



# BACKGROUND GUIDE

## World Health Organization

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### Letter from the Executive Board

Greetings Delegates!

It is our pleasure to welcome you to the academic stimulation of the World Health Organization (WHO) of the SNA Model United Nations. In this committee, we shall be analyzing a very challenging and common subject in today's time which is "Suggesting measures for fair and equitable allocation and access of vaccines for COVID-19." Please note that this background guide is in no way meant to be an exhaustive guide on the subject, but merely a stepping stone for the rest of your research, which you are expected to undertake independently. Also, not under any circumstances can the background guide be quoted or used as substantial proof in committee sessions. The more information and understanding you acquire on the agenda, the more you will be able to influence the documentation process through debate in committee.

We understand that MUN conferences can be an overwhelming experience for first timers but it must be noted that our aspirations from the delegates is not how experienced or articulate they are. Rather, we want to see how he/she can respect disparities and differences of opinion, work around these, while extending their own foreign policy so that it includes more comprehensive solutions without compromising their own stand and initiate consensus building. New ideas are by their very nature disruptive, but far less disruptive than a world set against the backdrop of stereotypes and regional instability due to which reform is essential in policy making and crisis resolution. Thus, we welcome fresh perspectives for intelligent management of human capital which shall shape the direction of this world. We are looking forward to meet you all virtually. Don't be afraid to speak up and be heard.

Regards,

Ashima Jha (Director General)

Shanu Pathak (Deputy Director General)

## Committee Overview

### World Health Organization (WHO)

WHO, within the United Nations system, is one of the directing and coordinating authority of healthcare related issues across the globe. *As mentioned in the Article 1 of WHO Constitution, the main aim of this organization is the attainment by all peoples of the highest possible level of health.*

#### Overall, WHO is responsible for:

1. Ensuring leadership on the matters of global health
2. Shaping the health research agenda
3. Setting norms and standards
4. Articulating evidence-based policy options
5. Providing technical support to countries
6. Monitoring and assessing health trends

The World Health Organization (WHO), is a specialized agency in the United Nations which was established in 1948 in order to strengthen global health conditions. The First World Health Assembly met in Geneva and established their priorities for the organization as a whole. The initial priorities of WHO were malaria, tuberculosis, venereal disease and other communicable diseases, along with women and children's health, nutrition and sanitation.

#### **As per the article 9 of the Constitution, the working of WHO is carried out by:**

1. The World Health Assembly
2. The Secretariat
3. The Executive board

The World Health Assembly is considered as the decision-making body of WHO. WHA focuses on important and specific health agenda formulated by the executive board and is attended by delegations from all WHO Member States. The essential roles played by the World Health Assembly are to determine the policies of the Organization, appoint the

Director-General, look into financial policies, and supervise and approve the proposed budget for a program.

## **Mandate**

WHO has a broad mandate which is essential in guiding and coordinating International Health Policies? It primarily focuses on developing associations with other global health initiatives, research and development, norms setting, providing technical support, and monitoring health trends around the world. Over the decades, with the onset of numerous global health emergencies, the WHO's priority has expanded from its original focus on women's and children's health, nutrition, sanitation, and fighting malaria and tuberculosis.

In the present scenario, the work of WHO is extended towards many health-related issues, including foods that are modified genetically for better nutrition capability, climate change and its health impacts, tobacco and drug use, and road safety. The WHO is also a mediator of norms and best practices.

Some of the WHO's most appreciated successes include the child vaccination programs, which was a major player in eradication of smallpox in 1979 and a 99 percent reduction in polio infections in recent decades, and its leadership during the 2003 severe acute respiratory syndrome (SARS) epidemic. The agency has the exclusive authority to declare global health emergencies, which it has done several times since its members granted it the power in 2007. At present, the WHO's work includes combating emergencies, such as the pandemic of a new coronavirus disease known as COVID-19, and promoting health of people, especially refugees and deprived sections of the population.

The WHO's essential priorities are embarked in the United Nations' Sustainable Development Goals which is a set of 17 objectives to eradicate global concerns.

## **Membership and Funding**

The WHO is headquartered in Geneva and has six regional and 149 country offices. It is controlled by delegates from its 194 member states, who vote on policy and elect the director-general. The agenda is set by the delegates of WHO which also play an essential role in approving a predictive budget each year at the World Health Assembly. The director-general is responsible for raising the funds from donors. In addition to governments, WHO also coordinates with different UN agencies, donors, non-governmental organizations (NGOs) and the private sector.

