WHO Chair Report

Topic 1: Addressing the Growing Threat of Pandemics and Communicable Diseases in Lower-Income Countries

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Personal Statements

Chair – Joseph Whitener

Hello everyone, I am Joseph Whitener,

I am honoured to be serving as the head chair for the World Health Organization at the 18th annual MUNISS Conference. I am 16 years old and this will be my third MUN conference and my Second MUNISS conference. I hope you will all enjoy the conference and I can't wait for it to start.

Best Regards

Joseph Whitener

Deputy Chair – Ann-Sophie Frey

Fellow chairs, distinguished guests and dear dear delegates,

I am Ann-Sophie Frey and am honoured to be serving as your deputy chair in the World Health Organisation at the 18th annual MUNISS conference. I am 15 years old, from Germany and go to the International School of Stuttgart. This will be my 4th MUN conference. In the past I have attended conferences outside of Germany, like in the Netherlands. This is my first time chairing and I am very much looking forward to it! I hope to make this conference fun and enjoyable and am excited to meet everyone!

See you all in April,

Best regards

Ann-Sophie Frey

Introduction

MUN, is a simulation of the United Nations where delegates (you) are given a country to represent in debate. As a delegate you should prepare a position paper and a resolution, representing your country's opinion. You will then use these documents to help you talk to other delegates, debate and agree or come up with one resolution per topic as a committee.

It is vital to address the growing threat of communicable diseases and pandemics in lower-income countries, because we are creating a weaker global healthcare system, making unnecessary expenses and developing international risks as diseases do not respect borders. Lower-income countries are often subject to worse effects of pandemics and communicable diseases. This happens for a variety of reasons. First, low-income countries have weaker healthcare systems due to their financial stance. This can look like limited hospitals, medical supplies, and healthcare workers which reduces the ability to diagnose, treat and contain diseases effectively. Lower-income countries also have poor sanitation and water access leading to an increased spread of waterborne and communicable diseases.

Communicable diseases are most commonly spread through direct contact. This becomes a substantial issue in low-income countries as most of their cities are incredibly dense, thus being overcrowded, resulting in increased direct contact. Zoonotic transmission and airborne spread are also common ways to transmit communicable diseases. Once again this is critical for lower-income countries as they often rely on subsistence farming and livestock rearing.

The way pandemics are treated and addressed in lower-income countries look very different to those in higher-income countries. For example, 76% of NICs reported increased capacity to sequence influenza-positive samples using NGS (*National Library of Medicine,* 2023). Whereas on the other hand, lower-income countries may not be able to adapt these same technologies either due to financial constraints or lack of infrastructure. Furthermore, it is of utmost importance to support developing countries in combating the issues they may face regarding this topic as pandemics and diseases do not recognise borders.

Glossary

Communicable diseases: Illnesses caused by viruses or bacteria that people spread to one another through contact with contaminated surfaces, bodily fluids, blood products, insect bites, or the air (*UK Health Security Agency,* 2023).

Zoonotic transmission: Zoonotic diseases are infections that are spread between people and animals. These infections are caused by germs, such as viruses, bacteria, parasites, and fungi. Some can be severe and life threatening, such as rabies, and others may be milder and get better on their own (*Cleveland Clinic*, 2024).

Subsistence farming: Farming or a system of farming that provides all or almost all the goods required by the farm family usually without any significant surplus for sale (Greenfield, 2023).

GISAID: Global Initiative on Sharing All Influenza Data. The GISAID Data Science Initiative promotes the rapid sharing of data from priority pathogens including influenza, CoV-19, respiratory syncytial virus (RSV), hMpxV as well as arboviruses including chikungunya, dengue and zika (*GISAID*, 2024).

NGS: Next Generation Sequencing. A technology for determining the sequence of DNA or RNA to study genetic variation associated with diseases or other biological phenomena (*Illumina*, 2024).

