

8th Annual Conference  
13th-15th February

# WHO

## BACKGROUND GUIDE



Wesgreen International School  
Model United Nations

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## Welcome Letter from the Chairs

Dear Delegates,

We are honoured to welcome you to WESMUN 2025, where you will play an essential role in shaping global discourse about world issues whilst simulating the role of delegates in the World Health Organization (WHO). This year's conference is set to platform global resilience, fostering innovation, collaboration and representing a way forward where organizations come together as equal voices. We are excited to see what innovative solutions you as delegates will launch in our committee as we race towards a better world.

We know this is a beginner committee, and for many of you, it may be your first time. For the three days you are with us don't be afraid to reach out for any help. WHO is the United Nations agency that connects nations, partners and people to promote health, keep the world safe and serve the vulnerable - so that everyone everywhere can achieve the highest level of health. Your job as a delegate will be to direct and coordinate the world's response to health emergencies. As the delegates of your assigned countries and as partners, strive together to give everyone everywhere an equal chance at a safe and healthy life.

We look forward to meeting you all and witnessing the remarkable contributions each of you will make to our conference.

Welcome to WESMUN 2025, and let us embark on this enriching journey together.

Sincerely,  
Chairs of WHO

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## Committee Overview

*“As the international community enters the era of sustainable development, the global health landscape is being shaped by three slow-motion disasters: a changing climate, the failure of more and more mainstay antimicrobials, and the rise of chronic non-communicable diseases as the leading killers worldwide. These are not natural disasters. They are man-made disasters created by policies that place economic interests above concerns about the well-being of human lives and the planet that sustains them.”*

### Introduction

The World Health Organization is the US member of the UN Charged with directing and coordinating free international Health affairs. It aims to bring about the highest level of health possible as every individual’s right. WHO has six focus areas Which are: supporting its 194 Member States in developing their health systems; accompanied by a strong emphasis on reversing the trend on non-communicable diseases; encouraging the public to endorse, develop, and maintain good health practices throughout their lifecycle; and quite securely preventing, treating, and caring for disasters, and, anyway, providing corporate services to the members of the organization and its affiliates. WHO adheres to the norms that health is more than the absence of diseases or disabilities but is a holistic sense comprising optimal physical, mental and social order.

**The World Health Organization (WHO) is a specialized agency of the United Nations, reporting to the Economic and Social Council (ECOSOC).**

**At WESMUN 2025, the WHO Executive Board simulation mirrors its composition but allows delegates to go beyond its strict mandate. Delegates can propose innovative policies within WHO’s mission, fostering creativity and deeper learning about global health issues.**

The WHO committee at WESMUN 2025 focuses on mitigating the impact of warfare on global food security and health, building resilience against man-made food shortages, and addressing the threat of antimicrobial resistance (AMR). These issues demand coordinated action to protect vulnerable populations and ensure sustainable global healthcare.

Key stakeholders include conflict-affected nations such as Yemen and Sudan, which provide insights into the challenges of disrupted food systems and healthcare in war zones. Donor states like the United States, Germany, and Japan play vital roles in funding relief efforts and rebuilding infrastructure.

Agricultural and pharmaceutical leaders, including India, Brazil, and China, contribute to food production, medical supplies, and AMR research. International organizations like FAO, WFP, and MSF work alongside WHO to implement large-scale solutions and provide emergency aid.

Delegates will work collaboratively to propose innovative policies that promote global health resilience, ensure food security in crisis-affected areas, and combat the growing threat of AMR, aligning with WHO’s mission to protect health and serve the vulnerable.

WHO, Address by Dr. Margaret Chan, Director General of the World Health Organization to the Sixty-ninth World Health Assembly on 23 May 2016 in Geneva, 2016. 2 WHO, About WHO, 2015; WHO, Basic Documents – 48th ed. Including amendments adopted up to 31 December 2014, 2014. 3 WHO, What we do, 2015. 4 WHO, Constitution of WHO: principles, 2015. 5 WHO, Origin and development of health cooperation, 2015.

