**Hanyang Model United Nations VI**

**Chair Report**

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**Committee: World Health Organization (WHO)**

**Chairs: Seuyun Chang, Heeseo Kim**

**Agenda: Addressing barriers to vaccine equity and devising measure to build supply chain resilience of vaccinations**

**1. Committee Introduction**

WHO is one of the fifteen specialized agencies of the United Nations and consists of 194 member states. The headquarters is located in Geneva, Switzerland, and its member states are organized into six regions: Africa, the Americas, Eastern Mediterranean, Europe, Southeast Asia, and Western Pacific, each with a regional office.

Following the initial formation of the United Nations in 1945, the Interim Commission temporarily supervised pre-existing health institutions for 3 years until it was dissolved on August 31, 1948. In its succession, the WHO was established on April 7, 1948 “as a specialized agency within the terms of Article 57 of the Charter of the United Nations” through the Constitution of the World Health Organization (*Basic Documents* 2020). The constitution promulgated the fundamental principles of human rights, universality and equity in the realm of international health.

Since its inception, the WHO has been dedicated to its mission to “promote health, keep the world safe and serve the vulnerable, with measurable impact for people at country level”, whilst upholding the core values of the United Nations, such as integrity, sustainability, and equality (World Health Organization, *Our values*). In order to enforce the organization's mandate of addressing international health issues and promoting global coordination within the United Nations system, the World Health Assembly convenes once a year in May. The WHA is the highest decision-making body of the WHO, where the delegates of all member states are brought together in Geneva, Switzerland to define and formulate the health policies of the organization and make critical decisions regarding global health progress such as appointing the director-general of the WHO and approving budget proposals. The annual session consists of a plenary session, the Committee on health and technical matters(A) and Committee on program, budget, and administration (B), and other technical meetings and a special committee if found necessary.

 **2. Agenda Background**

Vaccines mimic the process of being exposed to a disease and train the immune system to create antibodies for protection from the disease. They do so by introducing killed or weakened forms of germs, eliminating the actual risk of contracting the disease or its complications. It reduces the risk of life-threatening diseases, aiding people of all ages to sustain longer, healthier lives. Immunizations are essential in universal health coverage and are intertwined deeply with Sustainable Development Goal 3-to ensure healthy lives and promote well-being for all at all ages.

The importance of vaccines has been further emphasized through COVID, which has caused significant loss of life. As of 7:50 pm CEST, 4 October 2023, there have been 771,151,224 confirmed cases of COVID-19, including 6,960,783 deaths worldwide, reported by the WHO. The pandemic has caused immense social and economic hardships, particularly for vulnerable populations. It has strained healthcare systems, and disrupted economies worldwide. Delayed vaccine distribution exacerbates these challenges, prolonging unemployment, poverty, and disruptions to education and daily life. As of 26 September 2023, a total of 13,513,017,637 vaccine doses have been administered (*Who coronavirus (COVID-19) dashboard* 2023). A small group of countries has administered the majority of vaccine doses, while numerous others have not been able to initiate their own vaccination campaigns. Specifically, 19 affluent nations have obtained more than 50% of the available vaccine supply. Certain nations have made advance purchases of vaccines in quantities far exceeding the size of their populations, whereas some nations face difficulties in vaccinating even their healthcare workers. As of January 28, 2022, approximately 78% of the populations in high- and middle-income countries had received at least one dose of an authorized vaccine, while only 10% of the populations in low-income countries had received at least one dose (Concern Worldwide, 2023). Countries with high vaccine coverage are better positioned to reopen their economies, restore consumer confidence, and create jobs.

 However, the lack of supply and inequitable distribution of vaccines remains the biggest threat to ending the pandemic. Vaccine inequity on a global scale can be ascribed to a combination of factors, which include:

**a.** **Vaccine Nationalism:**

Some countries have prioritized vaccinating their own populations first, often stockpiling more doses than they need. This "vaccine nationalism" exacerbates global inequities by limiting access for other nations. Low- and middle-income countries may lack the financial resources to purchase vaccines at competitive prices, especially when wealthier nations are willing to pay more. This leads to affordability issues.

