

Leadership in collaborative emergency management for compound hurricane-pandemic threats: Insights from practitioners' experiences

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Abstract

Emergency management is a key government function for mitigating risks and reducing the impacts of disasters. Emergency management leaders play a critical role in preparing for and responding to disasters whose impacts are exacerbated by a pandemic. Using the example of the compound threat of hurricanes and the COVID-19 pandemic, this qualitative research uses insights from emergency management professionals to describe collaborative approaches and leadership skills that help balance the needs for stability and flexibility. Data collected using focus groups and one-on-one interviews with emergency management professionals highlight that collaboration involved existing and new partners in a changing and uncertain environment that challenged traditional leadership of emergency management. The study develops understanding of how emergency management leaders navigate the tension between stability and flexibility in this different collaborative emergency management context involving a compound hurricane-pandemic threat. Findings show that emergency management leaders leverage the stability of established partnerships, plans, and processes to bring in new partners with needed expertise, adjust based on new information, and meet specific COVID-19 information needs. They utilize several skills to balance

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stability and flexibility including developing shared vision, stakeholder engagement, strategic thinking, adaptability, communication, and coordination.

KEYWORDS

disaster planning and preparedness, emergency management and response, public health preparedness

INTRODUCTION

Communities across the United States and worldwide are facing increased threats of natural and technological hazards. In some areas, the COVID-19 pandemic impacted communities concurrently with other hazards, such as hurricanes in the Atlantic and typhoons in the Western Pacific. These compound threats pose significant risks to communities as they complicate the emergency response to pandemic and other hazards given their divergent needs. For instance, while partnerships and networks have been established for a wide range of emergency management activities, responding to compound threats “require[s] an extended list of actors and organizations from across these multiple sectors beyond those who would normally respond to an individual disaster” (Yusuf et al., 2020, p. 171).

Collaborations among localities, state agencies, and the federal government that generally characterize emergency management in the United States are expected to grow, and effective response to compound hazards will require new and expanded collaborations with nonprofit, faith-based, and humanitarian-aid organizations. Collaborations for emergency management during the COVID-19 pandemic call for a shift beyond “business as usual” and pose additional challenges to leaders who must balance the stability inherent in existing plans, practices, and established relationships with the need for flexibility to include new partners, adapt to the changing environment, and incorporate new information (Little, 2021; Yusuf et al., 2020).

This study focuses on leadership in a collaborative emergency management context where leaders navigate the tension between stability and flexibility to operate in a volatile, uncertain environment. More specifically, this article focuses on the impacts of the COVID-19 pandemic and hurricane-pandemic compound threat on emergency management leadership in collaborative settings, asking the question: *How has leadership in collaborative emergency management changed in response to the challenges of a compound pandemic-hurricane threat?* Answering the research question involves identifying how emergency management leaders operating in a collaborative environment must balance the demands for stability and flexibility, as well as the leadership skills they rely on for navigating this tension. Study findings build on existing knowledge about collaborative leadership in emergency management and introduce the practitioners' perspective regarding how leadership has changed as it applies to the COVID-19 pandemic and the compound threat of other co-occurring hazards. As the need to respond to compound threats will only increase in the future (Whytlaw et al., 2021), this study's findings provide insights for both research and practice.

BACKGROUND

Definitions and context

Emergency management is a “quintessential government role” (Waugh, 2015, p. 3) that involves coordination and integration of “activities to build, sustain, and improve the

capability to prepare for, protect against, respond to, recover from, or mitigate” against disasters (Post-Katrina Emergency Management Reform Act of 2006, 6 USC 701). No single government entity has the resources or capacity to undertake emergency management single-handedly, hence it requires collaboration with actors and organizations across a spectrum of functions within and outside of government. Collaboration is broadly defined to include intragovernmental, intergovernmental, and multisectoral collaboration, consistent with the whole-of-government and whole-of-community approaches that underpin the United States emergency management policy framework (Federal Emergency Management Agency, 2011; US Department of Homeland Security, 2019), spanning government organizations at the federal, state, and local levels, and involving multiple sectors including nonprofits, businesses, community and faith leaders, and academia (Drabek, 2007; Eller et al., 2018; Kapucu, 2009, 2011; Kapucu et al., 2010; Patton, 2007; Sobelson et al., 2015).

Disasters, especially those resulting from compound threats, require new approaches to collaborative emergency management as needs and demands overlap or diverge in such scenarios (Kapucu et al., 2013; McGuire & Silvia, 2009; Patton, 2007; Waugh & Streib, 2006). For instance, established partnerships offer stability for collaborative activities and implementation of plans through mutual goals, designated roles and responsibilities, and resource commitments, often expressed through long-term formal agreements or memorandum of understanding. However, successful collaborative approaches also require collective improvisation (Roud, 2021) as circumstances and information change quickly.

Leadership in collaborative emergency management calls for flexibility and adaptability (Roud, 2021), persuasive and extensive communication for appropriate problem recognition (Kapucu, 2011), adaptive coordination (Demiroz & Kapucu, 2012), relationship building and engagement with a wide range of stakeholders (Waugh & Streib, 2006), strategic thinking (Bodin & Nohrstedt, 2016), and building cohesion toward shared mission and vision (Boin et al., 2013). As will be discussed next, the COVID-19 pandemic has changed the social and economic environments, negatively impacting existing collaborations and necessitating greater collaboration, making these skills and competencies more relevant in how leaders approach collaborative emergency management.

