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Templated Crisis Communication for People With Disabilities, Access and Functional Needs

Michael Prasad[1]

1. Michael Prasad, Barton Dunant—Emergency Management Training and Consulting, Fanwood, NJ USA

ABSTRACT

Despite the Americans with Disabilities Act being more than 30 years old, many government institutions fail to fully support their constituents, and provide understandable and actionable crisis communications before, during, and after emergencies and disasters. When residents do not effectively receive, understand, and act on crisis communications in a timely manner, life safety issues can occur. People may choose not to evacuate when necessary or lack the information for properly sheltering-in-place. These and other bad decisions can be deadly. Crisis communications, as a subset of risk communications, should be aligned with all the disaster phase cycles—the before, during, and after stages of disasters and crises—so that impacted residents obtain complete information they can use. U.S. government websites, including posted crisis communications public releases, must be compliant with the Americans with Disabilities Act (ADA) under Title II and they should use templated crisis communications available in other languages, English-only audio recordings, and videos of American Sign Language.

KEYWORDS: crisis communications, disabilities, accessibility, public information, disaster communications, DAFN

Introduction

Regardless of the crisis communication systems or models used: whether it is situational crisis communication theory (Coombs, 2004), the U.S. Centers for Disease Control and Prevention's

CONTACT Michael Prasad • E-mail: info@bartondunant.com • Barton Dunant • Emergency Management Training and Consulting • 258 Midway Avenue • Fanwood, NJ 07023-1039, USA

(CDC's) crisis and emergency risk communication program (CDC, 2012), an analytic-deliberative process (Renn, 1999), or any other theory of practice; all these models indicate that the quicker crisis communication are accurately received, the greater the chances are that positive actions will be taken. Making blanket generalities that all constituents can hear and read a single language—or the official language of any country—may be part of local governmental policy, especially if those crisis messages are delivered only in a single language (Myers, 2008). The same is true for sign languages used across the globe. For example, the English language has at least three different versions of sign language translations: American, British, and Australian—and translations between one version of sign language to another can even be challenging (Temple & Young, 2004). Though this paper will only reference spoken English recordings, as a reasonable accommodation for people with sight impairments, and American Sign Language (ASL), readers should apply their own geographic population's criteria for their own language needs of people with disabilities and others with access and functional needs (DAFN) (U.S. Department of Health and Human Services, Center for Preparedness, n.d.).

Unfortunately, the practical application of these efforts toward risk communication before, during, and after disasters is still missing from many governments' public messaging activities. This community disaster resilience gap in capability causes delays in actions by their residents and visitors toward enacting self-protective behaviors and in many cases generates an increase in response and recovery activity needed by government. For example, when there are more tactical rescues that are needed, there is also additional crisis communication for organizational image restoration and repair (Sheppard & Janoske, 2012).

Even long-term complex disasters, such as the worldwide coronavirus pandemic from 2019–2022, required critical life safety information to be communicated to the public. However, this information often involved incongruent messaging for people in the same geographic area or constituent group. There were response-related communications delivered at the same time as recovery communications were sent (Fakhruddin et al., 2020). Just because the disaster may be considered by government officials to

be complex, effective distribution of risk communication messages is needed to prevent and protect populations against any adverse impacts (Shimura et al., 2015). Even in the case of a pandemic like COVID-19, research shows that even complex scientific information does not need to be simplified or topical jargon reduced for the public to benefit (Shulman & Bullock, 2020). However, inconsistent messaging poses a genuine threat to self-protective behavior. For example, there was inconsistent crisis communication messaging in the United States, both between individual states, as well as inconsistent messages across the different media platforms within a single state. Of course, because there were also massive inconsistencies between information and recommendations between states, the U.S. Federal Government, and the World Health Organization (WHO) (Wang et al., 2021), the problems are only amplified exponentially when crisis communicators do not consider people with DAFN (Kruger et al., 2018). Thus, this paper considers templated communication as a critical tool for improving risk and crisis communication, especially for people with DAFN. Templated communication involves creating basic messages adapted to different languages ahead of a crisis that can be quickly and easily adapted once a crisis is triggered.

