


An Analysis of Government Communication in the United States During the COVID-19 Pandemic: Recommendations for Effective Government Health Risk Communication

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Governments throughout the world can learn many critical lessons from examining instances of ineffective communication with the public during the global coronavirus disease (COVID-19) pandemic. Ineffective government communication has resulted in a great deal of public confusion and misunderstanding, as well as serious errors in responding to this evolving health threat, leading to disastrous health and social outcomes for the public and prolonging the pandemic, especially within the United States. This article uses systems theory as a template for analyzing government communication in the United States during the COVID-19 pandemic, providing governments with recommendations for establishing effective health risk communication strategies for use with the public. The communication strategies offered here promote the delivery of relevant, accurate, and sensitive information to key public groups, minimizing communication noise to guide desirable coordinated actions. These communication strategies can be applied locally, nationally, and internationally.

KEY WORDS: health risk communication, government communication, pandemic, strategic communication, systems theory

Introduction

Over recent years, the world has experienced an increasing number of national and global pandemics such as SARS (2003), H1N1 Flu (2009), MERS (2012), Ebola (2014), Zika virus (2016), and now COVID-19 (2019). Although concerns about such pandemics have escalated, government preparation for the current public health crisis has often been haphazard and largely insufficient due largely to confusion, instability, misinformation, and poor planning, which have led to serious mistakes in responding to the COVID-19 pandemic. This article contends that effective government communication performs major roles in successfully responding to pandemics. The more challenging the pandemic is, the more attention needs to be focused on effective government communication.

Abundant evidence exists from the past few decades that many local, national, and international governmental agencies have made serious public communication errors in responding to complex public health emergencies, disseminating

inconsistent, incorrect, and contradictory messages (Gamhewage, 2014; Kreps, Alibek, Neuhauser, Rowan, & Sparks, 2005; Rowan, Botan, Kreps, Samoilenko, & Farnsworth, 2008; Taylor-Clark, Viswanath, & Blendon, 2010). For example, on April 3, 2020, the number of confirmed positive cases of COVID-19 in the state of Louisiana reported on the Center for Disease Control and Prevention's Coronavirus Cases & Last Updates website was listed as 6,424, while the number of cases updated by the Louisiana State Office of Public Health on the same day was listed as 9,150 (Centers for Disease Control and Prevention, n.d.; Louisiana Department of Health, n.d.). This huge (almost 30%) discrepancy between the federal and state presentations of important health data represent serious communication problems within these government systems concerning the COVID-19 emergency. This is only one of many government communication problems that have occurred across multiple countries. The cacophony of communication errors not only indicates the failure of governmental systems, which greatly undermines public trust in the government but also drastically increases public fear and confusion about the COVID-19 health risk.

During the governmental response to COVID-19, news media in the United States often reported tensions between the president's office and top federal health advisors about how to evaluate and respond to the COVID-19 situation (e.g., Baker, Haberman, & Glanz, 2020; Haslett, 2020). Uncooperative and poorly coordinated government communication and response activities by these interdependent agencies led to emotionally charged conflicting perspectives and reactions between federal and state government leaders concerning the pandemic (Miller, Colvin, & Superville, 2020; Skidmore, 2016; Subramanian, 2020). Such conflicts within governmental agencies are key factors that often trigger social disorder, and in the United States, sparked increased societal hostilities between public sectors with different political orientations, inadequate efforts to reduce health risks and avert negative health outcomes (illness, suffering, and deaths) during the COVID-19 crisis situation. The important role of government to unify and motivate public groups is crucial during national emergencies to promote health risk prevention, response, and recovery from severe damage (Kreps et al., 2005; Seeger et al., 2018).