Collaboration beyond business as usual

The COVID-19 pandemic caused ripple effects worldwide. Government pandemic response required collaboration within and across different actors and agencies, but these collaborations posed unique challenges given not only the uncertainty and shifting conditions coupled with broad resistance to virus contagion and infection control measures, but also because the social and economic impacts of the pandemic constrained the capacity of many partners to participate in the pandemic response network. These capacity concerns called for significant expansion of the network beyond traditional partners, and while emergency managers might have built relationships and partnerships with a range of organizations and groups, more were needed with specific expertise and capacity.

While the need for and relevance of collaboration in emergency management are not new, the impact of the pandemic as felt across all sectors of the economy and society contributed to unique challenges that made collaborations for COVID-19 pandemic response increasingly relevant but also requiring new and expanded partnerships and potentially a different approach to communication, coordination, and engagement with stakeholders. As a creeping crisis (Boin et al., 2020; Kuipers et al., 2022), the pandemic was a time-extended slow burning event that spanned geographical, jurisdictional, and sectoral boundaries and had significant effects on the resource base at every level and sector, impacting individuals and households, businesses, nonprofit organizations, and subnational

and national governments alike (Boin et al., 2021; Hutton et al., 2021; Whytlaw et al., 2021). As other hazards occurred contemporaneously with the pandemic, the detrimental effects on the resource base introduced additional challenges for disaster preparedness and response across multiple scales. Incidences of hazards overlapping temporally and geographically with the pandemic challenged both response to the hazard (e.g., hurricane evacuation and sheltering) and infection control efforts to manage the pandemic. The juxtaposition of the COVID-19 pandemic with other hazards had disproportionate impacts on vulnerable populations where “the interconnectedness of these challenges underscores the need for integrated policy initiatives” (Salas et al., 2020, p. 3). While emergency management plans recognize populations vulnerable to specific hazards, the COVID-19 pandemic expanded the pool of individuals and groups vulnerable to other disasters during a pandemic (Whytlaw et al., 2021). As the pandemic exacerbated social and economic disparities, response efforts required coordinated, multisectoral approaches to address not just the pandemic, but also to recognize and redress these disparities.

Existing collaborations via established emergency management networks had limited capacity to meet the varied needs that arose as hurricane preparedness and response collided with the increased vulnerabilities and reduced resources resulting from the pandemic. The COVID-19 pandemic challenged the “business as usual” approach to hurricane preparedness and response as traditional partners and existing mutual aid arrangements were strained, while additional partners needed to be brought to the table to increase capacity to respond and address pandemic-induced vulnerabilities. Furthermore, these collaborations occurred in an environment marked by physical distancing and greater reliance on the internet and other telecommunications tools for coordination.

BALANCING STABILITY AND FLEXIBILITY

Although research on leadership in emergency management recognizes that different competencies may be required depending on the event, environment, and organization (Demiroz & Kapucu, 2012), two elements are common across different environments: (1) stability, such as through established plans and command and control hierarchy, and (2) adaptability, or the ability to creatively act on existing plans and structures (Harrald, 2006). Reflecting these two elements, both discipline and agility are needed for effective emergency response.

Coined by Kauffman (1993) as the “edge of chaos,” this space between order and disorder that persists in emergency management is not a newly observed phenomenon. Nohrstedt et al. (2018) noted two dimensions in emergency management response—the functional dimension emphasizing coordination and collaboration in complex and uncertain environments, and the political dimension focusing on institutional struggles given different interest groups and levels of authority—that compete to create suboptimal conditions for effective response. The effects of the political dimension were especially evident in the United States during the COVID-19 pandemic in mixed messaging, changing priorities, and public distrust. Emergency management leaders operating in a collaborative pandemic environment must address issues that arise in both dimensions.

In a compound threat situation, leaders of collaborative efforts must balance between stability of plans and structures, on one hand, and flexibility of actions, on the other. The understanding of leadership demands in collaborative emergency management, especially during response to compound threats, further highlights the need for increasing adaptability and greater coordination in a system of hierarchical organizations and complex ad hoc partnership arrangements.

The uncertainty about how to respond to hazards that occur during the pandemic, primarily due to physical distancing, coordination using virtual environments, resource constraints, and the need to maintain basic operational and structural capacity to respond to compound threats, required adaptability and flexibility in a constantly changing environment (Dzignede et al., 2020). At the same time, there was a need for stability and compatibility of existing systems, processes, and procedures, especially in emergency management where response usually follows a predetermined and coordinated plan. Stability offers a solid base for collaboration based on routine knowledge, expertise, role clarity, and resource commitments, which are important for ensuring predictability and consistency for all involved in the collaboration. However, compound threats can be marked by uncertainty and rapidly changing information, which calls for more flexibility. While flexibility is important to ensure responsiveness, consequences of such a flexible approach include lack of predictability and consistency that may result in critical delays and inconsistent service quality. Collaborative demands requiring coordination during a compound hurricane-pandemic threat thus necessitate both a degree of flexibility to accommodate differences across multiple partners and stability to ensure operational and communication systems can be relied upon by all participants (Willoughby et al., 2020).

