Joint Action
Antimicrobial Resistance and
Healthcare-Associated Infections

MS 4.1

Survey of Members States and Stakeholders' priorities

WP4 I Integration in National Policies & Sustainability

Leader acronym I FR-2 MoH

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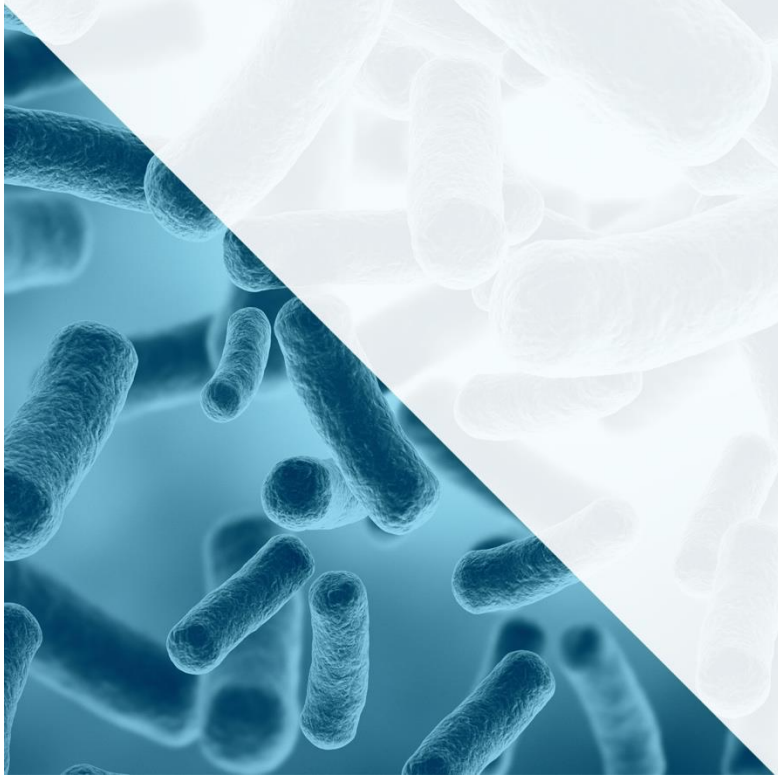

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LIST OF ACRONYMS

ATB: antibiotic

AC: advisory Committee

AMR: Antimicrobial Resistance

ECDC: European Centre for Disease Prevention and Control

EU: European Union

GP: general practitioner

HAI: Healthcare-Associated Infections

HCF: healthcare facilities

HCP: healthcare professionals

ICP: infection control program

JA: Joint Action

JAMRAI: Joint Action on Antimicrobial Resistance (AMR) and Healthcare-Associated Infections (HAI)

MoH-FR: French Ministry of Solidarity and Health

MS: Members States

NAP: National Action Plan

SH: Stakeholders

WP: Work Package

CONTEXT AND AIMS OF THE SURVEY

The French Ministry of Solidarity and Health (MoH-FR) leads the Work Package (WP) 4 - "Integration in National Policies & Sustainability" - of the European Union Joint Action (JA) on Antimicrobial Resistance (AMR) and Healthcare-Associated Infections (HAI) (EU-JAMRAI).

The main objectives of this WP are to foster the integration into national policies of the recommendations issued by the JAMRAI and/or European Centre for Disease Prevention and Control (ECDC) and encourage healthcare workers and policy makers to expand and maintain their implementation in their respective countries.

WP 4 has three main tasks:

- Task 4.1: Integration plan and sustainability strategy

- Task 4.2: Integrating preventive strategies within national policies

- Task 4.3: Fostering sustainability

This Milestone (milestone 4.1) is part of the Task 4.1 and its main goal is to identify priority actions that are viewed by Members States (MS) and stakeholders (SH) as most relevant to tackle AMR and to control HAI.

For this purpose, a survey was sent to advisory Committee (AC) members (who represent MS) and stakeholders (SH). This report describes the results of this survey.

METHODOLOGY

METHODOLOGY OF THE SURVEY

Participants

The advisory Committee (AC) members (n=22), the AC member state observers (n=3) and all the stakeholders (SH) involved in the JA (n=36) were invited to participate in the survey.

Development and description of the questionnaire

The questionnaire was only available in English. It included four parts.

The First part included questions about the **National Action Plan (NAP)** and was sent only to AC Members. They also were invited to fill in a NAP SWOT (Strengths, Weaknesses, Opportunities and Threats).

Parts two to four were sent to both AC Members and SH.