Covid-19: Covid-19 is caused by infection with the severe acute respiratory syndrome coronavirus 2, also called SARS-CoV-2. The coronavirus spreads mainly from person to person, even from someone who is infected but has no symptoms (*US EPA*, 2020).

CMNN diseases: Communicable, maternal, neonatal, and nutritional diseases. Infectious and parasitic diseases, respiratory infections, and nutritional deficiencies such as underweight and stunting (*World Bank Group*, 2015).

DALYS: A measure that combines years of life lost due to premature death and years lived with disability. They represent the overall burden of disease and health loss in a population (Grosse et al., 2009).

Inoculation: Giving someone a weak form of a disease as protection against it, or something such as an injection that is given for the same reason (Cambridge Dictionary, 2022).

Issue Explanation

Pandemics and communicable diseases pose great risks in lower-income countries, who struggle to effectively fend off outbreaks. The most recent example being Covid-19 - a crisis showing the differences between higher-income countries' responses in comparison to lower-income countries. High-income nations allocated US$156 per person in Covid-19 support, while lower-income countries only managed US$4 (*World Bank,* 2022). These numbers show a large difference, however the resources available to both types of countries visualise an even bigger gap. Limited testing and reporting testing in lower-income countries led to an under-report of cases and deaths. They also faced a number of challenges when adopting advanced technologies due to financial constraints and lack of infrastructure. On the other hand, high-income countries had access to advanced technologies like NGS for virus surveillance and a large budget to implement and test new strategies or to simply purchase medical supplies.

Communicable diseases continue to disproportionately affect lower and higher income countries. Because lower-income nations struggle with testing facilities, they often under-report cases making diseases seem more harmless. These same countries also lack the material and supplies to treat an outbreak if one occurs. They have very limited space in medical centers, therefore only being able to accommodate a handful of people. Additionally, communicable diseases are the greatest disease burden in lower-income nations because CMNN diseases have been responsible for more than 65% of DALYs. Furthermore, 21% of deaths in low to middle income countries are a result of infectious diseases, this number reduces to less than 2% in high-income countries (*National Library of Medicine*, 2006).

These issues have major societal consequences, one being the humanitarian impact. Communicable diseases are leading causes of death and disability in low-income countries. HIV continues to be a major global public health issue, resulting in 36.3 million so far– making it the modern second top infectious killer after Covid-19. Children aged under 5 years accounted for 77% (487.000) of all malaria deaths worldwide in 2020 (WHO, 2021). Another humanitarian impact is the eradication of health gains. Covid-19 reversed many years of progress regarding the treatment of

diseases like HIV/AIDS, tuberculosis and malaria. The sudden disruption of research in these areas has led to increased death and mortality rates for these diseases.

The economic aspect of this issue has resulted in major financial losses. For example, productivity decreases and health care costs increase when a nation is forced to focus on an outbreak. 150 million people were in extreme poverty by 2021, due to Covid-19 (*World Bank Group;* 2020) . In lower-income nations most of the informal sector was pushed into extreme poverty. Often, low-income countries heavily rely on informal workers such as street vendors, house-keepers, and unregistered ride-sharers to support the economy. If these workers cannot continue to actively contribute due to lockdowns and diseases, a nation loses the income of millions of workers.

The social consequences hit youth and minorities hardest. Lockdowns during pandemics like Covid-19 disrupted education, reducing student-teacher contact from 96% to 17% in some low-income households (*Nature Human Behaviour*, 2021). Through lockdowns women and girls were given increased caregiving responsibilities and abused leaving them with lasting physical and mental scars.

If this issue is not resolved soon, deaths from communicable diseases could double, uncontrolled outbreaks in a small low-income region can spread globally, already struggling countries could fall further back in their economic development and social consequences like food insecurity, worsening poverty, and inequality could lead to national and international instability, further triggering a migration crisis.

