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Global Model WHO 2024

COMMITTEE A4

ANNOTATED BIBLIOGRAPHY

**ANTIMICROBIAL RESISTANCE:
ACCELERATING NATIONAL AND GLOBAL RESPONSES**

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The Most Accurate Simulation of the World Health Assembly

GA4: Antibacterial resistance: Accelerating National and Global Responses

The World Health Assembly (WHA) has placed significant emphasis on Antimicrobial Resistance (AMR), highlighting the urgent need to accelerate both national and global responses to this growing threat. AMR occurs when bacteria, viruses, fungi, and parasites evolve to resist the effects of medications, rendering standard treatments ineffective and leading to persistent infections, increased spread of disease, severe illness and higher mortality rates. Addressing AMR is critical for maintaining the effectiveness of current medical treatments and ensuring global health security.

A primary objective is to strengthen national action plans. These plans should include robust surveillance systems to monitor AMR trends, enforce regulations on antimicrobial use, and promote programs that ensure the responsible use of these drugs in human medicine, agriculture, and veterinary practices. Global coordination and cooperation are also pivotal. The WHA advocates for enhanced international collaboration and partnership to combat AMR, emphasizing the need for a unified approach to research, data sharing, and policy implementation. This includes fostering partnerships among countries, international organizations, and the private sector to mobilize resources and share best practices. Global surveillance systems are critical for tracking AMR patterns and responding promptly to emerging threats.

Investment in research and development is another key focus. The WHA calls for increased funding and support for the development of new antibiotics, vaccines, and diagnostic tools. This also involves promoting innovative research to understand the mechanisms of resistance and find alternative treatments. Public-private partnerships are encouraged to drive innovation and bring new solutions to market. Education and awareness are crucial components of the WHA's AMR agenda. Public awareness campaigns targeting various population segments aim to educate communities about the dangers of AMR and the importance of proper antimicrobial use. Healthcare workers are also targeted for professional education and training programs to ensure they have the knowledge and tools to prescribe antimicrobials appropriately and manage resistant infections effectively.

Lastly, the WHA underscores the need for a One Health approach, recognizing the interconnectedness of human, animal, plant and environmental health. Strategies to combat AMR must therefore address the use of antimicrobials in agriculture and the environmental pathways that contribute to the spread of resistance. This holistic approach ensures that efforts in one sector complement and reinforce actions in others. These efforts are vital for safeguarding the efficacy of antimicrobials and protecting global health.

Key Points and Main Issues that Delegates Need to Understand when Addressing Antimicrobial Resistance

When drafting a resolution on AMR, delegates need to explore policy options such as regulatory frameworks, incentives for pharmaceutical companies, global funding mechanisms, and enhancing the capacity of health systems to monitor and combat AMR.

1. Definition and Scope of AMR

- AMR is a **global health threat**, affecting human, animal, and environmental health. It can lead to longer hospital stays, higher medical costs, and increased mortality.

2. Causes of AMR

- **Overuse and misuse** of antibiotics in humans, animals, and agriculture (e.g., prescribing antibiotics for viral infections, using antibiotics as growth promoters in livestock).
- **Poor infection control** in healthcare settings, such as inadequate hygiene, sanitation, and vaccination efforts.
- **Lack of new antibiotics** being developed due to the high cost and low financial return on investment for pharmaceutical companies.

3. Health and Economic Impact

- AMR is responsible for approximately **700,000 deaths annually**, with projections suggesting this could rise to 10 million by 2050 if no action is taken.
- The **economic burden** is immense, with healthcare costs increasing due to the need for more expensive treatments and longer hospital stays.
- AMR disproportionately affects **low- and middle-income countries** where healthcare infrastructure and access to effective antibiotics are limited.

4. One Health Approach

- One Health is a multidisciplinary approach that recognizes the interconnectedness of human, animal, and environmental health.
- Addressing AMR requires collaboration across sectors: human health, veterinary health, agriculture, and environmental protection.

Key Points and Main Issues Delegates Need to Understand about Climate Change, Pollution and Health (cont.)

