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Safeguarding Access Of Covid Vaccines In Under-Developed & Developing Countries

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ABSTRACT

This policy brief discusses how to ensure that everyone is vaccinated as the distribution of coronavirus (COVID-19) vaccinations gets begun. It accomplishes so by assessing the argument for multilateral access and delivery approaches, highlighting major challenges, and identifying policymakers' top priorities. In contrast, developing countries have major challenges in vaccine procurement, allocation, distribution, and uptake. Vaccine supply inequities are already evident, with resource-rich nations receiving a large percentage of the vaccine doses available for 2021. The lack of a comprehensive policy to ensure that developing countries have access to vaccinations risks prolonging the pandemic, exacerbating inequality, and delaying global recovery. While new collaborative efforts such as the ACT Accelerator and its COVAX programme are helping to close present gaps, they are insufficient in instances where demand much outnumbers supply. If current trends continue, mass immunization efforts in poorer countries may be delayed until 2024 or later, prolonging human and economic suffering in all

countries. All policy initiatives that can help developing countries gain equitable vaccination access include I supporting global frameworks for equitable vaccine distribution, crisis response, resilience, and prevention, (ii) emphasizing the role of development finance, and (iii) advocating context-driven solutions.

KEYWORDS: Vaccination, COVID-19, Vaccine Hesitancy, COVAX, Developing Countries

INTRODUCTION:

Over two million people have died as a result of the COVID-19 pandemic, which has overburdened national health systems, resulting in more deaths and illnesses. It has also triggered a severe economic crisis, putting the lives of millions of women, children, and men in jeopardy due to hunger, lack of access to public services, and violence. The spread of the coronavirus constituted a political threat to multilateralism and its institutions, and it brought nationalism to the global agenda. Exports of medical and hospital supplies, food, and other essential things have been banned due to protectionism, hampering efforts to combat the pandemic. The urgency of reacting to the current pandemic underscored the need for better coordination and solidarity, as well as an effective and responsive global health security framework, to battle global pandemics. One of the most critical difficulties that develop in cases like the COVID-19 outbreak is the uneven availability of drugs and vital medical equipment. The launch of the COVID-19 vaccine campaign was a source of hope and encouragement, as it proved that COVID-19 would not be forgotten. The massive amount of resources spent to the vaccine race, as well as the demand for a global immunization agenda, resulted in the development of multiple high-quality COVID-19 vaccines, avoiding the vaccination failure seen in earlier recent cases.

The developing world has been hit especially hard. In poor countries, a lack of resources, such as healthcare personnel, overburdened hospitals, overcrowding, a lack of money, 'infodemic,' and a strong sense of leadership, all compound the problem. Since the beginning, there has been a global effort to develop an effective vaccine as a viable method for halting the pandemic. Several vaccinations have been produced and approved by various regulatory agencies around the world in the recent few months. Producing effective vaccines, on the other hand, is only the first stage in a long process that will finally result in global herd immunity and the end of the epidemic.

Furthermore, these vaccines have been connected to a slew of problems, including inexplicable diseases, clot formation, a lack of faith in vaccine producers, and a hasty, erratic development process. Procurement, distribution, administration, and uptake of vaccines will all be crucial steps in the process. Developing countries are expected to face challenges at every level of the process. Vaccination challenges must be treated seriously because these countries house the majority of the world's population. The purpose of this study is to review the COVID-19 vaccinations that are now available (Table 1) and to look into the challenges that impoverished countries experience in their COVID-19 vaccination efforts.

Vaccine Name/Manufacturer	Age (in Years)	Recommended Duration between 1st & 2nd Dose	Vaccine Efficacy	Use in COVAX	Storage Recommendation	FDA Approved	WHO Emergency Use Listing
Moderna	≥18	28 days	94.0 %	No	−20 °C	Yes	No
Pfizer-BioNTech	≥16	21 days	94.8 %	Yes	−80 to −60 °C	Yes	Yes
Sputnik V (Gamaleya)	≥18	21 days	91.6 %	No	2–8 °C, −18 °C	No	No
AstraZeneca Oxford	≥18	<6 weeks	70.4 %	Yes	2–8 °C	No	Yes
Sinopharm	18 to 80	21/28 days	86.0 %	No	2–8 °C	No	Yes
Johnson & Johnson	≥18	Ongoing phase 3 trial (at least 47 days)	66.0 %	Yes	2–8 °C	Yes	Yes

TABLE:1 SUMMARY OF COVID-19 VACCINES CURRENTLY BEING USED

Vaccine Development

COVID-19 vaccines were developed in a fraction of the time it took to develop vaccines for other diseases in the past. This is due to a variety of factors. The disease's global nature and significant media attention aided in securing government and philanthropic support and financing for research and development. Lessons learnt from earlier pandemics led to the foundation of international alliances such as CEPI, which were able to fund vaccine research and development quickly. COVID vaccines have profited from decades of vaccine research, including genome sequencing, past mRNA vaccine candidates, and adenovirus vectors, among other things.