**b.** **Supply Chain Constraints:**

Limited vaccine manufacturing capacity and supply chain bottlenecks have resulted in a shortage of vaccines. A few high-income countries have secured the majority of available vaccine doses, leaving fewer doses for low- and middle-income countries.

**c.** **Intellectual Property Rights:**

Vaccine manufacturers hold patents and intellectual property rights, which can restrict the production of vaccines by other companies or countries. This has hindered the rapid scaling up of vaccine production to meet global demand.

**d.** **Inadequate Infrastructure:**

Many countries, especially in low-resource settings, face challenges in distributing and administering vaccines due to weak healthcare infrastructure, inadequate cold chain storage, and logistical hurdles.

The COVID-19 pandemic demonstrated how interconnected the world is, and how rapidly diseases can spread across borders. A failure to control the virus in one region can lead to outbreaks elsewhere. This underscores the need for a coordinated global response. Ensuring equitable access to vaccines is essential for global health and well-being. Without equitable access to vaccines, the virus can continue to mutate and spread, posing ongoing threats. In the case of the COVID-19 virus, Alpha, Beta, Delta, Gamma and Omicron variants have emerged since the beginning of the pandemic. The longer a virus circulates unchecked, the greater the chance of new variants emerging. As long as the virus continues to circulate anywhere, trade and travel continue to be disrupted, and economic recovery becomes further delayed. A lack of vaccine equity can lead to pockets of unvaccinated individuals, which can serve as breeding grounds for new variants of the virus. These variants may evade immunity provided by existing vaccines, prolonging the pandemic and making it harder to control. Today’s report warns a total of 67 million children missed out on vaccinations between 2019 and 2021, with vaccination coverage levels decreasing in 112 countries (UNICEF, 2023). Children born just before or during the pandemic are now moving past the age when they would normally be vaccinated, underscoring the need for urgent action to catch up on those who were missed and prevent deadly disease outbreaks.

The ongoing COVID-19 pandemic has brought to light the critical significance of implementing new policies and actions towards vaccination. The devastating impact of this global health crisis, as evidenced by the staggering number of confirmed cases and deaths, underscores the urgent need for equitable vaccine distribution. The current situation reveals a stark contrast between high-income countries with significant vaccine coverage and low-income countries struggling to vaccinate even their healthcare workers. This inequality is driven by factors such as vaccine nationalism, supply chain constraints, intellectual property rights, and inadequate healthcare infrastructure. This paper will now delve into an examination of previous actions taken regarding vaccination and assess their effectiveness or shortcomings.

**3. Previous Actions**

Amid the global response to the COVID-19 pandemic, international initiatives and partnerships have played a pivotal role in accelerating vaccine distribution and promoting equitable access to healthcare technologies. Simultaneously, efforts to address the concerning issue of "zero-dose children" have gained prominence. Zero-dose children are those who have not received their first dose of essential vaccines. This report explores two distinct facets of the global response: Firstly, it delves into international actions aimed at combating COVID-19, with a particular focus on vaccine distribution. Secondly, it examines how governments in Indonesia and Tanzania are taking proactive measures to address the challenge of zero-dose children within their borders. These case studies highlight the significance of international collaboration and innovative strategies in the broader context of the ongoing battle against COVID-19, while also emphasizing the importance of ensuring that every child receives essential vaccinations.

1. **Covid-19**

**1) ACT Accelerator**

The ACT-Accelerator (Access to COVID-19 Tools Accelerator) was established to accelerate the development, production, and equitable distribution of essential COVID-19 tools, including vaccines, diagnostics, and therapeutics. Within the ACT-Accelerator, the COVAX initiative plays a crucial role by focusing on the equitable distribution of COVID-19 vaccines worldwide, securing vaccine doses, and supporting distribution to ensure a fair and widespread vaccination effort.

