to feed into future work to bring AMR medical countermeasures to market); a service contract for a feasibility study on AMR stockpiling.

iii. **Regional Development and Cohesion 2021-2027 (EUR 373 billion)**

A strengthened link with the European Semester; a simplified framework and less red tape for the beneficiaries of the funds; a more tailored approach to regional development. Investing in research and innovation, supporting small businesses, help with the transition towards a low carbon economy, support to digital, energy and transport networks, support better health, education and social infrastructure and sustainable urban development

Funding EU4Health: https://ec.europa.eu/health/funding/eu4health_en.

Call published on the site of the EU Health and Digital Executive Agency (HaDEA): https://hadea.ec.europa.eu/index_en.

Q&A EU4Health: https://ec.europa.eu/commission/presscorner/detail/en/qanda_21_1345.

European social fund (ESF+): Investing in people, ensuring fairer opportunities for all; funding skills, youth employment and social inclusion. Funds to support health systems to become more accessible, modernising or building healthcare facilities, support disease prevention and promotion, critical supplies.

Cohesion Policy Objectives in 2021-2027

- + PO 1: a smarter Europe...
- + PO 2: a greener Europe...
- + PO 3: a more connected Europe...
- + PO 4: a more social Europe...
- + PO 5: a Europe closer to citizens...

All ESF+ specific objectives fall under PO 4: "a more social Europe, implementing the European Pillar of Social Rights." Investments in health and long-term care may be envisaged both under PO1 and PO4. European Social Fund Plus: <https://ec.europa.eu/european-social-fund-plus/en/what-esf>.

Recovery and Resilience Facility (RRF)

The centre piece of the Next Generation EU recovery instrument to be operational until 2026 - total Budget €672.5 billion – grants to assist countries to overcome the impact of COVID-19. Member States prepare and submit their Recovery and Resilience Plans (RRP) to address the impact of the pandemic. Focus on; Promoting economic, social and territorial cohesion; Strengthening economic & social resilience; Mitigating the socio-economic impact of the crisis; Supporting the green & digital transitions. Each RRP to include minimum of 37% of climate related expenditure and min 20% of expenditure related to digital. The recovery and resilience facility: https://ec.europa.eu/info/business-economy-euro/recovery-coronavirus/recovery-and-resilience-facility_en.

InvestEU Fund (€26.2 million): Opportunities for investments in health from RID and SIS windows.

Policy Windows:

1. Sustainable Infrastructure (SI)
2. Research, Innovation & Digitisation (RID)
3. Small or medium sized enterprises (SMEs)
4. Social Investment and Skills (SIS)

InvestEU programme structure:

FUND – mobilising public and private investment using guarantees from the EU Budget.

ADVISORY HUB – providing technical advice to investment projects seeking financing.

PORTAL – an easily-accessible database bringing together projects and investors.

Opportunities cover:

- + New effective and accessible healthcare products, including research, development, innovation and manufacturing of pharmaceuticals, medical devices, diagnostics and advanced therapy medicinal products and new antimicrobials, as well as innovative development processes that avoid using animal testing
- + Health and long-term care infrastructure, including clinics, hospitals, primary care, home services and community-based care
- + Innovative health solutions, including e-health, health services and new care models

InvestEU: https://europa.eu/investeu/home_en.

Annex 2: Technical support and tools:

iv. **AMR NAP Webinar Series:**

A webinar series aiming to support continued NAP implementation work at country level and exchange of best practices and lessons across countries and practitioners. Found at: <https://www.who.int/teams/surveillance-prevention-control-AMR/who-webinar-series-to-support-implementation-of-national-action-plans-on-antimicrobial-resistance>.

v. **DGREFORM Technical Support Instrument**

- Helps EU Member States carry out reforms to stimulate job creation and sustainable growth.
- The Technical Support Instrument (TSI) offers technical 'tailor-made' support based on MS demand for design and implementation of structural reforms which include e-health reforms, primary care, horizontal reforms and hospital sector reforms, covering their entire life cycle. No co-financing is required and there is a possibility of multi-country work.
- Deadline for submission of requests is by the end of October 2021

Technical Support Instrument 2022 call: https://ec.europa.eu/info/technical-support-instrument-2022-call_en.

