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Title: Global Health Diplomacy in the Context of COVID-19 Vaccine Acquisition: A Case Study of Ethiopia

BY

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Contents

List of tables and figures

List of Acronyms

GHD= Global health diplomacy

COVID 19= Coronavirus disease 19

MOH= Ethiopian ministry of health

WHO= World health organization

UNICEF= United nations international children's emergency fund

WB= World Bank

GF= Global Fund

GAVI= Global alliance for vaccines and immunization

MoFA= Ethiopian ministry of foreign affairs

DCA= Diaspora community agency

EPI = Expanded program in immunization

EOC= Emergency operating Center

NDVP= National Development of Vaccine Plan

JCCC=Joint Country coordination committee

HPN= Health, Population and Nutrition development

GHED= Global Health Expenditure Database

Title: Global Health Diplomacy in the Context of COVID-19 Vaccine Acquisition: A Case Study of Ethiopia

Abstract

The COVID 19 pandemic has enlighten the world of its existing inequality and vulnerability on global health infrastructure. With various geopolitical, logistical, and economic challenges during pandemics, GHD serves as a strategic tool for countries to achieve health goals through diplomatic efforts fostering negotiations and collaborations in ensuring equitable access to health care and vaccine access. While those richer countries secured vaccine stocks, many developing countries like Ethiopia, relied on global health diplomacy and international Aid to access the vaccine. By focusing on Ethiopia's GHD efforts during the COVID-19 pandemic within the dimensions of global health diplomacy, this research successfully uncovered the role, strategies, opportunities, challenges, and puts forward areas of improvement for future health emergencies. In doing so, the study provides insights that could be valuable not just for Ethiopia but for other countries understanding the complex landscape of health diplomacy during global health crises. This qualitative research used purposive snow balling sampling technique to identify the right participants. In-dept and KI interview was conducted both face to face and virtual, with 10 participants who had a direct involvement on the GHD efforts during the time. The data is analyzed using Atlasti.9. An inductive thematic analysis is done using the dimensions as thematic area. The results are presented under each dimension of GHD. The WHO, WB, UNICEF, GF and GAVI has been the major actors involved with major contribution to the MOH. The most frequent opportunity mentioned for the success of the efforts was the existing partnership the MOH had with partners. The government's commitment with allocating a huge amount of money for the pandemic response, the domestic resource mobilization and the diaspora contribution had a significant impact in the response and vaccine acquisition success. Having no proactive budget for health emergencies, the cold chain infrastructure and the global resource nationalism were the challenges MOH faced. Unlike most other research, the results are able to provide broader and visible understanding on the efforts Ethiopia played during within the 7 dimensions of the GHD. This research outcomes can be used by decision and policy makers as a lesson learned for future pandemics to efficiently use opportunities and address challenges.

Key words; Global health diplomacy, vaccine competition, vaccine acquisition, existing partnership, domestic resource mobilization, digitalizing resources utilization records

1. Introduction

1.1 Background

Global health diplomacy refers to the process of engaging in negotiations and executing health policies and programs that transcend national boundaries and involve international organizations. The primary objective of the Global Health Diplomacy initiative is to strengthen the advancement of global health security, equity, and collaboration among diverse organizations and individuals involved in the field. One of the primary obstacles encountered in the efforts of global health diplomacy during the COVID-19 pandemic pertains to the fair allocation and availability of vaccines, particularly for low- and middle-income countries.(1)

Ethiopia, situated in Africa, stands as a well-known nation in terms of both size and population, having approximately 126[1] million population. The country is among the most economically disadvantaged countries globally, with its low gross domestic product (GDP) per capital of $1218 and its relatively low human development index (HDI) ranking 153 out of a total of 189 countries.[2] The COVID-19 pandemic has had a significant impact on Ethiopia

Ethiopia has been the recipient of health aid from a diverse range of sources, that includes bilateral donors, multilateral agencies, private foundations, and non-governmental organizations, during the COVID-19 pandemic. (2)(3)

The COVID 19 virus was first discovered in Wuhan, China. The World Health Organization (WHO) announced it a pandemic on March 11, 2020, and as public health emergency of international concern on January 28, 2020, due to the extensive damage it caused in terms of both people and material goods. As of October 25, 2023, the World Health Organization had received reports of 771,549,718 confirmed cases of COVID-19 worldwide, including 6,974,473 deaths. 13,533,465,652 COVID 19 vaccination doses had been given out as of October 21, 2023.(4) (5)

[1] https://www.worldometers.info/
[2] Hhttps://www.prosperity.com/globe/ethiopia

As in the reports from the World Health Organization (WHO), Ethiopia recorded a total of 501,060 confirmed cases of COVID-19 between the period of 3 January 2020 and 18 October 2023, that has led to 7,574 deaths. As of May 28, 2023, the total number of administered vaccination doses was 68,856,793. The implementation of immunization measures played a crucial role in mitigating the spread of the COVID-19 pandemic. Nevertheless, there has been a notable variation in COVID-19 immunization rates among different countries, and the issue of vaccine disparity has emerged as a significant global public health concern.(6)

Since the onset of the COVID-19 pandemic in December 2019, the implementation of widespread vaccination has been widely recognized as a cost-effective and feasible strategy for mitigating the spread of the virus. COVID-19 vaccination initiatives were being executed in various countries worldwide by the conclusion of 2020. The uneven advancement of global COVID-19 vaccine promotion can be attributed to variations in national economies, vaccine development technologies, and disparities in immunization coverage among countries.(6)

The COVAX initiative was launched by the World Health Organization (WHO) in response to the recognition that developing countries has been facing challenges accessing the COVID-19 vaccine. This initiative had given a primary emphasis on achieving equitable distribution of vaccinations, aiming for comprehensive coverage across all countries by the conclusion of 2021. There was a particular attention that is directed towards 92 countries characterized by lower-income levels.(7)

1.2 Statement of the problem

Based on World Health Organization (WHO) on 2022, it has been reported that a total of 314 million doses of COVID-19 vaccinations have been administered across 50 African countries. This represents only 2% of the overall population who have received at least one dosage. The analysis conducted by the Bill and Melinda Gates Foundation, revealed that those rich countries possess the capacity to administer one billion doses of COVID-19 vaccines, while they still have enough reserves to vaccinate 80% of their population above the age of 12.(6)

Much portion of literature focuses on the global and regional efforts of countries in the vaccine related diplomacy and gained collaborative Aids. Country specific challenges involving their contexts and journey during the challenging seasons must be taken into account for further contribution in the collaboration of health aids and global health diplomacy to bring an input for policy makers in their decision making. (7)

The problems faced during the pandemic had various natures. The existing readiness of the local health systems for such times of crisis and the concern of global countries for the acquisition of the vaccines produced by only some specific countries to be distributed without the issue of inequalities in a resource constraints environment had shown the challenges faced globally. “Only 3.4% of the population received the second dose within the 9 months of the national vaccination program initiation.” This indicates how much the inequalities exit. This issue would call for the opportunity of performing research on the global health diplomatic efforts done in order to enhance the accessibility of vaccines. (2)

In contexts characterized by resource constraints, this study has the potential to offer valuable insights for the formulation of pandemic response strategies that are both equitable and effective. This study utilizes the case of Ethiopia's COVID-19 vaccine deployment to address the existing knowledge gap pertaining to the role of health diplomacy in responding to pandemics.(7)

1.3 Rationale of the Study

The primary objective of this research is to investigate the significance and consequences of global health diplomacy and health aid in the context of COVID-19 vaccine procurement and dissemination in Ethiopia. Ethiopia, being a low-income country passing through various challenges in its healthcare infrastructure and pandemic management, serves as the focal area for this study.

The role of health diplomacy is an important aspect in international relations and global health governance. In the context of a globalized world, effective management of global health emergencies would ask the need for the presence of global health diplomacy and international cooperation. This is due to the fact that pandemics, which disregard national boundaries, demand collaborative efforts and collective action. This research aims to investigate the manner in which Ethiopia has actively participated in interactions with diverse stakeholders and platforms, including WHO, UNICEF and bilateral donors, in order to attain access to COVID-19 vaccines. Furthermore, the study seeks to analyses the impact of these engagements on Ethiopia's diplomatic relations and its role in global health governance. The study will additionally examine the opportunities and obstacles for Ethiopia's involvement in global health decision-making and leadership, along with the consequences of vaccine diplomacy.

The outcomes derived from this study possess the potential to provide valuable insights for the development of policies and strategies at both domestic and global scales. These insights can guide the implementation of more efficient and impact measures in mitigating health crises.

1.4 Significance of the Study

The significance of the study is to explore how the country has navigated the challenges and opportunities of securing access to vaccines in the context of a global pandemic that has exposed the gaps and inequalities in the international health system. The study of this topic is also relevant because the recent pandemic, COVID 19 has shown the world that collaboration of all countries, international organizations and local governments is very essential in combating such crisis.

First Analyzing the success and weakness of the existing Health polices and factors contributing for the vaccine role out, would indicate policy makers in improving governance approaches in responding health emergencies.

Second, this research would contribute in strengthening health systems by indicating the gaps and strengths of Ethiopia's response to COVID-19, as well as the challenges and opportunities for enhancing its preparedness and resilience for future pandemics.

Third, it can enhance health diplomacy practices by exploring the role of health diplomacy in shaping Ethiopia's relations with other countries and organizations during the pandemic. It can do this by assessing how Ethiopia leveraged its diplomatic efforts, such as its leadership in the African Union, its participation in multilateral forums, its reputation as a peacekeeper and humanitarian actor.

The ultimate goal of the study is to provide areas of improvement and recommendations for improving the coordination and effectiveness of international health aid and diplomacy in dealing with pandemics and other global health challenges. By doing so, the study aims to inform future strategies for ensuring a more timely and effective response, particularly in resource-limited settings like Ethiopia.

2. Literature review

Global Health Diplomacy is a term that has been used by various scholars and actors to describe the relationship of health and foreign policy. There is no common consensus on a single definition of Global Health Diplomacy, but some agreeable elements include “building trust, cooperation, and mutual benefit among stakeholders”; “the promotion of global health goals and equity”; and “the use of health concepts or mechanisms in policy shaping and negotiation strategies.” GHD can be practiced at different levels, from bilateral to regional to global, depending on the aims and interests of the actors involved.(9)

Ethiopia has been trying to leverage GHD to secure more vaccines and health aid from its partners. Ethiopia has also been a leader in regional health cooperation, hosting the headquarters of the African Union and the Africa Centers for Disease Control and Prevention (Africa CDC), which have played key roles in coordinating the continental response to COVID-19. Moreover, Ethiopia has also been a donor of health aid to other African countries, especially in areas such as maternal and child health, infectious disease control, and health workforce development.(10)

The field of global health diplomacy has seen an increase in interest recently. The World Health Organization (WHO), the United States Department of State have established official GHD offices, the African CDC has also included health diplomacy and policy as one of its four working division, and several countries now have offices with a wide range of additional GHD functions. There is an increase number of researchers who are starting to write papers on the topic; a recent survey found that over 70% of all peer-reviewed journal articles on GHD since 1970 were published in the past ten years.(11)

2.2 Global health diplomacy before covid

The Pan American Health Organization (PAHO), regarding the emergence of the novel influenza strain, H1N1 had provided Mexico with technical assistance and served as a central hub for information dissemination across North America during the outbreak. The diplomatic collaboration of Mexico, US and Canada played an important role in the context, with a specific emphasis on the exchange of samples and the equitable distribution of vaccines. In the context of bilateral relations, it is noteworthy that the United States Centers for Disease Control and Prevention (CDC) deployed personnel and resources for the purpose of conducting testing.