## **WHO gets its funding from two main sources:**

### ***1. Assessed contributions***

Assessed contributions are the dues countries pay in order to be a member of the Organization. The amount each Member State must pay is calculated relative to the country's wealth and population. However, these assessed contributions have declined as an overall percentage of the Budget and have accounted for less than one quarter of the Organization's financing. The left outbalance is mobilized through voluntary contributions.

### ***2. Voluntary contributions from Member States and other partners.***

Voluntary contributions come from Member States (in addition to their assessed contribution) or from other partners. In recent years, voluntary contributions have accounted for more than three quarters of the Organization's financing.

The two- year budget of 2020–2021 is about \$5.8 billion which, due to the pandemic response and high demand of medical aid, is a \$1.4 billion increase from the previous budget. About 17 percent of the budget comes from mandatory dues paid by members; the rest is made up of voluntary donations from governments and private partners. In recent years, the top voluntary contributors have included the United States, the United Kingdom, and the Bill and Melinda Gates Foundation.

Over the past decade, the WHO has become increasingly dependent on voluntary contributions, which puts a challenge on the organization to align its goals with those of its donors.

## **Important Roles and Conventions:**

The WHO depends on the reporting by its member states in order to monitor and analyse crises in a timely fashion. Many countries have historically been hesitant to report outbreaks, often because they were fearful of economic repercussions and thus ensuring accountability. WHO can declare a public health emergency of international concern (PHEIC) during the conditions of an extreme health crisis.

During a PHEIC, WHO is not only responsible for issuing a nonbinding guidance to its members stating their response, but also the need of potential travel and trade restrictions in case of emergency. Thus, it also acts as a global coordinator in directing scientific data and experts to where they are most needed.

**International Health Regulations-** They provide a legal framework that defines countries' rights and obligations in handling public health events and emergencies that have the pandemic or epidemic potentials. The IHR is an instrument of international law that is legally-binding on 196 countries, including the 194 WHO Member States.

According to the IHR all countries should have the ability to:

- **Detect:** Ensure that surveillance systems can detect acute public health events in timely manner
- **Assess and report:** Proper assessment and reporting of the acute public health as per the articles of IHR and the national health systems.
- **Respond:** Effective response and on time action during public health risks and emergencies

The goal of country implementation is to limit the spread of health risks to neighboring countries and to prevent unwarranted restrictions on travel and trade which severely impacts economies.

Thus, preparedness should be at a level where the restrictions on trade is minimized without subsequent impact on health.

## **WHO SAGE values framework for the allocation and prioritization of COVID-19 vaccination**

This Framework, created by Strategic Advisory Group of Experts on Immunization (SAGE), has the objective of offering guidance globally on the allocation of COVID-19 vaccines between countries, and to offer guidance nationally on the prioritization of groups for vaccination within countries while supply is limited. The Framework acts as a guiding backbone for the policy makers and expert advisors at the global, regional and national level as they make allocation and prioritization decisions about COVID-19 vaccines. However, the Framework is designed to address only ethical issues relating to the allocation and prioritization of COVID-19 vaccines and therefore, other ethical issues, for example, vaccine trial design and the regulatory process, are outside of its scope.

*Agenda- Suggesting measures for fair and equitable allocation and access of vaccines for COVID-19*

## **Introduction**

With the outbreak of the coronavirus disease (COVID 19), the world has faced a serious blow in all the sectors and has heavily impacted the global healthcare facilities. With countless deaths and lack of services with respect to increasing demand, the pandemic has overwhelmed health systems and badly shaken the economies around the world, which is clear cut indication that health and economic outcomes are interdependent. In response to this crisis and the societal disruption it has brought, both the national and international community has invested millions of dollars and immense amounts of human resources to develop safe and effective vaccines in a limited time frame. However, added to the already existing burden due the pandemic, the process of vaccine development and its allocation to every level of the society along with ensuring its effectiveness is in itself challenging and cumbersome and requires proper monitoring.

Thus, in order to have an upper hand in this pandemic, there is a need for effective and efficient control mechanism which will require sustained public health measures and access to affordable, safe, efficacious, assured quality vaccines, along with therapeutics, diagnostics and other health products.