## **TOPIC 1** - Mitigating the Impact of Warfare on Global Food Security and Health: Strengthening Resilience Against Man-Made Food Shortages

### **Introduction:-**

Food security is one of the most concerning and devastating issues that the world is currently facing. In 2023, 1 in 11 people worldwide faced hunger with 1 in 5 in Africa. This alone shows how much of an impact food security has on the people. In an article that was released on 24<sup>th</sup> July 2024 by WHO, It is stated that around 733 million people faced hunger in 2023, according to the latest State of Food Security and Nutrition in the World (SOFI) report. This shows that food security is a major issue that needs to be looked after carefully. This issue is further worsened when human warfare takes place. During Wars and other armed conflicts, food itself becomes a weapon. This happens when the military seizes supply trucks, closes supply lines to other countries, etc. This then causes a serious health issue to the people who are already severely affected by the conflicts.

### **Analysis:-**

Man made food shortages are mainly caused due to conflicts within 2 or more countries. The conflicts occur due to either political/civil unrest, bad relations, trade wars, etc. For example, Yemen, Syria and Sudan are all currently experiencing food insecurity due to ongoing armed conflicts. Another cause is a poor and weak governing body. This leads to a mismanagement of resources, which in turn leads to worse distribution of food throughout the country. The impact of these causes have wide-reaching consequences. Some of these impacts are extreme famine which can last up to a whole year. Health crises such as malnutrition, disease outbreaks, etc.

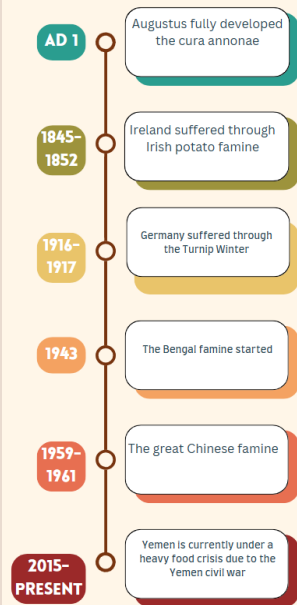
And loss of livelihoods which can cause people such as farmers to lose their homes which leads to further food insecurity. So in order to combat these impacts and not make them more severe, it is mandatory to first solve the conflicts between the countries so that food security does not get affected by any human warfare. Secondly is to rebuild the government into a more transparent one so that they can listen to the advice of their people and maximize the distribution of food supplies all over the country and lastly is to open up the country for trades from other countries to further boost its own food security and supply.

### **Historical background:-**

Man made food shortages have been around for a very long time because they usually occur during armed conflicts so they would date back all the way to when the Romans appointed the system of cura annonae which in a nutshell directed the grain supply, oil and pork towards the state organisations such as the army, citizens of Rome and the capital of Constantinople.

Although this did increase food security throughout the empire, the rural and provincial populations were indirectly affected which increased food insecurity in those regions. Another example is during World War 1 when Germany suffered extreme food insecurity due to the Naval blockades set up by the British. This was called the “Turnip Winter” which lasted a whole year from 1916 to 1917. And as the name suggests the only staple food were the turnips because other food such as bread, rice, potatoes were very scarce. An example of food security

## Timeline for topic 1



that's currently occurring at the moment is in the country of Yemen where there are blockades set up and constant bombings taking place which has severely damaged the country's food security. Throughout history the situation for food security has dramatically worsened whenever human warfare is involved as this can kill millions of civilians just because of poor food security.

### Key terms:

Global food security:

- The state where all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy life.

Health resilience:

- The ability of healthcare systems and communities to prepare for, adapt to, and recover from adverse health impacts caused by conflict or other crises, such as disruptions to healthcare services, infrastructure damage, and disease outbreaks.

Man-made food shortages:

- Food scarcity resulting from human actions, including war, economic sanctions, deliberate destruction of agricultural land or food supply chains, and blockades.

Malnutrition:

- A condition that arises from insufficient, excessive, or imbalanced intake of nutrients, often exacerbated during times of war due to limited access to diverse and nutritious foods.

Food Sovereignty:

- The right of people to define their own food systems, prioritize local agricultural production, and access culturally appropriate, sustainable, and healthy food, even in conflict scenarios.

Health security:

- The protection of populations from health threats like malnutrition, disease outbreaks, and limited access to healthcare.

