HEALTH DIPLOMACY ALLIANCE

ANTIMICROBIAL RESISTANCE

Sustaining Political Commitment to Safeguard Public Health: A Policy Roadmap

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EXECUTIVE SUMMARY

Global political commitment to combat antimicrobial resistance (AMR) has evolved significantly over the past two decades supported by various cross-sector initiatives. Since the World Health Organization launched the Global Strategy for Containment of Antimicrobial Resistance in 2001, after years of initiatives, consultations, and gathering of scientific evidence, AMR has gained recognition as a global health threat requiring coordinated action and marking a milestone in health diplomacy.

Furthering these efforts, and the increased burden of AMR, in 2017 with the adoption of the Political Declaration of the High-Level Meeting of the General Assembly on Antimicrobial Resistance, the establishment of the Interagency Coordination Group on AMR, the Quadripartite Joint Secretariat, the Global Leaders Group on AMR, many other regional political initiatives and national programs have created the path to the next steps and political commitment needed to achieve sustainable and significant progress on curbing AMR.

In this complex landscape, health diplomacy has become a pivotal force, ensuring the increase of a sustained political will and international collaboration to address AMR, by fostering cooperation across countries, sectors, and organizations, and encouraging the development of AMR action plans, regulatory frameworks on antibiotic use, and funding mechanisms for research and innovation.

As we approach the 2024 UNGA High-Level Meeting on AMR, the *Health Diplomacy Alliance* is committed to ensuring that the political momentum built over the years continues and sets the field for concrete results. By encouraging cross-sector dialogue and advancing international agreements, we seek to sustain global commitments, ensuring that AMR remains a top priority in health and foreign policy. This continued leadership and collaboration will be essential to curbing the rise of AMR and safeguarding the future of global health.

GLOBAL IMPACT

Effectively addressing AMR requires a comprehensive One Health approach that integrates human, animal, and environmental health. Despite its importance, only 8% of AMR-related research funding is allocated to multisectoral projects, with a predominant focus on biomedical aspects. An effective One Health strategy demands collaborative efforts across sectors, supported by robust policy and governance frameworks. Expanding research to encompass environmental health, social, human rights, and cultural factors is crucial.

HUMAN HEALTH – AMR leads to prolonged illnesses and higher death rates from previously treatable infections, especially among vulnerable populations. It is responsible for 4.95 million deaths annually, including 1.27 million due to resistance, with 1.05 million occurring in children under 5, predominantly in Western sub-Saharan Africa and South Asia. The main drivers of AMR are behavioural issues related to antimicrobial overuse and misuse, poor infection control, inadequate diagnostics, and the global spread of resistant pathogens, particularly drug-resistant tuberculosis.

ENVIRONMENT- AMR is closely tied to the triple planetary crisis, driven by unsustainable production and consumption. Environmental pollutants, chemical changes, and increased selective pressures promote bacterial resistance, with hospitals, pharmaceutical manufacturing, and agricultural runoff contributing to environmental resistance. AMR disrupts planetary health by affecting microbial biodiversity and key biogeochemical cycles, such as carbon and methane regulation, while climate change worsens AMR by accelerating gene transfer and infection rates through rising temperatures and extreme weather events.

AGRICULTURE AND FOOD Rising global food demand drives antibiotic misuse in agriculture to enhance growth and productivity, with 84,000 tons of antimicrobials used in animals in 2019, over 60% of global antibiotic use. Around 80% of these drugs are not metabolized and end up in the environment, spreading AMR through contaminated food, waste, and runoff. Notably, 20% of these antibiotics are crucial for human medicine, increasing risks to health, food security, and the environment, leading to higher mortality, food insecurity, economic loss, and environmental contamination, with reliable data on antibiotic use still scarce. Without addressing the contributing and predisposing factors for infectious diseases in farmed animals, restrictions in antibiotic use for therapeutic purposes can contribute to increased morbidity and mortality in livestock, also translating into financial losses.

VULNERABLE COMMUNITIES AND SETTINGS Women, children, migrants, refugees, and those in poverty and conflict zones are facing greater AMR risks due to limited healthcare, education, and restrictive societal norms. In low-income and conflict areas, poor infrastructure, sanitation, and antibiotic overuse worsen the spread. Despite awareness, inadequate research and policies continue to perpetuate inequality in these communities.

