

Item	Title of document	Action
11	Strategic Research and Innovation Agenda	Information and discussion

Strategic Research and Innovation Agenda

The Editorial Board has been working with the update of the SRIA. The Editorial Board has:

- Updated the texts of the six priority topics of the SRIA
- Produced the draft of the introduction
- Conducted an Open Consultation on the SRIA priority topic texts and the Research Objectives
- Conducted a National Consultation of the SRIA priority topic texts with JPIAMR Member States.

Purpose of Item

This document gives an overview of the status of the SRIA update. It contains:

- Process overview and timeline
- Overview of the consultations (Open and National).

Background

In its formative period, the JPIAMR under the guidance of its Scientific Advisory Board (SAB) and international stakeholders, developed a Strategic Research Agenda (SRA). The SRA sought to define the strategic and scientific priorities required to reduce antimicrobial resistance, improving public health and wellbeing of populations and delivering economic and societal benefits. Through a series of SAB workshops and national expert panels, stakeholder, and public consultations, six strategic research priorities were identified.

The JPIAMR recognises that innovation is critically important in the field of AMR, as there is a strong need for new therapeutics, diagnostics, and innovative infection prevention and intervention measures. In 2018, the JPIAMR has been in the process of refreshing the SRA to take account of recent research findings and extending the JPIAMR SRA into a Strategic Research and Innovation Agenda (SRIA). It is hoped that this extension will support the participation of the private sector in JPIAMR research projects, and aid in the monitoring and evaluation of innovation management in funded research projects. The updated pillars of the SRIA are:

- Therapeutics: Development of new antibiotics and therapeutic alternatives and the improvement of current antibiotics and treatment regimens.
- Diagnostics: Development and improvement of diagnostics to improve use of antibiotics and alternatives to antibiotics.
- Surveillance: Optimisation of surveillance systems to understand the burden and drivers of antimicrobial resistance in a One Health perspective.
- Transmission: Understanding and prevention of transmission of antibiotic resistance between bacterial populations and One Health reservoirs.
- Environment: The role of the environment as a source in the selection for and spread of antimicrobial resistance.

- Interventions: Investigation and improvement of infection prevention and control measures in different One Health settings.

Description

Process overview and timeline

The following tables outline the process of the development of the SRIA, including actions taken to date, and future activities to complete the final SRIA. Since the SRIA text and the development of the Roadmap of priorities for the JPIAMR for the period 2019-2023 are interlinked due to the fact that both are based on the Research Objectives of the SRIA, the following tables also report on actions related to the Roadmap development.

Actions to date on the development of the SRIA

Actions	Dates
Establishment of the Editorial Board	December 2017
SAB meeting on process of SRA update – Amsterdam <i>Discuss process and research objectives</i>	13/14 December 2017
SAB feedback and suggestions on SRA pillars <i>SAB was divided into subgroups. Each subgroup provided feedback on the research objectives</i>	January 2018
General outline for updating SRA - CSA meeting – Brussels <i>Discuss and agree upon suggested process</i>	1 February 2018
Editorial Board meeting – Brussels <i>Working session on the SRA pillars from SAB input</i>	2 February 2018
MB meeting update on SRA update – Stockholm <i>Present status of the update process and discuss process</i>	26 March 2018
SAB input on revised pillars Diagnostics and Therapeutics <i>SAB was asked for their feedback on these pillars for IMI consultation and EB</i>	13 May 2018
SAB input on rest of the pillars <i>SAB was asked for their feedback on these pillars for EB</i>	27 May 2018
Presentation of pillars Diagnostics and Therapeutics the IMI scientific at the advisory group meeting <i>Jonathan Pearce presented these pillars and research objectives at this meeting to discuss and get input from IMI</i>	4-5 June 2018
EB meeting – Utrecht <i>Work session to process the SAB and IMI comments and feedback into revised pillars and research objectives.</i>	26-27 June 2018
Consultation JPIAMR member countries - via MB <i>Each MB member was asked to provide consolidated comments from their country</i>	From 9 July to 15 September 2018
Open consultation via open questionnaire <i>Each MB member was asked to promote the questionnaire among their national experts and stakeholders</i>	From 9 July to 15 September 2018