As governmental power increases during national public health emergencies, effective government communication becomes increasingly essential for combating pandemics and stabilizing society (Huang, 2020). Effective government communication performs a major role in informing key public audiences (including first responders, groups at greatest risk, health-care providers/health officials, media representatives, law enforcement personnel, and the general public) about impending threats and best practices to minimize harm during emergencies. This involves internal government communication within and between government agencies and external communication with the public, the media, and other organizations, as well as with representatives of other countries who share similar health risks. Due to the interconnectedness of these different groups and organizations, government communication must be highly effective and well coordinated to provide the best available information and advice to help manage pandemics. If government leaders do not communicate effectively in response to local, national,

and global public health threats, society inevitably becomes chaotic and anarchical as people experience fear and instability due to limited reliable information and recommendations for responding meaningfully to the crisis. It appears that many of these kinds of government communication failures have occurred during government responses to the COVID-19 pandemic throughout the world. Based on the systems theory framework, this article analyzes government communication during the COVID-19 pandemic and provides recommendations for establishing effective health risk communication strategies with the public.

Systems Theory and Government Communication During Pandemics

On the basis of the importance of government communication, we provide a critical case study analysis of government communication during the COVID-19 pandemic. This case study identifies government communication problems that occurred during the COVID-19 pandemic and suggests health risk communication strategies that should have been implemented to avoid the identified problems. Our analysis employs a systems theoretic framework for evaluating government communication during the COVID-19 pandemic that suggests effective government health risk communication strategies for future pandemics (Kreps, 1990, 2009; Poole, 2014; Von Bertalanffy, 2010; Weick, 1979).

Systems theory is a rigorous multidisciplinary meta-theory for describing complex organizational processes communicated to achieve important survival goals (Von Bertalanffy, 2010). Systems theory recognizes organizations as living organisms. The unit of analysis in systems theory is on holistic functional groups (systems) instead of individuals within organizations. Based on this shift of analytic scope, a system refers to interrelated functional elements that must be coordinated to achieve goals of the system (Poole, 2014; Von Bertalanffy, 2010). This perspective underlines the importance of communication between systems and constantly changing environments. Systems theory is used to evaluate how organizations coordinate important internal and external communication activities to adapt to changing conditions and demands (Kreps, 2019, 1990; Poole, 2014). Our analysis applies key principles from systems theory to examine how government systems have used communication to coordinate relevant health risk responses during the COVID-19 outbreak. The specific principles we use to guide our analysis include system transformation, openness, interdependence, negative entropy, equifinality, and requisite variety.

The Systems Principle of Transformation

Systems transformation refers to a three-phase consecutive and repetitive sequence of activities that are crucial to system adaptation and survival, especially when overcoming serious system threats, such as the challenges to countries from the evolving COVID-19 pandemic. The transformation sequence involves communicating effectively concerning (i) system inputs, (ii) system processes, and (iii) system outputs. Organizing activities involve making sense of critical input

conditions and processing these inputs strategically to provide the best solutions (outputs) for responding to challenging situations (Weick, 1979). The U.S. government response to the COVID-19 pandemic demonstrates a breakdown in the system transformation process with slow and haphazard sensemaking and response to the health threat, despite available information that this dangerous new virus had already rapidly infected and killed many people in other countries before spreading to the United States.

The Systems Principle of Openness

The system transformation problem that occurred in the United States relates to a similar violation of the systems principles of *openness* that explains that systems should be connected to and share relevant information (and resources) with relevant external systems, especially during times of danger. The system principle of openness examines the need for communication to balance the exchange of information and resources both internally and externally. Internally, the system needs to provide direction and promote coordination between key subsystems. For example, during a pandemic it is crucial for the government to provide the needed resources and policy recommendations to different jurisdictions within the country to combat the virus. Information and resources also need to be exchanged between countries confronting the pandemic. Governments that focus great attention on communication across system boundaries are seen to have relatively open systems, while those who do not actively share information across boundaries have relatively closed systems. Based on this systems theory perspective, it is best for systems to maintain a productive homeostatic balance between openness and closedness depending upon the conditions being faced (Almaney, 1974; McMillan & Northern, 1995). Even though information about the pandemic was available, U.S. government leaders did not acknowledge the serious warnings, failing to follow the principle of system openness by acquiring and mobilizing needed medical equipment (such as ventilators and protective face masks), hospital space, and other needed resources. Nor did leaders in the United States and many other countries sufficiently seek needed expertise from medical researchers, public health experts, vaccine and medicinal researchers, health-care system administrators, and medical equipment manufacturers. As a result, these countries were largely unprepared for responding to the COVID-19 pandemic, leading to much higher rates of infection and death. Without accessing and acting upon adequate information and planning about the health emergency from other countries, the U.S. government procrastinated enacting needed policies and programs to address the health emergency and paid a huge price in terms of both health and economic outcomes. Due to these failures with system inputs and processes, the health and social outputs from the pandemic have been deficient, with tremendously high rates of infection and mortality in the United States compared with every other country affected by the pandemic.

