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Improving Egypt's Access to Vaccines and Medicines: Communication during COVID-19 / تحسين إتاحة الوصول إلى اللقاحات والأدوية في مصر: سياسة توعية الجمهور خلال أزمة فيروس كورونا

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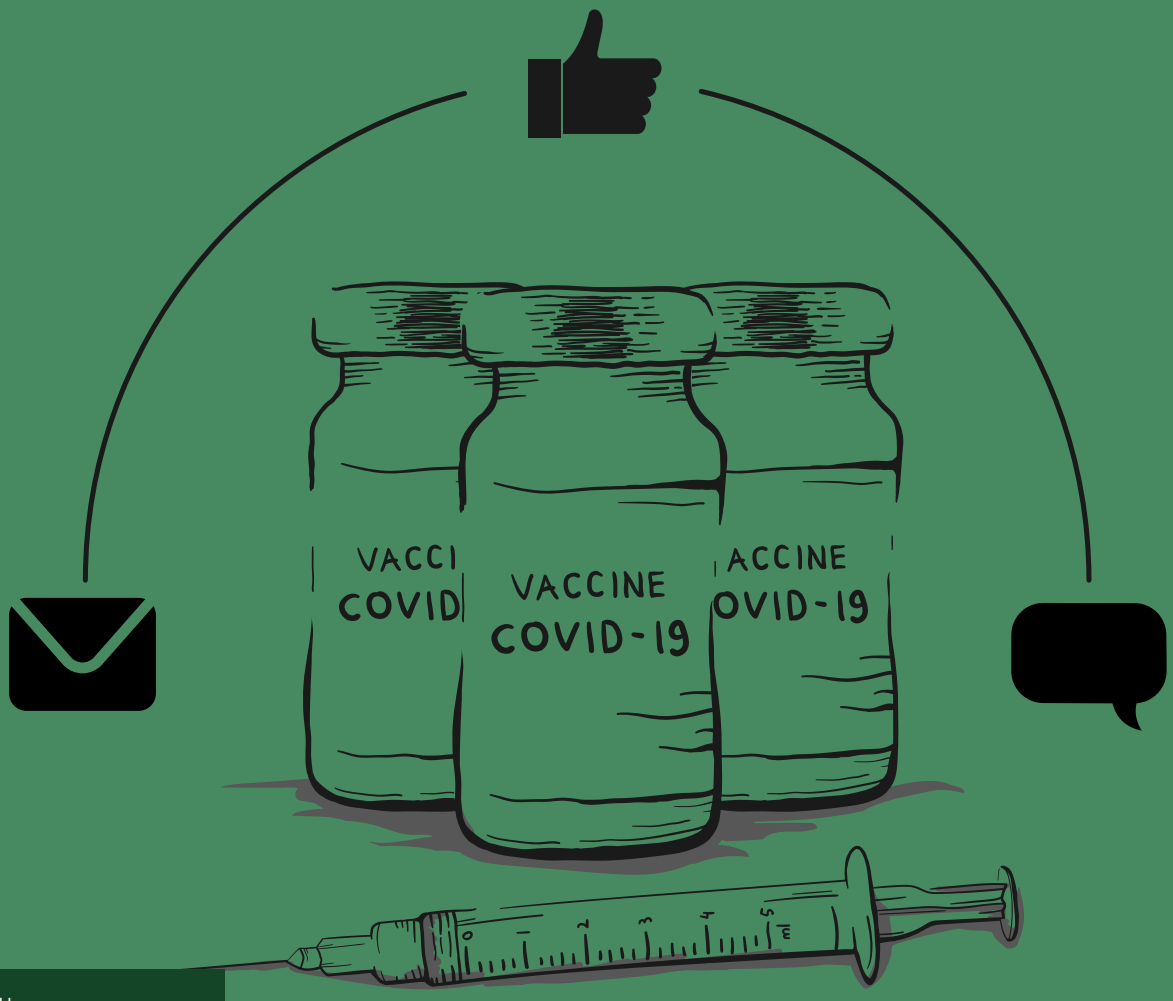
Improving Egypt's Access to Vaccines and Medicines: Communicating during COVID-19

A Policy Paper



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List of Abbreviations

USA	United States of America
IDSC	Information and Decision Support Center
UAE	United Arab Emirates
NGO	Non-Governmental Organizations
PoE	Point of Entry
GoE	Government of Egypt
HCW	Health Care Worker
WB	World Bank
AVAT	African Vaccine Acquisition Task
MCIT	Ministry of Communication and Information Technology
EIS	Epidemic Intelligence Service
KPI	Key Performance Indicators
MoHP	Ministry of Health and Population
WHO	World Health Organization
ILO	International Labor Organization
RCCE	Risk and Community Engagement Strategy
LMIC	Low-to-Medium Income Countries

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EXECUTIVE SUMMARY

Since the start of the COVID-19 pandemic, the Egyptian government has been following protocol as best as possible when it comes to responding to the needs of the health and economic sectors amid difficult times. From lockdown measures to the WHO's recommended practices in terms of isolation of cases and treatments, Egypt has been lauded as one of the fastest and most effective countries in terms of COVID-19 emergency response. Authorities have implemented several awareness campaigns directed at citizens to inform them about the pandemic, how to prevent infection, what to do if infected and how to act accordingly. Authorities have utilized all the available tools in their arsenal to help spread awareness and safeguard public health.

With the world slowly regaining normalcy, governmental efforts have been directed towards vaccinating the global population[1] in order to help minimize the spread of the virus and its variants, control the negative impact of the pandemic and bring back normal activities at a faster pace. Several countries were able to implement awareness and communication campaigns that helped address issues related to vaccine hesitancy and fear of vaccines. This involves honesty, relevant information, dispelling misconceptions and false information, utilizing social media to the benefit of the greater good, and empathizing with citizens who are uncertain of the future and the times ahead.

Egypt is working diligently on all fronts to ensure the availability, affordability, and attractiveness of vaccines, succeeding in the first two points – with news every day about unveiling more vaccines to people in need. However, Egypt is still lacking in the third point. Egyptians are still hesitant when it comes to receiving their vaccines and this may be attributed to several factors, a "missing piece" in the current government's communication strategy is apparent. While the analysis dwells on describing the current communication plan implemented by authorities, the authors suggest and recommend an augmented version of the current strategy; one that involves utilizing the "bottom/up" and "top/down approach" and mobilizes all relevant stakeholders in shaping a campaign that helps raise awareness, dispel misconceptions and information about the vaccines, and builds an open channel with the community.

[1] 53.2% of the global population have been vaccinated with at least one dose of the COVID-19 vaccines, according to the database at Our World in Data (https://ourworldindata.org/covid-vaccinations)

SECTION I: THE START OF A PANDEMIC

Overview on COVID-19

An outbreak of the coronavirus disease (COVID-19) caused by the 2019 novel coronavirus (SARS-CoV-2) has been spreading rapidly across the world since December 2019. Coronaviruses are "a family of viruses that can infect humans and animals, causing various respiratory infections in humans like the common cold and Middle East Respiratory Syndrome (MERS)". Towards the end of 2019, a newly discovered strain of coronavirus (SARS-CoV-2) is thought to have been transmitted from animals to humans, causing the infectious coronavirus disease (COVID-19)[2]. With COVID-19, scientists are still trying to understand the full picture of the symptoms and severity of the disease. It is believed that the start of the pandemic occurred in a wholesale seafood marketplace in the District of Wuhan, China.

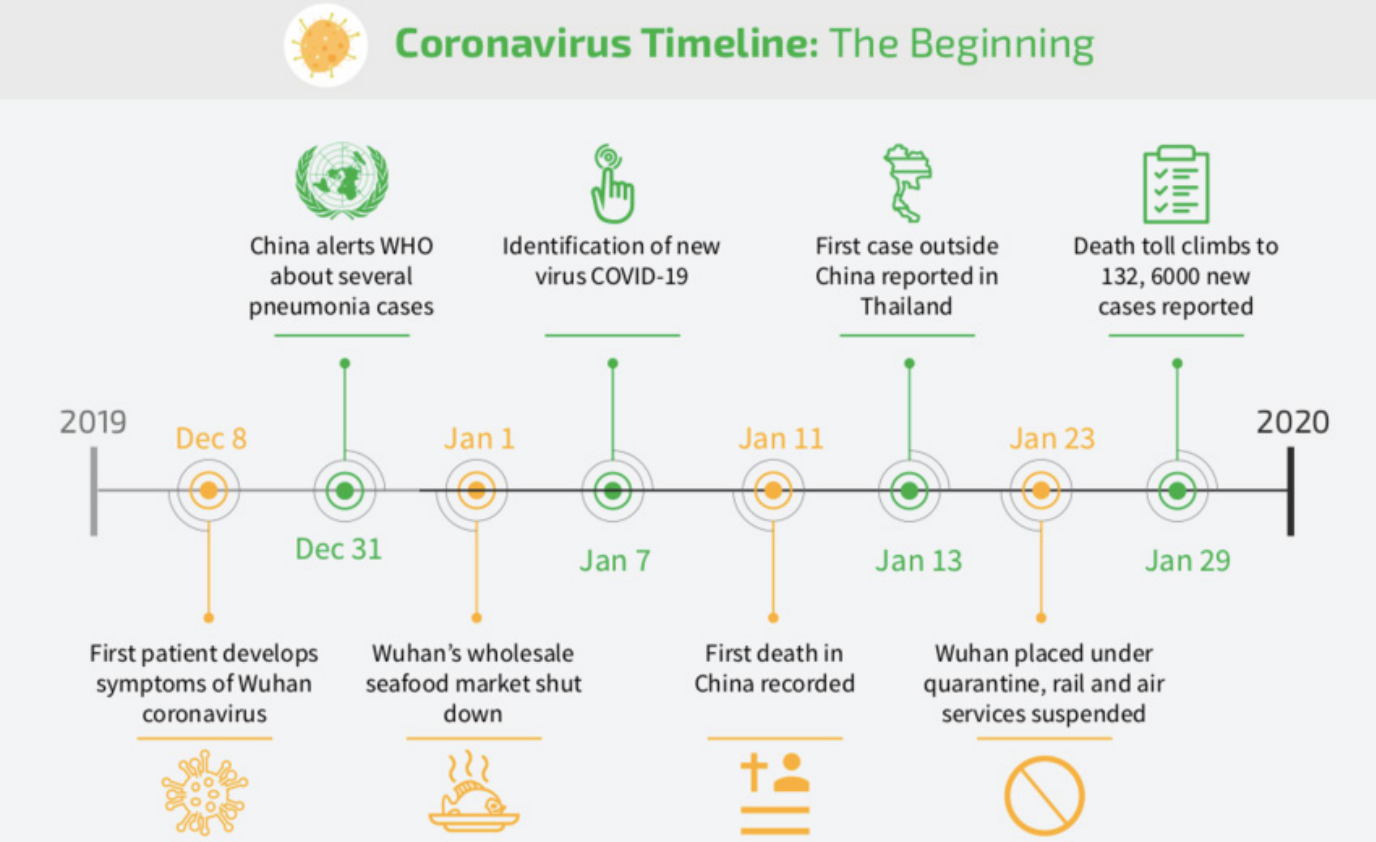

Figure 1.0 2019-2020 Timeline of Major Events during COVID-19 Pandemic

Source: World Economic Forum, April 2020 (https://www.weforum.org/agenda/2020/04/coronavirus-spread-covid19-pandemic-timeline-milestones/)

[2] World Health Organization (WHO), 2020. Virus Origin / Reducing Animal-Human Transmission of Emerging Pathogens. [online] Who.int. Available at: <https://www.who.int/health-topics/coronavirus/who-recommendations- to-reduce-risk-of-transmission-of-emerging-pathogens-from-animals-tohumans-in-live-animal-markets.

SECTION I: THE START OF A PANDEMIC

On March 11, 2020, the World Health Organization (WHO) declared a global pandemic as COVID-19 rapidly spread across the world. As of April 24th, 2020, the outbreak has resulted in 2,802,502 confirmed cases and 195,772 deaths in 214 countries, areas or territories.[3] In light of the follow-up to the epidemiological situation worldwide and the notification announced on the International Health Regulations website, the Epidemic Intelligence Service (EIS), regarding the emergence of cases of unknown causative agent pneumonia (under examination and the causative agent was not confirmed) in the State of China on January 5th 2020.