Additionally, the United States Agency for International Development (USAID) extended financial assistance amounting to $5 million to Mexico. In addition to the donation of $3 million, China also provided infrared scanners and personal protective equipment (PPE). (9)

During the occurrence of the Middle East Respiratory Syndrome (MERS) outbreak, both global and bilateral health diplomacy were observed. MERS remains geographically limited to the Middle East region, and its global recognition has been relatively minimal since the year 2012. The global public health community experienced a significant diversion of attention two years later due to a substantial Ebola outbreak in West Africa.(9)

The Ebola outbreak in West Africa in 2014 exposed the institutional vulnerabilities of the World Health Organization (WHO) and highlighted inclinations in global and bilateral health diplomacy. The United Nations Mission for Ebola Emergency Response (UNMEER) was established in September 2014 as a comprehensive international initiative under the leadership of UN Secretary-General at the time. The organization assumed responsibility for the coordination of global contributions, amounting to a sum exceeding $5 billion. Since 2014, the WHO has implemented several measures to address emergency situations, including the establishment of an emergency fund, organizational restructuring, and substantial leadership modifications. The contributions made by member states during the 2014 crisis were subsequently utilized in addressing the 2018 outbreak.(9)

2.3 Global health diplomacy during covid

World Health Organization has reported that the COVID-19 vaccine distribution has been heavily skewed towards the 10 wealthiest countries, which collectively possess approximately 60% of the global gross domestic product (GDP). These countries have received nearly 75% of the total vaccine doses available. In response to the limited availability of COVID-19 vaccines in economically disadvantaged countries, the World Health Organization (WHO) initiated the COVAX programmed, with the primary objective of addressing disparities in vaccine distribution. The primary objective of this initiative was to ensure the equitable distribution of COVID-19 vaccines to all countries, with a particular focus on 92 countries characterized by lower-income levels, by 2021.(4)

The COVID-19 vaccines are increasingly being utilized as a means of public diplomacy, with various countries such as China, India, Russia, and the United States engaging in competition to exert influence by means of vaccine donations and procurement agreements. China possesses a significant advantage due to the distribution of millions of complimentary vaccine doses to 69 countries. This approach aligns with Beijing's public diplomacy endeavors, which priorities regions that are often overlooked by the United States and Europe, namely Asia, Africa, and Latin America.(12)

Despite the presence of certain missed opportunities, it is evident that the COVID-19 crisis has presented a remarkable occasion to enhance the role of health diplomacy in the African context. Here are some initiatives observed to emerge in Africa for the response of the pandemic. The African Union COVID-19 response fund plays a pivotal role in providing financial resources for the procurement of vaccines and the enhancement of capacity-building efforts. The primary objective of the Africa joint continental strategy is to mitigate the impact of COVID-19 by reducing the occurrence of severe illness and mortality, while simultaneously minimizing the adverse effects on society and the economy. The primary objective of the Africa Task Force for Novel Coronavirus is to promote and facilitate pan-African collaboration and guidance in the areas of information dissemination and the adoption of optimal strategies. The Partnership to Accelerate COVID-19 Testing (PACT) aims to optimize the processes of testing, tracing, and treating COVID-19 cases in order to mitigate the overall impact of the pandemic. The Africa Medical Supplies Platform (AMSP) facilitates the procurement of certified medical equipment and vaccines for member states, offering enhanced cost-effectiveness and transparency. The Consortium for COVID-19 Clinical Vaccine Trials (CONCVACT) expedites the progress of vaccine trials in the African region by establishing collaborative alliances with pertinent institutions. The African Vaccine Acquisition Task Team (AVATT) offers a collective procurement mechanism for the acquisition of vaccines and the fair allocation of distribution. (12) (13)

2.4 Health Aid.

The effective integration of health as a foreign policy objective is facilitated by the presence of shared health concerns across national borders and the establishment of regional collaborations. Nevertheless, the effects and health consequences of Africa's participation in Global Health Diplomacy (GHD) have not met the anticipated outcomes. African states have exhibited reluctance in laying down their sovereignty and policy autonomy to global health protocols due

to their perception that international organizations may be concealing their underlying motives.(14)

The establishment of the Africa CDC aimed to optimize public health efforts across African Member States and strengthen their institutions' ability to detect, prevent, control, and respond to health crises. The continent has demonstrated its solidarity through the establishment of the Africa Health Strategy 2016–2030 and the African Medicines Agency (AMA). Nevertheless, it is worth noting that crucial agenda-setting mechanisms like the AU Agenda 2063 do not accord public health with a significant level of priority. The African countries have become increasingly receptive to external influences. However recently the African member states have shown their collaborative efforts on African Union forum and the WHO assembly meetings. (13)

The Ministry of Health's execution of the Health Sector Development Plans (HSDPs) was subsequently accompanied by a substantial and growing assistance. The Ethiopian health system exhibits several prevalent humanitarian issues commonly observed in various African countries.(15)

In the years 2015 and 2016, the health sector received a significant proportion of bilateral Official Development Assistance (ODA), with an average annual share of 22% of total net ODA disbursement. This allocation ranked second highest, preceded only by humanitarian aid which accounted for 25% of the total. According to data from the OECD-DAC, the health and reproductive sectors received an average of over USD 1 billion annually from 2013 to 2015, with an average of 26 donors contributing to this funding. The establishment of an effective and sustainable health system primarily relies on the presence of politically committed and visionary leadership within the recipient partner government. This leadership is responsible for defining goals and creating suitable platforms for health development cooperation. During the implementation of the Health Sector Development Program-III (HSDP-III), a notable rise in Development Assistance for Health (DAH) allocated to Ethiopia was observed. The reason for the increase could be raised to, the presence of strong leadership at the highest level has played a significant role in driving these advancements. And the Global Fund and the Global Alliance for Vaccine and Immunization (GAVI) have contributed to this trend through an increase in vertical funding. (16)

In the context of the Ethiopian Somali Region, the eastern region of Ethiopia, there is a recurring pattern of crises, disease outbreaks, and food insecurity, leading to fluctuations in relief efforts and aid allocations on an annual basis. Aid organizations frequently visit specific regions on a monthly basis, with increased frequency during periods of reduced rain and drought, with the objectives of administering vaccinations and distributing medication. In the context of the region, the reception of foreign aid is considered customary and anticipated. Medical assistance has exerted a substantial influence on the local health systems over an extended period of time. (17)

3. Conceptual framework

Global Health Diplomacy (GHD) is the process of negotiating and collaborating among multiple actors and stakeholders to address global health challenges and achieve health-related goals. GHD can be seen as a subset of health diplomacy, which also includes bilateral and regional health cooperation and assistance. GHD aims to promote global health security, equity, and justice, as well as to advance the interests and values of the actors involved.

Health aid is a form of development assistance that is specifically targeted at improving the health status and systems of recipient countries. Health aid can be delivered through various modalities, such as grants, loans, technical assistance, or in-kind contributions.

COVID-19 vaccine acquisition is the process of obtaining access to safe and effective vaccines against the novel corona virus disease that emerged in late 2019 and caused a global pandemic. COVID-19 vaccine acquisition is influenced by various factors, such as supply and demand, geopolitics, diplomacy, ethics, and equity.

Equitable COVID-19 vaccine acquisition efforts involve the role of actors in both GHD and health Aid. The actors include government, policy makers, international organizations, and donor country diplomats.

Successful diplomacy on health Aid plays an important role in response to global health, improved health outcomes, universal health coverage equitable access to health care and relevant to our study equitable access to Covid 19 vaccination.

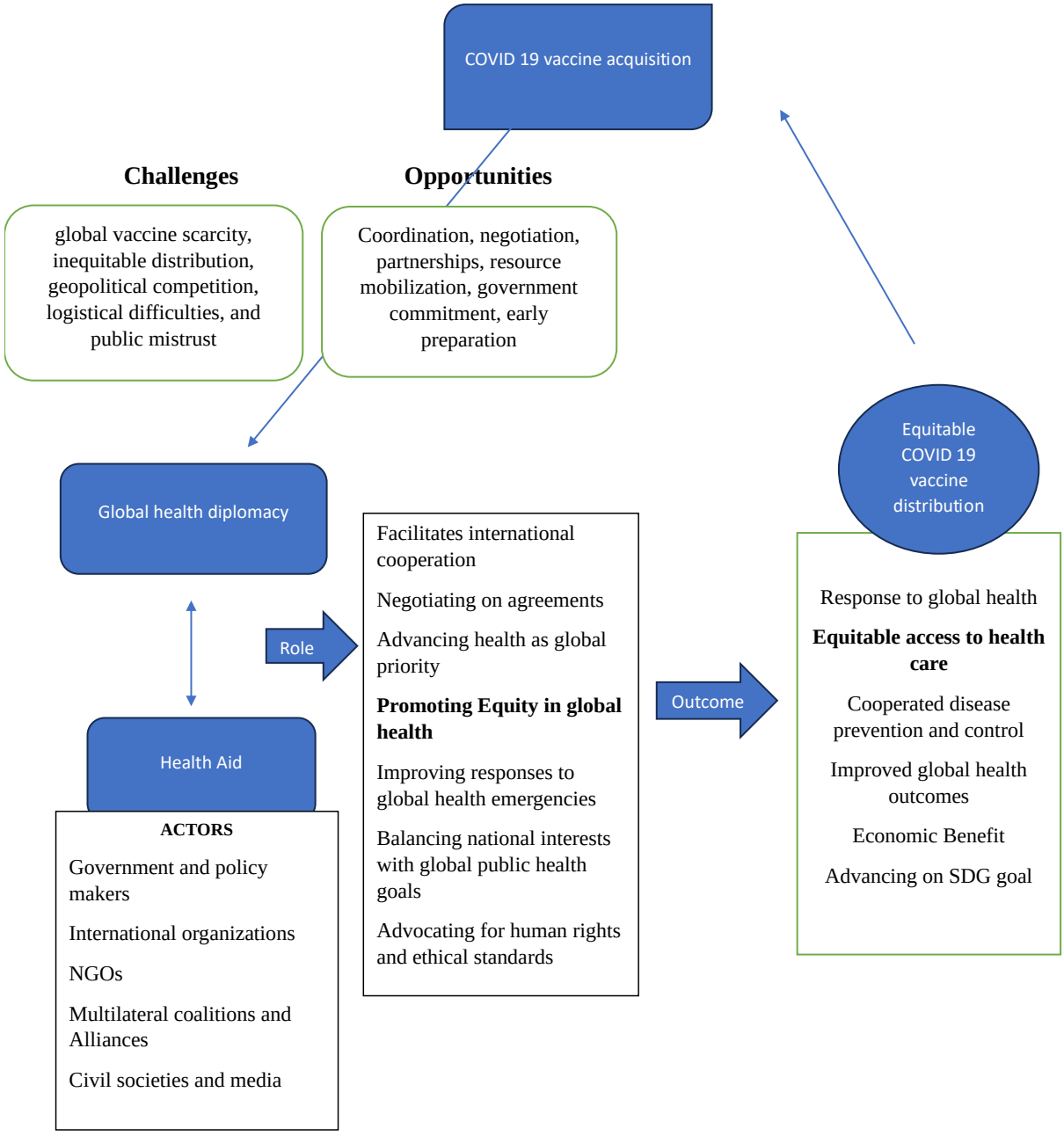

Figure 1: Conceptual Framework

4. Objective

4.1 General objective

To explore the role of Global Health Diplomacy and Health Aid in the Context of COVID-19 Vaccine Distribution: A Case Study of Ethiopia

4.2 Specific objectives.

- To explore the role GHD in Ethiopia's access to COVID-19 vaccines.
- To identify the opportunities Ethiopia had to enhance its GHD engagement in the context of the COVID-19 pandemic.
- To identify challenges that hindered efforts of GHD in the context of COVID 19 pandemic.
- To explore areas of improvement for future pandemic response.

5. Methodology

5.1 Study Setting

The study is conducted in Addis Ababa, Ethiopia, where most of the government officials, the Ministry of Health (MOH) and the Ministry of foreign affairs, international organization representatives and diplomats are located, this provides access to federal level documents related to the COVID-19 vaccination efforts.

The capital city is also called “the diplomatic capital of Africa” due to its historical, diplomatic and political significance for the continent. Headquarters of major international organizations such as AU and United Nations Economic Commission for Africa (UNECA) are located in Addis Ababa. Moreover, the African CDC, which hosts the office of Global Health Diplomacy, is based in Addis Ababa.

5.2 Study approach

The study design for this research is a qualitative study. This approach will allow to investigate in depth and understand the roles and impacts of Global Health Diplomacy in Ethiopia's COVID-19 vaccination efforts, and document review. The documents included are, the national emergency preparedness and response plan, the national vaccine deployment plan, the preparation and response plan for COVID 19 and the COVID 19 resource tracking dashboard. This is to support the findings of the qualitative study as well as the challenges and opportunities faced by the stakeholders.

5.3 Study population

The study population included representatives from different sectors and levels of involvement in the COVID-19 vaccination process. These include government officials from the MOH and MoFA who had direct roles during the pandemic, international organizations bilateral or multilateral who participated in health diplomacy and vaccine procurement, diplomats of countries in Ethiopia who secured aid during the pandemic.

The criteria for inclusion were involvement in policy formulation, implementation of vaccination programs, or participation in international health diplomacy initiatives and direct

involvement on the Global Health Diplomacy. The exclusion criteria were those who are new to the position, less than 1 year of experience to the title.