The Systems Principle of Interdependence

Interdependence is a crucial system attribute describing coordination of important activities both internal to the system and externally to accomplish organizational goals. The need for collaborative coordination between countries and sectors of society are crucial during a pandemic to promote sharing of relevant resources and expertise to reduce serious health threats. The United States could have benefitted from much better-interconnected coordination with other countries, especially those countries where widespread contagion from the virus was prevented, to develop and communicate strategies that can effectively curtail the spread of the virus. However, this did not occur consistently in the United States and many other countries in their responses to COVID-19. They failed to collaborate with one another and share information and prevention strategies that had proved effective in other countries. Not only were prevention strategies that were used effectively in other countries not initiated immediately in the United States, some of those strategies still have not been implemented, as the rate of infection and death from the virus has exploded rapidly.

The Systems Principle of Negative Entropy

Negative entropy refers to the degree of order in an organization or system as opposed to entropy. Negative entropy is the process of actively resisting threats of disorganization through degradation by continually building responsive policies and programs to strengthen system infrastructure and responses. The rapidly escalating rate of infection and death in the United States illustrates the failure to achieve negative entropy. In terms of negative entropy, the U.S. government, as in responding to any pandemic, needed to develop viable policies, programs, and resources for disease risk identification, prevention, and response to adequately prepare for potential pandemics and other major public health threats (Gamhewage, 2014; Kittler, Hobbs, Volk, Kreps, & Bates, 2004; Kreps et al., 2005; Rowan et al., 2008; Taylor-Clark et al., 2010; Vanderford, 2003). For this express purpose, the Global Health Security and Biodefense Unit was established in 2015 by the U.S. federal government as part of the National Security Council after the Ebola epidemic of 2014 to prepare for and prevent potential new national disease outbreaks. However, this important system infrastructure program was diminished in 2018 during the new presidential administration in the United States, leaving the country less prepared to respond to the COVID-19 pandemic. This is a clear example of a systems failure to resist entropy by keeping public health resources strong and alert to prevent and respond to serious health threats. Similarly, fluctuating trends in federal funding for public health and health-care programs in the United States has eroded many important public health and emergency response programs, including within the centers for disease control and prevention and FEMA, promoting entropy. As a result, the United States became more vulnerable to the current pandemic (Abelson, Priest, Sullivan, & Dungca, 2020).

The Systems Principle of Equifinality

The systems theory principle of *equifinality* recommends the need for developing responsive adaptive strategies to the unique situational demands of different challenges to achieve system goals, explaining that there are many potential creative solutions that can be used to address unique problems that systems face. Building upon systems theory, contingency theory posits the importance of organizational adaptability to environmental changes and emphasizes flexibility in the organizational management system (Doty, Glick, & Huber, 1993; Gresov & Drazin, 1997; Sine, Mitsuhashi, & Kirsch, 2006). Burns and Stalker (1961) represents on a continuum how organizations should flexibly change management systems depending on changes in the external environment. One end of the continuum is the *mechanistic system*, and the other end is the *organic system*. The mechanistic system is optimal when the environment is stable and, therefore, predictable. Under a stable environment, organizations function better in the management system that has a vertical (hierarchical) communication structure, centralization in decision making, and clearly defined roles for each member's job and division in the organization. In volatile situations a more organic system stresses creative responses, utilizing both horizontal and vertical communication, encouraging lateral consultation instead of vertical commands. Organizations with less formal structures outperform more formal structured organizations when responding to turbulent emergencies, such as pandemics (Burns & Stalker, 1961; Lawrence & Lorsch, 1967; Sine et al., 2006). Accordingly, government communication during the COVID-19 pandemic needed more adaptivity to promote the required innovation and cooperation. The U.S. government violated the principle of equifinality and contingency theory by failing to adopt creative and responsive strategies to address the coronavirus threat. Rather, the U.S. federal government repeatedly downplayed the risk from the coronavirus, telling the public that the viral risk would probably just go away on its own if we just waited (Bump, 2020). Critical reports from the major news media, such as the *New York Times*, the *Washington Post*, and the *LA Times* have linked this long lapse in enacting creative new federal responses to the pandemic as being directly responsible for the high levels of infection and death from the virus that the United States has experienced (Blake, 2020; Cloud, Pringle, & Stokols, 2020; Lipton et al., 2020).

