

Quo Vadis AMR?

Reframing the AMR problem and the response to it

Data helps to inform and influence policy-makers.

Strategic policy-makers, including politicians and government leadership, are concerned with high-level priorities and strategies: they need to be convinced that an issue is compelling, a priority, and that there are viable policy options. *Technical* policy-makers on the other hand are responsible for translating priorities and strategies into implementation and action plans: they need to understand the nature of the problem and its causes, cost-effective policy options to address the problem, key implementation considerations, and monitoring and evaluation of policies.

The purpose of data and research is to highlight AMR as a policy priority, provide evidence to policy-makers and inform the development of the policies necessary to address AMR, allocate resources, and provide the benchmarks for measuring and monitoring the impact of interventions. Evidence is also required on alternative/opposing views of the issue to further justify the need for policy action¹ on why addressing AMR makes economic sense, and the consequences of inaction.

The imperative of informing and influencing effective AMR policymaking, and to hold the leadership of governments accountable, is predicated on the way the AMR issue and the response to it are framed, communicated, and advocated for within countries.

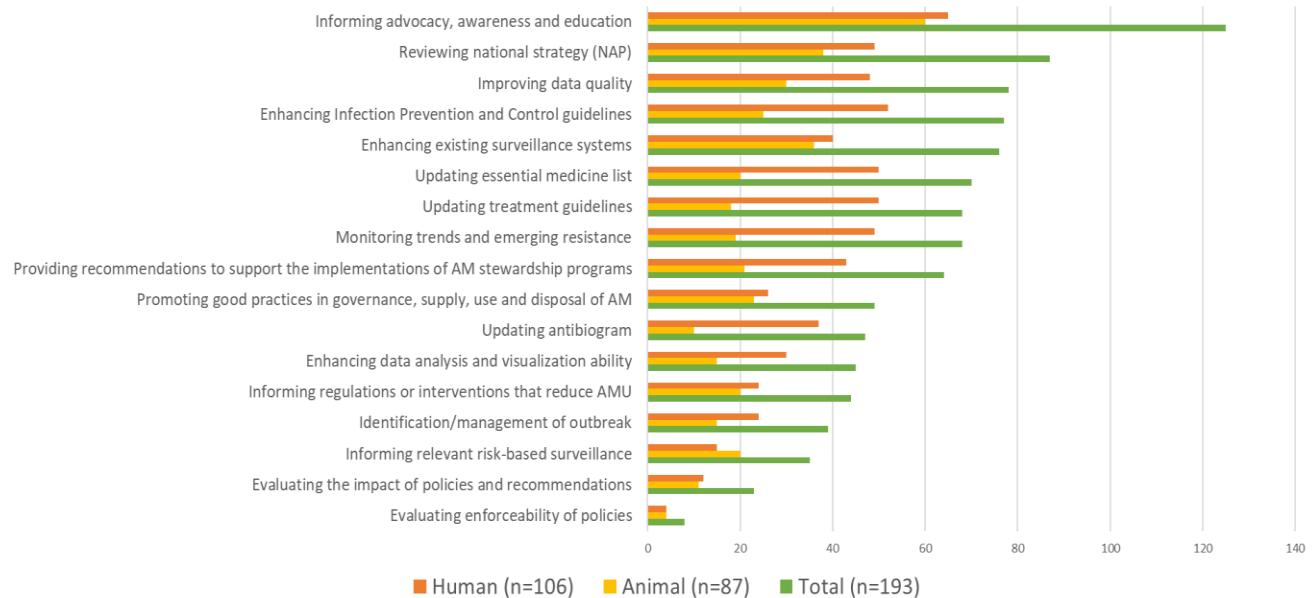
Between Oct 2020 and Jan 2021, the RADAAR Project and Consortium conducted 90 in-depth Key Informant Interviews (KIIs) across six countries and with regional/global experts and stakeholders. This also formed the basis for the conduct of an online survey in April 2021, which was co-developed and implemented by the RADAAR team at the International Vaccine Institute (IVI) and the Public Health Surveillance Group (PHSG). Over 200 respondents, including 70 Fleming Fellows, from across the 22 Fleming Fund priority countries completed the survey which was focused on issues around barriers and enablers to data sharing and analysis to inform and influence AMR policymaking. There was almost equal participation from the human and animal health sectors and there was over 50% representation from government entities and the Tripartite agencies. The KIIs and the survey provided rich input for the design and content of the series of three Regional Data Sharing and Analysis Workshops that are currently being implemented by RADAAR in June-July 2021.