vi. **JAMRAI Website on EU One Health Country Visits – A driver to work on AMR**

European countries set up a country-to-country peer review system. Country visits function as a moment to exchange best practices and provide an outsider's point of view. In total, 13 country-to-country visits took place in 2018/2019. An infographic presents the most relevant topic(s) to address for each country. Featuring the results of the 13 country-to-country visits with access to a dashboard for each participating country: <https://eu-jamrai.eu/strengthening-national-response-country-to-country-visits/>.

vii. **Evidence-informed Policy Network (EVIPNet)**

Over the last 5 years the WHO has been backing the Evidence-based Policy Network (EVIPNet) an initiative promoting systematic use of health-research evidence in policymaking. EVIPNet has hosted workshops to build both country capacity and capability to develop policy briefs. Focusing on low- and middle-income countries, EVIPNet encourages the development of country-level teams, which comprise policymakers, researchers and representatives of civil society. They facilitate policy development and implementation through the use of the best global and local evidence available. To date, four countries have completed this work – Hungary, Slovenia, North Macedonia and Romania while a further eight countries are currently working on briefs: Bulgaria, Estonia, Greece, Kazakhstan, Lithuania, Moldova, Montenegro and Serbia. Found at: <https://www.euro.who.int/en/data-and-evidence/evidence-informed-policy-making/evidence-informed-policy-network-evipnet>.

viii. **Antimicrobial Stewardship Online Course**

A. Antimicrobial Stewardship: a competency-based approach: An online course has been developed in multiple languages found at: <https://openwho.org/courses/AMR-competency>.

B. Antimicrobial stewardship interventions: a practical guide booklet: <https://apps.who.int/iris/handle/10665/340709>.

ix. Tailoring Antimicrobial Resistance Programmes Guidance

Tailoring Antimicrobial Resistance Programmes (TAP) Quick Guide has been developed to assist Member States in initiating and undertaking projects to address the spread of antimicrobial resistance (AMR) in their countries. AMR is a complex problem with many factors affecting its rise and spread, making it difficult to address.

The TAP Quick Guide is designed to assist national-level TAP working groups in using a behavioural insights approach to identify appropriate and feasible interventions to begin tackling AMR in their contexts.

A. The TAP quick guide: a practical handbook for implementing tailoring antimicrobial resistance programmes <https://apps.who.int/iris/handle/10665/341631>

B. The TAP toolbox: exercises, tools and templates to support your tailoring antimicrobial resistance programmes plan <https://apps.who.int/iris/handle/10665/341632>

C. TAP Process Poster in English: <https://who.canto.global/s/JROJ0?viewIndex=0>

x. WHO Webinar Series covering NAP intervention at country level

An AMR NAP Webinar Series launched in summer 2021) is a global series of monthly AMR webinars (60–90-minute duration) on topics related to NAP implementation at country level – to be found at: <https://www.who.int/teams/surveillance-prevention-control-AMR/who-webinar-series-to-support-implementation-of-national-action-plans-on-antimicrobial-resistance>.

xi. WHO AMR Costing and Budgeting Tool for NAPs

The ‘WHO AMR Costing and Budgeting Tool’ for NAPs was launched in October 2021 and can be found at: <https://www.who.int/teams/surveillance-prevention-control-AMR/who-amr-costing-and-budgeting-tool>.

xii. WHO Implementation Handbook for National Action Plans on Antimicrobial Resistance: Guidance for the Human Health Sector

The implementation handbook aims to provide a practical, stepwise approach to the implementation of the national action plans on AMR within the human health sector; and to provide a process and collation of existing WHO tools to prioritize, cost, implement, monitor and evaluate national action plan activities. The target audience of the publication are national/subnational stakeholders working on AMR within the human health sector. The handbook can be found at: <https://apps.who.int/iris/handle/10665/352204>.

Annex 3: Polling questions and responses

Polling questions were asked intermittently throughout the workshop to gauge the impressions and opinions of the audience. Questions and responses can be found in the table below.