Literature Review

There are academic research articles covering crisis communication for people with disabilities, but most cover physical handicaps and medical concerns (Eskyté et al., 2020; Freedman et al., 2013; Ipsen et al., 2021) and do not consider language barriers or other access and functional needs, such as sight impairment or transportation dependencies. For example, Eskyté et al. (2020) analyzed the impacts of COVID-19 in the United Kingdom and mentioned how public health communications in English affected people with DAFN, as an aside. Similarly, Freedman et al.'s (2013) analysis of the 2009 H_1N_1 outbreak in California focused on the gaps between the public health emergency plans and the actual incident response. Freedman et al. did not recommend the tactical change for templated crisis communication in other languages as a possible solution because their focus was on the more strategic objective of aligning with the National Incident Management System

and the Incident Command System (NIMS/ICS). Additionally, Ipsen et al. (2021) focused on trust of governmental information by people with disabilities and found there was a lower level of adherence to recommended practices issued by the U.S. CDC, by people with communications disabilities. Finally, Braithwaite and Eckstein (2003) addressed the physical crisis assistance communicated and provided—including unwanted assistance—to people with DAFN, but the various languages and methodologies for communications delivery have not been developed.

Recognizing the Need for Inclusive Disaster Risk and Crisis Communication

There are articles that identify the importance of not excluding people with DAFN, including checklists for emergency managers to ensure that messages are delivered in those languages spoken in the impacted community. For example, Kim and Dutta (2009) looked at crisis communication's shortfalls to marginalized and underserved communities through the alternative perspectives of such communities via the subaltern studies framework. Their work focused on grassroots activism toward risk communications, as it related to the impoverished populations in New Orleans, during Hurricane Katrina. This work on amplifying, acknowledging, and adapting to the crisis communication needs of underserved populations in other countries has been researched as well (Patil, 2014). Clearly, there is value in applying lessons learned from analyses of underserved and marginalized populations, such as people with DAFN, in other country contexts (Castro et al., 2016; Tironi & Manríquez, 2019). Haupt (2021) noted that using communication strategies crisis communicators and emergency managers helped "to operate in such a way that information collection, organization, and dissemination leads to open, honest, accurate, tailored, two-way, and knowledgeable information" (p. 1). However, what is missing is the pre-incident planning and templated messaging capabilities needed to quickly distribute crisis communication messages to communities in need. In short, actions taken during the steady-state preparedness, protection, and prevention phase (pre-crisis). Provisions need to be made for non-visual and/or non-verbal risk communication—even to benefit children—during

disasters (Norbury et al., 2016). Knight (2018) notes, for example, that addressing the visual accessibility aspects of keywords, fonts, colors, and so forth online is important for people with DAFN; however, it does not cover the need for different languages nor audio only and sign language recordings.

While research has consistently stressed the need for assistance to the underserved, research also provides limited solutions, but it does not meaningfully address access issues for disaster-based crisis communication. In fact, Mhiripiri and Midzi (2021) noted activism for social justice occurred during COVID-19 in many countries like the United States, United Kingdom, New Zealand, and Zimbabwe. However, their study was limited to deaf persons and those with hearing impairments who accessed crisis communication through mainstream television channels. Similarly, Leeson (2020) reviewed disaster-related crisis communication in the Republic of Ireland, but the research concentration was on the differences between American Sign Language and Irish Sign Language. Michelle Villenueve of the University of Sydney in Australia has started a group called Collaborating 4 Inclusion, which has projects focused on both disability inclusive emergency planning and person-centered emergency preparedness. Her research and focus also aligns to the advocacy for overall disability inclusion rather than the focus of future research projects on templated communications messages in other languages (Villenueve, n.d.).

Despite these limitations in the research on people with DAFN during disasters, the need for change is well documented. For example, the United Nations Convention on the Rights of Persons with Disabilities in 2006 highlighted the need for targeted support, including the use of adaptive technology for people with DAFN during disasters (Whittaker et al., 2021). The Sendai framework for disaster risk reduction, adopted in the 2015 World Conference on Disaster Risk Reduction, highlighted the need to be inclusive of both the needs and capabilities of people with DAFN for overall disaster resiliency (Stough & Kang, 2015). Consistently, research identifies this as a critical need. Kent and Ellis (2015) argued that new paradigms associated with social media were needed to accommodate people with disabilities when they noted "able-bodied people are implicated in making decisions that

disproportionately negatively impact persons with disabilities, instead of providing best practice accessibility that benefits everyone" (p. 152). Ipsen et al. (2021) identified that "clear, consistent, and non-polarizing messages during public health emergencies" (p. 1) are needed for life safety-related actions by the public. Eriksson et al. (2021) stated the "need for additional communication materials and methods that can be appropriated to individual needs, and dialogue methods between authorities and people in order to counteract normative assumptions in crisis communication aimed at different target groups" (p. 19).

