



PROMOTING ADHERENCE TO RULES DURING CORONAVIRUS PANDEMIC THROUGH PUBLIC COMMUNICATION

RESEARCH REPORT

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EXECUTIVE SUMMARY

Introduction

- COVID-19 pandemic posed unprecedented multiple challenges for the entire world. Many developed and developing countries found themselves struggling to contain it and to mitigate the damage to public health and economic development. Countries with **previous experience** of handling major epidemic or pandemic outbreaks were more prepared
- Various factors account for relative success in handling the pandemic. The type of regime (democracy or authoritarianism) does not matter. A country's ability to cope with the challenge successfully depends on the **existing state institutions** and **performance of the government** but also on **prevalent cultural values**.
- While pandemic-related misinformation continues to remain a serious problem, most research evidence points to a set of safety measures that have by now become **mainstream response to pandemic**.

COVID-19 Pandemic International Best Practices and Case Studies

- **Face masks** should be worn at all times to protect **others**.
- **Social distancing** should be maintained at least between 1.5 and 2 meters at all times.
- People should **avoid closed spaces** with poor ventilation, crowded places, and close-contact settings.
- Regular **hand washing** and **sanitizing** protects people from accidental infection.
- Handshaking as a form of greeting should be avoided. Instead, one should use **bowing** or other forms of acknowledgement when greeting others.
- **Contact tracing**: IT measures should be used to help to identify persons who have had contact with infected patients.
- Nations that have organized to address **past pandemics** have had lower COVID-19 infection and death rates; past experience with pandemics is a factor in national performance with COVID-19 mitigation.
- **Constant, consistent and transparent public communication** increases trust towards government and enhances compliance pandemic rules and regulations.
- **New Zealand's** success can be explained extensive testing, leading to tracing and isolation, early and comprehensive planning far ahead, rhetoric of coming together, as well as clear, consistent and simple to understand communication.
- In contrast with New Zealand, testing was rather limited in **Japan**. The country is successful in containing the pandemic mostly due to clear and simple communication, previous experience of both the government and the society at large (mask-wearing is already a habit) and conducive cultural elements, such as respect of authority, high level of voluntary compliance, bowing, and personal hygiene.
- In **South Korea**, both the government and the society at large have learned from previous painful experiences of SARS and MERS pandemics. The government relied heavily on IT and e-governance tools to keep the population well-informed and made

healthcare supplies and services readily available. The population exercised extreme caution.

- **Singapore** is very similar to South Korea in terms of learning from previous experience, having advanced healthcare system, heavy use of IT technology, various apps for both tracing and informing and extensive use of various communication channels. A semi-authoritarian regime is an additional factor of higher government control and cohesiveness on one hand and higher acceptance of privacy restrictions by complying population on the other hand.
- Unlike other four countries, **Vietnam** is an example of using relatively limited resources efficiently. Vietnam's success is also explained by previous experience, close cooperation with WHO, strong government leadership and aggressive rhetoric of “war” against the pandemic.

COVID-19 Pandemic: Information and Behavior Survey

- People are **not worried enough** about the virus. Only 42% of respondents consider their risk of being infected with COVID as either very high or high. About 20% don't know how high the risk is. **Young people are less likely to think they are exposed to the risk of contracting the virus.**
- People are **more worried about contracting the virus**, than about transmitting it.
- Most respondents claim they will keep a distance from someone who does not wear a mask, but they are **reluctant to report or confront rule-breakers.**
- Most survey respondents rely on **official news sources** for information regarding the pandemic, with Armenian TV channels being the most frequently mentioned source.
- There is a certain reservoir of **willingness to see more restrictions** if the numbers of infected people continue to grow: 48% of the respondents would rather agree or strongly agree with restrictions as compared to 37% of strongly or rather disagreeing with prospects of more restrictions.
- About 30% of the respondents think that **a fine** for not wearing a mask should be up to 5,000 AMD, another 15% think it should be in the 6,000 – 10,000 AMD range. A substantial number of respondents (27%) think there should be no fine for not wearing a mask.

Expert Interviews

- Many people fail to follow the pandemic safety rules; those who do are motivated by a desire **to avoid fines** rather than by an intrinsic motivation to protect themselves and others.
- Wearing a mask is considered to be a “**shame**” due to some peculiarities of the Armenian mentality. A certain sense of fatalism (whatever will be will be) also prevents people from following safety rules.
- Younger and **healthy people are less concerned about the disease**, thinking they will have it easy, if infected. Coupled with insufficient concern for infecting others, this careless attitude contributes to low compliance with safety rules.

- There are **good examples** of clear state communication and some opinion-leaders' responsible behavior but those are **overshadowed** by the overall inconsistent messaging and patchy record of officials' public compliance with pandemic safety regulations.
- Effective public communication needs to take into account the diversity within the Armenian public. Messages should be **tailored** to specific groups and delivered by **various agents**, based on their credibility within specific circles and sub-communities.
- Messages should emphasize people's individual agency and **responsibility for protecting others**, they should be clearly **connected to the desired outcome**: end of the pandemic and the possibility to return to normal life.
- There is a need for **more fact-based communication**, presented in simple visual format. Personal stories of doctors and survivors can also help **contextualize** the heavy human toll of the pandemic.

Observations

- More than two-thirds of the people observed **do not wear a mask or wear it incorrectly**.
- Overall, correct **usage of masks decreased** after the war but it **differs based on location**. In outdoor public areas, mask wearing has deteriorated after the war. At the same time the level of usage of face-masks in indoor areas after the war improved.
- In **military related locations** the majority of observed people (up to 85%) were not properly using face-masks. The analysis suggests that the level of emotional state of the public also has its influence on how likely people are to wear a mask.

Armenian Government Communication

- At the early stages of the pandemic the Armenian government **emphasized individual responsibility** of each citizen and somewhat **erred on the side of reassuring the public** to prevent panic. As a result, many people failed to grasp the seriousness of the situation, acted irresponsibly and contributed to the rapid spread of the virus after the lockdown was lifted.
- In summer the government gradually brought the pandemic under control, using **a good combination of improved communication and stricter enforcement**.
- There were some inevitable inconsistencies in government messaging due to evolving knowledge about the pandemic but there were also some **inconsistencies** in what government officials said and did, **that could have been avoided**.

Vaccination

- World experience shows that vaccination is **hampered** by conspiracy theories, negative media coverage and lack of reliable information.
- Governments should be **pro-active** in building public trust in advance; transparency of information, emphasis on benefits but also honesty about small possible risks are important.

Conclusion and Recommendations

- The Armenian government used both **persuasion** (emphasizing personal responsibility) and **enforcement**. The enforcement was reasonably successful before the war broke out. The current post-war situation makes strict enforcement risky. The Armenian government needs to carefully balance soft enforcement with redoubled efforts at persuasion.
- Some elements of the Armenian **culture** (hugs, kisses, celebrations, neglect of personal space) exacerbate the risk of virus spread. Creative approaches will be needed to transform some of these practices to improve overall health safety and be prepared for the **next pandemic**
- Main deliverers of COVID-19 related information should be **non-partisan healthcare professionals and scientists** not government officials.
- The potential of **TV and radio talk shows** can be utilized more. Host medical experts on public radio and television programs to discuss the risks of the third wave of COVID-19, the importance of vaccination and so on. It is particularly important to **debunk myths and conspiracy theories** around COVID-19.
- A major limitation of **social media** is its ‘echo-chamber’ structure. Recruiting diverse opinion leaders for the anti-pandemic campaign and vaccination campaign is very important because a diverse team of information providers has a higher chance of reaching more diverse social media ‘bubbles.’
- The small but **unavoidable uncertainty of information** about the pandemic needs to be explicitly acknowledged. World knowledge about the pandemic is changing, mistakes were/are inevitable; some changes in what is advised to do are unavoidable. People need to be mentally prepared to accept that changing rules are normal. At the same time, it is important to explain the logic behind decisions being made.
- Effective public communication needs to take into account the diversity within the Armenian public. Messages should be **tailored to specific groups** and delivered by various agents, based on their credibility within specific circles and sub-communities.
- Consider following other countries’ example (New Zealand, European Union) of having a simple, **color-based system** of level of threat in the country overall and in separate regions/communities.
- **Re-enforce the positive messages**. Focus on people wearing masks: praise them, thank them.
- **Target young people**. They believe they will not get infected, or if they do, they will have it easy. They need to understand that they are just as likely or even more likely, to become the transmitters.
- **Confront the fatalism**, explain the concept of **probability**. There is a need to persuade people that keeping anti-pandemic rules lowers the risk considerably but is not a 100% guarantee.
- Build a narrative of **doctors being tired** and needing help. Bring in some emotions of how the pandemic takes a toll on their mental and physical health. Make it personal.

Combine rational narrative (figures, statistics) with emotional narrative of exhaustion and loss.

- **Acknowledge the loss.** With the permission of families, share stories of real people who lost their lives because of COVID-19. Be extra careful not to blame or stigmatize anyone in particular, but show the devastating effect the virus had. A COVID-19 victims' memorial space can be created online or in a physical place/space.
- Provide most **up-to-date scientific information about immunity**. If you had COVID-19 once, it is unlikely but possible to have it a second time. It is also not yet clear whether people who had it can become carriers and transmitters again. Everyone should continue to exercise caution.
- **Visualize** as much as possible.
- Set up a **vaccine-related communication platform**, such as a website and/or a social media site. Be prepared for the **initial resistance to vaccination**. Hard-core anti-vaccine people will be hard to convince. Focus on those who are undecided and can be persuaded. Some people trust the Russian vaccine, some trust the "Western" vaccine. If possible, have **several types of vaccines** available to choose from.
- Give small **symbolic rewards** to those who get the vaccine.

1. INTRODUCTION

COVID-19 pandemic posed unprecedented multiple challenges for the entire world. Many developed and developing countries found themselves struggling to contain it and to mitigate the damage to public health and economic development. Countries with previous experience of handling major epidemic or pandemic outbreaks were more prepared, but the speed, with which the virus spread, its frequent mutations and the original scarcity of information posed a challenge, even for experienced states with well-developed response mechanisms. For example, between September 2020, when this research was launched, and February 2021, some of the countries shifted from being considered as good examples of handling the pandemic to being less successful. Some of the research presented here might be outdated a month later.

Various factors account for relative success in handling the pandemic. Contrary to popular believes, the type of regime (democracy or authoritarianism) does not matter: in both democratic and authoritarian camps there are examples of successes and failures in containing the spread of the disease and mitigating its economic impact. The pandemic has demonstrated that a country's ability to cope with the challenge successfully depends not only on the existing state institutions and performance of the government (although those are hugely important). It also depends on prevalent cultural values in the society. Societies with high levels of deference of authorities and rule compliance are in a better position to contain the spread of the pandemic, compared to 'rebellious' societies with high levels of individualism, general skepticism of the government and unwillingness to follow 'somebody else's' orders. Another important cultural marker is the perceived importance of social interactions, daily socializing beyond a narrow family circle, importance of big gatherings, festivals, celebrations, 'nights out' and so on. Religiosity, frequency of attending religious services and religious leaders' positions regarding pandemic safety rules also plays an important role.

Some countries do better in the struggle of the COVID-19 because they have experience with previous outbreaks. Hard-won lessons of experience with prior outbreaks helped these countries to better prepare for future pandemics. Particularly in Asia, countries invested in and improved their public health infrastructure to address organizational shortcomings; they have developed a single command center for rapid response and effective coordination of work between the different levels of government; and they even "rewrote social contracts to elevate health as a priority" (Khor and Heymann, 2020). Moreover, instead of cover-ups, these countries have built effective communication channels and have increased transparency and accountability (Khor and Heymann, 2020), which are vital in building trust (Shimizu et al., 2020). This report highlights some of the successful practices through case studies of five countries' COVID-19 response.

While pandemic-related misinformation continues to remain a serious problem, most research evidence points to a set of safety measures that have by now become mainstream response to pandemic. Table 1 below identifies international best practices in the COVID-19 pandemic by aligning it with the extant literature. The best practice is identified in the far-left column. Governmental research organizations, in the center column, are those

institutions that receive governmental support to conduct research on public health, epidemiology, health care, etc. University academic research, the right column, includes the research that is reported by individual faculty members through peer-reviewed publication. The process of categorizing the extant literature in this way helps shore up internal validity in the identification of international COVID-19 pandemic best practices.

