Country: **Iran**

**POSITION PAPER**

Committee: **UNGA(United Nations General Assembly)**

Agenda: **Promoting the Use of Alternatives to Antimicrobials and New Technologies, For Diagnosis and Vaccines**

Iran’s Stand and Perspective on the Current Agenda:

The government of Islamic Republic of Iran recognises the grave threat possessed by Antimicrobial Resistance(AMR) to human and animal health. The main cause of antimicrobial resistance is antimicrobial use (antibiotics). Taking antibiotics too often or for the wrong reasons can change bacteria so much that antibiotics don't work against them. Some bacteria are now resistant to even the most powerful antibiotics available. It is now recognised as one of the world's most pressing public health problems. Their use is statistically proven to be directly proportional to bacterial resistance. This means that antibiotics won’t work when we need them in the future. Especially alarming is the rapid global spread of multi- and pan-resistant bacteria (also known as “superbugs”) that cause infections that are not treatable with existing antimicrobial medicines such as antibiotics. Resistant bacteria already cause more than 750,000 deaths every year**.**  214,000 newborns are estimated to die every year from blood infections (sepsis) caused by resistant bacteria. Countries like India, China, Turkey, Greece, USA, Italy, New Zealand and Iran itself have the highest morality rate(70000 to 2 mil). Based on the WHO report, Iran and some OECD countries are considered as countries with more than five multidrug-resistance pathogens Antimicrobial resistance is calculated to cost global economy up to US $210 trillion . Iran understands that Antibiotic resistance is not only a future threat; it is present right here and now.

# Iran’s Relation With The Agenda:

The rise in AMR in Iran might be explained by this- First, there are >11 pharmaceutical manufacturers that produce antibiotics. The competitive situation forces them on heavy promotion and marketing practice. The promotion activity increases the marginal profit for the retailer and gives them an incentive to sale antibiotics over the counter. Second, self-medication, as one of the factors driving the misuse of drugs, is a widespread problem of the health system in Iran. The National Action Plan of the Islamic Republic of Iran to combat AMR has been undertaken as we realize the need for effective planning and management to reduce the risks and negative consequences of AMR. The Ministry of Health and Medical Education (MOHME) has launched a national nosocomial infection surveillance program, a national committee for deciding on rational prescribing and drugs usage, a national program for surveilling various pathogens, and setting antimicrobial restrictions in public and private sectors. The IVO has also started programs including antibiotics-free chicken and eggs, monitoring the drugs residues in animal source food products. However at the current rate of spread, antimicrobial resistance is forecast to lead to ten million preventable deaths a year. The world is already feeling the economic and health consequences as crucial medicines become ineffective. Without investment from countries in all income brackets, future generations will face the disastrous impacts of uncontrolled antimicrobial resistance. Iran is determined to take actions at national and international level to reduce the emergence and spread of resistant microorganisms and get started on research work for the development and improvement of new alternatives and technologies to antimicrobials in diagnosis, treatments and vaccines. Together put in place stronger regulatory systems and support awareness programs for responsible and prudent use of antimicrobials by professionals in human, animal and plant health.

**Proposals and Solutions**

Today , antimicrobial resistance (AMR) has developed to every approved antibiotic launched. Numerous alternatives to antibiotics exist for treating specific diseases, including bacteriophage , predatory bacteria, Biofilms, bacteriocins, biological antibiotics, Immunotherapeutics, vaccines and gut microbiota modulation could be among the most promising approaches. Unfortunately, none have consistently demonstrated efficacy comparable to antibiotic treatment. Further development of these specific approaches for disease treatment is warranted to improve deliverability, potency, and reliability as antibiotic alternatives. Vaccines continue to be one of the most important ways to prevent infections. Solutions to the antibiotic-resistance problem are multifaceted and include reducing the use of antibiotics via the use of alternative products. No one alternative will replace all uses of antibiotics, because a variety of specific and general methods are needed to both prevent and treat disease. In such a situation, there is one branched solution which appears to have a strong foundation and promising results. The investigation of novel non-antibiotic approaches for the prevention of, and protection against, infectious diseases should be stimulated, and such approaches must be high-priority research and development projects. Scientific advancements may allow many of these limitations to be overcome, but progress is funding-dependent. Setting up of Public Private Partnerships in countries with big economies which reduces risk for big pharmaceutical companies to get back in the game. Research will have to be prioritized with scientists bringing their expertise to the table. Diverting funds judiciously towards prioritised research work lays the prospects of new alternatives and technologies without any disadvantages. A report on antibiotic use in 76 countries over 16 years provides a comprehensive assessment of global trends in antibiotic consumption. If we run the numbers it is evident that if antimicrobial alternative research is made a priority by the UN coupled with the co -operation of countries, global mortality rate can fall down by 35%, global economic loss can be avoided by up to 100 billion dollars. It is crucial that any initiative to incentivise the development of new antimicrobials is closely connected with other key interventions to rationalise use of antimicrobials, including increasing access when needed, and to tackle AMR. Implementing other strategies in parallel to support these efforts, including strategies that can prevent and treat infections better.

While the funding and research takes place each country can nationally and locally set up committees for increased awareness on causes and prevention of AMR. Strengthening existing surveillance and monitoring systems in both the community and hospital setting, adopting a globally agreed set of measurable targets for reducing AMR incidence among humans and livestock and strengthening ongoing efforts to rationalise the use of antimicrobials .We need to act in the short term to increase the use of existing vaccines and improve delivery of these in both the community and hospitals, as well as in farming systems. This will involve providing financial support in some cases. New global meetings organized by WHO will greatly help proper proposals to be set up for PPP , collecting funds(research) and to support low- middle income countries in their efforts to build and improve surveillance systems on antimicrobial consumption adapted to the national context and values.

However, the funding need is large and diverse, and breakthroughs will require long-term sustained funding from philanthropic organisations, the public sector and companies.