The Systems Principle of Requisite Variety

The systems principle of *requisite variety* describes complexity as a key factor in determining effective system responses to challenging problems, suggesting that the more complex and unpredictable problems are, the more that comprehensive strategies are needed to effectively respond to these problems (Weick, 1979). When government systems encounter highly equivocal challenges that are novel, unpredictable, and difficult to control (like the COVID-19 pandemic), they need to develop intricate matching responses to these challenges that take all of the complexities of the problem into account. The intricacy of the response must match and

counter the complexity of the problem to address the problem effectively. However, the U.S. government has not followed the principle of requisite variety in responding to the COVID-19 pandemic. Instead of matching the complexity of this deadly health risk with an in-depth multipronged comprehensive national response, top government leaders downplayed the threat, and did very little in response. The government missed essential early opportunities to prevent the spread of the fast-moving virus by underestimating the complexity of the challenge and failing to implement aggressive testing, tracking, prevention, treatment, and research strategies needed to address this pandemic. Government communication that should have diminished the danger from COVID-19 instead provoked a great deal of social controversy and contributed to the worst rates of infection and death from the virus than any other country. Now, the rush to end public prevention regulations by prematurely reopening businesses and social life before the risk of COVID-19 contagion is significantly reduced will violate requisite variety again, inevitably leading to increased infections and deaths from the pandemic.

Strategic Government Communication for Responding to Pandemics

To promote the effectiveness of public health policies on pandemic response and planning, researchers have consistently underscored public involvement and engagement (e.g., Abelson et al., 2003a, 2003b; Keystone Center for Science and Public Policy, 2005, 2007). For such public involvement and engagement for policy establishment and initiatives, communication appears to be central to connect the public and policy decision makers for collaboration and collective actions. In particular, effective communication reduces mismatches among needs of the public, policy intent, and outcomes, and simultaneously enhances the effectiveness of pandemic preparation, management, and recovery. Highlighting the importance of communication, this section of the article explains how the public perceives and reacts to a pandemic from a grassroots approach and identifies government communication problems in delivering information and guiding people to rational behaviors during the COVID-19 pandemic.

Initially, when a public health crisis begins, the public first receives the news usually through news media and listens to what journalists report about the crisis. As the level of risk perception varies by individual, some perceive the early reports more severely and feel it more personally, while others perceive it less seriously. Although many factors have been identified as being influential to individuals' risk perceptions, a great amount of research has found that risk perception varies by previous experience (Fielding et al., 2005; Trumbo & McComas, 2003; Wachinger, Renn, Begg, & Kuhlicke, 2013), age (Brewer et al., 2007; Walter, Böhmer, Reiter, Krause, & Wichmann, 2012), gender (Finucane, Slovic, Mertz, Flynn, & Satterfield, 2000; Krewski et al., 2006), and education level (Chauvin, Hermand, & Mullet, 2007; Rundmo, 2002). In addition, people with a higher level of risk perception are more likely to show more appropriate preparedness to a future public health crisis (Savoia, Lin, & Viswanath, 2013).

At the early period of a public health crisis, especially with an infectious disease, it is important for the government to predict whether it develops as a pandemic or not, and provide the public with possible scenarios of governmental and public actions in a transparent manner. As repeatedly reported, many countries failed in appropriate early responses to COVID-19, and governmental leaders misguided the public by their intentional or unintentional ignorance or downplay of early symptoms of the pandemic (Horowitz, Bubola, & Povoledo, 2020; Poznanski, 2020). The failure of appropriate early responses to the global pandemic caused unpredictably large damage in many countries.

