Advancing Global Response to Antimicrobial Resistance: Examining Current Global Initiatives

By Mirza Alas*

I. Introduction

Bacteria, fungi, and viruses rapidly develop resistance to our treatments to tackle infections. The ability of microorganisms to develop resistance and to survive is called antimicrobial resistance (AMR). The increase in AMR is threatening many modern medical advances that rely on antibiotics, antifungals, and antivirals to cure infectious diseases. Because microorganisms do not respect borders, actions to control and slow down the spread of AMR need to include a global response and consider the needs and challenges of developing countries. AMR has been recognized as a worldwide health threat, and it was because of that international recognition that in 2015 the Member States of the World Health Organization (WHO) approved a Global Action Plan on AMR with five key objectives. The objectives of the plan are:

1. **Abstract**

Antimicrobial resistance (AMR) is a severe ongoing crisis threatening our health systems. Since adopting the WHO Global Action Plan on AMR in 2015, there has been progress, particularly in improving awareness, surveillance and implementation of infection, prevention, and control measures. However, there has been a slower response related to optimizing the use of antimicrobials in the animal sector and actions related to the environment. Unfortunately, the COVID-19 pandemic has also undermined the implementation of activities to address AMR, including shifting resources to other areas and deprioritizing responses to AMR due to the ongoing pandemic. While national-level actions are at the core of the AMR response, given its global nature and impact, there is broad recognition of the need to ensure that national efforts are complemented with measures at the global level. Examining global initiatives to address AMR and how they can be strengthened to accelerate action is critical to better understand the importance of global coordination and increasing investment to close the gaps that remain.

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While national-level actions are at the core of AMR response, given its global nature and impact, there is broad recognition of the need to ensure that national efforts are complemented with measures at the global level. Therefore, examining global initiatives to address AMR and how they can contribute to accelerating action is critical to better understanding the importance of global coordination and efforts and the gaps that are still not addressed. Generating a better understanding of the ongoing global response to AMR can help examine it and perhaps provide opportunities to think about how the global response can best support national actions and provide a framework for all countries to respond to the complexity of AMR.

II. Global Governance on AMR

There have been many calls for a global response to AMR, particularly acknowledging that many of the issues that are needed for slowing down the emergence of AMR and conserving current treatments require the collaboration of many sectors. In 2015, an editorial from the WHO Bulletin noted that “solving the issues of access, conservation and innovation simultaneously will require new coordination and financing mechanisms, some of which must be organized globally.”5 Moreover, “global standards are needed for surveillance, infection control, health-worker training, sales promotion, direct-to-consumer advertising and safeguards against incentives for overuse.”6 At the time, the editorial had called for an international framework to address AMR, that aspiration was partly realized when in 2016, the United Nations (UN) held a High-level meeting and adopted the high-level political declaration of AMR through the UN General Assembly.7

Among the notable outcomes of the High-Level political declaration8 was the mandate to set up an Interagency Coordination Group (IACG), tasked with providing guidance and recommendations to the UN Secretary-General

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Figure 1 - Recommendation for the Establishment of a One Health Global Leaders Group on AMR12

Recommendation E2: The IACG recommends the urgent establishment of a One Health Global Leadership Group on Antimicrobial Resistance, supported by a Joint Secretariat managed by the Tripartite agencies (FAO, OIE and WHO), to:

a. Maintain urgency, public support, political momentum and visibility of the antimicrobial resistance challenge on the global agenda;

b. Advocate for action, including support for the expanding work of the Tripartite agencies (FAO, OIE and WHO), UN Environment and other international and regional entities;

c. Monitor and report on progress, gaps and accountability in the global response to antimicrobial resistance;

d. Advocate for multi-stakeholder engagement by facilitating a partnership platform with the participation of Member States, UN agencies, international and intergovernmental organizations and regional entities, civil society, the private sector, researchers and other key stakeholders to develop and work towards a shared global vision, goals and coordinated action on antimicrobial resistance;

e. Provide advice and guidance on reports of the Independent Panel on Evidence for Action against Antimicrobial Resistance (recommendation E3);

f. Monitor and advocate for the inclusion of antimicrobial resistance and a One Health "lens" in investments and programmes of major financing instruments for agriculture, health, development, food and feed production and other relevant areas (recommendation D1).

