The Importance of Vertical and Horizontal Collaboration: United States’ Response to COVID-19 Pandemic

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COVID-19 has devastated the global community at an alarming rate. Conventional approaches like command and control are ineffective to respond to this pandemic. The complex and interdependent nature of the pandemic demands collaborative efforts among actors across diverse segments and different levels of government. Collaboration is critical during this pandemic because it can enable a more coordinated response, resources can be shared, trust among the parties can be enhanced, and duplication of efforts can be minimized. In this commentary, drawing on the literature on collaboration, we discuss the importance of vertical and horizontal collaboration by examining the U.S. response to COVID-19. This commentary underscores the importance of vertical and horizontal collaboration among all levels of government, private entities, and nonprofit organizations in effectively responding to COVID-19 and ensuring the health and safety of Americans. This commentary concludes by making recommendations for improving both vertical and horizontal collaboration during the current pandemic and future public health emergencies.

Keywords: collaboration, vertical collaboration, horizontal collaboration, COVID-19, public health emergencies

INTRODUCTION

The emergence and progression of the coronavirus 2019 (COVID-19) have created unprecedented challenges to society. Once understood as a local epidemic in a province in China, COVID-19 soon became a wicked problem accompanied by multiple sets of complex and intractable challenges. As of October 22, 2020, there are 41,317,207 confirmed cases, and 1,132,732 deaths in 215 nations and territories around the world (Johns Hopkins Corona Virus Resource Center, 2020). The exponential increase of the cases has overwhelmed medical capacities and health care staff in many countries, which created additional threats to patients with other surgical emergencies or pre-existing conditions (Sadiq & Kessa, 2020). Different approaches adopted to tackle the spread of the disease, such as lock-downs or travel bans, have been limited by the need to balance issues in other dimensions, such as national and local economy, unemployment, and social welfare. Other countermeasures, such as school closures or mandatory face covering, have ignited unexpected social contentions among groups with different perspectives. Limited information about the disease may have facilitated irrational behaviors, such as panic buying of necessary goods like toilet paper, hand sanitizers, and face masks, at the beginning of the pandemic. The media’s framing about the disease may have also contributed to increasing inequality, xenophobia, exclusion, discrimination, and so on (United Nations, 2020).

Some studies find that conventional approaches, especially command and control by a single authority, are not very effective in tackling the pandemic (Lee et al., 2020). The complex and interdependent situation engendered by COVID-19 challenges individual actor’s problem-solving capacities by asking them to do more with less (Comfort, 2007; Weible et al., 2020; Yeo & Lee, 2020). Multifaceted issues and problems have generated either too much or too little information for individual actors to make sense of emerging situations or to make sound decisions (Boin
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& Hart, 2003; Moynihan, 2008). Given the wicked nature of the pandemic, we argue that collaboration is imperative to fight COVID-19.

In this commentary, we define collaboration as “any joint activity by two or more agencies that is intended to increase public value by their working together rather than separately” (Bardach, 1998, p. 8). During a large-scale crisis like COVID-19, there is an increasing necessity for collaboration among actors across diverse segments and different levels of government (McGuire & Silvia, 2010; Weible et al., 2020; Yeo & Comfort, 2017). Collaboration enables a more coordinated response to emergencies and crises (Comfort, 2007; Waugh & Streib, 2006). Through trust-based working relationships, actors share experiences, information, and resources, and identify better ways to allocate limited resources (O’Sullivan et al., 2013; Sobelson et al., 2015; Yeo & Lee, 2020; Zakocs & Edwards, 2006). Moreover, collaboration enhances the ability to develop distributed cognition that improves sensemaking of the complex and dynamic environment and helps to develop collective response strategies and operations (Lee et al., 2020; O’Sullivan et al., 2013; Zakocs & Edwards, 2006). Overall, collaborative efforts typically produce a greater outcome than the sum of individual efforts.

In this commentary, drawing on the literature on collaboration, we explore vertical and horizontal collaboration during the response to COVID-19 in the U.S. and discuss why the presence of both vertical and horizontal collaborations have not led to the expected outcomes—flattening the pandemic curve and reducing the number of lives lost and the impacts on the community nationwide. In particular, we discuss important conditions for effective collaboration and provide pieces of evidence from the current pandemic response in the U.S. to support our arguments. Although vertical collaboration and horizontal collaboration are not mutually exclusive in practice, we separate them here to explore their presence during the United States’ response to COVID-19. In the following section, we define vertical collaboration and explore the vertical collaboration among different actors during the pandemic response in the U.S. Next, we define horizontal collaboration and demonstrate several examples of how different sectors within the U.S. collaborated horizontally to respond to COVID-19. Then, we discuss why such collaborations have not contributed much to the current pandemic response in the U.S. and provide evidence from practice to support our arguments. Lastly, we conclude this commentary with some recommendations for improving the efficacy of both vertical and horizontal collaborations during the management of the current pandemic as well as future public health emergencies.