Table 7. Best practice as reflected in research

| Best Practice | Governmental Research Organizations | University Academic Research |
|--|--|--|
| 1. Face Masks: Face masks should be worn at all times to protect others. | Ministry of Health of New Zealand, 2020b; US CDC, 2020; WHO, 2020d | Wingfield-Hayes, 2020; Lee & You, 2020; Abdullah & Kim, 2020 |
| 2. Social Distancing: Social distancing should be maintained at least between 1.5 and 2 meters at all times. | Ministry of Health of New Zealand, 2020b; Ministry of Health of New Zealand, 2020c; US CDC, 2020; WHO, 2020d | Wingfield-Hayes, 2020; Cousins, 2020 |
| 3. Gathering Rules: People should avoid closed spaces with poor ventilation, crowded places, and close-contact settings. An indoor gathering should be avoided. | WHO, 2020b; Government of New Zealand, 2020; WHO, 2020d | Muto et al., 2020; La et al., 2020; Lewis & Mayer, 2020; Mazey & Richardson, 2020; TVNZ 2020 |
| 4. Washing Hands and Using Sanitizers: Regular hand washing and sanitizing protect people from accidental infection. In particular, the danger that a person may touch an infected surface or object and then touch their mouth, nose, or eyes. | US CDC, 2020; WHO, 2020d | Wingfield-Hayes, 2020; Lee & You, 2020 |
| 5. Bowing Instead of Handshaking: Handshaking as a form of greeting should be avoided. Instead, one should use bowing or other forms of acknowledgment when greeting others. | US CDC, 2020; WHO 2020d; Ministry of Health of New Zealand, 2020b; Ministry of Health of New Zealand, 2020c | McCurry, 2020 |
| 6. Contact Tracing: IT measures should be used to help to identify persons who have had contact with infected patients. | WHO, 2020c; Ministry of Health of New Zealand, 2020a; Ministry of Health of New Zealand, 2020b; JHU, 2020 | Lewis & Mayer, 2020; Oh et al., 2020; Sang-Hun, 2020; Tay, 2020; Abdullah & Kim, 2020; Goggin, 2020; Vaswani, 2020; Ahn, 2020; Tran et al., 2020; Le et al., 2020; Nguyen 2020; Brockett 2020; |
| 7. The Experience of Previous Outbreaks: Nations that have organized to address past pandemics have had lower COVID-19 infection and death rates. | WHO, 2005; WHO, 2020a; Ministry of Health of New Zealand, 2020b | Khor and Heymann, 2020; Lewis & Mayer, 2020; Woo, 2020; Van Nguyen et al., 2020; Cowper, 2020; |
| 8. Constant and Transparent Communication: Consistent and transparent public communication increases trust towards a government and enhances compliance with pandemic rules and regulations. | WHO, 2005; WHO, 2020d | Stoto, 2005; O'Malley et al., 2009; Kreuter & McClure, 2004; Colby et al., 2011; Edgar & Volkman, 2012; Wong & Jensen, 2020; Ivic 2020; Mazey & Richardson, 2020; Smith, 2020 |

2. METHODOLOGY

This report is a result of a six-month research, conducted within the framework of “Promoting Adherence to Rules During Coronavirus Pandemic Through Public Communication” research project, funded by Manoogian Simone Research Fund. Desk research of best international practice was conducted as the first stage of research. Based on that, five countries were chosen as success case studies. Short case summaries are presented in this report; more detailed presentation of each case is available upon request from the research team.

At the second stage of the project three primary data collection methods were employed: a nationwide representative survey with the general population, seven interviews with experts, and site observations, as described in more detail below. The research team also analyzed Armenian government’s communication strategies, examining key communication products (videos, images) as well as reflecting on key public figures’ statements and acts. Since vaccination is on the horizon, the report also shortly addresses vaccine-related perceptions in the world and in Armenia. Results for each section are presented in the corresponding report section.

“COVID Pandemic: Information and Behavior” Survey was conducted between December 3 and December 14, 2020. An invitation to complete the survey with the corresponding link was sent to randomly selected mobile phone numbers (from SMS aggregator’s list) that aimed at respective proportions from each marz (region), including Yerevan. Due to this sampling strategy, representativeness is achieved not only by overall number of respondents, but also regional coverage. The participation soliciting SMS also informed potential participants that some survey respondents would have an opportunity to win 10,000 AMD to be charged to their mobile numbers. A total of 1,102 responses were received, making the sample representative of the country population overall. Survey questionnaire is included in the Appendix A.

Seven interviews with experts in areas of public health, communication, psychology and ethnography were conducted online. The names of the experts were identified through document analysis and news coverage (Armenian experts who produced analytical articles about the pandemic), brainstorming within the research team and snowball sampling (asking experts who else they would recommend to interview).

Covert participant observation¹ was conducted in various areas, including parks, cultural areas, shopping centers, sporting clubs, etc. Visiting chosen locations and events, research team members observed numbers of adults with and without face-masks (including wrong use of masks), as well as the total number of people in a particular location. After each observation, the collected data with short comments was imported into an Excel sheet for further analysis. Location, date, and timing of each session were recorded. The observation was conducted in two phases: during and after the war.

Armenian government’s communication was analyzed by looking at the most prominent video and visual material, focusing on key aspects suggested by communication theory, as well as soliciting feedback on how the messages discussed influence viewers.

¹ People observed were not aware of researchers’ identity and the process of observation.

Examples of communication messages analyzed are included in Appendix B. Additionally, public impact of statements and actions of key Armenian officials was assessed by looking at selected media articles.

We make no claim that our analysis is comprehensive. Instead, we hope that by bringing together various pieces of evidence, we can provide insights into a complex, challenging and changing reality of the COVID-19 in Armenia. The combination of methods allowed to compare and contrast the perceived adherence to pandemic safety rules and the actual observed behavior. Taken together, the variety of data processed allowed us to formulate key recommendations for successful communication in the next stage of confronting the pandemic in Armenia.

3. CASE STUDIES

This section presents summaries of case studies of five countries –New Zealand, Japan, South Korea, Singapore, and Vietnam – that have performed very well in the fight against the COVID-19. New Zealand, Japan and South Korea are democracies; Singapore is a hybrid regime, classified as “partially free” by Freedom House (2020), while Vietnam is an authoritarian state.

New Zealand

One of the countries that have materialized as a gold standard with its quick coronavirus responses is New Zealand. As New Zealand’s Minister of Health Dr. Ashley Bloomfield described, the government’s strategy fighting COVID-19 was based on speedy testing, contact tracing, and isolation, at the same time rigidly adhering to public health guidance (TVNZ, 2020).

On January 28, the same day when WHO announced the Covid-19 outbreak as a public health emergency of international concern, the Ministry of Health set up the National Health Coordination Centre (NHCC). On March 21, a four-level alert system was presented to regulate the outbreak within New Zealand. Additionally, the government has designed the country’s Pandemic Plan, where a six-phase strategic approach has been introduced “to preparing for, reducing the impact of, responding to, and recovering from a pandemic” (Ministry of Health of New Zealand, 2020, p. 9).

Most importantly, New Zealand has adopted a national testing strategy for COVID-19, aiming to track down and diagnose cases from people with and without clinical symptoms. New Zealand possessed the capacity to process up to eight thousand tests daily, which was one of the highest testing rates per capita in the world (Taylor, 2020). In addition to testing strategy, a surveillance plan has been developed to contribute to the rapid elimination of the virus from the country (Ministry of Health of New Zealand, 2020a).

Unlike many governments, including Armenia and the USA, that have been framing the fight against Covid-19 as a war, New Zealand’s authorities’ message was that of a country coming together. The official response in New Zealand was guided by the principle not to

stigmatize anyone and get united against COVID-19. Indeed, it is claimed that public acquiescence in New Zealand was not merely because of culture but rather because of earned trust built on constant, clear communications from the government officials. In the early days of the pandemic, the Prime Minister clearly outlined what was at stake and presented an easy to understand, a color-based alert system that would measure the nation's progress in fighting the virus. The country's public health response was "hurriedly" put together; as a result, people were well prepared when the country went into full lockdown (Smith, 2020). Prime Minister Ardern and Minister of Health Bloomfield have stayed firmly on the same page throughout the crisis (Mazey & Richardson, 2020).

Key factors for New Zealand's success are:

- ✓ Quick and comprehensive decisions
- ✓ Clear and detailed communication
- ✓ Robust surveillance and testing systems

Japan

Japan's success story is explained by a combination of several factors: some timely restrictions, cultural aspects, the experience of previous outbreaks, an effective healthcare system, etc. In Japan, a country with 127 million population, the first coronavirus case was confirmed in mid-January: by April 16 there were only 1,300 cases and 45 deaths (Rich and Ueno, 2020), while by September 29 it registered over 82,000 cases and 1,561 deaths according to John Hopkins University's (JHU) Coronavirus Resource Center (2020).

One useful and core communication message in Japan has been "Avoid the Overlapping 3 Cs": 1) closed spaces with poor ventilation; 2) crowded places with many people nearby; and 3) close-contact settings such as close-range conversations (Muto et al., 2020). Japan's effective health care system has also followed a *treat the symptoms* tactic that has been successful (Kopp 2020).

The government asked people to stay home and close their businesses with no legal penalty; still the Japanese government can count on the public to comply with the rules. Thus, Japanese society has honored requests by the government to avoid crowds and engage in hand washing (Wingfield-Hayes, 2020), most probably because of social customs and cultural traits.

The virus-challenging habits of Japan's people tell a lot. During the winter flu and in spring's hay fever, face masks are typical (McCurry, 2020); also people in Japan started wearing masks during the 1919 flu pandemic and have never stopped (Wingfield-Hayes, 2020). The habit of bowing rather than hugging and/or shaking hands, removing shoes when entering homes, and generally high standards of personal hygiene, all help explain Japan's performance in the face of the COVID-19 pandemic (McCurry, 2020).

There has been some criticism of Japan's handling of the COVID-19. There is a problem with the numbers of tests carried out by the government. Experts criticize the low number of tests (Harding, 2020), which is a potential reason for the low numbers of confirmed cases. The number of tests in the early months of the pandemic was limited to several dozen per day (Ministry of Health, Labour and Welfare of Japan, 2020). Moreover, there are strict criteria used to identify those who may be eligible for testing: the government focuses on testing those who have had close contact with an infected person, sustained fevers

for more than four days combined with severe lung symptoms, and overseas travel (Kopp 2020). In a sense, this is a policy of not draining healthcare resources.

Key factors for Japan's success are:

- ✓ Timely restrictions
- ✓ Effective healthcare system
- ✓ Cultural aspects
- ✓ Experience of previous outbreaks

South Korea

South Korea's successful experience in combating the COVID-19 outbreak received considerable interest from many scholars. As Lewis and Mayer's (2020) study showed, one of the strategies that were successfully implemented by the South Korean government was the use of IT measures and e-governance to communicate with the public. Specifically, the required information, including the COVID-19 test results, warning notes, etc., was delivered with the help of cell-phones, thus avoiding people-to-people interaction (Lewis & Mayer, 2020). Besides, e-government provided a wide range of guidelines on how to conduct remote learning/working processes and ensure the cyber security of these activities (Oh et al., 2020).

The South Korean government also has used IT measures for medical purposes to detect the chain of virus transmission. Specifically, through various applications, such as "surveillance-camera footage, smart phone location data, and credit card purchase records" (Sang-Hun, 2020), positively tested patients' locations were identified, thus revealing the virus transmission chains. At the same time, those who had any contact with an infected person were isolated.

Another critical factor was that the Korean government ensured the availability of sanitizers, face-masks, etc. both for the hospitals and the citizens, also informing the public of locations where they could easily get them. Additionally, the Korean government provided financial subsidies to its citizens, "covering all medical costs associated with COVID-19 expenses" (Ahn, 2020). This, in turn, ensured an equal and transparent approach towards all the COVID-19 patients, triggering people to approach hospitals in cases of any COVID-19 symptoms.