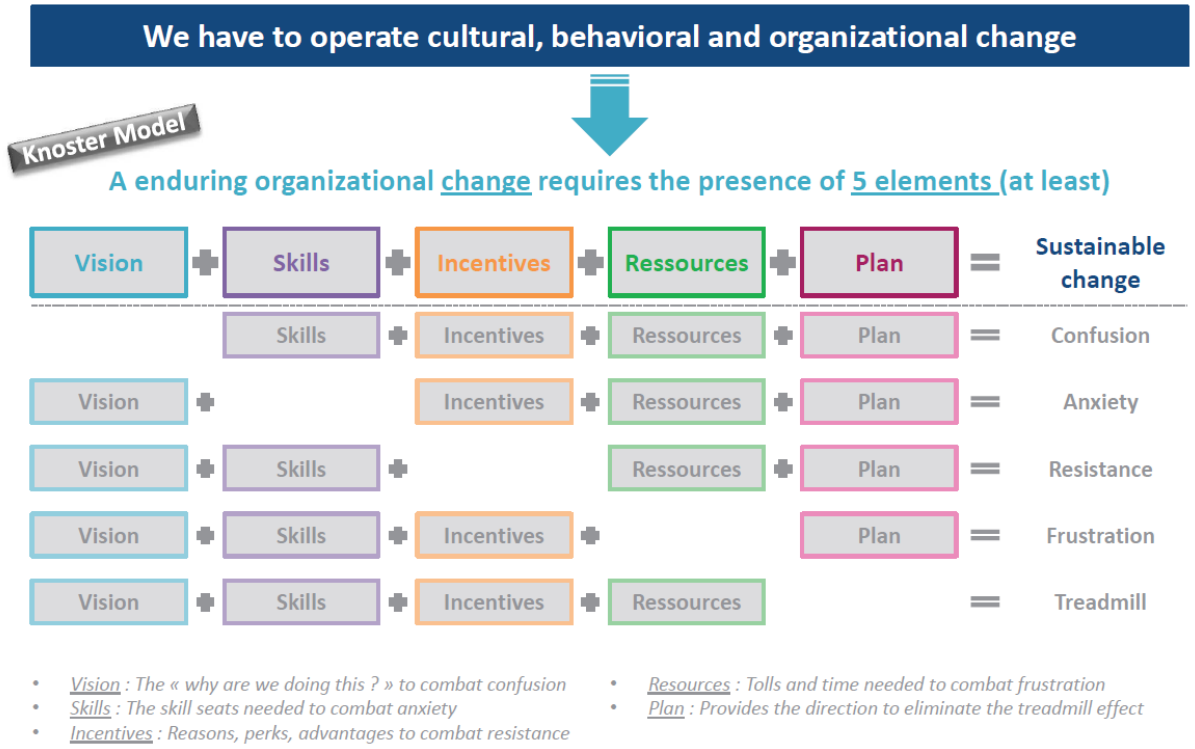
The second part was about **priority setting**. Respondents had to classify for each item its priority level, at which level it could be best achieved and the best possible lead actor. These items belonged to five topics:

- infection prevention and control
- surveillance
- antibiotic stewardship
- research and development
- communication and awareness

The third part was about **sustainable cooperation.**

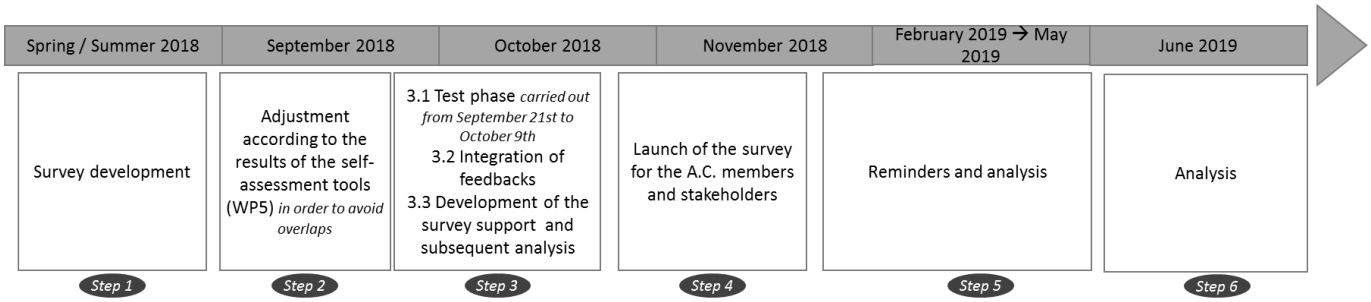
The fourth part involved **sustainable change for the fight against AMR, based** on the Knoster Model (see Figure 1). In general, the WP4 approach follows the Knoster model, which considers the (at least) five components needed to promote cultural, behavioral and organizational change.

Figure 1: Knoster Model



Agreement with proposals in the five domains of the model (vision, skills, incentives, resources and plan) was assessed. Then respondents had to order the five domains according to their respective level of priority.

The questionnaire and survey design began mid 2018:



To prevent overlaps between the survey and the outputs of the other WPs (WP5 in particular), the results of the WP 5 self-assessment tool have been taken into account to design the questionnaire. A test phase was carried out among WP leaders from September to October 2018, and their feedback was used to modify the questionnaire.

For the AC members and observers, the survey was launched on November 5th 2018, and notified to participants of the second AC meeting on November 8th. The initial deadline was set for November 28th 2018, but due to a low response rate, it was extended, with a reminder sent on February 21st 2019 and a deadline set for March 8th 2019.

A second and final reminder was sent to the 11 non-responding countries on April 18 2019, with a final deadline set for mid-May.

For the SH, the launch was announced during the stakeholder forum on November 9 2018 and the questionnaire was sent on November 29th 2018. The initial deadline was set for December 17 2019. A first reminder was sent on February 21st 2019 with an extended deadline set for March 8th 2019. As the response rate was still very low, the questionnaire initially in Excel format has been transformed into an online "Survey Monkey" format and sent in a personalized way to the non-respondents (n=26) on April 18 2019 for a final deadline set for mid-May.