Question 1. What are your expectations for these two days? <i>(Option to tick more than one)</i>	
Share experiences and best practices	23%
Identify solutions to overcome specific challenges	36%
Strengthen knowledge on multisectoral governance	25%
Not sure or other	16%
Question 2. On a scale from 1 to 10, where 10 is best, do you think you will make progress on the three most important activities in your NAP in 2021/22?	
Majority of participants	2–3
Some participants	5–6
One participant	9
Question 3. How well-integrated is multisectoral collaboration regarding AMR activities in your country at this time? <i>(Option to tick more than one)</i>	
Collaboration exists at lower expert level	34%
Sharing of good practices exists	34%
Most sectors are actively working but we don't interfere with the activities of others	20%
None yet, but plans to have	31%

Annex 4: Word Cloud

To conclude the meeting, participants were asked to submit one or two words to a word cloud to present their thoughts on what the work over the past two days had exemplified.



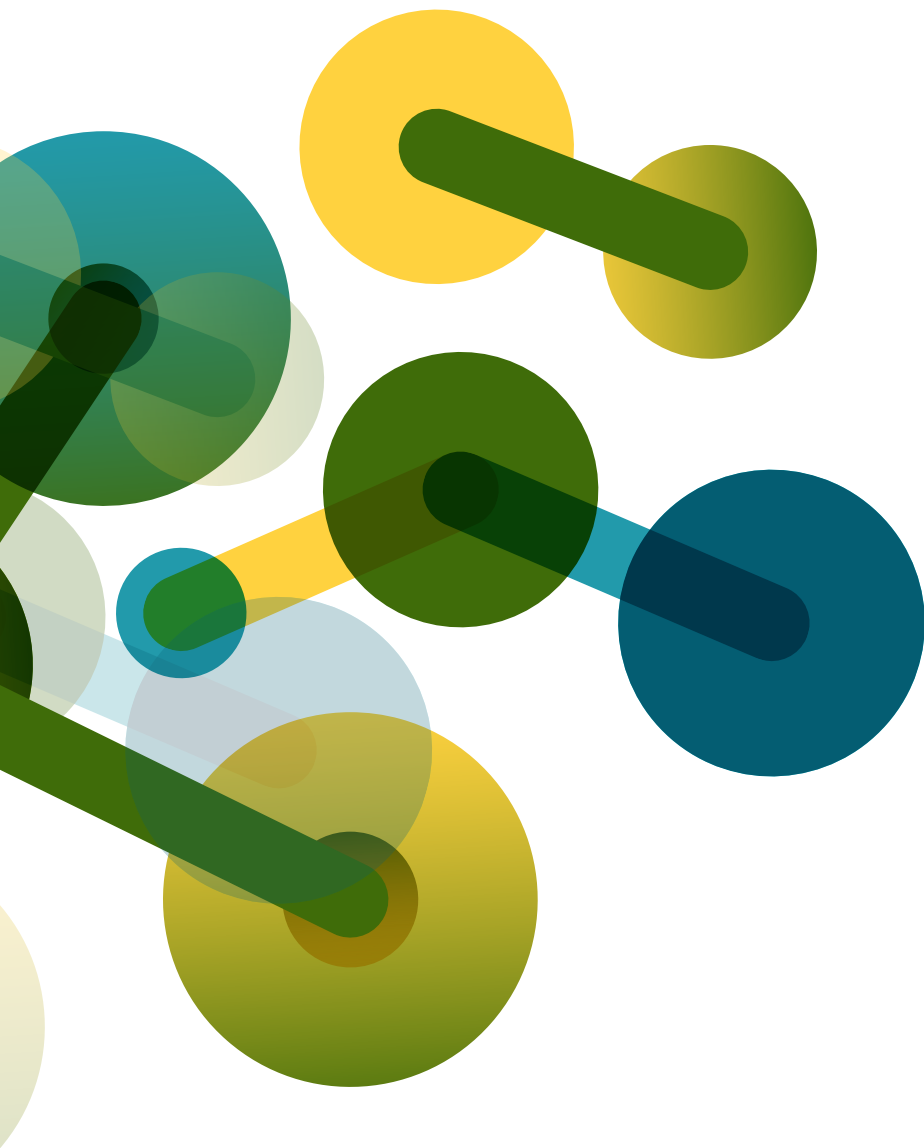
Annex 5: List of Participants

No.	Country/Org	Name	Sector/Institution
1	BEL	Laetitia Lempereur	Public Health
2	BEL	Gaëlle Vandermeulen	Public Health
3	BIH	Dijana Baštinac	Public Health – Republic of Srpska
4	BIH	Nijaz Tihic	Public Health – Federation
5	BUL	Hristo Daskalov	Veterinary (Food Safety)
6	BUL	Deyan Donchev	Public Health (Microbiology)
7	BUL	Ivan Ivanov	Public Health (Microbiology)
8	BUL	Reneta Penova	Veterinary (Feed Control)
9	BUL	Vanya Ruseva	Veterinary (Agriculture)
10	CRO	Arjana Tambic Andrasevic	Infectious Diseases (Microbiology) University Hospital
11	CRO	Tomislav Kiš	Ministry of Agriculture
12	CRO	Gordan Kompes	Veterinary Institute
13	CYP	Marios Genakritis	Public Health (National AMR Committee)
14	CYP	Linos Hadjihannas	Public Health (NFP AMR)
15	CYP	Markella Marcou	Public Health (NFP AMR)
16	CZH	Tomáš Čermák	Public Health (Epidemiology)
17	CZH	Lucie Pokludová	Veterinary (AMU/ESVAC)
18	CZH	Zuzana Škopánová	Food Safety
19	EST	Jevgenia Epštein	Public Health (Health Board)
20	EST	Natalia Kerbo	Public Health (Epidemiology)
21	EST	Kärt Sõber	Public Health (Epidemiology)
22	GRE	Anthoula Lagiou	Ministry of Agriculture
23	GRE	Flora Kontopidou	National Public Health Organization
24	GRE	Olga Pantela	Ministry of Health