5.4 Study Participants

The total number of participants included in this research were 10 in number, 8 men and 2 women. Eight in-depth interview and 2 KII from the WHO and UNICEF was conducted. The in-depth interviews were conducted for participants from MOH, MoFA and DCA to understand the in dept roles of the actors and get deep explanation of the challenges and opportunities as the participants are rich of information related to the topic. All the participants were those who had a direct involvement in the response of the pandemic. The participants were all Master's degree holders and stayed in their position for 4 years and above. The participants from MOH were those from the strategic affairs or resource mobilization and grant management team and the EPI desk who had involvement in the vaccine demand communication and vaccines logistics. Two people form each team were included. The MoFA and Diaspora community Agency are also participants of this research as they also have directly involved in political negotiation with partners.

The interviews were conducted face-to-face and virtual, depending on the availability and preference of the participants. Document reviews of national COVID 19 strategic plan, national vaccine deployment plan, Plan progress reports and resource mobilization dashboards was conducted from those within the years of the pandemic.

5.5 Participant recruitment

Purposive sampling Technique was used to identify key informants (Actors in GHD) who have direct knowledge and involvement in the COVID-19 vaccine acquisition process and resource mobilization for procurement. Snowball sampling was also used to enhance the depth of perspectives based on the recommendations of the initial participants.

5.6 Data collection methods

The qualitative data collection methods included in-dept and KI interviews, and document analysis. The interviews were guided by an interview protocol that covers topics such as the role and contribution of Global Health Diplomacy in Ethiopia's COVID-19 vaccination efforts, the challenges and opportunities encountered, the lessons learned, and the recommendations for future actions. The interviews were audio-recorded and transcribed verbatim then translated to English.

5.7 Trustworthiness

To ensure the credibility of the data, data from different sources, such as interviews, document reviews, and secondary data were reviewed. The data is also cross-validated involving regular discussions with advisors and peer review comments. To ensure the transferability of the findings, the results provided well-explained descriptions of the data sources and the analysis results. To ensure dependability of the data, audio recordings of the interviews with their translation and citations of the references used for the document review is presented.

5.8 Analysis Procedures

5.8.1 The qualitative data analysis

The study used seven themes adopted from the seven dimensions used to explore GHD, to identify, analyze, and report patterns within the qualitative data. This analysis method enhanced the insights of the representatives and explore more on their experiences. Reviewed documents, official statements, and reports to quantify patterns in recorded communications are used to support the results of the interviews. The thematic analysis is done by Atlasti. Version 9, qualitative data analysis software. Identified 110 codes were grouped in 17, as challenges and opportunities of each theme, role of partners and proposed recommendations. Then the groups formed were discussed and presented based on their respective themes as of the 7 dimensions of GHD presented in 2021 guide to GHD.

Table1. list of applied themes, group and their respective codes.

	Theme	Group	Codes
1.	Negotiating to promote health and well-being in the face of other interests,	Opportunities in Negotiating to promote health	Ethiopian Airlines, approval only by the Minster, AU and African CDC's head office in Ethiopia, communication of vaccine choices with GAVI, daily virtual communications, diaspora as a diplomat in their resident countries, The minister as a board member of GAVI, effective leadership, existing partnerships, experience sharing from diaspora in the health sector, Good image of Ethiopia's diplomacy, high population number, negotiation, no debt of cofinanced projects, prioritization and alignment, successful implementation records of projects
		Challenges in Negotiating to promote health	Challenges in negotiation skills, different vaccine types, donor dependent heath sector, donors' interest, global vaccine competition, ear marked donations, less than the asked amount, lack of cold chain storage, no proactive emergency fund, resource nationalism, short shelf life of covid vaccines
2.	Establishing new governance mechanisms in support of health and well-being	Strength of the new governance structure	24/7 working hours, approval only by the minister, centralized resource distribution, coordination, early national deployment plan, government commitment, public access to right information, MoFA, EPHI, MOF, MOP in the governance structure, recognition of contributors
		Weakness of the new governance structure	reaching out to different offices, utilization reports not digitalized, domestic contributions flooding, duplication of efforts, issues of sustainability

3.	Creating alliances in support of health and well-being outcomes	Opportunities in creating alliance	Ethiopia, diaspora as a diplomat in their resident countries, The minister as a board member of GAVI, successful implementation records of projects, early national deployment plan, existing partnerships, immediate response of the diaspora, no debt of cofinanced projects, recognition of contributors, resource mobilization form the diaspora, JCC, AU and African CDC's head office in Addis
		Challenges in creating alliance	lack of cold chain storage, duplication of efforts, global vaccine competition, issues of sustainability, misinformation, no proactive emergency fund
4.	Building and managing donor and stakeholder relations	Opportunities in building and managing relations	hired technical assistants, daily virtual communications, immediate response of the diaspora, experience sharing from diaspora in the health sector, involvement of religious leaders, response of other international partners, effective leadership, AU and African CDC's head office in Ethiopia, The minister as a board member of GAVI, early emergency detection and preparedness, early national deployment plan, Ethiopia leads pandemic preparedness and prevention convention
		Challenges in building and managing relations	donors' interest, reaching out to different offices, resource nationalism, misinformation
5.	Responding to public health crises	Opportunities in responding to the pandemic	early emergency detection and preparedness plan, 24/7 working hours, domestic resource mobilization, , Ethiopian Airlines, communication of evidence based information, coordination, daily virtual communications, demand proposal development, , early national deployment plan, effective leadership, government commitment, immediate response

			of the diaspora, involvement of religious leaders, partial lockdown, private hospitals partnerships, public access to right information, recognition of contributors, reduced negative impact, the public response, vaccination campaigns, diaspora as a diplomat in their resident countries, different vaccine types
		Challenges in responding to the pandemic	no proactive emergency fund, donor dependent heath sector, short shelf life of covid vaccines, utilization reports not digitalized, vaccine delay, vaccine hesitancy, ear marked donations, global vaccine competition, lack of awareness, lack of cold chain storage, misinformation, no preparedness, regional competing priorities, resource nationalism
6.	Improving relations between countries through health and well-being,	Opportunities in improving countries relation	Ethiopian Airlines, donated to other countries when excess, effective leadership, international travelers' vaccination, resource mobilization form the diaspora, Ethiopia leads pandemic preparedness and prevention convention, immediate response of the diaspora, AU and African CDC's head office in Ethiopia
7.	Contributing to peace and security	Opportunities in contributing to peace and security	Ethiopian Airlines, donated to other countries when excess, Ethiopia leads pandemic preparedness and prevention convention
8.	Areas of improvement	Research participants' insight in the areas of improvement	service integration, common standing position as Africa, developing culture of immediate response, domestic resource mobilization, emergency health trust fund proposal, incorporating emergency as cross cutting program, independent emergency management office, proactive resource mobilization for the future, resilient health system, strengthening partnerships, utilization must be digitalized

9.	Roles played	Role played by international partners	response of other international partners role played by GAVI role played by UNICEF role played by WB role played by WHO
		Role played by MoFA	diaspora communication, experience sharing from diaspora in the health sector, MoF reprograming budgets, MoFA cooperating with MOH, political intervention, resource mobilization from the diaspora
		Role played by MOH	communication of evidence-based information, communication of vaccine choices with GAVI, covid response team, daily virtual communications, demand advocacy, demand proposal development, domestic resource mobilization, early national deployment plan, guideline development, health workers capacity building, international travelers vaccination, involvement of religious leaders, MoFA cooperating with MOH, negotiation, prioritization and alignment, public access to right information, recognition of contributors, resource mobilization team, utilization status
		Role played by domestic partners	domestic resource mobilization, Ethiopian Airlines, private hospitals partnerships, response of partners

5.10 Ethical Considerations

A letter of approval from the ethical committees and support later was taken from the Addis Ababa University Collage of Public Health before conducting the research. The study adheres to ethical principles in conducting research involving human subjects. An introduction page giving an overview on the area of the research topic was provided to the respondent alongside the consent forms. The study obtained informed consent from the participants verbally and ensure their confidentiality and anonymity for the audio record of the interview session.

With the principles of respect, beneficence and justice, and assurance of the protection of human rights, confidentiality and informed consent of the participants is obtained. The benefit of the study as it contributes valuable insights to the field of Global Health Diplomacy, informing policy and decisions, and the risks associated with maintaining confidentiality are openly and clearly addressed to participants. The study respected the cultural and political sensitivities of the context and avoided harm or coercion to the participants.

6. Result

According to Ilona Kickbusch's Guide to Global health diplomacy, efforts in global health diplomacy can better be understood by breaking the field down into the 7 dimensions and these dimensions are used as themes in this study. The results are presented according to these thematic areas;

1. Negotiating to promote health and well-being in the face of other interests,
2. Establishing new governance mechanisms in support of health and well-being
3. Creating alliances in support of health and well-being outcomes
4. Building and managing donor and stakeholder relations
5. Responding to public health crises
6. Improving relations between countries through health and well-being, and
7. Contributing to peace and security.

As this thesis aims in understanding the global health diplomacy efforts of Ethiopia in the acquisition of the COVID 19 vaccines during the pandemic, this thesis used the above seven dimensions as themes and formulated the research questions based on the deductive method to better understand the case of Ethiopia.

N:B the figures are created from list of groups within the themes and some highlighted quotes from the respondents. This is done with the Atlas.ti 9 software

6.1 Socio economic status of participants

Following the research guidelines line, the participants were able to provide a deep and broad response to all questions presented that provided a significant insight for the result of this research. Their responses are also supported by the strategic documents reviewed to provide evidence. The age range of all of the participants was 33-56, which is to be appreciated in involving the young generation in the GHD. All participants were Master's degree holders', except for a national consultant for WHO with an MD and a pediatric specialization. All the participants are with more than 3 years' experience in their current position. Overall, table 1 underscores the importance of a multidisciplinary approach in gathering data, where each participant's unique background and insights can add depth and breadth to the analysis.

Table 2. Background information of the research participants

Organization	Position	Number of participants	Gender	Age	Years of experience in the position	Educational status
MOH	1. Strategic affairs department -Resource mobilization teams	Two	Male	37	4 years	Masters
			Male	36	4 years	Masters
	-Grant management teams	Two	Male	45	7 years	Masters
			Male	56	5 years	Masters
	2. MCH, EPI team	Two	Male	33	4 years	Masters
			Female	48	4 years	Masters
MoFA	International organizations directorate	One	Female	36	2 years	Masters
Diaspora community agency	Communications director	One	Male	46	5 years	Masters
WHO	COVID 19 vaccine production national consultant	One	Male	45	3 years	MD, pediatric Sub
UNICEF	National COVAX coordinator	One	Male	33	3 years	Masters

6.2 Roles played

The MOH who had been the major actor in the efforts of GHD for the acquisition of the vaccines had played a very significant role not only limited to acquiring the vaccines but in the overall response of the pandemic. Its role included, communication of evidence based information, communication of vaccine choices with GAVI, leading COVID 19 response team, daily virtual communications with stakeholders, creating demand advocacy, demand proposal development, domestic resource mobilization, preparing early national deployment plan, guideline development, health workers capacity building, involvement of religious leaders, vaccinating international travelers Cooperating with MoFA, negotiation, prioritization and alignment, priority group selection, enhancing public access to right information, recognition of contributors, resource mobilization team, monitoring utilization status and evaluation of progress reports.

In their current role, the respondents at the MOH resource mobilization and grant management team work closely with partners to make sure the health sector has the resources it needs. They spend a lot of time writing proposals and securing grants, which are vital for keeping health services and initiatives running. They were part of the emergency team that includes the MOH, EPHI, and other key players. This team coordinated the pandemic response, and the resource mobilization. Respondents from the MOH EPI team had been part of the national vaccine deployment plan, demonstrating their dedication to strategic planning and execution. The document has dose forecasting and characteristics of the vaccines considering the cold chain capacity of the country. As leaders of the demand communication team, they have been instrumental in developing training materials for health workers where these materials are crucial for ensuring vaccines are administered effectively and for combating vaccine hesitancy within the health professionals and the public.

During the pandemic, the role of the DCA and MoFA shifted to focus on mobilizing resources for the pandemic response, working closely with donor organizations and engaging the diaspora for support amidst global shortages. By collaborating with the Ministry of Foreign Affairs, the MOH balanced technical requirements with geopolitical considerations, ensuring that developing countries had fair access to resources. This experience underscores the crucial connection between health and foreign policy and highlights the importance of strategic

diplomacy in times of global crisis. The MoFA played a critical role in this effort, skillfully navigating political challenges to protect national interests, especially when dealing with international bodies like the WHO.

All this teams had been closely working with the WHO and UNICEF. The respondents from this international organization are those who are active members of the ICCP having a regular virtual meeting on the vaccine rollouts. While the WHO had an advisory role on the safety and efficacy of the vaccines, the UNICEF supported the procurement and logistics of the vaccines. Managing and allocating resources is just as important as the medical response itself. Their experience highlights the importance of being prepared, adaptable, and working together to maintain health and well-being during a global health crisis.