Once individuals feel the urgency of response to a public health risk, they try to seek information they need to make decisions for their individual responses or behaviors. As opposed to the past when people only had limited sources of news and information, such as television and radio, people nowadays have more sources of information as the Internet and mobile communication technologies have developed. Diverse information sources definitely deliver more information to individuals, but it often causes the spread of incorrect and biased information, and selective information processing and sharing among people (Shin & Thorson, 2017). When an individual is exposed to too much information (information overload), it is less likely that the individual will be able to choose correct information among many and, often, contradicting messages. For example, in the early period of the COVID-19 pandemic, people were confused as to whether they should wear masks or not because information from different communication channels provided different recommendations. While most Asian governments required the public to wear masks from the beginning of the pandemic, governments in Western countries disagreed with wearing masks until they faced a vertical increase in the numbers of people who became infected.

Especially when messages disseminated through diverse communication channels are politicized, individuals' information-seeking behaviors become more likely to transform into information sharing only with the members of a homogeneous group, which endangered efforts to prevent and control the COVID-19 pandemic in many countries. During a pandemic, such information-sharing just within a relatively insular (political) group without active and comprehensive information-seeking transforms a public health crisis into a political crisis, separating people by their political orientation, instead of working together to overcome the public health crisis (Skidmore, 2016). When public health professionals and medical advisors to the top leaders of many countries warned about the severity and global spread of COVID-19 and asked for urgent preparation at the national level in the early stage of the global pandemic, particularly in January and February 2020, top leaders of many countries often downplayed what the experts suggested, and the public health threats did not garner much governmental attention (Poznanski, 2020). Apparently, those who listened to the experts sought more detailed information about the pandemic and started their protective preparation earlier, while others who followed the leaders who downplayed the warnings could not appropriately respond to the pandemic until the virus spread

uncontrollably in their countries. In a dire public health crisis situation like the COVID-19 pandemic, such politicized information sharing worsens the situation.

Another communication issue that elevates individuals' anxiety with a pandemic is lack of communication channels that enable people to communicate with governmental offices and/or credible public health organizations (Goto et al., 2014). During a pandemic, people often experience explosive information overload coming from many communication channels, such as social media, television, radio, and interpersonal communication with acquaintances (Bawden & Robinson, 2009). The information overload creates critical problems, including missing important information, misunderstanding, selective exposure, emotional and mental fatigue and stress about the topic, and self-blocking of information related to the topic. In a unique or unprecedented situation like the COVID-19 pandemic that produces excessive amounts of information, people certainly have many questions about what they need to do as well as about how the virus threatens public health.

Although the public highly demands interactive communication with governments and authorized public health organizations, most governmental agencies or public health organizations have few communication channels available where a person can individually ask a question and get a credible answer. In other words, in a national public health emergency situation, government and public health organizations too often return to using an authoritative communication system that only allows one-way communication, avoiding questions from the public about what they actually need to know. This pre-modern communication system with little preparation for a public health crisis demonstrates not only neglect of health risk communication, but also disrespect to the public in one of the most important areas—health—of human life, especially when people most desperately need help from the government. For this demand of government response to public inquiries, instead of governmental entities, news media companies played a central role to respond to public inquiries by creating specified question and answer sites on their websites, such as the Wall Street Journal's (n.d.) "Coronavirus: You Ask, We Answer" site and CNN's "You asked, We are answering" (Yan, Andrew, Mahtani, & Kaur, n.d.) sites. But still, few governments throughout the world have established effective interactive pandemic-related communication systems with the public.

Once a pandemic is undeniably and uncontrollably spreading, the public often engages in irrational behaviors to protect themselves and their significant others from the risk. Such protective behaviors include not only actions directly related to the pandemic, but also indirect actions stemming from their unreasonable anticipation of worse situations in the (near) future. When COVID-19 was confirmed as a serious national emergency, many countries observed that people were panic buying large amount of goods, especially hand sanitizer, toilet paper, canned food, and other groceries that were not medically related to preventing or treating a disease, because of their unreasonable and arbitrarily escalated fear of a forthcoming shortage or price increase of goods. Some people were even panic buying

puppies and beer for making life more comfortable for them during the self-quarantine period in their homes (Kahn, 2020; Phillips, 2020).