1. **COVAX Initiative**

The COVAX initiative, known formally as the COVID-19 Vaccines Global Access Facility, is a global collaborative effort aimed at ensuring equitable access to COVID-19 vaccines. It was officially launched on April 24, 2020 and was established in response to the COVID-19 pandemic. Its primary objective is to ensure that people in all countries, regardless of their income level, have access to safe and effective COVID-19 vaccines. This initiative was co-led by Gavi, the Vaccine Alliance; the World Health Organization (WHO); and the Coalition for Epidemic Preparedness Innovations (CEPI). COVAX negotiates agreements with vaccine manufacturers to secure a diverse portfolio of vaccines and distribute them fairly to participating countries based on their populations, prioritizing high-risk groups. It not only works to distribute vaccines to low- and middle-income countries, ensuring that they have access to vaccines at affordable prices but also provides financial assistance to eligible countries for vaccine procurement and delivery. Additionally, COVAX supports research and development efforts to adapt vaccines to new variants of the virus, addressing the evolving nature of the pandemic. COVAX, made up of more than 190 countries and economies, has secured 2 billion doses of vaccines in 2021.

**2) C-TAP**

C-TAP, or the COVID-19 Technology Access Pool, was introduced by the World Health Organization (WHO) in May 2020 to facilitate equitable access to COVID-19 technologies, encompassing treatments, vaccines, diagnostics, and essential health tools. Its primary aim is to encourage the sharing of knowledge, data, and intellectual property pertaining to these technologies. C-TAP promotes the voluntary pooling of intellectual property, including patents and know-how, on a global platform while endorsing open licensing to enable easier access for nations, particularly in lower-income regions. By fostering global collaboration, C-TAP seeks to expedite research, development, and production of COVID-19 health solutions while emphasizing the importance of equitable distribution and support for innovation in the ongoing battle against the pandemic. In August, 2023, in collaboration with the Medicines Patent Pool (MPP) and the WHO, it announced three new transparent and non-exclusive license agreements with the Spanish National Research Council (CSIC), Medigen Vaccine Biologics Corp, and the University of Chile. These licenses will enable global manufacturers to work with MPP and C-TAP to make COVID-19 health products, including a vaccine candidate, a vaccine with Emergency Use Authorisation (EUA), and technology for detecting neutralizing antibodies against SARS-CoV-2, accessible worldwide. The originators will provide necessary know-how and materials to facilitate the global use of these COVID-19 products, once the products are fully developed and proven safe and effective.

**3)** **COVID-19 Vaccine Delivery Partnership**

In January 2022, the WHO, UNICEF, and Gavi with international partners including the World Bank initiated the COVID-19 Vaccine Delivery Partnership (CoVDP) to urgently enhance the distribution and administration of vaccines, with a specific focus on the 34 countries with less than 10% vaccine coverage at that time. In June 2023, the partnership evolved and built upon existing resources, primarily supporting the AMC 92 program. CoVDP addressed vaccination challenges by providing immediate operational funding, technical support, and political engagement to expedite vaccination efforts and monitor their progress. Additionally, it expanded upon the work carried out by the Country Readiness and Delivery (CRD) workstream within COVAX, which offered global guidance and coordinated technical aid for the implementation of COVID-19 vaccines. As of June 2023, over 13 billion COVID-19 vaccine doses had been administered worldwide.

**2. International Action**

**1) Indonesia and BIAN**

In Indonesia, the decline has impacted national immunization targets, with an increase in zero-dose children, putting them at risk of vaccine-preventable diseases. To counter this, the government launched the BIAN catch-up immunization campaign in 2022, reaching millions of children with various vaccines. Although full immunization coverage exceeded the national target in 2022, there have been recent outbreaks in areas with low vaccination rates. To address these challenges, the Ministry of Health has implemented three key strategies, including expanding the range of routine immunizations, digitalizing immunization data, and sending immunization invitations through a dedicated app. The government's two-year plan also focuses on improving vaccine management, the supply chain system, and building public confidence in vaccines, combating vaccine hesitancy and misinformation. UNICEF and WHO are actively collaborating with the Indonesian government to raise awareness about immunization, ensure access to services in remote areas, and maintain vaccine quality. This coordinated effort aims to achieve high immunization coverage and prevent future outbreaks, ultimately safeguarding the health of children in Indonesia.