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these achievements are documented in the self-assessment surveys carried out by the Tripartite organizations.2 However, these assessments have also noted the slower response related to optimizing the use of antimicrobials in the animal sector and actions related to the environment.3 Unfortunately, the COVID-19 pandemic has also negatively affected implementing activities to address AMR, including shifting resources to other areas and deprioritizing responses to AMR due to the ongoing pandemic.4
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The IACG recommendations regarding global governance acknowledged that to promote an integrated One Health approach, a response by the Tripartite agencies (FAO, OIE, and WHO) together with United Nations Environment Programme (UNEP) would need to engage with other UN agencies as well as with financial institutions such as the World Bank. Furthermore, the recommendations on establishing a One Health Global Leaders Group and the Independent Panel on Evidence for Action against Antimicrobial Resistance aim to expand knowledge, gather expertise, and bring additional evidence to help draft recommendations to better respond to AMR.

One of the recommendations made by the IACG is to strengthen accountability and global governance. The IACG recommended the establishment of a One Health Global Leadership Group on AMR and supported by the Tripartite agencies (WHO, FAO, and OIE). The UNSG subsequently also requested the Tripartite agencies to propose the terms of reference and the mechanisms for establishing the Global Leaders Group. The UN IACG also recommended creating an Independent Panel on Evidence and a Multi-stakeholder Partnership Platform to help complement the work of the Global Leaders Group.

At present, these latter two governance mechanisms are still being developed. The Tripartite agencies have publicly discussed the critical elements of the proposed AMR Multi-Stakeholder Partnership Platform that closed on the 18 of September 2021 to collect views on the elements presented. A compiled report on the submissions to this consultation should be published in 2022.

The excerpt below from the IACG report outlines the functions of the Global Leaders Group.

**III. The Global Leaders Group (GLG)**

The Tripartite organizations announced the launching of the GLG during the World Antimicrobial Awareness Week in November 2020. The GLG aims to provide political leadership to respond to AMR and help advocate for actions to address AMR. The GLG has 20 members and is co-chaired by Prime Minister Sheikh Hasina Wazed of Bangladesh and Prime Minister Mia Mottley of Barbados. The Group has a broad membership, currently including ministers from Bhutan, Iraq, Sweden, Australia, Saudi Arabia, and Singapore, leaders from academia, the private sector, and civil society.

During the first formal meeting of the GLG, key functions to guide their work were emphasized, such as maintaining the urgency, public support, and political momentum of AMR and its challenges to address them. The meeting also emphasized the need to continue to advocate for action and expand the work of the Tripartite organizations plus UNEP, and to “advocate for the inclusion of Antimicrobial Resistance and a One Health ‘lens’ in investments and programmes of major financing instruments for agriculture, health, development, food and feed production.” The point on advocating for financing refers to a critical area that has been highlighted multiple times as one of the main gaps in AMR response. Mobilization for funding has been recognized as a vital component

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**Figure 2 – Co-Chairs of the Global Leaders Group**

![Co-Chairs of the Global Leaders Group](source: Antimicrobial Resistance_NEW2.indd (who.int))

**Figure 3 – GLG Priority Work Areas**

![GLG Priority Work Areas](source: https://www.amrleaders.org/about-us/what-we-do)
of AMR response. Still, this recognition has lacked appropriate commitments and much-needed global cooperation, notably to support developing countries in implementing national action plans. The task of the GLG in this area is difficult, but if successful can finally respond to the much-needed resources to adequately respond to AMR.

The GLG has also published information notes on critical areas of AMR response. For example, on finance, the information note recognizes that “[t]here is inadequate financial support currently available for the sustainable implementation of national action plans on antimicrobial resistance, particularly in low- and middle-income countries (LMICs). Increased investment is urgently needed to support countries to deliver on national action plans.”16 This recognition is a vital start-up point on the need to increase the attention for more funding, particularly now that countries’ economies have been negatively affected by the COVID-19 pandemic. Recovery plans should include strengthening the capacity of health systems to deal with emergencies and other health threats such as AMR. On surveillance, their information notes stress how the lack of resources and continued reporting gaps across sectors make it difficult to ensure a One Health response to the AMR challenge. The note also emphasizes increasing investments and technical support for this area.17

In July 2021, the GLG published a more detailed work program with key performance indicators and priority areas that include efforts to increase advocacy to sustain political action and use opportunities arising from the COVID-19 pandemic response, to increase advocacy for integrating a One Health approach to the AMR response, increase infection prevention and control, and promote the responsible use of antimicrobials. Priorities also include advocating for improving surveillance and increasing and mobilizing financial resources.18

However, the GLG has been working without the other two governance structures meant to support its role, provide scientific advice (the Independent Panel on Evidence) and increase space for broader consultation, with robust safeguards to protect against conflict of interest.”19 Because these two structures have yet to be finalized, how the GLG would interact with these other structures will need to be defined later, even though the GLG has already commenced its work.