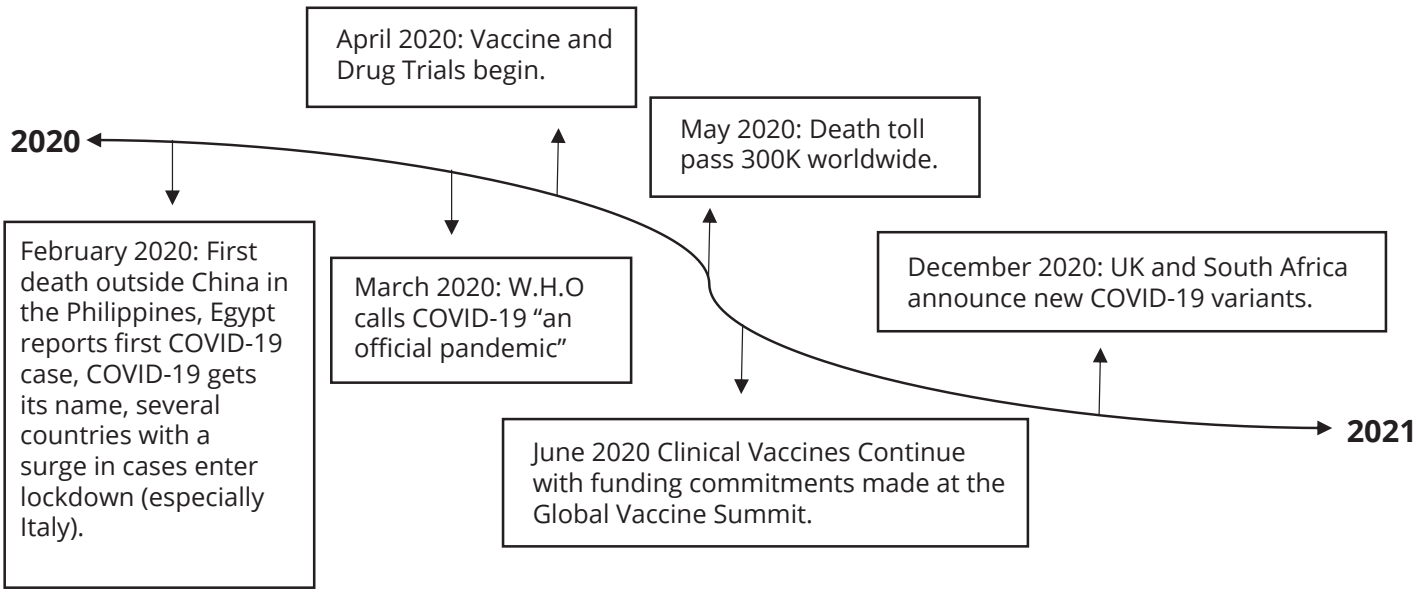

Figure 1.1 2020-2021 Timeline for Major Events during COVID-19 Pandemic

Egypt responded with an emergency plan that was updated and activated in all quarantine departments at points of entry (PoE), including effective arrangements for disease response, as well as strengthening and maintaining basic public health capacities at PoE for prevention and early detection of the disease. The quarantine teams at points of entry (966 Health Care Workers (HCWs)) consist of physicians, pharmacists, sanitarians, nurses and administrative personnel. The degree of readiness and preparedness has been raised at the air, sea and land ports of entry. There was also an increase in the core capacity of the HCWs with repeated extensive training. Coordination meetings with the stakeholders (Ministry of Civil Aviation, the Egyptian Airports Company, the Civil Aviation Authority, different operating airlines in Egypt, the maritime transport sector) were held.

[3] https://www.who.int/emergencies/diseases/novel-coronavirus-2019

Egypt's Fight against the Pandemic

The first case of COVID-19 in Egypt was diagnosed on February 14, 2020. As of April 24, 2020, Egypt had reported 4,092 confirmed cases (Figure 1) with 2,270 hospitalizations, 1,334 discharges and 294 deaths, and a crude case fatality rate of 7.4 percent. Among all governorates, Cairo, Alexandria, and Damietta have the highest numbers of cases. Males make up 60.7 percent of confirmed cases and more than 70 percent of COVID-19 deaths. Most of confirmed cases are among those above 60 years of age.[4]

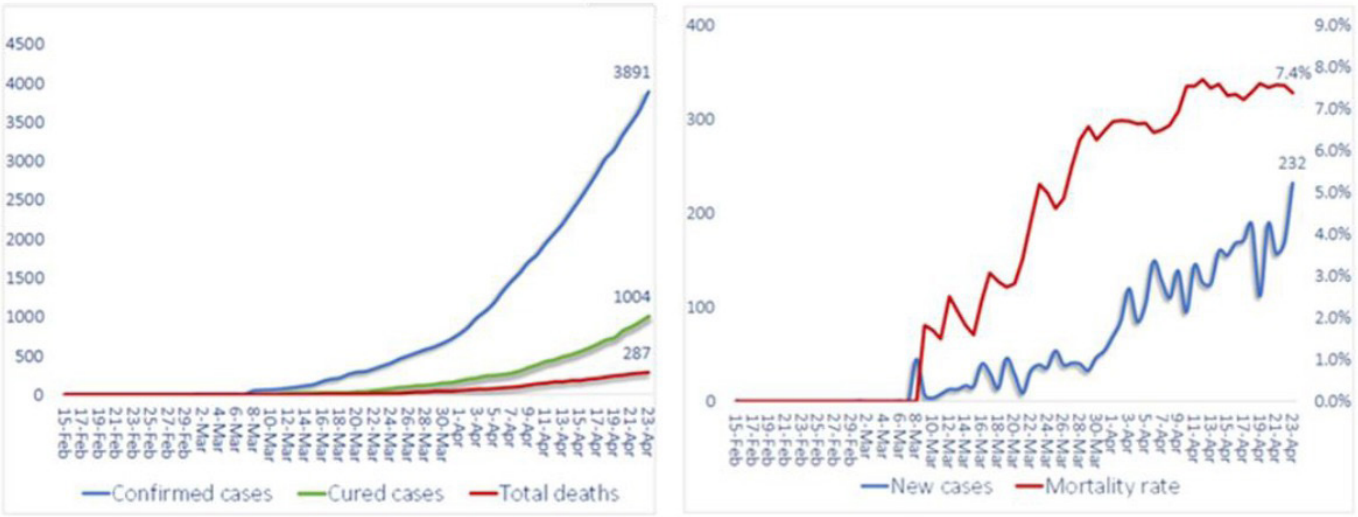

Figure 2.0 Statistics Regarding Evolution of COVID-19 Cases in Egypt
Source: The World Bank documents related to 'Egypt Covid-19 Emergency response project'.

Furthermore, as a means of having a timely, balanced, and holistic approaches to dealing with the outbreak, a national COVID-19 emergency response steering committee has been established, which reports to the President and Prime Minister. The Egyptian Cabinet launched a dedicated COVID-19 response website which provides public access to key government COVID-19-related documents. Afterwards a national preparedness plan for the novel coronavirus (COVID-19) was developed in January 2020 and updated in February 2020 as a preemptive step to deal with cases should they arrive in Egypt. Following with developments and updates of national guidelines for dealing with suspected and confirmed cases of novel coronavirus (COVID-19), a national public health emergency was declared on March 17, 2020 upon the first recorded death from COVID-19.The Supreme National Committee for COVID-19 Control started raising awareness by communicating with countries that were infected with the virus to exchange experiences, and based on it, the first protocol of COVID-19 management was developed in March 2020. The latter was based on defining the cases and dividing them according to their severity (mild, moderate, or severe) and a treatment protocol has been developed for each, as well as infection control protocols, and guidelines for ways to prevent the Corona Virus. Moreover, other efforts on the part of government and health system towards the Egyptians were exerted in order to adhere to various preventive measures such as social distancing rules, working to increase the health awareness of citizens, and establishment of strict laws, as well as impose fines on those who violate these measures.

[4] PROJECT APPRAISAL DOCUMENT OF EGYPT COVID-19 EMERGENCY RESPONSE, World Bank Group, 2021

Raising Awareness against COVID-19

Accordingly, the MoHP launched awareness campaigns to educate the citizens about the immense need to adhere to the precautionary and preventive measures starting from April 2020. The campaigns aimed at building trust among the stakeholders, building capacity for awareness, working with key influencers (e.g., community leaders, religious leaders, health workers), networks (women's groups, youth groups, community health workers, social mobilizers) and providing key messages focusing on actions to reduce the spread of COVID-19 and minimize morbidity and mortality, as well as raising and promoting healthy practices at the community level. In this context, the MOHP mapped a roadmap regarding citizens' awareness of COVID-19, during the period February 2020 – February 2021, as follows:

Time period	The focus of citizens› awareness (digital media)
January - February 2020	• Awareness of the prevention of infection with the emerging COVID-19. • Building trust with the audience on social media.
March – May 2020	• Awareness against COVID-19. • Responding to followers› questions about COVID-19.
June – August 2020	• Promote the coexistence plan by spreading awareness messages. • Spreading awareness messages during the Senate elections
September – November 2020	• Clinical trials of the COVID-19 vaccine. • Awareness to prevent COVID-19, coinciding with the return of schools.
December 2020	• Awareness to prevent COVID-19 in preparation for the second wave.
January - February 2021	• Continuing awareness against COVID-19. • Awareness messages about the importance of receiving the vaccine

Table 1.0: Roadmap of communications to raise citizens' awareness of COVID-19

It is worth noting here that these different campaigns had changed in both form and content with the changing dynamics of the COVID-19 pandemic. In general, those campaigns initially focused on the different ways to prevent the spread of the virus. They then evolved to focus on the awareness of possible symptoms of infection with the virus, and when and how a potential person should seek health care. They then took another form which was dispelling misconceptions related to COVID-19 and that was on all means of communication. The focus shifted yet again when awareness campaigns focused on the importance of receiving an antiviral vaccine in order to preserve public health. The Ministry's community outreach teams, health educators and rural pioneers have been deployed at the level of the governorates of the Republic, to educate citizens. Community communication teams were deployed in the governorates periodically in conjunction with celebrations, holidays, and public events. Tablets were provided with the communication teams in the governorates to help citizens register to receive the Corona virus vaccine, and those tablets were linked to the database of the "100 Million Seha" initiatives.

[5]Target areas were public markets, train stations, public transportation, places of worship, barbershops, coffee shops, shops, gathering places, and villages in coordination with mayors and sheikhs to reach the largest number of citizens to provide the necessary awareness related to public health initiatives. The teams distributed preventive supplies to citizens (masks, alcohol). Community outreach teams participated in the book fair's activities to raise awareness for citizens. The communication strategy adopted different channels to reach target populations. In the following figure, we present the various channels of communication that the ministry utilized:

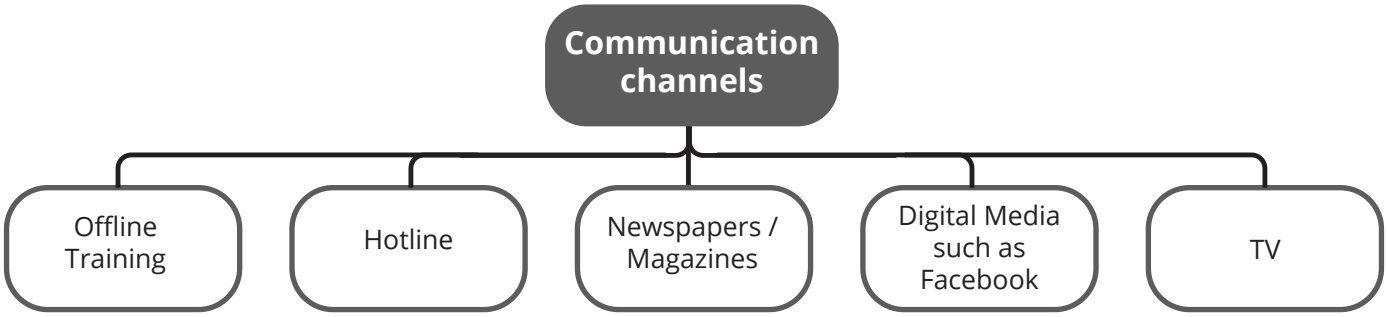

Figure 3.0: Channels of Communication utilized by MoHP

[5] Poster distributed by the Ministry of Health and Population in public work places to raise awareness against COVID-19.

