

Forum: Economic and Social Council (ECOSOC)
Issue: Managing the threat to global health caused by refusing vaccinations
Student Officer: Erika Kunstmann-Drakouli
Position: President

PERSONAL INTRODUCTION

Dear Delegates,

My name is Erika Kunstmann-Drakouli, I am 16 years old and I am attending the 11th grade of the German School of Athens. This will be my second PSMUN Conference as a chair and my 17th Conference overall, while also being my eighth time chairing.

I want to congratulate you all for being selected as delegates in this amazing Committee and Conference. I can assure you these three days we will spend together will be amazing. We will all grow closer, get a deeper knowledge on the topics being discussed and, most importantly, have fun.

During this session, we will be discussing and debating upon very important topics, namely investigating and addressing corruption and crime in international sports tournaments, addressing debt problems in Less Economically Developed Countries, Managing the threat to global health caused by refusing vaccinations and the question of rebuilding tourism industries harmed by the COVID-19 pandemic. This document is here as a useful guide and should help you understand the topic better, however it should not be your only piece of research.

I encourage you all to further research this topic by visiting the links I have provided at the end of the Study Guide. Furthermore, if you have any questions about the following guide or the topic in general, feel free to contact me. My email is kunstmann.erika@gmail.com.

I am looking forward to meeting and working with you all and hope for a fruitful debate.

Best Wishes,

Erika Kunstmann-Drakouli

TOPIC INTRODUCTION

Vaccination can simply be described as the process of delivering a vaccine to aid the immune system in developing protection against a disease. Vaccines comprise of a weakened, live, or deceased microbe or virus, as well as proteins or toxins from the organism. They aid in the prevention of infectious illness and sickness by increasing the body's adaptive immunity. Herd immunity occurs when a significant enough percentage of a population is vaccinated and effectively safeguards those who are immunocompromised and unable to receive a vaccine since even a weakened form would be harmful to them.

Vaccination's effectiveness has been extensively researched and confirmed. It is considered to be the most efficient way to prevent infectious diseases; it is largely responsible for the worldwide eradication of smallpox and the disappearance of diseases like polio and tetanus from much of the world. However, some preventable diseases have reemerged, as evidenced by the measles outbreaks in the United States, where increased cases have been noted due to poor vaccination rates in the 2010s, which might be ascribed to vaccine reluctance. Smallpox is the only infectious illness that has been eradicated in humans through vaccination. This sickness had been plaguing humanity for millennia, with the earliest evidence dating back to 1000 BC in Egyptian mummies.

Vaccines have had the greatest impact in reducing morbidity and mortality from severe illnesses that disproportionately affect children. Vaccines are predicted to save 386 million life years and 96 million disability-adjusted life years globally each year, preventing nearly six million deaths. To ensure no continued transmission of infectious diseases in a transnational and hence interconnected society, substantial levels of population immunity are required on a global scale. In addition, surveillance methods must be in place to track the diseases' progression, as well as accurate and reliable diagnostic testing to track ongoing cases.

People who feel vaccines are hazardous and impinge on their human rights are known as anti-vaxxers; they usually dispute the existence or validity of the science that supports its widespread use. The anti-vaxxer movement began in the United States in the 18th century, with religious leaders characterizing vaccines as the "work of the devil." As an issue of human rights, the fight grew in the 19th and 20th centuries. Former medical expert Andrew Wakefield proposed a relationship between the MMR vaccine and autism in children in 1998, his findings were first published in *The Lancet*, a prestigious scientific magazine, however, after an examination uncovered severe problems in his study, *The Lancet* removed his article in 2004.

Concluding, managing the threat to global health caused by refusing vaccinations is a crucial matter that needs to be addressed. In the following guide, this topic will be further analyzed and will propose possible solutions.

DEFINITION OF KEY-TERMS

Microorganism

“An organism that can be seen only through a microscope. Microorganisms include bacteria, protozoa, algae, and fungi. Although viruses are not considered living organisms, they are sometimes classified as microorganisms.”¹

Immunity

“The three types of immunity are innate, adaptive, and passive.

Innate immunity includes barriers, such as skin and mucous membranes, that keep harmful substances from entering the body. It is the first response of the body’s immune system to a foreign substance.

Adaptive immunity occurs in response to being infected with or vaccinated against a microorganism. The body makes an immune response, which can prevent future infection with the microorganism. Adaptive immunity can last a person’s entire life.

Passive immunity occurs when a person receives antibodies to a disease rather than making them through his or her own immune system. Passive immunity provides immediate protection but only lasts a few weeks or months.”²

Pandemics

“An outbreak of a disease that occurs over a wide geographic area (such as multiple countries or continents) and typically affects a significant proportion of the population : a pandemic outbreak of a disease.”³

Epidemics

“Affecting or tending to affect a disproportionately large number of individuals within a population, community, or region at the same time.”⁴

Health Care

“Efforts made to maintain or restore physical, mental, or emotional well-being especially by trained and licensed professionals —usually hyphenated when used attributively.”⁵ In essence,

¹ “NCI Dictionary of Cancer Terms.” *National Cancer Institute*, www.cancer.gov/publications/dictionaries/cancer-terms/def/microorganism.

² “NCI Dictionary of Cancer Terms.” *National Cancer Institute*, www.cancer.gov/publications/dictionaries/cancer-terms/def/immunity.

³ “Pandemic Definition & Meaning.” *Merriam-Webster*, Merriam-Webster, www.merriam-webster.com/dictionary/pandemic.