Another study indicated that psychological factors, specifically fear, significantly contributed to the elimination of virus transmission. Despite the recommendations of medical experts not to use drugs, most of the study participants took the medication and practiced social distancing for fear of contracting the virus. In addition, fear influenced the behavioral responses of study participants, prompting people to take precautions, including hand hygiene and face masks, to prevent virus transmission (Lee and You, 2020). It seems both the society and the government learned from previous experiences of dealing with infectious diseases.

Key factors for South Korea's success are:

- ✓ Successful communication strategies - IT measures and e-governance
- ✓ IT measures that helped to identify the positively tested COVID-19 patients and isolate those who had any contact with them
- ✓ The Korean government's assurance that the public had easy access to face-masks, sanitizers, and awareness of the critical actions that should be implemented.

Singapore

Singapore is considered one of the most successful countries in facing the outbreak and utilizing effective public communication for informing its society and shaping the public's behavior during the pandemic (Cowling & Lim, 2020; Fisher, 2020; Handforth, 2020). Although from mid-March to May the confirmed cases of COVID-19 drastically increased from 200 infected patients to almost 35,000, the number of deaths remained low: 23 individuals as of May 2020 (Worldometer, 2020). The success of the Singaporean government can be derived from the combination of several key factors such as socio-political environment, previous experience with a disease outbreak, advanced healthcare system, and quick and transparent public communication strategies.

Some scholars suggest that Singapore's success in fighting the pandemic can be related to a specific political system and the socio-cultural environment. Singapore has practiced a competitive authoritarian system, and the ruling People's Action Party (PAP) is still in tight control of the country's politics. The PAP has a considerable influence on the bureaucracy (Abdullah & Kim, 2020), which means that the decisions and policies are easily passed and administered without facing opposition. The recent research indicates that these authoritarian practices have helped the Singaporean government to impose COVID-19 related restrictions such as wearing masks, practicing social distancing, and receive public approval and obedience. "Many citizens have become vigilantes of their own, urging others to stay home, with some even confronting those who do not wear masks" (Abdullah & Kim, 2020, p. 772). Besides, a survey found that Singaporeans acquiesce giving up some level of privacy for their own safety, as 87% of the survey participants favored the usage of mobile phone data or contact tracing of potential COVID-19 patients by the government (Tay, 2020).

Singapore's experience of dealing with Severe Acute Respiratory Syndrome (SARS) in 2003 taught valuable lessons for designing crisis management guidelines and practices (Woo, 2020). After SARS, a major health disease outbreak, the government took serious measures for acquiring physical infrastructure - hospitals, advanced medical equipment, temporary buildings for health-related emergencies.

Another component of Singapore's effective response to COVID-19 is extensive contact tracing used by the government since the first phase of the outbreak (Abdullah & Kim, 2020, p. 772). The authorities allocated necessary resources for contact tracing by increasing the number of contact tracers and designing the TraceTogether app, which helps contain the spread of the virus (Goggin, 2020, p. 3). In March 40% of the positive cases in Singapore have been identified due to 100 contact tracers and advanced apps (Vaswani, 2020).

Eventually, scholars argue that Singapore's government has been successful in its public communication strategies. The government has been transparent and quick in delivering pandemic related information to the public, which allowed the public officials to maintain their credibility in the eyes of the Singaporeans and ensure public adherence to COVID-19 policies. Government messages regularly emphasize the seriousness of the virus, prepare the public for more tough and risky situations, and raise awareness about the high level of uncertainty. The government uses several languages such as English, Bahasa Melayu, Mandarin, Tamil, which are widely spoken among various segments of the Singaporean society (Wong & Jensen, 2020).

Singapore intensively uses social media platforms as a critical tool for providing official information about the pandemic. For instance, the GovTech provides updated information about COVID-19 daily via Whatsapp, Facebook, Telegram, and official government websites. The government also publishes detailed information about every infected individual so that other people might avoid any interaction with them (Wong & Jensen, 2020; Woo, 2020). Singapore also takes strict measures for combating the spread of fake news by extensively monitoring news producers, regularly publishing fact-checking articles, and publicly refuting false information on its official website gov.sg announcements (Government of the Republic of Singapore, 2020). Moreover, various apps and web-pages such as the COVID-19 Situation Report, GoBusiness portal, FluGoWhere, MaskGoWhere, SafeEntry, etc. have been created to easily access information about coronavirus related issues or support programs (Goggin, 2020; Government of the Republic of Singapore, 2020a). In other words, Singapore's public communication strategies are aimed to convey reliable information so that each member of the society will be pushed to behave according to the adopted rules.

Key factors for Singapore's success are:

- ✓ Socio-political environment
- ✓ Experience with the previous outbreak
- ✓ Advanced healthcare system
- ✓ Quick and transparent communication strategies

Vietnam

The containment of the COVID-19 outbreak in Vietnam has been under the international scholarship's focus as an example of success. Several factors have been crucial in terms of effective government management and public support.

Previous experience with SARS outbreak plaid a big role in allowing Vietnam to deal with COVID-19 successfully. Despite insufficient clinical capacities, since 2008, the state had introduced and fully implemented the "adaptive health system," which is centralized and includes over 600 distinct health departments and around 11,000 different commune health stations that could serve as specific gatekeepers for the grassroots containment (Van Nguyen et al., 2020).

The COVID-19 disease had been under the Vietnamese officials' focus since January 2020. The government's policy response went immediately to the stage of the development of guidelines and preventive measures for further actions against the novel disease (La et al., 2020). Unlike New Zealand, the Vietnamese state officials used war rhetoric regarding the pandemic to increase public solidarity (Ivic, 2020). The government had considerable public support. Interestingly, the same approach was not successful in many democratic states. The same rhetoric used by the United States president was heavily criticized (Hagstrom, 2020).

The transmission dynamics of the outbreak in Vietnam had passed through three main periods: a) the first two months up to February 27 when all the cases were successfully contained; b) up to March 5 when no cases were reported; c) the following period after March 6 when a person became a "super spreader" by failing to inform the government about her medical condition (Nguyen & Vu, 2020). However, since the beginning, the whole process is followed by the comprehensive quarantining approaches and immediate tracking of

direct and approximate contacts through the lockdown of residential places (Tran et al., 2020).

Among the first measures by the government in January was the creation of the National Steering Committee, which was responsible for implementing further strategic planning. According to the WHO, the best practice from the Vietnamese experience was the strong government leadership based on the early activation of state response mechanisms previously developed with WHO support, the effective clinical management based on given capacities, and effective mobilization of public resources (World Health Organization, 2020b).

Although a broad world comparison of various regimes' performance in handling the pandemic debunks the myth that authoritarian regimes have better overall performance (Maerz et al., 2020) the authoritarian nature of the Vietnamese regime might have provided it with some advantages. The one-party system allowed more efficient control of the political field in crisis periods (Lewis & Mayer, 2020). Aggressive distancing policies and further surveillance were met with collaboration in almost all layers of the governance apparatus and the civil society. The state's unipolar political field had promoted the decision-making processes in both vertical and horizontal structures of the state apparatus and local governing bodies.

The use of IT resources had also played a significant role in the overall public consent and the appropriate informational support for the different groups in society (Le et al., 2020). Having the Chinese experience of the internet censoring as a negative example, the Vietnamese leadership chose a more transparent approach. Leaning heavily on social media platforms like Facebook and Tweeter, the government helped its citizens in keeping up with the changing regulations and public programs in the campaign against the COVID-19 (Nguyen, 2020).

The overall examination of the literature and WHO reports show that the effective combination of the cooperation with the supranational health organization within quick responsiveness and immediate actions during the outbreak was possible in Vietnam due to several additional factors. Among those were the chosen transparent communication with the public, the advantages brought by the one-party system regarding the decision-making process, the public solidarity due to century-long traditions, the previous experience with SARS outbreak in 2003 and other factors.

Key factors for Vietnam's success are:

- ✓ Strong government leadership
- ✓ Aggressive public communication/rhetoric
- ✓ Effective mobilization and management of limited resources
- ✓ Strict enforcement of quarantine

The case studies of the five countries reveal that apart from the advanced healthcare system, countries should develop consistent and transparent communication strategies with the public since it increases trust towards governments. Meanwhile, comprehensive decisions with timely restrictions combined with cultural traits are vital in times of pandemics. Understandably, the socio-political environment and experience with previous outbreaks also play an essential role in successfully responding to pandemics.

4. COVID PANDEMIC: INFORMATION AND BEHAVIOR SURVEY FINDINGS

About 36% of the survey respondents are from Yerevan, 37% are from other urban settlements and 27% are from villages; 45% are male, 56% are female. Respondents' age varies from 18 to 84, mean is 34. Education levels range from elementary (2%) to postgraduate (PhD and similar, 6%); most respondents (24%) report having a Bachelor's degree. Income distribution of the surveyed sample is presented in Table 2.

Table 8. What was the total amount of your net (tax-deductible) cash income last month?

| | Frequency | Percent | Cumulative Percent |
|-------------------------|-------------|--------------|--------------------|
| No income | 379 | 34.39 | 34.39 |
| Up to 92,000 AMD | 186 | 16.88 | 51.27 |
| 92,001- 120,000 AMD | 144 | 13.07 | 64.34 |
| 120,001- 180,000 AMD | 129 | 11.71 | 76.04 |
| 180,001 - 500,000 AMD | 126 | 11.43 | 87.48 |
| 500,001- 1,000,000 AMD | 26 | 2.36 | 89.84 |
| More than 1,000,000 AMD | 7 | .64 | 90.47 |
| Hard to answer | 42 | 3.81 | 94.28 |
| Refuse to answer | 63 | 5.72 | 100.00 |
| Total | 1102 | 100.0 | |

Some 42% consider their risk of being infected with COVID as either very high (13%) or high (29%) as compared to 39% of respondents considering it a low (29%) or a very low (10%) risk. About one-fifth of the respondents don't know what the level of risk is, showing a rather high level of uncertainty regarding the disease. There is a weak statistically significant correlation between age and perceived risk of infection: younger people rate their risk of contracting the disease as lower, compared to older people ($r = -0.099$, $p < 0.005$).

People seem to be somewhat more worried about contracting the virus than about transmitting it: 33% are concerned about the risk of transmitting it to others with 9% considering it a very high risk and 24% considering it a high risk. The majority (54%) think that their risk of transmitting it to others is either low (33%) or very low (21%). Figure 1 below presents the details.

When asked about preventive measures they take against the COVID-19 disease, most survey respondents report wearing a mask (80%), regularly washing/disinfecting their hands (68%), keeping a 1.5 meters distance from others when outside (46%) and avoiding crowded places (46%). More than one-third of the respondents (36%) leave home for absolute necessities only. Most people (53%) report that other people around them tend to wear a mask: when asked if people in their surrounding wear a mask while outside, 14% of the respondents said "almost everyone wears a mask" while another 39% said "the majority wears a mask" as reported in Table 3.

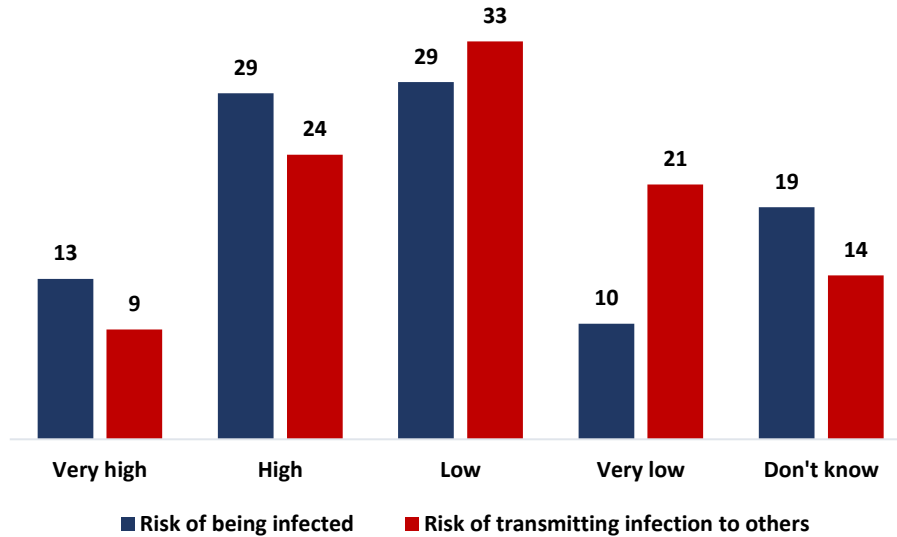


Figure 7. Perceived risks of contracting and transmitting COVID-19, %

Table 9. Do people in your surroundings wear masks while being outside among other people?

| | Frequency | Percent |
|--|-------------|--------------|
| Almost no one wears a mask | 36 | 3.27 |
| Some do, the majority does not | 339 | 30.76 |
| The number of those wearing a mask and those who do not is equal | 127 | 11.52 |
| The majority wears a mask | 427 | 38.75 |
| Almost everyone wears a mask | 154 | 13.97 |
| Hard to answer | 19 | 1.72 |
| Total | 1102 | 100.0 |

When asked why they think other people do not wear masks or wear them wrongly, most respondents believe that people are inattentive or careless. The second most frequent answer was that people do not believe masks are useful or that they consider wearing a mask inconvenient. Figure 2 presents all the responses.