Perspectives of Parties Involved

DR Congo

DR Congo suffers from recurring and frequent outbreaks of communicable diseases like malaria, ebola, Covid-19, and cholera because of their poor healthcare and sanitation. While they still attempt to fight back, they lack enough hospitals, doctors, and medical supplies, to effectively do so. Their political instability and poverty do not help the situation - many who live in the DR Congo are forced to live in unsanitary overcrowded areas with limited clean water. So far, the DR Congo has relied on international aid from organisations like WHO and UNICEF for medical help and vaccines, but is looking to become more independent in the future.

India

India being a lower-middle-income country with a large population, it presents itself with a unique set of challenges and problems when discussing communicable diseases. A very common disease in India is tuberculosis, of which 2.5-2.8 million people end up contracting per year. India struggles with managing tuberculosis as well Covid-19 during the peak of the pandemic. For example, India struggled with oxygen shortages, hospital overcrowding and vaccine distribution, all throughout Covid-19. A rural area in India, specifically affected by this issue is the State of Rajasthan. They only have 2.4 beds per 10,000 people, leading to a spike of India's covid cases (*National Library of Medicine,* 2020). Since then, efforts have been made by organisations such as the PM-JAY to improve healthcare, support families and promote better infrastructure (*National Health Authority*, 2019).

Brazil

While Brazil may be considered an upper-middle-income country, due to its combination of high-income and low-income households, it faces similar challenges to lower-income countries in some regions. They are most affected by communicable diseases like dengue and Zika. In Covid-19, Brazil struggled with high death rates (710,000), numbers exceeding hospital capacity and political disagreements on safety precautions. They continue to battle vector-borne diseases as well as decisions regarding critical

healthcare action. This shows they need stronger disease prevention, sanitation improvements, and better emergency readiness.

Indonesia

Considering Indonesia is a middle-income country with a large population (281.2 million), they have faced serious challenges with Covid-19. These include hospital overcrowding, slow vaccine distribution, and an increased poverty rise. Their rural areas limit healthcare access making it harder to control diseases. In the past, they have also dealt with dengue fever, tuberculosis, and malaria. All of which are worsened by Indonesia's tropical climate and high population density.

Germany

Germany has a very advanced healthcare system including two different types of health insurances - a public insurance every resident in Germany is equipped with, even if they have no German passport and solely live in the country. And an insurance system accessible to everyone living in Germany with a salary of over 5,500 euros per month also called a contribution assessment limit. With the help of these insurances and other systems, Germany did early mass testing, strict lockdowns and effective vaccine distributions during Covid-19. Germany is a role model when it comes to global health funding, supporting organisations like WHO and Covax as well as funding research on common communicable diseases and investing in early disease detection and vaccine development.

U.K

The UK's NHS played a key-role in Covid-19. They were able to rapidly develop vaccines like AstraZeneca and build mass-amounts of testing stations overnight. They struggled with fast responses yet still managed to achieve a nation-wide lockdown. Looking past Covid-19, the UK government funds several research and vaccination programs aimed at fighting communicable diseases. Like Germany, they also support low-income countries through COVAX and WHO to improve disease control across borders.

Médecins Sans Frontières (Doctors Without Borders)

The MSF, an independent, international medical organisation, starts where governments fail. They provide emergency health care in crisis zones, by deploying medical staff like doctors and nurses and setting up mobile clinics. In these mobile clinics, individuals are treated for communicable diseases free of charge including mass vaccination programs for measles and meningitis - all preventable diseases. They aim to support and strengthen local healthcare systems by teaching and training local medical staff. They provide vital medical equipment like protective gear, medicines and vaccinations. They also continue to fight for cheaper vaccines and treatments for low-income nations while also advocating for lower life-saving drug prices.

History of the Topic

Pandemics and communicable diseases have been around for centuries, dating back to 430 B.C in Athens. It happened during the Peloponnesian war and spread through Libya, Ethiopia and Egypt crossing the Athenian walls when the Spartans came. This pandemic killed as much as two-thirds of the population (History.com Editors, 2021).