Major parties involved:

Conflict affected nations:

1. Ukraine - The war has disrupted global grain supplies, with Ukraine being a significant exporter of wheat, barley, and sunflower oil.
2. Syria – Prolonged civil war has devastated agriculture and infrastructure.
3. Yemen – Faces one of the world’s worst humanitarian crises, with famine-like conditions.
4. South Sudan – Civil war and instability have disrupted food production and caused famine.
5. Somalia – Ongoing conflict and drought have severely impacted food availability.
6. Ethiopia – Conflict in Tigray has caused widespread hunger and displacement.
7. Afghanistan – Political instability and war have led to food shortages and malnutrition.
8. Central African Republic (CAR) – Protracted conflict has caused food insecurity and disrupted farming.
9. Myanmar – Ongoing conflict and displacement have worsened food insecurity.
10. Democratic Republic of Congo (DRC) – Decades of conflict have caused chronic food shortages.
11. Libya – Instability has disrupted food supply chains and imports.

#### **Key international organizations:**

1. United Nations (UN):
  - World Food Programme (WFP): Provides emergency food assistance and promotes long-term resilience in conflict zones.
  - Food and Agriculture Organization (FAO): Assesses food security and supports agricultural recovery in conflict-affected areas.
2. World Health Organization (WHO):
  - Addresses the health impacts of malnutrition and disease outbreaks in war-torn regions.
3. International Committee of the Red Cross (ICRC)
  - Supports civilians in conflict zones by providing food, clean water, and health services.
4. World Bank and International Monetary Fund (IMF)
  - Fund programs aimed at mitigating the economic impact of food insecurity caused by conflicts.
5. African Union (AU) and European Union (EU)
  - Work on regional efforts to address food security and coordinate humanitarian aid in conflict-prone regions.

#### **Current challenges and opportunities:**

1. Disrupted Food Supply Chains:

- Challenges: Warfare disrupts agricultural production, transportation, and market access, creating food shortages. Essential infrastructure such as roads, warehouses, and ports often become collateral damage.
- Opportunities: Investing in decentralized food systems and creating conflict-resilient food supply chains can mitigate the impact of disruption.

## 2. Targeting of Agricultural Resources:

- Challenges: Farmlands, irrigation systems, and food storage facilities are often deliberately targeted during conflicts, reducing food availability.
- Opportunities: Strengthening international legal frameworks to classify deliberate destruction of agricultural resources as a war crime could act as a deterrent.

## 3. Population Displacement:

- Challenges: Refugees and internally displaced persons (IDPs) face severe food insecurity and malnutrition due to limited access to resources in host or conflict areas.
- Opportunities: Establishing mobile food programs and creating partnerships with local NGOs can ensure displaced populations have access to food and health services.

## 4. Malnutrition and Health Crises:

- Challenges: Malnutrition caused by food shortages exacerbates public health crises, especially among children, pregnant women, and the elderly. Healthcare systems are also often overstretched or collapsed in conflict zones.
- Opportunities: Collaborating with international health organizations to integrate food and medical aid delivery can provide comprehensive support.

## 5. Climate-Conflict Nexus

- Challenges: Warfare in regions already vulnerable to climate change amplifies food insecurity by disrupting efforts to adapt agricultural practices.
- Opportunities: Promoting climate-resilient farming techniques and policies can improve long-term food security in conflict-prone areas.

### **Obstacles Faced by Stakeholders:**

#### 1. Humanitarian Access Restrictions:

- Governments or armed groups often block access to conflict zones, preventing aid delivery.
- Solution: Strengthening diplomatic channels and using technology (e.g., drones) to deliver aid can circumvent some restrictions.



2. Lack of Funding:

- Humanitarian organizations often face funding shortages, especially for long-term recovery programs.
- Solution: Promoting public-private partnerships and encouraging donor nations to prioritize food security in their funding allocations.

3. Coordination Challenges:

- Multiple actors (governments, NGOs, UN bodies) involved in food security initiatives often lack coordination, leading to inefficiencies.
- Solution: Establishing unified command centers and better information-sharing protocols can improve collaboration.

4. Political Instability:

- Governance structures collapse in many war-affected areas, hindering food security initiatives.
- Solution: Supporting interim governance structures and grassroots initiatives can maintain some level of food production and distribution.