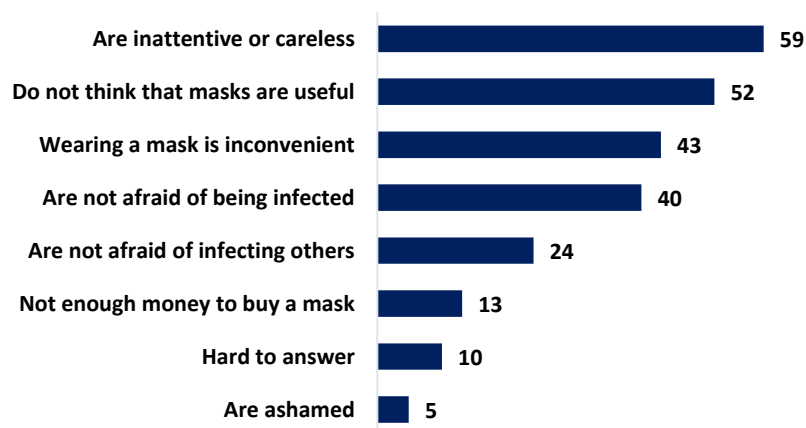


Figure 8. According to you, why do people not wear masks or wear them wrongly in public places? (Choose up to 3 most relevant options), %

An overwhelming majority of people (84%) say they will keep a distance from a person not wearing a mask in a shop or a closed public space; about 43% will ask such a person to wear a mask, 33% will leave the place, as Figure 3 demonstrates.

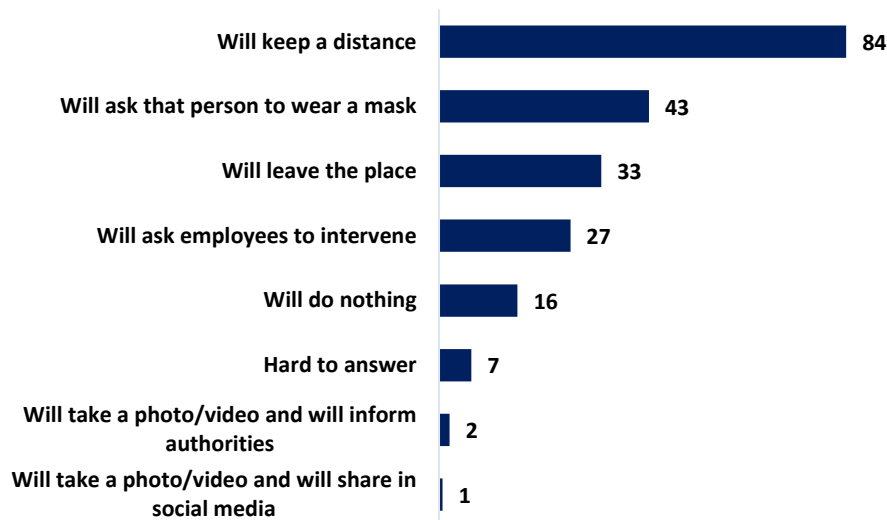


Figure 9. If you see a person without a mask in a shop or in other closed public places what will you do? (Choose up to 3 most relevant options), %

Most respondents (48%) use Armenian TV channels to receive information about the pandemic; Armenian medical and healthcare experts were mentioned by 46% of the respondents as a source of information, another 36% mentioned Armenian online news agencies. Most survey respondents clearly rely on official news sources for information. Social media sources are mentioned by about one-fifth of the respondents, as Figure 4 demonstrates.

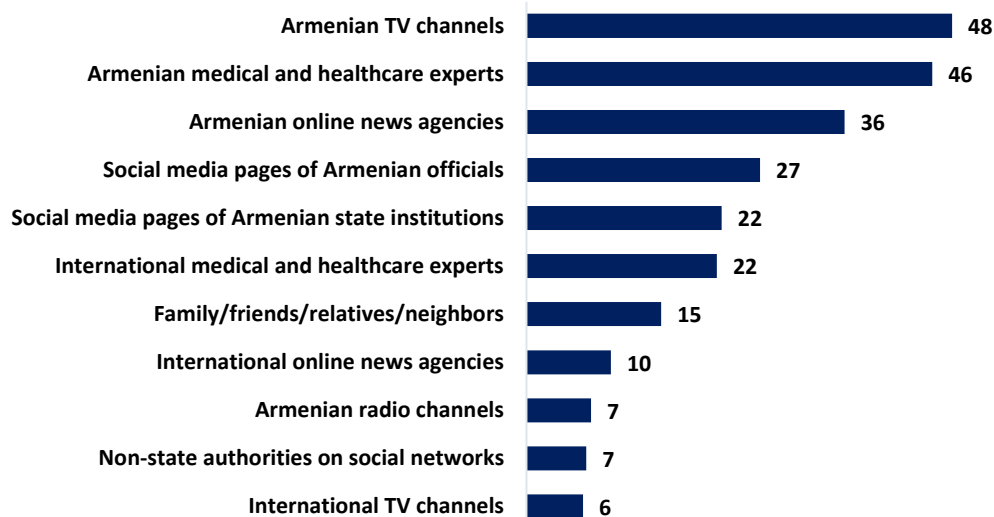


Figure 10. What sources do you mainly use to receive information about the pandemic (list up to the 3 most relevant options)? %

Although people follow the official news sources, and 36% of the respondents trust Minister of Healthcare Arsen Torosyan’s statements about the pandemic, about one-fifth of the respondents found it hard to say whose statements about the pandemic they trust the most, as Table 4 demonstrates. Other medical or healthcare professionals are trusted by about 15% of the respondents. These findings combined with the previous findings on sources followed

show that Armenians follow the official news sources (with TV being clearly more important than social media) and are willing to listen to healthcare professionals but there is a substantial proportion of people still confused about who to trust.

Table 10. Whose statements about the pandemic do you trust the most?

| | Frequency | Percent |
|--|-----------|---------|
| Minister of Healthcare Arsen Torosyan | 395 | 35.84 |
| Hard to answer | 218 | 19.78 |
| Other medical or healthcare professionals you know | 168 | 15.25 |
| Prime Minister Nikol Pashinyan | 114 | 10.34 |
| Epidemiologist Arman Badalyan | 75 | 6.81 |
| Other | 43 | 3.90 |
| Other knowledgeable individuals in your milieu | 37 | 3.36 |
| Vice Prime Minister Tigran Avinyan | 26 | 2.36 |
| Social media influencers | 22 | 2.00 |
| Political opposition figures of Armenia | 4 | .36 |
| Total | 1102 | 100.0 |

Pandemic-related information, provided by the Armenian government is rated by most of the respondents as rather understandable, clear, precise, practical and sufficient. When asked to rank the above-mentioned characteristics on a scale from 1 to 5 where 5 stands for “understandable”, “clear” and so on while 1 stands for the opposite (such as “obscure”, “complicated” and so on) all mean scores were above 3.8. The lowest mean score was 3.83 for the “unrealistic vs. practical” pair, the highest score was 3.9 for the “complicated vs. clear” pair.

There is a certain reservoir of willingness to see more restrictions if the numbers of infected people continue to grow: 48% of the respondents would rather agree (27%) or strongly agree (21%) with restrictions as compared to 37% of strongly (16%) or rather (21%) disagreeing with prospects of more restrictions, as Table 5 shows. About 15% found this question hard to answer.

Table 11. To what extent do you agree to re-imposing severe restrictions or travel restrictions if the number of people infected with the COVID-19 in Armenia continues to grow significantly?

| | Frequency | Percent | Cumulative Percent |
|-------------------|-----------|---------|--------------------|
| Strongly disagree | 182 | 16.52 | 16.52 |
| Rather disagree | 230 | 20.87 | 37.39 |
| Rather agree | 296 | 26.86 | 64.25 |
| Strongly agree | 237 | 21.51 | 85.75 |
| Hard to answer | 157 | 14.25 | 100.00 |
| Total | 1102 | 100.0 | |

About 30% of the respondents think that a fine for not wearing a mask should be up to 5,000 AMD, another 15% think it should be in the 6,000 – 10,000 AMD range. A substantial number of respondents (27%) think there should be no fine for not wearing a mask, as Table 6 demonstrates.

Table 12. In your opinion, what should be the fine for not wearing a mask?

| | Frequency | Percent | Cumulative Percent |
|---------------------------|-------------|--------------|--------------------|
| Up to 5,000 AMD | 333 | 30.22 | 30.22 |
| 6,000 - 10,000 AMD | 170 | 15.43 | 45.64 |
| 11,000 - 15,000 AMD | 35 | 3.18 | 48.82 |
| 16,000 - 20,000 AMD | 38 | 3.45 | 52.27 |
| 21,000 - 50,000 AMD | 36 | 3.27 | 55.54 |
| More than 50,000 AMD | 89 | 8.08 | 63.61 |
| The is no need for a fine | 300 | 27.22 | 90.83 |
| Hard to answer | 101 | 9.17 | 100.00 |
| Total | 1102 | 100.0 | |

Overall, the survey show that people are concerned about the risk of getting infected and claim to follow the three basic rules of wearing the mask, washing hands and keeping a safe distance. People seem to be more concerned of contracting rather than transmitting the disease. Most respondents claim they will keep a distance from someone who does not wear a mask, but they are reluctant to report or confront rule-breakers. Some restrictions are acceptable if needed but steep fines are not favored. People tend to follow official news sources and listen to healthcare professionals, but many questions received rather large (10%, 15% and in one case 20%) number of “hard to answer” responses, showing the need for more professional and perhaps more targeted communication.

5. EXPERT INTERVIEWS

Reasons for following or breaking the anti-pandemic rules

According to experts, the public largely ignores anti-pandemic rules. Even if those rules are followed, it is done to avoid punishments/fines, not for internal motives.

You go to a store, there is quite enough space to stand, but for some reason, the next customer comes and stands right next to you. Similarly, at the bus stop people come and stand right next to you.

Masks are formally maintained, but people keep their noses open as if they [masks] were just worn so that the police can see that the mask is there.

According to experts, there are various reasons for not following the rules. Main reasons are presented below.

Lack of internal mechanisms for regulating behavior. People often follow anti-pandemic rules not because they are deeply convinced that following the rules will help avoid infection or reduce its spread, but because of perceived risks of punishment/fine. A vivid example of this is the fact that when people see a police officer, they put a mask on, but once the police officer leaves, they take it off.

Lack of trust. In this regard, experts offer two primary reasons: people do not believe that they can be infected, and people do not believe that following anti-pandemic rules will help them avoid getting infected or infecting others.

[People] say, if I am to get infected, I will get infected, regardless of whether I wear a mask or not.

Shame. Speaking about this factor, experts say that it is a very deep and specific characteristic of the Armenian public. People are often ashamed to wear a mask because others can think they are afraid of getting infected. It is also a “shame” not to participate in family and friendly meetings or avoid meetings with relatives.

Just like many Armenians do not wear a hat in the cold winter, saying it is shameful, or, while driving, they do not turn on car lashes, which is crucially important for traffic safety, they don't do it saying it's shameful. Now it is a shame to wear a mask, a shame to keep a physical distance, a shame to ask others to stand a little away from you.