Definitions

Validity

According to the WP3 indicators, a survey is valid when more than 70% of the target population has answered.

Answer to a question was defined as valid when more than 67% of respondents answered the question.

Only valid questions were presented in this report.

Agreement

For the second (priority setting) and fourth (sustainable change for the fight against AMR) parts of the survey, the results of questions were classified as below:

- **Total** agreement when 100% of respondents agreed with a priority level (for the second part of the survey) or an item (for the fourth part of the survey)

- **Strong** agreement when 80% to 99% of respondents agreed with a priority level (for the second part of the survey) or an item (for the fourth part of the survey)

- **Moderate** agreement when 70% to 79% of respondents agreed with a priority level (for the second part of the survey) or an item (for the fourth part of the survey)

RESPONSE RATES

Stakeholders

Among SH, **75%** (27/36) participated in the survey.

Among the participating SH:

- 26% of respondents (7/27) come from Institutional Organisations. This group represents 22% (n=8) of all the SH;

- 59% of respondents (16/27) come from Civil Society- Healthcare professionals. This group represents 64% (n=23) of all the SH;

- 11% of respondents (3/27) come from Industry representatives. This group represents 14% (n=5) of all the SH;

- The affiliation of a respondent with a fully filled questionnaire in SurveyMonkey® was not mentioned.

The detailed list of SH respondents can be found in Appendix 1.

Advisory Committee members

Among AC members, **76%** (19/25) participated in the survey; 42% (8/19) of respondents were from a country involved in WP 5.

List of participating countries (with answers from AC members) can be found in Appendix 2.

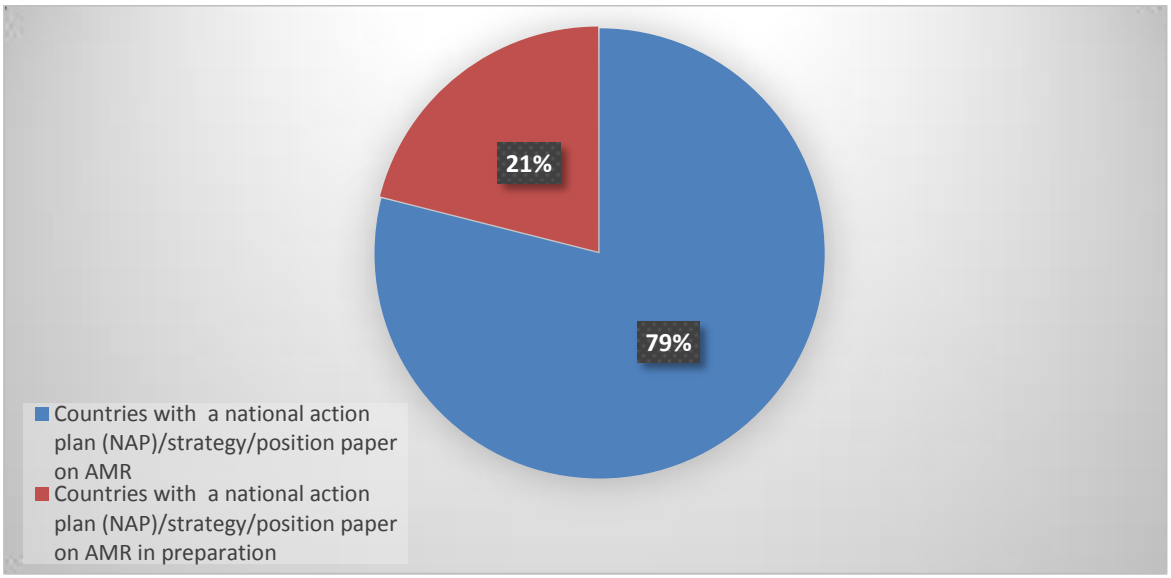
RESULTS

NATIONAL ACTION PLAN (NAP)

The six following questions were only sent to AC members.

National action plan (NAP) on AMR

Do you have a National Action Plan (NAP)/strategy/position paper on AMR? (Yes/No/In preparation)



All the responding countries answered this question.

79% of the responding countries (15/19) have a national action plan (NAP) on AMR. Only **21 %** (4/19) of the responding countries have a NAP/strategy/position paper on AMR **in preparation.** All responding countries have a NAP on AMR planned or in preparation.

For countries also participating in WP5 with available answers, these data are consistent with the responses of the Mapping National Action plan of the WP5.

NAP following a One Health approach

Does your national plan /strategy/position paper on AMR follow a One Health approach? (Yes/No)

All the respondents answered this question.

All the responding countries (19/19) have a national plan/strategy/position paper on AMR **that follows a One Health approach**.