The UNICEF has been greatly involved in the procurement and logistics of the vaccines, whereas the WHO had a role of providing guidelines and evidence-based information in types and utilization of vaccines including providing trainings and manuals. Their support extended to vaccine delivery and monitoring processes, benefiting local entities like the Ethiopian Food and Drug Authority (EFDA) and the Ethiopian Public Health Institute (EPHI).

The GAVI as in the routine immunization services, facilitated the acquisition process ensuring the equitable access based on the demands created and proposals submitted by the MOH by closing working with the COVAX. Financial aid from the World Bank not only facilitated vaccine procurement but also reinforced the collaborative framework necessary for such efforts. This comprehensive support was essential in managing the pandemic and ensuring a coordinated global response.

6.2 Negotiating to promote health and well-being in the face of other interests

Negotiating to promote health and well-being in the face of other interests, especially during pandemical times are very crucial as all parties negotiating are in need of keeping their interests with the existing resource nationalism to reduce further emergency risks. The opportunities and challenges listed are those encountered while negotiating. Ethiopia being part of the LIC where the health system is donor dependent, negotiations in creating partnerships is the area of

attention to the MOH and government to strengthening the health systems at hand and achieve the UHC.

The main actors involved in the negotiations to secure the resources in responding the public health crises were the MOH and the MoFA. The MoFA has been working close with MOH in handling the political aspects of the health diplomacy involving the higher officials. Negotiation efforts are the pillars of successful partnerships. The MOH has opened its doors and involved all responsible partners in the continuous virtual negotiations starting form COVID response strategic document planning and national vaccine deployment plan to the evaluation of progress.

Proposal development, national vaccine deployment plan development and the early emergency preparedness plan were all done in close comments, collaboration and negotiation with partners like the WHO, UNICEF, GAVI, WB and the diaspora community according to the area of their expertise. The progress of the response efforts was evaluated through the virtual communication of committee like the ICCP, where the WHO had the secretarial role. The MoFA mobilized resource from the diasporas through the embassies and also created a platform for the elite diaspora to have virtual communication with the minister of MOH on the needs of resources and knowledge sharing. A respondent from the MOH's EPI team who has been involved in the early vaccine deployment plan highlighted the responsibilities taken by MOH teams for negotiating as...

"The higher officials were the one involved in the high-level diplomacy representing the country. We as technical working groups work on providing plans and evidences for decisions, then Dr. Lia takes the role of representing the ministry for communication. The grant management teams do proposals, donor requirement and compliance are done through the strategic affairs team."

6.2.1 Opportunities and challenges in negotiation

Opportunities

The most common opportunity mentioned Ethiopia had in the face of other countries to acquire the resource and vaccine demand is the existing partnership with the international organization and successful stories in implementation of health projects. As there are many projects done in partnership with donors in Ethiopia, the existing communications and success stories have built the country's image which includes routine immunizations done in strong collaboration with GAVI. The reduced child and maternal mortality rates also testify Ethiopia's commitment in utilization of opportunities to meet health targets.

All health-related communication through the MOH with international partners were only done with continuous follow up and approval of the Minister and Dr. Lea being the board member of GAVI had also a great impact in letting the voices heard. The Diaspora community's involvement as a diplomat representing their home countries in negotiations done in equitable distribution of resources and mobilization from the diaspora is not left to be unmentioned.
Moreover, the donation of approximately 18 million vaccine doses by the Chinese government is indicative of the strong diplomatic ties and mutual trust between the two countries. The willingness of China to provide such significant support without hesitation is a testament to the enduring and mutually beneficial relationship that has been cultivated over the years.

As pandemical times are emergencies that test the capacity of countries in responding to public health crises, Ethiopia had both the opportunity and also encountered challenges in the efforts of negotiations that passed lessons for future pandemics.

Challenges

One of the biggest challenges encountered was the resource nationalism, the COVID 19 pandemic had exposed the world to all new un expected outcomes. Unlike some other past pandemic, those rich countries or the higher income countries were highly affected. The resources and vaccines were seen more concentrated on those countries as they were highly in need. The LMIC and the LIC had been exposed to resource competition as the result of the resource nationalism. The negotiation process for getting vaccines during the early stages of

the pandemic had many challenges. At first, only a few vaccines, like AstraZeneca, were approved for emergency use, which caused a global shortage and delays in delivery. Ethiopia, like many other countries, struggled to get enough doses quickly, receiving vaccines about 6-8 months after requesting them. Because of the limited supply, priority was given to about 2% of the population, including the elderly, people with other health conditions, essential health workers, and security personnel.

The situation was made more difficult by the lack of different types of vaccines. Countries that could produce vaccines prioritized their own needs, leaving fewer options for others. The COVAX GAVI facility eventually provided around 2.2 million doses, but these came with their own problems, like a short shelf life of only six months after arriving in Ethiopia. This required quick decisions about vaccination campaigns and training health workers to distribute the vaccines effectively.

As more types of vaccines, like Johnson & Johnson, became available, Ethiopia's access improved through partnerships and donations from the Chinese embassy, the Mastercard Foundation, and the World Bank. These contributions were crucial in overcoming initial budget constraints and negotiating terms about the product shelf life, which required agreements with GAVI and other partners.

The World Bank and COVAX played major roles in supporting Ethiopia's efforts to get vaccines, with the COVID Vaccine Delivery Service (CVDS) helping to distribute them. Despite the challenges, these collaborative efforts eventually led to successful vaccine procurement and distribution. This experience shows the importance of international cooperation and flexible negotiation strategies in responding to global health crises.

Again, after the MOH received the vaccines, the vaccines hesitancy created by rumors caused for lower utilization of the vaccines. Which in turn challenged the negotiations for vaccine acquisition as one of the criteria for vaccine access was the utilization status of countries. Ethiopia having no prior cold chain storage management was also listed as a challenge in negotiation because the other criteria the donors or manufactures used was the availability of cold chain storage as most of the vaccines manufactured needed ultra cold chain storage management, which is different from the routine vaccines. Strong collaboration of the UNICEF, GAVI and WB was able to mitigate the issue of cold chain storage.

6.3 Establishing new governance mechanisms in support of health and well-being

Within the governance mechanism, we tried to see how the Ethiopian government adopted its governance structure suitable to the response efforts of the pandemic. The strength the governance had and also the weakness seen during the pandemic within the governance structure are included in this theme.

The government used a centralized governance approach led by the deputy prime minister. And resource distribution has been centralized to the responsibility of the MoF as pooled funds. The different government departments were given responsibilities based on their area of focus. The MOH was given responsibilities of resources related to medical equipment, MoFA involved in higher level political negotiations and together with the Diaspora services Agency mobilized resources from the diaspora, the ministry of women and children affairs handled resources related to the social needs, the ministry of peace was also involved in follow up and official recognition of the contributions through medias and certificates, and the defense ministry also played a role in keeping the peace and security issues. A respondent from in the resource mobilization and grant management team indicated that the centralized system

"Every stakeholder has been involved in resource mobilization, but then the resources were centralized to the government MoF."

However, it is important to note that while the MOH leads most of the resource mobilization efforts, bilateral donations are an exception. These are typically negotiated and managed directly by the donor and the recipient country, involving the MoFA. Despite this, the overarching coordination and strategic planning of resource mobilization remain under the purview of the ministry. This approach allows for a centralized management system that can effectively handle the complexities of international aid, ensuring that the support received is utilized in the most efficient and impactful manner.

Within the MOH also, the COVID 19 pandemic strategic document briefly explained the TOR for the domestic partners. The EPI team followed the existing governance for vaccination, the organogram is also the one used in the routine immunization. However, some amendments based on evaluation and frequent virtual communication was implemented to the attention need of the vaccination programs.

6.3.1 Strengthen and weakness of the governance structure

Strength

As pandemics needs a new governance structure for the response countries develop governance structure that can effectively govern the response efforts. As the governance structure is very crucial for the successful response, they have strength that would lead to the effectiveness and also a weakness that is a lesson to learn from. Therefore, the strength and weakness of the governance structure are included in this theme to give a clear output. There has been revision of documents, monitoring of progress and evaluation of the strengthen and weakness as an input for revisions to adjust the governance in effectively responding to the pandemic.

The most frequent strength mentioned by the respondent was the government commitment, the effective leadership approach and coordination of all stakeholders. The minister and the state minister have shown their leadership in daily virtual follow-up communications and report evaluations with the technical working groups, approval of proposals and also demand advocacy with partners were done with a strong collaboration. They worked around the clock, planning and evaluating daily activities to quickly identify and address any problems. Each group had specific roles and a reporting system that allowed for quick communication, helping to avoid ethical issues. The task force given the responsibility of the resource mobilization has been working 24/7 to mobilize resources to meet the demands in responding to the pandemic. The national taskforce being led by the deputy minister mirrored the government's commitment in responding to the needs and the attention it held.
The involvement of the diaspora community in strategy and policy-making, in collaboration with the Ministry of Health (MOH), demonstrates an inclusive approach to governance

To prevent fraud, corruption, and unethical practices during the COVID-19 vaccine rollout, the Ethiopian government coordinated efforts among various departments responsible for security, legal compliance, and ethics. Despite the urgent global demand for vaccines, these measures helped manage the situation without major incidents of misconduct. This experience showed the importance of early emergency detection and having a dedicated team, led by a minister, ready before a crisis happens. This proactive approach ensures a quick, organized response, effectively managing emergencies and advising the government. Despite these efforts, the MOH admitted there were still some limitations.

Weakness

As in a weakness of the governance, having no digitalized resource tracking system and the domestic partners sited in different office areas were raised by the participants. At the beginning of the pandemic, the main focus was on gathering resources, which led to less attention on how well these resources were used. The Ethiopian Public Health Institute (EPHI) was in charge of managing most tasks and resources. Seeing the need for better oversight, the Ministry of Health (MOH) conducted inspections to check how resources were being used and reported their findings. Further investigations aimed to understand the details about the extent, sources, and use of the resources. However, the lack of digital information management systems made this difficult. This is supported by the 6months COVID EPRP in August 2021. The document also mentioned regions not being involved in the planning and target setting as indicator of poor inter-pillar communication.

Despite these challenges, the findings led to gradual improvements in managing information and using resources more effectively. This brought the attention of enhancing the digital health technology as a strategic direction in the 2022 response integration guideline. This is also put as a recommendation for future pandemics by the interview participants.

Respondents from EPI team also mentioned a critical shortcoming in the governance structure during the pandemic, particularly highlighting the disproportionate human resource allocation for the EPI. With only five individuals at the national level and only one focal in the regions, the system was overburdened, indicating a need for a more efficient and evenly distributed HR framework.

Having an independent EOC, with a team and an office site having its own budget responsible for emergency preparedness and response. The proposed structure would be an independent and autonomous institution, equipped with sustainable resources and well-trained staff. This is frequently mentioned to avoid frustrations of team buildings in the time of pandemics.

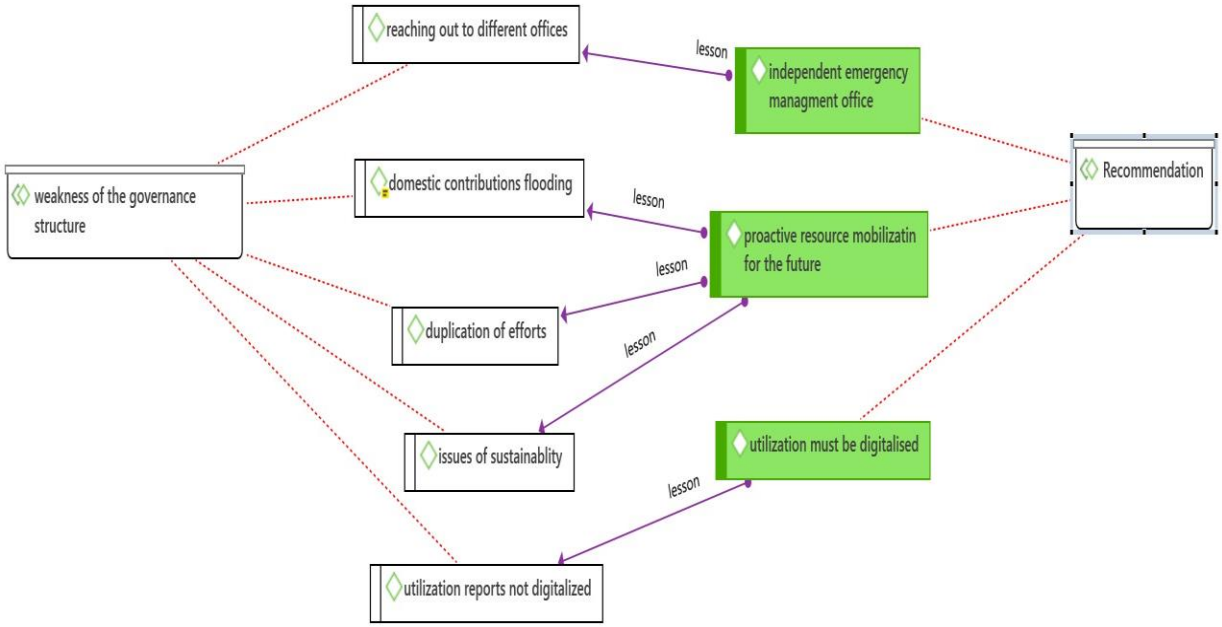

Figure 2, weakness and proposed recommendation to the governance structure (figure taken from Atlasti.9 analysis output)

6.4 Creating alliances in support of health and well-being outcomes

Creating alliance in support of health is common in the global health, with international partners for addressing health concerns that would be difficult to work alone. And pandemic times are where alliance is crucial to tackle the health crises and keep everyone safe. During the COVID 19 pandemic new international alliances like the COVAX were created and the existing GAVI alliance had been closing working with the WHO to respond to the need and equitable distribution of the vaccines. Ethiopia, as a country, used the existing partnership with the GAVI, WHO and UNICEF for the purpose of vaccine acquisition and distribution. This is well explained by respondent from the grant management team." *Ethiopia has a strong partnership culture with stakeholders."* The opportunities Ethiopia had and the challenges faced while creating such partnership during the pandemic are explained within this theme.