Future steps in the development of the SRIA

Actions	Dates
Editorial Board meeting – Leuven <i>Work session to process MB and open consultation comments and feedback into revised pillars and research objectives.</i>	22 October 2018
MB meeting – Leuven <i>Discussion on several issues raised in the consultation rounds related to optimise the SRIA update and the creation of a roadmap for implementation. (detailed explanation in MB meeting of 24 October 2018)</i>	24 October 2018
Editorial Board working sessions (virtual) <i>Collate the 2nd draft version SRIA</i>	October 2018
Survey for the MB to prioritise research objectives and choose enabling activities <i>Countries provide priority research objectives and matching enablers. (detailed explanation in MB meeting of 24 October 2018)</i>	November 2018
Prioritisation and roadmap workshop <i>Participants: SAB, other experts, SC and EB. Basis for this workshop is the priority research objectives from MB survey of November. (detailed explanation in MB meeting of 24 October 2018)</i>	6-7 December 2018
Editorial Board work session – virtual or live <i>Preparing final SRIA, priority research objectives and Roadmap for MB last review</i>	December 2018 to 20 January 2019
MB review final SRIA, priority list and Roadmap for implementation <i>(detailed explanation in MB meeting of 24 October 2018)</i>	20 January 2019 to MB meeting Q1 2019
MB approval SRIA & Roadmap for implementation <i>(detailed explanation in MB meeting of 24 October 2018)</i>	MB meeting Q1 - 2019
Edit, publish and promote SRIA	From MB Q1 2019 onwards

Overview of the consultations (Open and National)

Open consultation 9 July – 15 September 2018

Responses were received from 48 individuals; eight from outside of Europe (Australia, Brazil, Chile, India, Singapore, USA) and 40 (83%) from Europe (Austria, Belgium, France, Germany, Greece, Hungary, Ireland, Italy, Netherlands, Portugal, Serbia, Spain, Sweden, United Kingdom). The affiliations of individuals who participated in the open consultations were research institutes (32%; most of them working in human health and microbiology), hospital setting (26%) and Ministries of Health (5%). There were no responses from the animal health and agricultural sectors.

Responders commented on different priority topics (pillars), with most responses received in the topic therapeutics. The appropriateness of the suggested research objectives was requested and suggestions were given.

	Therapeutics	Diagnostics	Surveillance	Transmission	Environment	Interventions
# Responses	28	20	17	11	14	12
Appropriateness	71%	65%	76%	73%	100%	75%
Missing	71%	75%	53%	55%	71%	58%

One common observation across the topics is that **fungi and fungal resistance** are completely missing in the SRIA (as in the original SRA). The president of the European Council of Medical Mycology phrased it as follows: *“It is quite shocking to see that antifungal resistance is not mentioned at all in your document. Antifungal resistance poses a big threat and is very relevant to clinical practice.”* Another expert commented: *“Resistance to antifungal is an emerging problem in hospital care settings. Azole-antifungal resistance in Aspergillus has been only identified in UK and Netherlands in the late 90’s and has now spread over the world. Furthermore, it is a One Health issue due to development of resistance in the environment and in agricultural settings. There’s an urgent need for developing multidisciplinary research programmes to study the epidemiology in Europe and to start monitoring”.*

Specific and detailed suggestions were made to merge several research objectives, for improvements of the text, to focus more on the needs of Low and Middle Income Countries (LMIC), and to add references and to add research objectives on fungal resistance.

The main barriers that were reported by the respondees were:

- Lack of funding
- Access to data and policy makers

National Consultation via Management Board– 25 September 2018

Responses were received from nine countries: Germany, France, Netherlands, Sweden, Japan, Korea, Estonia, Norway and Ireland. France provided the majority of the comments. In total, 214 comments and suggestions were made to improve the text, to change terminology, to change the order of the priority topics, to revise (or merge) certain research objectives or to add references. The Editorial Board is currently reviewing the comments and suggestions. A new version of the SRIA pillar texts will be produced and circulated to the MB members for prioritisation of the updated Research Objectives. The updated Research Objectives will be the focus of a prioritisation workshop, including the SAB, additional scientific experts, the SC and the Editorial Board on 6-7 December 2018 to construct a Roadmap for Implementation of the JPIAMR Strategic Research and Innovation Agenda.

Questions for the Management Board representatives

The open consultation showed a clear absence of fungal research in our SRIA. The Editorial Board would like the MB to address the following questions:

1. Should JPIAMR add fungal (resistance) research to their activities?
2. If fungal (resistance) research is included in JPIAMR actions, should this be added to the SRIA document?

3. If fungal (resistance) research is not eligible for JPIAMR actions; what would be the most comprehensive arguments against it?
4. If fungal (resistance) research should be in the SRIA, should it be:
 - a. incorporated into each appropriate research objective;
 - b. incorporated as an individual research objective per appropriate pillar;
 - c. added to the general introduction?

Decision Sought

The Editorial Board believes we should address the fungi resistance issue in the SRIA. Whether incorporated into the SRIA as a topic for research or it should be made clear why JPIAMR is not taking any action on fungi resistance research.

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