Templated Messaging

Templated messaging for people with DAFN can be universal in its basic concepts: sheltering-in-place is a comparable concept for ice storms as it is for sandstorms. Messaging and the use of innovative technologies to support people in different situations, like public evacuations from tsunamis in Japan (Horiike et al., 2019), will benefit people in Europe and elsewhere evacuating from hurricanes or earthquakes (Pakjouei et al., 2018). Local emergency management messaging for people with DAFN in Ecuador, for example, can be templated and benefit similar populations in Brazil, the United States, or elsewhere—as a generic Spanish translation may not always be as effective (Peña, 2007). Thus, the tools and systems for these risk communications benefit people with DAFN, regardless of their geographic location. The need for templated communication is global and so are the solutions (Bongo et al., 2019; Campbell, 2011; Paudel et al., 2016; Simpson et al., 2021; Stough, 2015).

There are several crisis communications templates for disaster response and recovery available online now in English, which can be the foundation for conversion to other languages, English audio only and American Sign Language recordings. A few examples include material from the National Council on Disability (2014), the Substance Abuse and Mental Health Services Administration (2019), and *The American City & County* (Livingston, 2021). Any of these templates can form the basis for a pre-incident series of translations and then implementation by any country's

governmental crisis communicators when needed for applicable disaster preparation, response, and recovery.

There are also governmental entities currently working toward equity and parity for emergency management crisis communications delivery. The City of Boston, for example, has an alert system available in other languages and a Google translator for its website pages. However, it does not convert the wording of third-party vendors like maps for shelters into other languages (City of Boston, n.d.). The City of New York (NYC) has preparedness material already templated in 12 languages, in addition to English. Their *Notify NYC* alert system, in addition to delivery in multiple languages, also has YouTube videos with the American Sign Language version of the crisis communications message presented (NYC, n.d.). Yet, NYC's efforts may have been the result of adverse litigation against the city, due to its lack of support for people with DAFN during Superstorm Sandy in 2012 (Webster, 2014).

Need for Further Advocacy and Research

Very simply, governments need to provide for and promote public safety. The failure by the public to take proper action against threats and hazards can be exacerbated by inadequate and incomplete crisis communication from government agencies, especially if it is not understood in a timely manner. In the context of disasters and health crises, not only is life safety in peril, but many more responder resources are expended searching for and rescuing people when the crisis communication messages are not understood and acted upon by different members of the public (Edwards, 2011). The cycle of government inaction, disaster, public outrage through media coverage, and then legislative change must be disrupted by academic and professional advocacy and study—including viewpoints and best practices from other countries. The results should be distributed to all levels of governmental emergency management practitioners and their elected and appointed leadership to improve disaster survivability. Not only will the public benefit, but the organizations responding to these crises will also benefit as well by becoming more efficient and consistent in their crisis communication messages before, during, and after disasters.

Moreover, there is a vital need to more meaningfully integrate available technologies to reduce the gaps in communication capabilities to people with DAFN. There are significant opportunities for emergency managers to increase the clarity of their crisis communication—to support the "unique media communications needs of special and diverse audiences" (Walaski, 2011, p. 97). Part of this includes the online storage and retrieval of crisis communication templates—all of which can be partially translated into other languages by the emergency managers of other countries or via machine learning—even animated avatars can be programmed with crisis communication information to quickly generate, for example, American Sign Language messages (Kipp et al., 2011). Too many emergency managers currently do not implement such technology nor consider the cross-border acceptance of baseline translated messaging material for templates to be customized to the specifics of any disaster threat or hazard. This type of preparedness and mitigation work allows organizations responding to disasters to build and collect a set of crisis communication tools and systems supporting the varied needs of people with DAFN. These tools can then be modified to be used in response and recovery phases, which provides several benefits from saving lives to having a positive economic effect as well. For example, research demonstrates that improved preparedness and mitigation work can save $4 for every $1 spent—both domestically (National Institute of Building Sciences, 2005) and internationally (The World Bank, 2019).

