WORLD HEALTH ORGANIZATION

GENERAL ASSEMBLY

TMUN 2018

Honourable delegates,

Welcome to the World Health Organization (WHO) at UTMUN 2018!

My name is Zeel Patel and I am humbled to be the director of this committee. Whether it be drug addiction or the health ramifications of anthropogenic climate change, issues of global health never fail to intrigue me. In fact, I am currently in my first-year studying Life Sciences so that I can attain a better grasp of this complex area of study. I strongly believe that the future of our world lies in the hands of young leaders, such as yourself, who are willing to discuss the most pertinent issues we face today.

The vice-directors, moderator, and I have prepared this background guide with the hopes of providing a basic knowledge pertaining to global drug addiction and the health ramifications of anthropogenic climate change. It is important to note that this background guide only serves to provide a starting point towards your research. Further research into your specific country foreign policy and issues is necessary if you are to represent your country well. Individual country's policies will differ, and some countries may not necessarily agree on similar solutions. However, we look forward to seeing all of you compromise, negotiate, and cooperate throughout this conference to come up with practical and innovative resolutions.

When thinking of potential solutions to these issues, it is important to understand the power and role of the WHO. We cannot infringe upon a nation's sovereignty or change domestic policies. However, we can recommend global policies and collaborative efforts to promote public health. Further understanding the role and the work done by the WHO in the past will give you a better idea of what solutions could be plausible.

If you have any questions, please feel free to contact me. I cannot wait to meet you all this February!

Sincerely,
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TOPIC ONE: COMBATTING DRUG ADDICTION AND OVERDOSES

Introduction:

Opioid (includes morphine, heroin, and fentanyl) overdose is responsible for approximately 69 000 deaths per year, despite being easily prevented by the antidote naloxone and basic life support. This fatality rate continues to increase, partially due to the increased usage of opioids to control chronic pain. Approximately 25% of these deaths are caused by overdoses of prescribed opioids in the United States of America. The respiratory drive is depressed when there are opioids in the system, and a serious reduction in respiration rate causes hypoxaemia, cerebral hypoxia and hypoventilation. Cerebral hypoxia for extended periods of time results in brain injury and cardiac arrest from overdose. Those completely dependent on opioids are the most at risk, and overdose deaths contribute to approximately a third of all drug-related deaths.

There has been much debate over the best policy response to this issue. Although some have suggested full decriminalization of narcotics, most states have taken a tougher stance. Many countries, such as United States have focused their response on enhanced law enforcement, clamping down on the trade and possession of narcotics. Although this method may be able to contain the issue of illicit drug use, it has given rise to various other problems such as high law-enforcement costs and mass incarceration. What policies can be made to combat this complicated issue?

Fentanyl Situation:

The strongest opioid available as a prescription medication is fentanyl, approximately one hundred times more potent than morphine. Its analgesic and sedative effects have led to its clinical usage as both an anaesthetic and to manage long term pain. However, its users are susceptible to abuse and dependence. It has been reported that the risk of overdosing from fentanyl is two times greater than the risk from heroin, and eight times greater than other prescribed opioids. North America is currently in an overdose crisis, mainly caused by illegally manufactured fentanyl or fentanyl analogues, resulting in what is being considered an epidemic. Research has indicated that there is a complex market where selling illicit opioids is integrated with the legal and underground supply of opioids, causing users to be exposed to counterfeit prescription medications. It is integral that attention is given to global developments in manufacturing and trafficking opioids, as well as relevant international concerns (Community Management of Opioid Overdose, 2014). Policy-makers are struggling to develop an effective response to the fentanyl crisis, and the high overdose rates make it imperative that a solution is found soon.

Developing Countries:

There has been limited research in developing countries as to which specific factors lead to drug addiction. However, the various case studies completed thus far have pointed to urbanization, poverty, migration, technological change, and educational challenges as

potential causes of substance abuse (Uchtenhagen, 2004). Developing countries also face additional challenges when trying to cope with drug addiction. Less than 40% of patients in the public sector and 30% in the private sector are treated with standard guidelines for medicine prescriptions (Holloway and Van Dijk, 2011). In these instances, it is imperative that healthcare providers are informed of the proper prescriptions. Additionally, consumers also need to be made aware of the harmful effects of not following prescribed dosages. While WHO programmes have helped countries develop better infrastructure and provided educational support, much more work needs to be done to create sustainable change in the future.