5. International Efforts and Agreements

- Global Action Plan on AMR (adopted by the World Health Organization, FAO, and OIE) outlines strategic objectives to combat AMR, including improving awareness, strengthening surveillance, and investing in research.
- United Nations Political Declaration on AMR (2016): This agreement commits countries to national action plans and international cooperation.
- Tripartite Agreement between WHO, FAO, and OIE aims to foster collaboration and coordinate efforts globally.

6. Challenges to Addressing AMR

- There is no binding international agreement specifically addressing AMR.
- Limited resources and capacities in low- and middle-income countries for surveillance, research, and healthcare infrastructure.
- Inconsistent regulation on the use of antibiotics in agriculture, especially in countries with weak regulatory frameworks.
- Lack of public awareness on the risks of antibiotic misuse.

7. Sustainable Development Goals (SDGs) and AMR

- AMR impacts several SDGs, particularly Goal 3 (Good Health and Well-being), as well as Goal 2 (Zero Hunger) and Goal 6 (Clean Water and Sanitation), due to its effects on global health and food security.
- Innovation in healthcare systems, infection prevention, and responsible use of medicines are key to achieving these goals while tackling AMR.

Key Points and Main Issues Delegates Need to Understand about Climate Change, Pollution and Health (cont.)

8. Solutions and Best Practices

- Encouraging the responsible use of antibiotics in both human and veterinary medicine.
- Investment in research and development: Governments and private sectors must be incentivized to invest in research and development so that new antibiotics, vaccines, and diagnostic tools can be made available to tackle AMR.
- Strengthening global surveillance is crucial for tracking AMR patterns and sharing data between countries.
- Educating the public and healthcare providers on the risks of antibiotic misuse and promoting behavior change.

9. Equitable Access to Medicines

- The challenge of tackling AMR will rely on ensuring that new and existing antibiotics are accessible to populations in low- and middle-income countries without overuse that can lead to further antimicrobial resistance.

[Tackling National Plans Financing, Equitable Access to Treatments, High-Level Meeting on Antimicrobial Resistance Approves Draft Political Declaration](#)

2024

Summary: UN Meeting Coverage of High-Level Meeting on Antimicrobial Resistance on 26 September 2024 that approved a political declaration on AMR.

[What is AMR? \(UN WEBTV\)](#)

2024

Summary: Dr. Jean Pierre Nyemazi of WHO speaks about the threats posed by AMR.

[GA President at High-Level Meeting on AMR 79th session \(UN WEBTV\)](#)

2024

Summary: Opening remarks by Philemon Yang, GA President at the High-Level Meeting on AMR of the 79th session of the General Assembly.

[Press Conference: The Global Leaders Group on Antimicrobial Resistance \(AMR\) and the Quadripartite Principals on the significance of the High-Level Meeting on AMR and its outcome \(UN WEBTV\)](#)

2024

Summary: Press Conference with the Prime Minister of Barbados, Director-General of the World Health Organization, Under-Secretary-General of the United Nations and Executive Director of UN Environment Programme, Director-General of the World Organisation for Animal Health, Assistant Director General, Food and Agriculture Organization, on the significance of the High-Level Meeting on AMR and its outcome.

[Addressing AMR Challenges Including in Migrant and Refugee Populations \(UN WEBTV\)](#) **2024**

Summary: Antimicrobial resistance (AMR) is one of the greatest global public health challenges, with low- and middle-income countries hit hardest. The misuse of antimicrobials in humans, animals, and plants drives drug-resistant pathogens, disproportionately affecting groups such as migrants and refugees who often face barriers to healthcare.

[\(Panel 1\) High-Level Meeting on antimicrobial resistance 2024 - General Assembly, 79th session \(UN WEBTV\)](#) **2024**

Panel 1: Addressing the urgent antimicrobial resistance crisis across the human, animal, plant, and environmental sectors through equity, access, building awareness, and innovation.