Absence of fear. Many people, especially young people, or those with no chronic diseases are simply not afraid of getting infected. That is why they do not follow the rules, stating that they will recover quickly even if they get sick.

Insufficient sense of responsibility towards others. Experts note that, especially in matters relating to public health, our society lacks a sense of responsibility for the health of both ourselves and other people. People often do not realize that their behavior impacts others' health.

Responsibility to yourself and responsibility to the other person. The second is lacking in our society.

Variety of messages given by official bodies, lack of consistency. This point relates to both the information and the consistency of the proposed behaviors. As examples, many experts highlight the requirement to wear gloves, the elimination of this requirement after a while, and the continuous changes of acceptable types of masks. Experts also mention inconsistent work of law enforcement bodies: imposing fines was not consistent, some people who did not follow the rules were not fined, and breaking some rules was not fined. Another important source of inconsistency was the state officials themselves, who did not fully follow the rules.

At all levels, the state must show the behavior it wants people to have.

Although the experts we interviewed were overall critical of the population's tendency of not following the rules and the government's lack of consistency in the communication strategies and the behavior of public officials, some experts also mentioned the positive aspects of communication that resulted in some rule compliance. One of the reasons for following the anti-pandemic rules, according to experts, is that it was quickly and effectively explained what should be done to avoid the disease and what actions help prevent the spread of the infection. Available support mechanisms were presented. The public was provided with comprehensive information on the pandemic, its development paths and its consequences.

The state has shown that it does not ignore its population; it cares for them. It has taught the people how to treat others. Public opinion-makers have set an example with some consistency.

Possible effective messages for public use

In this section, we discuss the messages that, according to experts, could be effective in the process of formation/development of the behavior aimed at maintaining anti-pandemic rules. Messages should be targeted by age and social group. Information for all groups must be accessible, obtainable, reasoned and substantiated.

I belong to the category of people for whom the ministry is enough to follow the rules; there is someone to whom their doctor should tell what to do, because the doctor is their authority; there is someone to whom their teacher should tell; for someone it is

their friend. It should be understood that a message will not be accepted as melted butter² for all categories.

According to experts, it is important that messages contain elements of care, understanding and empathy. It is critical that messages do not contain elements of accusation and criticism. The tone, in which the society is addressed, is very important; it should not be from a “finger shaker³” point of view. It is also necessary to constantly remind people that the fight against the disease is still ongoing, and it is everyone’s responsibility through the maintenance of anti-pandemic rules to contribute to the retreat of the disease as soon as possible.

Emphasizing positive outcomes in public messages can be quite effective: people should be presented with positive results of their compliance with anti-pandemic rules. Importantly, the emphasis should be placed not only on the need to protect oneself, but also on the significance and necessity to protect others from the disease. Protecting relatives can be stressed. There is a need to remind people that they are important, that their behavior can lead to positive changes, that they can “save” the society. It is crucial to convey to people the feeling that they play a role in this situation, their behavior is very important, and they are the ones making the difference. Additionally, emphasizing the significance of safeguarding people at risk can be rather effective.

You need to clean your hands not because you do not carry the possible virus to your nose and mouth, but because you do not pass your infection on to others through your hands.

Be a hero: help your elderly neighbor, your pregnant neighbor, your neighbor with cancer disease, a doctor. Be part of a stronger society.

According to experts, the messages that connect to expected outcomes are particularly effective. People need to have a clear idea of the purpose of their actions and see the link between their actions and the desired end result in the near future.

Wearing a mask is to prevent the chain, to feel safer tomorrow, to go out without a mask, to travel. Everyone is impatiently waiting for this to end, to live as before. If you can show people that these actions are for the purpose of living as before, that can be effective.

It is important that the messages are substantiated, well-grounded, and have some scientific basis. According to experts, people need to be clearly explained how following the anti-pandemic rules can affect the spread of the disease. They need to be presented with facts and figures about what changes their behavior could bring. In this regard, it may be effective

²“Accepted as melted butter” or “taken as melted butter” is an Armenian idiom meaning something is accepted easily, smoothly, without questioning or arguments.

³Another Armenian idiom. “To shake a finger” at someone means to be overly (unfairly) critical, implying punishment or repercussions.

to present visual information (e.g., by percentage ratio) about the probability of infecting others if they follow and don't follow the rules; or, for instance, how many people they will protect from the disease if they wear a mask; or how much deaths will be reduced. Experts suggest bringing scientific materials and research data that could be presented in a simple, accessible to everyone form.

Otherwise [people] do not believe it, you say follow [the rules], but they need some proof. Some read, but others need to be persuaded. To be convincing, the speaker must be an authority and speak with facts.

You need to show people that they can make a difference. It could be shown with graphs or visuals how many people you will save if you follow the rules.

Public messages need to challenge and change the mindset that wearing a mask and maintaining social distance is shameful. On the contrary, it is necessary to give the message to the society that it is shameful to endanger others' health, it is shameful to leave the house without a mask, and it is shameful not to follow the hygiene rules.

When you go out without a mask, and people around you wear masks, it turns out, they care about you, but you don't care about them. It is a shame.

Channels for public messages

Speaking of channels of transmitting information, experts mention that they should be as diverse as possible and adapted to all segments of society. Information could be provided through social networks, as well as television and other media tools. It is also essential to have as much information as possible about coronavirus and anti-pandemic rules in places that are particularly crowded, e.g., in medical treatment facilities, stores, building entrances, transport.

Some people trust the [health] ministry; some are skeptical. The ministry has to talk to different layers [of the public] through its channel.

Some channels of information transmission suggested by the experts are presented below.

- Scientific institutions, universities, groups of scientists, who can provide comprehensive, fact-based information to the public about the features of the disease, its development, consequences, and effective means to avoid it. This information should be based on scientific facts but be as accessible and understandable as possible to all sections of society.
- Information can be provided through nongovernmental or international organizations in the field of healthcare, which could be trustworthy and reliable sources for the broad circles of society.
- Providing information through artists, celebrities whom the public trusts and accepts as role models. It is important to note here that when choosing such people, one

should consider the characteristics of the age and social groups to whom the information is addressed.

- The involvement of pedagogues in the process of providing information on the pandemic is also significant.

Since educated people transfer knowledge, they have an influence on other people; they may also be message conveyors and behavior shapers.

- Stories of medical workers who deal with this disease on a daily basis. It would be effective to post such stories on social networks, as well as to spread them through television.

The stories of the Italian doctors helped to show tired faces of doctors, to tell what they see, how people can help by following the rules.

- Stories of people who have confronted the disease and been able to overcome it. Such people can tell the public what hardships they went through during the illness, how the recovery process went, and what consequences it had on their health.

In addition to disseminating disease prevention related information, it is also important to provide the necessary information to people with coronavirus infection and those who are in contact with the latter about what to do in the event of symptoms, how to isolate themselves, what rules to follow when caring for patients.

Experts also emphasize the effectiveness of providing free masks, which can be placed in department stores, in transport, and in public places where people often go. Additionally, it is crucial to provide assistance to self-isolated people, and there is a need to effectively organize the process of providing them with food and necessities.

6. OBSERVATION ANALYSIS

Observations were conducted by research team members from October 8th to October 20th (first phase) and November 9th to December 27th (second phase) in well-attended areas of public use. In total, 12,429 people were observed. According to the results presented in Figure 5, almost half (48%) of the observed people did not use masks, 23% wore it wrongly. Only 29% of the people used masks in the observed areas, which is an indicator that 71% of the people observed were at the high risk of contracting the virus.

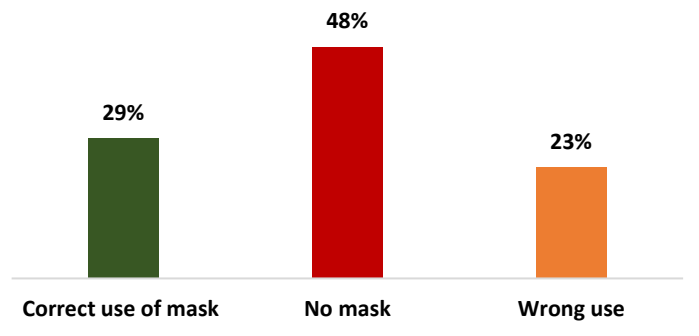


Figure 11. The Usage of Masks in Public Areas

Given that the observations were conducted in two phases; war-time and post-war periods, it is important to compare the trends recorded. As indicated in Figure 6, there is a significant difference in numbers between the wartime and the post-war results. According to our observations, more people (around 36%) wore face-masks during the war period, whereas after the war this number decreased to 24%. The percentage of people without masks had slight difference from 47% to 50%, while the misuse of face-masks reached from 17% to 26%. Ultimately, during the war 64% of people fell under the category of risk of contracting the virus because of not wearing a mask properly, in post-war period this number reached 76%.

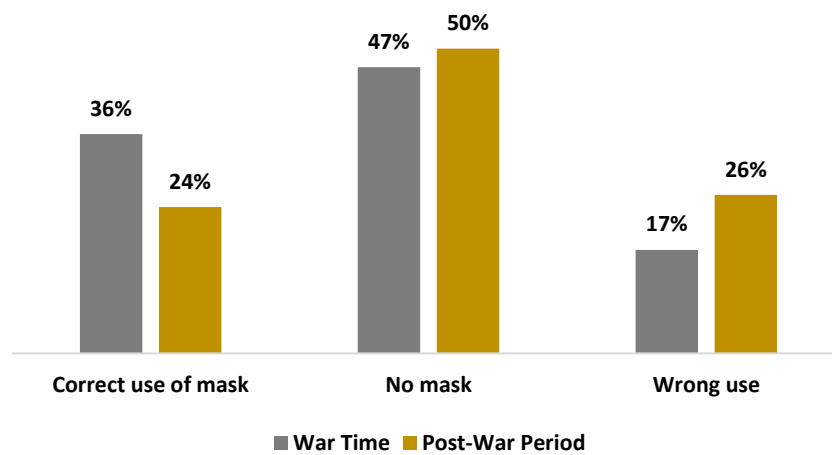


Figure 12. The Usage of Masks in Public Areas (Wartime and Post-War Periods)

Further analysis of the data was made through the categorization of the observed public areas into three groups. The first group includes outdoor public spaces, such as parks, streets, avenues, and squares. The second group includes public services and entertainment venues, such as hospitals, churches, shopping centers and sports centers. The third category includes locations directly or indirectly related to the military and events related to the 2020 Artsakh war, including military commissariats, cemeteries, military bases, and mourning halls. Table 7 highlights the distribution of mask usage in percentages based on the categorization of locations and observation phases. The dynamics show that the recorded patterns differ in outdoor and indoor public areas between the two periods of the data collection.

Table 13. Usage of face-masks by location types

| | | Correct use of masks | Absence of masks | Wrong use of masks | Total |
|------------------------|-----------------|----------------------|------------------|--------------------|--------------------|
| Outdoor public areas | <i>War-Time</i> | 28% (1042) | 43% (1611) | 29% (1078) | 100% (3731) |
| | <i>Post-War</i> | 25% (507) | 64% (1303) | 11% (226) | 100% (2036) |
| Indoor areas | <i>War-Time</i> | 31% (690) | 46% (1034) | 23% (508) | 100% (2232) |
| | <i>Post-War</i> | 44% (1209) | 34% (936) | 22% (616) | 100% (2761) |
| Military related areas | <i>War-Time</i> | 15% (260) | 68% (1131) | 17% (278) | 100% (1669) |

In particular, in outdoor public areas, the COVID-19 rules compliance level has deteriorated from the war to the post-war period. On the contrary, the level of usage of face-masks in indoor public areas after the war increased from 31% to 44%, decreasing the misuse of face-masks (“wrong use” and “no mask” categories), from 69% to 56%. It seems like after the war mask-wearing outdoors deteriorated, while mask-wearing indoors improved somewhat. This probably has to do with ease of enforcement in the indoors areas.

Military related locations were analyzed separately considering the extraordinary circumstances of those areas. In military areas the majority of observed people were not properly using face-masks, making the number of people under the risk up to 85%. It is important to note that these locations were also the ones most emotionally tense. The research team’s impression is that emotional distress negatively impacted mask-wearing rule compliance in those specific locations and also contributed to overall lower compliance after the war ended.