NAP including actions or strategies on Health Care Associated Infection (HAI)

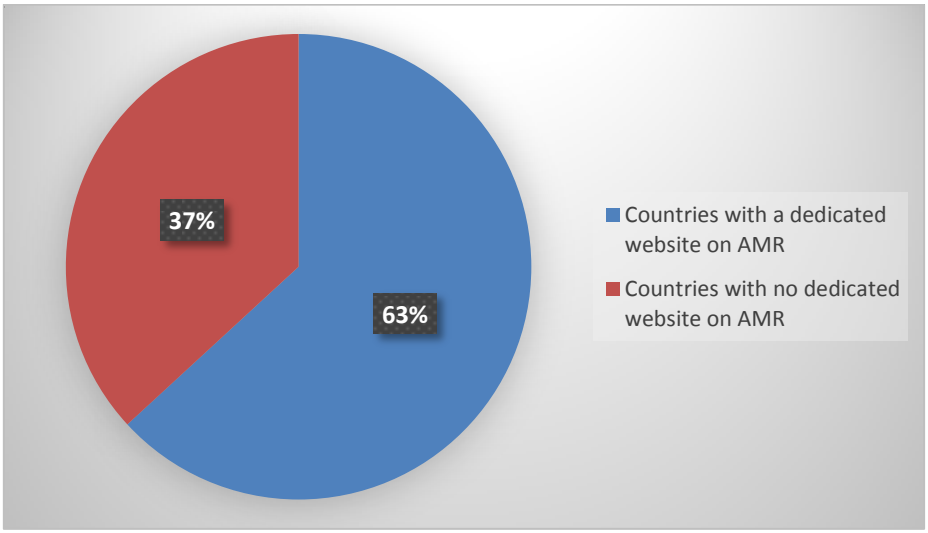
Does your national plan/strategy/position paper on AMR include actions or strategies on Health Care Associated Infection (HAI)? (Yes/No)

One country did not answer this question.

All the responding countries (18/18) have a national plan/strategy/position paper on AMR **that includes actions or strategies on Health Care Associated Infection (HAI).**

Dedicated website on AMR

Do you have a dedicated website on AMR? (Yes/No)

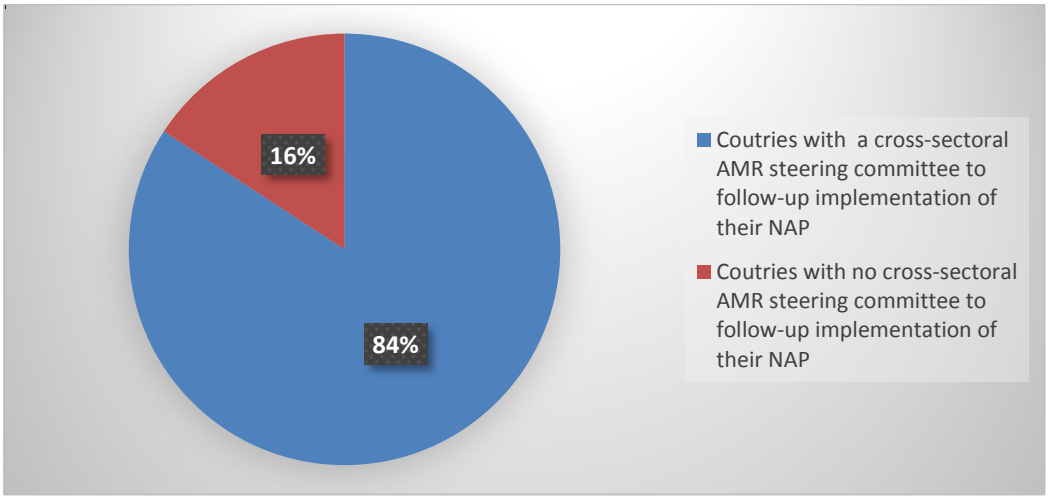


All the respondents answered this question.

Almost **37 %** (7/19) of the responding countries do not have a dedicated website on AMR.

Cross-sectoral AMR steering committee to follow-up implementation of the NAP

Do you have a cross-sectoral AMR steering committee to follow-up implementation of your NAP? (Yes/No)



All the respondents answered this question.

Only **16%** (3/19) of the responding countries do not have a cross-sectoral AMR steering committee to follow-up implementation of their NAP.

SWOT

The analysis was done for the 15 SWOT we received. Here are some common patterns we could identify:

Strengths

The majority of AC noticed the multidisciplinary approach with different sectors involved, explicit goals defined, a strong national surveillance system and Professional and Stakeholders implications as strengths of NAP.

Weaknesses

The weaknesses most highlighted was limited resources (financial and human), low level of awareness among politicians and insufficient action in environmental sector.

Opportunities

Major opportunity was to increase global and public awareness and education around AMR.

Threats

Insufficient political and financial support are the main identified threats.

Conclusion

The majority of countries who participated in the survey have a NAP on AMR. All these NAP follow a One Health approach and include actions or strategies on Health Care Associated Infection (HAI).

However, not all countries have a dedicated website on AMR, although most have a cross-sectoral AMR steering committee to follow-up implementation of the NAP. Most respondents pointed out the lack of resources to implement their NAP.

It should be noted that it is difficult to identify country profiles based on SWOT analysis that would have allowed us to identify gaps and standard recommendations at EU level.

PRIORITY SETTING

The following question was sent to both AC members and SH.

Among the following concrete measures, in your opinion, which ones are the most effective to reduce the burden of AMR?

For each proposal, the respondents had to classify the priority level (high/medium/low priority), at which level it was best achieved (European/National/Local) and who were the best lead actors for sustainable change (International-European organization or Agency/National competent authority/Public Health institute/Patient representative/Health professional representative/Infection control team/Veterinary representative/Industry representative).

For AC members, the majority of answers regarding lead actors were not considered as valid since less than 67% of respondents provided responses to these items. As mentioned in Methodology, these answers are not showed.