⁴ “Epidemic Definition & Meaning.” *Merriam-Webster*, Merriam-Webster, www.merriam-webster.com/dictionary/epidemic.

⁵ “Health Care Definition & Meaning.” *Merriam-Webster*, Merriam-Webster, www.merriam-webster.com/dictionary/health%20care.

Health care is a general term to summarize different aspects of health which can be treated by professionals either in a hospital, at home, at a clinic or at a private praxis.

Vaccine administration fees

“Assessing patient vaccination status and determining needed vaccines, screening for contraindications and precautions, educating patients, properly preparing and administering vaccines, and documenting vaccines administered are all steps in the administration process. When it comes to pharmaceutical administration, professional standards, manufacturer instructions, and organizational policies and procedures should all be followed.”⁶ According to the state health department, practitioners are allowed to charge an administrative fee. The cost cannot be charged directly to a patient; instead, it must be paid through the patient's insurance provider or, if the patient is uninsured, a federal reimbursement program.”⁷

Vaccine hesitancy

“The SAGE Working Group on Vaccine Hesitancy concluded that vaccine hesitancy refers to delay in acceptance or refusal of vaccination despite availability of vaccination services. Vaccine hesitancy is complex and context specific, varying across time, place and vaccines. It is influenced by factors such as complacency, convenience and confidence. The Working Group retained the term 'vaccine' rather than 'vaccination' hesitancy, although the latter more correctly implies the broader range of immunization concerns, as vaccine hesitancy is the more commonly used term. While high levels of hesitancy lead to low vaccine demand, low levels of hesitancy do not necessarily mean high vaccine demand. The Vaccine Hesitancy Determinants Matrix displays the factors influencing the behavioral decision to accept, delay or reject some or all vaccines under three categories: contextual, individual and group, and vaccine/vaccination-specific influences.”⁸

⁶ “Pinkbook: Vaccine Administration.” *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, 18 Aug. 2021, www.cdc.gov/vaccines/pubs/pinkbook/vac-admin.html#:~:text=Administration%20involves%20a%20series%20of,and%20documenting%20the%20vaccines%20administered.

⁷ Gordon, James. “Some COVID Vaccine Providers Charging for Administrative Fees.” *WPMI*, WPMI, 14 Apr. 2021, www.mynbc15.com/news/local/covid-vaccine-providers-charging-for-administrative-fees.

⁸ ;, MacDonald NE; “Vaccine Hesitancy: Definition, Scope and Determinants.” *Vaccine*, U.S. National Library of Medicine, www.pubmed.ncbi.nlm.nih.gov/25896383/.

BACKGROUND INFORMATION

History on vaccines

A small kid was healed by English doctor Edward Jenner, a British physician and scientist, by injecting him with pus from cowpox blisters found on a milkmaid's hands more than two centuries ago.

The vaccinia virus, which causes smallpox, is found in cowpox. The injection gave the boy immunity to smallpox. The term "vaccine" was coined from the virus's name. While the first vaccination for smallpox was created about 225 years ago, it wasn't until 1980 that the World Health Assembly declared smallpox eradicated, after decades of work by the World Health Organization (WHO).

Smallpox is the only infectious illness that has been eradicated worldwide to date. Up to 35% of those who contracted the sickness died, while others were left scarred or blind.

Types of vaccines

There are different kinds of vaccines, which can help one's immune system to fight off viruses. While creating vaccines there are a lot of things that need to be considered, such as the response of the immune system, the best approach to create a certain vaccine and who needs the vaccine. There are 6 different kinds of vaccines: Inactivated vaccines, which do not provide immunity immediately and one will need two or more shots; Live-attenuated vaccines, which provide a weakened version of the virus and usually need one or two doses to fully protect someone ; Messenger RNA (mRNA) vaccines, which produce proteins to elicit an immunological response. mRNA vaccines provide various advantages over other forms of vaccinations, including shorter manufacturing periods and no danger of disease in the person receiving the vaccine because they do not contain a live virus; Subunit, recombinant, polysaccharide, and conjugate vaccines, which produce a powerful immune response that is targeted to specific portions of the germ since they only use certain pieces of the germ; Toxoid vaccines, which use a toxin (harmful substance) produced by the disease-causing bacteria and Viral vector vaccines, which use a modified version of a separate virus as a vector.

Effects of vaccination

Socioeconomic

It's difficult to prove a link between immunizations and stress, but multiple data slices imply that higher vaccination levels, among other things, may lead to reduced stress. According to the federal poll, 30 percent of persons who had at least one vaccine injection reported being stressed, compared to 43.2 percent of those who were not vaccinated. Income, color, ethnicity, or age have no bearing on this relationship. People who had been vaccinated reported decreased

stress in all subpopulations across the United States. According to the author's study of Census Bureau data, the fraction of people who were stressed decreased on average throughout all two-week periods from January to May in areas where vaccination rates rose more quickly.

Vaccinated people are also more likely than non-vaccinated people to seek necessary medical attention. From January to May 2021, 44.7 percent of unvaccinated people reported not seeking or delaying health treatment, according to the same Census Bureau statistics. Only 30.5 percent of those who had been immunized avoided or postponed treatment. Another financial benefit of vaccination may be a better capacity to return to work safely. More people have worked in the United States as immunization rates have risen. As a result, the findings are not distorted by overall labor market gains. To do so, however, states must be grouped by vaccination rates in order to ensure high sample sizes. In March 2021, vaccination rates were dispersed widely among states, making it a good illustrative month for this investigation. In March, 52.4 percent of those in states where 10 percent to 30 percent of the adult population had been vaccinated were working. 58.1 percent of people were working in states where 30 to 50 percent of the adult population had been immunized.