In addition to quantitative observations, one team member engaged in conversations with employees of various locations, to understand their motivation for wearing or not wearing masks. The researcher noticed that, for example both bank workers and shop employees wore masks and kept social distance, and they required customers to wear masks and maintain the required space. However, there was a difference in their motivation. Banks’ staff mostly wore masks for their own health concerns, whereas employees of shops and stores wore masks and required customers to wear masks predominantly not to be fined. Bank employees usually have higher education in contrast to the workers of stores and shops, confirming a known pattern that education matters in people’s perceptions about the pandemic.

Overall, data collected through observations is in stark contrast with the survey data. While in the survey people state that they wear masks and that most people around them wear masks as well, the observation shows that most people either do not wear masks or wear them incorrectly, and particularly in outdoors public spaces. The most plausible explanation of the difference is social desirability bias. The survey shows that people understand the importance of wearing masks and that wearing a mask is the socially desirable “right answer.” However, when we move from words to actions, many fail to do the right thing, unless there is a strict enforcement. Our observation data is more in line with our expert interviews that highlight lack of intrinsic motivation for rule compliance.

7. OVERVIEW OF ARMENIAN GOVERNMENT COMMUNICATION REGARDING THE PANDEMIC

When Armenia began to lift some lockdown restrictions in May 2020, the country witnessed a dramatic rise in the number of COVID-19 cases. Fewer than 900 new cases per week were reported in the first week of May; by the first week of June, that number had skyrocketed to 3,800 new cases per week. However, these numbers peaked in late June and then steadily declined throughout the summer, only rising dramatically (and hitting record new highs) once the war in Artsakh began. These numbers suggest that once Armenia loosened its lockdown, its citizens were initially unprepared to take the preventative measures necessary to reduce the spread of the virus; however, these numbers were brought under control through better public health communication and/or stricter enforcement of social distancing and mask-wearing regulations before the war shifted everyone's attention and undermined the progress made.

Government communication regarding the pandemic can be broadly divided into two categories: (a) actions and statements of state officials, and (b) communications material (videos, posters, information leaflets, etc.) prepared and disseminated by corresponding state agencies. This section briefly discusses both aspects.

Actions and statements of state officials

The country in general and the incumbent government in particular had little to no previous experience with pandemics. Moreover, the world was learning, and Armenia was learning with it. Unfortunately, that created changes in behavior, that were perceived as inconsistencies (for example, a request of wearing gloves in public places that was later dropped, the argument around masks' usefulness, types of masks, their impact on levels of oxygen and so on). Moreover, disinformation about COVID-19 was/is abundant on the Internet, and sometimes endorsed by world public figures. All this made clear and consistent pandemic related communication challenging for many governments, Armenian government included.

The Armenian government tried to strike a balanced tone: admitting the seriousness of the situation but avoiding possible dangers of panic buying and stigmatizing that occurred in some countries. Unfortunately, the balance came across as somewhat skewed toward overconfidence and carelessness. Prime Minister Pashinyan's "[who's dog is Coronavirus?](#)" and Health Minister Arsen Torosyan's "[another absurd panic is ranging... swine flu, bird flu, dinosaur flu](#)" are some of the examples. Somewhat ironically, in the very same "who's dog is Coronavirus?" video, the Prime Minister reiterates the safety measures (wash your hands, keep a distance) and stresses, "of course one should take it seriously." This video address, broadcasted on March 1st conveyed the overall message: "we have it under control, please cause no panic because panic is dangerous." Additionally, the messages coming from the government officials were contradicting each other at the beginning of March. Namely, the Minister of Health, Arsen Torosyan, and the Minister of Education, Science, Culture and Sports, Arayik Harutyunyan, had press conferences regarding the spread of COVID-19 in the

country and the postponement of classes during the same day. In the morning, Torosyan announced that the situation is under control and there is no need to close the country's educational institutions. However, in the evening, Harutyunyan claimed that due to the alarming messages he is receiving from citizens, it was decided to postpone classes for a week.

Stressing individual responsibility to prevent the spread of the virus was another visible and rather consistent element of the government (particularly Prime Minister Pashinyan's) communication strategy. It felt almost like a continuation of his overall emphasis on citizen action (such as, "make a step" for the Velvet Revolution, each person has to overcome the poverty in themselves for the country to prosper). Unfortunately, in the case of the pandemic, even a relatively small group of irresponsible people can cause major damage. While the government was urging people to act responsibly and self-isolate if they arrive from countries with high infection rates, a recent returnee from Italy attended a family celebration [in Vagharshapat](#), creating the first major infection hub in the country in mid-March. From the very beginning and pretty much through the year people continue to disregard the basic rules of social distancing and properly wearing masks in public spaces. The situation briefly improved over summer. On one hand people encountered more and more personal stories of illness and death countering the myth of COVID-19 not being real or not being dangerous. On the other hand, police presence in the streets and more systematic enforcement made people more compliant. With the start of the war, the pandemic was pushed out of people's mind. Currently, post-war depression seems to contribute to the careless attitude. Moreover, some segments of the population translate their dissatisfaction with the government into a blunt refusal to comply with any government regulations, including those that have nothing to do with politics and everything to do with their personal safety and wellbeing. Therefore, the overall strategy of emphasizing personal responsibility and hoping for voluntary compliance was not efficient in the past and is unlikely to be efficient in the present and near future.

What the government officials said and how they said it was important. What they did was perhaps just as important. If public officials do not follow the rules, it is unlikely the general public will. The government started using masks during its weekly meetings in June, which was somewhat late. Other examples of blunders in public appearance include attending a reception in Shushi (no masks, no social distancing) and patchy self-isolation by the Prime Minister after it was announced that he was infected (Kotchikian, 2020). Almost no compliance with anti-pandemic rules during the Shushi reception was justified by the rules and regulations existing in Artsakh, but that did not help much.

Some public officials did come under criticism for not complying with pandemic safety rules. The dismissal of the heads of army, police and the national security because of the violations of anti-pandemic rules is one such example. Pashinyan was [reported](#) saying "It's the high-ranking officials who must show the importance of following anti-epidemic rules with their own example ... However, sometimes the opposite happens."

Another positive aspect of government communication, noted by the experts we interviewed was quarantining of potential transmitters in hotels and hospitalization of sick people at the early stage of the pandemic. Our experts believe that through those actions the

government transmitted the message of care for the people, which was very important. Unfortunately, as the numbers grew, such care-taking of each individual became impossible.

Communication materials

An examination of the videos and infographics prepared by the Armenian Ministry of Health between February 2020 and July 2020 demonstrates a gradual improvement in public health messaging. Early messages emphasized a slogan that was simple and memorable, but also unsustainable: “Stay home.” Once stay-at-home orders were lifted and shops and restaurants began to reopen in May 2020, Armenian citizens lacked the public health information necessary to conduct adequate risk assessments. Public health messages from February and March 2020 focused on explaining what COVID-19 was, how to spot its primary symptoms, and which travelers from foreign countries should quarantine themselves to avoid outbreaks. Videos touting the importance of mask-wearing and maintaining 2 meters of physical distance did not begin to emerge until late April.

Scholars of rhetoric have long known that effective persuasive messaging involves a combination of *logos* (factual reasoning), *ethos* (credible spokespeople), and *pathos* (appeals to emotion). The Armenian Ministry of Health’s initial campaigns about the importance of mask-wearing and physical distancing emphasized *logos* and *ethos*, but failed to include sufficient *pathos*. For instance, in a [video](#) released on 25 April, 2020, an epidemiologist speaks to the viewer, then cartoon visuals demonstrate the importance of wearing masks, washing hands, and maintaining 2 meters of distance; while this video includes plenty of useful information, it never conveys why these measures are vital for citizens who care about protecting their loved ones. However, a later [video](#) released on 19 May, 2020 offers a much stronger emotional appeal; it depicts a small boy who, on his way outside to play football, touches a COVID-contaminated staircase, then later touches his elderly grandmother with this same contaminated hand. Using a bright purple color to show the spread of the virus, the advertisement clearly visualizes the risk of surface-based transmission and how it can affect vulnerable loved ones. Furthermore, it depicts the proper handwashing and decontamination procedures that would effectively reduce surface-based transmission of COVID. However, it does not model proper mask-wearing or physical distancing or convey the much greater risks of airborne transmission. While this commercial was highly memorable and effectively combined *logos* and *pathos*, the Ministry of Health missed an opportunity to produce follow-ups depicting how social distancing and proper mask-wearing could also serve to protect vulnerable loved ones.

8. VACCIATION

World Experience

Vaccination saves millions of lives each year. History provides many successful examples of vaccination improving the quality of peoples' lives, including vaccines against smallpox in 1800s (WHO, 2017) and measles in 1980s (Lewandowsky et al., 2021). Vaccines also make health care more affordable for the population in terms of cost-effectiveness (WGM, 2018). In this context, however, one thing should be emphasized; it is not the vaccine, but the vaccination that saves lives. People need to be vaccinated systematically in order to combat the virus transmission chain.

On the other hand, there is also a great deal of mistrust in vaccination. Recent research has shown a fairly high rate of decline in vaccine confidence in both high and low-income countries. One of the main reasons for such records is related to the low level of confidence in the safety and efficiency of vaccines (Monitor, 2018). In this regard, the situation with COVID-19 vaccines is of particular concern. The study found that several factors contributed to the emergence of opposing views around the world, one of which is conspiracy theory; most vaccine deniers believe in a conspiracy. Another large group that may fall into this category are vulnerable groups, including people with disabilities, people from the LGBT community, immigrants, homeless people, etc., who are most likely to face inequities in the health care system or have had negative experiences with medical experts (Lewandowsky et al., 2021). Other factors may include uncertainty and lack of accurate information about the vaccine, emotional factors such as fear and anxiety, negative and critical media coverage of the vaccine, as well as unusual reactions to the vaccine (WHO, 2017).

Therefore, preparing the population for vaccination through strategic communication is critical for the government. Effective communication requires actions that the government should take in advance to develop trust and confidence in a given society, relying on transparent and timely communication. Ultimately, this will facilitate vaccine acceptance and adherence. This is especially the case with the COVID-19 vaccine, which can help develop positive attitudes among the population (WHO, 2017). It is highly recommended that government communication be as transparent and open as possible regarding the risks related to vaccination and vaccine. Several studies have shown that public panic is unlikely to occur if the information provided is accurate and precise, albeit alarming. Thus, it is recommended to provide the public with clear and consistent information to avoid mistrust (WTO, 2020).

On the other hand, the government should make efforts to reduce the uncertainty about vaccines. Repeatedly informing the public about the facts, beneficial outcomes and purposes of the vaccines can boost public confidence (WTO, 2020). A case study from Germany has shown the critical importance of building public discourse about vaccines based on facts (WTO, 2017). After the German government proposed a vaccine against human papillomavirus (HPV) in 2007, a number of scientists and experts in the field published an article highlighting skepticism about the HPV vaccine and questioning the effectiveness of the vaccine outcomes. Although these announcements were soon disclaimed, an emotional public discourse in the media continued. Media coverage was largely based on emotional debate rather than actual facts (WTO, 2017). "Only 10% of German websites and 6% of

German newspaper reports presented Case example the correct information about the effectiveness of the HPV vaccine”(Bodemer, 2012, as cited WHO 2017, p. 7). This, in turn, has led to a very low level of HPV vaccination in the country, reaching 25% of the total. Further research showed that one of the key arguments for low HPV vaccination rates was the lack of coverage of the vaccine after its introduction to the public. There was very little knowledge and information about HPV, and people were not aware of its real benefits (WTO, 2017).

On the contrary, a successful case study of Israeli Ministry of Health’s communication campaign in 2013 is a good example of how the Government promoted vaccination among its citizens through strategic communication (WTO, 2021, p. 27). The Government of Israel, in addition to previously imported inactivated polio vaccines, introduced additional immunization activities to prevent further threats of wild poliovirus transmission among vulnerable groups in 2013. Although some groups in society have expressed their hesitation and lack of understanding about this policy, the following government actions allayed public concerns, neutralizing anti-vaccine activities and protests. The main strategy the government adopted was an approach to monitor public opinion on social media and build arguments regarding the vaccine based on the worries and concerns that cause public anxiety. Showcasing real-life examples and stories of those affected by poliovirus that get paralyzed by the lack of widespread immunization, soon eliminated protests against vaccination.