Two SH considered that the survey was too focused on the human health sector and that a true One Health approach was missing.

Next table shows proposals that reached agreement (according to the classification mentioned in Methodology) in high priority level.

Items for which the level of agreement was high enough in high priority level

	AC members	SH
Proposal	**Agreement (%, n)** Best level achieved/lead actor	**Agreement (%, n)** Best level achieved/lead actor
INFECTION CONTROL		
Ensure that updated infection control program (ICP) are available and known in healthcare facilities	**Strong agreement (95%, 18/19)** National/National competent authority	**Strong agreement (96%, 24/25)** National & Local/National competent authority & Infection control team
Train healthcare professionals (HCP) to	**Strong agreement (84%, 16/19)**	———

effective hand hygiene	Local/IPC team	
SURVEILLANCE		
Improve data collection to enhance the representativeness of national data according to the different health sectors	**Strong agreement (84%, 16/19)** National	**Strong agreement (84%, 21/25)** National/National competent authority
Develop real time surveillance of antibiotic consumption and resistance	_____	**Strong agreement (80%, 20/25)** European/International-European organization or Agency
PROPER USE		
ATB available only on prescription by authorized personnel	**Strong agreement (95%, 18/19)** National & European	**Strong agreement (96%, 23/24)** National & European/National competent authority
Develop antibiotic stewardship teams in HCF and peer-to-peer advice (= advices from doctor to doctor about a specific prescription for a given patient or about general)	**Strong agreement (89%, 16/18)** National	**Strong agreement (84%, 21/25)** National & Local/National competent authority & Health professional representative
GPs should be more proactively involved in the co-construction program to reduce antibiotic prescribing	**Strong agreement (88%, 15/17)** National	_____
In the veterinary sector, ban antibiotic prescriptions for preventive purposes	**Strong agreement (80%, 12/15)** European	**Strong agreement (83%, 19/23)** European/International-European organization or Agency
RESEARCH & DEVELOPMENT		
Boost research for the development of preventive methods, alternatives to antibiotics and, specifically for the veterinary sector, animal husbandry measures	**Strong agreement (88%, 15/17)** European	**Strong agreement (83%, 20/24)** European/International-European organization or Agency
Improve the regulatory environment for antibiotics or non-conventional anti-bacterial therapies and diagnostics	**Moderate agreement (71%, 12/17)** European	_____
COMMUNICATION & AWARENESS		
Include AMR and HAI in the initial and continuous training program of healthcare professionals and veterinarians	**Total agreement (100%, 19/19)** National	**Strong agreement (92%, 24/26)** National/National competent authority

Conclusion

AC members and SH identified the same priorities most of the time. The five domains all include high priority measures.

SUSTAINABLE COOPERATION

The following question was sent to both AC members and SH.

In your views, fruitful cooperation on AMR can be best achieved through [items]

The respondents had to rank the items as follows: 1= least relevant, 4 = most relevant.

Only items that reached the average score of 3 or more are listed in the table.

Suggestions	AC members	SH
Keeping AMR high on the political agenda (EPSSCO, EU presidencies…)	3.63	3.54
Enabling ECDC to take the lead at the EU level on specific outcomes and recommendations from the JA	3.33	3.25
Regular meetings at the EU level (Presidency conference, One Health network, Antibiotic week, other)	3.17	3.08
Sectoral discussions at the EU level (i.e. among industries, health professionals…)	3.00	3.00

Again, the same items were identified by both AC members and SH. Keeping AMR high on the political agenda was noted as the most relevant item, in particular using regular meetings and sectoral discussion at the EU level.

All participants insisted on the importance that an organisation like ECDC may take the lead on the fight against AMR after the end of the JAMRAI by implementing some of the JA outcomes.

SUSTAINABLE CHANGE FOR THE FIGHT AGAINST AMR

The following question was sent to both AC members and SH.

Based on your knowledge and own experience, to what extent are the following statements true? (Totally true/Mostly true/Partially true/False)

"Totally" and "mostly true" are grouped together in group "True". "Partially true" and "false" are grouped together in group "False".

Next tables show items that reached agreement in one group or another.

Vision

	AC members	SH
VISION		
AMR has to be addressed at all levels (patient, hospital, health professionals, health authorities, industry, agriculture sector…) as each actor can do something to reduce AMR	**Total agreement "True" (100%, 19/19)**	**Total agreement "True" (100%, 27/27)**
AMR is mainly a global challenge	**Moderate agreement "True" (74%, 14/19)**	**Strong agreement "True" (82%, 22/27)**
AMR has to be a political priority at all levels of the health system (Hospital management, Regional Health authorities Executive, National Public Health Institute, National	**Total agreement "True" (100%, 18/18)**	**Strong agreement "True" (96%, 25/26)**
HAI has to be a political priority at all levels of the health system	**Total agreement "True" (100%, 19/19)**	**Strong agreement "True" (92%, 23/25)**
Only an inclusive approach involving the whole government can contribute to reduce the burden of AMR	**Strong agreement "True" (85%, 16/19)**	**Moderate agreement "True" (76%, 19/25)**
it is more important that the agricultural sector reduces its antibiotic consumption than the human sector	**Strong agreement "False" (85%, 17/18)**	———

All respondents shared a global vision of AMR, including all the sectors at all levels.