Key collaborators included UNICEF, the African Union (AU), the Chinese Embassy, the World Bank, the European Union (EU), Italy, and other philanthropic groups. These partners provided both financial and material support, with UNICEF playing a major role in vaccine

procurement and distribution. The ICCP involving all the partners including the CDC has been the highest level of leadership in the national deployment and vaccination plan.

The Ministry of Health (MOH) utilized existing partnerships and effectively communicated Ethiopia's needs to the international community through well-prepared proposals and timely progress reports. The World Bank's performance-based aid was particularly helpful, as funds were given based on achieving specific outcomes. Additionally, Ethiopia secured a favorable loan from Ezine Bank to ease the financial burden of managing COVID-19, featuring good terms and long repayment schedules.

Ultimately, Ethiopia maintained and strengthened its pre-existing alliances, showcasing the country's resilience and strategic foresight during the global health crisis. The WB around $90M and GF around $40M were the highest contributors of the in-cash resource mobilized. China, as a bilateral partner has also donated a big amount of medical equipment through their embassy, together with the in-kind support of the US government their contribution is around 9,320,000 USD. The in-kind contribution of implementing partners including the diaspora trust fund, World vision and others was 4,384,515 USD. The in kind supports from development partners amounted 9,240USD. (N:B Numbers are from the COVID 19 response dashboard). For some civil society organizations (CSOs), this approach was new, and the MOH shared its experiences to support the collective response.

6.4.1 Opportunities and challenges

Opportunity

Ethiopia had opportunities in created alliance with partners. As the Ethiopian health system is donor dependent there has been existing partnership with international partners both bilateral and multilateral including philanthropists. The MOH used the existing partners as opportunities of leveraging. Successful debt completion of co financed projects is also mentioned as creating trust among partners facilitating in creating of the alliance for the pandemic response.

The existing donor coordination platforms as the HPN, which the MOH co-chairs, the JCCC and ARM for the health system strengthening are also indicated as opportunities. Strengthening

such donor platform and existing partnerships is fore front recommendation mentioned by the respondents.

This collaboration between domestic and international bodies exemplifies a strategic approach to overcoming negotiation and resource mobilization challenges, ultimately strengthening health systems and ensuring timely access to medical interventions during a pandemic.

Challenge

The challenge Ethiopia faced in the acquisition of the vaccines despite such alliances created, was the global vaccine competition. There was no much choice in the type of vaccines, and they had short shelf life. Securing the vaccines was very challenging as there was resource nationalism as all countries were affected, and those severely at risk were the rich countries who had a better access to the vaccines manufactured.

6.5 Building and managing donor and stakeholder relations

Within the theme of building and managing donor and stakeholder relationships, research participants have indicated the opportunities and the challenges faced. Forwarding a recommendation for future pandemics.

The stakeholders were involved in the document preparation of the national deployment and vaccination plan and the emergency preparedness and response strategic plan through their technical assistance hired for the MOH and also EPHI. The NDVP had 12 sections including major areas like the regulatory preparedness, planning and coordination, resource and funding, target population and vaccination strategies, vaccine safety and demand creation and evaluation of the vaccine introduction.

6.5.1 Opportunities and challenges

Opportunities

The MOH's commitment in leading the daily virtual communication where all stakeholders are participating at each level showed an effective leadership in managing relations. TOR was also prepared to clearly state the roles and areas of responsibilities for the domestic partners which

were the EPHI, EPSSA, EFDA and different departments of the government. The virtual meetings of the ICC were taken minute and participants had a signed attendance.

One of the major stakeholders in the resource mobilization was the MoFA and Diaspora Agency. The diaspora committee was highly responsive to the needs of resources. They were active in acting as a diplomat in their residence country communicating the demands to higher officials and mobilizing resources through the embassies. Again, the diaspora in the health sector had virtual communications with the MOH, in experience sharing from their residing country and capacity building in responding to the pandemic. As they are opportunities used in negotiation, virtual meetings are also listed opportunities for building and managing relations with stakeholders.

The organizations supporting the MOH also used the approach of hiring technical assistants at MOH and EPHI as middle person for smooth communication between them. This hired technical assistants had been involved in each step of the pandemic response and vaccine acquisition efforts giving guidance and challenge mitigations.

Challenges

Managing the stakeholder's relation have also seen some challenges as the pandemic hit the world drastically causing for the resource nationalism. Plan alignment difference and some specifications requested from international donor partners needed continuous negotiations, as competing interest with donors', brought as a challenge. The respondents emphasized the importance of maintaining the country's autonomy and sovereignty while being responsive and flexible to the demands of donor countries. Ethiopia's negotiation strategy is underscored, particularly when donor stipulations challenge existing health policies or the sovereignty of the nation. The country's ability to negotiate terms that align with its interests, even when faced with restrictions such as procurement limitations from the EU countries, demonstrates a commitment to safeguarding national policies and priorities.

Domestically, the main issue is identifying potential donors and determining the best way to distribute their contributions. Misinformation and rumors circulating about the vaccines and vaccination had also been a challenge in utilization of acquired vaccines creating vaccine hesitancy among the public, which intern hinders the acquisition of asked amount vaccinees

from partners. However, involving religious leaders and public figures has brough a dramatic change in the utilization of the vaccines.

6.6 Responding to public health crises

Global health diplomacy has shown a significant outcome on responding to the pandemic. All multilateral and bilateral diplomatic efforts of countries is with the aim of responding to public health crises. Incorporating the challenges faced in every effort, those factors having a direct or indirect contribution as opportunities and challenges in hindering the response efforts are described with in this theme. A respondent leading the demand advocacy efforts stated how much the coordination in the responding the public health crises been as
"I have never seen such effective coordination and health workers commitment in my life time serving the government."

Ethiopia's response to the pandemic has been diverse, involving strong government commitment and active public participation. Health aid management utilized several channels: the Ministry of Health (MOH) primarily managed direct support from entities like the World Bank (channel two) for pandemic-specific needs. The Ministry of Finance (MoF) handled some aid through channel one, which included loans or contributions to Sustainable Development Goals (SDG) pool funds. These funds were either earmarked for specific uses or allocated based on MOH's priorities when flexibility was permitted. Channel three was used minimally. Although exact figures on the total aid received are not available, the National Health Accounts (NHA) assessment, conducted six months into the pandemic, estimated the aid at around 190 million USD, which corresponds to an increase of 3 USD per capita due to the pandemic.

Ensuring the quality and safety of COVID-19 vaccines in Ethiopia involved collaboration between various departments and regulatory bodies. Organizations like the Ethiopian Pharmaceutical Supply Agency (EPSA) and Ethiopian Food and Drug Administration (EFDA) worked together to make sure the vaccines met required standards. They followed guidelines from the World Health Organization (WHO), using them as benchmarks for their operations. This adherence to international standards ensured that the vaccines administered in Ethiopia met global safety and efficacy criteria, safeguarding the health of the population.

Overall, the collective efforts in quality control, resource management, and international collaboration were key to Ethiopia's successful pandemic response.

6.6.1 Opportunities and challenges

Opportunities

Ethiopia was able to leverage relationships with partners in successfully responding to the COVID 19 pandemic relative to other countries. Besides the government's commitment, the public response, diaspora engagement, effective leadership and the 24/7 working hours of the taskforces had played an astonishing role in reducing death, cases and vaccinating majority of the population.

The NDVP document clearly stated the responsibilities based on the organogram of the governance leadership, and the COVID 19 transitional response guide 2022-23 also stated "Enhancing COVID 19 vaccine deployment and vaccination mechanism to ensure community level immunity.", as the fourth objective forwarding strategic directions to be followed.

Ethiopia's ability to attract new partners, such as the Mastercard Foundation, through the African CDC further demonstrates the country's diplomatic efforts as inclusive and expansive. These partnerships not only addressed immediate needs, such as vaccine acquisition and distribution but also had a lasting impact on the health system's resilience. The collective action resulting from these diplomatic initiatives has contributed significantly to the country's pandemic response and has set a foundation for future health crises.

The outcome of involving religious leaders in the response strategies had shown a remarkable influence in the public response. Including the religious leaders and public figures in the vaccination campaign has helped in reducing rumors of vaccines as the "666" which is a sign used to represent the works of evil. Such demand creation and advocacy were the responsibility of the communications team within the MOH's EPI team. Public communication was a continuous priority, with efforts to raise awareness and keep the population informed. Additionally, a respondent pointed out the availability of accessible hotlines, such as 952 and 8335, that provided free services to the rural community for fact confirmation and addressing concerns.

The vaccination campaigns conducted in four rounds also increased the utilization of the vaccines providing evidences in increased utilization and demand to be used as a criterion for the acquisition of vaccines.

The most frequent opportunity mentioned also as a lesson learned is the domestic resource mobilization. As the resource mobilization task force brought the attention of domestic resource mobilization, flooding of resources was seen where the public and business owners were contributing everything they hand in hand for the response of the pandemic. The private sector importing laboratory diagnostic equipment, ensuring the availability of certified testing also presented the public private partnership in responding to the pandemic. After observing this the taskforce tried to assign responsibilities to the different government departments based on their area of expertise. Recognition and appreciation certificates were also issued to partners in the presence of minister, and handover ceremonies were publicized to acknowledge and motivate contributors.

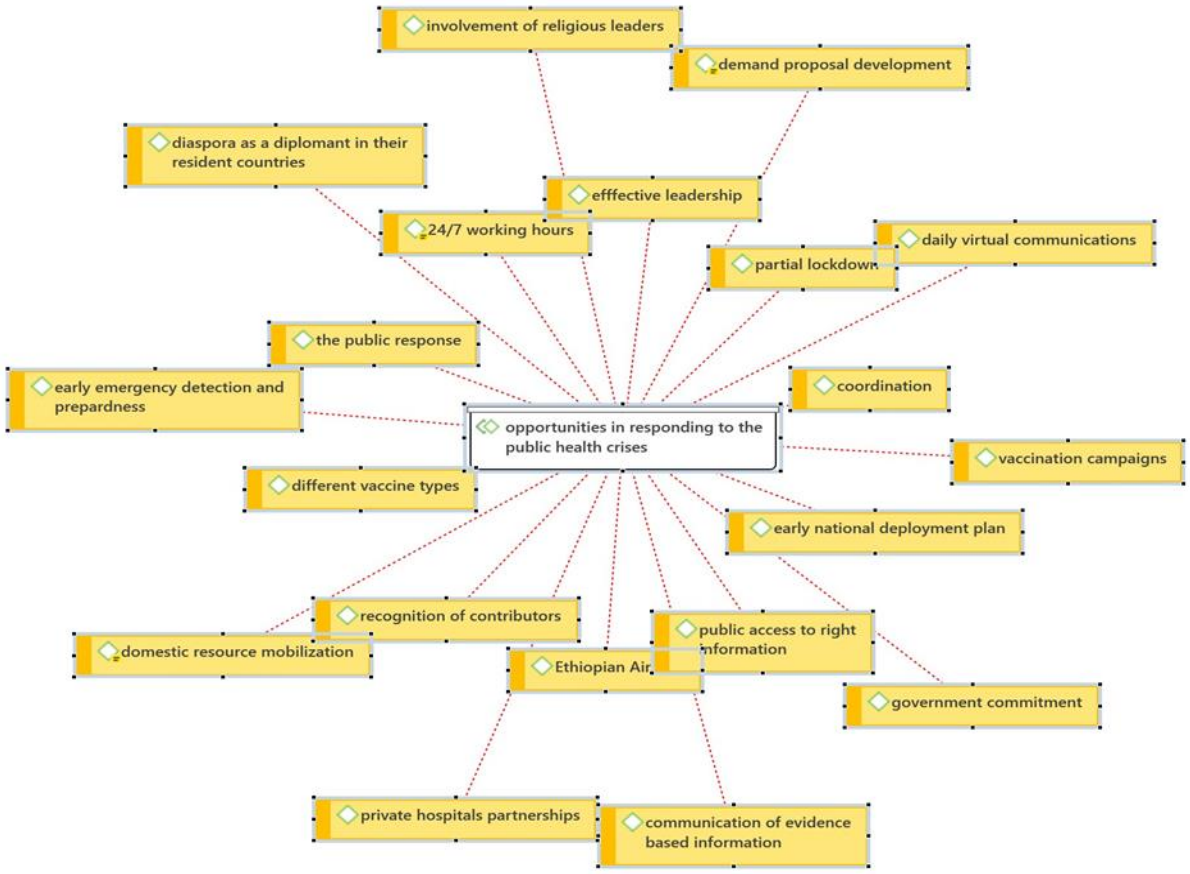

Figure 3. opportunities in responding to the public health crises
(figure taken from Atlasti.9 analysis output)

Challenges

The COVID 19 pandemic exposed the lack of preparation and proactive resource allocation for health emergencies. Which was the biggest challenge in the response. Having no proactive allocation of budget for emergencies and the donor dependent health system have caused hindrance with competing priorities of the essential health system in times of responding to the health crises. More than 33% of the NHA is donor dependent.