Developing vaccines has been a costly endeavor. On a global scale, more than $39 billion has been invested in vaccine development. The United States alone donated more than $9 billion as part of Operation Warp Speed. China's and Russia's governments have invested in a number of vaccine candidates being developed by commercial companies or government bodies. Many poor countries lack the financial and technological resources to invest in vaccine development. As a result, they will rely on vaccines developed in other countries as well as international collaboration. Efforts to exchange information through temporary exclusions of intellectual property rights have been thwarted by the resistance of developed countries and pharmaceutical industries.

With a number of effective vaccines now available, the next major challenge has been to scale up vaccine production capabilities worldwide demand. Vaccine production capacity is also unequally distributed. Vaccine scientists and manufacturers, on the other hand, have forged alliances in order to quickly scale up production. There were 289 vaccines in development as of February 2021, with around 66 in various phases of testing. Regulatory organizations have approved or allowed the emergency use of the ten vaccinations listed in Table 1. Several of these vaccines cause a host response against the spike protein of the SARS CoV2 virus. Inactivated viral components and recombinant vectors are used by many companies, including Sinopharm and Sputnik V. Despite the fact that mRNA vaccines are the most often used and approved vaccines, inactivated vaccines like as Sinopharm from China and Covaxin from India are being used or planned for use in many undeveloped countries across Europe, Asia, Latin America, the Middle East, and Africa.

Procuration

The majority of impoverished countries may be forced to acquire vaccines on the open market because they lack the financial and technological capacity to develop novel vaccines. Wealthier countries have purchased a significant percentage of the global vaccine supply, putting the developing world at the back of the line in terms of vaccine availability and distribution. Despite accounting for only 16 percent of the global population, high-income nations have obtained more than half of all COVID-19 vaccination doses. A coalition of 190 countries led by international organisations such as the Coalition for Epidemic Preparedness Innovations, Gavi, the Vaccine Alliance, the United Nations Children's Fund, and the World Health Organization has been formed to enhance global immunisation access. COVID-19 Vaccinations Global Access (COVAX) intends to accelerate the development and manufacturing of COVID-19 vaccines while ensuring fair and equal access for all countries worldwide. COVAX hopes to get 2 billion doses by the end of 2021, with the goal of vaccinating 20% of the world's population while ensuring equitable distribution, with vaccinations going to the most vulnerable people first.

Vaccine Hesitancy

In a number of nations, COVID vaccine apprehension has become a problem. Some growing countries, such as India, have a stronger propensity to be vaccinated than others, such as Serbia, Croatia, France, Lebanon, and Paraguay, according to recent poll data. There are various variables that contribute to fear of the COVID-19 vaccine. Many countries have purchased or manufactured vaccinations at a quick rate, generating concerns that clinical trials had been rushed and regulatory criteria had been lowered.

Another point of concern is that the epidemic prompted the first mRNA vaccine to be developed. The originality of the method has sparked some doubt. Manufacturing companies have a bad reputation among many people. There is also a continuous disinformation effort against COVID-19 vaccinations on several social media platforms. In poorer nations, concerns over the vaccine's composition as well as religious and ethnic groups' acceptance are widespread.

In a recent survey, certain criteria were identified as predictors of obtaining the COVID-19 vaccine. The most important predictor was the participant's influenza immunization. Physicians were more accepting than nurses, primary care doctors were more accepting than other teams, and COVID-19 unit doctors were more accepting. Participants whose lifestyle had been severely disturbed by the crisis were more receptive to the idea of vaccination. Surprisingly, age did not appear to have any bearing. Political issues play a role in vaccine hesitancy among the general people. Several past events, such as the French government's overestimation of vaccine needs and voting discrimination, have fostered distrust in the public, culminating in the disintegration of a reliable communication network. There is a scarcity of epidemiological data in general healthcare services in rural areas. The problem of communities not being registered on censuses persists, despite previous attempts at immunization through the development of a logic network.

Capitalizing Existing Strengths

Despite the fact that many developing nations face major challenges in their vaccination efforts, it is vital to assess existing strengths in these areas and use them to support vaccination efforts. Vaccination campaigns against infectious diseases have recently begun or are now underway in a number of poor nations. The elimination of wild polio in Africa is a triumph of regional collaboration, infrastructure, and competence. These resources, which include surveillance networks, skilled employees, and operations centres, can improve COVID-19 immunization programmes. The world's largest public health programme, India's universal immunization programme, and vaccine manufacturing facilities, such as the world's second-largest, the Serum Institute of India, are both significant and readily available resources that will pivot to support the nation's vaccination endeavor.

Techniques used in other nations may be able to assist with the COVID-19 vaccine response revamp. This includes efforts in Sub-Saharan Africa to eradicate Hepatitis B. Despite the fact that COVID-19 intrauterine transfer is uncommon, it has been linked to poor neonatal outcomes. In this case, prenatal conversations may be beneficial. While immunization may not prevent infection in newborns, it can lower infection rates in pregnant women, resulting in fewer complications during conventional prenatal care. Many developing countries have learned useful lessons from mistakes made in prior public health endeavors. Recognizing these criteria and customizing your COVID immunization efforts to them could save you money. A disinformation campaign in Pakistan, for example, impeded the country's efforts to eradicate wild polio.