Grote et al. (2018) offered a framework of leadership challenges in balancing competing demands for and navigating the tension between flexibility and stability in an adaptive team coordination setting that can be useful in assessing the effects of compound threats on leadership in collaborative emergency management. The two dimensions of stability and flexibility coexist in a setting where process routinization and organizational hierarchies maintain a certain level of reliability and control, while teams and tasks can be more flexible in how they are structured and carried out for increased adaptive capacity (Grote et al., 2018). Boin et al. (2013) emphasized that “[e]ffective crisis leaders orchestrate a process of adaptation” on the basis of “sound process” (p. 83) that includes both established chain of command and authority as well as inclusive deliberation.

For collaborative emergency management, demands for both stability and flexibility describe leadership situations where the presence of prearranged plans and practices (such as existing Emergency Operations Plans [EOPs] and formal agreements with partners) should be balanced with the possibility of adding new partners and establishing new relationships. Kapucu (2009) noted that effective emergency response hinges on “the quality of previous planning and the ability to act on those plans” (p. 912). As no single leader is capable of acting on these plans single-handedly, relying on others requires delegation of responsibility, sharing of resources, and reconciling differences (Comfort, 2007; Kapucu, 2006). The framework of competing demands for both stability and flexibility, shown in Figure 1, reflects this balancing of established practices with the ability to adjust given unique situations, as applied to leadership in the collaborative emergency management setting required by compound disasters involving the COVID-19 pandemic.

Challenges of the pandemic, such as physical distancing requirements, reliance on technology for planning and coordination, and the scale and scope of the disaster complicated traditional emergency response and introduced more uncertainty into decisions and actions. The role of leadership in navigating the tension between stability and flexibility in compound hazard events involves adapting to a highly volatile environment that is constrained by the limitations caused by the COVID-19 pandemic while responding to threats that are different in nature and may entail competing priorities and conflicting actions. The framework in Figure 1 shows the changing collaborative emergency management context under a compound hurricane-pandemic threat. It can also be used to identify how leaders operate in a collaborative emergency management context where they must navigate the tension between stability and flexibility with the leadership skills they utilize in doing so.

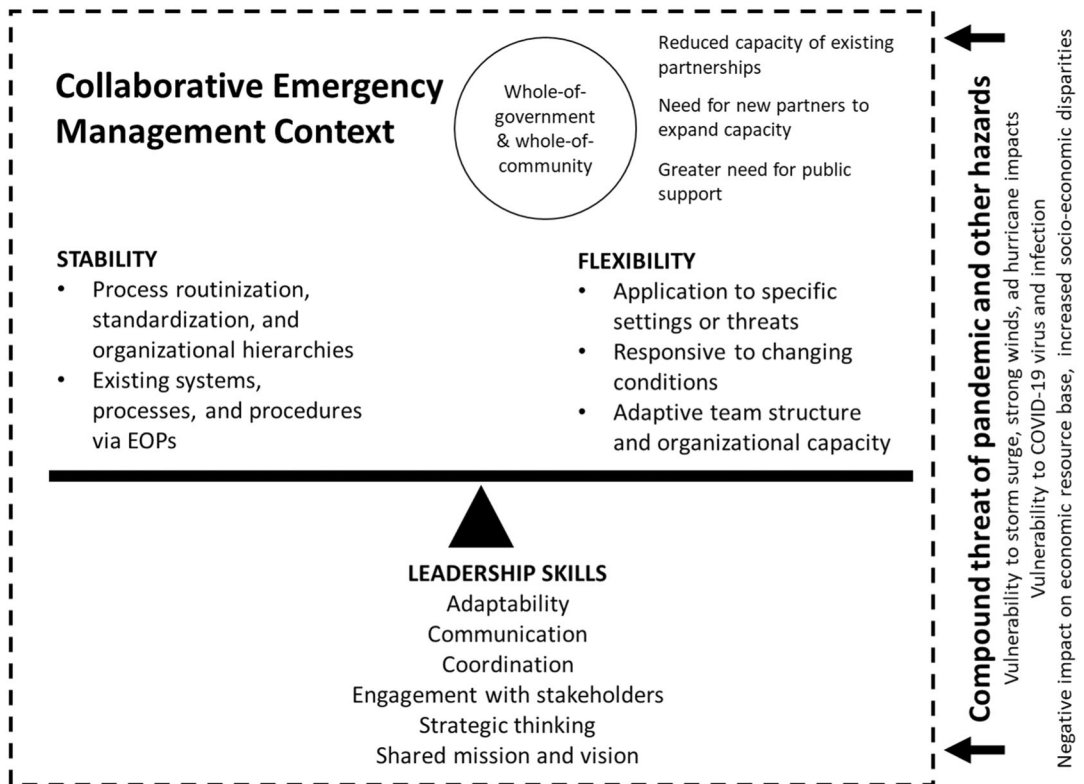


FIGURE 1 Conceptual framework for collaborative emergency management that addresses the competing demands for stability and flexibility in planning for and responding to compound threats.

METHODOLOGY

This study utilizes two sources of data: (1) focus groups of emergency management professionals from across the eastern seaboard and gulf coast on challenges posed by the COVID-19 pandemic for hurricane preparedness and response, and (2) one-on-one interviews with state and local emergency management leaders on implications of the pandemic for collaboration and leadership. Data from the focus groups are used to understand how collaborative emergency management during the hurricane-pandemic is different than “business as usual.” Data from the interviews provide insights into how emergency management leaders collaborate with new and existing partners in response to the compound hurricane-pandemic threat and how they adjusted their approach to leadership due to the pandemic environment. The methodology of focusing on a single event, in this case, the compound event of a hurricane during the COVID-19 pandemic, is consistent with the dominant approach of research utilizing a single case study (Wolbers et al., 2021). However, recognizing the limitations of this approach, the study methodology captured perspectives from a wide range of emergency management professionals from across different geographies in the United States. Also consistent with the extant literature, this study focuses on the preparedness and response phases of emergency management, both of which have been the focus of crisis and disaster research between 2001 and 2020 (Wolbers et al., 2021).