VERTICAL COLLABORATION

We define vertical or hierarchical collaboration as multi-interconnections among different levels of government hierarchy (Rubado, 2019). According to the federalism system of governance in the United States, there are three levels of government—federal, state, and local. This division reflects a pyramid structure based on resource reliance (Rubado, 2019). The collaboration among the three government levels sometimes includes negotiations regarding the allotment of resources or information depending on the nature of the circumstance. In most cases, when there is a crisis, local governments always look up to the state and federal governments for assistance because they are frontline responders, and as such, it is easy for their resources to get depleted first (Jung & Song, 2015). Unfortunately, for the local and state governments, the federal government was too slow to take the lead in responding to the global health pandemic when the World Health Organization (WHO) first declared it a global pandemic (Xu & Basu, 2020). Hence, local and state governments had to step up initially by themselves to respond to COVID-19. For example, the State of Washington declared a state of emergency (on February 29, 2020) before the federal government did (on March 13, 2020) (Perper, Cranley, & Al-Arshani, 2020). Despite this late action, the federal government eventually realized that it is imperative to engage with both state and local governments to be able to respond effectively to the COVID-19 pandemic (Haffajee & Mello, 2020).
COLLABORATION BETWEEN FEDERAL AND STATE GOVERNMENTS

After the federal government declared COVID-19 a public health emergency on March 13, 2020, to curtail the spread of the virus, all states had to comply with this declaration by the federal government (Federal Emergency Management Agency [FEMA], 2020). After this declaration, many federal agencies, such as the Center for Disease Control and Prevention (CDC) and FEMA, along with Vice President Mike Pence, were put in charge of the emergency response by President Donald Trump. Vertical collaboration between the federal and state governments enables the states to acquire and allocate essential resources, such as personal protective equipment, and avail themselves with CDC-provided knowledge and training on emergency protocols regarding the virus so as to ensure public safety and well-being of the community.

There are myriad examples of vertical collaboration between the federal government and state governments. For example, the federal government sent United States Army Urban Augmentation Medical Task Forces to the State of Texas at the behest of Governor Greg Abbott, to help respond to COVID-19 (Office of the Texas Governor, 2020). In addition, the federal government has collaborated with state health departments and hospitals to respond to COVID-19 by conducting contact tracing, disease surveillance, and testing (United States Department of Health and Human Services, 2020). Furthermore, the federal government has released $2 trillion in aid relief under the CARES ACT to support states and local governments as well as families and individuals. This funding that state governments received from the federal government will enable small businesses and frontline service providers like hospitals to sustain themselves during the pandemic. The funds will also allow testing to be more available to residents and empower the states to continue to meet the needs of the residents and do more testing to stop the spread of COVID-19 (United States Department of Treasury, 2020).

COLLABORATION BETWEEN FEDERAL AND LOCAL GOVERNMENTS

This pandemic is an opportunity for federal and local governments to collaborate and to build a stronger relationship (Haffajee & Mello, 2020), especially at a time when local governments are experiencing a significant decline in revenues due to COVID-19 (Lucia, 2020). For example, a recent survey conducted by the National League of Cities found that on average, cities expect a 13 percent reduction in their 2021 general fund revenues compared to 2020 (Lucia, 2020). The federal government has the potential to build the capacity of local governments to enable them to produce better outcomes, such as an effective response to the pandemic by providing funding and access to the resources that they need to be resilient—the ability of communities to bounce back from a crisis—during the current pandemic (Rubado, 2019).