- **TV:** As the most used media/ communication channel by Egyptians, the Ministry of Health and Population utilizes televisions to spread much needed awareness on the COVID-19 pandemic as well as raise awareness on the importance of the vaccine to public health. This is done via interviews on talk shows conducted by famous TV hosts such as Mr. Amr Adeeb and Mr. Ahmed Moussa, whereas the MoHP representative clarifies rumors, denies wrong news and informs the community at large about recent developments. TV is also used to deliver the latest WHO recommendations and best health practices to combat the pandemic.

- **Training:** The Ministry of Health and Population trains central health workers, media representatives, and supervisors on how to conduct awareness campaigns and community engagements especially with the lower socioeconomic classes of the society.

- **Digital Media:** The MoHP utilizes social media to spread its awareness campaign even further, in addition to monitoring false news and rumors. For example, the MoHP created a WhatsApp business profile (chatbot) that people can chat with in order to know information about the pandemic, follow-up on their vaccine registration, or ask any questions they may have related to COVID-19 prevention and symptoms. In addition, the authorities also created an official, verified Facebook account to promote important news and related developments to public health as well as remove/ban fake accounts and remove rumors and false news. In addition, the Ministry of Health and Population also created verified accounts on all other social media platforms such as Instagram, Twitter, and YouTube in order to reach maximum coverage of the population and manage comments and post distributions on various platforms. As of January 2021, there are around 49 million social media users in Egypt (that's almost 50.0% of the population that's online).

- **Newspapers and magazines:** Awareness press releases and information are published in all national/international and private newspapers and magazines (including their online versions), with many news clippings denying rumors and correcting information that could otherwise worsen the health situation.

- [6]**Hotline:** The Ministry of Health and Population allocated hotline «105» with more than 500 agents working 24/7 where services were provided in both Arabic and English. The "105" hotline was mainly responsible for answering COVID-19 related inquiries and questions, raising awareness, and clarifying isolation protocols, methods of transmission, receiving suggestions and complaints, patients' referral to triage and isolation hospitals. A WhatsApp number was set up «01553105105» (a chat-bot) in addition to the «Egypt Health» application which was available on all known mobile platforms. Electronic registration in triage hospitals was done through a system that records and tracks all case data from the first reporting, analysis, confirmation and coordination of either home isolation, medications for cases at home or hospitalization for cases that need medical care. Besides designing a mobile application "Sehet Misr" to address community needs through providing awareness messages about the cause and prevention of COVID-19 infection, messages were disseminated through other means such as:

  - pop-up random messages that appear without recalling

  - present information that can be accessed according to the user needs

  - a tracking service for the COVID-19 PCR test results that allows the user to receive the result through the application with focused messages on protecting contacts.

These campaigns targeted all segments of the Egyptian society, as they took all available means such as the press, radio, television, and all social media platforms such as Facebook, WhatsApp, and others. These campaigns were carried out directly under the supervision of the MoHP through the Supreme National Committee for the Management of COVID-19 and in cooperation with the relevant ministries such as the Ministry of Higher Education, the Ministry of Interior, the Ministry of Defense, the Ministry of Media, and the Ministry of Social Solidarity, as well as the Information and Decision Support Center (IDSC). In addition to the aforementioned measures that the government has applied, the Ministry of Health and Population put in place a risk communication strategy that would help cement their efforts in managing their COVID-19 preventive campaign. It also helps in reducing the number of infected cases and spreading awareness and health education messages through television, radio stations, social media platforms, publications, messages of health awareness in all health facilities. This is in addition to dispelling misinformation about the COVID-19 and strengthening the preventive precautions such as frequent hand washing as well as wearing masks and gloves. Egypt was one case study in terms of communication and raising awareness about the pandemic. Globally, different experiences were implemented and could serve as lessons learned for the authorities to implement and update their current communication strategy, as will be seen in subsequent sections.

[6] Poster ad for the Hotline instigated by the MoHP with steps on how to protect oneself and others from COVID-19.

COVID-19 and Communication: The Global Context

COVID-19 is not a typical health crisis, in terms of scale and magnitude. Additionally, it is a socio-economic and information crisis. The economic consequences – the most profound economic recession in decades – amplified the existing vulnerabilities in several countries especially Low- and Medium-Income Countries (LMIC), pushing an estimate of 70-100 million more individuals into ranges of dire poverty. Furthermore, unemployment rates have risen globally, with millions of workers losing their jobs as lockdown measures were set in motion.

According to the International Labor Organization (ILO), it is estimated that around 8.8 per cent of global working hours were lost in 2020 i.e., an equivalent of 255 million full-time jobs lost due to the pandemic (ILO, 2021). This could be translated to a loss of around $3.7 trillion in labor income support. LMICs have felt the bigger share of this downturn, with an estimated 11.3% drop in working-hours (an equivalent of around 29 million jobs lost) during 2020 as opposed to 7.3% in upper middle-income countries (just around 19 million jobs) and 6.7% in lower-income countries (around 17 million jobs lost). This can be further explained by an estimated loss in labor income of around 12.3% in LMICs (a loss of around $455 billion), 7.6% in upper middle-income countries (a loss of around $281 billion) and 7.9% in lower income countries ($292 billion). Most vulnerable groups such as children and young people were heavily affected due to education disruption and difficulty in securing financing for start-ups.

The mental health and wellbeing of billions of people also suffered, with increases in levels of stress, anxiety, fear, depression, and uncertainty. For example, as a direct effect of the pandemic, it is estimated that around 4 in 10 adults in the United States of America (USA) have reported symptoms of anxiety or depressive disorder, a share that is four times larger than the figures reported back in June 2019[7]. According to The Household Pulse Survey, adults who experienced job losses or lower incomes reported higher rates of mental illness than those without job or income losses, a rate of 53% against 32% of those surveyed. This is further instigated by low self-esteem and distress as a result of job and/or income loss, which may lead to higher substance use, disorder, and suicide. In addition, stigma and discrimination were a burden not only on those who contracted COVID but also on the healthcare workers. There have been many recorded incidents on assaults on medical staff and families of COVID-19 patients, with the underlying fear of COVID-19 transmission to the surrounding individuals.

In addition to the continuing concern over public health, the peaks of cases and the metamorphosis the COVID-19 virus was going through most countries – those which happened to have introduced a strategy to raise awareness and communicate developments about their national health policy – found themselves faced with a different type of danger, one that was putting their efforts to shame.

[7] Panchal, N.; Kamal, R.; Cox, C. and Garfield, R. The Implications of COVID-19 for Mental Health and Substance Use, https://www.kff.org/coronavirus-covid-19/issue-brief/the-implications-of-covid-19-for-mental-health-and-substance-use/, February 10th 2021.

The first of these dangers is Pandemic Fatigue; one of the terms commonly used to describe "the reduction in the individuals' interest to follow the guidance and recommendations on preventative behavior needed to combat COVID-19". In many countries, protests have taken place against curfew measures, forcing governments to enhance and strengthen their respective communication campaigns and continue to limit travel, thus further entrenching the deteriorating state of the economies and related sectors as well as continuing to limit access to basic services, especially the ones dependent on social contact. Internationally, the socio-behavioral data highlighted several trends. Primarily speaking, people do know and understand basic facts on COVID-19 and the importance of preventative measures. However, the protracted nature of the crises watered down compliance and perception of risk.

The COVID-19 pandemic has affected the whole world, especially the frontline workers. To get shielded from this war, the world is racing to reach and manufacture COVID-19 vaccines. However, a second type of danger has appeared and that is vaccination hesitancy, considered to be one of the significant obstacles to global health (Fares et al., 2021). As it stands, the World Health Organization (WHO) has declared vaccination hesitancy as one of the top 10 obstacles for global health, especially with many variations for COVID-19 starting to spread globally. In fact, the WHO defines "vaccine hesitancy" as "a delay in acceptance or refusal of vaccines despite the availability of vaccine services" (Butler & MacDonald, 2015). It is also a term that is complex and context specific, varies across time, place, and vaccines (i.e., in the type and subsequent effects of said vaccines), and is influenced by a lot of other factors such as complacency, convenience, and confidence[8].

The term "vaccine hesitancy" is at the center of any government's communication strategy to immunize its population against the COVID-19 virus, with its already spreading variants.

Government communication is generally defined as "all the communication activities of government bodies that are aimed at conveying and sharing news, information to present and explain government policies, plans, decisions and actions." Government communication "acts on achieving many objectives such as explaining to the public the government's goals, decisions, actions and activities; keeping people up to date with their rights and obligations; giving the community instructions for how to act in the case of an emergency and increasing awareness of social, economic, environmental issues" (Kang et al., 2018; Soukenik, 2018).

Transparency, communication, and trust resurface globally, regionally, and locally at the times disasters and major events hit. The notion of accountability and the constituents of the governing vis-à-vis governed population is exposed and examined, yet the scale and magnitude of extreme event shapes how governments act and how the citizens respond to guidance and co-contribute to solve the issue and build resilience. With a global crisis angle comes a more profound and complex challenge for local governments whereby the channel of information is not limited to the local communications strategy, but also heavily influenced by the similar communication strategies in neighboring countries and globally, which might align or contradict with the local communication strategy.

[8] Complacency is defined as the skepticism that stems from the fact that vaccines are so effective that parents no longer remember or fear vaccine-preventable diseases like measles and polio. Instead, they may focus their anxieties on the safety of vaccines, effects or the number and timing of injections. Convenience is defined as the need for medical infrastructure. Inadequacy is defined as the inequities in health systems like poverty, the disparity in infant mortality and life expectancy and a need for trained providers, damages community trust. Confidence is defined as the level of trust citizens have in their officials working the health sector.

At the start of 2021, several countries raced to acquire vaccines to start their rollout program, in a bid against time to vaccinate as many people as possible to fight off the COVID-19 virus and its variants. Countries such as the United Arab Emirates (UAE), Israel, Bahrain and Turkey were able to reach a wide range of their population (95%, 70%, 67% and 64% of their populations respectively have been vaccinated) (Richie et al., 2021).

This has been successfully implemented due to their somewhat successful and swift government communication strategy that has been heavily directed to their citizens since the outbreak of the pandemic. In the following section, we take a look into the UAE's government communication strategy and several other countries' approach to help raise awareness about COVID-19 as well as the promotion of the importance of vaccination.

UAE Communication Strategy: Main Features

The COVID-19 strategy of UAE is managed by 'The National Crisis and Disasters Management Authority'. The UAE government advised citizens to understand the critical situation and follow the advice and recommendations. The period of dealing with the pandemic can be divided into two phases. The first began on 29 February 2020, after announcing the first COVID-19 case. This included the statement of the quarantine on 26 March 2020 to separate and restrict the movement of people during certain periods that differed according to circumstances and regions. The government called it the 'National Sterilization Programme'. The second phase began on the 25th of June 2021 with the end of the quarantine and phase of coexistence with the coronavirus (Radwan & Mousa, 2021).

The UAE government used seven tools in its communication strategy: (1) reducing ambiguity, (2) promoting effective healthy behaviors, (3) clarifying government actions, (4) empathy and encouragement of citizens, (5) issuing warnings in case of outbreaks or worsening health apparatus, (6) correcting misconceptions and false news and lastly, (7) sharing news and events that are related to the current situation. For the purpose of our analysis and in tandem with the second phase that the world has entered in its fight against COVID-19 (mainly the vaccination stage), we will focus on the top three tools that the UAE used to encourage its residents to take their vaccinations. They were as follows:

- ***Reducing ambiguity:*** this tool focuses on sharing all relevant information regarding the virus, the number of infected people, the positive consequences of the vaccines and any other related information. This tool constituted 31% of the government's communication strategy during the first phase of the pandemic and now contributes to around 37% of the strategy during the second phase.