Developed Countries:

Countries in North America, Europe, and Australia spend billions of dollars each year on drug production and use. The United States spends over $161 billion dollars annually on drug abuse and addiction (Magnitude). While there are sufficient healthcare programmes as well as social support groups within these nations, access to illicit drugs as well as new synthetic drugs that provide "legal highs." Organizations such as the Vienna NGO Committee on Drugs, Canadian Centre on Substance Abuse (CCSA), and the US's National Institute on Drug Abuse (NIDA) are key promoters of drug issues and provide valuable information on the cause and effects of drug abuse across various populations. Working alongside these organizations as well as undertaking international collaborative efforts will continue to aid WHO in combatting this issue on a global scale. In order to prevent further deterioration of public health, it is essential that developed countries continue to provide more information on harmful drugs and look into technology that can aid in dealing with this issue.

Current Situation:

A regional meeting was hosted by the World Health Organization (WHO) and United Nations Office of Drug and Crime (UNODC) to examine the draft of the S-O-S Multi-site Study and Implementation Protocol on Community Management of Opioid Overdose. The proposal promotes access to naloxone, a medication that obstructs the effects of opioids, as well as training first responders in handling overdoses. Universal coverage of opioid overdose management strategies (including naloxone) is recommended by the UN to its member states. "Universal Coverage" may be defined more unambiguously by the three targets included in the 90-90-90 S-O-S initiative: it specifies that 90% of the target groups will have received education in overdose risk and emergency assistance, 90% of trainees will be given an emergency supply of naloxone, and that 90% of those who have received naloxone will have it at close reach. In addition, as part of the S-O-S initiative, UNODC and WHO will lead a study to examine the practicality of community-based naloxone provision, and its impact on health of individuals. Four countries in Eastern Europe and Central Asia with a high prevalence of opioid use have been initially included in the study, with the option for other interested countries to join. The study will aim to assist participating countries in increasing overdose training, concentrating efforts in one city for at least the first year. The study will

then examine results using the following three areas: feasibility of increasing naloxone accessibility and training to target demographics in varied communities, effectiveness of naloxone training in preventing, and effects of increasing naloxone access on the number of deaths in high-risk populations, including recently released prison inmates (The S-O-S Initiative, 2017).

In the European Region, 2.4 million life-years were lost in 2004 from disability and mortality from illicit drug use. Drug injection is the origin for 70-90% of the population with HIV infections, and it creates the highest number of hepatitis C cases. The World Health Organization intends to fortify public health programs to decrease the population with communicable and noncommunicable diseases, as well as review potential risks. Actions to obstruct the leading causes can considerably decrease the amount of premature deaths and disabilities in Europe, yet further actions and methods should be discussed to solidify the reduction of drug use and diseases (World Health Organization Data and Statistics, 2017).

Policies:

In the US, both federal and state policies have been implemented to deal with opioid abuse. For example, Opioid Treatment Programmes (OTPs) were implemented to increase access and care for patients currently addicted to opioids. Furthermore, the state of Massachusetts also enacted a "MassCall2" initiative which provided 15 communities with the funds to build prevention programs that helped to combat drug addiction problems at a local-level (About the Epidemic, 2017)

In Nigeria, the Nigeria Stability and Reconciliation Programme (NSRP) investigated drug abuse and found that drug abuse is becoming an increasingly prominent issue in women and youth. Moreover, the study also revealed that drug users often refuse to access social support because they face stigma from their communities or treatment is limited. The study concluded that drug abuse is not an issue restricted to health and law enforcement and that peacebuilding through institutional reforms is necessary to deal with this issue (Research and Publications, 2017).

There have also been discussions about decriminalizing drugs such as Cocaine and Marijuana with the principle that drug abuse should be dealt as a health, not crime issue in mind. Countries in Latin America such as Columbia, Uruguay, Guatemala, Costa Rica, Ecuador, and Argentina are embracing this trend of towards decriminalization, first implemented by countries in Europe such as Portugal in 2001 (Nadelmann, 2012). By reducing incarceration among low level crimes, especially among youth, the policy of decriminalization focuses on reducing punishment for victims of drug abuse and focuses on rehabilitation through health care as a solution.

Guiding Questions:

1. What problems has my country faced in the past regarding drug addiction?

2. What measures were taken place to try and cope with this issue? Which is better, a hardline stance or a decriminalization policy?

3. What methods can be taken to reduce deaths from overdose? How can we best combat the opiate crisis?

4. What has been done in the past by the WHO or the UN?

5. What can my country do specifically to solve global drug addiction?

TOPIC TWO: HEALTH RAMIFICATIONS OF ANTHROPOGENIC CLIMATE CHANGE

What is Anthropogenic Climate Change?

Anthropogenic climate change is any alteration in global environmental conditions that is due to human action. According to NASA, the Earth's average temperature has risen by 0.7^0C over the last hundred years. This rate of change is ten times that of the warming that took place after the end of the last ice age (Riebeek, 2010). The effects of such a drastic change in global temperature have a wide range of adverse and unpredictable effects, including rising sea levels, as well as exacerbating dangerous weather patterns such as droughts and floods. While these occurrences pose a very serious threat, they also incur effects of their own. For example, drought leads to water shortages and significantly lower agricultural yields, resulting food shortages. It is in these such ways that global climate change is threatening and is forcing both governments and international bodies such as the WHO to revaluate international public health policy.