The challenges in the supply chain system during the COVID-19 pandemic highlighted the need for adaptability and preparedness in health commodity management. The absence of a registration code system for COVID vaccines, particularly the AstraZeneca vaccine, led to significant delays in acceptance and distribution due to inadequate storage facilities. The short shelf life of vaccines posed management difficulties, made worse by the lack of Vaccine Vial Monitoring (VVM) indicators, which are standard for routine vaccines. The Pfizer vaccine presented additional challenges with its unique storage requirements, necessitating rapid deployment within a limited timeframe. The unavailability of a cold chain for the storage of vaccines exacerbated the situation, despite refrigerators and cold boxes being provided by partners. Misinformation among healthcare providers, particularly the rumor that COVID-19 vaccines needed to be stored separately to prevent contamination of other vaccines, required the MOH to intervene and act on these myths with evidence-based communication.

Although the efforts of global health diplomacy brought much success stories, all the challenges mentioned on the other six dimensions have contributed to the challenge in responding to the pandemic.

6.7 Improving relations between countries through health and well-being

All the efforts of resource mobilizationan and vaccine acquisition, resulted in improving relations between countries post pandemic. All the opportunities Ethiopia used in improving relationship between countries and the challeneges faced for improving are presented as per the responses of the participants in this theme.

The active involvement of the Ethiopian Airlines in the cargo transports of medical equipments and vaccines has greatly highlited the Ethiopian government’s commitment in responding and

contributing to the global response of the pandemic. This effort is mentioned as building the image of Ethiopia in the health diplomacy efforts.

The diaspora agency related to the COVID 19 response, was involved in two ways, one is knowledge and experience capacity exchange, the other is resource mobilization. For future pandemic the diaspora has showen significant capacity, a recommendation put forward is that what we need is to work closely with them and strengthen our relationship with diplomacy works. They are close to technology have resources too. Leadership and diplomatic communication is what is needed to closely work on. A respondent who was part of the task force and has been involved in the diaspora resource mobilization highlited the need to focus towards the diaspora as

" If we can map and identify their capacity , we can use them as diaspora option, the diaspora option is one of development options of countries like the tourisim and mining assets."

Experience sharing post peak pandemic and donation of short shelf life vaccines to neighbouring countries, and also the immidiate response of the diaspora to the call of their home country are mentioned as opportunities by the respondents in improving relationships among countries. The AU and African CDC head offices in the capital of Ethiopia is also indicated as an opportunity by the respondents.

This succesful efforts has also given Ethiopia the opportunity leading the new pandemic preparation and prevention convention representing Africa in the WHO summit. The connvention is expected to be approved by the coming WHO annual meeting in Geneva.

6.8 Contributing to Peace and Security

The last dimention of GHD , used as the seventh theme in this research is contribution to peace and security. Contribution of GHD in the peace and security is usually manifested in the humaniterial needs of war zones or conflict areas.

However the recent pandemic showed how health crises also threathen the existance of countries. The ministry of Defense and regional police force were also directly and indirectly part of the governance structure responsible for keeping the peace and security of the country

amidst the pandemic and regional conflicts at the time. Even though not much significant work is done in cintributing to peace and security with the efforts of GHD during the pandemic, a respondent from the MoFA has stated how health can also threaten peace and security of countries.

"This is not the time where terrorist attacks are only with guns or machines, we are observing how small things like virus could threaten the existance of countries. So health is also now a peace and security issue."

6.9 Areas of improvement forwarded by the respondents.

The pandemic has given a great lesson for emergency preparedness and prevention for future pandemics, it has also brought to light the capacities of both domestic and international partners in the response of health crises. After the lessons learned the respondents has forwarded areas of improvement for future pandemic.

- Most of the respondents indicated that strengthening existing partnership with stakeholders and donors, digitalization of resource utilization tracking systems, and domestic resource mobilization culture for sustainable support in creating a resilient health system that is not donor dependent as a recommendation. The existing partnership were also seen as an opportunity for they have created an existing platform for diplomatic efforts and smooth communication with the stakeholders.

- Similar to how MCH is now a cross-cutting program, including emergency as a cross-cutting program in planning is also recommended as it brings the attention of preparedness for future pandemic. Integerating the vaccination programs within in the routine vaccination is the highlighted progress now the MOH is working on, respondents from WHO recommended service integrations as a major step towards achieving vaccination goals.

- Emergency trust fund only for the purpose of financing emergency preparedness efforts is the lesson leant, where now the MOH is almost done with the proposal to be approved by the parliament. A respondent from the resource mobilization and grant management

and been working more than 5 years in the position indicated the need of having a strong emergency fund in response of future pandemic as *"Learning form this, we now have prepared a proposal document name Emergency Health Trust Fund"*

- Similar to the EPHI's but an independent EOC, formed with the specific objective of forecasting health emergencies and preparedness, having its own budget and teams is recommended by the respondents as it reduces panic during pandemics and prevent duplication of efforts and inefficient resource utilization. Such a system could be overseen by a single authoritative body, such as the Ministry of Health (MOH), to streamline negotiations with partners and enhance the country's image

- Producing a resilient health system is not only necessary for the routine health systems but also it is very crucial while on health emergencies. Emergencies naturally shake existing health systems but having a resilient health system can stand amidst emergencies.

- Having a common standing point as Africa towards negotiating interests while keeping the sovereignty of the continent is recommended from a participant from the MoFA, as it would give a greater value to stand as one than fragmented for global health issues for the global cause.

- Digitalizing the resource tracking system, from the central to the woreda level, avoiding using paper-based utilization records is also a recommendation for the MOH forwarded by the respondents

- Media personnel to leave health-related information dissemination to health professionals. This recommendation is based on the premise that just as journalists would not speak authoritatively on subjects like agriculture or education without proper qualifications, they should also refrain from doing so on health matters. This approach ensures that the public receives reliable information.

7. Discussion

With in the discussion, we will focus on the main findings of the research which are mentioned by most of the research participants as challenge and opportunity Ethiopia had in responding to the pandemic and can also inform for proactive health emergency preparations in the future. The findings are discussed among other related research findings and document published within the topic area.

7.1 Strong leadership

Both the central government and the MOH has shown their commitment in the strong leadership provided with the taskforce formed. A taskforce team working 24/7 from different offices was assigned to handle the resource mobilization efforts for the pandemic response, the MOH took the role of resource mobilization for the medical equipment's and vaccination. The daily virtual communication, proposal development and continuous diplomatic negotiations with partners displayed the strong leadership and commitment of the taskforce.

This result is supported by a previous literature published in September 2022 review of COVID 19 response challenges. In this review, the establishments of COVID response and coordination platforms by the government and implementation of response measures with the development partners, donors and private sectors is indicated as the strong leadership followed by the government. The coordination through the EOC is stated as an enormous measure taken in the response. (18)

Most of the medical and vaccine contributions were results of diplomatic negotiations with the existing partnership with developmental partners, implementing partners, state actors and international organizations. However, the government contribution, domestic resource mobilization and the diaspora commitment had been astonishing, beyond the expectation.

7.2 Cold chain management

Despite the challenges with the global vaccine competition and resource nationalism, the most common challenge raised in the vaccine acquisition had been lack of the cold chain management in Ethiopia. The covid vaccines needed a different storage system than the routine vaccines, and having no cold chain management system during the pandemic had hindered the acquisition during the first phases of vaccine introduction. With the support of UNICEF, EPSA was able to receive the cold chain, however this has caused delay. Lack of enough cold chain management has not been only a challenge for Ethiopia but also most African countries during the pandemic.

This is presented in agreement with the African CDC official report, "Understanding the severity of this issue the African CDC through the support of UNICEF is now making a progress of distributing cold chain system equipment across the five Member States, which consists of 465 refrigerators and freezers, 1,150 temperature monitors, 5,253 vaccine carriers and cold boxes, and 2 cold rooms, all valued up to USD 3.3 million, that will significantly enhance the healthcare infrastructure and capabilities of African countries."(19)

7.3 Government's expenditure

The 2019/2020 Ethiopian NHA has indicated that the government contributed 50% of the health expenditure in the first 6months of COVID 19, that is 34.02B Birr where the 2016/17 NHA showed only 17.19B Birr of government's expenditure on health. As indicated by our respondents the high increase in the government's health expenditure is as a responsible contribution for the pandemic response. Based on the 2021 COVID 19 resource tracking dashboard the Ethiopian government had allocated around 124million$ for the pandemic response in different rounds in cash that is 40% of the total contributions.(20).

This output is similar to WB's double shock, double recovery paper series where Ethiopia is indicated to have shown a moderate increase about 110 of CGHS index during the response phase (2020-2021) of the pandemic, which is similar to other LICs like Rwanda and Mali. Uganda, Zimbabwe and Madagascar has shown increasing their CGHS index in the landing phase of the pandemic(2022)too, whereas Ethiopia's decreased.(21).

This is supported by the WHO's GHED report stating that Countries governments health spending has shown increase in the 2020 and 2021. The real per capita government health spending growth in 2020 was 19 percent in LICs, 15 percent in LMICs, and 8.4 percent in UMICs, And the real per capita DAH spending in LICs increased by only 2 percent, and in LMICs by 1 percent. (22)

However, increasing government's health expenditure is recommended, as it produces a resilient health system that can withstand such health emergencies, the donor dependent health system is indicated as one of the challenges in responding to pandemic creating priority competitions for the MOH.

7.4 Domestic resource mobilization

One of the opportunities the government used is the domestic resource mobilization. During such public health crises traditional resource mobilization from external donors alone could not be effective enough, a collective contribution of the public through financial support, adherence to guidelines and community advocacy is very crucial. The shared responsibility and involvement of the public including the religious leaders in the pandemic response has contributed to the efforts of the government. Domestic resource mobilization is not only an option during such pandemics but can also be used as an opportunity in creating a resilient health system and reducing government's dependency in external donor financing for health.

Most African countries are dependent on health aids and domestic resource mobilization appears to be a neglected option. Whiteside A and Bradshaw S's article on Responding to health challenges, discuss how it plays role in increasing sustainability of health programs and creating ownership to the health programs, health facilities and to the public. The high burden dieseases HIV/IDS, TB and Malaria are mentioned as the area of attention in government's response (23)

This is supported by African journal of management, domestic resource mobilization in Africa also recommends African countries to develop the culture using its citizens for the resource mobilization for development. The journal illustrates how culture of domestic resource mobilization can create public ownership in health system, giving Rwanda as an example.

Rwanda is well known for the history of genocide, however strong institutions ere built with the strong leadership of the government. The country had the commitment to bring health closer to the people, and this resulted in increased citizens participation towards health and increased autonomy of health facilities. Rwanda's SDG trajectory development is contributed to the change in the mindset of the people which helped in bringing national unity. This mindset change was towards money making, investing on health, ownership, responsibility and services. The public's commitments towards the response for health and socioeconomic development had brought a drastic change to mention Rwanda as exemplary country in Africa towards domestic resource mobilization.(24)

The experience of such African countries can be used to bring the change needed in Health without depending on international Aids. Building the public's mindset towards collaboration in response of health needs must be governments commitment in Sub Saharan Africa.