- ***Promoting effective healthy behaviors:*** this tool primarily promotes healthy behaviors and practices to keep infection rates under control and safeguard public health such as hand washing, keeping social distancing, taking the vaccines and others. This represented around 16.8% of the government's communication strategy during the first phase of the pandemic and now it constitutes around 17.5% of the strategy.

- ***Empathy and encouragement:*** this tool focuses on the government's outreach to its citizens and staff (especially the medical staff and workers), supporting them and encouraging as well as reassuring them of availability of resources and stability of daily life. This tool represented around 11.6% of the communication strategy during the first phase of the pandemic and was ramped up to 13.7% of the strategy during the second phase.

In that regard, the Ministry of Health in the UAE launched an awareness part on its website, entitled, 'Your Health, Our Priority' to publish information about COVID-19, its prevention, treatment and recommendations, precautions from World Health Organization (WHO). Through it, the government published all relevant information via various forms of communication such as infographics, text posts, videos and pictures (Radwan & Mousa, 2021). Most importantly, in order to ensure maximum coverage and outreach, the UAE involved the community in the efforts to contain the pandemic; raised awareness about the government's efforts as well as enhanced social initiatives and responsibility all the while informing and guiding people about the economic, educational and social repercussions and solutions.

Côte d'Ivoire's Communication Strategy: A Successful Management of Vaccine Hesitancy

In February 2021, Côte d'Ivoire's efforts to vaccinate its population in order to save lives and stem the spread of the coronavirus were being stymied by a wave of misinformation and a low level of public acceptance of the vaccine (World Bank, 2021). It is based on that front that the Ivorian government embarked on a massive awareness campaign which featured mobile clinics and enlisting the support of influencers and religious and community leaders to encourage people to vaccinate. The strategy was a huge success for the government's efforts as the number of people increased by tenfold, from 2,000 vaccinated people per day to 20,000 in the following four weeks of the campaign.

The main reason for the slow start of the vaccination rollout was the massive spread of rumors among the people, which spread faster and stronger than appeals from the government. As a result, 60 vaccination centers – already well placed within the capital and its peripheries, capable of serving up to 300 people a day – struggled to vaccinate 20 per day. At that rate, vaccines were likely to expire and end up disposed of. In addition to rumors, the Ivorian Minister of Health noticed that fake news was spreading across social media discouraging people from taking their vaccines and thus defeating the purpose of the vaccination campaign that has been rolled out. In order to create reassurance and convince the Ivorian people to take their vaccinations, the Ministry of Health proceeded in combatting these rumors and false news by doing the following:

- Holding conversations with key players at the national level and with international organizations, and enlisting social media influencers, religious and community leaders, and local elected officials to get the word about how safe and important vaccination is to the people's welfare as well as the country.

- Expanding the vaccination campaign in the rest of the country by deploying mobile clinics—large medically equipped buses that travel to the busiest areas to educate, mobilize, and vaccinate people.

- Relying on international partners such as the World Bank to help finance, support, and guide the vaccination/awareness campaign to reach its main objectives. This was done with the help of health and communication specialists working alongside government teams to bolster the community mobilization campaign and step-up communication about the vaccine.

China's Communication Strategy: How Well-rounded was it?

China has surpassed all other countries' contributions in containing the COVID-19 virus, despite being the first country in which the virus was initially detected. China was able to manage the viral infection through its centralized epidemic response system, and swift response to contain the situation unlike other countries which had more time to stop the transition. China was able to control the sequence the genome of the virus in less than a month since the first infected case appeared in Wuhan in late December 2019 (Ren et al., 2020).

China's communication strategy had many phases. At the beginning of the events, the Chinese officials refused to report new cases among the public and healthcare workers, despite the increase in the numbers of infected cases. The government's monopoly of information and its centralized system were harming the masses and deepened the ignorance of the public, which in return resulted in the increase in the rates of infection. The government meant to ensure social stability and try to calm people down (Zhang & Ma, 2020). Soon after, the government banned any unvaccinated person from entering public premises, universities, schools, markets, and even hospitals at some point; in order to force people to get the vaccine (Fang, 2021) This made risk communication more difficult in the dissemination of COVID-19's information to the public concerning the health risks and government's response and recovery strategies to mitigate the effect of those risks (WHO, 2000).

The Chinese National Health Commission adopted three main approaches for the vaccination process that depended on voluntary, agreed, and informed communication strategies, that makes the vaccine accessible to all citizens (Fang, 2021). Amidst all the discrepancies in people's opinion regarding the vaccine, and the urge to get all the people vaccinated, the government formulated Key Performance Indicators (KPIs). In order to accomplish the KPIs, the government distributed in-kind allowances such as grocery items and cash allowances as a reward to the vaccinated people (Meng, Shan, and Zhang, 2021).

As of October 2021, China was able to provide more than 2 billion dosages of Covid-19 vaccine (Thomala, 2021). According to the Our World in Data the average daily doses administered by 100 individuals is 54% in China, while US average rate per 100 individual is only 25%. The total number of individuals who received their first shot of vaccine covers almost 77.6% of the whole population. Although, the first reported infected case appeared in Wuhan was in late December, 2019, by January 10, 2020, China was able to sequence the genome of the virus (Ren, et al., 2020). Accordingly, China has no longer any high-risk areas, and medium risk areas had fallen to its minimal levels (Meng, Shan, and Zhang, 2021).

The government made advantage of technology in order to communicate with the public; hence it allocated 77% of its research and development budget to high tech companies. It also acknowledged the role of social media in managing the virus, hence a pool of applications was created to facilitate the dissemination of data to and from the government (Mohamadi, et al., 2021).

Other Countries' Experiences

Aside from Côte d'Ivoire and the UAE, other countries have implemented communication strategies and awareness campaigns that helped in dealing with vaccine hesitancy and spreading much needed awareness to safeguard public health safety. These countries include:

- **Pakistan** has adopted a Risk and Community Engagement Strategy (RCCE) that depends on using social data to inform programming about possible infections and disease outbreak. The task force has built a system that analyzes behavioral and social data being collected through feedback modules, surveys, traditional media, and social monitoring (WHO, 2021).

- **India** has developed a COVID-19 Vaccine Communication Strategy in order to make sure that its citizens are eligible for the vaccine with a high degree of confidence and assurance. The communication strategy targets the public hesitancy towards the process of the COVID-19 vaccination campaign and provides right, timely, and consistent information on the new COVID-19 vaccine (safety, availability, timeline of rollout). It generates understanding about the phased approach of prioritizing targeted population and raises the right amount of awareness towards the whole process. It sheds light on the low-risk perception of the infection among the population and builds an enabling atmosphere to maintain and adopt COVID-19 proper behaviors to mitigate infection (India, 2021).

- **New Zealand** is considered one of the most successful countries in limiting the spread of the COVID-19 pandemic and containing the negative fallouts. The New Zealand Government relied on a Grand National Communication Campaign so as to engage all its citizens in combating COVID-19, under the "Unite against COVID-19" slogan and governmental website. The campaign did not just rely on common media outreach tools (social media, billboards, leaflets), but it extended to pushing community leaders to spread the awareness in religious communities (Stockman, 2021). Building on the assumption that effective government communication reinforces public resiliency and supports policies' interventions (Vardavas, et.al, 2020), New Zealand is considered one of the best countries that adopted a strong COVID-19 emergency response strategy. The Prime Minister Jacinda Ardern focused on straightforward communication methods, expressing care towards the citizens as well as providing a comprehensive participatory approach (Rebecca, and Alex, 2020). One of the strategies that New Zealand depended on in order to allow more interactions with the public is live streaming podcasts between Jacinda Ardern and regular citizens, who share their COVID-19 experiences and stories in "Conversations through COVID" podcast. This also encompasses sharing success stories and best practices. Hence, the public itself was used in raising the awareness regarding the vaccination process and precautionary measures (Gilray, 2021). By depending on engaging the public in the health policies, New Zealand won both the battle and the war.

Egypt's Current Communication Strategy: What Does it Look Like?

As mentioned earlier, at the start of the pandemic a year ago, the highest levels of government were involved directly in the response to the COVID-19 spread, with a solid support from the presidency and the political leadership. The government has directly led the response, with some members of the ministerial cabinet leading the policy implementation and rolling out the communications strategy. The multiple levels of governing bodies, agencies, and civil society were involved in the efforts towards pandemic containment. Moreover, a national coordination and response taskforce was established, namely the Higher Committee for the Management of the Coronavirus Crisis.

Throughout, the Government of Egypt adopted a centralized- top-down approach in tackling the COVID-19 crisis which was relatively successful in enforcing lockdown measures and re-arranging the healthcare entities to be able to respond to the COVID-19 related to health needs of the society. The online hub created by the government had a momentous role in responding to promoting vaccination. However, a two-way channel with the community in the forum of a national dialogue was not created as such. Vaccine registration and reservation started a special website "15335" hotline for vaccination registration, receiving complaints and information and awareness regarding vaccine, and teams across MoHP's hospitals started accepting registration. It is available for all people living in Egypt to apply.

The priority in vaccination is given to health care workers (HCWs) directly engaged in COVID-19 response, followed by the rest of the health workers and the elderly (over 70 years old), covering 3 million people in this first stage of the vaccination. In the subsequent stages, priority will be given to people with comorbidities, as they are most at risk of fatal outcomes related to COVID-19. Their estimated number is around 17 million. Vaccination will be offered to all people living in Egypt, including refugees, migrants, asylum seekers, and foreign residents. Special efforts will be made to ensure that the most marginalized groups are aware of their right to be vaccinated and reached. The Government of Egypt has a strong funding base for the vaccination, relying mostly on domestic resources (government budget and funds pooled into the National Tahya Misr Fund) and partially through grants from developmental partners. Beyond 2021, Egypt aspires to vaccinate other population groups, to protect all the people of Egypt against COVID-19, with a first target of 40.0% of the population by end of December 2021 and 70.0% by June 2022.

In this regard, the MoHP utilized all available media channels in order to raise awareness and spread knowledge on the COVID-19 pandemic and subsequent vaccination campaign that has been rolled out by the government. We can detail the communication campaign as follows:

- **Awareness and risk communication**

  - **Media Campaign:**

    * Awareness info-graphs & videos

    * Inclusion & exclusion criteria

    * Clinical sites (Vacsera & Katameya)

    * Encourage the population to participate in the clinical trail

Egypt's Current Communication Strategy: What Does it Look Like?

- **Awareness and risk communication**

  - **Specialized Hotline 15530:**

    *Introducing and spreading the concept of participation in clinical trials

    *Registration on the official registration website

    Responding to citizens› inquiries regarding clinical trial sites

    *In case of mild to moderate AEs, Directing to the NHTMRI

    *Reporting any severe AEs require urgent follow-up or medical care

    *Receiving and resolving participants 'complaints of all kinds

- **Pharmacovigilance Team:**

  - Recalling registered participants on the MOHP website
  - Subjects normal follow-up
  - Physical visits reminder calls
  - Hotline 15530 complaints follow up
  - Answering the FAQs on the social media pages.

- **Examples of Published COVID-19 related researches**

  - Subjects normal follow-up
  - Physical visits reminder calls
  - Hotline 15530 complaints follow up
  - Answering the FAQs on the social media pages.

As a result of Egypt's current communication and awareness campaigns, vaccination rates may be still low and below peers. As of the 29th of November 2021, according to the WHO, a total of 36.9 million doses have been administered to the people, with an average of 384,011 doses administered each day (Reuters' COVID-19 Tracker, 2021). This translates to about 22.7% of the population having been administered the vaccine with 13.5% being fully vaccinated and 9.2% having received at least one dosage. According to Reuters, it will take the Government of Egypt around a further 53 days (less than two months) to administer enough doses for another 10% of the population. These figures are benchmarked against the aforementioned hard targets the government has set and with this rate, Egypt's vaccine roll-out is considered to be very low compared to peers as seen from the charts below.