[\(Panel 2\) High-Level Meeting on antimicrobial resistance 2024 - General Assembly, 79th session \(UN WEBTV\)](#) **2022**

Panel 2: Addressing human health, animal health and welfare, agrifood systems, and protecting the environment to tackle antimicrobial resistance, through integrated surveillance, capacity-building, sustainable resources, financing, and investment.

[Amina J. Mohammed \(Deputy Secretary-General\) at the High-Level Meeting on antimicrobial resistance 2024 - General Assembly, 79th session \(UN WEBTV\)](#) **2024**

Remarks by Amina J. Mohammed, Deputy Secretary-General of the United Nations, at the High-Level Meeting on antimicrobial resistance 2024 - General Assembly, 79th session.

[High-Level Meeting on antimicrobial resistance 2024 - General Assembly, 79th session \(UN WEBTV\)](#) **2024**

High-level Meeting on Antimicrobial Resistance convened by the President of the General Assembly. Theme: Investing in the present and securing our future together: accelerating multisectoral global, regional and national actions to address antimicrobial resistance. Drug-resistant infections know no borders, meaning no single country can respond to AMR alone.

[Antimicrobial Resistance 5 Facts](#) **2024**

5 facts to understand antimicrobial resistance

[WHO – Antimicrobial Resistance](#) **2023**

Summary: This WHO fact sheet provides a comprehensive overview of antimicrobial resistance, explaining its impact on global health and outlining strategies to address this growing threat.

[AMR Framework for Action Supported by the IACG](#) **2024**

Summary: During the 71st Session of the United Nations General Assembly in 2016, Member States adopted the Political Declaration of the High-level Meeting on Antimicrobial Resistance contained in Resolution A/RES/71/3. In accordance paragraph 15 of the Political Declaration, the Secretary-General established an ad hoc Interagency Coordination Group on Antimicrobial Resistance. This document provides a valuable outline of the key priorities contained within the Political Declaration and a comprehensive framework for tackling AMR as developed by the IACG.

[WHO – Global Action Plan on Antimicrobial Resistance](#) **2015**

Summary: The WHO's Global Action Plan aims to combat antimicrobial resistance worldwide by promoting responsible antibiotic use, improving infection prevention, and encouraging innovation.

[United Nations – Political Declaration on Antimicrobial Resistance](#) **2016**

Summary: This official UN political declaration on antimicrobial resistance focuses on strengthening global efforts to tackle AMR, with commitments from member states to action and collaboration.

[FAO – Antimicrobial Resistance Action Plan](#) **2020**

Summary: The Food and Agriculture Organization (FAO) details its action plan for addressing antimicrobial resistance in agriculture, emphasizing the importance of sustainable practices in food production.

[WHO – Global Antimicrobial Resistance and Use Surveillance System \(GLASS\)](#) **2022**

Summary: GLASS is WHO's surveillance system that collects and shares data on antimicrobial resistance, providing insights into resistance patterns worldwide and informing global health policy.

[UNEP – Antimicrobial Resistance and the Environment](#) **2023**

Summary: This report by the United Nations Environment Programme (UNEP) examines the environmental dimensions of antimicrobial resistance and how pollution contributes to the spread of AMR.

[WHO – Tripartite Work on Antimicrobial Resistance](#) **2021**

Summary: A collaboration between WHO, FAO, and OIE (World Organisation for Animal Health) focusing on a One Health approach to addressing antimicrobial resistance across human, animal, and environmental health.

[WHO – Global Report on Antimicrobial Resistance](#)

2014

Summary: A global report from WHO that provides data on antimicrobial resistance across countries, with an analysis of trends and guidance for future global health policies.

[UNDP – Antimicrobial Resistance: Governance and Policy Interventions](#)

2021

Summary: The United Nations Development Programme (UNDP) discusses governance strategies and policy interventions to address antimicrobial resistance globally, focusing on equity and health system strengthening.

[WHO – Antibacterial Agents in Clinical Development](#)

2021

Summary: This WHO report tracks the development of new antibacterial agents to combat resistant infections, analyzing the clinical pipeline and highlighting gaps in the development of critical drugs.