Focus groups

Focus groups were held as part of six online workshops conducted via Zoom in Summer 2020 with professionals involved in preparedness and response efforts for compound hurricane-pandemic threats (CONVERGE NSF Working Group, 2020a, 2020b, 2020c, 2020d, 2020e, 2020f).¹ Participation ranged from 74 to 198 attendees per workshop. Participants represented government agencies responsible for emergency management, public health, human services, social services, communications, and health services, and nongovernmental organizations. The workshops also included academic researchers from disciplines such as public health, nursing, public administration, engineering, communications, transportation, emergency management, and law. Invitations to participate were disseminated via regional (e.g., Mid-Atlantic and Southeastern) and national networks, such as the Sea Grant network and state emergency management e-mail lists, and the researchers' professional networks. Participants, while comprising a convenience sample of practitioners and academics who responded to a national call, came from diverse backgrounds in terms of geographic region, functional areas and expertise, levels of government, and sectors (see Table 1).

The workshops were designed to identify preparedness and response issues for the 2020 Atlantic hurricane season during the COVID-19 pandemic, with each workshop addressing a different topic such as vulnerable populations, evacuation transportation and shelter operations, health and infection control, and workforce and shelter staffing. Each workshop lasted 90 min and was comprised of multiple focus groups. The focus groups included between 12 and 18 randomly assigned workshop participants and were led by facilitators in discussing the same questions following similar scripts. The discussions were recorded and transcribed for analysis.

Interviews

One-on-one interviews with emergency management leaders from the mid-Atlantic region were conducted in Winter 2020 through Summer 2021. Interview subjects were those in leadership positions at both state and local levels. Examples of participants' job titles included director of emergency preparedness and response, deputy coordinator of emergency management, emergency management director, chief resilience officer, and director of resilience. Researchers sent direct emails soliciting interview participation while providing information about the study. Interviewees were initially drawn from lists of leaders of local and state government agencies involved in emergency management functions such as response and recovery compiled by the research team. Referral sampling was utilized to identify additional interviewees.

TABLE 1 Focus groups participant information.

Federal agencies	Federal Emergency Management Agency, Department of Health and Human Services, Department of Transportation, Centers for Disease Control and Prevention, and Veterans Affairs.
Localities and states	20 states primarily along the eastern seaboard (e.g., Massachusetts, New Jersey, Virginia, Georgia) and the Gulf Coast (e.g., Florida, Alabama, Texas).
Nongovernmental organizations	Nonprofits and community organizations involved in disaster response and recovery, vulnerable populations, public health, and environmental health, and utilities and transportation companies.

Twelve interviews were conducted via Zoom. Nine interviewees were serving in local government while three were in state government. Interviews took between 45 and 60 min each. The interviews were recorded and transcribed. Interviews followed a semi-structured protocol consisting of open-ended questions about leadership experiences and perceptions about impacts of the COVID-19 pandemic. For example, interview questions asked about how interviewees collaborated with other people and organizations, challenges in collaboration, how the pandemic changed leadership and collaboration, and skills and competencies needed for effective leadership and collaboration.

Analysis

Focus group and interview data were analyzed using thematic coding that focused on the semantic content of the data. Coding was theory-driven (Braun & Clarke, 2006) to ensure that themes identified were linked to the extant literature, conceptual framework, and purpose of the research to produce rich description in terms of collaborative approaches to planning and response for compound hurricane-pandemic threats and how leadership by emergency managers has adapted to the challenges of the COVID-19 pandemic in balancing demands for flexibility and stability. Data were analyzed manually by the research team using an interpretive process without the use of software applications. The focus group transcripts were analyzed for key themes from the focus groups relevant to collaborative approaches for hurricane-pandemic preparedness and response. Individual members of the research team analyzed the focus group transcripts and each developed preliminary coding schema. The team then compared the coding schema, collapsed or combined codes and themes, and agreed upon key themes. The focus group data were subsequently reviewed again to identify specific examples and details to support the key themes. The interview transcripts were similarly analyzed with a focus on collaboration and leadership during the pandemic. The analytical approach is summarized in Figure 2.

Thematic analysis relied on a critical approach which assumed that the words of participants create and reflect reality. The research team scrutinized the data to determine dominant patterns using an analytical process that combines the data, conceptual framework, disciplinary knowledge, and the extant literature, with the research team's skills and expertise (Terry et al., 2017). This approach enabled making sense of the focus group and interview data by integrating existing literature, theory, and concepts about leadership in collaborative emergency management. The research team analyzed the focus group and interview data individually and then arrived at consensus findings as a group. The inductive, theory-driven consensus approach allows the research team to capture various nuances of the data as identified by different researchers while allowing for cross-checking for consistency. In this way, insights were derived that may not have been possible through quantitative reporting of identified themes.