Health related

Immunization is one of the most effective strategies to prevent infectious diseases in yourself, your children, and future generations. To put it another way, getting vaccinated helps to prevent disease from spreading today and in the future. One is not just protecting their own family but also vulnerable others in one's community by ensuring that they and their family are completely vaccinated. The more people who get vaccinated, the fewer people will become infected, and the disease's spread will be limited. Immunization is a lifesaver. Thousands of children perish every year from diseases including tetanus, diphtheria, and whooping cough as recently as the 1950s. Fortunately, because of significant vaccination programs implemented in the 1960s and 1970s and still in place today, it is rare for anyone in the world to die from these deadly diseases.

Challenges relevant to vaccination

Covid

The US Food and Drug Administration has approved several COVID-19 vaccines for emergency use in particular age groups (FDA). All authorized COVID-19 vaccines, according to Johns Hopkins Medicine, are highly successful in preventing major disease, hospitalization, and death from COVID-19. Each viral particle of the coronavirus that causes COVID-19 has protein spikes. These spikes aid virus attachment to cells and disease transmission. Some coronavirus vaccinations are intended to assist the body in "recognizing" these spike proteins and fighting the coronavirus that contains them.

When someone receives an effective vaccine, their chances of contracting COVID-19 are reduced if they come into contact with the coronavirus. The vaccine's effectiveness in preventing major disease, hospitalization, and death is more significant. At the moment, all three vaccines are highly effective in avoiding COVID-19-related major illness, hospitalization, and death. Because of widespread immunization, the coronavirus will infect fewer people. This will limit the virus's ability to propagate among populations while also limiting its ability to change into new strains. A COVID-19 vaccination must pass specific tests and meet certain standards in order to be labeled safe and effective. Scientific data from research is used by organizations like the National Academy of Sciences, the National Institutes of Health, and the Food and Drug Administration (FDA) to assist in deciding whether and when new treatments and vaccines can be made available to the public. It's vital to know that COVID-19 cannot be contracted by vaccination. The vaccines contain proteins or other biological ingredients to trigger the immune response, but they do not contain the coronavirus. Vaccine hesitancy is one of the top ten global health problems, according to the World Health Organization. In the case of COVID, refusal or postponement of vaccination has been a major issue, with anti-vax and freedom marches dominating the press in recent months. Vaccine hesitancy is still a problem, despite occasional evidence to the contrary. In several sections of the country, vaccination rates are on track to exceed 85 percent or even higher than 90 percent. And, according to a recent poll, only 9% of individuals said they were unlikely to get vaccinated. "Vaccine worries have plummeted to a record low," according to the paper. The terror hasn't subsided much. Rather, obligatory vaccination of select groups in the society, as well as severe consequences for individuals who refuse to get vaccinated, is pushing increased vaccination rates.

Other kinds of challenges

One of the most cost-effective and possibly fair public health treatments is immunizing children against vaccine-preventable diseases. Despite this, 19.9 million people in the world's annual birth cohort are either under-vaccinated or have never been vaccinated.

In both a technical and socioeconomic perspective, the obstacles and restrictions of vaccinating poultry in locations where suitable infrastructure and human resources are inadequate are addressed. The following topics are covered in depth: selecting an appropriate vaccine and vaccination technique, including the benefits and drawbacks of a combined vaccine against highly pathogenic avian influenza (HPAI) and Newcastle disease, addressing the differences between endemic disease and emergency disease control, vaccine conservation and distribution, evaluation of flocks to be vaccinated in terms of disease status, immunocompetence, and production systems, desegregation of flocks to be vaccinated, and desegregation of flocks to be vaccinated.

Case studies

Throughout the years, the world has suffered different pandemics and epidemics. Luckily, there have been vaccines developed to combat most of these.

Parents were terrified of the polio epidemics that came every summer, so they kept their children out of swimming pools, sent them to stay with relatives in the US, and demanded that the spread of polio be understood. They waited for a vaccination, watching vaccine trials with bated breath and sending dimes to the White House to aid the cause. The US rejoiced when the polio vaccine was approved in 1955, and its inventor, Jonas Salk, became an overnight hero. The measles vaccine was produced in 1963, and by the late 1960s, vaccinations against mumps (1967) and rubella were also available (1969). Dr. Maurice Hilleman combined these three immunizations into the MMR vaccine in 1971. One vaccination was phased out in the 1970s. After 1972, the smallpox vaccination was no longer recommended for use due to successful eradication efforts. Vaccine research continued during the 1970s, but no new vaccinations were introduced.

In 1985, the Haemophilus influenzae type b vaccine was approved by scientists and doctors in the USA, and in 1989, it was added to the recommended immunization schedule. The hepatitis B vaccine had been added to the schedule when it was republished in 1994. The hepatitis B vaccine was not new; it had been approved in 1981 for high-risk groups such newborns whose mothers had hepatitis B surface antigen positive moms, healthcare workers, intravenous drug users, homosexual males, and those who had several sexual partners. The inoculation of these groups, however, did not effectively stem the spread of the hepatitis B virus. This is due to the fact that roughly one-third of patients with acute illness did not belong to any known risk groups. These failed attempts to prevent hepatitis B by simply immunizing high-risk groups led to a change in advice to immunize all babies in 1991. Hepatitis B disease was practically eradicated in children under the age of 18 in the United States as a result of this suggestion.