[WHO – Antimicrobial Resistance](#)

2023

Summary: A comprehensive overview by the World Health Organization on antimicrobial resistance (AMR), explaining its causes, impact on global health, and strategies to combat it.

High-Level Meeting on antimicrobial resistance 2024 - General Assembly, 79th session (UN WEBTV)

2024

Summary: At the High-level Meeting on Antimicrobial Resistance convened by the President of the General Assembly on the theme, “Investing in the present and securing our future together: accelerating multisectoral global, regional and national actions to address antimicrobial resistance,” the following Member States made a statement in the following order: Barbados, Holy See, Saint Kitts and Nevis, European Union, Indonesia (on behalf of Alliance of Countries in the fight against TB), Uganda (on behalf of G77 + China), Paraguay, Portugal, Qatar, Italy, Nicaragua (on behalf of SICA - Central American Integration System), Latvia, Moldova, Croatia, Dominican Republic, Ghana, South Africa, Finland, Slovenia, Burkina Faso, Nepal, Namibia, Panama, Yemen, Malta, Mali, Zambia, Tunisia, Estonia, Tajikistan, United Kingdom, Eritrea, India, Barbados, Guyana, Côte d'Ivoire, Mongolia, Micronesia, Angola, Sweden, Solomon Islands, Armenia, United States, Nigeria, Iraq, Tanzania, Comoros, Spain, Peru, Guatemala, Sierra Leone, Algeria, Nauru, Tonga, Timor Leste, United Arab Emirates, Ethiopia, Zimbabwe, North Macedonia, Malawi, Gabon, Equatorial Guinea, Egypt, Senegal, South Sudan, Russian Federation (on behalf of the Union State), China, Cambodia, Kuwait, Norway, Bangladesh, Lao DPR, Philippines, Oman, Saudi Arabia, Canada, Burundi, the Netherlands, Brazil, Republic of Korea, Cuba, Kenya, Ukraine, Trinidad and Tobago, Venezuela, Morocco, Papua New Guinea, Chad, Japan, Fiji, Hungary, Egypt, Australia (on behalf of CANZ), Thailand, Denmark, Switzerland, Singapore, Israel, Germany, Chile, Kyrgyzstan, France, Somalia, Iran, Slovenia, Sri Lanka, Sudan, Maldives, Guinea, Kiribati, Bolivia, El Salvador, Ireland, Malaysia, Pakistan, Colombia, African Union, League of Arab States, Uganda,

Summary: This wonderful resource of actual statements from the High-level meeting on tuberculosis contains a number of statements made by regional and political groups that includes: Alliance of Countries in the fight against TB, European Union, G77 and China, SICA, Union State, CANZ, African Union and the League of Arab States. If a delegate cannot find a statement made by a representative of the country he or she has been assigned but their country belongs to one of these groups, they align their position with the statement made by any of the groups to which they are a member. In some cases, when a country belongs to more than one group, they align their position with more than one group.

[Antimicrobial resistance](#)

2024

Summary: Web portal of the World Organization of Animal Health (WOAH) is a major partner with the UN in tackling AMR. [Please note that the WOAH was formerly known as the Office International des Epizooties (OIE) which is sometimes referred to various documents.] This site provides info on the impacts of AMR on animal, human, plant, and environmental health, how bacteria become resistant to drugs, and solutions to prevent antimicrobial, the One Health approach that aims to reduce AMR through the collaborative efforts between sectors dealing with human, animal, plant and environmental health as well as answers to common questions about AMR.

[CDC – Antibiotic Resistance Threats](#)

2023

Summary: This page from the Centers for Disease Control and Prevention provides detailed information on antibiotic resistance threats in the U.S., highlighting emerging superbugs and preventive measures.

[European Medicines Agency – Antimicrobial Resistance](#)

2022

Summary: The EMA discusses the implications of antimicrobial resistance in Europe, focusing on regulatory measures and new antimicrobial drugs.

[Mayo Clinic – Antibiotic Resistance: What Causes It?](#)

2021

Summary: This article explains the causes of antibiotic resistance, its impact on human health, and the importance of using antibiotics responsibly.