**Bibliography for topic 1:-**

Food security information:-

1. <https://www.who.int>
2. <https://www.who.int/news/item/24-07-2024-hunger-numbers-stubbornly-high-for-three-consecutive-years-as-global-crises-deepen--un-report>

armed conflicts and its effect on food security:-

<https://www.fao.org/4/ae044e/ae044e00.htm#:~:text=Food%20itself%20frequently%20becomes%20a,factors%20interact%20with%20natural%20disasters.>

Weak government and its effect on food security in Zimbabwe:-

<https://engagedscholarship.csuohio.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1024&context=tdr>

impact of man made food shortages:-

<https://policy-practice.oxfam.org/resources/missiles-and-food-vemens-man-made-food-security- crisis-620388/>

solution for man made food shortages:-

<https://www.technoserve.org/blog/global-hunger-causes-effects-solutions/ history>

for man made food shortages:-

1. <https://www.futurelearn.com/info/courses/enlightening-the-dark-ages-early-medieval-archaeology-in-italy/0/steps/261342>
2. <https://www.actioncontrelafaim.org/en/press/food-security-continues-to-deteriorate/>
3. <https://roadstothegreatwar-ww1.blogspot.com/2016/09/100-years-ago-coming-of-turnip-winter.html>

## Questions a Resolution Paper Must Address

1. How can WHO and member states mitigate the immediate and long-term health effects of food insecurity caused by conflict?
2. What practical measures can nations implement to protect food supply chains in conflict zones or politically unstable regions?
3. How can international organizations, in collaboration with national governments, ensure equitable access to food and healthcare in conflict-affected regions?
4. What programs or technologies can strengthen resilience against deliberate or unintended food shortages?
5. How can international bodies prevent the use of food as a weapon in conflicts?
6. What funding mechanisms and resource-sharing agreements are necessary to address these challenges?

## Subtopics

### 1. Immediate Responses to Food Insecurity in Conflict Zones

- Emergency food distribution and healthcare provision.
- Securing humanitarian corridors and negotiating ceasefires for aid delivery.
- Nutritional interventions to address malnutrition in vulnerable groups (e.g., children, pregnant women).

### 2. Long-Term Solutions to Conflict-Driven Food Insecurity

- Developing climate-resilient and conflict-resistant agricultural practices.
- Enhancing the capacity of local food production in unstable regions.
- Establishing regional food reserves for crises.

### 3. Addressing the Weaponization of Food in Warfare

- Preventing blockades, destruction of farmland, and denial of food aid.
- Implementing international sanctions against violators of humanitarian laws.

### 4. Strengthening Resilience Against Man-Made Food Shortages

- Building robust supply chain networks to reduce dependency on single regions or sources.

- Promoting international cooperation on food reserves, storage, and distribution.
- Expanding research on alternative food sources like fortified products and lab-grown foods.

## 5. Multilateral Cooperation and Funding

- The role of organizations like the FAO, WFP, and IFAD in addressing food security.
- Mobilizing global funding through mechanisms like the Green Climate Fund for food-related resilience projects.

## Past Resolutions Made on the Topic

1. **UN Security Council Resolution 2417 (2018):** Condemns the use of starvation as a method of warfare and calls for unimpeded humanitarian access to conflict areas.
2. **General Assembly Resolution 73/253 (2018):** Encourages international cooperation to address food insecurity and emphasizes sustainable agriculture.
3. **World Food Summit Declaration (1996):** Recognized food security as a universal right and urged nations to eradicate hunger and malnutrition.
4. **Rome Declaration on World Food Security (1996):** Called for integrated approaches to food security in regions affected by conflicts.

## Recommended Resources

1. **Food and Agriculture Organization (FAO):** Resources on global food security and humanitarian efforts ([www.fao.org](http://www.fao.org)).
2. **World Food Programme (WFP):** Reports on food insecurity in conflict zones ([www.wfp.org](http://www.wfp.org)).
3. **United Nations Office for the Coordination of Humanitarian Affairs (OCHA):** Information on humanitarian access and crises ([www.unocha.org](http://www.unocha.org)).
4. **International Committee of the Red Cross (ICRC):** Details on the protection of food supplies during warfare ([www.icrc.org](http://www.icrc.org)).
5. **Global Food Security Index (GFSI):** Data on food security challenges worldwide (<https://foodsecurityindex.eiu.com>).

## Bibliography

1. United Nations Security Council. (2018). *Resolution 2417 on the Protection of Civilians in Armed Conflict*.
2. Food and Agriculture Organization. (1996). *Rome Declaration on World Food Security*.
3. World Food Programme. (2023). *Annual Report on Food Insecurity in Crisis-Affected Regions*.
4. International Committee of the Red Cross. (2020). *Food Security and Armed Conflict: International Humanitarian Law and Practice*.