Skills

	AC members	SH
SKILLS		
The initial training of healthcare professionals (HCP) and veterinarians is adequately updated to include AMR and HAI	———	**Strong agreement "False" (84%, 21/25)**
Physicians and other HCP are adequately trained on the prevention of AMR and HAI during their continuous professional development courses	———	**Moderate agreement "False" (79%, 19/24)**
The knowledge of trainers for HCP on implementing behaviour changes is adequate	———	**Strong agreement "False" (84%, 20/24)**
Patient empowerment is particularly relevant as far as prevention and control of	**Moderate agreement "True" (73%, 14/19)**	———

AMR and HAI are concerned		

All actors, and more specifically stakeholders, thought that both initial and continuous training of healthcare professionals need improvement.

Resources

	AC members	SH
RESOURCES		
AMR and HAI preventive interventions are costly	———	**Moderate agreement "False" (76%, 19/25)**
Each state must contribute to a European fund for financing innovation	———	**Moderate agreement "True" (78%, 18/23)**
An Antimicrobial Stewardship Programme should be adopted and operating in each healthcare facility	**Total agreement "True" (100%, 19/19)**	**Total agreement "True" (100%, 25/25)**
Each country should have an AMR intersectoral committee ensuring follow-up of the NAP and surveillance of AMR bacteria	**Strong agreement "True" (95%, 18/19)**	**Strong agreement "True" (96%, 24/25)**
Prevention plans should be elaborated at all levels	**Strong agreement "True" (94%, 16/17)**	**Total agreement "True" (100%, 25/25)**
National Research Agenda should secure a significant part for AMR research	**Strong agreement "True" (89%, 16/18)**	**Moderate agreement "True" (71%, 17/24)**
An AMR and HAI expert should be present in each hospital	**Total agreement "True" (100%, 18/18)**	**Moderate agreement "True" (79%, 19/24)**

The proposal “Antimicrobial Stewardship Program in each healthcare facility” reached total agreement from both groups of respondents.

Incentives

	AC members	SH
INCENTIVES		
Existing incentives to reduce AMR are not sufficient	**Strong agreement "True" (88%, 16/18)**	**Moderate agreement "True" (78%, 18/23)**
New incentives should be elaborated and adapted to each categories of stakeholders	**Moderate agreement "True" (77%, 14/18)**	**Strong agreement "True" (84%, 20/24)**
Industry should take their responsibility and start investing on AMR product even if the economic model is suboptimal	**Strong agreement "True" (82%, 14/17)**	———
The European regulatory framework should be optimized	**Strong agreement "True" (87%, 13/15)**	**Strong agreement "True" (87%, 20/23)**

for AMR-related products		
GPs should be provided with a periodic review and feedback of their prescriptions, comparative to their peers	**Total agreement "True" (100%, 19/19)**	**Strong agreement "True" (93%, 22/24)**

Plans

	AC members	SH
PLANS		
The EU action plan is appropriate to lead all actors to collectively reduce AMR	**Moderate agreement "True" (77%, 13/17)**	———
Under-resourced plans are useless	———	**Strong agreement "True" (89%, 24/27)**
Monitoring the implementation of plans with indicators is key to secure concrete outcome	**Total agreement "True" (100%, 19/19)**	**Strong agreement "True" (96%, 26/27)**
National plans have to be adapted/embraced by each stakeholder	**Total agreement "True" (100%, 18/18)**	**Strong agreement "True" (96%, 26/27)**

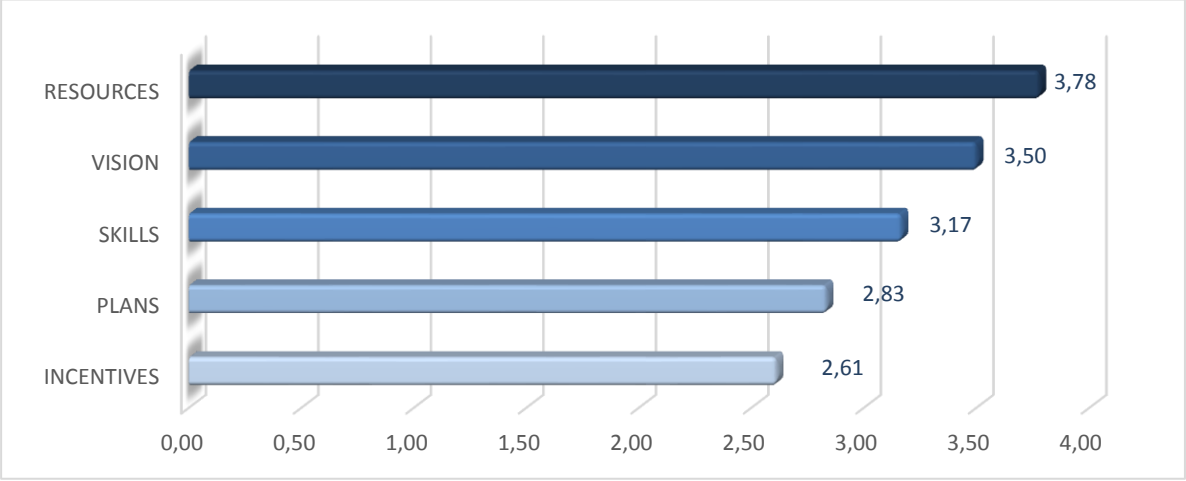
Priority order

Among the 5 elements for sustainable change, which one do you feel is the most urgent to work on?

