
MITMUNC

WELCOME LETTER

Greetings, Delegates:

Hi! Welcome to MITMUNC X! I'm Lani, a freshman at MIT majoring most likely in aerospace engineering. I participated in Model United Nations all throughout high school. I've in lived inside military bases most of my life, and I became particularly interested in international relations and the like from my experiences living abroad. I'm also an Air Force ROTC cadet here at MIT's Detachment 365, so I am fairly knowledgeable about how the United States military works. Out of this conference, I hope to see a lot of collaboration, as the spirit of MIT is, and improvements in individual public speaking, resolution writing, and research skills. I wish to see a lot of active yet efficient participation of all the committee members. Remember that we're not here to judge you; we're here to help you. If you have any questions during the committee sessions, please don't hesitate to ask us. I look forward to see you soon.

Hi! My name is Smrithi Raman and I'm one of the co-chairs of the World Health Organization of 2018. I'm super excited to meet you all and spend a weekend in committee! I'm a freshman at MIT and I'm majoring in bioengineering. I did MUN throughout high school and actually chaired for WHO my senior year. The topics Lani and I chose for this year's committee are ones that have recently gained traction in WHO and we look forward to watching you debate and come up with solutions to some of the most pressing health-related issues of our time!

- Lani Lee and Smrithi Raman

INTRODUCTION

Many diseases in the world are a part of the Good Health and Well-Being goal of the United Nations Sustainable Development Goals. The World Health Organization aims to provide guidelines, resources, and initiatives in improving public health. The three topics in this committee, gender health issues, AIDS, and TB, are connected this way. The alarming difference between genders in cultures have caused worse situations in mental and physical health. Many illnesses are among these are the Acquired Immunodeficiency Syndrome (AIDS), caused by the Human Immunodeficiency Virus (HIV), and active tuberculosis (TB), caused by a particular bacterial infection. The way these two diseases work is quite different, but the problems they provide for the world is similar. Both are deadly diseases have been combated for many decades, but continues to be serious issues to this day. Some of the problems with solutions come from the scarcity of resources in low-income countries and the shortage of research and treatments. There also is an issue with diagnosis, as the contraction of these depend on the ability to recognize diseases. One thing that is uncontrollable, however, is the rise of drug resistance that prevents the complete eradication of the disease.

The reason why the World Health Organization exists is because the fight against illness is ever-changing. There are policies that need to be set in order to combat illness, which has no boundaries based on individual countries. These problems affect the whole world. Gender gaps in healthcare have affected the spread of infectious diseases and the welfare of half of the population. AIDS and TB are diseases that are especially dangerous to women and people in low-income areas, and continue to be deadly even with decades of conscious effort. These two topics (gender health, AIDS, and tuberculosis), are important ones to the goals of the World Health Organization and the United Nations as a whole.

Topic A: Gender Health Issues

Gender refers to a social construct of characteristics and norms for men and women. The concept of gender includes five important elements – relational, hierarchical, historical, contextual, and institutional. Sex and gender are not interchangeable terms. Sex is defined biologically and physically. Unlike sex, however, gender is a more fluid term that tends to dictate behaviors, relationships, and roles and can vary between societies and cultures. Gender can strongly influence individuals' susceptibility to different health conditions and diseases and affect their general well-being. Equally concerning, it tends to impact people's access to healthcare and health outcomes. Socially erected barriers may preclude accurate diagnoses; studies indicate that in developing men seek treatment more frequently at formal health services than women and others highlight that the social status influences how society responds when men or women are affected by stigmatizing illnesses from HIV/AIDS, leprosy, tuberculosis, and mental health. It is thus evident that promoting gender equality is one of the most important global efforts taking place.

The gender differences in healthcare often result from genetic vulnerability to illness, reproductive and hormonal factors, and differences in physiological characteristics. Until the early 1990s, a male model of health was used almost exclusively in clinical research, extrapolating the findings to women. Cracks in the model were revealed when protocols for diagnosis and treatment of heart disease that had been tested on middle aged white men were unsuccessfully applied to women. Clinical research, in several areas, generalizes findings derived from subjects of one gender to other. Currently, more data on men are needed in regard to osteoporosis and depression, whilst more data on women are critically needed in cardiovascular areas.