## **TOPIC 2** - Discuss Strategies to Combat Antimicrobial Resistance and Address Its Potential Impact on Global Healthcare if Not Treated Effectively

### **Introduction:-**

When bacteria, viruses, fungi and parasites start to not get affected by medicines, they develop AMR (also known as antimicrobial resistance). AMR causes the infections harder to treat and thus increasing the rate at which the disease spreads throughout the body which in turn causes severe illness and death. And because of this the disease becomes easily spreadable from person to person. These microorganisms are also sometimes referred to as “Superbugs”. AMR currently threatens world healthcare globally because if it is not looked after, AMR can cause another global pandemic such as the recent COVID-19 which caused millions of deaths worldwide. WHO has already declared AMR as a global threat which alone shows that the impact that it can have on global healthcare would be devastating. Some of these impacts are increased mortality rate, longer time for Hospitalization, higher treatment costs, increased risks for outbreaks and pandemics and many more. All of these impacts are equally if not more devastating than the rest.

### **Analysis:-**

The process for AMR being formed is naturally over time and it occurs when there are genetic changes within the pathogen. This process can be further accelerated by human activity mainly by overusing and misuse of antimicrobials to treat or look after infectious diseases in plants, animals or humans. Because of this AMR has caused significant damage to global healthcare by increasing the need for more costly and intensive care, they have also affected the productivity of nurses and doctors due to patients staying in the hospital for longer durations. An example of this is in 2019, there were 26,200 deaths attributable to AMR in the country of Bangladesh and 98,800 deaths associated with AMR. Bangladesh has the 75th highest age-standardized mortality rate per 100,000 population associated with AMR across 204 countries. So because of this patients are required to stay in hospitals for longer durations so that they can get the help and the care that they need. Some factors that promote the increased rate of growth for AMR are not having access to clean water, proper hygiene and sanitation, Inadequate infection and disease prevention and control measures in households, healthcare facilities that are not looked after, etc. For example In Haiti, 4.95 million people have lost their lives due to drug- resistant infections with 1.27 million deaths caused directly by AMR and the main reason for this is due to weak healthcare infrastructure with limited resources and inadequate infection control measures. People who are living in rural areas are especially heavily impacted by the consequences for AMR as they don't have access to proper healthcare. A primary example for this is the country of India which has been referred to as the “AMR capital of the world”. The rural areas of India are highly affected by AMR due to its weak and poor healthcare services and since they have a lack of awareness about infectious diseases, this often prevents them from seeking medical attention. This problem needs to be looked after with the utmost importance as AMR are very deadly and dangerous to humans, plants, animals and other living organisms.

### Historical background: -

It is important to understand that pathogens were able to develop AMR billions of years ago to overcome and adapt to the changing environments but understanding the history of AMR requires first exploring the discovery of antibiotics. In 1928 Alexander Fleming discovered the first ever antibiotic, the penicillin. This marked the beginning of the antibiotic era. It was quickly mass produced and treated on bacterial infections. But during its early use, signs of AMR started to be observed, even Fleming himself warned about AMR and about the dangers of overusing and misusing antibiotics during his 1945 Nobel peace prize acceptance speech. In his speech he mentioned that antibiotics becoming available to the public was a huge risk as the people can overuse the antibiotics which can increase the rate at which the pathogens develop AMR. This however came true when the first case of AMR was reported in 1947. From 1960s to the 1970s, Methicillin-resistant Staphylococcus aureus (MRSA) was detected in Europe which signalled a significant challenge for hospitals. People were again overusing antibiotics which accelerated its resistance. In the post-2000's, Colistin which was first regarded as a last resort antibiotic for treating infections caused by Gram-negative bacteria, became increasingly resistant because of chromosomal mutations and the acquisition of resistance genes carried by plasmids, particularly the mcr genes. The first resistive gene (mobile colistin resistance gene (mcr-1)) was first observed in E.coli in 2016 in China and since then many studies reported that there were new variants of the gene ranging from mcr-1 to mcr-10. So to prevent this WHO adopted the Global Action Plan during the 2015 World Health Assembly to tackle AMR. In the same year WHO also adopted the One Health Approach which essentially addressed AMR by reducing the misuse and overuse of antibiotics and promote good practices to prevent AMR from spreading all over the world.