25	HUN	Balázs Babarczy	Public Health (National PH Committee)
26	HUN	Krisztina Biro	Public Health (Ministry of Health)
27	HUN	Eszter Kollar-Nagy	Veterinary (Food Safety)
28	LVA	Ieva Voita	Public Health (National CDC)
29	LTU	Jurgita Pakalniškienė	Public Health (Ministry of Health)
30	LTU	Rolanda Valintėlienė	Public Health (Hygiene)
31	POL	Katarzyna Piekarska	Public Health (Hygiene)

No.	Country/Org	Name	Sector/Institution
32	POL	Marta Wojciechowska	Public Health (Ministry of Health)
33	POL	Dorota Żabicka	Public Health (Medicine)
34	POL	Katarzyna Zacharczuk	Public Health (Hygiene)
35	POR	Andrea Cara de Anjo	Public Health Division Directorate of Food Safety Services
36	POR	Catarina Lavrador	Veterinary (Ministry of Agriculture)
37	POR	José Artur Paiva	Public Health (Ministry of Health)
38	POR	Ana Silva	Portuguese Medicines Agency
39	MDA	Denis Cernelea	Ministry of Health
40	MDA	Vadim Rata	Public Health Institute
41	ROM	Sorin Arama	National Institute for Infectious Diseases
42	ROM	Antoaneta Drăgoescu	University of Medicine and Pharmacy
43	ROM	Irina M. Dumitru	Ministry of Health - Infectious Diseases
44	ROM	Andreea Niculcea	Public Health
45	ROM	Adriana Pistol	Public Health (Epidemiology)
46	ROM	Gabriel Popescu	National Institute for Infectious Diseases
47	ROM	Alexandru Rafila	National Institute for Infectious Diseases
48	ROM	Andrei Rogoz	Ministry of Health
49	SRB	Milica Bajcetic	Public Health (University Medicine)
50	SRB	Ljiljana Markovic-Denic	Public Health (University Epidemiology)
51	SRB	Tatjana Labux	Veterinarian (Veterinary Directorate)
52	SRB	Deana Medic	Public Health (Microbiology)
53	SVK	Andrea Zakova	Public Health (Microbiology)
54	SVN	Maja Bajt	Veterinary (Food Safety, Veterinary and Plant Protection Administration)
55	SVN	Helena Ribič	Public Health (microbiology)
56	SVN	Zoran Simonovič	Public Health (Epidemiology)
57	SVN	Maja Subelj	Public Health (AMU)
58	WHO Regional Office for Europe	Peter S. Hoejskov	Food safety and Zoonoses programme
59	WHO Regional Office for Europe	Kotoji Iwamoto	Access to Medicines and Health Products programme
60	WHO Regional Office for Europe	Ketevan Kandelaki	Control of AMR programme
61	WHO Regional Office for Europe	Saskia Nahrgang	Control of AMR programme
62	WHO Regional Office for Europe	Ana Paula Coutinho Rehse	Infection Prevention and Control programme