Because of changes that clinicians needed to know, such as comprehensive information about who should receive each vaccine, age(s) of reception, number of doses, duration between doses, or usage of combination vaccines, a yearly update to the schedule became important as more vaccines became available. In addition, new vaccines have been included. Annual updates to both the childhood and adult vaccination schedules provide assistance to healthcare practitioners in the form of new recommendations, changes to current recommendations, or clarifications to help with the schedule's interpretation in certain situations. Expert committees from the Centers for Disease Control and Prevention, the American Academy of Pediatrics, and the American Academy of Family Physicians review the schedules.

The sociopolitical perception of vaccines

Individuals must consider social welfare beyond self-interest in order to eradicate contagious diseases, regardless of ethnic, religious, or national group boundaries. Vaccination has thus been

offered as a social compact under which individuals are ethically obligated to get vaccinated. However, nothing is known about whether or not people actually follow through on this social contract. If this is the case, vaccinated people should repay the favor by being more charitable to another vaccinated person. On the other hand, generosity should drop if the other refuses to vaccinate and breaks the social compact. Three pre-registered experiments looked at how a person's own vaccination behavior, that of others, and that of others' group membership influenced a person's charity toward other people.

In order to contain the COVID-19 pandemic, the development and uptake of the COVID-19 vaccine is a key priority. The public's perception of the COVID-19 vaccine has a direct impact on immunization compliance and coverage. To undertake a public opinion comparison surrounding the COVID-19 vaccination, this study utilizes a cultural sensitivity approach and uses two well-known social media platforms in the United States (Twitter) and China (Weibo). Results from semantic network analysis show that social media users in the two countries shared interests in domestic vaccination programs, priority groups, COVID-19 variant difficulties, and the worldwide pandemic situation. Twitter users, on the other hand, were more likely to share personal vaccination experiences and anti-vaccine sentiments. Weibo users, on the other hand, showed clear respect for officials and expressed more positive emotions towards the COVID-19 vaccine. Differences in cultural traits between the two countries explained the inequalities. The findings shed light on how to perceive public health challenges in cross-cultural contexts and show how social media may be used to perform health informatics research and explore public attitudes during times of public health crisis.

Vaccines in LEDCs

Unequal vaccine distribution

COVAX has now sent 40 million pills to 100 countries, but he stressed that this is far from enough, noting that the WHO had anticipated to distribute 100 million doses by now. Some countries have gotten nothing, none have gotten enough, and some aren't getting their second-round allocations on schedule. To increase production and supply, WHO is collaborating with Gavi, the Vaccine Alliance, and the Coalition for Epidemic Preparedness Innovations. He added that the African Union will develop the New Partnership for African Manufacturing, and that a COVAX manufacturing task force has been constituted. Starting with three mRNA facilities in Rwanda, Senegal, and South Africa, the plan is to develop five vaccine production centres across Africa. Through the African Medicines Agency, WHO is also building regional regulatory capabilities.⁹

⁹ "Unequal Vaccine Distribution Self-Defeating, World Health Organization Chief Tells Economic and Social Council's Special Ministerial Meeting | Meetings Coverage and Press Releases." *United Nations*, United Nations, www.un.org/press/en/2021/ecosoc7039.doc.htm.

Vaccine equity

Some of the world's poorest and most vulnerable individuals are suffering as a result of the worldwide failure to share vaccines equally. New types of concern indicate that infection risks have grown in all countries for those who have not yet been vaccinated.

There are enough vaccine doses available worldwide to reduce transmission and save countless lives if they reach the people who need them the most. The best hope for curbing the coronavirus epidemic, saving lives, and assuring a worldwide economic recovery is widespread availability to COVID-19 vaccinations. The WHO Strategy to Achieve Global COVID-19 Vaccination by Mid-2022 lays out the path we must all take together to reach our goals of vaccination 40% of the population in each country by the end of this year and 70% by the middle of next year.¹⁰

MAJOR COUNTRIES AND ORGANIZATIONS INVOLVED

United States of America

According to the Centers for Disease Control and Prevention, around 237.1 million people have gotten at least one dose of a Covid-19 vaccine, with about 200.4 million people fully immunized either Johnson & Johnson's single-dose vaccination or Pfizer-BioNTech and Moderna's two-dose series.¹¹ Since Aug. 13, the day after the Food and Drug Administration opened up eligibility for third injections for some people with compromised immune systems, the C.D.C. announced that roughly 48.9 million fully vaccinated persons have received an additional vaccine dosage. This number includes those who received a booster dose, which the Food and Drug Administration approved on Sept. 22 for Pfizer recipients over 65 or at high risk of severe Covid-19. The Food and Drug Administration approved booster doses for Johnson & Johnson beneficiaries, as well as Moderna patients over 65 or at high risk of severe Covid-19, on Oct. 20. It will also allow healthcare providers to administer a different Covid-19 vaccination to them than the one they received initially. On Nov. 19, the Food and Drug Administration approved booster doses of the Pfizer and Moderna vaccines for people aged 18 and up. Prior to mid-August, an estimated 1.2 million people in the United States may have received prohibited additional doses, according to the Centers for Disease Control and Prevention. Federal officials approved two-dose vaccines manufactured by Pfizer and Moderna for emergency use in December 2020. In February, regulators approved Johnson & Johnson's one-dose vaccine, but on April 13 they urged a halt to its use due to concerns of blood clots in a limited number of patients. All 50 states have put a halt

¹⁰ "Vaccine Equity." *World Health Organization*, World Health Organization, www.who.int/campaigns/vaccine-equity.

