

**Freshman #3**

TOPIC:Antimicrobial Resistance



# SOCOMUN XXVII

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Antimicrobial Resistance

Hello! My name is Claire Crafts, and I will be one of your co-chairs at SOCOMUN this year. I am a current junior at SMCHS, and I’ve been involved in MUN since the beginning of my freshman year. Since my first conference at SOCOMUN, MUN has allowed me to travel to Montreal and Quebec, Canada, and I am looking forward to traveling to London, England for another conference this fall. In between these, I’ve participated in over ten other conferences along the way. Throughout this process, MUN has helped me stay involved in current events around the world while also meeting people with different opinions and backgrounds than my own. I have become much more confident with public speaking as the multiple speeches that you make during conferences teach you to be comfortable speaking about anything. I personally enjoy debating a wide variety of topics, typically with a human rights or economic emphasis. Outside of MUN, I enjoy writing books, leading my school through being a member of our ASB’s Executive Council, and participating in the theater and choir programs. This is my first time on the SOCOMUN dais, and I am looking forward to learning as much as you will just in this perspective of MUN.

Hello! My name is Nava Bozorgmehri and I am so thrilled to be your secretary at this year’s SOCOMUN conference. I am truly passionate about MUN and I think the program is an excellent opportunity to expand one’s knowledge about global issues, strengthen public speaking skills, and learn how to expand upon ideas & collaborate with others! I enjoy spending my free time playing volleyball, running, and playing guitar. I am looking forward to seeing you all at the conference!

Hi! My name is Kate Gallaway and I’m a junior at SM and this is going to be my third year of MUN. I’m very excited to be your legal and participate in the dais for the first time. SOCOMUN was my first conference I ever attended and started my MUN journey. I’m very excited to guide you through this conference and make it a very positive experience. Good luck!

We are extremely excited to meet all of you and for you to participate in SOCOMUN, especially since this will be the first conference for some of you. Most of the day will consist of making speeches, commenting on these speeches, and discussing solutions and resolutions in caucus groups. I remember being slightly overwhelmed before my first SOCOMUN, so feel free to reach out to me and ask any questions you may have by emailing me at [socomunfresh3@gmail.com](mailto:socomunfresh3@gmail.com) . MUN is supposed to be enjoyable experience, so if there is anything I can do to relieve stress or confusion I would love to address any concerns you may have. I know you will all do fantastic!

**Background:**

Antimicrobial resistance is when microorganisms are exposed to antimicrobial drugs and change to develop a resistance as a result. These antimicrobial drugs thus become ineffective in treating the infections. In some cases, the chances of death become double that of infections which are not resistant to drugs. When resistant strains develop, the infections become near impossible to control or contain. It affects the social and economic situation of the countries affected as hospital stays become longer, and the chances of spreading the diseases become greatly heightened. Part of the overall problem is the lack of common data sharing and coordination between world researchers and doctors studying this problem. Most of the data comes from more highly developed countries in Europe and the Americas where collaboration and more data is both taken and accessible. Data on this issue is really lacking due to the fact that most data sets that are being compared and examined are individual or private collections from hospitals. The lack of diversity in sources and representation of data is a huge limitation for understanding this issue.

The evolution and origins of antimicrobial resistance truly began in the 20th century with the overproduction and overuse of antibiotics. These antibiotics, antifungals, and antivirals were critical in saving the lives of the millions affected by infections every year, revolutionizing the medical world. However, the horrifyingly quick growth of resistant strains of bacteria, parasites, viruses, and fungi has made experts begin to predict a return of the pre-antibiotic era with the rate at which these resistant strains are growing. Currently, the complexity of the systems and the methods in which these microbes attack the body lead to a general lack of understanding concerning these resistant strains. Science is working as quickly as it possibly can to create new antibiotics as resistance to these drugs grow, however the strains are multiplying at a much faster rate. Part of the problem is the fact that 50% of the prescribed antimicrobials are not necessary, and thus increasing the amount of antimicrobial resistance that occurs. The microbes’ immunities are of real concern for large pharmaceutical companies which cannot produce cures fast enough. Major organizations involved in this cause are the World Health Organization and United States Food and Drug Administration. Countries such as the US have created organizations such as the US National Strategy to Combat Antibiotic Resistant Bacteria (CARB). The World Health Assembly endorsed a global action plan in May of 2015 at the World Health Assembly which addressed antimicrobial resistance with five key objectives: “improving awareness and understanding of antimicrobial resistance; strengthening knowledge through surveillance and research; reducing the incidence of infection; optimizing the use of antimicrobial agents; developing the economic case for sustainable investment that takes account of the needs of all countries; and investing in new medicines, diagnostic tools, vaccines and other interventions.” A final organization that has been useful to the prevention of antimicrobial resistance is the Global Antimicrobial Resistance Surveillance System or GLASS. Its example of standardized data collection, analysis, and collaboration on a global level is something to strive toward, continue, and increase usage of.