The core objective of the allocation framework for fair and equitable access to COVID 19 health products is to ensure that the health products must be available when and where they are needed, are culturally appropriate, quality-assured, affordable and safe, with least side effects.

If we look into the past pandemics, many countries have had trouble accessing therapeutics, vaccines and other essential health products. Moreover, access to essential medicines and other health products in low- and middle-income countries tends to be much delayed compared to the wealthier countries. High demand, but scarce manufacturing capacity added to high-costs and the lack of a global allocation mechanism has played a role in those delays.

These instances thus provide us a clear insight that it was always a challenge to ensure fair and equitable allocation of vaccinations, in specific, whenever there is a global health concern of a

high degree. It is expected that access to novel COVID-19 health products, once available, will most likely be limited by short supply due to insufficient manufacturing capacity coupled with extraordinarily high demand as seen from the past epidemics. Our concern therefore is not only learning from the past failures, but also to find solutions with respect to the proper allocation of Medical aid in geographically and socially isolated regions and thus develops a preparatory response plan for future potential outbreaks as well.

All nations regardless of their developmental or economic status must have access to a share of these products once they are available. But for this principle to be realized there is a need of a clear, transparent and broadly accepted framework and mechanism for access and allocation based on objective criteria. The framework should guide the mechanisms used to allocate scarce products (whether new or repurposed) among countries in order to provide fair and equitable access.

In regard with the given agenda, our expectation from you is to consider multifaceted branches of the problem rather than just focusing on one. The problem is not just related to physical well-being but also to the mental, psychological, economic and social aspects. We would highly recommend you to take into consideration the principles like solidarity, accountability, transparency, equity, affordability and collaboration while formulating solutions and presenting analysis. This will be more effective when you utilize different departments and bodies that work within and in collaboration with WHO.

## Key Terminologies:

**Coronavirus:** A class of viruses common in humans and animals. Some coronaviruses produce the symptoms of common cold like fever, cough, tiredness, headache, etc.; SARS and MERS were also in the category of coronaviruses. COVID-19 is a new type of coronavirus.

- **Asymptomatic:** Refers to a person who has an infection without ever showing symptoms.
- **Pre-symptomatic:** Someone who is infected with a virus but not showing symptoms.
- **Incubation period:** The time period from virus exposure to appearance of symptoms.
- **Patient zero:** The first person to contract a virus in a new area.
- **Antibody:** They are specific proteins in the blood which used by the immune system to elicit an immune response in order to heal the body.
- **Epidemic:** Widespread illness in one region or community or one geographical area.
- **Pandemic:** Widespread illness around the world.
- **Herd immunity:** Immunity developed by the population when a contagious virus or disease becomes largely inactive. This is generally achieved with vaccination.

## Types of Available COVID 19 Vaccines:

To fight this pandemic, many Countries, Industry and societies have come forward and given their maximum effort to control these highly infectious, deadly diseases. As a result, within six months of its discovery, 184 vaccines preclinical trial had been started. Three Vaccines have been approved by WHO:

- a. Oxford/AstraZeneca or Covishield,
- b. Pfizer-BioNTech,
- c. Janssen Ad26.COVS.2. S (Johnson & Johnson)

# Four categories of vaccines in clinical trials for COVID-19

## (SARS-CoV2):

- 1. Whole Virus Vaccine-** In this vaccine, a weak (attenuate) or deactivated form of the pathogen (virus or bacterium) is used.
  - Covaxin
  - Sinopharm (BBIBP)
  - Sinopharm (WIBP)
  - Corona Vac
  - Kovi Vac
  
- 2. Nucleic Acid (RNA/ DNA) Vaccine-** In this vaccine, Nucleic Acid (RNA or DNA) of virus or bacterium (pathogen) was used to induce an immune response against it.
  - a. Pfizer-BioNTech
  - b. Moderna
  
- 3. Non-Replicating Viral Vector Vaccine-** In this type of vaccine, a vector (modified virus) delivers the genetic code of antigen (spike proteins in case of COVID-19) to the host body cells (Human).
  - a. Oxford-AstraZeneca (Covishield)
  - b. Sputnik-V
  - c. Janssen Ad26.COVS. S (Johnson & Johnson)
  - d. Convidecia
  
- 4. Protein Subunit Vaccine-** In this vaccine, instead of injecting a whole pathogen or nucleic acid or vector, a purified subunit is injected into the body to get an immune response.
  - a. EpiVacCorona
  - b. RBD-Dimer