[Nature – Global Burden of Antimicrobial Resistance](#)

2022

Summary: A scientific article published in Nature that presents data on the global burden of antimicrobial resistance and its public health implications.

[The Lancet – Tackling Antimicrobial Resistance Globally](#) **2019**

Summary: This Lancet article outlines global efforts and strategies for reducing the spread of antimicrobial resistance, focusing on policy and health system improvements.

[Harvard T.H. Chan School of Public Health – Combating Antibiotic Resistance](#) **2021**

Summary: Harvard experts discuss the challenges of antibiotic resistance and new research aimed at addressing the issue, including alternative treatments and vaccines.

[Johns Hopkins Medicine – Antibiotic Resistance: An Emerging Crisis](#) **2023**

Summary: Johns Hopkins provides an overview of the emerging crisis of antibiotic resistance, exploring the threat it poses to modern medicine and treatment strategies.

[PubMed – Antibacterial Resistance: Mechanisms and Treatments](#) **2020**

Summary: A scholarly article focusing on the mechanisms of antibacterial resistance and current treatment options to address resistant infections.

[BBC Future – The Race to Stop Antibiotic Resistance](#) **2017**

Summary: This BBC article explores the race against time to stop antibiotic resistance, highlighting global initiatives and scientific advances.

BBC Future – The Race to Stop Antibiotic Resistance
Summary: This BBC article explores the race against time to stop antibiotic resistance, highlighting global initiatives and scientific advances.

2024

2017

Summary: This resource from the Centers for Disease Control and Prevention (CDC) provides comprehensive information on antibiotic resistance, including how bacteria become resistant, the impact on public health, and strategies for prevention. It offers data, educational materials, and guidelines for healthcare professionals.

Europe and Others

[European Centre for Disease Prevention and Control \(ECDC\) – Antimicrobial Resistance in Europe](#)

2022

Summary: A report on the surveillance of antimicrobial resistance in Europe, analyzing trends, regional variations, and national action plans.

[CDC – Antibiotic Resistance in the United States](#)

2023

Summary: This CDC report focuses on antibiotic resistance in the United States, highlighting current challenges and nationwide efforts to combat the issue.

[UK Government – Tackling Antimicrobial Resistance: UK National Action Plan](#)

2019

Summary: The UK's national action plan for tackling antimicrobial resistance, focusing on a five-year strategy for reducing AMR through innovation, regulation, and public awareness.

[Australian Government – Antimicrobial Resistance Strategy 2020 and Beyond](#)

2020

Summary: Australia's strategic plan to combat antimicrobial resistance, which includes surveillance, research, and policies to promote the responsible use of antibiotics.

Asia Pacific

[Government of India – National Action Plan on Antimicrobial Resistance](#)

2021

Summary: The Indian government's action plan to combat antimicrobial resistance, emphasizing the need for public health measures, education, and sustainable use of antibiotics.

[China – National Action Plan to Contain Antimicrobial Resistance](#)

2021

Summary: China's efforts to tackle AMR, including the national action plan to reduce the overuse of antibiotics and promote public health measures in the fight against drug-resistant infections.

[Anti-microbial resistance in Asia: a clear and present danger - UICC](#)

2023

Summary: This article highlights the alarming threat posed by antimicrobial resistance (AMR) in Asia. The region faces severe consequences, with projections of over five million deaths by 2030 due to resistant bacteria like E. coli and MRSA. The rise of AMR in Asia is largely driven by overuse of antibiotics in both healthcare and agriculture, leading to more severe illnesses, longer treatments, and economic losses due to higher healthcare costs. The article emphasizes the need for global action and stronger regulations to mitigate the crisis.

Africa

[Africa CDC – Antimicrobial Resistance in Africa](#)

2023

Summary: The Africa CDC provides an overview of antimicrobial resistance across African nations, highlighting key drivers and strategies for prevention and control.