During COVID-19, the federal government has been providing guidelines to local governments to implement and follow. For instance, the CDC issued guidelines for the opening of schools, disinfection and hygiene amid the pandemic to ensure the health and safety of citizens, but local governments still have to develop their plans to ensure an effective response (CDC, 2020). In addition, the CDC and the Department of Housing and Urban Development have issued guidelines for the homeless since they are at risk for COVID-19. Local governments must follow these guidelines to ensure the health and safety of the homeless community (Benavides & Nukpezah, 2020). Furthermore, the federal government has distributed COVID-19 unemployment benefits to help low-income households secure their lifestyles, especially housing and food, while also trying to keep local businesses from closing down (Benfer, 2020). As the pandemic continues to manifest itself at the local level, local governments are the frontline responders coordinating emergency assistance and providing the necessary medical equipment and resources their citizens need to cope with the pandemic. Local governments can do this successfully because of the support they receive from the federal government and their extensive experience in responding to disasters.
COLLABORATION BETWEEN STATE AND LOCAL GOVERNMENTS

Residents are mostly in direct contact with the state and local governments rather than the federal government because most of the services are provided by these lower levels of government (White House, n.d.). State governments, and especially local governments, have experience responding to different natural and man-made disasters. Vertical collaboration between state and local governments can increase the likelihood of success in responding to COVID-19 since both entities understand the needs of their communities and how to reach out to them to meet those needs (Bowman & Parsons, 2009). This pandemic has caused a great deal of harm to state and local governments. For instance, COVID-19 has impacted their economies, depleted their budgets, and reduced their tax collections (Lucia, 2020). Similarly, New York counties, Los Angeles County, and Georgia local governments the state of North Carolina experienced a significant decline in sales tax receipts (Dzigbede, Gehl, & Willoughby, 2020).

It will be more difficult for local governments to meet their future needs as a result of the devastation caused by this pandemic (Dzigbede, Gehl, & Willoughby, 2020). Therefore, a vertical collaboration between state and local governments is needed now more than ever to alleviate the impacts of COVID-19 on local governments. There are many examples of such vertical collaborations between state and local governments during COVID-19. For example, the Governor of New York, Andrew Cuomo, collaborated with the Mayor of Savannah, Georgia to combat COVID-19 through the provision of expertise and resources (e.g., test kits and face coverings) (Evans, 2020). This and other similar vertical collaborations between state and local governments are necessary to ensure an effective response to COVID-19, especially if there is a second wave of the pandemic (OECD, 2020).

HORIZONTAL COLLABORATION

When agencies or entities at the same level engage in joint action, this is considered horizontal collaboration (Jung & Song, 2015). According to Kapucu and Garayev (2012), horizontal collaboration provides immense benefits to the parties, such as better communication, a smoother exchange of resources, and quicker establishment of informal relationships. We focus on two types of horizontal collaboration. The first is interlocal and the second is intersectoral (Jung & Song, 2015). Interlocal collaboration entails interaction between two or more governments at the same level. In the context of the federalism structure in the United States, horizontal collaboration can be implemented as joint actions between two or more local governments, or between two or more state governments, or between the U.S. government and other nations. Intersectoral collaboration entails interaction between entities from different sectors. For example, a state government might collaborate with nonprofit organizations, private entities, etc. In this commentary, we discuss examples of both types of horizontal collaboration during the United States’ response to COVID-19.

Interlocal Collaboration

There are myriad examples of local governments collaborating to respond to COVID-19. One example of such collaboration is that between the Cities of Cape Coral and Mount Dora, Florida, to host virtual 5K races for their residents (Florida League of Cities [FLC], 2020). The races were organized to help their residents improve their health and wellness during the COVID-19 pandemic.

States governments, too, are working together to respond to the challenges posed by COVID-19. For example, the governors of seven states—Maryland, Massachusetts, Louisiana, North Carolina, Virginia, Michigan, Ohio—are collaborating to purchase 500,000 rapid-result COVID-19 tests worth $3.5 million from a private company (Queram, 2020).

Due to the unprecedented nature of COVID-19, national governments are reaching out to one another to share information and resources to combat COVID-19. This is no surprise as similar collaborations have been successful in addressing challenges, such as the Ebola virus or smallpox (Kituyi, 2020). For example, the
United States has provided $2.4 billion to support other countries in the fight against COVID-19 (Ingram, 2020).

**Intersectoral Collaboration**

In this section, we will focus on the intersectoral collaboration between each of the three levels of government and the private and nonprofit sectors. Local governments have the least amounts of discretionary resources relative to state and federal governments. This is why they need to collaborate with private and nonprofit organizations to respond to COVID-19. The City of Miami Beach collaborated with a private clinic to offer in-home testing for senior residents (FLC, 2020). Similarly, the Cities of Oakland Park, Fort Lauderdale, and Wilton Manors, Florida collaborated with a nonprofit, Feeding South Florida, to organize food distribution events for their residents (FLC, 2020).