FINDINGS

The findings are discussed in three parts that reflect the major themes resulting from analysis. The first part focuses on the impacts of the compound hurricane-pandemic threat on collaborative emergency management in terms of changes in capacity and partnerships that require flexibility to ensure stability in emergency response. Second, findings are discussed in terms of how emergency management leaders responded by navigating the increased tension between demands for stability and flexibility through plan adjustments and recognizing the complexities of coordination. The third section discusses

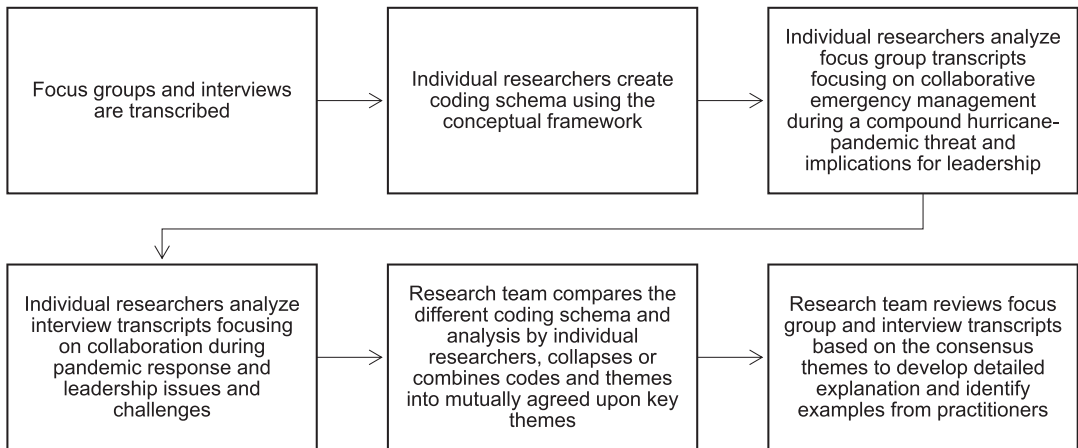


FIGURE 2 Summary of steps for analysis.

communication and trust-related issues emergency managers have dealt with in collaborative response to compound threats in a post-COVID environment.

Overall, the findings point to an increased need for collaborative emergency management that extends beyond traditional partners. Emergency management leaders operating in this collaborative environment adapted to uncertainty and the shifting conditions that marked the COVID-19 pandemic by seeking out nontraditional partners and those with varied expertise and capabilities while relying on technology for communication and coordination. Responding to compound threats emphasized the importance of collaboration and cemented the need for emergency management leaders who are able to adjust existing plans to changing conditions. Lastly, these leaders established communication channels with a wide range of community members and adopt messaging that caters to specific population groups to better engage them.

Partnerships and collaborative arrangements

The nature of compound threats emphasized the need for whole-of-government and whole-of-community approaches to preparedness and response, which increased demand for flexible collaborative approaches. Focus group participants discussed how preparedness for and response to compound threats required a wide range of individuals and organizations representing various functional areas and sectors beyond those that had been previously included in the emergency response network. Participants agreed on the importance of typical partnerships and connections with local businesses, faith-based organizations, nonprofits such as the American Red Cross and the Salvation Army, and other organizations to best coordinate resources.

Using the specific example of managing infection control in public shelters, focus group participants discussed the need to expand the network to include epidemiologists and healthcare workers who are not generally part of hurricane response. Participants also discussed forming partnerships with private hospitals and military hospitals to provide clinical staff for addressing both the pandemic response and to staff public shelters during hurricane evacuation. The need for flexible approaches and an expanded network with new partners was exacerbated by the limitations of physical distancing for infection control and the demands placed on the healthcare staff and facilities brought on by the COVID-19

pandemic. This disrupted the established networks of emergency response partners and required forming new partnerships to enable access to additional resources, particularly staff and space, needed for standard emergency operations such as evacuation and sheltering. As one participant noted, “partnerships and connections with local businesses, churches, and other available organizations [are important] to best coordinate supplies, space, and other resources.”

The need for additional skills and expertise called for an expanded set of volunteers that must be recruited, trained, and overseen, posing additional coordination challenges. Focus group participants offered examples of volunteer groups to be included in the expanded pool, including those with the Medical Reserve Corps, staff of home health agencies, hospice volunteers, and retired physicians and nurses. Event staff who would normally work at special event venues could be trained as shelter workers and students seeking clinical hours and internship opportunities could be incorporated into shelter staffing plans. A participant offered the example of efforts to “get some of [the] nurses [from a nursing home] staged at shelters... We're trying to see how we can incorporate them into our hurricane plan this year.”

Significant effort is needed to pull together the wide-ranging partnerships required for the collaborative whole-of-government and whole-of-community approach to planning and responding to compound hurricane-pandemic threats. As one participant noted, “we're using everything, all the tools we have and all the resources we have, to bring in those partners that may be able to help us.” But with such a wide network of individuals and organizations including those that had previously not been involved in the emergency response network, focus group participants emphasized the need for coordination, teamwork, and communication, in turn demanding more innovative, participative, and flexible approaches.