The report on the GLG meeting of August 2021 noted that the COVID-19 pandemic has had dire economic consequences. This resulted in shifting attention from AMR to other areas in particular pandemic response, which will be a challenge for increasing awareness to AMR. They requested the World Bank to update its 2017 annual cost estimate for antimicrobial resistance and estimate the loss to the global economy due to antimicrobial resistance. Updating this information could help countries better understand the economic consequences of AMR and provide more recent and accurate cost estimates and not only the projections.

In 2017, the World Bank20 had already provided projections on the consequences of AMR on the global economy. The figure below from the 2017 World Bank report on AMR provides forecasts for 2050 on the economic cost of AMR. The request from the GLG could hopefully bring more attention to the economic impact that AMR will have.

The GLG report also noted that the GLG members would commission a paper to advocate for the inclusion of AMR in any new financing mechanisms that might be part of discussions on pandemic preparedness and response. However, AMR financing should focus on addressing the implementation of national action plans and ensure that critical areas are included, such as the environment that has seen less progress overall.
The purpose of the GLG is critical in trying to keep the AMR agenda high at the global level. It would be particularly crucial if it manages to promote the mobilization of the much-needed financial and technical resources for developing countries to implement national action plans to address AMR. However, the current setup of the GLG is not formally embedded in a governance process through a mechanism such as the World Health Assembly or the United Nations General Assembly; therefore, it is unclear how their work can be translated into further commitments and actions by other governments.

IV. Other Global Responses to AMR

Parallel to the work of the GLG, the adopted recommendations of the IACG by the UN General Assembly, and the ongoing work regarding the implementation of the WHO Global Action Plan on AMR, there have been other developments also aimed at keeping the attention on AMR high on the agenda. One of those initiatives came on 29 April 2021, when the United Nations held a High-Level Interactive Dialogue on Antimicrobial Resistance and launched a Call to Action on Antimicrobial Resistance.

The Interactive Dialogue and the Call for Action is another global initiative aiming to increase attention and global leadership to the complex issue of AMR, recognizing that national actions alone are not enough to stop the spread of resistant bacteria across the world. The document presented at the event and signed by 113 Member States with 35 supporting organizations called for supporting the effective implementation of the recommendations of the Inter-Agency Coordination Group on AMR (IACG) and for the emergence of health crises arising from the human-animal-ecosystem interface; and guidance on the development of a long-term strategic approach to reducing the risk of zoonotic pandemics, with an associated monitoring and early

![Figure 5 – One Health](source: One Health High-Level Expert Panel Annual Report 2021)
warning framework, and synergies needed to institutionalize and implement the One Health approach, including in areas that drive pandemic risk.” This panel will provide the four partner agencies, FAO, OIE, UNEP, and WHO, with guidance, evidence, and inputs on One Health. This will be particularly key in the AMR area to help assess potential risks and also to help increase collaboration across sectors. The OHHLEP will play an advisory role to the international agencies and is expected to support their provision of evidence-based scientific and policy advice to address the challenges raised by One Health. The group has recently launched a report containing a definition of One Health supported by WHO, UNEP, OIE, and FAO to help develop a common language and understanding of One Health.

Another example of the ongoing work across international agencies is the recently announced “Memorandum of Understanding” between UNEP and the Tripartite agencies (FAO, WHO, and OIE) to formally include the environmental agency in AMR work. The Tripartite agencies have been at the forefront of the global response of AMR, but UNEP was not formally part of their coordination. With this announcement, the agencies will be officially known as the “Quadripartite,” and this should encourage expanding the work on AMR and the environment, which is an area that needs increasing attention and guidelines, mainly to help developing countries build expertise and infrastructure to address the environmental aspect of AMR.

The new Quadripartite has now developed a Strategic Framework for Collaboration on Antimicrobial Resistance to support the pillars of the WHO Global Action Plan on AMR. Furthermore, the Quadripartite organizations are also working on a One Health Joint Plan of Action, identifying six priorities. One of those priorities will be “curbing the silent pandemic of antimicrobial resistance (AMR) and better integrating the environment into the One Health approach.”