States are working with private and nonprofit organizations on myriad fronts to address the extraordinary challenges posed by COVID-19. For example, the Governor of California, Gavin Newsom collaborated with Apple and Tesla to manufacture medical masks and ventilators, respectively (Bollag, 2020). In addition, Governor Newsom collaborated with local nonprofits to establish a *Californians For All* website, which will provide a platform for volunteers to sign up and support efforts to ameliorate the pandemic by donating blood and delivering meals, among other services (Koseff, 2020).

During the initial onset of COVID-19, there were significant shortages in medical equipment and supplies in the United States (Sadiq & Kessa, 2020). As a result, the federal government collaborated with the private sector to augment the manufacture of medical devices and supplies. Specifically, the federal government worked with Ford Motor Company and GM to increase their production of medical equipment and supplies (Sadiq & Kessa, 2020). In addition, the federal government, through the Food and Drug Administration, is collaborating with the American Red Cross to collect convalescent plasma as a potential treatment for COVID-19 patients (American Red Cross, 2020).

Based on the above discussion, it is clear that the unique nature of COVID-19 has engendered a spirit of collaboration between the three governmental levels and the private and nonprofit sectors. Through cross-sector collaborations like those mentioned above, these entities can continue to build trust and strong relationships that will serve them well in future public health emergencies (Sadiq & Tyler, 2017).

**WHY COLLABORATIONS HAVE NOT PRODUCED EXPECTED OUTCOMES IN THE U.S.**

Fragmentation across collaborations may be a plausible cause of the inefficacy of current collaborations to fight COVID-19 in the U.S. despite the myriad examples in practice (Ollove, 2020). For effective emergency or crisis management, integrative and systematic co-production among whole community actors is imperative (Yeo & Lee, 2020). Given the large-scale and complex characteristics of problems created by COVID-19, the U.S. may need a more integrative and coordinated response system operating at the meta-level, which can leverage the capacities and resources of individual collaboration units (Comfort, Yeo, & Scheinert, 2019; Yeo & Comfort, 2017). However, observed collaborations have been highly segmented. The efforts of each collaboration unit often remain within certain areas rather than being shared across other collaboration units. The fragmentation may cause a concentration of responses in some areas but a lack of responses in other areas. Therefore, we argue that fragmentation and disconnection across existing collaborations may be why some vertical and horizontal collaborations work better than others, and why the presence of collaborations did not lead to the expected results nationwide. But what has been leading to such fragmentation? Many conditions are necessary for effective collaboration across all segments of society in managing emergencies and crises. We discuss the most relevant to the U.S. case and provide some pieces of evidence from the current pandemic response in the U.S. to support our arguments.
**Weak Communication**

Good communication across all participants is an essential condition for effective collaboration (Comfort, 2007; Comfort, Yeo, & Scheinert, 2019; Dolinskaya et al., 2011; Kapucu, Arslan, & Demiroz, 2010). Communication can be defined as “the process of understanding and sharing meaning” (Pearson & Nelson, 2000). Amid COVID-19, there were myriad examples of bad communication in the form of mixed messages from some state governors to their respective local officials, which contributed to the ineffective response (Benton, 2020). For example, Governor Ron DeSantis of Florida issued a statewide stay-at-home order, and a day later the Governor issued another order that undermines the restrictions put in place by local governments to curtail the spread of the virus (Contorno, 2020). The Governor then said that the second order—“supersede any conflicting official action or order issued by local officials in response to COVID-19”—does not go against the local government COVID-19 restrictions, thus causing more confusion (Contorno, 2020).

**Weak Coordination**

Coordination of tasks is critical for effective collaboration (Nolte & Boenigk, 2013). Coordination is making sure all stakeholders are working towards a common goal through the integration of facilities, equipment, personnel, and communication to support incident response (Sadiq & Tyler, 2017). The response to COVID-19 at the federal level was not well coordinated, which led to disjointed and different responses at the state level (Ollove, 2020). For example, some states issued lockdowns while others opened their economies even when COVID-19 cases were on the rise (Ollove, 2020). The presence of weak coordination from the U.S. federal government also negatively impacted the response in other ways. For example, U.S. manufacturers shipped medical supplies, such as ventilators and respirators to foreign buyers who were already responding to the pandemic (Zhang, Mansfield, & Pulver, 2020). This decision contributed to the shortages of medical supplies in the U.S. and greatly undermined U.S. response to COVID-19 (Sadiq & Kessa, 2020).