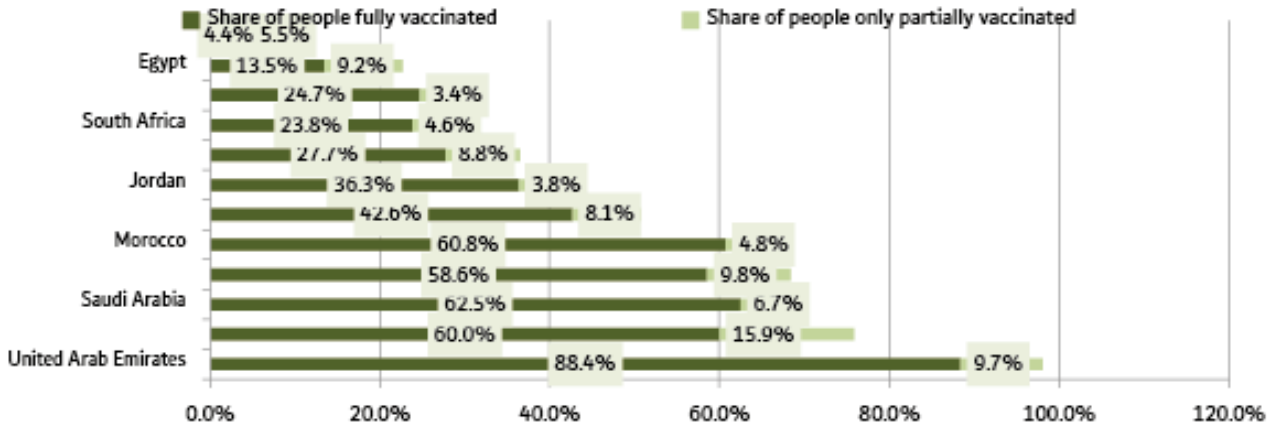

Figure 4.0: Percentage of people fully/partly vaccinated against COVID-19 as of November 29th 2021

Source: Data compiled by authors from Our World in Data website on COVID-19 tracking. Egypt's data is extracted from the Covidax Satistics Website (https://covidvax.live/location/egy) as of the 29th of November 2021. (https://ourworldindata.org/covid-vaccinations?country=EGY~JOR~SAU~ARE~NGA~BRA)

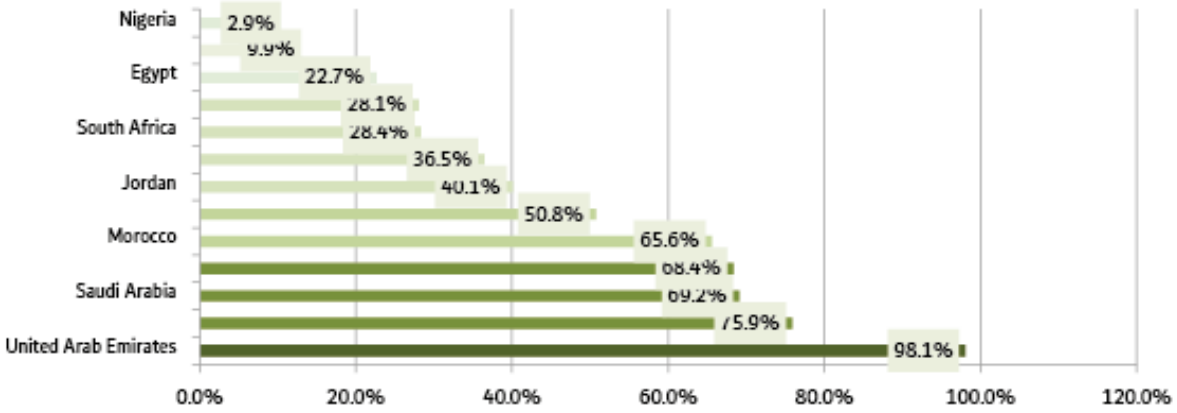

Figure 4.1: Percentage of people having been administered doses of vaccine against COVID-19 as of November 29th 2021 (as a % of total population)

Source: Data compiled by authors from Our World in Data website on COVID-19 tracking. Egypt's data is extracted from the Covidax Satistics Website (https://covidvax.live/location/egy) as of the 29th of November 2021. (https://ourworldindata.org/covid-vaccinations?country=EGY~JOR~SAU~ARE~NGA~BRA)

Egypt's Current Communication Strategy: What Does it Look Like?

If any observations can be extracted from the charts above, we assume that vaccine hesitancy in Egypt is part of the widespread problem that is hindering the government's next phase in combatting the COVID-19 pandemic. According to an article written on barriers associated with COVID-19 vaccination among Egyptian medical students, the authors carried out a cross-sectional study on 2133 medical students in January 2021 where the majority of the participant students in the study (90.5%) perceived the importance of the COVID-19 vaccine, 46% had vaccination hesitancy, and an equal percentage (6%) either definitely accepted or refused the vaccine (Saied et al., 2021). The authors concluded that the reason behind the hesitancy was deficient data regarding the vaccine›s adverse effects (potential 74.17% and unknown 56.31%) and insufficient information regarding the vaccine itself (72.76%). They went on to suggest that the government, health authority decision-makers, medical experts, and universities in Egypt need to work together and make efforts to reduce hesitancy and raise awareness about vaccinations, consequently improving the acceptance of COVID-19 vaccines.

Another cross-sectional study targeting 1011 Egyptians aged 18 years and above from across Egypt showed that 54% of respondents reported COVID-19 vaccine hesitancy and 21% of them reported vaccine non-acceptance, while 51.8% expressed strong worries about any unforeseen effects of the vaccine which were associated with younger age groups, married, females, absence of history of allergy to food or drugs, perceived susceptibility to COVID 19 and never having flu vaccination (Omar & Hani, 2021). The observed high level of worries about unforeseen effects of COVID-19 vaccines and widespread vaccine hesitancy amongst Egyptians and its predictors should be considered during the implementation of public health intervention campaigns to change negative attitudes and improve acceptance and uptake of COVID-19 vaccines in Egypt.

Based on the aforementioned results, there are suggested deficits and shortcomings in the communication and outreach campaign currently led by the government, which the latter needs to address in order to safeguard public health and fight off the pandemic.

SECTION II: PROBLEM STATEMENT

Why are the Egyptian health authorities unable to fully address the issue surrounding "low vaccination rates" in its current communication strategy?

Despite all the aforementioned exerted efforts, vaccination rates are still low and behind peers with approximately 36.9 million doses administered, to vaccinate around 22.7 % of the population and only 13.5% of the population completed their vaccination reported on the 29th of November 2021. At this rate, Egypt could have 70% of people vaccinated (2 doses) in 183 days (or by Mai 22, 2022), according to Covidvax statistics[9], two months earlier than when the government is expecting to achieve that target. However, the GoE's efforts were more focused on ensuring the availability of diverse types of vaccination and the affordability to everyone living in the country, but little was made to address the public's awareness and acceptance of the vaccine as suggested from the low rates of vaccination. There are still people who suffer from misconception, mistrust, and a lack of knowledge regarding the vaccine, its types, and short- and long-term side effects. Despite the fact that many people are willing and eager to get vaccinated, such an atmosphere leads to vaccine hesitancy. As a result, the MoHP has noticed that only few people are applying to get the vaccine, and many people are hesitant, reluctant, distrusting, or otherwise not motivated with respect to being vaccinated. Others are convincing their families and friends not to take it as well. Such hesitancy could be due to several reasons among which that (i) the vaccine is politicized in many people's views, (ii) some consider that not enough time was spent on developing the vaccine correctly for human use or, (iii) religious concerns come into play for some people.

That is why the apparent "missing piece of the puzzle" of the channels of communication between the government and its people could have affected the dismissal of the right information about the nature of the vaccine, its types, and its distribution places. Most governments – including Egypt's – believe that getting any vaccine is better than having no vaccine at all.

Media and communication have an essential role in spreading public health awareness. In health emergencies, they possess the tools and mechanisms to eventually protect community members from the risks of emerging diseases and long-term health and wellbeing issues. The mere presence of information and resources also does not essentially tackle the constituting root causes of trust and the overly expected discipline of the society to the purely channeled medical information, particularly in communities with high illiteracy rates. In that sense, socially constructed issues could affect the economy, social integrity, in addition to health implications. In the same vein, socio-economic factors play a vital role in this matter along with COVID-19 communication policy and strategies that depend not only on a top-down communication strategy – from a health policy maker to the public- but also as a community-based approach to match the policy adopted by the central health authority's direction.

Building on this approach does not only provide a solid and consistent solution to the communication crisis in the COVID-19 setting, but also a social dialogue in the realm of governance that could provide solutions to future epidemics and crises. This could be extended to a socially designed construct that respects the accountability towards the citizens and the active engagement of the community in solving problems and protracted health issues such as non-communicable diseases and others.

[9] Statistics extracted from the Covidvax Website: https://covidvax.live/location/egy

This paper is focused on the problem of communication in health crises, with a special focus on COVID-19 communication policy and strategy. The main spotlight of this analysis is to understand the bottlenecks in the communication strategy with the Egyptian public, in particular when it comes to vaccinations and general health guidelines. As far as we have come in this pandemic, the government concentrated its efforts mostly toward the affordability and availability of the vaccines but little to none toward acceptance. In short, the authorities were more focused on ensuring the availability of diverse types of vaccination and making sure they be affordable to everyone in the country, but they did not pay much attention to the public confidence and acceptance of said vaccines. The last part of the paper addresses what could be the best possible policy alternatives to create a conclusive and comprehensive policy to address the public as the policy guide, sharing the responsibility, instead of a passive recipient of policies.

SECTION III: STAKEHOLDER ANALYSIS

Access to vaccines is a multifaceted and composite issue. It does not just depend on the medical sector, but also on social, economic, and political contributors as well as communication strategies and risk management. Access to vaccines – while primarily dependent on availability and affordability of said vaccines – will remain constrained and limited if people do not trust in the vaccination process. Different stakeholders are involved in the process of providing equal access to COVID-19 vaccines and pharmaceutical drugs and are considered as key players in the process of getting people to trust the system and receive their vaccination in the fight against the pandemic. This section sheds light on the key players and stakeholders in the health sector in Egypt, especially when communication strategies are involved. Table 2.0 portrays the key stakeholders who play major roles in shaping COVID-19 related affairs and policies.

SECTION III: STAKEHOLDER ANALYSIS

1. Policy Makers/ Authorities	• **The Ministry of Health and Population (MoHP)** The Ministry of Health and Population is the head of the health sector and the technical implementer of the COVID-19 emergency response strategy. The ministry is also entitled to monitor the emergency health expenditures of the government. This also includes determining COVID-19 treatment protocols and instructions (Beschel, 2021). It is also the main concerned entity concerning the entirety of the vaccination process, including using media campaigns to encourage people to take the vaccine, to the e-registration portal of the vaccine (UNODC, 2020). The ministry adopted a public communication approach while raising people's awareness about hygiene, health, and sanitation during the pandemic, through TV advertisements, radio broadcasts and social media (Beschel, 2021). • **The Committee to Combat COVID-19** This committee is charged with planning and posting the updates regarding the health protocol of the pandemic. This also includes the local manufacture of the pandemic's medications. The MoHP supervises this committee (Mandour, 2020). • **The Higher Committee for the Management of the Coronavirus Crisis** This committee is responsible for overseeing the direct implementation of Covid-19 adopted precautionary measures. It works on setting emergency plans to contain any unexpected situations that might erupt during the crisis. It also coordinates the joint work of all ministries to combat the pandemic. The committee is tasked with preparing COVID-19 related official statements and refuting misconceptions (SIS, 2020). • **The Ministry of Communication and Information Technology (MCIT)** It is responsible for leading the telemedicine initiative, which strives to develop the quality of healthcare services, through incorporating technological techniques at the national level, in close coordination with the MoHP. • **Other State Organizations** There are many other support organizations that provide support to the government in its response mechanism, such as the Armed Forces and the Ministry of Interior. They also tend to help the MoHP in mitigating the impact and spread of COVID-19 as part of the government's emergency response plan. The Ministries of Defence and Interior are entitled to monitor the implementation of the curfew plan of the government, besides facilitating the work within the vaccination centres across the country (Beschel, 2021).