What Are the Effects of Climate Change on Waterborne Diseases?

Water-borne diseases are a growing problem in many countries. They are caused by things such as pathogenic microorganisms and biotoxins. They can be transmitted through any kind of water, whether it be for drinking, cooking, or showering. All sorts of extreme weather conditions can increase the frequency of disease. Often, these diseases thrive with increased temperature and flooding, two of the direct impacts of climate change. However, droughts can also increase the concentrations of some of these diseases, which can overwhelm water treatment plants (Waterborne Diseases, 2017). These diseases are now also posing a risk to more developed nations, where flooding can overrun sewage systems and contaminate water supplies. An increased presence of waterborne diseases will not only threaten individuals and communities directly, but also threaten their food security, one of the most important components for basic human security.

Many diseases are extremely sensitive to changes in climate. The increase in opportunity for diseases to spread and mutate increases the chances of dominant and treatment-resistant strains to develop, posing a very serious threat in both developed and developing countries. According to a recent study published by the WHO, between the years 2030 and 2050, there are expected to be an additional 250,000 climate change-related deaths each year caused by diseases such as diarrhea, an easily preventable yet dangerous disease (Climate Change and Health: factsheet, 2017). Increases in waterborne diseases and extreme conditions such as floods also create breeding grounds for vector borne diseases. The extreme climatic conditions caused by anthropogenic climate change are increasing optimal conditions for pathogenic and vector borne diseases to thrive (Climate change and human health - risks and responses).

Effects of Climate Change on Respiratory Illnesses:

Climate change combined with natural and anthropogenic emissions of chemical substances into the air brings about adverse changes to air quality. The amount of particle pollutants in the air has steadily increased, degrading air quality. Pollutants such as nitrogen dioxide, elemental carbon, ground-level ozone and fine particulate matter cause an increase in symptoms of episodic wheezing, increased mortality rates for chronic obstructive pulmonary disease (COPD), cardiovascular disease, asthma, chronic bronchitis and reduced lung functions which pose a serious problem later in life (Gennaro D'Amato, 2016).

Air quality continues to worsen as a result of climate change. Although the rate of decline is slowing down, air quality remains significantly worse compared to decades ago. Nitrogen oxides and sulphur oxides in the air both irritate the lungs and reduce lung functions and make allergies worse. These pollutants released into the air then create smog and acid rain which also has poses health risks. Excessive smog is correlated with eye, nose and throat irritations, shortness of breath, as well as aggravation of respiratory diseases and allergies (Meg Michelle, 2017).

Indoor air quality has also been slowly deteriorating, with tobacco smoke, nitrogen dioxide, formaldehyde and volatile organic compounds being the major pollutants. Data has suggested these chemicals to aggravate and, more rarely, create long term effects on asthma, chronic bronchitis, and COPD (Gennaro D'Amato, 2014).

Indoor pollution is responsible for the deaths of 1.5 million people worldwide annually as of 2014. More than half of these deaths occur in children under 5 years old. The effects of climate change cannot be easily measured in terms of health effects, although it has been suggested to cause respiratory system deficits. Countries in Europe such as Belgium, Ireland, the Netherlands, and the U.K. having seen a 4-5% increase in ozone-related mortality rates compared to three decades ago. In the current emissions growth rate, temperatures are projected to rise by 4 - 6 C by the end of the century, while in a lower emissions growth

scenario, projected to rise by 2 - 3.6 C (Tim K Takaro, 2013). One study has measured diminished air-quality through cigarette equivalency; breathing the air in New Delhi is equivalent to smoking 44 cigarettes per day (Wu, 2017).

Extreme temperature changes also create many health and environmental complications. High humidity heat waves have been increasingly common in the past few decades and have a noticeable effect on mortality rates around the world. Statistics show that during heat waves, people with respiratory diseases may die earlier than expected. For every 1 C increase in temperature, premature death for respiratory patients is six times higher compared to those without (Gennaro D'Amato, 2016). In addition, cyclones have also shown to be related to asthma. Cold weather increases the chances of respiratory infections in individuals with COPD.

Heat waves and droughts also contribute to increased wildfire risks. Smoke emissions from wildfires can travel up to hundreds of kilometres with the wind, spreading harmful compounds. 339,000 deaths annually worldwide have been estimated to be a result of wildfires and its complications (Tim K Takaro, 2013). Wildfire frequency has been projected to increase due to warmer spring and summer seasons, lower precipitation, and earlier snowmelt in spring. Drought conditions also presents more dust, pollen, and particle spread. These may irritate the respiratory epithelium, aggravate chronic respiratory illnesses, and increase risk for acute respiratory infections (Gennaro D'Amato, 2016).