Responses to three out of the 25 questions in the comprehensive and wide-ranging survey questionnaire, are of particular significance in the domain of AMR policy and advocacy (see figures below).

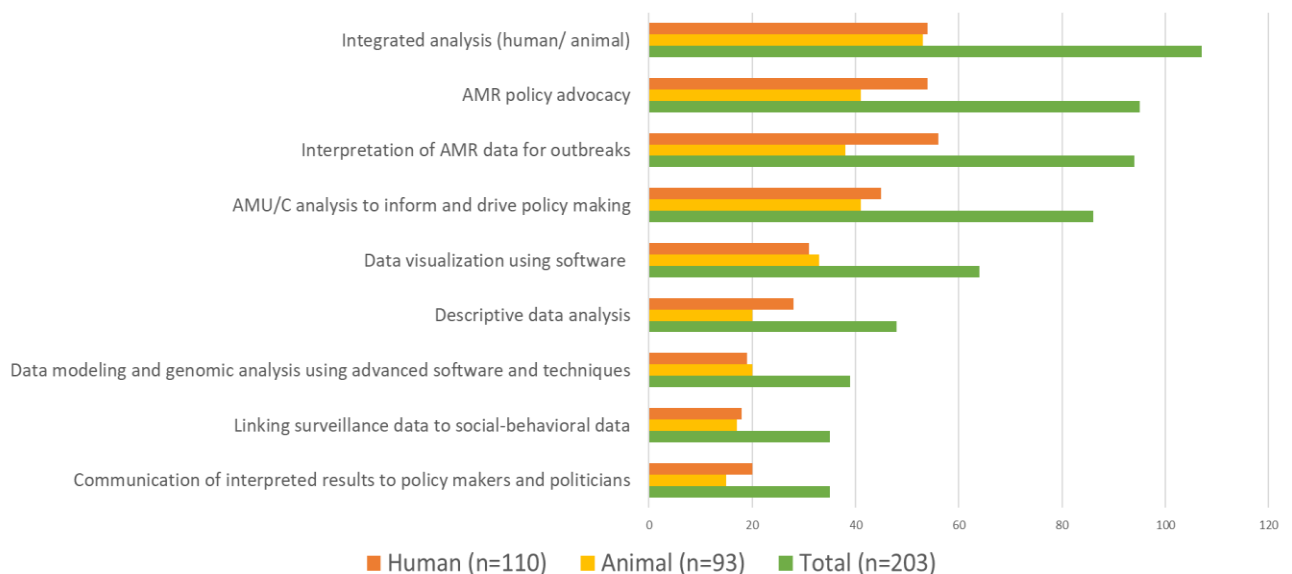
According to the respondents:

- a) The top 3 uses of national level human/animal health surveillance information were for updating and enhancing plans/actions related to: (1) Informing advocacy, awareness, and education; (2) Reviewing national strategy (NAP); and (3) Improving data quality.

a) Has your country utilized the national level human/animal health surveillance information to update or enhance any of the following? (All regions – 22 Countries)