SOCIO-ECONOMIC BURDEN The economic consequences of failing to tackle AMR are profound, potentially reducing global GDP by USD 3.4 trillion annually and driving 24 million people into extreme poverty within the next decade. The World Bank estimates a 1.1% GDP decline in a low-impact AMR scenario, and 3.8% in a high-impact scenario by 2050, with the most severe losses in low- and middle-income countries. Treating AMR-related complications could cost USD 28.9 billion annually across 34 OECD and EU/EEA countries, mainly due to longer hospitalizations and more intensive procedures, resulting in productivity losses of over 734,000 full-time workers annually by 2050.

CHALLENGES AND BARRIERS

ACCESS TO PREVENTIVE, DIAGNOSTIC, AND THERAPEUTIC TOOLS - Limited access to quality-assured antimicrobials in low- and middle-income economies increases mortality rates. Critical antibiotics are often unavailable, leading to reliance on less effective alternatives that worsen outcomes and accelerate AMR. Additionally , high prices and out of pocket expenditure render critical antibiotics unaffordable. This results from inadequate funding, regulatory barriers, procurement and market-shaping deficiencies, and weak supply chains. Sustainable access requires a human rights driven approach advocating for equitable distribution, increased production, proper use, and disposal to minimize unnecessary exposure, ensuring patients receive the right antibiotic at the right time.

QUALITY OF ANTIMICROBIALS – Antimalarials and antibiotics are the most common substandard and falsified medical products. Questionable quality of antibiotics causes 72,430 childhood pneumonia deaths annually. Poor Active Pharmaceutical Ingredient content in these medicines leads to subtherapeutic levels, promoting AMR, increasing mortality, healthcare costs, and eroding trust in health systems. Few national action plans address antimicrobial quality, making improved access to quality-assured antimicrobials crucial for AMR control.

R&D FOR NEW ANTIMICROBIALS – Rising antibiotic use has increased resistance, while innovation has lagged. The WHO's 2021 review shows a drop in antibiotic development for priority pathogens, with only 27 in progress, down from 31 in 2017. Since 2017, just 12 new antibiotics were approved, and only two use innovative mechanisms. High costs and low returns have deterred major pharmaceutical companies, leaving small pharmaceutical firms to lead – with limited resources, often relying on unstable financial mechanisms by public and philanthropic funding.

INFECTION PREVENTION AND CONTROL – Inadequate WASH infrastructure exacerbates AMR, particularly in low-income economies where poor sanitation causes preventable infections. Achieving universal WASH coverage could cut antimicrobial use in children by 24.6%, while better sanitation and wastewater treatment help curb the spread of resistant bacteria and genes. Strengthening infection prevention in healthcare settings, is essential for reducing both infections and antimicrobial use, thereby lowering AMR. Preventive measures, including vaccination and innovative treatments for common infections, are essential for reducing infection rates and antibiotic reliance, thereby preserving effectiveness, reducing maternal perinatal neonatal infant and child mortality, lowering healthcare costs, and improving public health.

VACCINES – Widespread vaccinations can decrease unnecessary antibiotic use by reducing pathogen transmissions, infections and limit the risk of resistance. They target a range of microbes, including both drug-sensitive and drug-resistant strains. WHO's Action Framework highlights the need to expand vaccine use, develop new vaccines, and study their impact on AMR which continues to be a major challenge.

DIAGNOSTICS – Limited diagnostic access, especially in high-burden areas, is increasing morbidity, mortality, costs, and resistance spread. Nearly half the global population lacks diagnostic access, with mycology testing being particularly scarce. Enhancing diagnostic and laboratory services is crucial to the Global Action Plan on AMR, as it improves surveillance, controls multidrug-resistant bacteria, and promotes rational antibiotic use.