In the interviews, emergency management leaders recognized the importance of creating collaborative environments, pointing to the need to “be open to bring people to the table and seek solutions collaboratively because no one is an expert in all of these things” and the importance of “being inclusive, having those experts, those who represent different parts of the community [at] the table.” Recognizing that collaboration involves “working together, [but having] no authority over anybody,” one interviewee explained how it requires people to talk to others about what needs to be done and the best way to do it. Soft skills and interpersonal skills were core competencies identified by more than one leader we interviewed. For example, one emergency management director mentioned, “I'm essentially trying to get other directors [from other agencies]. We're all on the same plane to do certain things. That takes interpersonal skills.” Flexibility was also expressed through the ability to step down and adopt a more supporting role in providing higher level decisions makers (e.g., city manager, mayor, governor) with the knowledge, evidence, and expertise for making strategic decisions: “We often are in very much of a supporting role versus in having to make the decisions. We do a lot of the coordination and the behind-the-scenes efforts, so that the people that are ultimately in charge ... can make the decisions that they need to do.”

Building productive work relationships is critical for collaboration, which was a challenge during the pandemic. One interviewee identified the ability to think strategically and provide evidence of products or outcomes as necessary for strong relationships: “it helps to have data and be data driven ... and have some ways to back up what you're trying to say.” Another interviewee pointed to the importance of a strategic approach, which in turn requires collaboration with different government departments, residents, and political leaders, each having to take on different responsibilities: “There are so many diverse opinions out there ... so I include a lot of our partners, a lot of our critical infrastructure partners, our private sector partners, military partners, even community leaders, and so we all have a plan, from which we can build and we can create our plans in accordance with that overarching document that we all agree on.”

Established plans and adjustments

The tension between stability and flexibility can be seen in terms of challenges in coordinating across a region or state to offer public shelters for hurricanes during a pandemic. For example, one focus group participant asked, “How can we come together regionally or statewide to adopt a host-sheltering agreement ... to accommodate the additional [shelter] spaces needed by developing MOUs or agreements with other locations?” While some regions or states may have existing sheltering agreements, for those where these may need to be created and adopted, doing so in a pandemic environment with evolving knowledge about the virus risk and hurricane evacuation needs required emergency managers be adaptive and flexible in how they set up such agreements and concomitant resources.

The push and pull of stability and flexibility was evident in the need for existing structures and processes to be in place for leaders to build on their decision making. As noted by one interviewee, “we write plans so that we can execute them, and if we get caught in a situation where we don't have one, then we rely on the existing structures that we've already put in place, through our crisis and emergency management plan, to give us something to fall back on and give us a framework from within which to work.” At the same time, other interviewees pointed to being flexible and adjusting existing plans being as important, stating that “you can't ever really say that one plan that you have is final because it's constantly changing to keep pace with the newest guidance and regulations that are coming out” and “COVID has taught us that again, our plans may not be as accurate as we thought.”

Focus group participants emphasized that maintaining consistency and standardization helped leaders coordinate efforts: “Everybody's going through the same kinds of training. Everybody understands what the Incident Command System is. Everybody understands what their roles and responsibilities are when they have to implement any given plan for scenario X or Y.” Leaders relied on building and leveraging relationships “through training and exercises with other colleagues” to “share lessons learned, collaborate, coordinate with each other, and understand differing perspectives.”

Interviewees noted the tension between stability and flexibility in responding to ever-changing situations also required a level of pragmatism and rationality in “pulling out emotion, to the extent that you can [and] going by facts, and going by data, and going by plans that have been developed versus shooting from the hip and executing a plan that hasn't necessarily been done.” Another interviewee emphasized the importance of “being measured in one's approach and being patient and understanding that building out a program, and working an incident is a process, and it takes time, takes patience, and it's not going to happen overnight.”

Beyond being able to adjust existing plans, interviewees also pointed to challenges of technology and the virtual environment: “being able to adapt to the new environment that we have running meetings that we never thought we could do by Zoom, by doing things electronically, it has been challenging.” This was also echoed in a comment pertaining to the importance of “relationship building, which means meeting people, going to planning meetings together, going to lunch with folks,” but that becomes challenging when operating in a virtual environment. Pivoting to the online environment was not easy, but interviewees and their teams also took it as a learning experience: “a lot of the success of how you work in an Emergency Operation Center is the synergy of the room ... And that's really limited us, but at the same time, it's made us a little bit more focused. So, we've learned to use all these collaborative tools.” The ability to learn from adversity was widely mentioned as a core competency related to flexibility, including a “continuous cycle of learning and learning and relearning.”

Overall, findings suggest that the need for extended collaboration beyond 'business as usual' created conditions that exacerbated the balance between stability of existing practices and partners, on one hand, and the need for flexibility and receptivity to new methods and participants on the other. Increased coordination of new partnerships, ensuring shared understanding of processes, and consistent but inclusive messaging to the public all challenge stability of existing plans and systems and demand more participatory and agile leadership response.

Communication and interpersonal skills

The importance of teamwork and coordination is illustrated by the challenges of public messaging and avoiding confusion among the public. There is recognition that coordination and communication across different facets and means must be flexible, persuasive, or authoritative depending on the situation. At the same time, messaging needs to be consistent across both functions, such as emergency management and public health, and messengers, such as government officials and faith and community leaders. As stated by one focus group participant, "public health officials may have one perception of risk, emergency management another, and the weather officials yet another opinion or perception that is feeding into the guidance being given to the public." Focus group participants agreed that clear lines of communication between functions and groups are needed to support teamwork and coordination.