Pollen, one of the most notable causes of allergies, is heavily impacted by the global change in climate. It is very common in industrialized nations as well as becoming increasingly prevalent in developing countries (Gennaro D'Amato, 2014). The immune systems of certain people recognize these allergens as threats and respond to it accordingly despite them being relatively harmless otherwise. The amount of time that a person is exposed to an allergen has a positive correlation with the risk of sensitization.

Climate change causes an increase in allergenic plant growth and in turn the amount of pollen produced. The pollen production season also begins, peaks earlier and has an extended duration through the summer season. Typically, species that flower earlier in the year are affected more by climate change. Species in urban areas also flower earlier than the species in the corresponding rural areas by 2 - 4 days (Gennaro D'Amato, 2014). The amount of pollen produced rises due to the increase in carbon dioxide levels, increased temperature, as well as the arrival of earlier spring seasons. Plants species have exhibited an enhanced photosynthesis and reproductive system when affected by elevated carbon dioxide levels (Gennaro D'Amato, 2014).

Warming temperatures will only increase the number of allergens released into the ambient air. Different regions will have different changes in climate and therefore varying

degrees of severity for allergic risk. Increased exposure to allergens combined with pollutants lead towards a trend of increased respiratory issues, the major ones being Asthma, which currently impacts 8% of the U.S. adult population, and Allergic Rhinitis, more commonly known as hay fever (Asthma in the US, 2011).

Who is affected?

The effects of climate change on health is noticeable all around the world, but particular regions are more susceptible to damage. People living in coastal regions, islands, large urban areas, mountainous, and polar regions are impacted the most from climate change (Climate Change and Health, 2017). Many developing countries or areas with weak health infrastructure will not be able to respond appropriately to the health problems which will become more apparent as climate change continues to progress.

What Can Be Done?

Many leading organizations such as NASA and the WHO have confidently suggested that policy change could help to significantly lessen the effects of anthropogenic climate change. One of the first factors acknowledged is that a global problem as such requires an international strategy that can be adapted regionally (Climate Change and Health: factsheet). Issues as complex as disease and climate change have no concern for national borders or sovereignty, and therefore solutions need to be a cooperative and international. They should address adaptation, prevention, and responsiveness to the issues at hand. Adaptation strategies include infrastructure developments, and public health protective measures such as vaccinations (Wilkinson, 2016). Prevention and responsive strategies could include an increase in water sanitation services, human health surveillance. Many of the health risks associated with climate change are not within the usual operation of many health sectors (Campbell-Lendrum, et al, 2007), and so an effective policy must be developed and implemented for further future action. In 2015, the World Health Organization executive board endorsed a new work plan on climate change and health which consisted of 5 elements: partnerships, awareness raising, science and evidence, and support for implementation of the public health response to climate change (Climate Change and Health: factsheet).

Policies:

Under the United Nations Framework on Climate Change (UNFCCC), WHO works with member states to promote health policies in response to climate change. In 2008, the World Health Assembly requested member states to develop a Work Plan to support climate change and health protection. This plan was approved in 2009 by the Executive Board and updated in 2014 to yield four main objectives to combat health issues caused by climate change (Health policy and climate change):

1. advocate and raise awareness

2. strengthen partnerships
3. enhance scientific evidence
4. strengthen health system

The Centres for Disease Control and Prevention (CDC) in the US has also developed a scientific framework and plan to prioritize actions needed to deal with climate and health issues. The policies revolve around proactive measures such as developing preparedness and response plans, better training of workers in the health field, and providing technical advice to state and local governments, community leaders, healthcare professionals, nongovernmental organizations, the faith-based communities, the private sector and the public, domestically and internationally, regarding health protection from climate change effects (Climate and Health, 2014).

45% of all deaths in China, are due to cerebro-cardiovascular diseases. With climate change exacerbating the intensity of heat waves and air pollution, this problem is projected to become even worse. As such, China, alongside Barbados, Bhutan, China, Fiji, Jordan, Kenya and Uzbekistan are collaborating with WHO in a Global Pilot project that aims to deal with health concerns associated with climate change (Climate Change Adaptation to Protect Human Health). Through focusing on data collection, data sharing, communication and cooperation, and public awareness, this project aims to facilitate future policies that take into account the health sector and ultimately strengthen health education and training.

Guiding Questions:

1. What are some impediments that disable proper administration of treatment?
2. How can we increase water/air quality and management in developing countries?
3. What are some long-term solutions that can help withstand health ramifications caused by climate change?
4. What public health policies can be enacted to reduce the health effects of climate change?
5. What has been done in the past by the WHO or the UN to deal with this issue and has it worked?

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