Armenia

The existing attitudes towards vaccines in general may help predict overall public attitude towards COVID-19 vaccines. The situation with the public acceptance of vaccines in Armenia is somewhat controversial. On the one hand, according to the research, Armenia falls into the “24 countries with the lowest levels of reported vaccinating”. However, the statistical analysis showed that only 21% of respondents do not consider vaccines safe, 12% believe that it is ineffective, and another 12% of respondents think that vaccines are not important for children to have. These results, compared with other countries, such as France, Switzerland, Russia, are optimistic (Monitor, 2018). In addition, statistics show that in Armenia every tenth child under the age of 3 is not vaccinated. This is a positive result, providing national immunization coverage of up to 95%. More worrisome results relate to additional vaccinations, which only cover 73%. This includes hepatitis B at birth, two doses of rotavirus, four doses of diphtheria-tetanus-pertussis, and polio (Ulikhanyan, 2018).

Therefore, the picture in Armenia seems mixed. Overall, child vaccination is more common than in many other countries, but there is skepticism towards non-mandatory vaccines stemming from concerns about their safety and usefulness. Clearly, people’s perceptions about vaccines and the willingness to vaccination strongly depend on government communication. The government must make an effort to ensure that people are educated and clearly informed of vaccination, its benefits, and risks. In addition, case studies of Germany and Israel have highlighted the importance of the media, that the government can use this space to address public concerns: disseminating evidence-based stories and information in the media can help build confidence in vaccination.

9. CONCLUSION AND RECOMMENDATIONS

Overall, the Armenian government used both persuasion and enforcement in trying to get the Armenian public to comply with the pandemic safety rules. The persuasion was mostly structured around the message of personal responsibility, combined with reassuring citizens of government's capacity to handle the situation (to avoid panic) and a bit of humor. Unfortunately, it was perceived as underplaying the seriousness of the situation. The enforcement was reasonably successful in curbing the raising numbers in summer. However, people get tired of rules; strict enforcement is possible for a while but not for a prolonged period, as repeated and growing demonstration of public discontent in Europe demonstrates. Moreover, the war severely undermined the government's efforts to contain the pandemic. The current post-war situation makes strict enforcement risky, given the political instability and the gloomy public mood. Therefore, currently the Armenian government is left with few options and needs to carefully balance soft enforcement with redoubled efforts at persuasion, taking into consideration the accumulated experience and the specificities of the Armenian culture in general and the current socio-political context in particular.

Some elements of the Armenian culture exacerbate the risk of virus spread. Hugs and kisses as routine ways of greeting are just as dangerous, probably more dangerous, than handshakes. High importance of family events, celebrations, funerals and so on also makes things difficult. Creative approaches will be needed to transform some of these practices and make them safe.

There is a need to challenge Armenians' mentality regarding the personal space. We are used to being very close to each other in public places. There are also many people who don't like it but remain silent because of prevailing social norms. It is hardly the case that people enjoy inhaling the smell of another person's sweat or garlic breath. Benefits of having more personal space can be explained to the public with advertisement videos that focus on social distance as a safeguard against COVID-19 with extra additional benefits of privacy (for example not exposing your smartphone screen to others).

On the positive side, higher health safety standards in social and cultural practices will mean reduced flu epidemics and reduced risks of devastating pandemics in the future. The next pandemic is most likely not a matter of "if" but a matter of "when."

Previous experience matters. It is important that various government institutions learn from this experience, so that Armenia is prepared and does better next time. According to Stoto (2005), the outbreaks should be regarded not only as crises for the government, but also opportunities to identify problems in public communication and fill the gaps. In the remainder of this section, we present some recommendations as how to better address the current and possible future public health emergencies.

General recommendations

Health experts and scientists as main advocates.

Given the situation in the country and the international experience, we recommend that main deliverers of COVID-19 related information should be non-partisan healthcare professionals and scientists, not government officials. The government's role is still crucial. It needs to create/maintain a central structure for the coordinated response to the pandemic, continue the information campaign and prepare for vaccination. But the government needs to give the visible public front stage to designated credible trustworthy non-partisan experts or maybe even one expert who will become the new face of the COVID-19 resistance and the final push to overcome it. In general, experts' and medical professional's voices in Armenia so far have been somewhat overshadowed by political actors' and government official's voices. Even though government officials often rely on experts, it is not immediately obvious in the communication messages. The balance needs to shift. Experts and doctors need to explicitly drive the communication campaign. A good example of US doctors adding their voice to the anti-pandemic narrative can be found [here](#).

Celebrities as secondary advocates

In addition to healthcare professionals, the anti-pandemic campaign should actively recruit celebrities and public opinion leaders such as musicians, singers, sports celebrities, artists, actors, bloggers, and so on. However, it is important to recruit reliable people, who will not abuse their popularity by endorsing pandemic safety rules one day and then breaking them at some other day. For example, "wear to win" posters could feature well-known people, recognizable by the majority of the population. Once vaccines start arriving in Armenia, celebrities could be shown to vaccinate. Opinion-leaders can be asked to share a personal story of what they do to slow the spread of the pandemic.

Traditional communication channels: public TV and radio

During TV news broadcasts one can often see people interviewed by journalists not wearing masks or wearing them incorrectly. At least the public TV stations can be asked to be more cooperative and attentive in this regard, reinforcing the importance of mask wearing or keeping a clear distance while in public. We need to create a visual dominance of everyone wearing masks, so the one not wearing it would look like an outlier. At the moment, unfortunately, it is the other way around: the few people who wear masks correctly look like outliers.

The potential of TV and radio talk shows can be utilized more. Host medical experts on public radio and television programs to discuss the risks of the third wave of COVID-19, the importance of vaccination, the heavy toll of the pandemic the country has already sustained, possible future developments, how to avoid more damage to the society and the economy and so on. Engage experts more in such discussions. It is particularly important to debunk myths and conspiracy theories around COVID-19. It is also important to show positive examples of countries, societies and communities successfully coping with the pandemic to confront fatalism, pessimism and a sense of helplessness among the public.

Storytelling can be used for increasing people’s awareness about the seriousness of the virus. Short videos for up to 5 minutes can be produced including the life-stories of individuals who have already suffered from COVID-19 or who have lost their family members and relatives because of the pandemic. Such stories can be aired on public TV weekly. By sharing their experiences, the protagonists can have emotional appeal to the society, which may increase people’s understanding regarding the seriousness of the pandemic.

New communication channels: The Internet and social media

Social media is hugely important nowadays and has been utilized to transmit pandemic-related information. Unfortunately, social media is a double-edged sword. The Internet and the social media have been used just as intensively to spread conspiracy theories and false information about the pandemic and the vaccines. The government needs to monitor social media and address misinformation by explicitly debunking it. For example, [Taiwan](#) has such a strategy, using humor to confront COVID-19 related misinformation.

A major limitation of social media is its ‘echo-chamber’ structure: people see things on social media based on their previous browsing and ‘liking’ history, gradually being more and more enclosed into a ‘bubble’ that corresponds to their existing views and preferences. Therefore, recruiting diverse celebrities and opinion leaders for the anti-pandemic campaign in general, and vaccination campaign in particular, is very important because a diverse team of information providers has a higher chance of reaching more of those diverse social media ‘bubbles.’

Comprehensive communication

Part of the problem is that the world is still learning. Some of the previous communication inconsistencies were caused by the objective reality of changing information about the virus (gloves/no gloves; masks/no masks; just anything to cover your mouth vs. proper mask, immunity after getting sick vs. small risk of second infection and so on). This created problems everywhere. But it had/has to be explained. World knowledge about the pandemic is growing and changing rapidly, mistakes were/are inevitable; some changes in what is advised to do are unavoidable. The small but unavoidable uncertainty of information about the pandemic needs to be explicitly acknowledged. We know much more about the pandemic than we did one year ago, but we still don’t know everything; new knowledge is still emerging and we are asked to adjust our behavior accordingly. People need to be mentally prepared to accept that changing rules are normal.

At the same time, it is important to explain the decisions made. For example, currently in Armenia people don’t understand the logic why restaurants are open but schools are only partially open.

Effective public communication needs to take into account the diversity within the Armenian public. Messages should be tailored to specific groups and delivered by various agents, based on their credibility within specific circles and sub-communities.

Strategic communication

In this section we compiled various suggestions on what specifically pandemic-related communication could/should focus on, trying to keep the discussion as broad as possible. We do not claim a good communication strategy should include all of those. In fact, that would hardly be possible and could result in a confusing diversity of messages. Instead, we propose to treat this section as a large ‘menu’ of various ideas, to be chosen from.

- Consider following other countries’ example (New Zealand, European Union) of having a simple, color-based system of level of threat in the country overall and in separate regions/communities (red/yellow/green), if possible. This visualizes the level of seriousness for the population, but also gives people a ‘goal’ (to go from red to yellow for example) and a prospect of change, possible improvements and ‘rewards’ that come from going from yellow to green. The ‘greenest’ communities can be acknowledged and praised, re-enforcing community spirit and emphasizing that the pandemic needs to be confronted together, not just through individual actions.
- Re-enforce the positive messages. For example, focus on people wearing masks: praise them, thank them. Narrate positive stories about people who were exposed to serious infection risk but did not get sick because they followed all the rules.
- Some communication messages can be focused on healthy life style overall as important. This goes beyond COVID-19 and helps people remain healthy, minimizing the risk of other illnesses. Such messages could emphasize personal hygiene (hand washing, how to sneeze, etc.). A good example is [Germ Defense](#) website.
- Target young people. They believe they will not get infected, or if they do, they will have it easy. They need to understand that they are just as likely or even more likely, to become the transmitters if they do not behave responsibly.
- Confront the fatalism, explain the concept of probability. People say, “if I am to get infected, I will get infected, regardless of whether I wear a mask or not.” There is a need to persuade people that keeping anti-pandemic rules lowers the risk considerably. At the same time, it is important to communicate that keeping the rules is not a 100% guarantee.
- Build a narrative of doctors being tired and needing help. Bring in some emotions of how the pandemic takes a toll on their mental and physical health. Make it personal. Combine rational narrative (figures, statistics) with emotional narrative of exhaustion and loss.
- Acknowledge the loss. With the permission of families, share stories of real people who lost their lives because of COVID-19. Stress how these people still had so much to contribute to our country and community, how this is a loss that could have been avoided if each of us did our part in protecting each other. Be extra careful not to blame or stigmatize anyone in particular, but show the devastating effect the virus had in people’s families, and how hard it is to overcome the pain in light of the post-war situation.
- Along the same lines, a COVID-19 victims’ memorial space can be created online or in a physical place/space. Those who want can contribute pictures and/or stories of their loved ones who lost their lives because of the pandemic. Acknowledging the

grief and loss will highlight the human tragedy behind the statistics and will prevent us from collectively ignoring the issue. COVID-19 tragedy was/is overshadowed by the war tragedy, but it is a human tragedy of similar proportions; it deserves to be acknowledged and remembered.