¹¹ "CDC Covid Data Tracker." *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, www.covid.cdc.gov/covid-data-tracker/.

to such immunizations or have advised providers to do so. On April 23, the government lifted the Johnson & Johnson moratorium, allowing states to restart vaccines.

In August, regulators granted emergency use clearance for those with weaker immune systems to receive a third dosage of the Pfizer and Moderna vaccines, then in September and October, they expanded that authorization to include booster shots for many Americans.

The federal authorities approved the Pfizer vaccination for persons aged 16 and up on Aug. 23, marking the country's first full approval of a Covid-19 vaccine. On Oct. 29, the Food and Drug Administration approved the Pfizer vaccine for youngsters aged 5 to 11. The vaccine's emergency use authorization is still in effect for those aged 5 to 15, as well as those taking extra doses.¹²

Between 1994 and 2013, vaccines averted nearly 300 million illnesses and 732,000 deaths in children born in the United States. Smallpox has been eradicated, polio has been substantially reduced, and other diseases such as rubella, diphtheria, and Haemophilus influenzae type b infections have all been significantly reduced as a result of vaccinations. Childhood vaccination rates are still quite high, thanks to regulations like requiring vaccines for school admission. However, as immunizations have decreased public awareness of vaccine-preventable diseases (VPDs), the necessity and safety of vaccinations have been questioned. Parental views on immunization range from modest concerns to outright refusal, ranging from requests to delay or spread out vaccinations to outright refusal.

Germany

Germany was one of the first countries to secure production capacity. In June, Germany formed a vaccination alliance with the Netherlands, Italy, and France. The activities were carried out in collaboration with the European Commission in order to maximize the impact of our efforts. The European Commission is now negotiating deals with makers of promising vaccine candidates on behalf of EU member states, with significant input from the Federal Ministry of Health. The goal is to secure purchasing choices for EU member states for vaccine doses from diverse manufacturers and based on different platform technologies, as well as to build up vaccine manufacturing capacity in the EU in a timely manner through advance purchase agreements (APAs). A number of pharmaceutical companies have already signed APAs with the EU Commission. Germany is entitled to the number of doses equivalent to its proportion of the total EU population under the terms of the APAs. Germany also joined the multinational vaccine platform COVAX in September as part of a "Team Europe" approach. COVAX is dedicated to ensuring a fair and transparent worldwide distribution of future COVID-19 vaccines, with the goal of providing vaccination access to the 92 low- and middle-income countries that are part of the

¹² The New York Times. "See How Vaccinations Are Going in Your County and State." *The New York Times*, The New York Times, 17 Dec. 2020, www.nytimes.com/interactive/2020/us/covid-19-vaccine-doses.html.

COVAX program. COVAX is funded by development assistance. COVAX receives financing from the EU and Germany for use in vaccine procurement in low-income countries.¹³

After the German government backed a bill requiring all children to obtain a measles vaccination before attending school or kindergarten, parents who fail to vaccinate their children could face substantial fines. According to the European Centre for Disease Prevention and Control, Germany had one of the highest numbers of measles cases in Europe between March 2018 and February 2019, with 651. According to the Health Ministry, 429 instances had been reported in Germany by mid-June, indicating that the epidemic is worsening.

China

Sinovac and Sinopharm, two Chinese vaccine manufacturers, have joined the worldwide vaccine sharing system Covax, which aims to give vaccines to poorer countries. As part of the initiative, the Global Alliance for Vaccines and Immunization (Gavi) stated it will make 110 million doses of the vaccines available. Covax has agreements with 11 vaccine producers and expects to distribute 2 billion doses globally by early 2022. Sinopharm and Sinovac, which have been approved for emergency use by the World Health Organization (WHO), are already in use in China and dozens of other nations. The CoronaVac, an inactivated vaccine, was developed by Sinovac, a Beijing-based biopharmaceutical business. It works by exposing the body's immune system to the virus via dead viral particles without triggering a significant illness reaction. Moderna and Pfizer's vaccines, on the other hand, are mRNA vaccines. This means that only a portion of the coronavirus' genetic code is injected into the body, causing the body to produce viral proteins rather than the entire virus, which is enough to train the immune system to attack. Sinovac, like the Oxford vaccine, which is created from a genetically engineered virus that causes the common cold in chimps, has the advantage of being able to be stored in a regular refrigerator at 2-8 degrees Celsius. Moderna's vaccine, on the other hand, must be refrigerated at -20C and Pfizer's vaccine at -70C. As a result, both Sinovac and the Oxford-AstraZeneca vaccine are far more valuable to developing countries, which may lack the infrastructure to keep huge quantities of vaccine at such low temperatures.¹⁴

According to the South China Morning Post, China witnessed its "biggest public health crisis in years" in July 2018. Changsheng Biotechnology, a Chinese vaccine manufacturer, was found to have falsified production and inspection records and modified process settings and equipment at will during the production of freeze-dried human rabies vaccines. Furthermore, Changsheng Biotechnology's inferior diphtheria, pertussis, and tetanus (DPT) vaccines were given to 215 184 Chinese youngsters, while Wuhan Institute of Biological Products' substandard DPT vaccines

¹³ "Germany's Information Platform on the Coronavirus." *Together against Corona | The Federal Ministry of Health*, www.zusammengegencorona.de/en/vaccines-immunity-and-medicines-combating-covid-19/.