### **Key terms:**

Antimicrobial Resistance (AMR):

- The ability of microorganisms (bacteria, viruses, fungi, and parasites) to resist the effects of antimicrobial drugs, such as antibiotics, antivirals, and antifungals, making infections harder to treat.

Antibiotics:

- Drugs used to prevent and treat bacterial infections by killing or inhibiting the growth of bacteria.

Broad-Spectrum Antibiotics:

- Antibiotics are effective against a wide variety of bacteria, both gram-positive and gram-negative. Overuse of such antibiotics can accelerate AMR.

#### Narrow-Spectrum Antibiotics:

- Antibiotics that target specific types of bacteria, reducing the risk of resistance development.

#### Antimicrobial Stewardship:

- Coordinated efforts to optimize the use of antimicrobial medications to improve patient outcomes, reduce resistance, and decrease unnecessary exposure to these drugs.

#### Pathogens:

- Microorganisms that cause disease in humans, such as bacteria, viruses, fungi, and parasites.

#### Healthcare-Associated Infections (HAIs):

- Infections acquired while receiving treatment in healthcare settings, often caused by resistant microorganisms.

#### One Health Approach:

- A collaborative, multi-sectoral strategy recognizing the interconnectedness of human, animal, and environmental health in addressing AMR.

#### Global Action Plan on Antimicrobial Resistance:

- A framework developed by the World Health Organization (WHO) to tackle AMR, focusing on awareness, surveillance, sanitation, antimicrobial use, and innovation.

#### Prescribing Practices:

- The practice of prescribing antimicrobials, including the choice of drug, dose, duration, and frequency.

- The methods by which healthcare professionals prescribe antibiotics or other antimicrobials, which can influence the development of AMR.

#### Infectious Diseases:

- Illnesses caused by pathogenic microorganisms such as bacteria, viruses, fungi, or parasites that can spread directly or indirectly between people or animals.

#### Antimicrobial Misuse:

- The inappropriate or excessive use of antimicrobials, such as using antibiotics for viral infections, which do not respond to such treatments.

#### Antimicrobial Supply Chain:

- The production, distribution, and access to antimicrobials. Interruptions in the supply chain can lead to misuse or overuse of available drugs, exacerbating AMR.

#### Resistance Genes:

- Genetic components in microorganisms that enable them to survive in the presence of antimicrobials. These genes can spread between bacteria through horizontal gene transfer.

#### Horizontal Gene Transfer:

- A process where genetic material is transferred between microorganisms, allowing resistance genes to spread quickly.

#### Antibiotic Pipeline:

- The development of new antibiotics to address resistant bacteria. A stagnated pipeline exacerbates the AMR crisis.

## Major parties involved:

### Conflict affected nations:

1. United States: Centers for Disease Control and Prevention (CDC) and the National Action Plan for Combating Antibiotic-Resistant Bacteria.
2. European Union (EU): The European Commission has implemented the European One Health Action Plan against AMR.
3. United Kingdom: A global leader in AMR policy, including the Fleming Fund for addressing AMR globally.
4. India: Faces significant challenges due to over-the-counter antibiotic sales and rising resistance rates. It has introduced a National Action Plan for AMR.
5. China: A key stakeholder due to its extensive antibiotic use in agriculture and healthcare, with efforts to reduce unnecessary use of antibiotics.
6. South Africa: Represents Africa's response to AMR, with leadership in the WHO's AMR efforts.

### Organizations:

1. World Health Organization (WHO): Leads global AMR efforts through initiatives like the Global Action Plan on Antimicrobial Resistance and the GLASS (Global Antimicrobial Resistance and Use Surveillance System).
2. Food and Agriculture Organization (FAO): Focuses on AMR in agriculture and food production.



3. World Organisation for Animal Health (WOAH): Works on AMR in veterinary medicine and animal health.
4. United Nations (UN): Addresses AMR through high-level declarations, recognizing it as a global threat.
5. GAVI, the Vaccine Alliance: Supports vaccination to reduce reliance on antibiotics.
6. Wellcome Trust: Funds research and advocacy initiatives on AMR.