While life expectancy is generally higher for women than men in most countries, a number of health and social factors combine to create a lower quality of life for women. Discrimination on the basis of their sex often leads to many health hazards for women. For example, one in five women reported being sexually abused before the age of 15; sexual violence has serious consequences from injuries, to pregnancies, STDs, depression, and chronic diseases. Healthcare accessibility also varies drastically between developing and developed countries; everyday 1600 women die from preventable complications during pregnancy and childbirth and about 99% of these maternal mortalities occur in the developing world. COPD or chronic obstructive pulmonary disease often affects women more frequently as its primary cause is indoor smoke generated by daily cooking.

Research conducted by the World Health Organization on women's health has revealed concerning statistics. Globally, adolescent girls and young women (aged 15-24 years) are twice as likely to be at risk of HIV infection compared to boys and young men in the same age group; this trend is associated with unsafe and often unwanted and forced sexual activity. Early childbearing, too, poses significant health risks. Pregnant adolescents are more likely than adults to have unsafe abortions; about three million unsafe abortions occur globally among girls aged 15-19 years which contribute substantially to lasting health problems and maternal deaths and pregnancy complications are a leading cause of death among adolescents in low and middle-income countries. In 21 out of 41 countries studied, over one-third of teenage girls are anemic, a serious condition that causes cognitive and physical deficits in children and reduces productivity in adults. Females are more susceptible to anemia due to insufficient intake of iron in diets and menstrual blood loss. For women aged 15-44 years, HIV/AIDS is the leading cause of death worldwide. Biological factors, lack of access to contraceptive and protective services, and

economic vulnerability, among other factors, expose women increasingly to HIV infection. For example, in sub-Saharan Africa, one in four women does not have access to contraceptives. Tuberculosis, often linked to HIV, is also among the five leading causes of death in low countries among women.

The World Health Organization and the United Nations has initiated several policies and committees to address gender disparity in healthcare and women's health issues. The Sixtieth World Health Assembly adopted a WHO strategy for integrating gender analysis and actions into the work of WHO in May 2007. Consequently, the entire WHO Secretariat has been responsible for implementing this Gender Strategy that includes provisions for ensuring capacities for gender analysis and planning, disaggregating data and conducting gender analysis and establishing accountability for mainstreaming gender. In 2015, WHO enacted the Gender, Equity and Human Rights (GER) roadmap for action including plans that spanned from 2014-2019. This five-year plan seeks to ensure an integrated approach for gender responsive, equity enhancing, and rights based WHO programs.

The WHO has identified the five A's as major barriers to gender equity in healthcare – availability, affordability, accessibility, accommodation, and acceptability. In 2016, the Global Strategy for Women's, Children's and Adolescent's Health was outlined spanning 2016-2030 that outlined a roadmap to achieve high standard of health for women and children and to address these five barriers. An agreement was signed by WHO and UN Human Rights agency on November 21st, 2017 to advance work on operationalizing to achieve targets outlined in the Global Strategy for Women's, Children's and Adolescents' Health.

Topic B: Infectious Diseases

HIV/AIDS and tuberculosis are heavily affect people in developing countries, and therefore the WHO has a responsibility to innovate solutions to this issue. While treatments for both exist, lack of commitment to the treatment regimen and the rise of antiviral resistant HIV and antibiotic resistant tuberculosis pose a large threat to the world at large.

HIV/AIDS

HIV/AIDS continues to be one of the biggest global public health issues, having claimed more than 35 million lives. The Human Immunodeficiency Virus (HIV) targets the immune system and weakens natural defense against infections and cancers, causing individuals to gradually to become immunodeficient. The most advanced stage of HIV infection is Acquired Immunodeficiency Syndrome (AIDS) which is characterized by the development of certain cancers and symptoms. HIV can be transmitted by the exchange of body fluids. Progression of HIV can be stymied by antiretroviral treatment that suppresses viral replication and strengthens the immune system. Great strides have been made to address diagnosis and treatment of the condition. Between 2000 and 2016, new HIV infections fell by 39% and about 13.1 million lives were saved by antiretroviral therapy globally, thanks in large part to national HIV programs and WHO support.