7.4 The diaspora engagement

The diaspora contribution both in kind and cash had also a remarkable contribution. Despite the fact it has only been a year since the establishment of its office, the diaspora community agency (DCA) had provided a great leadership in including the MOH and the diaspora community with virtual communication platforms to discuss the needs and challenges in the pandemic response. Based on that, the diaspora medical practitioners were involved in experience and skill sharing, virtual capacity building, resource mobilization and vaccination advocacy to their relatives at their home country, Ethiopia. The diaspora had also served as diplomats in their resident countries communicating needs, creating demands, convincing stakeholders for equitable distribution of medical equipment's and vaccines. The embassies with in the MoFA supported the resource mobilization and logistics from the diaspora.

According to research published by Lara-Guerrero L in 2020, Understanding the capacity of the diaspora contributions during the pandemic, the IOM and iDiaspora had organized a global virtual diaspora exchange with the aim of sharing their best practices and enhancing collaborations with policy makers, practitioners and stakeholders in the diaspora engagement. They had conducted around 3 virtual meetings discussing in how the diaspora can contribute to their home countries, what the challenges are and how to bring a formal structure to it.(25).

With further research evidences on the role and barriers of the diaspora option, the Ethiopian MOH shall also bring this into attention in the health financing system and bring a formal and sustainable structure in leveraging the medical knowledge capacities of the educated diaspora to reverse the brain drain.(26)

7.5 Emergency trust funds

A challenge, but then an opportunity as a lesson learned is the need for a proactive budget allocation for emergencies. Different countries and organizations use different terms and definitions for proactive allocation of funds for emergencies. However, most LIC and LMICs seem to be having no emergency trust funds and/or contingency funds. Ethiopia, having no such fund was subjected to depend on reprograming budgets, domestic resource mobilization and donor aids in the response of the pandemics.

In contrary to Ethiopia's case, an article published in 2023," Financing in global health shocks" indicates that those countries with emergency and disaster funds, were able to share 12%-38% of the fund for the health. Uganda shared 40% and Moldova 20% of their Contingency fund during the COVID 19 crises.(21). Such funds are not only important in emergency preparedness, but also support sustainability of countries economy post emergency shocks.

As a lesson learned this is supposed to be presented to the attention of policy and decision makers, researchers and government stakeholders on the need of such funds for timely response and flexible utilization opportunities during future pandemics. There are now appreciated efforts with the Ethiopian MOH to approve the drafted emergency trust fund by the house of people's representatives. Again, Ethiopia is also leading Africa in the new pandemic preparedness convention negotiation with the UN to be presented at the WHO assembly meeting.

7.6 Digitalized resource tracking

Digital health has become a widely recognized approach to addressing a range of health needs, including advancing universal health coverage and achieving the Sustainable Development Goals. LMIC having the greatest burden of disease seem to lag in the implementation of digital interventions for health. The MOH has shown its commitment for over a decade in digitalizing the health system, as part of the health sector transformation plan 1 and 2. Digitalization is very crucial in evidence generating in collecting, analyzing and disseminating information for decision making. (27)

The daily and then weekly virtual communications conducted among the members of the formed governance structure stakeholders, the resource mobilization taskforces with partners and the ICCP meetings for vaccination are indicators of digitalizing the traditional methods of meetings. And Pandemics are the times that challenge for the use of evidence-based decision makings. Through the collaborative efforts of stakeholders, Ethiopia was able to mobilize resources from different partners and donors. However, in the result of this research indicated that the utilization of resources mobilized within the federal institutions to the regions utilization during the pandemics is not well documented. Digitalizing the resource tracking and utilization system is very significant not only to clear resource utilization uncertainties, create accountability and transparency but also provide evidence as a learning experience for future pandemics indicating the areas of gaps for improvement and efficient utilization of the resources.

8. Strength

Almost all the research participants were those who had a direct involvement on the proposal developments, preparation of National vaccine deployment plan, working 24/7 within the task force, part of the daily virtual meetings and diplomatic negotiation.

A document review was also done to support the results of the qualitative analysis. The documents included are, the national emergency preparedness and response plan, the national vaccine deployment plan, the preparation and response plan for COVID 19 and the COVID 19 resource tracking dashboard.

Despite lack of common agreement on the use of frame works in understanding global health diplomacy efforts, this research was able to use the seven dimensions of GHD adopted from The global health guideline published in February 2021.(28)

9. Limitation

This research was not able to reach all involved actors in the GHD efforts during the pandemics due to time constraints and schedules of the responsible people

Understanding the efforts towards the last two dimensions, improving relation with other countries and contributing to peace and security would also need more higher official participants from MoFA and Ministry of defense to give better insights.

10. Conclusion

This research finding was able to see the role the MOH and its partners had, the available opportunities and the challenges encountered during the collaborated efforts for the pandemic response. The commitment the central government had portrayed and the effective leadership within the MOH were also presented in different literatures. And this research included the roles of the MoFA, DCA and also the MOH and UNICEF, trying to widen the insights on the roles, challenges and opportunities for future pandemic lesson and recommendation generation. A document review is done to support the results of the qualitative analysis.

The in-depth interviews within the GHD dimensions and KII together with the documents reviewed had brough results that are very significant to take into consideration as a lesson learned. The 7 dimensions of GHD had given a wider and detailed journey in understanding the efforts during the pandemic. The role of UNICEF in the vaccine procurement and logistic, WHO providing guidelines for the quality and safety of the vaccines, WB and GF biggest budget support together with the supports of different many bilateral and multilateral partners, the contribution of the diaspora and the domestic resources mobilized were highlighted by the response of the participants.

The primary goal of GHD is reducing inequalities by making resources, like diagnostic, therapeutics and vaccines accessible to all. And Ethiopian effort towards GHD had brought a successful outcome towards the response and vaccine access.(29) Within the negotiation efforts the existing partnership, successful implementation of projects, having no dept in cofinanced projects, the diaspora's role as a diplomat and the daily virtual communications were raised as a challenge whereas the global vaccine competition, resource nationalism, ear marked donations and lack of infrastructure for the cold chain managements were encountered challenges.

The new governance structure commitment with 24/7 working taskforces and the coordination of government stakeholders accountable towards their conscious in the response are the lesson taken as strength of the governance structure. Involvement of religious leaders in the vaccination campaigns was the strategy used by MOH to create demand advocacy and utilize the vaccines which intern is important as an indicator in the acquisition of vaccines. During

and post pandemic, the role the Ethiopian Airlines had in transporting medical equipment and vaccines is also seen as an opportunity in improving relation of countries building a diplomatic image of Ethiopia in the international world.

This research also indicates the area of attention for the MOH in creating a resilient health system that is not donor dependent and can withstand such emergency avoiding competing needs of resources during pandemics and adverse effects post pandemics. Taking this as a lesson the approval efforts of the emergency trust fund by the MOH is to be appreciated in creating proactive fund towards health emergencies. Again, the MOH with collaboration of donor partners is now improving the cold chain management infrastructures and research laboratory construction in order to increase the capacity of the health system management towards health emergencies.

11. Recommendation

To MOH

- Globally health emergencies lay lessons, and it is government's commitment that can promote in using the lessons as opportunities for future health emergencies. The MOH shall take the challenges as a lesson learned and work in addressing them, while the opportunities must be strengthened in building capacity of the Ministry.
- Although we have evidences in the role of diplomacy in the history of Ethiopia, its impact in health system strengthening as health diplomacy, health and international relations can be area of interest for researchers.
- MOH shall motivate institutional researchers involved in areas of global health and diplomacy to bring further evidence for policy and decision making.
- Alliances and joint committees like the JCC established pre and during the pandemic must be strengthened as they could be platforms for experience sharing and joined emergencies in responding future pandemics or health crises.
- Further research including all international and domestic actors on the response efforts would bring a greater insight for understanding the efforts towards global health diplomacy, identify the gaps and utilize opportunities. As the outcomes are very crucial in designing policies in health diplomacy

MOH in collaboration with MoFA

- As GHD is multi-disciplinary, forming a capacitated team including all actors in the areas of public health, international affairs, law and trade policy that are able to use opportunities for building relationships, fostering cooperations and, promote peace and security between countries shall be an area of attention for the central government's discussion with the MOH and MoFA.
- As there are almost none research published on the capacity of the diaspora in the health system strengthening, the MOH together with the DCA and MoFA shall also work in identifying barriers and opportunities in reversing the brain drain.
- To effectively utilize GHD in pandemic response and universal health coverage, the MOH and MoFA must discuss in creating a common platform for those domestic actors to understand the role and acquire the skills needed through trainings and professional developments

12. Reference

1. Kickbusch I, Nikogosian H, Kazatchkine M, Kökény M. A guide to global health diplomacy: Better health improved global solidarity more equity [Internet]. Geneva, Switzerland: Global Health Centre; 2021. Available from: https://www.graduateinstitute.ch/sites/internet/files/2021-02/GHC-Guide.pdf
2. Galli M, Zardini A, Gamshie WN, Santini S, Tsegaye A, Trentini F, et al. Priority age targets for COVID-19 vaccination in Ethiopia under limited vaccine supply. Sci Rep [Internet]. 2023;13(1):1–12. Available from: https://doi.org/10.1038/s41598-023-32501-y
3. Asmerom M. Ethiopia : Macroeconomic and Social Indicators.2000;01(1993).
4. Singh B, Chattu VK. Prioritizing "equity" in COVID-19 vaccine distribution through Global Health Diplomacy. Heal Promot Perspect. 2021;11(3):281–7.
5. Gupta N, Singh B, Kaur J, Singh S, Chattu VK. Covid-19 pandemic and reimagination of multilateralism through global health diplomacy. Sustain. 2021;13(20).
6. Ning C, Wang H, Wu J, Chen Q, Pei H, Gao H. The COVID-19 Vaccination and Vaccine Inequity Worldwide: An Empirical Study Based on Global Data. Int J Environ Res Public Health. 2022;19(9).
7. Burki T. Global COVID-19 vaccine inequity. Lancet Infect Dis [Internet]. 2021;21(7):922–3. Available from: http://dx.doi.org/10.1016/S1473-3099(21)00344-3
8. Singh B, Chattu VK. Prioritizing "equity" in COVID-19 vaccine distribution through Global Health Diplomacy. Vol. 11, Health Promotion Perspectives. Tabriz University of Medical Sciences; 2021. p. 281–7.
9. Fazal TM. Health Diplomacy in Pandemical Times. 2020 p. 78–97.
10. Gebrehiwot Y GT. relational analysis of health development cooperation. Global Health Research and Policy.tle. Ethiop Heal Dipl. 4(1):1-9.
11. Michaud J, Kates J. Global health diplomacy: Advancing foreign policy and global health interests. Glob Heal Sci Pract. 2013;1(1):24–8.
12. Lee ST. Vaccine diplomacy: nation branding and China's COVID-19 soft power play. Place Brand Public Dipl [Internet]. 2023;19(1):64–78. Available from: https://doi.org/10.1057/s41254-021-00224-4
13. Boujnah H. Essay Health diplomacy in Africa-opportunities post-. 2022;(Africa CDC).

14. Loewenson R, Modisenyane M, Pearcey M, Labonté R. African perspectives in global health diplomacy. J Heal Dipl online. 2014;21(March).
15. Alemu G. A Case Study on Aid Effectiveness in Ehtiopia: Analysis of the Health Sector and Archictecture. 2009;(April):2001–2.
16. Teshome SB, Hoebink P. Aid, ownership, and coordination in the health sector in Ethiopia. Dev Stud Res [Internet]. 2018;5(1):132–47. Available from: https://doi.org/10.1080/21665095.2018.1543549
17. Carruth L. Peace in the Clinic: Rethinking "Global Health Diplomacy" in the Somali Region of Ethiopia. Cult Med Psychiatry. 2016;40(2):181–97.
18. Abagero A, Ragazzoni L, Hubloue I, Barone-Adesi F, Lamine H, Addissie A, et al. A Review of COVID-19 Response Challenges in Ethiopia. Int J Environ Res Public Health. 2022;19(17).
19. Enhancing Vaccine Storage Efficiencies in Africa – Africa CDC.
20. MoH. Ethiopia National Health Accounts Report 2019/20. Addis Ababa Minist Heal - Ethiop. 2022;(April).
21. Kurowski C, Kumar A, Mieses Ramirez JC, Schmidt M, Silfverberg DV. Health Financing in a Time of Global Shocks: Strong Advance, Early Retreat. Heal Financ a Time Glob Shock Strong Adv Early Retreat. 2023;1–98.
22. Global Health Expenditure Database [Internet]. Available from: http://apps.who.int/nha/database/StandardReport.aspx?ID=REP_WEB_MINI_TEMPLATE_WEB_VERSION&COUNTRYKEY=84011
23. Whiteside A, Bradshaw S. Responding to health challenges: The role of domestic resource mobilization. CIGI Policy Br [Internet]. 2014;(48):1–11. Available from: https://www.cigionline.org/sites/default/files/cigi_pb_48.pdf
24. Nnadozie E, Munthali T, Nantchouang R. Domestic Resource Mobilization in Africa : State , Capacity Imperatives and Policy Actions. 2017;2373(August).
25. Lara-Guerrero L. Diasporas engaging during the pandemic: international global exchanges in response to the Covid-19 crisis. HAPSc Policy Briefs Ser. 2020;1(1):177.
26. Taslakian EN, Garber K, Shekherdimian S. Diaspora engagement: a scoping review of diaspora involvement with strengthening health systems of their origin country. Glob Health Action [Internet]. 2022;15(1). Available from: https://doi.org/10.1080/16549716.2021.2009165
27. Taye GT, Amare SY, Tesfit Gebremeskel G, Medhanyie AA, Ayele W, Habtamu T, et al. FAIR Equivalency with Regulatory Framework for Digital Health in Ethiopia. Data

Intell. 2022;4(4):813–26.