**2) Tanzania and the MOMENTUM program**

In the Morogoro region of eastern Tanzania, low childhood immunization rates have been attributed to superstitions and limited access to health services. However, initiatives supported by development partners, including USAID's MOMENTUM program, have led to significant improvements. Morogoro now ranks among the top five regions in Tanzania for childhood routine immunizations. One key strategy employed in five District Councils of Morogoro is the "Periodic Intensification of Routine Immunization" (PIRI) approach. PIRI involves targeted campaigns to administer routine vaccinations to under-vaccinated populations, identify missed vaccinations, and reach "zero dose" children who have not received their first dose of essential vaccines. This approach has not only boosted children's immunity but also pinpointed areas requiring more attention.

The PIRI campaigns are adaptable to specific contexts and involve training healthcare workers on vaccine storage and implementation. Community health workers are also trained to identify unvaccinated children at the household level. This approach has proven effective in reaching entire villages and educating mothers about the importance of immunization. In Morogoro District Council, for example, the coverage of the second dose of the measles-rubella vaccine increased from 63 percent to 80 percent. Similar interventions were implemented in other District Councils, resulting in high vaccination rates, even for zero dose children. Overall, these efforts have improved immunization coverage and healthcare access in Morogoro, ensuring that more children receive the vital vaccines they need to stay healthy.

In response to the global COVID-19 pandemic, international initiatives and partnerships have made substantial strides in accelerating vaccine distribution and promoting equitable access to healthcare technologies. These efforts have undoubtedly played a crucial role in mitigating the impact of the virus on a global scale. Simultaneously, proactive measures taken by governments in Indonesia and Tanzania to address the issue of zero-dose children have been commendable. These efforts reflect a commitment to ensuring that all children, regardless of their circumstances, have access to essential vaccines.

However, while progress has been made, challenges persist. The fight against COVID-19 continues to evolve with new variants emerging, highlighting the need for sustained international cooperation in vaccine distribution and research. Similarly, the issue of zero-dose children underscores the importance of ongoing efforts to improve healthcare infrastructure, raise awareness, and overcome barriers to vaccination in remote areas. The global community must remain vigilant and proactive in addressing these challenges to ensure a healthier and more equitable future for all.

**4. Possible Actions and Solutions**

1. **Waiving Intellectual Property Rights**

Governments and pharmaceutical companies can support temporary waivers of intellectual property rights for COVID-19 vaccines, allowing more manufacturers to produce vaccines. This can emulate the temporary waiver of COVID-19 vaccine patents proposed by some countries during the pandemic. Governments and civil society organizations can advocate for the temporary suspension of IP rights related to COVID-19 vaccines. This would involve backing initiatives like the TRIPS (Trade-Related Aspects of Intellectual Property Rights) waiver proposed at the World Trade Organization (WTO), which would allow countries to produce generic versions of vaccines without fear of legal repercussions. Governments can consider implementing legislation that temporarily suspends or limits IP rights specifically for COVID-19 vaccines. Such measures can be time-bound and aimed at addressing the pandemic emergency. Collaborations can be fostered between governments, pharmaceutical companies, and international organizations to ensure that any IP waivers are implemented effectively and that production is scaled up efficiently.

1. **Technology Transfer**

Pharmaceutical companies can transfer vaccine manufacturing technology to manufacturers in low- and middle-income countries. For instance, AstraZeneca partnered with the Serum Institute of India to produce COVID-19 vaccines. Governments and international organizations can provide incentives to pharmaceutical companies to share their vaccine production technology. Some examples of such incentives may be recognition, financial incentives, or preferential treatment in future contracts. Also, the implementation of monitoring and evaluation mechanisms to track the technology transfer initiatives progress would be instrumental. Mechanisms can include assessing the readiness of recipient manufacturers, ensuring quality control, and evaluating the impact on vaccine production capacity.