The balance between public concern regarding infection in a shelter and the resistance to mask requirements and other infection control efforts should be reflected in official information distributed by government authorities. Focus group participants discussed how authority figures such as trusted community leaders and news sources will need to play an important role in distributing sheltering and evacuation information, allowing for flexibility of information channels. This points to how stability through the implementation of a public information campaign (as part of hurricane evacuation response) is balanced with flexibility through adaptation of an infection-specific message and coordination with a wide range of partners for information dissemination.

Focus group participants emphasized how input from community leaders should be considered and incorporated in crafting the message, and established groups (such as church networks, sororities and fraternities, and neighborhood organizations) used as communication channels. As an example, focus group participants pointed to how faith-based organizations can disseminate information while communicating the needs of their communities back to authorities. In terms of communicating with vulnerable populations such as those who are undocumented, a participant emphasized the importance of nongovernmental partners and the need to "work with those local faith-based organizations, the community partners, the leaders that they trust, the food pantries, to get that messaging out there to assure them that they should not be taking any extended risk to avoid presenting themselves at the designated shelter locations for safe haven."

Recognizing the needs of specific vulnerable populations, focus group participants provided examples of how they work with partners in developing shared vision and understanding to support sheltering operations. As stated by one participant, "We've been working very closely with our centers for independent living and other disability-serving organizations to help step in and provide personal care assistance for persons with disabilities in the general population shelters... to make sure that they are embedded in those shelters to provide the services as needed."

Overall, interviewees noted several interpersonal skills critical for effective leadership in navigating the tension between stability and flexibility in uncertain collaborative

environments during crisis situations. For example, an aspect of communication that is key for successful collaboration is what one emergency manager referred to as “just being willing to have honest dialog” about the challenges and “don't try to sugarcoat it.” Another interviewee expressed how “soft skills have helped” overcome disagreements among team members. In managing conflict, this interviewee noted that “you're going to need both parties to come to the middle and collaborate on whatever the issue is, so breaking down those stovepipe barriers and bringing people in.” In this role, “listening and authentically engaging with different constituencies” is important, because “if you are talking, you are really not learning anything.”

When it comes to serving citizens, the learning cycle is not complete without feedback from those receiving services. An interviewee offered an example of how soliciting feedback from low-income residents during the pandemic required completely rethinking the process, which resulted in receiving more responses than expected. The interviewee concluded “that's the adaptive part of it, the relearning process ... and being able to just kind of throw out everything you think you knew about what worked well.” Overall, in addressing the tension between stability and flexibility, one interviewee summarized it well: “we've learned that making more of our emergency management program formalized through additional policies and procedures that are written and that are done through Microsoft Teams or other platforms, so that we have a virtual environment to share information and collaborate.”

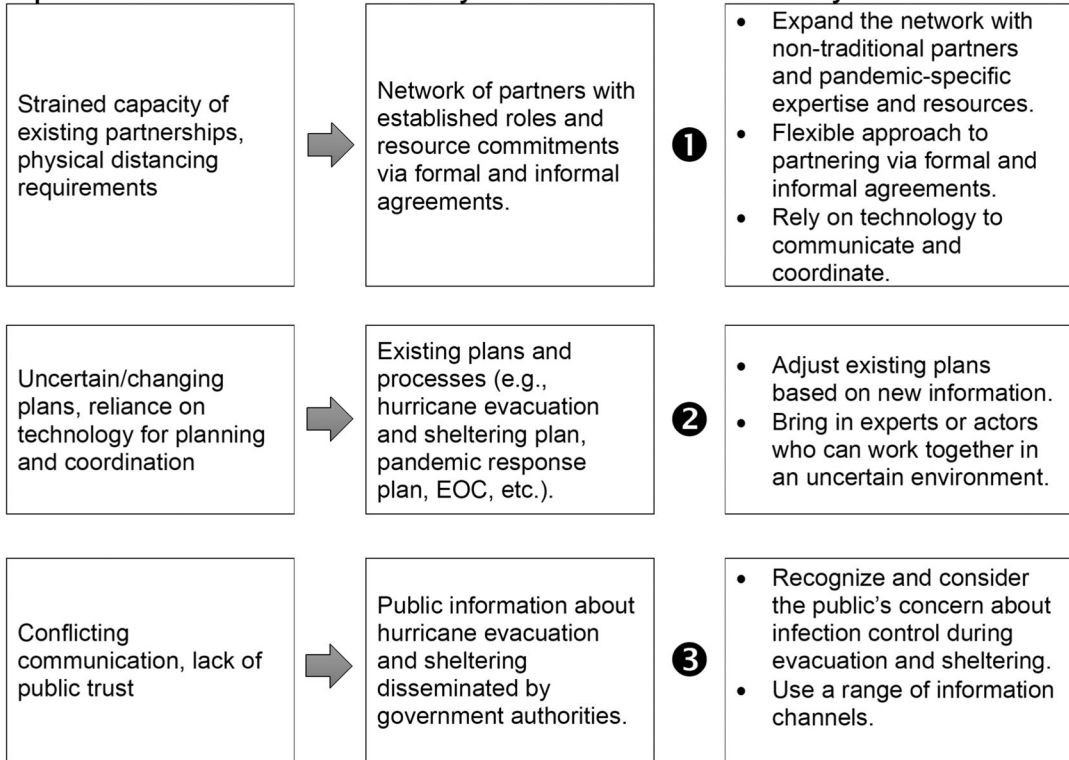
Most leadership themes identified in the prior literature as being important and summarized in the conceptual framework (Figure 1) were either explicitly mentioned by emergency managers during interviews or referenced using similar concepts. For example, adaptability, communication, and stakeholder engagement were mentioned by participants, whereas strategic thinking and shared mission and vision were either implied or mentioned as a challenge to be overcome. More broadly, as noted by one of the emergency management leaders interviewed, balancing the needs for stability and flexibility of people and systems circles back to “the importance of relationships and partnership, so that you're on the same page. You're working collaboratively, you build trust to inform how things roll out.”