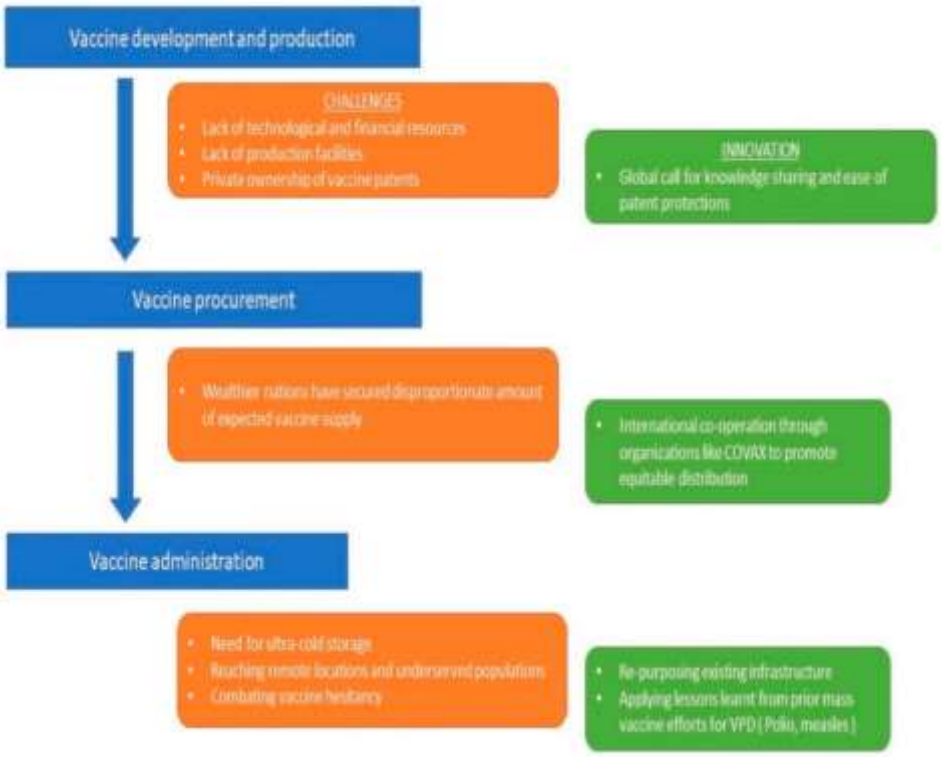

FIG.1: VACCINATION AS A PUBLIC HEALTH STRATEGY IN DEVELOPING NATIONS.

Political stability is still essential for eradication attempts to succeed. This lesson was imparted to us through the historical experience of smallpox eradication in Somalia. The years 1977 to 1979 are likely to be regarded as the "death years" because to the widespread spread of smallpox. The Somalian–Ethiopian war impeded programme activity at the time, among other concerns. It's important mentioning how the World Health Organization (WHO), a third, more powerful impartial party, was forced to intervene and handle the issue by providing resources. Figure 1 depicts the proposed public health strategy for COVID-19 immunization.

CONCLUSION:

Despite the fact that a number of international organizations have taken up the work of ensuring vaccine fairness, these programmes must be sustained in the event of future crises. Despite the fact that there are several facilities in various parts of the world capable of generating safe and effective inputs and vaccines, it is not feasible due to strict contractual terms and intellectual property rights difficulties. Voluntary license agreements aren't enough to meet demand, and they're still limited by secrecy constraints and low production standards. This, combined with wealthier countries' nationalist mentality and individualist behaviour in anticipating the purchase of massive supplies of vaccines, only exacerbates worldwide vaccination imbalances. Aside from getting vaccines, it is necessary to recruit religious, cultural, and societal authorities to ensure that immunizations are delivered properly.

The global consequences of the COVID-19 pandemic, including global patterns of production and consumption, international collaboration and its institutions, and humanity's relationship with the environment, are still unclear. However, some convictions remain: public health

systems must be strengthened and their centrality in any development path emphasized; policies to stimulate local pharmaceutical product production, particularly in developing countries, must be rethought and resumed; and South-South cooperation must be strengthened.

In poor countries, improving local manufacturing of COVID-19 drugs and vaccines is also crucial, and it might play a big role in enhancing developing countries' contribution to global pharmaceutical output. Re-emerging infectious diseases expose national and international vulnerabilities (health-care and surveillance systems; social and economic disparities), highlighting the urgent need to rethink the global R&D system for the development of drugs and other health technologies - and to create avenues for the dissemination of knowledge and socially relevant technologies. As a result, developing an R&D system sensitive to health demands and priorities, as well as reconstructing the elements that regulate resource allocation, finance, dissemination, and access for vulnerable countries and populations, is required. Taking advantage of existing assets can help developing countries overcome some of the challenges they face in vaccinating their citizens and putting the pandemic closer to an end.

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