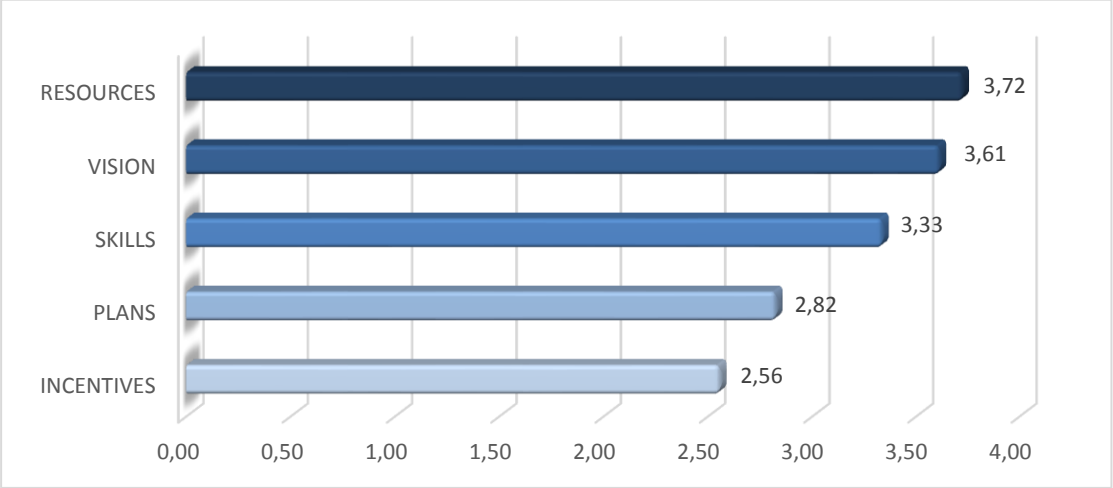
Respondents had to rank the five domains of the Knoster model one against the others from 1 to 5 (one being the least urgent component and five being the most urgent).

AC members:

- At the European level (18/19 respondents)

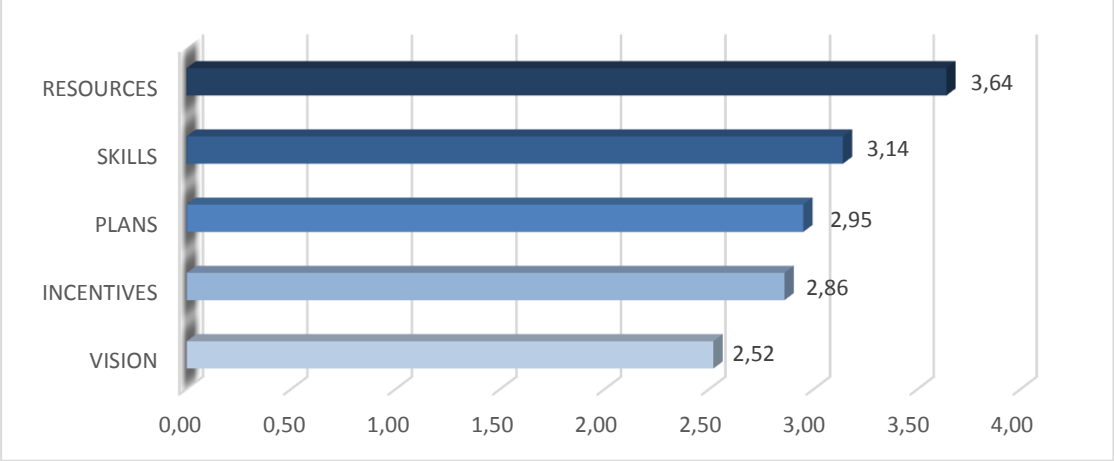


- At their country level (18/19 respondents)



SH (22/27 respondents):

They were asked only about the European level.



Conclusion

For both actors, resources, human and financial, are the most important element for sustainable change. Vision is second for AC members but last for SH. Skills is also a priority for both groups.

CONCLUSIONS AND OPPORTUNITIES

The vast majority of countries who participated in the survey have a NAP on AMR, following a One Health approach and including actions or strategies on HAI.

For both AC members and SH, there are priority measures in all domains: infection prevention and control, surveillance, antibiotic stewardship, research and development, communication and awareness.

Keeping AMR high on the political agenda is the most important element identified by both groups of respondents to maintain a fruitful cooperation in the fight on AMR.

Using the Knoster model, Resources and Skills are the most urgent items to work on for sustainable change.

The results of this survey will be considered in addition with deliverables from the other WPs to help defining priority actions for the sustainability plan of the EU-JAMRAI.