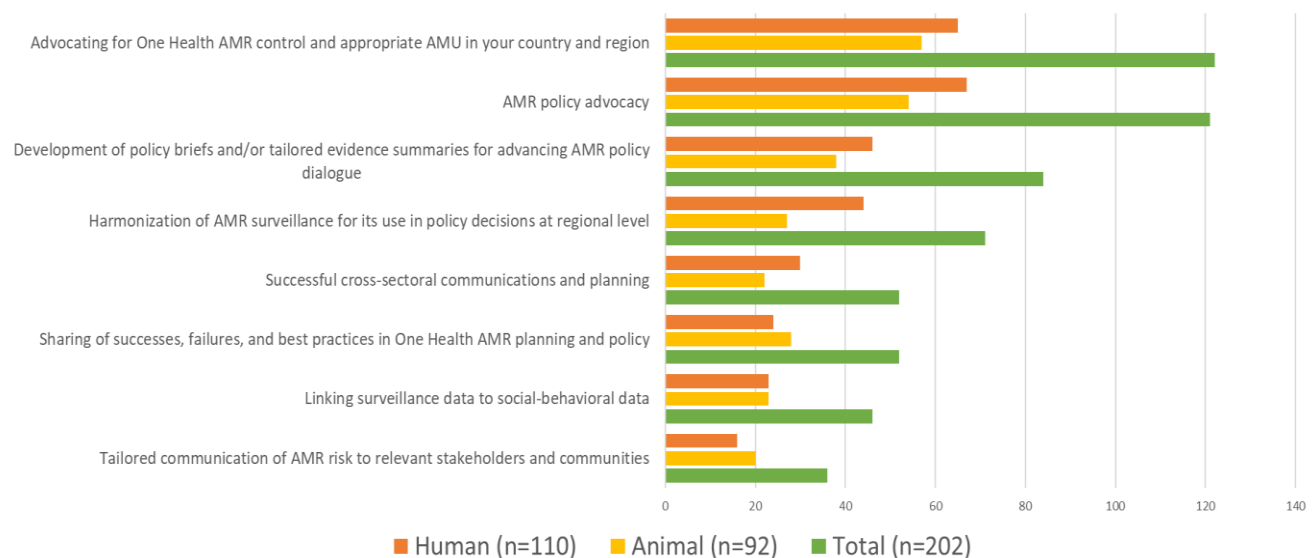


b) Which of the following aspects of AMR/U/C data analyses would you be interested in learning more about at the RADAAR regional data workshops (currently being implemented June - July 2021)? (All regions – 22 Countries)



- b) The top 3 picks for topics that respondents were most interested in learning more about at the RADAAR regional **data** workshops (currently ongoing, June-July 2021) included: (1) Integrated analysis (human/animal); (2) AMR policy advocacy; and (3) Interpretation of AMR data for outbreaks. Disconcertingly, the two topics which were at the bottom of the priorities included: (1) Linking surveillance data to social-behavioral data; and (2) Communication of interpreted results to policy makers and politicians.

c) Which of the following capacity strengthening ideas/ topics for the RADAAR continental **policy workshops** (planned for Dec 2021 – Jan 2022) are most attractive and advantageous to your organization? (All regions – 22 Countries)



- c) The top 3 picks for topics that respondents were most interested in learning more about at the RADAAR regional **policy** workshops (planned for Dec 2021/Jan 2022) included: (1) Advocating for One Health AMR control and appropriate AMU in their countries or regions; (2) AMR policy advocacy; and (3) Development of policy briefs and/or tailored evidence summaries for advancing AMR policy dialogue. Again, disconcertingly, the two topics at the bottom of the priorities included: (1) Linking surveillance data to social-behavioral data; and (2) Tailored communication of AMR risk to relevant stakeholders and communities.

The responses/selections in all the above three questions also remained consistent across the individual regions (South Asia, Africa, South-East Asia). While the top 3 picks for each of the questions gave high priority to AMR policy advocacy (indicating a strong desire to further strengthen capacities in this domain), the lowest priority selections in (b) and (c) were disconcerting in the sense that there seemed little traction for topics that underpin the building of a 'whole-of-society' response to the emergence and spread of AMR, which is driven by human actions and behaviors.

The ‘bottom-of-the-pile’ selections are troubling, and more so, because a recent report by the Wellcome Trust² unapologetically pointed out that:

- Actions to address drug-resistant infections on the ground are simply not happening at the scale and urgency required.
- Current AMR communication and advocacy approaches need to be dramatically re-framed and scaled-up.
- A groundswell of public and societal support is needed for AMR to push and hold political leaders accountable.