**Weak Control**

Another important condition for effective collaboration is control (Comfort, 2007). In a dynamic environment created by COVID-19, it is imperative to have and maintain control. Control is “the capacity to keep actions focused on the shared goal of protecting lives, property, and maintaining continuity of operations” (Comfort, 2007, p. 195). In the case of the U.S, there was no shared goal in terms of protecting lives. For example, the federal government and some Republican state governors (e.g., Governor Ron DeSantis) were more concerned about opening up the economy, while some Democratic state governors (Governor Andrew Cuomo) were in favor of reducing the spread of the virus.

**Weak Cognition**

It is important to make sure those responding to the pandemic have cognition for the collaboration to be effective (Comfort, 2007). Cognition entails having a good understanding of the risk posed by COVID-19 to the community and acting on the information (Comfort, 2007; Lee et al., 2020). Amid COVID-19, there was no clear understanding of the risk posed by the virus, and there was a lack of agreement between the national and state leaders and public health officials regarding the role of science in decision making (Xu & Basu, 2020). For example, the U.S. President and some other state governors did not respect the views of public health officials who have a good understanding of COVID-19. In some instances, they even contradicted public health officials on the treatment for COVID-19, thus leading to an ineffective response to COVID-19 (Xu & Basu, 2020). For instance, the U.S. President consistently advertised hydroxychloroquine as an effective treatment for COVID-19 at the same time as public health experts debunked the claim of the President (Hetherington & Ladd, 2020). Also, the delay in COVID-19 data collection and reporting by the states undermined cognition of the virus. Normally, U.S states are supposed to collect COVID-19 data and send them to the CDC, but instead, states sent the data to their health departments and local communities before sending the data to the CDC (Xu & Basu, 2020). This delay in COVID-19 data collection and reporting contributed to the ineffective response by
the U.S. (Xu & Basu, 2020).

**Weak Trust**

Trust is a critical condition for effective collaboration (Kapucu, Arslan, & Demiroz, 2010; Sadiq, Tharp, & Graham, 2016). Trust can be defined as “the extent to which a person is confident in, and willing to act on the basis of, the words, actions, and decisions of another” McAllister (1995, p.25). During COVID-19, trust among different levels of governments has been on the decline. The absence of trust has led to an unprecedented level of friction between the U.S. federal government and the other levels of government in comparison to other countries (Kettl, 2020). Moreover, the relationship between the U.S. federal government and the state government has been chaotic, especially at the outset of the pandemic. For example, the U.S. federal government competed with state governments on the procurement of medical equipment and devices, thus driving up prices (NBC News, 2020). The absence of trust has, indeed, undermined the U.S. response to COVID-19.

**CONCLUSION**

This commentary applies insights from the collaboration literature to the current pandemic response in the U.S. to highlight the importance of collaboration. We provide ample examples of both vertical and horizontal collaborations in multiple domains of the pandemic response in the U.S. We also point out the inefficacy of observed collaborations in producing expected results. We identify fragmentation across collaboration units as a plausible cause of the current inefficacy of collaborations in the pandemic response nationwide and discuss possible factors of such fragmentation across the collaborations.

We still argue for the importance of vertical and horizontal collaboration, as they were evident in notable cases of combatting COVID-19 in many parts of the world (see, for example, Yeo & Lee, 2020). Collaboration still plays a significant role in pandemic management in the U.S. despite the increasing number of new confirmed cases or deaths. A significant amount of information and resources have been shared through both formal and informal channels within the vertical and horizontal collaborations. Besides, collaborative efforts have been made to improve the situation. Yet, more integrative efforts across both vertical and horizontal collaborations are necessary for the U.S. to be more effective in tackling the COVID-19 pandemic and future public health emergencies.

Therefore, we recommend that careful and deliberate attention should be paid to creating a conducive environment that would facilitate collaboration across vertical and horizontal collaborations. For example, carrying out joint pandemic preparedness exercises can help to share cognition and responsibilities across discrete collaboration units before the outbreak of a pandemic. On the flip side, conditions that could potentially impede or distract coordination across collaboration units, such as framing of political issues, needs to be discouraged. It is also important to establish some institutional arrangements that support the unity of commands and controls for managing diverse perspectives and interests that may cause conflicts or confusion. The success of these implications depends on open communication and transparent information sharing across all participants (Comfort 2007; Lee et al., 2020). Similarly, mutual respect has to be ensured during communication, and reciprocity should follow information sharing. All these ideas may contribute to trust-building that would facilitate integrative efforts across vertical and horizontal collaborations, and hence improve the efficacy of collaboration at the collective-level, resulting in expected pandemic response outcomes.

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