28. Kickbusch I, Nikogosian H, Kazatchkine M, Kokeny M. A Guide to Global Health Diplomacy. Glob Heal Cent. 2021;39–41.

29. Taghizade S, Chattu VK, Jaafaripooyan E, Kevany S. COVID-19 Pandemic as an Excellent Opportunity for Global Health Diplomacy. Front Public Heal. 2021;9(July):1–9.

13.Annex

13.1 Research Questionnaire

Global Health Diplomacy and Health Aid during COVID-19 Vaccine Acquisition in Ethiopia

Hello my name is Hawi Getnet, a graduate student of Masters of Public health at Addis Ababa University. I am currently doing my Master's thesis on the title of Global Health Diplomacy and Health Aid during COVID-19 Vaccine Acquisition in Ethiopia

What is Global health diplomacy; Global health diplomacy is an interdisciplinary field that bridges global public health, international relations, and multisectoral public policy with a goal to achieve global health. Global Health Diplomacy serves as a strategic tool for countries to achieve health goals through diplomatic efforts. With health issues like pandemics affecting international stability, and scarcity at hand, GHD would be a crucial tool in fostering negotiations and collaborations in ensuring equitable access to health care.

The COVID 19 pandemic has exposed the world of its inequality and vulnerability on global health infrastructure. While richer countries secured vaccine stocks, many developing countries like Ethiopia, relied on global health diplomacy and international Aid to access the vaccine.

Rationale; In the context of an interconnected world, effective management of global health emergencies necessitates the presence of global health diplomacy and international cooperation. This is due to the fact that pandemics, which disregard national boundaries, demand collaborative efforts and collective action. This research aims to investigate the manner in which Ethiopia has actively participated in interactions with diverse stakeholders and platforms, including COVAX, bilateral donors, and vaccine-producing countries, in order to attain access to COVID-19 vaccines.

Objective: The objective of my research is to Investigate the role of global health diplomacy and health aid in Ethiopia in hindering or facilitating the acquisition of COVID-19 vaccine. To identify the challenges and opportunities of the efforts. And provide a policy recommendation for future pandemics. This study aims to inform future strategies for ensuring a more equitable and effective response, particularly in resource-limited settings like Ethiopia.

Method; Qualitative research and document analysis

Expected outcome; Insights into Ethiopia's health diplomacy strategies and tactics during the vaccine roll out. Recommendations for strengthening global health diplomacy efforts in Ethiopia and other similar context

Table 2. Qualitative study questionnaire

1. Background information	1.1 Can you please introduce your full name and position in the organization you work for? 1.2 Sex 1.3 Age 1.4 Religion 1.5 Level of education? 1.6 How long have you been serving in this position? 1.7 How familiar are you with the concept of global health diplomacy? 1.8 What are the main objective and activities of your organization in relation to GHD or health aid? 1.9 Can you briefly describe your role and experience of your position in the efforts of COVID 19 vaccine acquisition?
2. Negotiating to promote health and well-being in the face of other interests	1. How has global health diplomacy contributed to Ethiopia's equitable access to Universal health coverage? 2. What was the role of your organization in negotiating to promote health and well-being in the face of other interests during the vaccine acquisition efforts? *2.1 How do you measure the effectiveness of Ethiopia's advocacy and negotiation skills in securing the COVID-19 vaccine from the donor countries?* *2.2 How willing was Ethiopia to compromise on some of its interest or priorities in order to promote health and well-being for all?* 3. What are the challenges faced while negotiating? *3.1 And how did you cope with the challenges faced?* 4. What were the opportunities for favorable terms during the negotiating efforts?

	4.1 How was it used in the face of other interests during the vaccine acquisition *4.2 How beneficial do you think Ethiopia's participation in regional and international health forums and initiatives has been for its national health interests?* 5. How do you see the success of the efforts?
3. Establishing new governance mechanisms in support of health and well-being	6. How has the MOH adapted its governance approach to prioritize COVID 19 vaccine acquisition? *6.1 How do you see the alignment and harmonization of the Ethiopian government with the global health diplomacy and health aid principles* *6.2 How has public concerns addressed and transparency is maintained in the acquisition process of COVID-19 vaccines?* *6.3 How has the communication and coordination of other government departments involved in the vaccine acquisition, ensuring a cohesive governance approach?* *6.4 What were the measures taken to prevent fraud, corruption, or unethical practices in the acquisition and distribution of COVID-19 vaccines?* 7. What has been the success of the governance approach adopted? 8. What were shortcomings of the approach adopted

	9. What recommendation would you present in the governance structure, for future pandemics?
4. Creating alliances in support of health and well-being outcomes	10. What international organizations or alliances played a significant role in promoting vaccine diplomacy? And how do you manage to create the alliance? *10.1 How do you describe the performance of the international community in supporting and cooperating with Ethiopia on global health diplomacy and health aid for COVID-19 vaccine acquisition?* *10.2 What multilateral initiatives on global health diplomacy and health aid during the pandemic Ethiopia took part?* *10.3 How much do you trust the information and guidance provided by the World Health Organization and other global health actors on COVID-19?* 11. And what has been the challenge encountered? *11.1 how did you cop up with them?* 12. What was the opportunity Ethiopia had in creating the alliance during the pandemic?
5. Building and managing donor and stakeholder relations	13. What mechanisms are in place to involve stakeholders and experts in the governance of global health diplomacy related to vaccines? *13.1 How did the Ethiopian government build its collaboration and coordination with other stakeholders (such as donors, multilateral organizations, civil society, private sector, etc.) in its COVID-19 vaccine acquisition process?*

	13.2 How do you evaluate the responsiveness and flexibility of Ethiopia to the changing needs and demands of the donor countries in the context of the COVID-19 vaccine acquisition? *13.3 How do you assess the level of trust and mutual respect between Ethiopia and the donor countries in the context of the COVID-19 vaccine acquisition?* *13.4 How has transparency and accountability of Ethiopia in reporting the progress and challenges of the COVID-19 vaccine acquisition maintained?* 14. What has been the challenges in the efforts managing relations? 15. Opportunities in building relations? 16. How can Ethiopia better leverage international partnerships and aid for health emergencies in the future?
6. Responding to public health crises	17. How do you describe the role of global health diplomacy in responding to public health crises over all? *17.1 With respect to the COVID 19 pandemic?* *17.2 How do you evaluate the performance of the Ethiopian government in responding to the pandemic?* *17.3 How do you asses the role of Ethiopia's MOH on the efforts of global health diplomacy in the acquisition of COVID 19 Vaccines during the pandemic?* *17.4 How do you maintain the quality and safety of the COVID-19*

	vaccines that Ethiopia receives through global health diplomacy and health aid? 18. What has been the challenge in responding to public health crisis? 19. What were the available opportunities to effectively respond to the public health crisis? *19.1 How do you see the future of global health diplomacy evolving in the context of vaccine acquisition and pandemic preparedness?*
7. Improving relations between countries through health and well-being	20. How has Ethiopia's participation in global health diplomacy contributed to improved relations with other countries? *20.1 How do you observe global health diplomacy as a key factor for enhancing international cooperation and solidarity in the COVID-19 pandemic?* *20.2 What is your reflection on increased health aid to Ethiopia if it leads to improved relations between Ethiopia and other countries?* 20.3 *Which countries played a significant role in contributing to the efforts of COIVID 19 vaccine acquisitions?* 21. What has been the challenge faced for improved relations with other countries? 22. What opportunities were presented?

8. Contributing to peace and security	23. How has Ethiopia's GHD efforts enhanced its regional leadership and influence contributing to peace and security? 24. How has Ethiopia's GHD for COVID 19 vaccine acquisition efforts contributed to its regional leadership and influence contributing to peace and security? *24.1 How do you think the global health diplomacy enhanced the capacity and resilience of the Ethiopian health system to respond to the COVID-19 pandemic and future health emergencies?* 25. What has been the challenge? 26. Are there any successful stories you would recall?
9. Health Aid	27. What has been the role of health aid and its impact in strengthening Ethiopia's health system? *27.1 In supporting Ethiopia's COVID-19 vaccination efforts?* 28. What is the amount of health aid received from international partners for COVID-19 vaccine acquisition? And Domestic? *28.1 Which channels has been used? Who managed the aids received?* *28.2 How do you maintain the transparency and accountability of the health aid process in terms of allocation, distribution and utilization of the funds and vaccines?* *28.3 How do you evaluate the acquisition process as a challenge?*

	29. Can you describe the supply chain management of the vaccine? *29.1 How do you evaluate the supply chain management's effectiveness?* *29.2 How do you manage delay during the process?* 30. What recommendations would you give in the utilization of health Aids in future pandemics?
10. Additional Insights	Is there anything else you would like to share about your experiences or insights regarding global health diplomacy, health aid, and COVID-19 vaccine acquisition efforts in Ethiopia?

Thank you for your time and Cooperation!!!

13.2 Consent form

In order to participate in the thesis project titled "Global Health Diplomacy and Health Aid in the Context of COVID-19 Vaccine Acquisition: A Case Study of Ethiopia," it is necessary to obtain your consent. Your participation in this study will involve providing information and insights related to the topic. The purpose of this research is to examine the dynamics of global health diplomacy in the context of COVID-19 vaccine acquisition, with a specific focus on Ethiopia. You have been extended an invitation to partake in a research endeavor being carried out by a student affiliated with the School of Public Health at Addis Ababa University By participating, you will contribute to the understanding of the challenges and opportunities faced by Ethiopia in the acquisition of COVID-19 vaccines, as well as the role of global health diplomacy in this process. Your participation is voluntary, and you have the right to withdraw at any time without any negative consequences. Your personal information will be kept confidential and used solely for the purpose of this research. By signing this consent form, you indicate your willingness to participate in this study.

Upon consenting to partake in this study, you will be requested to engage in the interview with an estimated duration of approximately 45 minutes. The survey will inquire about participants' insights and personal encounters pertaining to the accusation of COVID-19 vaccines, global health diplomacy, health aid, and associated subjects. The act of participating in this study is entirely voluntary, and you retain the right to withdraw your involvement at any point during the study without incurring any negative consequences. Users have the option to refrain from answering any questions they do not desire to respond to.

The data obtained from this research endeavor will be securely and anonymously stored. Access to the data will be limited to the researchers directly involved in this project. The outcomes of this project have the potential to be disseminated through academic journals, reports, or presentations, while ensuring that the privacy and confidentiality of each participant is upheld, thereby preventing their identification.

By engaging in the survey, you are demonstrating your comprehension of and adherence to this consent form, as well as your willingness to partake in this endeavor. For any inquiries or apprehensions regarding this project, kindly reach out to the principal investigator, Hawi Getnet. You can contact Hawi via email at hawi524@gmail.com or by phone at +251924410558.

Thank you for your collaboration and valuable input in this significant endeavor.

Name Signature

ASSURANCE OF PRINCIPAL INVESTIGATOR

I, the undersigned agree to accept all responsibilities for the scientific and ethical conduct of the research project. I will provide timely progress report to my advisor and seek the necessary advice and approval from my primary advisors in the module of the research. I will communicate timely to my advisors all stakeholders involved in the study including any source of funding for this research.

Name of the student: _Hawi Getnet

Date: __June 3,2024

Signature: _____

Approval of the primary Advisor

Name of the primary advisor: Dr. Meseret Molla

Date: June 3,2024

Signature _____