To give some statistics which highlight the expansiveness of this problem, two million people in the United States, a highly developed country, contract bacterial diseases resistant to all antibiotics. 23,000 will ultimately die because of these infections and diseases. The highest rates of resistance are in the most common types of infections such as urinary tract infections, wound infections, bloodstream infections and pneumonia. Foodborne bacteria and animal infections which are transferred to humans are other areas in which little is known about but are causing severe health issues. 64% of 10,000 people surveyed from 12 different countries knew “that antibiotic resistance is an issue that could affect them and their families, but how it affects them and what they can do to address it are not well understood.” The same number of people depend on antibiotics to treat such illnesses as the cold and flu, making them completely unaware of the fact that antibiotics cannot cure and do not affect viruses.

**Possible Solutions:**

Remember that these are possible solutions meant only to guide you in your research, and may not be applicable to every country depending on their policy. It is of absolute importance for each of you to stick to your respective country’s policy throughout the conference along with any research or preparation you might do. Please do not copy and paste these following solutions or quote them exactly in your speeches. You are also encouraged to come up with your own solutions. At SOCOMUN, it is assumed that the UN would provide all funding that potential solutions would require so information on the monetary aspect of solutions is not necessary.

One of the most important aspects of antimicrobial resistance that must be addressed is the chronic over-production of prescribed medications and doctors prescribing unnecessary medications. Large corporations such as the World Health Organization and the United States Food and Drug Administration have been working to monitor this and prescribe medications and vaccines only when necessary so as to not increase the number of microbes in circulation. More methods of prevention must be enacted throughout the world. Unless prevention of over circulation is enacted throughout the world, antimicrobial resistance will continue to grow.

Another solution that is increasingly important to this problem is educating the public about the costs of over producing vaccines and antimicrobial drugs and over prescribing them. If the public is aware of the dangers of taking these unnecessary drugs and treatments, it makes it less likely for them to be quite as willing for them to take them. Part of this aspect of education is the creation of an international database with public access containing information about the newest developing strands of microbes, bacteria, fungus, and viral infections. Doctors and researchers could compile their knowledge and thus make it easier and quicker for new cures and vaccines to be developed.

The increasing participation of organizations such as the World Health Organization and each country’s respective food and drug administrations would also aid greatly towards ending this problem. Countries can often be encouraged to participate with economic incentives provided by the World Trade Organization.

Finally, something to keep in mind is the continued support of certain solutions and actions already in place. The Center for Disease Control (CDC) stated five key objectives that we as a global community can address to help prevent antimicrobial resistance:

1. Awareness and education
2. Surveillance
3. Infection prevention and control
4. Optimized use of antibiotics
5. Research Development Investment

Your solutions can and are encouraged to include and build upon these specific aims along with providing other solutions that have not yet been enacted if possible.

**Questions to Consider:**

You are not required to answer these. They are merely here as a suggestion and a guide purely for your benefit.

1. What is your country’s policy? What has your country’s involvement been in the past?
2. How have non-governmental organizations (NGOs), regional, national, or international, been involved in this issue? What have been the effects of their influence? Should their methods be continued in the future? Are there any NGO’s that can be incorporated to prevent this issue in the future?
3. What has been the involvement of the United Nations in the past? Have any of their solutions been successful? Should these solutions be continued?
4. How has your country dealt or not dealt with this issue in the past? Can any of their solutions be expanded throughout the world or wherever this issue is prevalent? How can these solutions be changed or revised to be more successful?
5. What has occurred in the area of antimicrobial resistance recently and how has that affected the rest of the world?
6. What current solutions globally by different organizations have been successful? Which have not? How can we change or modify these to make them more successful?
7. How can the data needed to make concrete change in antimicrobial resistance and create solutions to prevent this problem in the future be addressed? How can we increase the surveillance and data collection already taking place?

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| **Goal 3 Targets. Ensure healthy lives and promote well-being for all at all ages** |
| 3.1 By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births |
| 3.2 By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under‑5 mortality to at least as low as 25 per 1,000 live births |
| 3.3 By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases |
| 3.4 By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being |
| 3.5 Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol |
| 3.6 By 2020, halve the number of global deaths and injuries from road traffic accidents |
| 3.7 By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes |
| 3.8 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all |
| 3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination |
| 3.a Strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate |
| 3.b Support the research and development of vaccines and medicines for the communicable and non‑communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all |
| 3.c Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States |
| 3.d Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks |

Works Cited

“Antimicrobial Resistance.” *World Health Organization*, World Health Organization, [www.who.int/mediacentre/factsheets/fs194/en/](http://www.who.int/mediacentre/factsheets/fs194/en/).

In this article, the World Health Organization (WHO) gives further insight into the general background about microbes and their resistance to bacteria, as well as explains why resistance is a global issue and what causes such a rapid increase in the spread of resistance. A description of several branches of the WHO and their involvement with the topic of resistance in the past have also been included in this article.

This is an excellent source because it provides information about how antimicrobial resistance has affected individuals on a global scale. In addition, this source briefly gives insight into the actions of the World Health Organization and their collaboration with the Food and Agriculture Organization (FAO) and World Organization for Animal Health.

This article states that antimicrobial resistance is a global threat, which affects individuals on a broad spectrum, and further emphasizes the important of collaboration to develop an action plan.