SECTION III: STAKEHOLDER ANALYSIS

2.Healthcare workers	Those include doctors, nurses, paramedics, community health workers, the Medical Syndicate and whoever is directly working in the healthcare system and are susceptible to COVID-19. Since the beginning of the peak of COVID-19's first wave in May 2020, healthcare workers felt excluded from the decision-making process (Ghanaam, 2021). This reached a peak when the government disregarded their demands (Mandour, 2020), leaving them to ill-equipped hospitals and medical facilities, with limited resources and personal protective equipment for the service providers (Beschel, 2021). The Egyptian Syndicate has been outspoken in its support of the healthcare workers since the beginning of the pandemic. It directly reflects the opinions and voices of doctors, vis-à-vis reporting all the incidents related to any violation of the MoHP against the service providers, such as arresting the opposing doctors or using other forms of oppression to contain the situation (Mourad, 2020). The Syndicate uses Facebook to reflect the demands, thoughts, and opinions of the healthcare staff.
3. National and foreign residents	This includes everyone who resides in Egypt. In the case of communication, all involved nationals and foreigners should participate in the process since communication can directly affect their lives and perceptions about the ongoing pandemic and its consequences on their livelihood and health. What is important in this process is the feedback the nationals and foreigners give in terms of how effective the policy is, what is considered as a strength and weakness in the communication strategy itself and how they perceive it as an effective tool in safeguarding their life. In fact, at the beginning of the pandemic, the people sought the government's advice actively and tried to follow the preventive measures advised by the government on the Ministry of Health's Facebook page, or the officials' appearances on the television. However, once they got used to the pandemic, they followed social media influencers' points of view, which at many times appeared to be unscientific and distracting.
4. Vulnerable communities in Egypt	These include elderly people, people with disabilities, refugees, and people living in slum areas, unemployed youth and all those who were severely impacted by the COVID-19 pandemic. They are unable to access the provided services due to social, economic, or physical limitations that hinder them from reaching the proper services. Vulnerable communities will most likely have limited or unclear information about any medical services/strategies provided by the government, which can worsen the general public's health apparatus. They represent a priority in the context of the government's policies while setting them up to find the appropriate channels to reaching them. However, communication between these masses and the government is a one-way relationship, where they usually just follow the rules and do not have the influence and power to affect government's policies.

5. Social media platforms	Social media has played an essential role in mitigating the communication during the pandemic. Despite all its biases and negativity, it is indispensable in disseminating information and opening public discussions around COVID-19 related issues. The power of social media platforms is apparent in the influx of sharing interactive and personalized information among all citizens. This changed the public perceptions as consumers to participants and contributors to the news (Ahmed et al., 2020). This also made the government more accountable to its actions; usually social media participants raise red flags pertaining to the government's actions and policies when something goes wrong, using various manners to express their contentment or discontent against certain rules, actions, policies, and decisions taken (e.g., creating memes about government officials, spreading comics and funny/comical satire posts about the current state of affairs).
6. International donors/ organizations	International organizations are playing a key role in the pandemic response. They are basically responsible for coordinating joint international efforts, employing massive airlift of medical supplies and materials, conducting research on COVID-19, information dissemination, and relief funds (Hofmann & Kreuder-Sonnen, 2020). • **The World Health Organization (WHO)** The World Health Organization (WHO) works closely with the government to help them set their health system for COVID-19 crisis and ensure designing a proper emergency response plan and communication strategy that ensures the public health apparatus is safeguarded and maintained. The WHO also leads the COVAX facility besides the UNICEF and other key international entities (UNICEF, 2020). • **African Export-Import Bank and AVAT Initiative** The African Vaccine Acquisition Task (AVAT) initiative provides African countries with access to buy 50% of vaccines and the other half is covered by donations that cover their needs. Egypt is a major shareholder in the African Export-Import Bank (Afreximbank) which is one of the managing partners of the AVAT. • **The World Bank (WB)** The World Bank surpassed all the international donors in its public communication campaigns since the start of the pandemic. They collaborated with Google and social media companies, to direct all users with search queries related to Corona virus to the WHO website (Zarocostas, 2020) in addition to running online courses to raise awareness about COVID-19.

7. Non-Governmental Organizations (NGO)/Civil society	Civil society organizations act as the government watchdogs, especially local NGOs. Their role revolves around guiding and encouraging the public to keep their physical distancing and providing them with social solidarity at the same time, through social media platforms. Civil society organizations could be considered as the bridge between the public and the services they cannot reach, especially that local NGOs working in rural and slum areas reach the most underprivileged communities that are isolated from any digital communication tools. They could be considered as enforcers/enactors of the government's communication strategy as well as the most fervent critics of the current status quo of the response towards the pandemic.
8. Influencers and media personnel	Social media influencers/stars and media personnel are considered one of the most important players in the communication tool since most of the population –especially the young ones – take them as idols and copy their every move. Given that more than 40% of Egypt's population are considered young, it is important that the government's communication plan make the best use out of the most reaching stars and influencers on social media, television, and cinema such as Mohamed Salah, Mohamed Ramadan, or Mohamed Moula (Instagram Hit), to make sure authorities reach a wide stratum of the population.

Table 2.0: Stakeholders Involved in Egypt's Communication Strategy Construct

Not all stakeholders are at the same level of influence or power; each differs based on their role in the health system, particularly after the outbreak of COVID19-. The following power-interest matrix depicts the influence and power of each stakeholder in advocating for vaccines in the context of an integrated communication plan to speed up the rollout campaign. The power axis (Y-axis) shows the level of influence of a stakeholder whether in advocating or rejecting a public policy. The interest level (X-axis) depends on what the stakeholder aims to achieve on the economic, social, and power dimensions as well as how engaged said stakeholder will be in the context of a given policy. Interest is not always open; hence this makes it difficult to assess, and nevertheless it could be measured through the long-term commitment of the stakeholder. (Auvinen, 2017; Johnson, Scholes, and Whittington, 2005).

The Egyptian vulnerable communities and population are of low and medium power and interest. On the one hand, they lack the authority to develop or initiate public policies. On the other hand, besides lacking interest, they are rather passive towards getting the vaccine and lack enthusiasm to participate in the vaccination strategy of the government.

Social media influencers and media personalities are stakeholders with high power and medium to low interest. Their power depends on the popularity of the influencer and/or the number of followers they have on their social accounts. They have a rather strong influence on public opinion. It is best if the government uses them to disseminate COVID19- related information to as much a wide audience as possible in a bid to enhance and disseminate how vital vaccination is.

The civil society and international organizations are of high interest but of low and/or medium power. They can provide assistance to the community during the pandemic in more than one manner such as coordinating with authorities to provide medicine or medical assistance to remote/ heavily affected areas and populations. Despite their important roles especially that of WHO, they do not have the full authority to influence people's decision towards accepting the vaccine, and they cannot control the government's COVID-19 related strategies. However, they can take part in shaping the communication strategy when given the right space and platform to communicate with the relevant authorities.

Healthcare workers are those of medium to high power and interest. They are in constant demand for more rights and more involvement in governments' decisions. Being the frontline facing COVID-19, they can see the benefit in having a proactive response towards the vaccine.

The government and policy makers are the most crucial and important stakeholders. They are of both high power and interest to end this pandemic and distribute the vaccine. They have the power to formulate policies and strategies that should serve the greater good and safeguard public health. Their interest is also high because if proven successful, this could translate in higher confidence in the current policy makers in power and therefore, a potential reelection or extension of their terms in office.

Figure 5.0: Power/Interest Matrix of Relevant Stakeholders

Source: Modelled after a power/interest quadrant model presented by Ari-Matti Auvinen in his paper "Understanding the Stakeholders as a Success Factor for Effective Occupational Health Care", February 2017.

Based on Auvinen (2017), the results of the work of stakeholder analysis presented in the power/interest matrix above are valid for establishing guidelines with regards for the work with various stakeholders. Despite its simplicity, it can ensure that all the stakeholders are regarded and that no identified stakeholder groups are left unnoticed.

SECTION IV: POLICY ALTERNATIVES

In light of the aforementioned implemented communication policy and the stakeholder analysis conducted above, the authors attempt at identifying alternative possible strategies with one common goal between them: to ensure a wider acceptance of the vaccines, and better vaccination rates that would safeguard public health and ensure economic continuity. It is important to note that the risk of outbreaks and disruption to economic and social life will probably remain until effective vaccines are administered to large portions of the Egyptian population to prevent hospitalization and severe diseases, and preferably achieve herd immunity to halt the transmission of the virus. This will entail that the citizens accept the vaccine as a means to an end.

Since acceptance is considered as a major factor in hindering the deployment of the vaccination campaign, the novelty of the disease, concerns over safety and efficacy of the vaccine, and lack of a proper communication led to a wide segment of the population to refuse vaccines, indicating reluctance to getting vaccinated against COVID-19. Among various efforts to address vaccine hesitancy and foster vaccine confidence, evidence-based communication strategies are critical. Community engagement might be key to overcoming mistrust and building confidence in COVID-19 vaccines. By building relationships, centering community voices, working towards equity, and being transparent about progress and setbacks, public health practitioners can continue to earn community trust. Strong community engagement aimed at identifying and understanding local concerns will help determine which message and delivered by whom, will be most effective.

There is no "one-size-fit-all" solution to vaccine hesitancy. Public engagement and effective communication through clear, transparent messaging might play a central role in building confidence in the COVID-19 vaccines. The interaction and communication between the government and public when discussing vaccination concerns is important in mitigating concerns through understanding them, which accordingly will help determine which messages and delivered by whom, will be most effective. Moreover, it will be essential to provide people who are hesitant, reluctant, distrusting, or otherwise demotivated with respect to the COVID-19 vaccines with the resources, information, and support they need to make the vaccination decision that is right for them.

The current communication strategy has certain gaps in providing timely and focused communication on the COVID-19 vaccination processes in lay language, to ensure acceptance and uptake of vaccination rates. For example, the current strategy might have lacked an aspect of appealing to illiterate people with simplified messages that would lead them to understand the current status, the viral developments of the pandemic, and the importance of getting vaccinated. Also, a list of frequently asked questions (FAQ) that is answered over the hotline should be published on the Ministry of Health's website. In this regard, the MoHP needs to launch a clear communication strategy whereas the HCWs would play a unique role in promoting COVID-19 vaccination, as the first recipients of vaccines and as the trusted influencers of public opinion related to vaccination. Special efforts should be made to augment their inter-personal communication skills to communicate persuasively with target populations and communities and to build public confidence in the safety and efficacy of the COVID-19 vaccines.

The policy alternatives were formulated to overcome the gaps within the current communication strategy. And the herein described policy alternatives will assist decision makers in building public confidence in the COVID-19 vaccines and in highlighting to the public the main features of the vaccination process and rollout through several distinct ways of communication that may be considered and leveraged to ensure demand and promote acceptance. While our policy alternatives do not outline a national vaccine marketing strategy, the principles and strategies outlined below will be critical in the design of such a campaign.

Policy Alternative 1 (PA-I): Honesty is the Best Policy

The objective of this policy is straightforward: The government is to share clear, complete, and accurate messages about COVID-19 vaccines and take visible actions to build trust in the vaccine, the vaccinator, and the system in coordination with state local agencies and development partners.

In order to achieve such an objective, the policy makers are required to follow these steps:

1) Step 1: "Don't try to persuade everyone!"

This will require the government to identify the people who are "considering" a particular self-protective action, such as vaccination (Why should I adopt it?) versus those who have decided to take the action (How do I go about doing it?). Thus, it is important to develop different messages for those who are willing to be vaccinated and need information on how to do so and those who are hesitant but open to learning more. Moreover, trying to persuade those who are completely opposed to vaccination is not a wise use of resources (World Health Organization- Regional Office for Europe, 2021)[10]. Research on vaccination – generally – emphasizes the importance of empathy as key to interacting with those who may be vaccine hesitant or skeptical, including such techniques as motivational interviewing between providers and patients (Ferreri, 2020)[11] . For example, a phrase like "I understand that you might have questions about the vaccine, and I'm here to answer them as best I can…" has proven to be persuasive and comforting for those seeking more answers and clarity when it comes to understanding the vaccination process and what the vaccine might lead to.