¹⁴ "Covid: What Do We Know about China's Coronavirus Vaccines?" *BBC News*, BBC, 13 July 2021, www.bbc.com/news/world-asia-china-57817591.

were distributed in Hebei and Chongqing. China's medicines authority initiated an investigation against all vaccine manufacturers on July 25. Chinese police have detained 15 people from Changsheng Biotechnology, including the chairman.

Zimbabwe

Zimbabwe had been looking into the possibility of immunizing teenagers aged 14 to 17 years against COVID-19 as a way to improve population protection, and on Wednesday, Minister of Information, Publicity and Broadcasting Services, Senator Monica Mutsvangwa, announced that Cabinet had finally given its approval. Meanwhile, Minister Mutsvangwa announced that Chitungwiza Municipality health staff will now work under the Ministry of Health and Child Care in an effort to alleviate manpower shortages and increase the number of individuals vaccinated per day in Chitungwiza. To achieve 60 percent herd immunity, the government is making every effort to vaccinate as many people as possible. Out of the required 20 million doses, a total of 13 million COVID-19 doses have been purchased. To supplement current national vaccine deployment, Zimbabwe has received 943,200 COVID-19 vaccine doses from the global COVAX Facility.¹⁵

The vaccines were delivered in batches, with the first batch arriving on September 29th and the second batch arriving today, October 1st, 2021. The Coalition for Epidemic Preparedness Innovations (CEPI), Gavi, the Vaccine Alliance, UNICEF, and WHO have formed the COVAX Facility to ensure that all nations have equitable access to COVID-19 vaccines. The COVID-19 vaccines are made available by generous contributions from over 20 countries through the COVAX Facility. The United States of America, Germany, the United Kingdom, the European Union, Sweden, Canada, and Saudi Arabia are the top seven countries that have donated to the COVAX Facility. In Zimbabwe, a total of 3,051,371 eligible people had got their first dose of COVID-19 vaccination and 2,211,880 had received their second dose as of September 27, 2021.¹⁶

On September 11 2018, the Zimbabwean government declared a state of emergency, and WHO praised the government for acting fast to put critical controls in place, including providing clean water, encouraging hygiene, cleaning blocked drains, and establishing dedicated treatment centers. The vaccines were obtained through Gavi, the Vaccine Alliance, which funds the global stockpile. "There is no reason why people should still be dying from the "horrific disease" of cholera, which can be prevented with clean water and sanitation," said Seth Barkley, CEO of Gavi.

¹⁵ "Teenagers Now Eligible for Vaccination." *Ministry of Health and Child Care - Teenagers Now Eligible for Vaccination*, www.mohcc.gov.zw/index.php?option=com_content&view=article&id=403%3Ateenagers-now-eligible-for-vaccination&catid=84&Itemid=435.

¹⁶ "Zimbabwe Receives Nearly One Million COVID-19 Vaccine Doses from COVAX." *World Health Organization*, World Health Organization, www.afro.who.int/news/zimbabwe-receives-nearly-one-million-covid-19-vaccine-doses-covax.

"Gavi has worked hard to ensure the global cholera vaccine stockpile remains fully stocked and ready to help stop outbreaks like this," he added.

Australia

On December 5, the Therapeutic Goods Administration (TGA) granted provisional approval to the Comirnaty (Pfizer) vaccination for children aged 5 to 11.¹⁷ From 10 January, children aged five to eleven can be vaccinated against Covid-19, making roughly 2.3 million more Australians eligible for the vaccine. The Australian Technical Advisory Panel on Immunisation, an independent group of medical, scientific, and consumer experts, suggested that this age group take the Pizer vaccination at one-third of the dosage provided to individuals aged 12 and higher. After examining the available data, the medication regulator, the Therapeutic Goods Administration, has also cleared the vaccine for this age group. This data includes graphs showing daily new Covid-19 cases in Australia, and everything accompanied by this, such as deaths per day, and cumulative coronavirus cases by state and territory, as well as total doses given in Australia, people vaccinated in Australian states, and the percentage of the population who have received one dose or are double dose fully vaccinated.¹⁸

When compared to children who did not belong to these socioeconomic categories, vaccination coverage was 3–4 percentage points lower among children of women who gave birth before the age of 20, mothers born overseas, mothers with an Aboriginal background, and parents with a low socio-economic position. MMR1 vaccination coverage for children whose mothers were born overseas fell by 2.1 percentage points in both states between 2007 and 2011. When compared to NSW, WA had poorer coverage among the Aboriginal community (89.5%) and children of young mothers (89.3%). (92.2 and 92.1 percent respectively).¹⁹

World Health Organization

"It is crucial to have equitable access to safe and effective vaccines if the COVID-19 pandemic is to be stopped, so seeing so many vaccines being tested and developed is quite encouraging." WHO and its partners are working relentlessly to discover, manufacture, and distribute safe and effective vaccinations. Through the "Global Vaccine Action Plan 2011-2020," WHO is working

¹⁷ "Vaccines for Australia's Five- to 11-Year-Olds: What Do We Know and How Do I Book?" *The Guardian*, Guardian News and Media, 10 Dec. 2021, www.theguardian.com/australia-news/2021/dec/10/vaccines-for-australias-five-to-11-year-olds-what-do-we-know-and-how-do-i-book.

¹⁸ "COVID-19 Vaccine Australia Rollout Tracker: Per Cent of Population Vaccinated and Vaccination Rate by State." *The Guardian*, Guardian News and Media, www.theguardian.com/australia-news/datablog/ng-interactive/2021/dec/10/covid-19-vaccine-rollout-australia-vaccination-rate-progress-how-many-people-vaccinated-percent-tracker-australian-states-number-total-daily-live-data-stats-updates-news-schedule-tracking-chart-percentage-new-cases-today.