DISCUSSION AND CONCLUSION

This study explores how the COVID-19 pandemic pushed emergency management leaders toward more collaborative approaches to planning and responding to disasters in a way that was beyond “business as usual.” The pandemic, especially when coupled with the threat of other hazards, amplified the need for whole-of-government and whole-of-community collaboration involving traditional and new partners, and emphasized the competencies needed by emergency management leaders in managing multiple disasters while navigating the need for stability to support clarity and predictability of actions with the demands for flexibility that arise from the inclusion of new partners and an uncertain environment. This study is one of a few studies that considered COVID-19 as a compound crisis (Kuipers et al., 2022), with spillover effects to other sectors that impacted preparedness and response for compound events involving the pandemic and other co-occurring hazards.

The need for and reliance on collaborative emergency management are established both in the literature and in practice. However, this study's findings show that the compound threat involving the COVID-19 pandemic called for an expanded response network to overcome capacity constraints and meet needs resulting from the pandemic, which in turn posed further challenges for emergency management leaders. The findings are particularly useful and relevant given a future where more compound threats are expected.

Compound Threat Impacts



Leadership skills for incorporating flexibility while leveraging stability

①	<ul style="list-style-type: none"> Develop shared mission and vision to increase embeddedness of existing and new partners Adaptability in partnering and developing agreements Communication and coordination with partners Interpersonal skills to manage relationships
②	<ul style="list-style-type: none"> Adaptability to modify plans Strategic thinking to modify plans and identify appropriate partners and needed expertise Interpersonal skills to bring people and organizations together
③	<ul style="list-style-type: none"> Stakeholder engagement to recognize the public's needs and involve non-governmental partners in disseminating information Adaptability to tailor hurricane messaging to include infection control information Communication and coordination with partners

FIGURE 3 How emergency management leaders leverage stability to ensure flexibility to prepare for and respond to compound threats.

Given growing concern for compound threats, one important contribution of this study is in meeting the call for research on compound crisis and disasters (Wolbers et al., 2021).

The results demonstrate the importance of stability for allowing flexibility as needed when unforeseen circumstances arise such as those associated with the pandemic. While the scale of the pandemic was unanticipated, many communities had existing EOPs that could be used as a starting point for response. However, the challenges brought by physical distancing requirements put pressure on building new and maintaining existing networks of relationships to be able to effectively adjust plans and operations in response to compound disasters. The pandemic also exacerbated disparities that challenged the community's ability to prepare and respond, thus requiring flexibility. Although established partnerships existed that could be adjusted or built upon to mitigate changing vulnerabilities resulting from the pandemic, developing shared mission and vision across an expanded network is critical for collaborative emergency management leaders. This is important as a way to combine flexibility with stability by developing collective sensemaking as a part of a broader strategic adaptation to changing circumstances, such as expanded collaborative efforts to include partners relevant to the new setting (Boin et al., 2013; Comfort, 2007).

Emergency management leaders incorporate flexibility in their collaborative approach to compound disaster preparedness and response by leveraging the stability of established partnerships, plans, and processes to bring in new partners with needed expertise, to adjust based on new information, and to meet specific information needs related to COVID-19 infection control. As summarized in Figure 3, these leaders utilize several skills to balance stability and flexibility in the context of preparedness and response to a compound hurricane-pandemic threat.

The findings show the importance of developing key competencies for effective collaborations, whether for leveraging established networks or expanding the network by including new partners. Leadership training should focus on skills to build relationships, initiate partnerships, develop and articulate shared vision, and coordinate and communicate. The COVID-19 pandemic has particularly challenged emergency management leaders in collaborating and communicating with others, especially in a virtual format. The findings offer important insight into the need for training on using virtual collaboration tools and transitioning from face-to-face meetings to virtual platforms while continuing successful collaborations.

The findings are limited to the individual experiences of study participants and the specific instances of preparedness and response in a compound hurricane-pandemic context. Focus group participants varied across functions, sectors, and geographic focus but the smaller number of interview participants makes the findings less generalizable. However, since the COVID-19 pandemic was widely experienced across the United States and worldwide, and hazards such as hurricanes, tsunamis, and wildfires are also widespread, the findings can offer important insights to advance the practice of leadership in emergency management. Three recommendations are proposed for effective emergency management leadership for compound disasters: (1) support the practice of building and leading collaborative relationships and partnerships with government, private, nonprofit, and community leaders and stakeholders; (2) encourage development of communication skills and ensure consistent and continuous communication with colleagues, partners, constituents, and others; and (3) organize training in adaptive and flexible approaches to improve communication, coordination, and response across units, organizations, and sectors.

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ENDNOTE

- ¹ Two members of the authors' team were part of the research team that organized the workshops and conducted the breakout focus groups. Wie Yusuf was involved in planning and executing the workshops, and Saige Hill was a focus group facilitator.

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