“Antibiotic / Antimicrobial Resistance.” *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, 19 Sept. 2017, [www.cdc.gov/drugresistance/about.html](http://www.cdc.gov/drugresistance/about.html).

The article by the Centers for Disease Control and Prevention gives general information about the topic of antimicrobial resistance and explains the major causes, potential risk factors, history of antibiotics, and mentions the importance of developing ways to prevent resistance from occurring in the future.

This source is credible because the information stated is fact-based and there is no bias. In addition, the article is helpful because it provides diagrams and images to further explain the cause and spread of antimicrobial resistance.

I believe the information found in this article can be used to gain a better understanding of the topic and several facts can be incorporated into the background paragraphs. The section titled *Brief History of Antibiotics* increase one’s awareness of the issue in the past and the importance of developing solutions directed toward to prevents resistance.

Global Action Plan on AMR.” *World Health Organization*, World Health Organization, [www.who.int/antimicrobial-resistance/global-action-plan/en/](http://www.who.int/antimicrobial-resistance/global-action-plan/en/).

This website explains the benefits of antimicrobial resistance and provides the objectives of the global action plan which focus on making antibiotics accessible to everyone, ensuring safe treatment and prevention of resistance, as well as ensuring that all medicines are used properly.

The information in this source is credible and gives examples of realistic objectives that will be taken into consideration when taking action to ensure the sustainability of antibiotics. Several additional links are posted on the website for further research about the details about the global action plan.

The understanding of the objectives mentioned in this article can be expanded upon to build well-developed solutions to ensure that antimicrobial resistance is both safe and sustainable for all.

Jaelin, Michelle. “6 Factors That Have Caused Antibiotic Resistance.” *InfectionControl.tips*, 18 Nov. 2015, infectioncontrol.tips/2015/11/18/6-factors-that-have-caused-antibiotic-resistance/.

In this article, the various factors contributing to the resistance of antibiotics are explained. It is also mentioned that overuse of antibiotics in both humans and animals has become a major problem because antibiotics become useless when the bacteria is able to undergo mutations.

This is a credible source which explains what the causes of antibiotic resistance can be traced back to according to past research. The contributing factors mentioned stress the importance of gathering and understanding past situations in order to develop solutions.

Understanding the major causes of antibiotic resistance mentioned in this article can help one work towards developing solutions and expanding ideas that will benefit everyone affected by antibiotic resistance on a global scale.

Silva, José Graziano da, et al. “16 Organizations Working to Raise Antibiotic Resistance Awareness – Food Tank.” *Food Tank*, 27 Nov. 2016, foodtank.com/news/2014/05/sixteen-organizations-working-to-raise-antibiotic-resistance-awareness/.

This article highlights how antimicrobial resistance is a threat and how antibiotics can lose their effectiveness as a result of constant exposure to bacteria. Numerous organizations with their contributions and a brief description of their mission statements are also mentioned.

This source is excellent for gathering information about the involvement of non-governmental organizations (NGOs) and how their stance on the effects of antimicrobial resistance influence their actions.

I believe this article is helpful to see how other organizations are working to spread awareness of the issue and are open to the ideas of collaborating to develop strategies to benefit those who have been negatively affected by antimicrobial resistance.

“Immunization.” *UNICEF - Immunization - Why Are Children Dying?*, 2 Mar. 2005, [www.unicef.org/immunization/index\_why.html](http://www.unicef.org/immunization/index_why.html).

The goal of good health and wellbeing is to increase life expectancy. Diseases without vaccinations can be very deadly and decrease life expectancy. This source explains how pathogens such as bacteria viruses and parasites cause infectious diseases. There is a in depth description of the most common deadly diseases such as measles, tetanus, polio etc. This source is helpful and non-bias and can be used to explain why vaccinations are needed to help support health and wellbeing.

Davies, Julian. “Julian Davies.” *Microbiology and Molecular Biology Reviews*, 1 Sept. 2010, mmbr.asm.org/content/74/3/417.full.

“Antimicrobial Resistance.” *World Health Organization*, World Health Organization, apps.who.int/iris/bitstream/handle/10665/112647/WHO\_HSE\_PED\_AIP\_2014.2\_eng.pdf;jsessionid=3AF59C6900FDC89FC47EDC40A77C2B60?sequence=1.

“Antibiotic / Antimicrobial Resistance.” *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, 29 Mar. 2018, www.cdc.gov/drugresistance/index.html.

“Giving Developing Countries the Best Shot: An Overview of Vaccine Access and R&D.” *MSF USA*, 11 May 2010, [www.doctorswithoutborders.org/news-stories/special-report/giving-developing-countries-best-shot-overview-vaccine-access-and-rd](http://www.doctorswithoutborders.org/news-stories/special-report/giving-developing-countries-best-shot-overview-vaccine-access-and-rd).

Doctors without borders is an NGO that works to bring vaccinations to developing countries. There are many challenges when delivering vaccinations such as high prices, lack of R&D for better vaccinations to combat the changing diseases, and health systems without enough health workers. I would consider this source because it is very informative and relates to this topic. It is not a bias source and explains the issue of treating diseases with vaccines in developing countries.