¹⁹ Arat, Arzu, et al. "Childhood Vaccination Coverage in Australia: An Equity Perspective - BMC Public Health." *BioMed Central*, BioMed Central, 7 July 2021, www.bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-021-11345-z.

with nations and partners to improve global immunization coverage. With this plan the WHO is trying to:

1. Assists all countries in making immunization a priority, which means WHO collaborates with them to develop national targets and programs, as well as necessary financial and human resources.
2. Encourages individuals and communities to recognize the importance of vaccines and to demand immunization as a right and a responsibility.
3. Creates plans and materials to guarantee that everyone receives immunizations.
4. Improves immunization systems so that they can be used as a platform for other health treatments.
5. Ensures that vaccine supply systems are safe and reliable by increasing immunization funding.
6. Creates new and improved vaccinations through targeted research and development.²⁰

Vaccine hesitancy was identified as one of the top ten global health hazards by the World Health Organization (WHO) in 2019, citing complacency, inconvenient access, and a lack of confidence as the main factors. Shortly after the COVID-19 pandemic ravaged the globe, vaccine hesitancy garnered worldwide prominence, with many residents in countries like the United States refusing to take approved COVID-19 immunizations owing to concerns about safety, adverse effects, or a general distrust of the government.

Office of the United Nations High Commissioner for Human rights

The United Nations Human Rights Office (UN Human Rights) is the world's foremost human rights organization. They symbolize the international community's commitment to promoting and protecting the full spectrum of human rights and freedoms enshrined in the Universal Declaration of Human Rights. The High Commissioner and the Office each have a distinct role to play in: Promoting and protecting all human rights, assisting people in becoming more empowered, aiding governments by sensitive decision-making and development programming are aided by our monitoring and analysis and help thousands of people with capacity-building and legal guidance, assisting in the development and wise implementation of laws and policies all around the world.²¹

²⁰ "Vaccines and Immunization." *World Health Organization*, World Health Organization, www.who.int/westernpacific/health-topics/vaccines-and-immunization.

²¹ "Who We Are." *OHCHR*, www.ohchr.org/EN/AboutUs/Pages/WhoWeAre.aspx.

TIMELINE OF EVENTS

Date of Event	Description of Event
1796	Edward Jenner tests his theory on immunization and creates the first vaccines
1798	Jenner publishes his study
1800	Jenner's study gets translated resulting in mass vaccination on a global scale
1820s	Laws for the smallpox vaccine are implemented in the kingdom of Hanover
1853	A universal law is established in which it is required for smallpox vaccinations to be distributed
March of 1885	Anti-vaxxer protests regarding the smallpox vaccine take place
1959	Compulsory vaccination laws are implemented in the UK
1980	The World Health Organisation declares the world free of smallpox
1998	Andrew Wakefield publishes his study on the link between vaccines and autism
2010	Wakefield's study is discredited
31st of December 2019	The first case of the coronavirus is recorded
21st of December 2020	Covid vaccines are first distributed
2021	Protests are conducted regarding the COVID vaccines

PREVIOUS ATTEMPTS TO SOLVE THE ISSUE

Resolution WHA58.3

The resolution named “Revision of the international health regulations” from the 58th world health assembly on the 26th of December 2006 was drafted amongst different resolutions regarding the topic of the threat to global health. This resolution takes into consideration the prior drafted resolutions and the constitution of the WHO, which specifically takes global health into consideration. The clauses of this resolution are composed of adopting health measures, building stronger health systems and supporting LEDCs while strengthening their health care systems. While the Resolution itself does not discuss vaccination as a whole, it prompts to follow and strengthen International health regulations, by involving both Member states and UN Organisations to take action.²²

Electronic Immunization Registry (WHO)

This article is intended to assist EPI managers and their teams in the implementation of EIR-related information systems, utilizing as a basis the varied experiences gathered at the global level – and, in particular, in the Region of the Americas. The chapters' content is supported by a literature assessment on elements relating to EIR requirements, and it covers the experiences of countries in the Americas Region and other regions that have already implemented EIRs or are in the process of doing so. Many of the stories told here were shared at the three editions of the "Regional Meeting to Share Lessons Learned in the Development and Implementation of Electronic Individualized Vaccination Registries," held in 2011 in Bogotá, 2013 in Brasilia, and 2016 in San José, as well as ad hoc meetings held by the World Health Organization and Member States.²³

White House National Strategy

The National Strategy lays out a road map for the United States to recover from the largest public health crisis in a century. It lays out a comprehensive plan for combating the COVID-19 pandemic across the federal government, including twelve executive steps taken by President Biden in his first two days in office. The White House will establish a COVID-19 Response Office to carry out the National Strategy, which will be responsible for coordinating the pandemic response across all government departments and agencies. The United States will make immediate progress on the seven goals by implementing the National Strategy. The National Strategy calls for the

²² A58 R1 Prelims-En - World Health Organization. www.apps.who.int/gb/ebwha/pdf_files/WHA58-REC1/english/Resolutions.pdf.