2) Step 2: "Tailor messages to each targeted audience"

Messages will be received differently by different groups according to their level of education, their environment, and their income levels. To be effective, communication about the COVID-19 vaccines needs to reflect an understanding of the targeted audience, including their concerns and motivation and whom they trust. It is essential to recognize that the information needs of diverse audiences may or may not match communicators' assumptions about those needs. If the audience does not deem the information provided to be relevant or responsive to their information needs, they will ignore it. Effective communication will use appropriate approaches to reach vaccine-hesitant audiences that differ by age, gender identity, marriage status, education level, refugee and immigration status, health behaviors/norms, and race and ethnicity, as well as the socially marginalized. For example, messaging that explains why the COVID-19 vaccines cannot alter DNA might cause more harm than good if disseminated widely to an audience not already concerned with this misconception. However, particular individuals may benefit from hearing this message or others like it. This example highlights the importance of tailored individual conversations rather than broadly disseminated communications in certain contexts.

[10] World Health Organization, Regional Office of Europe, Communicating with patients about COVID-19 vaccination, "Evidence-based guidance for effective conversations to promote COVID-19 vaccine uptake".
[11] Eric Ferreri (2020), Duke Experts: Meet Vaccine Skeptics with Empathy, Information A restart could help public confidence in COVID-19 vaccines, Published December 15, 2020

3) Step 3: "Communicate transparently about the COVID-19 vaccines, including false claims handling"

In this step, authorities need to consider an entire strategy to debunking false claims, information and news regarding the vaccination process and any related issues to the vaccines. This will require massive efforts of monitoring what is being shared and discussed on various media platforms – most importantly social media as it is considered the most widely used source of information among Egyptians – and debunking them using scientific evidence and easy-to-digest communication. However, addressing false claims and debunking can back-fire and cause adverse effects if not handled carefully and smartly. In these situations, it is important to warn recipients before confronting them with false information (e.g., "The following claim is misleading…") and to emphasize the facts over misinformation. Additional strategies for debunking misinformation and overcoming its effects include preemptively explaining flawed arguments using visual representations to increase data comprehension (Brunson al., 2021)[12] , and providing alternative explanations of the debunked phenomenon (e.g., that purveyors of misinformation are interested in selling different remedies or support a political ideology). The polarization of media environment of the nation implies that very different messaging about the pandemic is being communicated at the same time, which means that the spread of information has become more "bottom-up" than "top-down" which is an important aspect the government needs to take into account when tailoring a concise and clear-cut communication strategy. Evidence indicates that, instead of treating skeptics as the "other" and adopting a "those people" attitude toward vaccine-hesitant individuals, it is best to adopt an approach that encourages empathy, understanding and positive approach to the problem at hand, one that aims at solving and not entrenching the problem (Chou and Budenz, 2020)[13].

4) Step 4: Provide regular updates on benefits, safety, adverse events

As vaccination becomes more common, people's experiences with the COVID-19 vaccines will become known. From mild and transitory side effects to serious adverse reactions, people will become accustomed to reading, hearing, and seeing these kinds of events. However, such events are often disproportionately reported in the news media and spread widely on social media prompting many to negate the positive impact of the vaccines and its importance because of rare occasions where the vaccines produced an adverse side effect. In this case, the government needs to proactively address and mitigate the spread and harm of misinformation via social media platforms. It is also important to communicate information about adverse events in a timely and transparent manner and to help people understand what is known, what is unknown, and what should be done. In addition, post vaccination surveillance is essential to identify rare adverse outcomes that may be vaccine related. This could be done via interviews and televised programs where people who got vaccinated share their experience – whether easy or difficult – to spread a "first-hand experience" to others who might be scared, skeptical or hesitant in receiving their vaccine doses (Schmelz, 2021). Taking this approach will help mitigate concerns about safety, side effects, and adverse events moving forward especially through widely watched television shows.

[12] Emily K. Brunson, Alison Buttenheim, Saad Omer, and Sandra Crouse Quinn 2021, "STRATEGIES FOR BUILDING CONFIDENCE IN THE COVID-19 VACCINES", February 2021.

[13] Wen-Ying Sylvia Chou, and Alexandra Budenz (2020) "Considering Emotion in COVID-19 Vaccine Communication: Ad€ dressing Vaccine Hesitancy and Fostering Vaccine Confidence", October 2020.

Policy Alternative 2 (PA-II): Strengthening our Medical Staff

This alternative policy is but an enhanced stage in current policies and efforts deployed by the government to encourage people get vaccinated, using the medical staff as a medium between authorities and the people. The objective of this policy promotes confidence among healthcare personnel in their decision to get vaccinated and to recommend vaccination to their patients. The rationale behind such an objective is that the people will more likely listen to their doctors, nurses, and medical practitioners rather than people in suits delivering speeches and working in politics. The government can achieve its target of 40% of people vaccinated before the end of the year if it relies on building confidence in the process through its medical staff:

1) Step 1: Engage national professional associations and healthcare personnel often and early to ensure a clear understanding of the vaccine development and approval process, new vaccine technologies, and the benefits of vaccination.

This will ensure a clear-cut understanding of what the process is all about, how the vaccines are being made, possible side effects and percentages of them happening, and how beneficial it will be for the people to get vaccinated. In this step, the authorities provide publications, early and up-to-date scientific material to the medical staff through a series of seminars/webinars and engagement sessions in order to strengthen their knowledge and equip them with as much information as necessary for them to be able to attack false claims about the vaccination and provide assurances to those who are most hesitant to partake in the process.

2) Step 2: Ensure the healthcare system and medical practices are equipped to create a culture that builds confidence in COVID-19 vaccination.

By providing much needed information, publications, scientific research as well as encouraging nationally-led scientific probing and questioning, the government will provide medical staff in Egypt with the necessary tools for the doctors, nurses, and medical practitioners to understand the process better and engage with the people on a deeper and more prepared levels.

3) Step 3: Strengthen the capacity of healthcare professionals to have empathetic vaccine conversations, address myths and common questions, provide tailored vaccine information to patients, and use motivational interviewing techniques when needed.

This will require a series of communication training led by experts (e.g., World Health Organization (WHO)) that focus on how to engage with the people with different levels of understanding and clarify the situation to them. The core of such a series of training should follow best practices as outlined by the WHO Regional Office of Europe Guidelines on COVID-19 Vaccine Risk Communication (WHO/ROE, 2021):

a) Provide reassurance that the vaccine is safe and effective, providing protection against the virus.

b) Explain the potential side effects of the vaccine, identifying which are common and which are rare.

c) Promote the safety of the vaccines.

d) Discuss the effectiveness of the vaccines and how it is still recommended to take one's precautions to decrease the risk of infection even after vaccination.

e) Recommend pain mitigation strategies.

This will provide more assurance and create a safe one-to-one communication between the patient and doctor which will help in fighting false claims and information as well as help reduce vaccine hesitancy.

Policy Alternative 3 (PA-III): Two Heads are Better than One

This policy focuses around creating a sustainable and working ecosystem where the "top/down" and "bottom/up" approach to communication is fostered and made crucial to a successful vaccination campaign. It centers around having a clear flow of information between (i) authorities and medical staff, (ii) medical staff and people and (iii) the other way around holds true that way, a feedback loop is created, monitoring and evaluation of the current communication strategy is ongoing, and the vaccination process becomes an adaptive process to current developments on the public health side. The objective of the policy stands as follows: to engage communities in a sustainable, equitable and inclusive way—using two-way communication to listen, build trust, and increase collaboration.

1) Step 1: Work with health departments and national partners to engage communities around vaccine confidence and service delivery strategies, including sharing day-to-day updates on vaccine developments and news, to meet community needs.

It is important that the government provides the necessary tools and mediums to help encourage the social norming of COVID-19 vaccine and acceptance. This could be done via an emphasis on increasing support for vaccination as needs for it increase, therefore creating a virtuous cycle that will have potential positive spillover effects on the entire community. An example of this would be providing people who got vaccinated with "I got vaccinated!" or "I helped save the world!" stickers and posting on social media that they did a noble and honorable action (Kritz, 2020)[14]. In addition, municipalities, local governments, and national newspapers/ magazines could create publicly available dashboards with real-time data, displaying real-time developments on vaccine doses taken, and highlight community demand for vaccination as well as participation via sharing news about people seeking vaccination for example.

2) Step 2: Empower vaccine recipients to share their personal stories and reasons for vaccination within their circles of influence.

Research shows that people look to their peers for cues about how to behave in a wide range of areas, from voting to savings. Therefore, being administered the vaccine and going through an unknown process will be new to most people. In this stage of the policy, it is important that the government enlists the trust of certain people and institutions to deliver a powerful message, one that is built on years of credibility (Schmelz, 2021).[15] Different groups may have different trusted messengers and preferred mediums and channels. Decision makers can identify groups that represent trust gaps in their community and trusted sources within and outside their organization who can convey public health messages to those groups (Pan American Health Organization, 2021).[16] It is important to note that the trust in the vaccination campaign may be compromised if the citizen's experience with registering, enrolling and being administered is poor, which may lead to them deterring others from getting the vaccine and/or trusting in the process. Also use the community health workers as trusted messenger in raising the awareness among the people.

[14] Fran, Kritz (2020), "Trusted Messengers, Trusted Messages': How to Overcome Vaccine Hesitancy, December 24, 2020.

[15] Katrin Schmelz (2021), Overcoming COVID-19 Vaccination Resistance When Alternative Policies Affect the Dynamics of Conformism, Social Norms, and Crowding Out.

[16] Guide for the preparation of a risk communication strategy for Covid-19 vaccines, Pan American Health Organization,2021. Covid-19pharmacovigilance.paho.org

3) Step 3: Collaborate with trusted messengers—such as faith-based and community leaders—to tailor and share culturally relevant messages and materials with diverse communities

This stage builds on what is achieved during the previous stage and spreads it to an even wider audience: those who are still hesitant and will not accept the vaccine. The immunization of thought leaders, community champions, and celebrities could help encourage members of the public to be vaccinated (OECD, 2021)[17] . These so-called "champions" should be relatable, trusted, and credible, and their messages should be consistent. A particularly effective way to implement this strategy could be to partner with people who have strong existing popular or community relationships with experts, adapting messages as needed. Examples of this approach include football national icon Mohamed Salah and social media influencers such as Mohamed El Moula (the creator behind Dr. Galalt El Kadr personality). Likewise, the government could enlist the help of religious leaders (Church and Mosque) given the immense weight religion has on influencing both the Christian and the Muslim mindset. This could be done by direction the religious messages during Friday prayers and mass towards how important it is to safeguard oneself and therefore safeguard the community, and how this is being a good Muslim/Christian.

PROPOSED OUTLINE FOR MEDIA CAMPAIGN

The above-mentioned steps can be done under the main message of "Get Vaccinated, Feel Safe" (اطعم...اطمـن) that will characterize the whole communication campaign. A proposed logo for the campaign could include a shield as a sign of protection with two syringes protruding from the shield as a nod to the vaccine. The main message of the campaign can be written below the logo:

Figure 6.0: Proposed Logo for the Media Campaign

A few sub-messages within the context of the main campaign could be shared with the citizens and could help appeal to people perceptions. The proposed messages are as follows:

- **"Protect Yourself, Protect Your Family"/ (احمـي نفسـك، احمـي عيلتـك):** This is a proposed slogan for a sub-campaign that will focus on spreading messages related to the idea that protecting oneself is equal to protecting others. Videos and testimonials from people who got vaccinated and acted scenarios can help deliver the message in a direct and clear way in addition to religious evidence related to how important it is to protect oneself so they could protect their loved ones.

[17] OCED 2021, OECD Policy Responses to Coronavirus (COVID-19) Enhancing public trust in COVID-19 vaccination: The role of governments, https://www.oecd.org/coronavirus/policy-responses/enhancing-public-trust- in-covid-19-vaccination-the-role-of-governments-eae0ec5a/

SECTION IV: POLICY ALTERNATIVES

Policy Alternative 3 (PA-III): Two Heads are Better than One

- **"Vaccinate to Validate"/ (طعم ومشي حالك)[18]:**

This is a proposed slogan for a sub-campaign that will focus on informing people that those who are not vaccinated will not be able to apply for basic government services such as ID renewals, signing papers, going inside government buildings or private settings... etc. This will be done via televised messages, YouTube ads, Facebook pop-ups and posters spread across the governorates in public and private settings.