Improving Institutional Research

There are many types of institutions that should be targeted for improved research. For example, government officials should be a critical target for this advocacy and research, both as participants in the studies, and as the recipients of the advocacy and research results. The primary governmental groups would be the crisis communicators themselves. Emergency management planners, business continuity experts, and elected/appointed officials with decision-making and funding capabilities themselves should also be included, as they have the legal mandates to support vulnerable

populations before, during, and after disasters (Flowers, 2016; Spill, 2012).

Additionally, emergency management affiliation organizations ranging from governmental agencies like the U.S. National Emergency Management Association or the International Association of Emergency Managers, as well as academic institutions that have emergency and disaster management programs of study, should also be targeted for such research to improve the extant body of knowledge available about topics ranging from new accommodative technologies to best communication practices. For example, there are constantly improvements in technologies and systems that benefit the crisis communication, especially to people with DAFN. How those innovative technologies and systems will be adapted and adopted to benefit people with DAFN will need to be the subject of future research.

Objectives of the Advocacy and Research

Based on previous literature and experience in risk communication, to meet the current and future needs of DAFN people, institutional research should have six broad objectives:

1. Make the public safer—through a more holistic approach to crisis communication delivery.
2. Develop a set of templates associated with:
   a. Different types of disasters like natural/human-made, product/process, and fictitious.
   b. The three overarching phases of all disasters: before, during, and after.
3. Investigate best practices in successful governmental emergency operations and their use of templated crisis communication messages, delivered or made available in multiple languages, including audio only and adaptive messages (e.g., American Sign Language).
4. Examine the results of real-world disasters affecting various locations and compare results from the same disasters impacting locations that do not use templated crisis communication.

5. Evaluate the results of the cross-location comparison to provide the affected areas with the results as part of an after-action report/improvement plan. Moreover, broad knowledge sharing endeavors within affected areas should be undertaken to support communities in modifying plans, developing capacity, providing equipment training, and conducting future exercises for preparedness.
6. Extend the knowledge dissemination activities across academic and emergency management practitioner communities to institutionalize best practices for DAFN communities and risk communication planning. By doing so, this will help these solutions become promulgated across the United States and other countries.

Methodological Considerations

One recommendation for exploring templating for people with DAFN is the use of scenario methodology to provide "research that is innovative and develops theory while being both usable and rigorous" (Ramirez et al., 2015, p. 1). As disasters and emergencies tend to be complex events, they have varying socioeconomic impacts, health impacts, mental health impacts, and so forth. The need for usable crisis communication for people with DAFN is constant, but the actual messages and instructions will vary from disaster to disaster—even down to the same type of disaster in the same jurisdiction. For example, Marsh et al. (2020) said, "Once you have seen one disaster, you have seen one disaster" (p. 1). Scenario methodology will provide both quantitative and qualitative results from multiple scenarios, including both real-world incidents and exercises conducted by various governmental jurisdictions, which are the subjects of this research. Those emergency management practitioners including their crisis communicators should already be familiar with this methodology in practice, since it is already the foundation for the training exercises, workshops, and simulation games many now conduct. Scenario methodology has already been utilized for emergency management research in both predictive and postdictive scenario planning (Alexander, 2000).

Moreover, research should better consider the probability of multiple hazards and threats occurring at the same time, or

multi-hazard disasters. Both complex coordinated attacks and the adverse impacts of climate change have exasperated the needs for people with DAFN to have accurate, timely, and actionable crisis communication delivered to them in a way they can understand. There are some examples of research approaches incorporating multi-hazard scenarios (see Ba et al., 2021) for practitioners of emergency management through experiments, field investigation, and analysis of the scenario's results on populations affected. While their focus was on the physical response, recovery, and mitigation missions associated with large-scale disasters, the process and target audiences for templated communication's application in multi-hazard scenarios readily translate. For example, they found that factors such as interdependence, classification of disaster type, solution formulation mechanism, and risk matrices are as congruent for analyzing structural integrity of a power plant building, as they are for analyzing templated crisis communication for people with DAFN (Ba et al., 2021).