Recent AMR literature, as well as a rapid desk review of the AMR policy and advocacy landscape conducted by RADAAR, point to a set of deeply entrenched issues which need to be carefully and systematically addressed:

- Many scholars have described AMR as a truly ‘wicked’ problem. However, few national AMR stakeholders seem to have fully appreciated this description or embraced an approach that accounts for this characterization. Worldwide, LMICS continue to rely heavily on antimicrobials to ensure medical, nutritional, and economic security for their populace. Imprudent and large-scale use of antibiotics is compensating for the lack of universal access to clean water and sanitation; and subtherapeutic use and misuse of antibiotics in the production of food-animals, is compensating for poor farming practices³. These contextual realities constitute the very ‘wickedness’ of the AMR problem, and solutions cannot be found through conventional linear processes or approaches.
- Other scholars have also systematically deconstructed the various framings and discourses around AMR (i.e., AMR as a healthcare issue, a development issue, a health security issue, an innovation issue, and a One Health issue. **See table below**)⁴.

Differential Framing and Discourse of the AMR Problem	
Policy Frame	Policy Focus and Intervention Characteristics
1. A healthcare issue	Focus on the healthcare sector; promotion of early diagnosis and treatment through rational/prudent use of antimicrobials and antimicrobial stewardship.
2. A development issue	The high burden of infectious diseases and lack of awareness in LMICs drives overuse and misuse of antimicrobials. Universal and equitable access to quality antimicrobials seen as a right to health. Achievement of SDGs imperiled.
3. An innovation issue	Lack of new compounds and diagnostics. Market failure and lack of incentives for R&D in the pharmaceutical sector. Incentivization of R&D through new mechanisms
4. A security issue	AMR viewed as a threat to individual and national (health) security as a result of globalization and imperiling the global North. Focused on systematic surveillance, capacity building, and containment of AMR ‘at source’ (i.e. largely the global South)
5. A One Health issue	Developed in the context and as a response to rising incidences of zoonoses and the large-scale overuse/misuse of antibiotics in food animal production, requiring multi-sectoral engagement. Globally endorsed overarching approach for containing AMR. Despite operationalization challenges, improved coordination and collaboration between human, animal, and environmental sectors is the policy response emphasis.
Source: Adapted from Wernli, D., Jørgensen, P. S., Morel, C. M., Carroll, S., Harbarth, S., Levrat, N., & Pittet, D. (2017). Mapping global policy discourse on antimicrobial resistance. <i>BMJ global health</i> , 2(2), e000378.	

For LMICs, many components of these framings are likely to appear unsatisfactory. It has been argued that a critical missing element in all these framings, is the insufficient analysis and incorporation of who the 'target' populations are, how they will be affected by AMR policies, and what incentives or sanctions will result in cooperation or opposition to policy interventions⁵. AMR requires an inclusive policy process which aims to understand and engage all stakeholders that influence policy-makers in LMICs and consideration of the political factors that shape their opinions and determine their support for policies⁵.

- Furthermore, the lack of acknowledgement, of the very real dilemmas and tensions facing policymakers in LMICs -- of balancing universal access to high quality antimicrobials, while eliminating overuse and misuse to conserve efficacy of the drugs and prevent the emergence of drug resistant pathogens -- appears to be acting as a barrier to communicating the risk of AMR, and effective policymaking that follows from that.

The lack of identity and resonance of AMR, exacerbated by the gaps in knowledge, data collection and analysis, suggest a new approach and reframing of AMR. Resonance depends on the credibility – linked to how truthful people perceive the frame to be – and salience – how central it is to people's lives – of the issue⁶. AMR can be variously framed as a public health, development, humanitarian, security, or economic issue. Frames need to both resonate internally (unifying policy communities by providing a common understanding of and solutions to the issue) and externally (mobilizing stakeholders to action, including policy-makers).

Recognizing these disconnects and building on some of the merits offered by the various frames, RADAAR is calling for a re-framing of the AMR response to generate greater political and societal traction and accelerate policy efforts in LMICs.

A Proposition for Consideration

1. **ESTABLISH:** Attaining and Sustaining '**National Antimicrobial Security**' as the overarching **Strategic Goal** of National Action Plans (NAPs).
2. **RE-CONFIGURE:** NAPs as a **Progressive Pathway** to achieving '**National Antibiotic Security**', with a robust theory of change and time-bound numerical targets.

Specifically, LMICs should consider framing their AMR National Action Plans as a progressive pathway to the concept of *achieving and assuring* '**National Antimicrobial Security**', for which a working definition is proposed below.