Racism toward Asian people was another serious problematic and irrational behavior during the COVID-19 pandemic. After it was known that the pandemic first started in China, Asians regardless of their nationalities often faced racial and xenophobic discrimination by non-Asian people in many non-Asian countries. For example, although the U.S. Senate Democrats recently called for federal action on anti-Asian racism regarding coronavirus, non-Asian people in the United States and other non-Asian countries ceaselessly encountered “spit on, yell at, attack” Asians incidents (Tavernise & Opper, 2020), accusing Asians as causes and carriers of the coronavirus. Ironically, the *New York Times* (2020) reported, based on recent studies, that the massive spread of COVID-19 in New York was triggered not by Asians, but by travelers from European countries.

Pandemics are situations of particularly high communication demand. Governments need to actively share information both internally and externally during pandemics to develop innovative new strategies to respond to health threats, calm tensions, and provide direction within their countries (Ratzen, Gostin, Meshkati, Rabin, & Parker, 2020). There have been failures in effectively accomplishing internal and external communication demands during the COVID-19 pandemic. The U.S. government has not coordinated well with other countries and has not communicated well with the U.S. public, failing to provide clear information about how to effectively prevent and respond to the COVID-19 pandemic. Instead, inconsistent and misleading messages from governmental authorities have led to confusion, frustration, and spurred public protests against regulations to prevent viral contagion, such as social distancing.

Recommendations for Effective Government Communication During Pandemics

Based on this system's theoretic analysis of government communication failures during the COVID-19 pandemic, we have reached several key recommendations for establishing effective government health risk communication strategies for similar public health crises:

1. Actively seek and respond to relevant information about impending health crises to identify important risks and the best available response strategies for health emergencies.
2. Develop strong trusted relationships and share relevant information with counterparts from other countries to coordinate responses to health emergencies.
3. Build cooperative relationships and share relevant information with influential groups of people within society who are directly involved in responding to the health emergency.

4. Communicate information clearly and transparently to lead the public to rational and coordinated behavior without confusion, fear, or misunderstanding during the pandemic.
5. Centralize information management to allow the governmental leadership to filter inaccurate information and provide the public with the best scientific information available.
6. Establish information diffusion strategies to control flows and the contents of scientific messages to eliminate any communication noise that may confuse the public.
7. Create a direct communication channel with the public to listen to their needs, questions, and feedback on governmental services.
8. Construct a holistic government health risk communication system that connects the public, local government, federal (central) government, and governments of other countries.
9. Protect minority groups who are discriminated against due to stigma and prejudice related to public health crises, especially a pandemic.
10. Guide public policy decisions to match actual demands based on the most current surveillance data concerning the spread of disease and risks of continuing infection.

Conclusion

Communication is not a precursor to an action, but a substantial action as described in Giddens's (1979) structuration theory. Although the role of government communication policies and actions is crucial during public health crises, especially for members of the public who desperately need accurate information and guidelines to guide their actions, it has been largely ignored in the governmental consideration of public health crisis prevention, preparation, and management. Based on the importance of communication, this article employed systems theory to identify problems of extant government communication with the public in responses to the COVID-19 pandemic and provided theory- and practice-based recommendations for government health risk communication strategies. The recommendations in this article can be applied to all governments throughout the world. However, it is important to ensure that the tree of recommendations cannot bear fruit without actions that should be watered and fertilized with adequate resources and funding. As mentioned above, the world has paid an uncountably high cost to the COVID-19 pandemic, which could have been prevented and responded to much more effectively if governments had more responsive and strategic health risk communication systems. After the COVID-19 pandemic is over, the world should not forget the lessons we have learned about government communication from this global pandemic. We must apply these lessons to effectively prepare for future public health crises that are likely to arise.

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Notes

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