No.	Country/Org	Name	Sector/Institution
63	WHO Regional Office for Europe	Ute Soenksen	Control of AMR programme
64	WHO Regional Office for Europe	Liz Stokle	Consultant (affiliated)
65	WHO Regional Office for Europe	Karen Taksoee-Vester	Control of AMR programme
66	WHO Regional Office for Europe	Danilo Lo Fo Wong	Control of AMR programme
67	WHO Country Office for Bulgaria	Michail Okoliyski	Country Office
68	WHO Country Office for Czech Republic	Srdan Matic	Country Office
69	WHO Country Office for Estonia	Kristina Koehler	Country Office
70	WHO Country Office for Hungary	Szabolcs Szigetis	Country Office
71	WHO Country Office for Latvia	Uldis Mitenbergs	Country Office
72	WHO Country Office for Lithuania	Ingrida Zurlyte	Country Office
73	WHO Country Office for Serbia	Aleksander Bojovic	Country Office
74	WHO Country Office for Slovenia	Aiga Rurane	Country Office
75	WHO Headquarters	Anand Balachandran	AMR/HQ
76	WHO Headquarters	Sarah Paulin	AMR/HQ
77	WHO Headquarters	Kitty Van Weezenbeek	AMR/HQ
78	European Commission	Iwona Decewicz	Veterinary (Epidemiology)
79	European Commission	Loukianos Gatzoulis	DG Santé
80	European Commission	Ana Goncalves	DG Santé F
81	European Commission	Graeme Jones	DG Santé
82	European Commission	Ana Victoria Pascual Linaza	DG Santé F
83	European Commission	Filip Maksan	DG Santé F
84	European Commission	Velina Pendolovska	DG Santé
85	European Commission	Sara Tavares	Veterinary (Epidemiology)
86	European Commission	Christoph Schwierz	DG REFORM
87	European Commission	Stefan Schreck	DG Santé
88	European Commission	Javier Tellechea Vertiz	DG Santé
89	ECDC	Dominique Monnet	ECDC

No.	Country/Org	Name	Sector/Institution
90	OIE	Roberto A. Balbo	Veterinary
91	OIE	Mario Latini	Veterinary
92	ITA	Annalisa Pantosti	Public Health
93	NET	Rosa M. Perán i Sala	Ministry of Health
94	NOR	Christine Aardal	Public Health
95	NOR	Horst Bentele	Public Health
96	NOR	Oliver Kacelnik	Public Health
97	NOR	Miriam Sare	Public Health
98	ROM	Alexandru Rafila	Public Health
99	SWE	Jon Pierre	University researcher / Gothenburg



Annex 6: Workshop Programme

World Health Organization
Regional Office for Europe

Weltgesundheitsorganisation
Regionalbüro für Europa



Organisation Mondiale de la Santé
Bureau Régional de l'Europe

Всемирная организация здравоохранения
Европейское региональное бюро

**Sub-regional workshop on Antimicrobial
Resistance (AMR) national action plan
development and implementation**

16–17 June 2021

Original: English

Programme Day 1: Wednesday 16 June 2021		
CET Time	Session	Presenters
09:45-10:00	Joining the Zoom platform	Ute Soenksen, WHO EURO
10:00-10:10	Welcome and Introduction	Sarah Paulin, WHO HQ
Topic Of Day One: Multicollaboration, How Is It Done?		
10:10-10:35	National Action Plans in Europe – where are we? Process and Progress. Tripartite country self-assessment survey: results 2020–2021	Danilo Lo Fo Wong, WHO EURO
10:35-11:00	EU as best practice region – where do we stand?	Velina Pendolovska, EC
11:00-11:10	Break	
11:10	Short interactive session – poll	Sarah Paulin, WHO HQ