WORKING DEFINITION

'National Antimicrobial Security'

Every country retains the continued ability to treat infectious diseases of the highest burden with effective and safe antimicrobials in an affordable and equitable manner, by preventing the emergence and spread of AMR and thereby reducing the impact of those diseases on the human, animal, environmental, and economic health of the country.

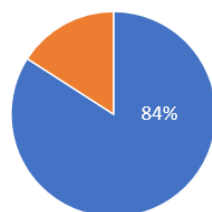
Core minimum set of data and evidence that will need to be generated (or estimated through modelling), towards developing a robust theory of change, time-bound numerical targets, and prioritized policy options for implementation.

1. Which diseases or pathogens have become, or are becoming, resistant to the antimicrobials available and being used in the country?
2. Which antimicrobials have become, or are in imminent danger, of becoming ineffective in the country due to resistance or sub-standard quality?
3. Access to which important antimicrobials is being denied due to costs or availability?
4. Which infectious diseases have the highest burden and economic impact on the country?
5. What are the AMC/AMU levels and patterns (including professional and social behaviors and practices) that are driving the emergence and spread of AMR?
6. What impacts can and need to be reduced, by how much, and by when?
7. Do the benefits outweigh the costs? Which sector needs the highest investments? Investments in which sector will bring the maximum and quickest benefits? Are the investments affordable?

The RADAAR Project team firmly believes that such a novel (re)-framing and shift in conceptualization of the AMR issue and the corresponding response, will emphatically foreground: equitable access, mitigate the tension of the 'excess versus access' dilemma, and at the same time acknowledge the need to conserve the efficacy of existing and future antimicrobials.

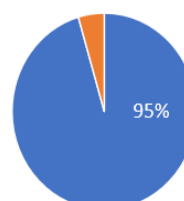
A 'snap' opinion poll conducted immediately after presenting the 'National Antimicrobial Security' concept (for the first time ever) of achieving at the first RADAAR regional data workshop involving 5 countries of the South Asia region, received an overwhelmingly positive response as shown below.

Do you think that the concept of achieving "National Antimicrobial Security" will resonate strongly with Political/Government/Policy Leadership? (YES/NO)



■ Yes ■ No
N=44

Would you like to participate in further developing the concept of achieving "National Antimicrobial Security"? (YES/NO)



■ Yes ■ No
N=44

RADAAR aims to conduct the same poll in the upcoming regional data workshops in Africa and South-East Asia also, to test for resonance and support among participants of those regions.

Most countries will be developing their next edition of their National Action Plans in the coming 6 – 12 months. This offers a unique opportunity to test and shape the proposition of *“Attaining and Sustaining National Antimicrobial Security”*.

While it is acknowledged that the proposed conceptualization is novel and requires further development to make it a technically and operationally robust concept for adoption by countries, the RADAAR Project believes that this is indeed possible, and invites stakeholders and experts to consider the proposition and offer constructive critique to develop it further.

And while data continues to remain at the heart of evidence-based policymaking, it is worth remembering that:

“Not everything that can be counted counts, and not everything that counts can be counted.”

(Attributed to multiple sources)

REFERENCES

1. US CDC (2013). CDC’s Policy Analytical Framework. US Department of Health and Human Services.
2. The Wellcome Trust (2019) Reframing resistance: How to communicate about antimicrobial resistance effectively
3. Laxminarayan, R., Matsoso, P., Pant, S., Brower, C., Røttingen, J. A., Klugman, K., & Davies, S. (2016). Access to effective antimicrobials: a worldwide challenge. *The Lancet*, 387(10014), 168-175.
4. Wernli, D., Jørgensen, P. S., Morel, C. M., Carroll, S., Harbarth, S., Levrat, N., & Pittet, D. (2017). Mapping global policy discourse on antimicrobial resistance. *BMJ global health*, 2(2), e000378.
5. Legido-Quigley, H., Khan, M. S., Durrance-Bagale, A., & Hanefeld, J. (2019). Something borrowed, something new: A governance and social construction framework to investigate power relations and responses of diverse stakeholders to policies addressing antimicrobial resistance. *Antibiotics*, 8(1), 3.
6. Jeremy Shiffman/Center for Global Development (2007). Generation of Political Priority for Global Health Initiatives: A Framework and Case Study of Maternal Mortality. Working Paper Number 129 October 2007.

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