This event also provided the first recorded evidence of disease transmission, likely through direct contact, contaminated surfaces, or airborne particles (Edemekong, 2022).

Later in history, humans began to build trade routes to simplify the exchange of goods. However, this is what many historical works blame for triggering the spread of the Plague in Europe in 1346. While there is no quantitative evidence of this, statistical analysis and numerous case studies support this theory. Ordinary Least Square estimation results indicate what major routes caused the rapid spread while also showing how these trade routes influenced the major hotspots (*Scientific reports*, 2017).

The first vaccine was developed in 1798 in England to combat and protect against the smallpox outbreak. Edward Jenner had speculated that you could obtain protection or immunisation from smallpox through inoculation with a related virus, more specifically cowpox. He decided to test this theory with 8 year old James Phipps who lay sick in bed after inoculation with cowpox, as planned. Some weeks later they attempted to infect with smallpox but discovered he was immune to all types of pox thus creating the first vaccine, saving millions of lines (*Immunise.org*, 2024).

By far, the most deadly pandemic of all was the Spanish Flu (Great Influenza Epidemic). A definite 50 million people died from the Spanish Flu pandemic in 1918. Many factors come together to explain why this Flu was deadly, including; war-time conditions, limited healthcare options, and immunity. The war forced many people to live in crowded conditions meaning it was a lot easier for the virus to spread. Furthermore, many doctors and nurses were serving in the war resulting in the loss of medical staff. It was so deadly to the youth (ages 18-30) because they had not been exposed to a variation

of the virus before, creating a weakened immune system (*Cleveland Clinic*, 2021).

The most recent and ongoing pandemic starting in 2019 is Covid-19. It originated in Wuhan, China with its first case being recorded in October 2019 (*PudMed Central*, 2022). It started to spread worldwide early 2020, making many countries implement a nation-wide lockdown in March 2020. Covid-19 is caused by the SARS-CoV-2 virus and affects the lungs. So far it has killed a total of 7 million people however there is still an ongoing count. The vaccine for Covid-19 is the first in history to use mRNA technology which is the transmission of instructions of the genetic make-up that triggers immune response. This vaccine was made by the German firm, BioNtech, and the U.S American firm, Pfizer. BioNtech had the research and scientists, but no out-reach so their CFO reached out to Pfizer, who was able to fund the mass-production of the vaccine and get it approved quickly. Together they released the cure in October 2020, just months after the pandemic hit (EU.de, 2020).

Potential Solutions for the issue:

Based on the previous explanations, it becomes evident that this is an important and serious topic requiring immediate action.

Strengthening Healthcare Infrastructure

One possible solution would be to strengthen healthcare infrastructure. This would mean to invest into more hospitals, clinics and trained medical staff. However, this solution should prioritise setting this up in rural areas and population-dense cities. This would allow that the help is getting to those in need of it most first. Another part of this initiative would be to improve sanitation and clean water access to prevent disease outbreaks before they even start. This could include a sub-initiative for a hand hygiene program as we can have up to 10 million bacteria per hand.

International Vaccine and Medical Aid

A previous UN initiative, COVAX, was led by the WHO, the Vaccine Alliance, the Coalition for Epidemic Preparedness Innovations (CEPI) and UNICEF as a delivery partner. Its aim was to distribute Covid-19 vaccines to low- and middle-income countries to ensure fair access. This seems to have been very effective as they were able to prevent a predicted 2.7 million deaths in countries participating. For those reasons, you could expand or implement a similar program for more communicable diseases. This could include malaria, tuberculosis, and cholera.

Surveillance Systems

Another initiative could be the global implementation of a disease surveillance system or software. This could be an international online program where all participating countries, especially low-income countries, are able to input their data and communicate with others regarding solutions, problems and more. It would be useful to detect outbreaks early and strengthen global cooperation as countries are able to quickly share health data.

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