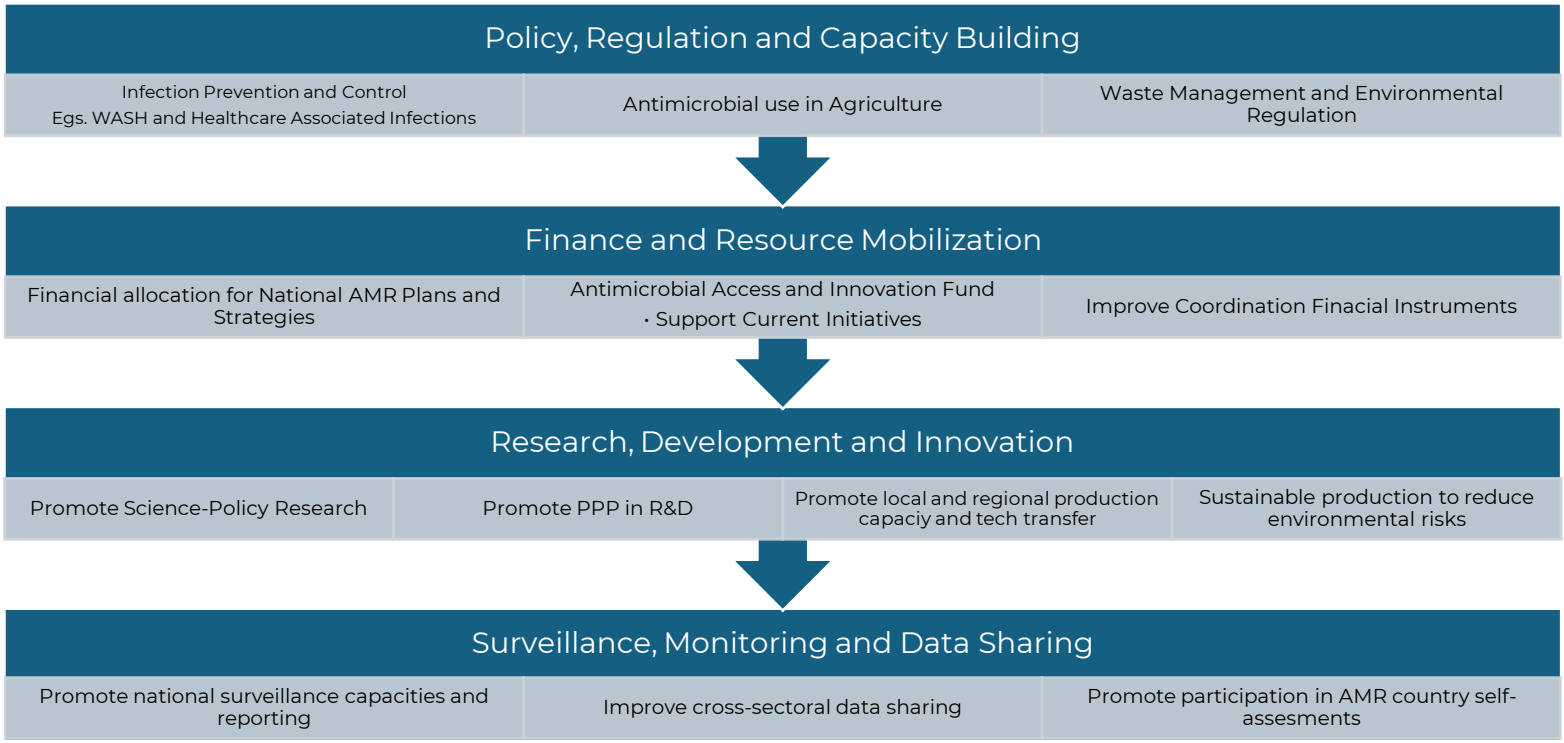
STEWARDSHIP - Widespread antibiotic use has heightened selective pressures on microbes, driving increased resistance through genetic mutations and horizontal gene transfer. In clinical settings, it's crucial to switch from broad-spectrum to narrower-spectrum antibiotics once pathogens are identified and to optimize dosing to minimize resistance. Despite evidence supporting AMR stewardship, behavioural and economic challenges remain.

NATIONAL POLICY AND REGULATIONS - Significant challenges arise from both effective and ineffective coordination mechanisms and resource allocation. Fragmented regulations can lead to inadequate antibiotic stewardship, worsened by weak surveillance systems and over-the-counter antibiotic availability. Additional issues include insufficient public awareness, limited research incentives, lack of global coordination, and insufficient robust AMR data, all of which hinder evidence-based decision-making.