#### **Current challenges and opportunities:**

1. Overuse and Misuse of Antimicrobials:
  - Challenge: Excessive use in human medicine, agriculture, and animal husbandry accelerates the development of resistance.
  - Opportunity: Education campaigns on appropriate antimicrobial use and global standardization of prescribing practices.
2. Limited Development of New Antibiotics:
  - Challenge: The pipeline for new antibiotics is sparse due to high costs and low profitability for pharmaceutical companies.
  - Opportunity: Public-private partnerships and financial incentives (e.g., subsidies, grants, and tax breaks) to encourage innovation.
3. Weak Surveillance Systems:
  - Challenge: Inadequate monitoring of AMR trends, especially in low- and middle-income countries (LMICs).
  - Opportunity: Strengthening global surveillance networks like the WHO's Global Antimicrobial Resistance and Use Surveillance System (GLASS).

#### 4. Inadequate Infection Prevention and Control (IPC):

- Challenge: Poor hygiene and IPC measures in healthcare facilities contribute to the spread of resistant infections.
- Opportunity: Investment in healthcare infrastructure and standardized IPC protocols.

#### 5. Global Inequities in Access to Healthcare and Medications:

- Challenge: Overuse in some regions coexists with underuse in others, fostering resistance and leaving populations vulnerable to treatable infections.
- Opportunity: Improve equitable access to essential medicines and affordable diagnostics.

#### 6. Resistance in Veterinary and Agricultural Sectors:

- Challenge: The widespread use of antimicrobials in livestock and aquaculture for growth promotion and disease prevention.
- Opportunity: Promote alternative farming practices and enforce restrictions on antibiotic use in non-human settings.

#### 7. Public Awareness and Behavioral Change:

- Challenge: Public misunderstanding of antimicrobial resistance and the role of antibiotics.
- Opportunity: Global public health campaigns, similar to those for vaccines and tobacco control.

### Obstacles faced by stakeholders:

#### 1. Governments and Policymakers

- **Lack of Global Coordination:** Limited international collaboration results in inconsistent policies and fragmented efforts to tackle AMR.
- **Resource Constraints:** Many low- and middle-income countries (LMICs) lack financial and technical resources to implement effective AMR strategies.
- **Regulatory Gaps:** Weak enforcement of regulations on antimicrobial use in healthcare, agriculture, and veterinary sectors.

## 2. Healthcare Providers

- **Inadequate Training:** Limited education and awareness about antimicrobial stewardship and resistance among healthcare professionals.
- **Diagnostic Challenges:** Lack of access to rapid and affordable diagnostic tools leads to empirical over-prescription of antibiotics.
- **Patient Expectations:** Pressure from patients demanding antibiotics for viral or self-limiting infections, even when they are unnecessary.

## 3. Pharmaceutical Industry

- **Economic Disincentives:** High costs and low profitability discourage investment in the development of new antibiotics.
- **Short Product Lifecycles:** Resistance to new antibiotics can develop quickly, reducing their market viability.
- **Regulatory Barriers:** Stringent regulatory requirements for antibiotic approval can delay new product development.

## 4. Farmers and the Agricultural Sector

- **Dependence on Antibiotics:** Routine use of antimicrobials for growth promotion and disease prevention is difficult to eliminate without viable alternatives.
- **Weak Oversight:** Inadequate regulation and monitoring of antimicrobial use in livestock and aquaculture.
- **Economic Pressure:** Farmers in resource-limited settings may lack incentives or resources to adopt antibiotic-free practices.

## 5. Public Health and Surveillance Authorities

- **Data Gaps:** Incomplete and unreliable data on resistance patterns and antimicrobial use hinder effective monitoring and policy-making.
- **Infrastructure Deficits:** Many countries lack laboratory capacity and resources for AMR surveillance.
- **Cross-Sector Challenges:** Difficulty in coordinating efforts across human, animal, and environmental health sectors (One Health approach).

## 6. Non-Governmental Organizations (NGOs) and Advocacy Groups

- **Funding Limitations:** Dependence on external donors for AMR programs restricts long-term sustainability.
- **Lack of Influence:** Difficulty in influencing global policies and practices without strong government or private sector support.