*This data is a clear indication that the use of technologies for vaccine development requires extensive testing for the safety and efficacy. There is a need to construct various processes and capacities for the large-scale manufacturing and administration of the coronavirus vaccines. It should be considered as a universal priority to spot the international funding mechanisms to support the development, manufacturing, and stockpiling of the coronavirus vaccines.*

## **Timeline:**

Today, evidently in the global fight of issues like climate change, poverty, migration, terrorism, nuclear weapons a new emergency has taken space that is Covid-19. Therefore, the world is mapping strategies and nations are striving towards development diplomacy. Categorization and technical division are of the utmost importance, and can only be plotted and charted only after scrutinizing the history and timeline of the Coronavirus. The first type of coronavirus was discovered back in 1965, and there are seven types of coronaviruses identified.

Over the past two decades there was the outbreak of two most prominent forms of coronavirus SARS-CoV first recognized in Guangdong Province, China in November of 2002 and MERS-CoV emerged in the fall of 2012 in the Arabian Peninsula.

<u><b>Human Coronavirus</b></u> <u><b>Name</b></u>	<u><b>Illnes</b></u> <u><b>s</b></u>
SARS-CoV-2	COVID-19
SARS-CoV	Severe acute respiratory syndrome(SARS)
MERS-CoV	Middle East respiratory syndrome(MERS)
HCoV-NL63	Mild respiratory illness
HCoV-229E	Mild respiratory illness
HCoV-OC43	Mild respiratory illness
HKU1	Mild respiratory illness

# Development Roadmap of Vaccine Generation

The Global Advisory Committee on Vaccine Safety was the committee established by the WHO in 1999, to overlook vaccine safety and increase the global synergy for vaccine deployment.

Members of the GACVS are appointed by the Director of WHO Department of Essential Medicines and Health Products.

**“Report of the meeting of the WHO Global Advisory Committee on Vaccine Safety, 1-3 December 2020.” This report indicates agreement to build a new subcommittee for the Covid-19 advice, recommendation, and guidance purpose for vaccine safety.**

## CASE STUDY (H1N1 Swine Flu)

A novel influenza A (H1N1) virus emerged in the spring of 2009. This virus, designated as (H1N1) pdm09, called as the 2009 swine flu, was quite dissimilar from other H1N1 strains circulating at the time. Few people from the younger population had pre-existing immunity to the virus, but nearly  $\frac{1}{3}$  of people over age 60 had antibodies against (H1N1) pdm09, suggesting exposure to an older H1N1 earlier in their lives. After **Four weeks of detection H1N1**, the CDC released **health supplies from their stockpiles** that could prevent and treat influenza. By this time, most U.S. labs had **diagnostic tests that could detect H1N1** without verification by the CDC.

As soon as a vaccine to protect against 2009 H1N1 became available, its supplies were limited. In such circumstances, CDC's Advisory Committee on Immunization Practices (ACIP) recommended that people at highest risk for complications from this virus, or those caring for high-risk individuals shall receive the vaccine first. This target group included pregnant women, people who live with or care for children younger than 6 months of age, health care and emergency medical services personnel, anyone 6 months through 24 years of age, and people ages of 25 through 64 years of age at higher risk for 2009 H1N1 influenza because of certain chronic health conditions or compromised immune systems.

ACIP with its proper monitoring and checks recognized the need to assess supply and demand issues at the local level. The committee further recommended that once the demand for vaccine for these target groups had been met at the local level, programs and providers should begin vaccinating everyone from ages 25 through 64 years.

Studies at that time indicated that the risk for infection among people 65 and older was less than the risk for younger age groups so people 65 and older were not initially targeted to receive early doses of the vaccine. However, ACIP noted that as soon as the vaccine production increased and demand for vaccines among younger age groups was being met, programs and providers should target in providing vaccination to people over the age of 65. At this time, many states had already opened up vaccination to anyone who wants it and while people 65 and older were still less likely to get sick with 2009 H1N1, severe infections and deaths had occurred in every age group, including older people. CDC then encouraged those who had been patiently waiting to receive the 2009 H1N1 vaccine, including people 65 and older, to get vaccinated depending on local supply.

The H1N1 virus that caused that pandemic is now a regular human flu virus and continues to circulate seasonally worldwide.

This entire case study gives us an understanding that how much it is essential to prioritize a target population for receiving vaccination initially and making best possible use of the limited supply.