[South Africa – Antimicrobial Resistance National Strategy Framework](#)

2022

Summary: This document outlines South Africa's national strategy framework to prevent and contain antimicrobial resistance, focusing on surveillance, regulation, and health care improvements.

Latin America and the Caribbean

[Americas – Antimicrobial Resistance in Latin America: A Growing Threat](#)

2023

Summary: This Lancet article provides an analysis of antimicrobial resistance in Brazil and other Latin American countries, discussing regional challenges and health care responses.

["Gaps in Antimicrobial Stewardship Implementation in Latin America"](#)

2022

Summary: This article addresses the barriers to effective antimicrobial stewardship programs (ASPs) across Latin America. It emphasizes the underfunded public health systems, especially in public hospitals that lack the necessary resources for AMR tracking and antibiotic use monitoring. Many countries do not have federal legislation requiring ASPs, and as a result, implementation varies significantly across the region. Despite these challenges, some success has been observed in reducing antibiotic use in hospitals with more robust programs.

["Antimicrobial Resistance in Latin America: Drivers and Response"](#)

2021

Summary: This research highlights the primary drivers of AMR in Latin America, such as the widespread use of antibiotics in agriculture and healthcare. It also discusses the socio-political challenges that hinder coordinated regional efforts to combat AMR. The article explores ongoing initiatives aimed at strengthening health systems and promoting better antibiotic stewardship, while also calling for improved public health infrastructure and policies.

[FAO AMR Multi-Stakeholder Partnership Platform](#)

2023

Summary: This platform promotes a global response to antimicrobial resistance (AMR) by coordinating cross-sectoral actions and supporting National Action Plans (NAPs). It highlights the environmental drivers of AMR, such as climate change and pollution, and emphasizes the importance of vaccines, sanitation, and integrated surveillance.

[WHO's First Global Report on Antibiotic Resistance](#)

2014

Summary: This report provides a comprehensive overview of antibiotic resistance worldwide. It tracks resistance in seven bacterial strains responsible for serious diseases like pneumonia and sepsis. The findings reveal widespread resistance, especially in low- and middle-income countries.

[High-Level Meeting on Antimicrobial Resistance](#)

2024

Summary: A high-level UN meeting that gathered global leaders to address the challenges of antimicrobial resistance in the context of the Sustainable Development Goals. It called for collaborative efforts across agriculture, healthcare, and environmental sectors.

[UN FAO - Global Action Plan on Antimicrobial Resistance](#)

2023

Summary: This resource outlines the FAO's role in tackling AMR through food safety, animal health, and environmental management. It highlights the importance of National Action Plans and sustainable financing for addressing AMR.

[WHO Global Action Plan on Antimicrobial Resistance](#)

2015

Summary: WHO's Global Action Plan emphasizes coordinated global efforts to manage AMR through better infection control, antibiotic stewardship, and research into new treatments. The report also stresses improving public awareness and healthcare worker education.

[Antimicrobial Resistance Surveillance in Europe](#)

2022

Summary: This report provides detailed data on antimicrobial resistance in Europe, focusing on surveillance and the actions being taken by member states to reduce antibiotic misuse. The European Union's role in implementing stringent policies is also discussed.

[AMR in Developing Nations](#)

2022

Summary: This report addresses the disproportionate impact of AMR on developing nations, where healthcare access is limited, and drug-resistant infections are common. It emphasizes the need for global equity in the fight against AMR.

[FAO Regional Office - AMR and Food Safety](#)

2021

Summary: This resource details FAO's efforts to reduce antimicrobial use in food systems, particularly in Asia and Africa, and the implications for both human and animal health. It promotes reducing antibiotics in agriculture.

[UN High-Level Meeting on AMR and SDGs](#)

2024

Summary: This meeting focuses on how addressing AMR is essential for achieving the health-related Sustainable Development Goals (SDGs). Leaders from various sectors discussed the need for innovative approaches to antibiotic use.

[Global AMR Action Fund](#)

2020

Summary: A collaboration between WHO and public/private partners to fund the development of new antibiotics. This fund aims to accelerate R&D to overcome antibiotic resistance, especially for global priority pathogens.



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