Data Collection Process and Analysis

With the knowledge of a specific jurisdiction's plans to utilize pre-made templates for different language options and crisis communications delivery methods established, the researcher and future researchers can compare one jurisdiction's results in terms of life safety, responder utilization, and so forth against another, as a control. It would also be applicable to compare the same jurisdiction to itself, year-over-year with similar disaster scenarios, when the pre-made templates are subsequently introduced. Future research should:

- Review existing organizational constructs to determine whether the support for people with DAFN has been prioritized. Targeting locations based on prioritization and implementation of templated communication practice will be of use.
- Account for differences associated with families that have children with DAFN (Wolf-Forhham et al., 2016) and whether the adult members have any DAFN themselves or not because the parameters for successful

risk communication to these populations can be very different.

- Evaluate the effectiveness in the use of templated crisis communication messages in multiple languages and formats for people with DAFN, through both practitioner publications and communication channels, as well as academic journals. Future researchers can also build upon the studies and research efforts of prior researchers.

Moreover, data collection of open-source status reports, after-action reports, media reports, and interviews with emergency response organizations should be performed. Collaboration with centers for independent living will also benefit the research data collection process. These groups advocate for people with DAFN, including for disaster resiliency (U.S. Department of Health and Human Services, Administration for Community Living, n.d.) and are excellent sources for real-world incident impact statements, as well as exercise players—people with DAFN themselves, who are willing to participate in exercises for the betterment of their peers—who can help evaluate the efficacy of templated crisis communications messages. Roth (2018) noted:

> Essential components of effective whole-community planning include adoption of universal design standards and involving people with disabilities throughout the planning process. A lack of inclusive disaster planning will have a devastating impact on community resilience overall, just when it is needed most. (p. 1)

Potential Bias

It is important that the data collection must be independent from the agencies providing the crisis communication to avoid acquiescence and social desirability biases. Few respondents would disagree that properly informing people with DAFN of disaster aspects via crisis communication are positive and needed actions of government. And many political entities would self-report inaccurately to paint themselves in a more positive light (Kaminska & Foulsham, 2013).

Selection bias is important. Researchers must utilize the same scale and public action needed for disaster/emergency incidents, especially those which may span multiple jurisdictions. Researchers should then compare similar-sized governmental crisis communication organizations. For instance, comparing a winter storm in the Northeastern states could show effectively differences in crisis communication to people with DAFN between Boston and New York City. Comparing that same disaster scenario between New York City and New Rochelle in New York State could have selection bias issues because of their size differential. Comparing crisis communication on wildfires, which are predominately evacuation orders to the public, versus crisis communication on winter storms, which are predominately shelter-in-place instructions to the public—also may elicit selection bias results.

Anticipated Ethical Issues

The research subjects are the governmental entities themselves, not the people with DAFN. In general, the research results should be able to be obtained through public searches of media reports, governmental websites, and other open-source information. In some cases, Freedom of Information Act (FOIA) requests may have to be performed to fully obtain the data. At no time will individual's privacy be impacted nor specific feedback from individuals be solicited for this research, especially not from the socially vulnerable populations which are the beneficiaries of this research.

The data analysis results should be reported in a transparent manner. Negative research results will be equally reported as positive ones, without any bias to the governmental organization for which the research was conducted upon. This is a key factor in the selection of future authors for research on this subject. They must not be affiliated with any of the governmental organizations they are researching. This will also avoid any potential conflicts of interest.

Conclusions

Clearly, there are many complex factors involved in delivering crisis communication, not the least of which is that incident-specific actionable information must be urgently conveyed to the public. It is reasonable to assume that there is a relationship between the urgency of the crisis communication and the lack of diversity in the way the message is delivered. One goal of future studies should be to evaluate the effectiveness of templated messages that can be developed in advance—during the steady-state preparedness phase versus haphazardly developed during the response phase to better support people with DAFN. Building on this assumption, studies should then seek to advance the implementation of any additional capabilities for crisis communication delivery which will target/specifically benefit people with DAFN. By increasing the availability of timely, understandable, and actionable messages the public will become safer before, during, and after disasters. It is not solely the frequency of expanded crisis communications, but the caliber and effectiveness of the messages delivered, for people with DAFN.

ORCID

Michael Prasad https://orcid.org/0000-0002-2596-5015

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