## Current Scenario in Different Regions:

The World Health Organization has categorized six WHO regions, for the regional reporting, analysis and administration and for the accelerated approach of assistance. The six regions are African Region AFR, Region of Americas AMR, South East Asian Region SEAR, European Region (EMR), and Western Pacific Region (WPR).

The Partnership of UNDP and African Union as per the report of the Africa Centers for Disease Control and Prevention (Africa CDC) and UNDP has been very resilient and has shown a massive positive acceleration towards the control of the pandemic. However, lack of sanitation, no clean water, and lack of good hygiene practices such as hand hygiene, use of personal protective equipment and cleaning and disinfection of medical equipment and environment in regions of Africa are the reasons for the increase in infection prevention and control (IPC).

India has emerged as an important vaccine distributor in the South Asian Region with the deployment of a million doses of vaccine to Nepal, 2 million to Bangladesh, 100,000 to the Maldives and 150,000 to Bhutan. The plan is also further extended to give 1.5 million doses to Myanmar and 50,000 doses to Seychelles; hence the Indian economy is seen to have plugged onto global supply chains. One of the most important factors across vaccine distribution internationally is ties with the neighbors as seen in frequent high-level exchanges of vaccine distribution and thereby leading to economic integration.

## Role of the International System:

On 23 May 2005 the World Health Assembly adopted new **International Health Regulations (IHRs)**. With the improved detection and reporting of public health emergencies worldwide.

IHR is an international treaty and it empowers the WHO to act as the surveillance system. The International Health Regulations or IHR (2005) represent an agreement between 196 member states to work together for global health security. WHO plays the coordinating role in IHR. WHO defines health as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. Hence there are severe magnitudes of questions if further revision of IHR is needed for better responses to further public health emergencies of international concern considering the futile/ineffective outcomes of covid-19.

**The Universal Declaration of Human Rights (UDHR)**, as announced by the United Nations General Assembly in Paris on 10 December 1948, is a common standard of achievement for all people and all nations. The Article 25 of UDHR states that “Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including basic amenities like food, clothing, shelter and medical care and necessary social services, and the right to security in case of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.”

**The International Covenant on Economic, Social and Cultural Rights (ICESCR)** in article 12 establishes ‘the right of everyone to the enjoyment of the highest attainable standard of physical and mental health’. The article highlights some of the necessary actions to be taken by States parties such as: the reduction of stillbirths and infant mortality; ensuring the healthy development of children; improving environmental and industrial hygiene; the prevention, treatment and control of diseases; and access to medical care for all.

**The Convention on the Elimination of All Forms of Discrimination against Women (CEDAW)**, adopted in 1979 by the UN General Assembly, is also described as an international bill of rights for women. The article 12 of CEDAW States Parties shall take all appropriate measures to eliminate discrimination against women in the field of health care in order to ensure, on a basis of equality of men and women, access to health care services, including those related to family planning.

**The United Nations Sustainable Development Goals (UN SDGs, also known as the Global Goals)** are 17 goals with 169 targets that all UN Member States have agreed to work towards achieving by the year 2030. They set out a vision for a world free from poverty, hunger and disease. Health has a central place in SDG 3 “Ensure healthy lives and promote well-being for all at all ages”, underpinned by 13 targets that cover a wide spectrum of WHO’s work.

## Financial Aspect:

The dire economic condition caused by the pandemic is devastating; tens of millions of people are at a stake of falling into extreme poverty, while the number of undernourished people, currently estimated at nearly 690 million, could increase by up to 132 million by the end of the year according to WHO. Therefore, in order to increase the liquidity and to keep the pace with employment, the countries should mobilize support to their commercial banks with the help of the World Bank. The vaccine generation can be amplified by the involvement of IFC, MIGA and ICSID as they provide financing, technical assistance, political risk insurance, and settlement of disputes within private enterprises, including financial institutions.

While on the other hand the IMF's one of the main purposes is to oversee the monetary system of international nature by keeping in track of the global economy and the economies of members and enabling country and citizen transactions.

## Major Concerns:

- **TRANSPORTATION**

Transportation is one of the major challenges that the nations are facing in the deployment of the vaccines and managing the cold and supply chain so that minimal damage is done to the vaccines. Transportation is a multilayer process from the host to donor to the receiver.