Programme Day 1: Wednesday 16 June 2021

CET Time	Session	Presenters
11:15-12:10	<p>Examples from multisectoral collaboration on AMR. Development and implementation of NAP in Italy – challenges, lessons learned</p> <p>Support between countries. The EU JAMRAI experience with country-to-country peer review and visits</p> <p>Partnering between countries. Romania and Public Health Institute of Norway</p>	<p>Annalisa Pantosti, Istituto Superiore de Sanita, Italy</p> <p>Rosa Peran Sala, Ministry of Health, Welfare and Sport, Netherlands</p> <p>Alexandru Rafila, Professor at Matei Bals, University of Bucharest, Romania AND</p> <p>Oliver Kacelnik, Head of epidemiological unit (HCAI & AMR), Norwegian PHI</p>
12:10-12:45	Q&A session	Presenters from previous session and members from EC, ECDC, WHO
12:45-13:15	<i>Break</i>	
13:15	<p>Quick poll "welcome back"</p> <p>Results from the questions sent to the participants for setting the scene</p>	Sarah Paulin, WHO HQ
13:20 -13:55	<p>Breakout session 1: Countries to discuss the input of the day and relate it to their own country work: Where can you advance more on your NAP?</p>	Facilitators
13:55-14:15	<p>Get-together for first recollection of input from breakout rooms</p> <p>Adjournment of Day 1</p>	Sarah Paulin, WHO HQ

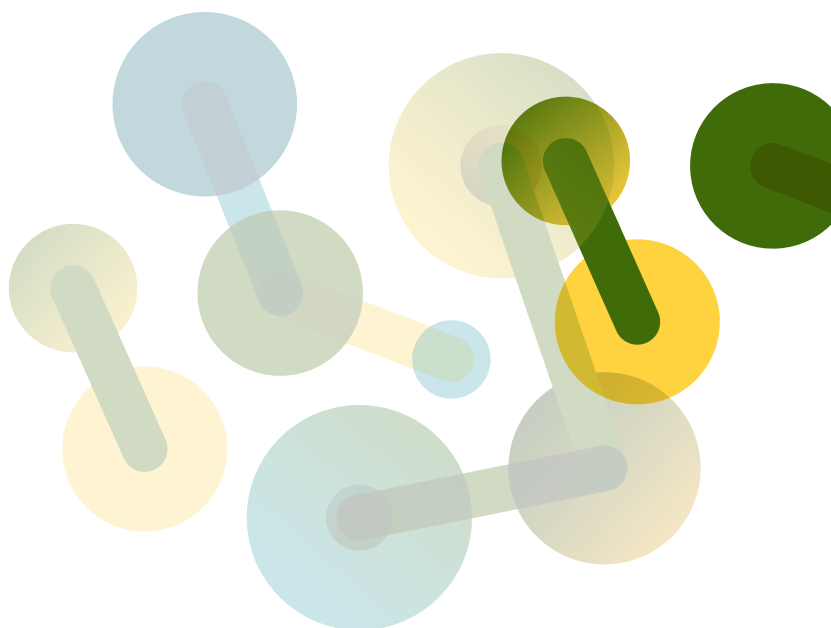
Programme Day 2: Thursday 17 June		
CET Time	Session	Presenters
09:45-10:00	Joining the Zoom platform	All
10:00-10:15	Welcome to Day 2 and recap of Day 1	Dr Peter Sousa Hoejskovs, WHO EURO
Topic Day 2 – Securing Resources		
10:15-11:00	Support mechanisms and incentives What are the main incentives for – and what prevents countries from – committing to work on AMR?	Velina Pendolovska, EC Sante Dr Christine Årdal, Norwegian Institute of Public Health.
11:00-11:25	Barriers with NAP. Research focusing on perception vs reality	Jon Pierre, Gothenburg University
11:25-11:40	<i>Break</i>	
11:40-12:30	Presentation of the AMR tools and technical support from WHO HQ (10 min) Breakout session 2: Top three things countries want to do next?	Anand Balachandran, AMR unit, WHO HQ Facilitators
12:30-12:55	Conclusions	All and moderator
12:55-13:00	Adjournment of the meeting	Danilo Lo Fo Wong, WHO EURO

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The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

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