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GOOD HEALTH AND WELL-BEING



MODEL UNITED NATIONS

SOCOMUN XXXIII

FRESHMAN #3

TOPIC: ANTIMICROBIAL RESISTANCE



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Freshman #3

Antimicrobial Resistance

Hello! My name is Imogen Wodtke, and I am so excited to be the head chair of our committee for SOCOMUN 2024. I am a senior at Santa Margarita and besides being in Model United Nations, I love to play tennis, run track, and read. I started MUN as a freshman at SM and I feel very confident in saying that while MUN can be challenging, it will without a doubt will push you out of your comfort zone, help you build new friendships, improve your public speaking skills, and encourage you to think in unique ways though many different perspectives. For many of you this will be your first conference, I urge you to prepare thoroughly, know your speech without any note assistance, have a good foundation of knowledge on the topic, and review the general manner of how MUN conferences are conducted. All this being said, we most importantly want you to have a fun and educational experience to introduce you to the exciting world of MUN. Good luck delegates!

Hello SOCOMUN delegates! My name is Kathy Yu, I am a junior, and I will be serving as your Vice-Chair this year. This year marks my 3rd year in MUN, and I have gotten the amazing opportunity to travel with the program, making friends across the globe. Outside of school, I swim and volunteer as a tutor. I wish you all the best of luck at the conference and look forward to meeting you!

Hello, my name is Marcus Chien, I am currently a sophomore at SMCHS. I have attended 5 conferences and have won at least 1 award at each of them. Throughout my MUN experience, I have learned how to communicate effectively with others, work collaboratively, and learn about different perspectives from different people. Outside of MUN, I compete and judge for Parliamentary debate, thus I am familiar with procedurals, rhetoric, (some) philosophy, theory, etc. In my free time, I enjoy going outdoors, hanging out with friends, and playing video games. As your rapporteur, I strive to maintain order in the room and assist the chair or delegates in any way I possibly can. It is an honor, and I cannot wait to meet you all soon.

We are all so excited to meet you and are looking forward to guiding you along the committee. We will begin committee with taking attendance to which you would reply, “present” or “present and voting” depending on the status of your country. When the speakers list is opened, we recommend that you show your confidence and knowledge by raising your placards immediately, even if you are not selected first. When delivering your speech, it is recommended that you have your content memorized and refrain from using notes. Besides speeches, it is wise to prepare for possible moderated caucuses (mods). When a moderated caucus is passed it will have a designated topic and speaking time, to which you are highly encouraged to participate. Throughout the conference, we implore you to introduce your solutions and policies to other delegates and get to know them as you will be forming resolution groups. If you have any further questions feel free to email socomunfresh3@gmail.com to contact us.



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Background:

Antimicrobial resistance (AMR) as deemed by the World Health Organization (WHO) is one of the most serious global threats in the past hundred years. The medication that treats diseases caused by microbes is called antimicrobials. When bacteria, fungi, parasites, and viruses become resistant to antimicrobials it makes it medication less effective or stops it from working altogether. AMR can cause serious infections, increased recovery time, more expensive medical fees, the need for more risky procedures, and in some extreme cases, death. Microbes have been on Earth for an estimated 3.5 billion years. Microbes have had to survive through all variant forms of environment, so not only are they the most populous spawn of life, but also highly adaptive. This means that these fungi, bacteria, parasites, and viruses can evolve to develop genes that code for resistance to the antimicrobials. The microbes do this when they are exposed to antimicrobials, but not eradicated. Due to this, the microbes then can develop a new gene after the medication alters their genome. These newly altered antimicrobial-resistant genes work by reducing the absorption of the medication, changing the target area of the medication, flushing the medication out of the cell, or completely deactivating the medication. Microbes cause many common illnesses such as food poisoning, colds, the flu (influenza), yeast infections, tapeworms, urinary tract infections, pneumonia, athlete's foot, and gonorrhea, to name a few. As microbes become more resistant to medications basic health afflictions will become increasingly difficult to treat (Cleveland Clinic). In the United States of America alone it is estimated by the Centers for Disease Control (CDC), that two million people are infected by resistant germs every year. As a result, in 2019 AMR was the cause of death for just under 1.3 million people. In addition, it was a factor of death for almost five million people globally (WHO). Furthermore, many vital medical procedures need successful antimicrobial treatment before continuing such as surgeries, cancer chemotherapy, the transplants of organs (heart, lungs, etc.), and diabetes (CDC). If antimicrobial resistance continues, it is a possibility that the feats achieved by modern medicine will be deemed ineffective. Animals such as livestock are treated with antimicrobials along with aquaculture. This means that even if one is not consuming antimicrobials first-hand, it is still possible that they will develop antimicrobial resistance to certain drugs that the food they eat is laced with. Soil, water, and plants have been found to contain antimicrobial-resistant genes from medicine not properly disposed of (Consilium). Moreover, not only does AMR affect those afflicted with illness, but it also has a tremendous economic impact. The World Bank estimates that by 2050, there could be an additional one trillion US dollar cost in the healthcare industry (WHO). The National Center for Biotechnology Information explains that physicians have been forced to use last-resort rate medications which have increasingly inflated costs. This adds to the economic struggle caused by AMR but also reveals the inequalities between countries with access to these resources and developing nations that lack these medications.