APPENDIX

APPENDIX 1

List of SH respondents*

Institutional organisations (n=7)	
European Centre for Disease Prevention and Control	ECDC
European Food Safety Agency	EFSA
EJP One Health	EJP One Health
Joint Action Vaccination	JA Vaccination
Organisation for Economic Cooperation and Development	OECD
World Health Organization	WHO
World Health Organization -HQ	WHO-HQ
Civil Society- Healthcare professionals (n=16)	
ACdeBMR/World alliance against antibiotic resistance	ACdeBMR/WAAAR
Council of European Dentists	CED
Standing Committee of European Doctors	CPME
European Association of Hospital Pharmacists	EAHP
European Medical Students'Association	EMSA
European Public Health Alliance	EPHA
European Platform for the Responsible Use of Medicines in Animals	EPRUMA
European Society of Clinical microbiology and infectious diseases	ESCMID
European Specialist Nurse Organisation	ESNO
European Veterinary Practitioners organisation	EVPO
European Wound Management Association	EWMA
Federation of Veterinarians of Europe	FVE
Health First Europe	HFE
International Federation of Medical Students Associations	IFMSA
Joint Programming Initiative on Antimicrobial Resistance	JPI AMR
Pharmaceutical Group in the European Union	PGEU
Industry representatives (n=3)	
Beam Alliance	Beam Alliance
European Federation of Pharmaceutical Industries and Associations	EFPIA
Vaccines Europe	VE

*One of the 27 SH respondents did not disclose its affiliation.

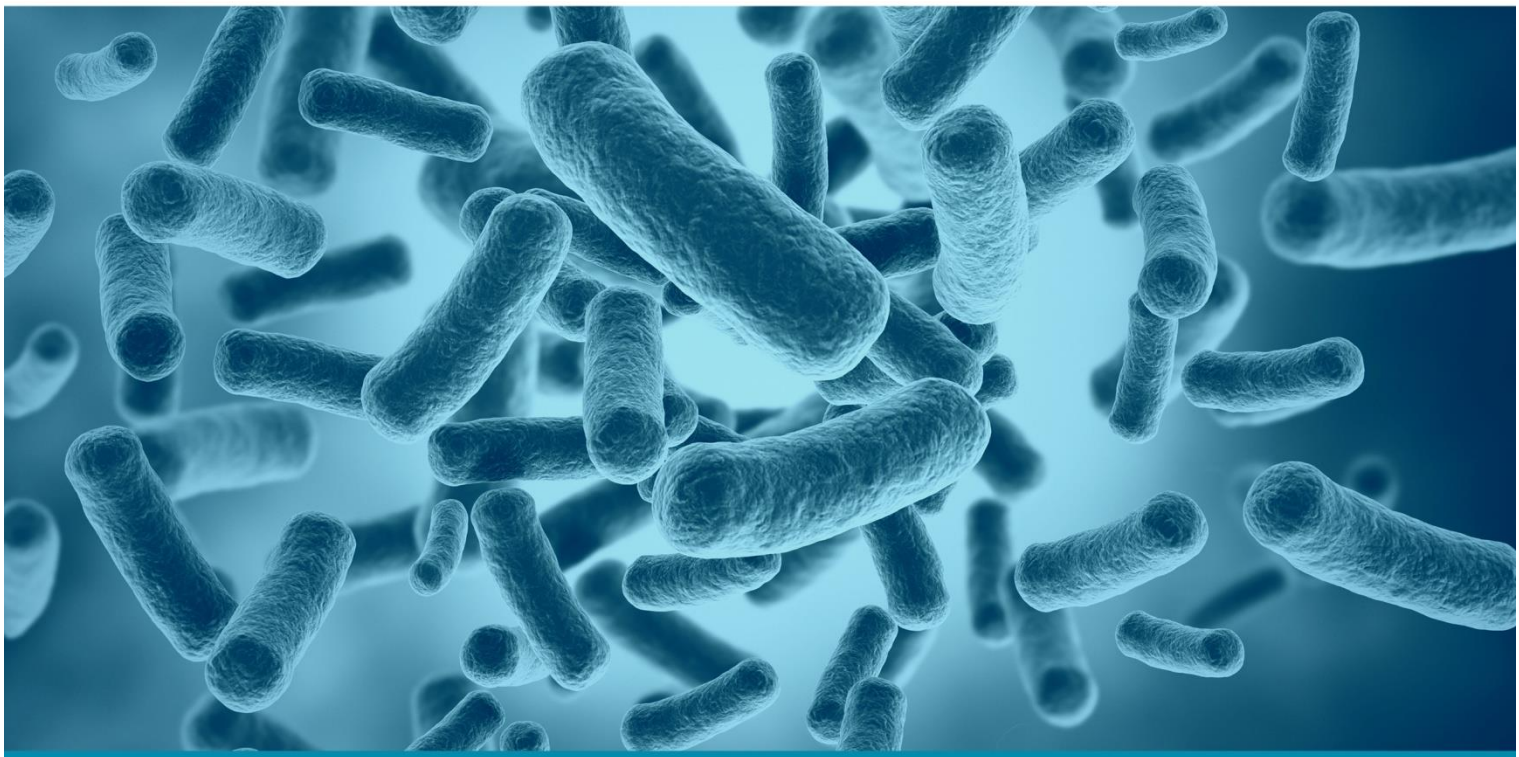
APPENDIX 2

List of participating countries (with answers from AC members)

Austria	Greece	Netherlands
Belgium	Ireland	Norway
Denmark	Latvia	Portugal
Estonia	Lithuania	Spain
France	Luxembourg	Sweden
Georgia	Malta	United Kingdom
Germany		

EU-JAMRAI

Joint Action on Antimicrobial Resistance and Healthcare-Associated Infections



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