²³ *Electronic Immunization Registry - Iris Paho Home*. www.iris.paho.org/bitstream/handle/10665.2/34865/9789275119532_eng.pdf.

construction of publicly accessible performance dashboards to track outcomes, offering a data-driven, evidence-based method to assessing America's progress against COVID-19.²⁴

The Global Risks Report 2021

The results of the most recent Global Risks Perception Survey (GRPS) are shared in the Global Risks Report 2021, followed by an analysis of growing social, economic, and industrial divisions, their interconnections, and their implications on our ability to address major global risks that necessitate societal cohesion and global cooperation. They finish the paper with recommendations for improving resilience, based on the pandemic's lessons as well as historical risk analysis. The pandemic has put a burden on healthcare systems, revealing their inadequacy. Hospitals around the world were immediately swamped, and many were at risk again at the time of writing—from various European countries to India, Mexico, South Africa, and the United States. New medical supply shortages have been reported in some nations. Anxiety, despair, dread, isolation, and even societal stigma have all plagued healthcare practitioners. Financial, physical, and mental stress have driven many people in nations including Australia, Colombia, Ecuador, India, the United Kingdom, and the United States to intend to stop working or leave the profession.²⁵

POSSIBLE SOLUTIONS

Destigmatize Action of vaccines

One way to manage this health crisis is to destigmatize vaccines. Many still live under the fear that vaccines will harm them or their child both physically and mentally, when that is not the case. By destigmatizing vaccines, their side effects and their general effect on the body citizens will not feel the need to fear vaccines. Both live and online conferences and seminars can be held by professionals from different organisations, such as the World health organisation or other NGOs, to inform and educate citizens on vaccines. Moreover, in many school curriculums vaccine education is not a part of biology class. By renewing the school curriculums children and young adults will be able to learn independently about vaccines and will not be influenced by their parents.

Impositions of restrictions throughout pandemics and epidemics

The most recent coronavirus outbreak (COVID-19) has resulted in the virus being spread to nearly every country on the planet. However, the way they have been affected varies greatly between

²⁴ *The White House*. www.whitehouse.gov/wp-content/uploads/2021/01/National-Strategy-for-the-COVID-19-Response-and-Pandemic-Preparedness.pdf.

²⁵ *The Global Risks Report 2021 - World Economic Forum*.
[www.3.weforum.org/docs/WEF_The_Global_Risks_Report_2021.pdf](https://www3.weforum.org/docs/WEF_The_Global_Risks_Report_2021.pdf).

countries; some have been quite successful in restricting disease spread and preventing deaths, while others failed to impose restrictions and mandatory vaccinations to help their countries' state of emergency. There are a variety of reasons why certain countries have been struck worse than others. Some of the differences could be explained by changes in government policy responses. By implementing restrictions like those implemented during the coronavirus outbreak in future epidemics would lower the quick spread of the virus. Restrictions such as lockdowns, working from home, wearing masks and proving self-testing and vaccination certificates could be implemented in emergency laws of each country.

Establishment of relevant legal frameworks

Vaccination law is one method used to keep vaccine-preventable disease rates low. Immunization regulations for children in public and private schools and childcare settings, college/university students, and healthcare professionals and patients in specified facilities are all covered by state vaccination laws. State regulations also have an impact on vaccination services since they determine whether or not delivering immunizations to patients falls within the scope of practice of certain healthcare providers. The Public Health Law Program offers a variety of materials on state vaccination laws for public health practitioners and their legal counsel. In an effort to decrease outbreaks of vaccine-preventable diseases, healthcare facilities across the country are progressively requiring healthcare staff to be vaccinated for certain diseases. Facilities are creating these standards in some cases as a result of state statutes and regulations. As a condition of attending school, all states should compel children to be vaccinated against certain communicable diseases. State school vaccination regulations should, in most cases, expressly apply to both public and private schools, with equal immunization and exemption provisions. Vaccination regulations for children should be established in all states as a condition of childcare attendance.

Free vaccines

Coronavirus vaccines are already free of charge. This however should/could also be applied to all different kinds of vaccines. Many citizens do not have the funds to buy vaccines and pay for a visit to the doctor. By providing people who struggle economically with free vaccines, the threat to global health would get minimized significantly. Assuring that everyone aged 5 and up has access to vaccines will help us come closer to our objective of population immunity. Population immunity makes it more difficult for influenza viruses to transmit from person to person, and it can even protect those who are unable to receive the vaccination, such as newborns.

Speeding up vaccine distribution

A number of developed countries are effectively implementing the COVID-19 vaccine, with the United States finally launching a mass immunization campaign and countries like Israel, the United Arab Emirates, and the United Kingdom meeting ambitious targets. Developed countries have a number of competitive advantages in terms of vaccine rollout, ranging from superior

digital and physical infrastructure to a robust negotiated vaccine supply. But, leaving aside the geopolitics of vaccine buying, the last mile delivery of the Covid-19 vaccine is a logistical nightmare, which may explain why some developed countries are falling behind.²⁶

The Right to Health

The right to health is an essential component of human rights and the concept of a dignified existence. To give it its proper name, the right to enjoy the best attainable degree of physical and mental health is not new. It was originally defined internationally in the 1946 World Health Organization (WHO) Constitution, which defines health as "a state of complete bodily, mental, and social well-being, not only the absence of sickness or infirmity.". This document defines the right to health and enumerates different ways the right to health affects society.²⁷

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²⁶ Written by Richa Sahay, Industry and Transport Lead. "How Countries Can Speed up COVID-19 Vaccine Distribution." *World Economic Forum*, www.weforum.org/agenda/2021/04/some-developed-countries-are-falling-behind-in-vaccine-distribution-how-can-they-improve-things.

²⁷ *The Right to Health - OHCHR*. www.ohchr.org/Documents/Publications/Factsheet31.pdf.

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