- Provide most up-to-date scientific information about immunity. If you had COVID-19 once, it is unlikely but possible to have it a second time. It is also not yet clear whether people who had it can become carriers and transmitters again, without getting sick. Everyone should continue to exercise caution.
- Visualize as much as possible. For example, this [video](#) is a visual representation of how COVID-19 influences our lungs and what disastrous effect it can have on our health. It can have emotional appeal on people. The feeling of fear, which will be imposed on the society with the help of this type of explanatory videos can force people to be more cautious and start worrying not only about contracting the virus but also transmitting it.
- For shaping people's perception about mask-wearing, short and simple reports can be prepared in Armenian, including findings of studies conducted by credible international organizations/entities, which provide evidence about the effectiveness and usefulness of mask-wearing. The reports should include visuals, as long texts will not attract people's attention. The reports should be spread via social media, radio, TV, and Armenian well-known influencers.
- Possible communication messages:
 - "If you are not part of the solution, you are part of the problem."
 - "One in X people in your social melee will die if this goes on"
 - "Covid is not a joke. X lives have already been lost"
 - "The shame is not in wearing a mask. The shame is in not protecting others, not thinking about them, being an egoist"
 - Even imperfect compliance with anti-pandemic measures is better than nothing. Therefore "Every little bit that you can do, can and will help,"
 - "You are not worried about Covid because you are healthy and will have it easy. But what about the people you WILL pass it on? Is it fair to them that YOU will get them infected?"
 - "We can all do our bit to stop the virus"
 - "If we all try to imagine that we might be carrying the virus and do everything we can to avoid passing it on, then we can reduce the risk for everyone."
- An example of a personal story that can be used to inspire others. "When my relatives and friends come to my home if they don't somehow wash their hands before touching something I ask them to wash their hands. Then after spending some time if we want to eat something and approach the table, and if they don't initiate washing hands, I ask them to do so. Usually they are surprised saying 'but what I have done, look at my hands, they are clean.' My response is this, 'ok, you only feel that way, the reality is different, since, for instance, you touched your cell phone (or any other thing that I detect they touch).' This sometimes happened with my uncle, and usually I was saying 'your phone was in your pocket, and there you have also money, which is

dirty, so your cell phone is also dirty, am I right?’ He was reluctantly agreeing with me in the past, but now there is no problem.”

Vaccination-related recommendations

- Set up a vaccine-related communication platform, such as a website and/or a social media site. Start populating it with credible information. Include examples from history (vaccination helping to eradicate or substantially reduce a disease) and current examples of vaccination underway in different countries, emphasizing how it helps slow the spread of the disease. The risks of vaccination should also be honestly acknowledged.
- Actively debunk conspiracy theories about COVID-19, about vaccination in general and about COVID-19 vaccinations in particular, using credible speakers, such as well-known scientists. Sometimes humor can be helpful, but it needs to be used in a measured way. Guidelines on how to talk with conspiracy theorists can be found [here](#).
- Be prepared for the initial resistance to vaccination. Some people will be wary. Evidence from public opinion in [Ireland](#) suggests that as the vaccination program progresses, people’s reluctance to vaccinate decreases. Hard-core anti-vaccine people will be hard to convince. Focus on those who are undecided and can be persuaded.
- Recruit various opinion leaders to promote vaccination: scientists, popular cultural figures of various ages (actors, artists, singers, intellectuals), political figures. Work with the political opposition in advance. Ideally, notable opposition leaders should also promote the vaccine. It would be a litmus test for the political opposition to see if they are willing to put political differences aside for a while and work for the benefit of the public.
- Some people trust the Russian vaccine, some trust the “Western” vaccine. If possible, have several types of vaccines available and give people a choice. That would increase trust.
- Give small symbolic rewards to those who get the vaccine. A ribbon, a pin, a certificate of being a “responsible citizen” or a “caring person” or a “pandemic preventer.”

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APPENDIX A: SURVEY QUESTIONNAIRE

COVID Pandemic: Information and Behavior

Hello. American University of Armenia is conducting a survey about COVID-19 related information and behavior of the Armenian population. The survey is anonymous; the information you provide will be used only in a general format. Thank you in advance for participating.

***Attention:** 50 participants will be chosen randomly (by a computer) from among all those who complete the survey. Those 50 participants will receive 10,000 AMD charged to their phones. After selecting the 50 winning numbers and transferring the reward, all the numbers are deleted immediately from the database, without making them public in any way or transferring them to any person/organization. The summary of the results and the information about the rewards will be published to the website of American University of Armenia Center for Business Research and Development in an anonymous but responsible and transparent format.*

D1. Gender:

1. Male
2. Female

D2. Age: _____

D3. Education Level:

1. Elementary
2. Basic
3. Secondary/high school
4. Pre-professional (crafts)
5. Secondary professional
6. Bachelor
7. Master
8. Five years of higher education
9. Postgraduate (PhD and similar)

D4. In what region do you live?

1. Yerevan (go to D6)
2. Aragatsotn
3. Ararat
4. Armavir
5. Gegharkunik
6. Kotayk
7. Lori
8. Shirak
9. Syunik

10. Tavush
11. VayotsDzor

D5. Type of your residency:

1. Urban
2. Rural

D6. What was the total amount of your net (tax-deductible) cash income last month? Which of the following groups does it fit? Please consider all your sources of income for the past month.

1. No income
2. Up to 92,000 AMD
3. 92,001- 120,000 AMD
4. 120,001- 180,000 AMD
5. 180,001 - 500,000 AMD
6. 500,001- 1,000,000 AMD
7. More than 1,000,000 AMD
8. Hard to answer
1. 9. Refuse to answer

Q1 How high is the risk that you will be infected with COVID-19?

1. Very high
2. High
3. Low
4. Very low
5. Don't know
6. Hard to answer

Q2 How high is your risk of transmitting coronavirus infection to others?

1. Very high
2. High
3. Low
4. Very low
5. Don't know
6. Hard to answer

Q3. What preventative measures do you take against the coronavirus disease? (Choose up to 3 most relevant options)

1. Leave my home for absolute necessities
2. Keep a distance of 1.5 meters between myself and other people whenever outside
3. Avoid crowded places
4. Regularly wash/disinfect my hands

5. Wear a mask
6. Wear gloves
7. Follow government guidelines
8. Avoid touching my face with my hand(s)
9. None of the above

Q4. Do people in your surroundings wear masks while being outside among other people?

1. Almost no one wears a mask
2. Some do, the majority does not
3. The number of those wearing a mask and those who do not is equal
4. The majority wears a masks
5. Almost everyone wears a mask
6. Hard to answer

Q 5. According to you, why do people not wear masks or wear them wrongly in public places? (Choose up to 3 most relevant options)

1. Not enough money to buy a mask
2. Are inattentive or careless
3. Wearing a mask is inconvenient
4. Do not think that masks are helpful
5. Are not afraid of being infected
6. Are not afraid of infecting others
7. Are ashamed
8. Other, (please specify)
9. Hard to answer

Q 6. If you see a person without a mask in a shop or in other closed public places what will you do? (Choose up to 3 most relevant options)

1. Will keep a distance
2. Will ask that person to wear a mask
3. Will ask employees to intervene
4. Will take a photo/video and will inform authorities
5. Will take a photo/video and will share in social media
6. Will leave the place
7. Will do nothing
8. Other (Please specify)
9. Hard to answer

Q7. What sources do you mainly use to receive information about the pandemic (list up to the 3 most relevant options)?

1. Armenian TV channels
2. International TV channels
3. Armenian radio channels
4. Armenian online news agencies
5. International online news agencies
6. Social media pages of Armenian officials
7. Social media pages of Armenian state institutions
8. Non-state authorities on social networks
9. Family/friends/relatives/neighbors
10. Armenian medical and healthcare experts
11. International medical and healthcare experts
12. Other (please specify) _____
13. Hard to answer

Q8. Is there any other source you would like to receive information about the pandemic?

Q9. Whose statements about the pandemic do you trust the most?

1. Minister of Healthcare ArsenTorosyan
2. Prime Minister Nikol Pashinyan
3. Vice Prime Minister Tigran Avinyan
4. Epidemiologist Arman Badalyan
5. Political opposition figures of Armenia
6. Other medical or healthcare professionals you know
7. Other knowledgeable individuals in your milieu
8. Social media influencers
9. Other (Please specify) _____
10. Hard to answer

Q10. How would you describe the pandemic-related information provided by the Government of the Republic of Armenia?

| | | | | |
|---------|---|---|---|----------------|
| 1 | 2 | 3 | 4 | 5 |
| Obscure | | | | Understandable |

| | | | | |
|---------------------|--------------|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| Complex/Complicated | | | | |
| | Clear/Simple | | | |

| | | | | |
|---------------|---|---|---|---------|
| 1 | 2 | 3 | 4 | 5 |
| Contradicting | | | | Precise |

| | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|

Unrealistic

Practical

1

2

3

4

5

Scarce

Sufficient

Q11. To what extent do you agree with re-imposing severe restrictions or travel restrictions if the number of people infected with the COVID-19 in Armenia continues to grow significantly?

1. Strongly disagree
2. Rather disagree
3. Rather agree
4. Strongly Agree
5. Hard to answer

Q12. In your opinion, what should be the fine for not wearing a mask?

1. Up to 5,000 AMD
2. 6,000 - 10,000 AMD
3. 11,000 - 15,000 AMD
4. 16,000 - 20,000 AMD
5. 21,000 - 50,000 AMD
6. More than 50,000 AMD
7. There is no need for a fine
8. Hard to answer

APPENDIX B: EXAMPLES OF COMMUNICATION MATERIAL WITH SHORT ASSESSMENT

Feb. 3, 2020 by the Ministry of Health RA

https://www.youtube.com/watch?v=VldKh0SzcOE&feature=emb_title the video explains what is coronavirus, what are the symptoms, what to do if a person experiences at least one of the listed symptoms and how to avoid contracting the virus. Nothing is mentioned about mask-wearing or its effectiveness.

March 13, 2020 by the Ministry of Health RA

https://www.youtube.com/watch?v=fdlJOaDyRQ0&feature=emb_title this one was prepared by the Ministry of Health RA and released in March. The content mainly refers to where NOT to travel and what to do if someone has returned from a list of particular countries, which at that time had high rates of COVID-19 cases. This ad spreads an undermining message about mask-wearing practice because the video mentions that people CAN wear a mask in the cases when they get in contact with people having respiratory infections. So, from February till mid-March there are no messages prepared and disseminated by the ministry of health about the mandatory wearing of masks or the effectiveness/usefulness of mask-wearing practice. The tone of the message is advisory not mandatory, so the audience may not pay attention to it and ignore the COVID-19-related preventative measures.

April 25, 2020 by the Ministry of Health RA

https://www.youtube.com/watch?v=RKkasglmn7I&feature=emb_title can be considered a good one, as it shows how to properly practice preventative measures in the medical institutions e.g. how to remove gloves safely, how to wear masks properly. However, the video refers only to medical experts and staff.

April 29, 2020 by the Ministry of Health RA

https://www.youtube.com/watch?v=zVc0eyLZjOo&feature=emb_title the main protagonist of the ad is an epidemiologist explaining how to practice COVID-related preventative measures. Compared to other COVID-19 related ads this one is more credible, wearing face-masks is presented to be an essential and required thing to do.

April 30, 2020 by the Ministry of Health RA

https://www.youtube.com/watch?v=Lw1Ixs4RKQI&feature=emb_title the video presents 10 steps that help prevent the spread of the virus. However, there is a contradiction between this ad and in the previous one, because in the 10 steps essential to counter the spread of the coronavirus wearing a mask is not mentioned, while in the previous video released on April 29, 2020 the epidemiologist encourages wearing a mask and talks about its usefulness.

May 23, 2020 by the Ministry of Health RA

https://www.youtube.com/watch?v=4I4XqRGP4qM&feature=emb_title a good ad

presenting how to use masks, how to remove them safely. However, there is a controversy present, as in the first part it is recommended that people can also use self-made masks in parallel with the medical ones but later at the end of the video the effectiveness of wearing self-made masks is questioned. So, there is inconsistency in the message regarding types of masks and it undermines the credibility of the ad.

June 10, 2020 from the Ministry of Health FB page

<https://www.facebook.com/ministryofhealthcare/photos/a.1455069768067481/2661542654086847> fact-based information about how the key preventative measures can help people to avoid contracting the virus. Credible and easy to remember.

July 2, 2020 from the Ministry of Health FB page

<https://www.facebook.com/ministryofhealthcare/photos/a.1455069768067481/2681364002104712> this poster presents some facts about the usefulness of the mask and overall mask wearing. The idea is good and credible, as the poster clearly presents fact-based information about how mask-wearing practice decreases the risk of both transmitting the virus and contracting it. However, it is somewhat complicated e.g. the viewer needs to read the content a few times in order to understand it.

December 2, 2020; retrieved from the FB page of the Ministry of Health RA.

<https://fb.watch/37ykaxfweC/>

This is a good example of government communication. In addition to official news reports, various platforms are used to educate people about the risks of virus transmission, and the side effects of using antibiotics without doctors' prescription to treat COVID-19. Medical experts are involved.