1. **Supply Chain Investments**

Organizations can ensure transparency by publishing vaccine distribution data, including demographic information, to track progress and identify areas that need additional attention. The UK's National Health Service (NHS) has been at the forefront of publishing evidence on vaccine effectiveness, demonstrating the significant reduction in hospitalizations and deaths across all age groups. The agency employed the test-negative case control approach to assess vaccine effectiveness against the Delta variant, considering factors such as testing behavior and previous infections. They illustrated the crucial role of ongoing data collection and analysis in monitoring vaccine effectiveness and safety, and the importance of data in ensuring the success of vaccination programs by allowing informed policy-making and open public health communication. Accurate data helps in resource allocation, prioritizing vaccination efforts, and planning for healthcare infrastructure. Governments can then use the data collected in investing in the development of robust cold chain infrastructure, such as refrigerated storage and transportation, to ensure vaccine quality is maintained during distribution.

1. **Public Awareness Campaigns**

Health authorities can run public awareness campaigns using various media and community engagement to combat vaccine hesitancy. For instance, in an Indonesian village, nurses actively engage with residents to promote vaccination. Using megaphones, they communicate the importance of immunization, addressing questions and concerns while fostering trust within the community. These healthcare workers serve as a trusted link between healthcare providers and the local population, leveraging their proximity to the community to increase vaccination rates. By facilitating open dialogue and providing essential information, they contribute to enhancing vaccination coverage and protecting children from preventable diseases, exemplifying the impact of community engagement in vaccination efforts.

1. **Build Resilient Healthcare Systems**

Building resilient health systems involves several key strategies. First, it is crucial to integrate childhood immunization seamlessly into strengthened primary healthcare services to make vaccination a routine part of every child's upbringing. Additionally, improving disease surveillance through better data collection enables proactive action to monitor immunization rates and track the spread of preventable diseases, aided by electronic immunization registries. Ensuring increased access to vaccines and essential supplies, including syringes, protective gear, and cold chain storage at affordable prices, is essential. Lastly, embracing innovation, such as solar-powered cold chains, delivery drones, heat-resistant vaccines, and data-driven mapping systems, helps reach communities even in challenging settings. For instance, in Pakistan the integration of immunization into primary health services has boosted polio vaccination rates, as illustrated by the transformation of an abandoned building in an underserved neighborhood into a hospital serving hundreds of children daily.

**5. Defining of Key Words**

1. **Outbreak**

A disease outbreak is the occurrence of cases of disease beyond what is typically anticipated in a specific community, geographic region, or time period. Disease outbreaks are sustained by infectious agents that propagate through various means, such as person-to-person transmission, exposure to animal reservoirs or environmental sources, or transmission through insects or animal vectors.

1. **Pandemic**

Outbreak can be categorized: epidemic, pandemic and endemic. The WHO classifies pandemics, epidemics, and endemic diseases based on the rate of disease spread. The distinction between an epidemic and a pandemic is in the extent of its dissemination. A pandemic transcends international borders, unlike regional epidemics. This broad geographic reach is what results in significant societal upheaval, economic loss, and general hardship. It is essential to recognize that a situation declared as an epidemic can escalate into a pandemic. While an epidemic is sizable, it is typically contained or anticipated in its spread, whereas a pandemic is global and beyond control (*Epidemic, endemic, pandemic: What are the differences?* 2023).

1. **Vaccine Nationalism**

Vaccine nationalism is “the act of reserving millions of doses of new vaccines for domestic use during a transnational public health crisis”(Rutschman,2021,p.9). Simply put, it is the practice of gaining preferential access to newly developed vaccines by individual countries, in practice higher-income countries. Such usually involves the use of advance market commitments or pre production agreements between a national government and one or more pharmaceutical corporations engaged in late-stage development and production of leading vaccine candidates.

**6. Key Questions**

1. What strategies can be employed to ensure that vaccines are distributed equitably to all populations, regardless of income or geography?
2. How can we extend the reach of vaccinations to high-risk and vulnerable populations more effectively?
3. What contingency plans should be implemented to address supply chain disruptions effectively? What investments are needed to strengthen supply chain infrastructure for vaccine distribution?
4. What role should regulatory bodies play in ensuring transparent reporting of vaccine distribution data to track progress and identify areas that need attention?
5. How can diplomatic efforts be leveraged to secure vaccine supplies and foster international cooperation in addressing barriers to vaccine equity?

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