- **"Your Vaccine is Your Passport"/ (تطعيمك هو باسبورك):**

This is a proposed slogan for a sub-campaign that will appeal to people's desire to travel and will target a specific stratum of the population. This will involve televised messages, YouTube ads and Facebook pop-ups with simple messages and acting delivering on how it is vital for people to receive their vaccination in order to travel (whether for tourism or personal matters) whether domestically or internationally.

[18] This campaign is currently partially done by the government as the Cabinet of Ministers instigated a deadline for people to get vaccinated by no later than the 15th of November 2021 otherwise, public workers will not be allowed inside governmental buildings and facilities.

SECTION IV: POLICY ALTERNATIVES

Policy Alternative 4 (PA-IIII): No One-size-fits-all

There is no existence for a manual or a guideline solution to vaccine hesitancy. However, each scenario related to the vaccine safety concerns has to be evaluated and responded to based on its merit. The objective of the policy stands as follows: to communicate in ways that build understanding and trust.

1) Step 1: Be responsive and timely with communication

Create multiple forums for the public to ask questions and raise concerns such as websites, service portals, feedback forms, online chat in addition to the social media platform and current hotlines. To lessen the load on the social platform and high-traffic loads on hotlines. Furthermore, anticipating and being forthcoming with information through partnering with the media that would contribute in disseminating the information quickly. Moreover, identifying likely scenarios the public may need to consider and what decisions may need to be taken and when and explain what is being done to reduce uncertainties. Furthermore, requesting a daily report from telephone hotlines with the main queries and use it will narrow the gap in dissemination of information.

2) Step 2: Visualization of information and data

This can be achieved by providing the people with specific actions they can do to reduce the harms. By either developing messages with graphic material like GIF, videos or by printing and dissemination visualized cards or other supporting items with all the procedures they should follow in case they experienced any symptom or suffered from an adverse event (World Health Organization, 2021)[19] . Analyzing the progress in vaccination coverage and causes of what is happening will help in determining the method of dealing with it. For example, the illiteracy of people could cause low rates in vaccination coverage, so in response to that we should include health personnel to facilitate the whole process for the people who find difficulty in reading or writing. Also use daily or weekly metrics to analyze the main topics that have been addressed at the national level and specifically on the ministry's networks (Pan American Health Organization,(2021)[20].

[19] Covid-19 Vaccine: Safety surveillance manual, Covid-19 Vaccine Safety communication, World health Organization (2021)

[20] Guide for the preparation of a risk communication strategy for Covid-19 vaccines, Pan American Health Organization,2021

SECTION V: CONCLUSION AND RECOMMENDATIONS

Analysis and Recommendations of Policy Alternatives

Now that policy alternatives have been defined, the authors determine which alternative works best given the following criteria: (1) effectiveness, (2) economic, (3) equity, (4) political and, (5) administrative. A reminder that the common goal between the aforementioned strategies that this paper presents is **to ensure a wider spread acceptance of the vaccines, and better vaccination rates that would safeguard public health and ensure economic continuity.** The authors will assign a grade from 1 to 5 (1 being "very low" and 5 being "very high") to each policy alternative depending on how much of the criteria the policy alternative covers, in table 3.0 below.

Policy Alternative	Effectiveness Criteria	Economic Criteria	Equity Criteria	Political Criteria	Administrative Criteria	Total Score
PA-I: Honesty Is the Best Policy	4	3	3	4	4	18
PA-II: Strengthening Our Medical Staff	4	2	3	4	3	16
PA-III: Two heads are better than one	5	3	4	4	4	19
PA-IV: No one-size-fits-all	3	4	3	4	4	18

Table 3.0: Assessing Policy Alternatives

We find that PA-III: Two heads are better than one is the most affective policy alternative in terms of achieving the goal of ensuring that there is a wider acceptance of the vaccination and diminishing vaccine hesitancy among the people. The rationale behind choosing PA-III is the following:

- On the **effectiveness criteria,** we find that PA-III will build upon existing government efforts in spreading vaccine awareness, with additional messages and slogans that can help appeal to people's desire to protect their loved ones. It will require little-to-no extra effort in adjusting the campaign's direction and tweaking it to reach the wider public. In addition, it is expected that sharing the average citizen's story about how they got vaccinated and helped contribute in safeguarding public health, and might have a general positive spillover effect on others' morale and sense of responsibility. It will also help with applying a "bottom/up" approach since this policy alternative depends mostly on community engagement and outreach.

- On the **economic criteria,** we find that PA-III will require some additional costs that will be mostly concentrated in setting up forums, webinars, or community gatherings to spread awareness and importance of sharing in safeguarding public health. This will also cover the costs directed towards setting the media campaign proposed above in terms of slogan design, hiring actors, and producing infomercials. However, there will be no extra charge levied on the citizens since all that will be asked of them is to present themselves for vaccination and share their story.

SECTION V: CONCLUSION AND RECOMMENDATIONS

- On the **equity side,** PA-III will cover most of the public with tailored messages directed to the right audience by utilizing various members of the community in addressing the importance of getting vaccinated and how beneficial it is. This is something that the government has already done with the actor Mr. Khaled El Sawy in its awareness campaign on COVID-19 prevention. Within the context of PA-III, using members of the community such as other actors like Mohamed Ramadan or football star Mohamed Salah and even religious leaders like the Sheikh of El Azhar or the Pope of the Church will help people engage more with this strategy.

- On the political criterion, this policy –like the others we suggested and currently in place – has the highest level of commitment and political will set for them. The presidency as well as parliamentarians, ministers as well as governorate leaders are involved in containing the spread of the virus and combatting this pandemic. It is also a policy that advocates appropriateness since it is in line with the greater good of society and is perfectly legal since it promotes transparency and engagement.

- On the administrative criteria, the Ministry of Health and Population will be the main implementer of such a policy and since its main mandate is to manage public health and safeguard its safety, the MoHP will have the full authority to go through with it with as many agencies and governmental bodies as well as NGOs supporting it as possible. The commitment is there as was shown since the beginning of the pandemic and the swift response the government – especially the Ministry of Health – has put in place.

However, we view that all three alternatives contain elements that could serve the purpose of addressing the vaccine hesitancy issue. It would be recommended to build upon the current communication strategy and refining it while taking into consideration elements from the three policy alternatives suggested in this paper:

- It is important that the government continues to diffuse false news and misconceptions regarding the vaccination and COVID-19 and strengthen its presence on social media seeing as how it is most widely and commonly used source of information for the average citizen. This will be paired with continued television ads and interviews by authoritative figures to continue promoting vaccination campaigns and spread awareness.

- In regard to Egypt's medical staff, PA-II addresses the issue of strengthening our medical staff in detail, and in our belief, it is the first step in the government's vaccination campaign to take into account. Providing medical research and evidence, addressing the medical staff's concerns, and clarifying any misconceptions are key elements to having a successful rollout of the vaccination. This could be paired with increasing local/domestic research on the currently used vaccines, publishing and making them public for all to consult. It will be wise as well to take a few snippets from them and simplify them for the wider public to understand and take note.

- Focusing on peer-to-peer engagement (i.e., having average citizens spread the message) will be the "magic lamp" that will help the government attain its target of a higher vaccination rate and safeguarding public health against COVID-19. It is also important to hold forums, community meetings and webinars between citizens and authorities. This will help create a positive feedback loop (a bottom/up approach) and thus, help the relevant agencies and departments strengthen, modify or all-together scrape certain aspects of the policy in order to become stronger and more efficient.

Conclusion

The Government of Egypt has clearly presented itself as one of the few governments which were able to implement a suitable and flexible emergency response plan to the spread of the virus. Important steps were taken, chief among them were the lockdown measures instigated on schools and educational institutions, the halt of economic and social activities – especially ones related to entertainment and tourism, a reinforcement of the Egyptian health system and a supporting pipeline of measures to help those most negatively affected by the still ongoing crisis. Commendable efforts and extensive steps were taken to safeguard public health and minimize damages done by the COVID-19 crisis. However, the world – including Egypt – has adapted itself to multiple waves of COVID-19 infections throughout the past two years and the focus is now primarily set on how to ramp up vaccinations and immunize as many people as possible against variations of COVID-19. This is done by implementing a clear, easy-to-comprehend, widespread communication strategy that targets all citizens and raises the necessary awareness to help reduce the impact of the COVID-19 pandemic on people's economic, social and health status.

The GoE's current response strategy focuses on multiple pathways to ensure the safety of its people: the availability and affordability of vaccines, well-equipped HCWs, hospitals and clinics and a ramp-up of vaccination campaigns. In the authors' analysis, little was made to address the public's awareness and acceptance of the vaccine as suggested by the low rates of vaccination. The latter persists and this may be due to a number of factors of which we can mention vaccine hesitancy: people still do not feel safe about the concept and present forms of mistrust due to previous malpractice experiences and lack of knowledge in regard to vaccination. In that context, the authorities should focus on creating/disseminating simple and clear messages and actions that would appeal to a wide stratum of the people and help them understand the entirety of the process. This is done via a proposed campaign that appeals to people's basic needs such as feeling safe, protecting their loved ones, and finishing up their governmental papers and procedures.

In following, and upon exploring country cases, the authors believe that a mixture of features from relevant experiences may be a welcoming addition to the Egyptian experience. It might be effective to deploy more mobile cabins and campaigns (as done currently by the government in metro stations and public places) across Egypt via buses to remote and poorer areas of the country. This will be done using the slogan proposed in section IV. On a different note, the teams that will be responsible for these campaigns should be trained in giving comfort and easy-to-understand information to the people especially the villagers and illiterate people. This could help enhance the government's current communication strategy and add a much-needed depth to ensure wider coverage of people. In addition, it may be worth considering giving out in-kind/cash transfers to poorer segments of the population on already existing ration cards, for example as a way to promote vaccination and encourage people to proceed with it. However, this may pose a burden on already stretched out government finances. It is for this particular reason the authors did not consider this step in a policy alternative as its economic cost will be high.

It is important to have a high level of transparency and depth in communicating and disseminating the government's awareness campaign as they are successful factors in reaching citizens and playing to their empathic and emotional sides, and concern for their well-being and safety of their loved ones. The Egyptian strategy could be enhanced by appealing to the citizens' concerns over their loved ones via slogans and campaigns such as "Protect Yourself, Protect Your Family" (احمـي نفسـك، احمـي عيلتـك). Such messages may have a great effect on the people's perception to how important the vaccine is for safeguarding the public health.

In addition, in this paper, the authors proposed several alternatives that could represent an augmented version of currently applied strategies. Based on analysis and evaluation, the authors recommend a baseline function to the government's communication strategy: utilizing both a "top/down", "bottom/up" approach where an ecosystem between authorities and citizens is sustained. In such an approach, the government might have access to people's concerns and fears, might develop an important data base on information crucial to an effective vaccination campaign and might be able to address them swiftly reaching the government's set target of 70% fully vaccinated people by July 2022.

In all cases, we need to recognize the efforts done on the ground and the current modifications and policies being applied to address a curbed demand for better communication, stronger transparency, and improved service delivery to all those in need. With a better communication strategy – especially during these tough and uncertain times and one that involves the whole spectrum of stakeholders –we can expect a rapid improvement in Egypt's public health and a mitigation process against future pandemics and crises.

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THE PUBLIC POLICY HUB

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The Public Policy HUB is an initiative that was developed at the School of Global Affairs and Public Policy (GAPP) in October 2017. It was designed to fill in the policy research gap in Egypt. It provides the mechanism by which the good ideas, plausible answers, and meaningful solutions to Egypt's chronic and acute policy dilemmas that are proposed by the country's best minds, the experienced and the creative from different age brackets, can be nurtured, discussed, debated, refined, tested and presented to policymakers in a format that is systematic, highly-visible and most likely to have a lasting impact.

It is designed to develop a cadre of well-informed and seasoned policy developers and advocates, while simultaneously fostering and promoting creative solutions to the challenges facing Egypt today. The project provides a processing unit or hub where policy teams are formed on a regular basis, combining experienced policy scholars/mentors with young creative policy analysts, provide them with the needed resources, training, exposure, space, tools, networks, knowledge and contacts to enable them to come up with sound, rigorous and yet creative policy solutions that have a greater potential to be effectively advocated and communicated to the relevant policymakers and to the general public.

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