Therefore, an effective and efficient supply chain management team is the absolute necessity. Countries should henceforth bring legislative frameworks to have an inclusive approach since the vaccine distribution has different categorized target groups, and strengthen the existing committees and working groups. The challenge lies in maintaining cost-effective, high quality supply chains as the vaccines are sensitive to the temperature and the packaging is in large unit volumes. Timely, cost-effective and safe delivery is only possible through the coordination mechanism between the technical and the logistics.

The coordination mechanism is the process of Reception of the vaccine, storage of the vaccine, repacking of the vaccine, and transportation of the vaccine. Followed by reverse logistics from the point of the receiver. Vaccine supply into black market, unhealthy

distribution without any surveillance, and counterfeit vaccines are the barriers towards the achievement of healthy and safe distribution of vaccines.

The Good Distribution Practices should be adopted at international, Regional and national level including the following in order to prevent the counterfeit vaccines:

- 1) Documentation and authorization of actors involved
- 2) Requirements and actions on receipt and dispatch of vaccines
- 3) Ensuring product traceability from the manufacturer to the immunization service delivery sites

## • **DISTRIBUTION**

Potential high demand and few COVID-19 Vaccines may lead to tense and insecure situations or even conflict in certain groups and areas. Therefore, the distribution process shall be foreseen, and surveillance strategies shall be planned to ensure the safety of the people and maintain fair and equitable distribution with harmony. The distribution process includes proper staffing, capacity building, border clearance, domestic distribution to regional vaccine distribution center to name a few.

Seeing the present situation of lack of coordination and logistic support the UN Covid-19 Supply Chain Task Force came into picture, the task force is co-chaired by WHO and WFP and provides a planned direction in order to ensure that supply chains are driven by strategic and tactical health and medical priorities.

The Covid-19 supply chain task force focuses in the distribution of vaccines in the following way:

- 1) Establishing and implementing a global strategy as identified by WHO
- 2) Bringing together the collective capabilities of public and private actors to meet these needs
- 3) Ensuring the flow of supplies

Thereby it will establish the global logistics distribution system with proper distribution of demand, supply, allocation, warehousing and distribution, and country implementation.

- **ACCESS OF VACCINATION IN REGIONS OF CONFLICT**

It has been quite evident that the countries that had the highest levels of violent conflict and existing political unrest are most likely to be the last ones to receive COVID 19 vaccinations. It is seen that more than half of the 20 countries that experienced the highest levels of conflict in 2020 were African countries and they will be the nations to face major setbacks in terms of healthcare.

In countries like Somalia, for instance, people living in regions controlled by Al-Shabaab will most likely not get access to vaccines as they have to face a critical choice between taking a chance with vaccine-preventable diseases or risk getting murdered by the militant groups like Al-Shabaab, who have outlawed vaccines.

If we look into history, Nigeria had a militant crisis in its northern region that delayed and almost derailed its national polio control program but now we can say that it has laid the foundation for the country's COVID-19 vaccination plans for its crisis zones.

The major issues faced by regions like Yemen, South Sudan, etc. are initially the transport and then the storage of medical aid. In war-torn countries with no financial stability, humanitarian efforts play a significant role in disease control. The combined efforts of WHO and UNICEF has proved to be effective in Yemen during the cholera outbreak.

With the already existing issues of hunger, poverty and gender gaps, these nations need to be prioritized in terms of COVID 19 aid; otherwise it will take no time for them to become serious global health concerns.

- **TRADE ASPECT**

The governments of India and South Africa initiated a proposal known as TRIPS on Trade-Related Aspects of Intellectual Property Rights, waiver, to the World Trade Organization to waive intellectual property rights protection for technologies needed to prevent, contain, or treat COVID-19 "until widespread vaccination is in place globally, and the majority of the world's population has developed immunity. The TRIPS waiver just seeks to momentarily suspend these protections until the pandemic has ended, so the world can better access the knowledge needed to combat the worst pandemic in a century.

Sharing the technological and scientific knowledge behind making COVID-19 vaccines is key to not only scaling up production, but also bringing forward the second generation of vaccines we will need to address emerging variants.

It is not possible that a single vaccine manufacturer can produce enough vaccines to cover the globe, and demand has far outstripped supply, with high-income countries taking the lion's share of reserved doses. Proponents of a TRIPS waiver wonder how it can be right for a multinational vaccine manufacturer to hold exclusive rights that can stop other firms from stepping up to meet the need for vaccines, particularly in markets not being served by current vaccine producers. They argue that the public already has paid once or twice for such innovation, either upfront in research and development (R&D) costs or through purchase guarantees of these products, or both.