The draft plan has just finalized the call for consultations with Member States and should be completed in 2022.

Increasing collaboration to provide a better One Health response with these global initiatives is a welcome sight.

**Figure 6 – One Health Joint Plan of Action Tracks**


However, it would be essential that there is good communication across the different initiatives to ensure that there is streamlining of work and that it can be presented to Member States through the governance structures of the other agencies to ensure that Member States can endorse adequate actions.

**V. Conclusions**

AMR is threatening the global ability to continue providing care for humans, animals, and plants. The core actions must be taken at the national level, as these responses should be adapted to the needs and circumstances of individual countries. But national efforts, particularly those in developing countries, need to be complemented with measures and support at the global level.

The WHO Global Action Plan on AMR continues to be an essential road map for countries to develop their national action plans and the UN High-Level Political Declaration of AMR in 2016 expanded the commitment calling for the mobilization of funding as well as for the integration of other global aspects such as research and development of new antibiotics. The UN Declaration also provided space for the work of the IACG that suggested critical areas where AMR work must be expanded. The work of the Global Leaders Group in this respect is particularly relevant and it would need to be supported by the other
structures that had been recommended but are yet to be set up. Critically, the Independent Panel on Evidence whose aim is to provide scientific advice; and the Multi-stakeholder Partnership Platform for increasing space for broader consultation, especially with civil society organizations, keeping in mind the potential vested interest of non-state actors and work on safeguards must be set up.

Additionally, coordination among the different initiatives and their respective roles would also be needed mainly with the initiatives on increasing One Health response that go beyond AMR but that have strong linkages with the AMR response. Likewise, the recommendations coming from the different initiatives would need to be embedded into more formal global governance structures to ensure the broader adoption by countries. Recommendations regarding the mobilization of financing continue to be critical. Implementation of actions can only happen if international resources are mobilized. There is a recognition that some “countries have a greater differentiated responsibility to contribute resources to this common pool than others.”231 This means that there is a clear recognition that developing countries will need technical and financial support to adequately address AMR.

Furthermore, the work of the Quadripartite will be critical in coordinating response across the different sectors for a truly One Health response to AMR and integrating the recommendations of the OHHLEP will also be necessary so that work is not fragmented but better coordinated.

Endnotes:

1 WHO Global Action Plan and the five objectives can be accessed here https://www.who.int/publications/i/item/9789241509763.
2 The Tripartite organizations refer to the World Health Organization (WHO), the Food and Agriculture Organization of the United Nations (FAO), and the World Organisation for Animal Health (OIE).
3 Report on the monitoring of global progress can be found here http://apps.who.int/iris/bitstream/handle/10665/273128/9789241514422-eng.pdf?ua=1.
5 The full editorial can be accessed here: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4339972/.
8 UN High-level political declaration can be found here https://digitallibrary.un.org/record/942613?ln=en.
11 One Health Global Leaders Group on Antimicrobial Resistance (who.int).
13 World leaders join forces to fight the accelerating crisis of antimicrobial resistance (who.int).
14 Full list of GLG members can be found here One Health Global Leaders Group on Antimicrobial Resistance (who.int).
16 financing-to-address-amr.pdf (who.int).
18 Their full plan can be found here glg-action-plan-July-2021_final.pdf (who.int).
19 Full submission from the Antibiotic Resistance Coalition members is available from https://static1.squarespace.com/static/5c3784843c3a534ead66de41/1 /5dc6eeaa41d2ed0d10b7e16/157331837279/FINAL_ARC+Feedback\+on\+GLG+to\+R\+-\+9\+Nov\+2019.pdf.
20 Full report from World Bank is available from World Bank Document.
22 See South Centre report on the High-level Interactive Dialogue on AMR https://us5.campaign-archive.com/?u=fa9c3879136b5660f367ba6&id=299c3d9635.
24 See more information on the One Health interactions regarding AMR here https://www.southcentre.int/research-paper-104-march-2020/#more-13730.
25 Information on the panel can be found here https://www.who.int/groups/one-health-high-level-expert-panel and here https://www.who.int/groups/one-health-high-level-expert-panel/meetings-and-working-groups.
26 The full report is available from https://www.who.int/groups/one-health-high-level-expert-panel.
28 https://www.who.int/publications/i/item/9789240045408.
31 Setting the standard: multidisciplinary hallmarks for structural, equitable and tracked antibiotic policy | BMJ Global Health.
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