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Possible Solutions:

Delegates, solutions are the very backbone of not only Model United Nations, but of the United Nations itself. These meetings of the UN debate solutions which are then put into a resolution that will either be passed or failed by majority vote. Throughout the conference, you are expected to share your solutions with your resolution group, compile them together, edit them, and further develop them into your final resolution paper. These solutions should be reasonable and align with the policy of your country. Try to make your solutions as thought-out and in-depth as possible, we also recommend the use of acronyms and action plans when developing your solutions. Solutions can be short-term, mid-term, or long-term, and having a various selection of solutions for each time segment is helpful to tackling both the root cause of the issue as well as helping people afflicted today. Lastly, this is a gentle reminder that funding is not an issue for solutions. The United Nation's fifth committee deals with budgeting and for MUN will handle any economic assistance.

Applying the research of the ENABLE (European Gram-Negative Antibacterial Engine) project to large-scale medicines is a viable solution. This project has identified inhibitors of the β -lactam involved antibiotics. This is a key resource to tackling antibiotic resistance because over half of antibiotic medicines contain β -lactam. Essentially, this research hopes to make medicines containing β -lactam once again effective (Oxford). This kind of ground-breaking research can be applied to other microbes such as fungi, parasites, and viruses using the same biotechnological approach to gene editing.

Set up by the Biomedical Advanced Research and Development Authority and the US National Institute of Health, CARB-X is a biopharmaceutical accelerator. It has 48 million US dollars for the funding of "antibiotic drug discovery projects" (BBC). Along with the ISDA which has a similar mission of fundraising for clinical trials, so that organizations can make a profit from new antibiotics as an incentive for new drug research (which would decrease the current antimicrobial resistance rate until a better long-term solution is reached), these projects could combine forces so new drug research can be made universal and applied around the world.

Knowledge is power, so spreading awareness of antimicrobial resistance is an important aspect of solving this health crisis. Healthcare providers need to inform recipients of medication that they are to consume the entirety of their dosage provided, even if they feel better when the dosage is not completely taken, they are not allowed to share medication with others, and they are not to keep any old prescription medication for future use. These precautions will help completely eradicate microbes within the host so that they will not be able to divide and pass the resistant gene along. In addition, posters and media promoting vaccines are also an effective way of reducing resistance to medication as they relieve the need to combat certain illnesses altogether.

A long-term solution to combat antimicrobial resistance is to prevent sickness. Through the use of educational NGOs such as Save the Children and Childhood Education International, classes can be brought to every developing country about the importance of hygiene, personal sanitation, a healthy diet, and consistent exercise. These same lessons can be implemented into the health classes of developed nations if not already done so. When people are getting sick less, and with less severity, it will decrease the need for medication and therefore reduce the global rate of antimicrobial resistance.



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Questions to Consider:

These questions are not compulsory to address but are a resource to provide a guideline for your research.

1. What are the root causes of antimicrobial resistance?
2. How does antimicrobial resistance affect your country's economy?
3. How has your country responded to the global health crisis? Has there been an official statement?
4. How can you use pre-existing medical non-government organizations (NGOs) and expand them to tackle antimicrobial resistance?
5. What research has been conducted on antimicrobial resistance?
6. How could different styles of health care play a role in the issue of antimicrobial resistance? How can you combat inequalities?
7. What current actions have been taken to combat antimicrobial resistance? Have they been successful? How can you apply these same systems to your own country?
8. How has your country's economic status been a factor in being able to combat antimicrobial resistance? If in a negative manner, how can you counteract it?



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MUN Impact:

To broaden your understanding and involvement in the Model United Nations program, we encourage you to visit the MUN Impact website or pdf attached below. Here you can see how MUN is helping those around the world regarding the very issues discussed in committee and how you can make a difference in your own community. If you are interested visit this link: <https://munimpact.org/pdf>.

Goal Three Targets: Ensure healthy lives and promote well-being for all ages.

- 3.1** Reducing the maternal mortality ratio globally to less than 70 for every 100,000 live births.
- 3.2** End the preventable deaths of children under the age of five and newborns along with all countries aiming to reduce the neonatal mortality rate to lower than 12 for every one thousand births.
- 3.3** End AIDS, tuberculosis, neglected tropical diseases, water-borne diseases, malaria, and other diseases.
- 3.4** Reduce the premature mortality rate by one third regarding non-communicable diseases by means of prevention and treatment.
- 3.5** Increase the treatment and prevention of substance abuse.
- 3.6** Reduce the number of global deaths and injuries caused from traffic accidents by one half.
- 3.7** Guarantee worldwide access to reproductive health-care resources.
- 3.8** Gain universal health care including financial risk protection, access to effective, affordable, and safe medicines and vaccines.
- 3.9** Reduce the number of illnesses and deaths caused by chemicals from water, soil, and air contamination.
- 3.a** Boost the use of the World Health Organization's Framework Convention on Tobacco Control in all countries which require so.
- 3.b** Support the development of medicines and vaccines for various disease both communicable and non-communicable and allowing countries to use the TRIPS Agreement and Public Health making developing medicines with property rights more easily accessed.
- 3.c** Raise health financing and the training of health workers in developing countries.
- 3.d** Particularly in developing countries, strengthen the capacity of early warning, risk reduction, and management of health risks both global and national.



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