- **CHALLENGES FACED BY PHARMACEUTICAL COMPANIES**

- *Limited clinical trials during the pandemic*

For pharmaceutical companies running clinical trials for COVID-19 vaccines was a major challenge. The approval of a new drug depends on successful trials, but the immediate need and pandemic restrictions were a major reason that led to loss of a staggering amount of research, drug development and money. As a result, these has been a serious financial blow for both the industry and those who fund.

- *The Cost of innovation and fast evolution*

The need to put everything available at the crisis in use no doubt led to the development of vaccine at a faster rate than usual, but that speed came with a cost. Many pharmaceutical companies ended up in a dangerously low working capital due to necessary spending on innovation and fast evolution.

- *Supply Chain Disruptions*

With a heavy reliance on countries like China for raw materials, and on India for generic drug production, the industry is experiencing huge supply shortages as these major produces were

worst hit by the pandemic. According to the US Food and Drug Administration's Center for Drug Evaluation and Research, China and India, combined account for 31% of FDA-registered facilities around the globe. And with both countries having been hit so hard by COVID-19, the supply chain worldwide is struggling. Thus, there is a need to create newer avenues to balance out raw material dependence globally.

## **CONCLUSION:**

The Covid-19 pandemic has envisaged the need for better infrastructure allocation, capital allocation, and multilayer schemes for the management of the public health emergency of international concern. There has been substantial increase of investment in health infrastructure, with major emphasis on detection and cure. Information Communication Technology (ICTs) have been used remarkably during the vaccine rollout, with the digitization of the health sector. In order to revive the economy, countries are coming up with national and international policies and programmed for nation-building. However, the world parameters and dynamics of investments in vaccine deployment have led to uneven vaccine distribution. The secretariat of WHO recognizes the right of different nations to choose the type of vaccination for their population. But the concern is its fair distribution in different levels of the society. In the quest for a vaccine, all stakeholders have a fundamental role to play and this requires an efficient association between the scientific community, vaccine developers and regulators. There is not only a need to ensure equitable distribution of vaccines, but also fruitful knowledge sharing among nations. With this the aspects of gender gaps, conflict prone areas and geographically isolated regions also have to be taken in consideration when we are dealing with a global scenario. Our suggestion to you will be to critically analyze these aspects and draw on a practically effective solution.

## POINTS TO CONSIDER:

- What kind of funding and distribution should be followed to ensure equitable access to vaccines in highly populated, conflict prone and geographically isolated regions?
- Is there a need to establish more associations between healthcare experts and those involved with animals and the environment?
- Why has no vaccine company stepped forward to join and share its Intellectual property with COVID-19 Technology Access Pool, launched by WHO with the support of Costa Rica and 40-member state cosponsors?
- What parameters should be created to prioritize fair and equitable allocation of COVID-19 Vaccination?
- To what extent can countries allow people to opt out from taking vaccination due to personal beliefs?
- Does the special and differential treatment of developing countries under TRIPS help developing countries in vaccine trade?
- How much should the pharmaceutical companies be allowed to intervene in taking decisions about vaccine supply in a nation?
- What measures should be taken by the government to enhance public trust in COVID-19 vaccination?
- Why was there no approved vaccine or specific treatment for SARS and MERS, until the development of Covid-19 (SARS-CoV-2) vaccine?
- How effective has the WHO Global Advisory Committee been in updating the information and covering the data gap of vaccine safety of the different vaccines?