Currently, the WHO African region is the most affected, with 25.6 million people living with HIV in 2016. East and Southern Africa is hit hardest by HIV; despite being home to only 6.2% of the world's population, it accounts for over 50% of people living with HIV in the world. Although Africa's HIV epidemic is generalized, certain groups such as sex workers have significantly higher HIV prevalence (for example, in Botswana, HIV prevalence is 22.2% in the

general population but is 61.9% among sex workers). Although typically 20% of new HIV infections each year are among these key affected populations, programming for these populations remains inadequate and many face stigma and legal barriers that prevent them from accessing HIV services. In 2016, HIV prevalence among young women was double that of young men in the region (3.4% versus 1.6%). Reasons for this are numerous and complex but a major factor remains spousal physical or sexual violence. In population-based surveys conducted across Africa, only 37% of women and 41% of men displayed comprehensive and correct knowledge regarding HIV prevention. Kenya, Madagascar, Mauritius, Mozambique, South Africa, and Tanzania are all home to large numbers of people who inject drugs, a population trend that's associated with higher incidences of HIV infection.

Another issue that has cropped up globally is HIV drug resistance. HIVDR refers to the ability of HIV to mutate and reproduce itself in the presence of antiretroviral drugs. Currently, ARV drugs are the primary form of treatment disseminated internationally to manage and limit the progression of HIV. The consequences of HIVDR include the failure of ARV and further spread of drug resistant mutations of HIV. HIVDR can result from several factors but two are particularly prominent – medication adherence and cross resistance. Taking HIV medicines every day and as prescribed prevent HIV from multiplying which minimizes the risk that the virus will mutate and produce HIVDR. Cross resistance results from one HIV medicine causing resistance to other medicines in the same drug class. As a result, one's HIV might develop resistance to drugs that the person has never taken; this limits the number of medicines available to include in a HIV regimen.

This issue is particularly serious in the sub-Saharan African region where it poses a threat to the global scale up of HIV treatment access. These countries typically have weak health

systems and poor access to monitoring and diagnostics. The emergence of HIVDR has occurred in low-income countries due to multiple factors including minimal stocks of drugs, poor health service quality, and treatment interruptions due to lack of monitoring. However, newer ARVs and drug classes (such has integrase inhibitor, dolutegravir) hold promise as they have higher genetic barriers to resistance; these drugs, however, remain expensive and out of reach to aforementioned countries. Debate has recently arisen over the rising prevalence of HIVDR impeding global treatment expansion.

The WHO has been committed to ensuring the success of HIV treatment over the past decade. The most primary action undertaken by the World Health Organization is the pledge of 90-90-90. The WHO has set out three goals to be achieved by 2020: 90% of all people living with HIV will be aware of their HIV status, 90% of all people with HIV infection will receive sustained ARV therapy, and 90% of all people receiving antiretroviral therapy will have viral suppression. When this three-part target is achieved, at least 73% of all people living with HIV worldwide will be virally suppressed (or the closest to "cured") which is a two to three-fold increase over current estimates. Achieving these targets will also enable the world to end the AIDS epidemic by 2030. Ending AIDS will require uninterrupted access to lifelong for tens of millions of people.

Recently, the WHO has shifted focus to preventing HIV drug resistance (HIVDR). Preventing and managing the emergence of HIVDR in recent years is a key component of a comprehensive and effective HIV response. Thus, a Global Action Plan written in July 2017 spanning 2017 through 2021 seeks to articulate actionable strategies that will prevent HIVDR from undermining efforts to achieve global targets. This plan has five objectives: prevention and response, monitoring and surveillance, research and innovation, laboratory capacity, and

governance and enabling mechanism. The prevalence of HIVDR in people initiating ARV therapy in 2010 was 6.8% and increased to above 10% in 2017. By the 90-90-90 plan, the WHO recommends an additional 17.2 million (on top of the current 19.5 million people) to start ART. As HIVDR becomes more widespread, it stymies the effectiveness of currently available ARV drugs, underscoring the importance of developing a strategy towards limiting HIVDR.

Tuberculosis

It is estimated that, yearly, almost ten million people are infected with tuberculosis and more than a million die from it. It is one of the top ten causes of death worldwide. Although the disease has existed throughout centuries, it continues to be a deadly illness that threatens the health of the world. Why, then, has this disease been so prevalent throughout the years? What has been done, and what will be done to combat this crisis?