### **Bibliography for topic 2:-**

*AMR background:-*

1. <https://www.who.int/health-topics/antimicrobial-resistance>
2. <https://www.who.int/news-room/fact-sheets/detail/antimicrobial-resistance> Haiti's

*AMR problem:-*

<https://www.healthdata.org/sites/default/files/2023-09/Haiti.pdf>

*India's AMR problem:-*

<https://pmc.ncbi.nlm.nih.gov/articles/PMC6563737/#:~:text=Challenges%20of%20AMR%20in%20India&text=Factors%20such%20as%20poverty%2C%20illiteracy,from%20seeking%20medical%20advice31>

*Bangladesh AMR problem:-*

<https://www.healthdata.org/sites/default/files/2023-09/Bangladesh.pdf>

*Flemings noble prize speech:-*

<https://www.nobelprize.org/uploads/2018/06/fleming-lecture.pdf>

*first case for amr:-*

<https://www.reactgroup.org/antibiotic-resistance/course-antibiotic-resistance-the-silent-tsunami/p-art-1/the-discovery-of-antibiotics/>

*MRSA:-*

<https://pubmed.ncbi.nlm.nih.gov/8994782/#:~:text=Methicillin%2Dresistant%20Staphylococcus%20aureus%20was,of%20methicillin%20or%20related%20agents>

*Colistin:-*

<https://pmc.ncbi.nlm.nih.gov/articles/PMC11051878/#:~:text=Colistin%2C%20previously%20regarded%20as%20a,plasmids%2C%20particularly%20the%20mcr%20genes>

## Questions a Resolution Paper Must Address

1. What steps can member states take to regulate the overuse of antibiotics in healthcare and agriculture?
2. How can WHO and member states encourage research and development for new antimicrobial drugs?
3. What mechanisms can strengthen surveillance and data-sharing on AMR?
4. How can countries collaborate to ensure equitable access to life-saving antimicrobials and vaccines?
5. What education campaigns can be implemented to raise public awareness about AMR and reduce misuse?
6. How can antimicrobial stewardship programs be scaled to global levels?

## Subtopics

### 1. Causes and Drivers of Antimicrobial Resistance

- Misuse of antibiotics in human and veterinary medicine.
- Over-the-counter availability of antibiotics in some regions.
- Lack of sanitation and infection control in healthcare facilities.

### 2. Economic and Health Impacts of AMR

- Rising costs of healthcare due to prolonged illnesses and more intensive treatments.
- Increasing mortality rates from previously treatable infections.

### 3. International Collaboration to Combat AMR

- Global action plans like the WHO Global Action Plan on AMR (2015).
- Cross-border data-sharing for monitoring AMR trends.

### 4. Promoting Research and Development

- Incentivizing pharmaceutical companies to develop new antimicrobials.
- Supporting public-private partnerships for AMR research.

### 5. Public Awareness and Education

- Community-based programs to reduce misuse.
- Global campaigns like *World Antimicrobial Awareness Week*.

## Past Resolutions Made on the Topic

1. **WHO Global Action Plan on Antimicrobial Resistance (2015):** Outlines strategies to combat AMR at the global level.
2. **UN General Assembly Resolution 71/3 (2016):** Commits member states to address AMR through coordinated global action.
3. **WHA Resolution 68.7 (2015):** Focuses on strengthening infection prevention and control measures.
4. **FAO Action Plan on Antimicrobial Resistance (2016):** Provides guidelines for the agricultural sector to reduce AMR risk.

## Recommended Resources

1. **WHO Global Action Plan on AMR:** Comprehensive framework for addressing AMR globally ([www.who.int](http://www.who.int)).
2. **Global Antibiotic Research and Development Partnership (GARDP):** Information on R&D initiatives ([www.gardp.org](http://www.gardp.org)).
3. **World Antimicrobial Awareness Week:** Campaign materials and resources (<https://www.who.int/campaigns/world-antimicrobial-awareness-week>).
4. **Centers for Disease Control and Prevention (CDC):** Data on AMR surveillance ([www.cdc.gov](http://www.cdc.gov)).
5. **The Review on Antimicrobial Resistance (AMR):** Reports on the economic and societal costs of AMR (<https://amr-review.org>)

## Bibliography

1. World Health Organization. (2015). *Global Action Plan on Antimicrobial Resistance*.
2. United Nations General Assembly. (2016). *Resolution 71/3 on Antimicrobial Resistance*.
3. Centers for Disease Control and Prevention. (2020). *Antimicrobial Resistance Threats in the United States*.
4. Food and Agriculture Organization. (2016). *Action Plan on Antimicrobial Resistance in Agriculture*.
5. Global Antibiotic Research and Development Partnership. (2023). *Annual Progress Report on AMR Research*.