***Happy Researching!!!***

## Bibliography and Further Research:

- World Health Organization <https://www.un.org/youthenvoy/2013/09/who-world-health-organisation/>
  - <https://www.who.int/about>
- What are the main functions of the World Health Organization? <https://www.e-ir.info/2010/11/08/what-are-the-main-functions-of-the-world-health-organization/>
  - <https://www.cfr.org/background/what-does-world-health-organization-do>
- The Global Role of the World Health Organization <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3981564/>
- All about WHO, the global health watchdog attacked as ‘Chinese Health Organization’ <https://theprint.in/theprint-essential/all-about-who-the-global-health-watchdog-attacked-as-chinese-health-organization/397998/>
- CONSTITUTION OF THE WORLD HEALTH ORGANIZATION [https://www.who.int/governance/eb/who\\_constitution\\_en.pdf](https://www.who.int/governance/eb/who_constitution_en.pdf)
- International Health Regulations [https://www.who.int/health-topics/international-health-regulations#tab=tab\\_3](https://www.who.int/health-topics/international-health-regulations#tab=tab_3)
- COVID-19 Vaccine: A comprehensive status report <https://pubmed.ncbi.nlm.nih.gov/32800805/>
- Coronavirus disease (COVID-19): Vaccines [https://www.who.int/news-room/q-a-detail/coronavirus-disease-\(covid-19\)-vaccines?adgroupsurvey={adgroupsurvey}&gclid=Cj0KCQjwub-HBhCyARIsAPctr7xH6dG3yQTqGiumGITf1jxVIZwatEF\\_hgiomYoI\\_d0jKcvh0cyNhMIaAo9ZEALw\\_wcB](https://www.who.int/news-room/q-a-detail/coronavirus-disease-(covid-19)-vaccines?adgroupsurvey={adgroupsurvey}&gclid=Cj0KCQjwub-HBhCyARIsAPctr7xH6dG3yQTqGiumGITf1jxVIZwatEF_hgiomYoI_d0jKcvh0cyNhMIaAo9ZEALw_wcB)
- COVID-19: A Glossary of Key Terms <https://www.henryford.com/blog/2020/04/covid19-key-terms-to-know>
- Access and allocation: how will there be fair and equitable allocation of limited supplies? <https://www.who.int/news-room/feature-stories/detail/access-and-allocation-how-will-there-be-fair-and-equitable-allocation-of-limited-supplies>
- How can we make fair and equitable access to COVID-19 vaccines a reality? <https://www.gavi.org/vaccineswork/how-can-we-make-fair-and-equitable-access-reality>
- Framework for Equitable Allocation of COVID-19 Vaccine. <https://www.who.int/docs/default-source/coronaviruse/who-covid19-vaccine-allocation-final-working-version-9sept.pdf>
  - <https://www.nap.edu/read/25917/chapter/5>
- Access to COVID-19 vaccines: Global approaches in a global crisis <https://www.oecd.org/coronavirus/policy-responses/access-to-covid-19-vaccines-global-approaches-in-a-global-crisis-c6a18370/>

- WHO SAGE values framework for the allocation and prioritization of COVID-19 vaccination <https://apps.who.int/iris/bitstream/handle/10665/334299/WHO-2019-nCoV-SAGE-Framework-Allocation-and-prioritization-2020.1-eng.pdf>
- Top 13 Vaccines approved in the World for COVID-19 (SARS-CoV2) <https://sbmeher.in/2021/05/02/top-13-vaccine-approved-in-world-for-covid-19-sars-cov2/>
- 5 FACTS ABOUT VACCINATION IN YEMEN <https://borgenproject.org/vaccination-in-yemen/>
- The challenge of rolling out vaccines in African conflict zones <https://www.devex.com/news/the-challenge-of-rolling-out-vaccines-in-african-conflict-zones-99932>
- 5 challenges facing the pharmaceutical industry in 2021 <https://www.octet.com/blog/challenges-facing-the-pharmaceutical-industry-2021/>
- The impact of big pharma on Covid-19 <https://www.pharmaceutical-technology.com/comment/covid-19-pharmaceutical-companies-impact/>
- COVID-19 vaccines: challenges and promises of trials, manufacturing and allocation of doses <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7737565/>
- Types of Human Coronavirus <https://www.cdc.gov/coronavirus/types.html>
- H1N1 Pandemic <https://www.cdc.gov/flu/pandemic-resources/2009-h1n1-pandemic.html>
- Covid-19 Vaccination and supply chain guidance [https://apps.who.int/iris/bitstream/handle/10665/339561/WHO-2019-nCoV-vaccine\\_deployment-logistics-2021.1-eng.pdf](https://apps.who.int/iris/bitstream/handle/10665/339561/WHO-2019-nCoV-vaccine_deployment-logistics-2021.1-eng.pdf)
- TRIPS Waiver <https://www.jhsph.edu/covid-19/articles/wto-trips-waiver-for-covid-19-vaccines.html>
- Global Health Laws <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7150305/>
- India vaccine Distribution <https://www.wsj.com/articles/india-starts-covid-19-vaccine-drive-to-neighboring-countries-11611234933>