Tuberculosis is caused by bacteria *Mycobacterium tuberculosis*, generally affecting the lungs but also other organs. When it affects the lungs, it can be contracted by others around the person through particles in the air. The general symptoms from tuberculosis include chronic cough with blood, high fever, weight loss, and general weakness. Those who smoke and those infected with HIV are at higher risk. In modern medicine, there have been vaccines developed to prevent the worst activation of the bacteria and long-term antibiotic treatment to cure those already suffering. However, the rise of antibiotic resistant tuberculosis, multidrug-resistant TB (MDR-TB), is causing problems for those with big numbers of infected persons.

The world began to notice the weakening effectiveness of treatment methods by the 1990s. According to the 1991 resolution, the World Health Organization (WHO) realized that the HIV/AIDS epidemic was also worsening the situation, and urged member states to collaborate on better disease control and research against the mortality rates. More than two decades later,

tuberculosis as still a major issue. The 2014 World Health Assembly acknowledged that many advances had been made in modern medicine regarding this disease, but the numbers were still significant enough to cause concern. Ending the TB epidemic by 2030 is one of the Sustainable Development Goals of the United Nations. In late 2016, a United Nations high-level meeting was decided upon to meet regarding the issue of tuberculosis.

There are some delicate limits one needs to reflect on when creating policies for the control of the disease's contamination and infectiousness. The first comes from the diagnosis methods. Although treatment methods have advanced, the numbers of TB cases have not declined. The blame lies heavily on the diagnostic methods. The most common method, sputum smear microscopy, was developed more than a century ago. The error is tremendous, and it takes a long time to obtain results. These also cannot detect HIV-infected persons nor the new drug-resistant bacteria. A much more efficient diagnosis method, the Xpert MTB/RIF, was developed, but even with a 75 percent discount from the maker, Cepheid, it costs almost seventeen US dollars. Some agencies in the United States have helped reduced the costs even further, but the resources to fully utilize these methods in low-income areas are challenges to its implementation.

One major reason why tuberculosis control is still weak is because of the participation of the citizens of the heavy-burden states. Even though treatments and diagnosis methods are widely available, there are those with tuberculosis who never go to get tested for the disease or to take advantage of the treatment methods available. There needs to be a systematic method of controlling this disease, especially where it is more common in the population. There would be no use in controlling the infection rates if the entire population is already infected. Combating ignorance of TB is the first step in combating the disease itself. There are also challenges from

the disease itself. One must keep in mind that tuberculosis is always evolving. Even if policies are set up to combat it now, it will most likely lose its effectiveness in a couple years. Therefore, when making plans to resolve this issue, one must consider the future. There must be ways to help with costs and participation rates. Regulations should aim to be valid even if the disease continues to grow and evolve. Diseases and medical problems will not be solved as quickly as wars or military conflicts. They take years of careful practices and cautions. The meeting of the World Health Organization will begin to set up these practices and cautions so that one day, tuberculosis will be less of a concern to the entire world.

CONCLUSION

The World Health Organization is committed to combating all obstructions to a healthier world. One of the major issues regarding the access to healthcare is the social norms placed with gender differences. The priorities of the WHO include the support of gender equity, especially in healthcare. Statistically, women are at a higher risk of becoming sick with mental illness or infectious diseases because of the actions made by cultural practices. A common illness that women are at higher risk is of AIDS, through the transmission of HIV. The prevalence of HIV in remote regions suggests the necessity of the advancement of diagnosis methods. This is directly related to TB as well, as those with HIV are at higher risk and because this disease also exists in poorer areas. The issue with these two diseases lie in the costs of the diagnosis and the treatment, and the effectiveness of testing a population to control its infection rates.

The goal of this committee, then, is to set regulations to help those in difficult circumstances get enough support for their healthcare. There needs to be constant research because the nature of cultures, viruses, and bacteria is always changing. What kind of policies

will the World Health Organization be able to make? What solutions will be the most optimal for each situation, and will be useful for many years?

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HELPFUL LINKS

http://www.who.int/mediacentre/factsheets/fs104/en/

http://www.who.int/tb/country/data/profiles/en/

http://www.who.int/mediacentre/news/releases/2017/commitment-end-tuberculosis/en/

http://www.who.int/tb/en/

https://www.ncbi.nlm.nih.gov/pubmed/27510238

http://www.who.int/mediacentre/factsheets/fs104/en/