ECONOMIC CONSTRAINTS - Stronger public-private partnerships and innovative funding models are lacking, with inadequate financial frameworks and reliance on insufficient voluntary contributions hindering resource pooling. Regional financial disparities further impede consistent strategy implementation. At the national level, funding for AMR often competes with other healthcare priorities and is constrained by budget coordination challenges. Only 11% of countries globally have established dedicated funding mechanisms in the national budgets for implementing multisectoral national action plans. Globally, sustainable financial mechanisms for investing in AMR are also missing.

RECOMMENDATIONS

We have identified crucial focus areas to address the urgent need for coordinated action at national, regional, and international levels. We stress the importance of integrating AMR into broader health and development strategies, enhancing stakeholder collaboration, and ensuring equitable access to essential resources and technologies. National One Health and AMR mitigation action plans must be supported through strengthened investment, financing, implementation, and monitoring:



There is the necessity of a coordinated global response to AMR, highlighting the need for enhanced sectoral collaboration, strengthened policies, and increased financial and technical support. To drive sustainable progress, the Alliance recommends focusing on investment in innovation, equitable access to diagnostics and technologies, and improved surveillance systems. Additionally, it emphasizes integrating AMR measures into broader health and development strategies. To this end, the Alliance has identified four actionable points to enable and ensure effective and efficient implementation of these focus areas:

POLITICAL COMMITMENT

- Create resilient mechanisms that could integrate AMR and actively mitigate the impact of other potential health- related threats, such as, but not limited to, geopolitical conflicts, financial resource reduction, future pandemics, climate change, natural disasters and other humanitarian crises.

- Establish mechanisms for regular review and progress tracking towards the 2029 High-Level Meeting on AMR that ensure the integration into foreign policies, political forums and regional discussions, as part of a long-term policy, agenda priority and funding mechanism.

AMR TARGETS

- Advocate for the effective implementation of global AMR targets and measures such as Tracking Antimicrobial Resistance Country Self-Assessment Survey (TrACSS) and WHO Access Watch Reserve (AWaRe), that could be incorporated in national action plans by supporting the development of specific, tailored, outcome-oriented targets for progress monitoring and implementation, ensuring standardized tracking for global reporting and comparisons.

- Promote antibiotic stewardship, equitable access, and a One Health approach, as well as research and innovation as key strategies to combat AMR. This involves advancing initiatives through a whole-of-society approach, multisectoral collaboration, sustainable financing, and robust education and training programs for healthcare workers.

GLOBAL MECHANISM

- Promote the development of a governance structure for AMR that enhances international cooperation and accountability. This framework should incorporate mechanisms for collaboration and collective decision-making, involving multisectoral stakeholders.

- Priority should be given to the science-policy interface, with active participation from academia and civil society; reinforce the work of the Joint Quadripartite Secretariat and initiate the process of the establishment of the Panel for Evidence for Action on AMR.

EQUITY & INCLUSION

- Ensure that all efforts to combat AMR incorporate a strong equity focus; this not only includes developing and implementing strategies that address the needs of vulnerable and underserved populations, but also facilitating equitable access to antimicrobials, diagnostics, and preventive measures, and addressing healthcare disparities by strengthening resources and infrastructure in vulnerable areas.

- Actively engage communities, patients and families in AMR initiatives to ensure that strategies are inclusive and responsive to local needs, foster the sharing of best practices as well as raising public awareness at all levels.

CONCLUSION

Health Diplomacy Alliance reaffirms its commitment to advancing the global response to antimicrobial resistance through enhanced multistakeholder collaboration. Emphasizing the integration of scientific evidence into policymaking, the focus will be on ensuring that resources are allocated equitably and effectively.

Strengthening mechanisms for data sharing, monitoring progress, and tracking the implementation of AMR strategies will be pivotal. Building on the foundational work of the Quadripartite Secretariat and leveraging public-private partnerships and financial instruments efforts will aim to reinforce international cooperation and align with established global health frameworks.

Additionally, establishing clear and effective targets will drive accountability and facilitate measurable progress. Embracing innovative solutions to address AMR and ensuring adaptable strategies will be crucial for tackling emerging challenges.

By fostering a collaborative, evidence-based approach, the goal is to support sustainable and inclusive progress in the global fight against AMR, while maintaining the momentum necessary for achieving a lasting impact.

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