Crisis Communication

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Public health crises and public health crisis communication

A crisis can cause great physical, emotional, and financial harms to individuals, organizations, and society, disrupting lives and day-to-day operations. Public health crises can imperil the health of large numbers of individuals and severely threaten the social and economic well-being of affected families and their communities. In light of the battle of the COVID-19 pandemic, enhancing the effectiveness of public health crisis communication in response to the dire needs of individuals and society has become more critical than ever.

Public health crises can take on different shapes and forms with varied duration and speed of spread. The two main types of public health crises are caused by: (i) emerging, acute, and communicable diseases (e.g., novel infectious disease outbreaks [IDOs] such as COVID-19, or recurring/non-novel IDOs such as the seasonal flu), threatening individuals' health and social well-being widely and quickly; or (ii) noncommunicable diseases (NCDs) (e.g., tobacco usage-associated heart and lung diseases, mental illness, and obesity) or chronic diseases (diseases of long duration), caused by genetic, physiological, environmental, and/or behavioral factors, posing severe challenges for individuals, communities, organizations, and society over a long period of time. This entry focuses on health crises triggered by communicable diseases (e.g., IDOs at epidemic or pandemic levels), which demand emergency responses due to their rapidly evolving nature that fuels public anxiety in an environment where multiple crisis narratives compete for media and public attention, disrupting business operations and social functions.

Communication plays a critical role in constructing the meaning of a crisis, such as certainty of the crisis event, crisis responsibility, and emotional connectedness among affected organizations and communities. Public health crisis communication represents communications created, conducted, and exchanged in response to a severe and emerging health threat with the goals of informing and protecting affected and at-risk populations from further harm. Unlike organizational crisis communication, public health crisis communication, especially during IDOs, often takes place amidst volatile media climate and intense public debates on crisis responsibilities and solutions.

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Globalization and social-economic interdependence among countries and regions have aggravated the negative effects of health crisis occurrences. In managing a public health crisis, it is pivotal for government agencies, health organizations, communities, and other vital entities in the public health ecosystem to collaborate so as to communicate more effectively to crisis-threatened publics, which include victims/patients, potential victims and at-risk individuals, family members, communities, caretakers, medical professionals, and other first responders. There are unique challenges and opportunities for disseminating accurate crisis information, motivating protective action taking, and ultimately strengthening resilience and safeguarding public health.

Theoretical foundations for public health crisis communication

In times of public health crises like IDOs, news media and governments are responsible for informing the public about how to protect themselves (Liu et al., 2020). Liu and colleagues (2020) tested how individuals responded to different crisis narratives (blame, renewal, victim, hero, and memorial) about a hypothetical infectious disease crisis through an online experiment with a US adult sample. They found that victim and hero narratives are effective in fostering further IDO information seeking and subsequent action taking, provided they experience sadness when exposed to a narrative about an IDO. They also found that those who read IDO information using blame narratives tend to attribute more government responsibility for the IDO than those exposed to other narrative types or no narrative, although the blame narrative did not prohibit protective action taking; to take protective actions, individuals exhibited the need to obtain credible information via their own information seeking.

Grounded on crisis narrative theory and their empirical findings, Liu and colleagues (2020) advocated that, in the context of communicating IDO information to the public, different narratives (or a combination of these) provide unique communicative opportunities to facilitate and enhance health news coverage, supplying timely, accurate, and engaging information with compelling power of storytelling. These factors can help motivate the public to take preventive actions. To do so, public health authorities should: (i) focus on providing information about protective actions individuals can take to keep themselves safe, especially through outlets enabling proactive information seeking; and (ii) consider disseminating information to news media and directly to the public, using renewal narratives, focusing on growth, learning, restoration, and healing if their credibility is called into question.

In recent decades, two theoretical frameworks have been developed by scholars for understanding public health crisis communication, especially in managing IDO situations, where crisis severity and level of emergency are high with uncertainty and threatened by health misinformation: (i) the risk amplification through media spread (RAMS) framework (Vijaykumar, Jin, & Nowak, 2015); and (ii) the infectious disease threat (IDT) appraisal model (Jin et al., 2020).

RAMS framework

The RAMS framework helps us understand the spread and impact of communications from public health agencies to the general public through a highly integrated multimedia system in the context of an IDO. It describes the process of information contagion or spread after IDO-related information is first disseminated by public health agencies. It can reach the public either directly (e.g., through its own social media handles), via news media present in both digital and analog formats, or through other social media users. It is during this process of diffusion and information exchange that the manifestation or expression of health risks undergoes various modifications, for instance, through the headlines of news media, and reaches multiple publics through the process of virality. Social media allows for the coexistence of social and institutional stations of amplification.

The RAMS framework may be used to understand the *process* of information diffusion as opposed to hypothesizing *relationships* between variables. The RAMS framework has helped to identify that transmission, effects on pregnancy, and travel were the three most important topics on Twitter during the first three months of the Zika pandemic; and that news media, public health institutions, and grassroots users were the most visible and frequent disseminators of Zika-related content on Twitter during this period. In the context of COVID-19, for instance, the RAMS framework would allow us to understand how information about the SARS-CoV-2 virus spread reaches people through news and social media. More importantly, it would also help identify specific actors in the informational ecosystem who either exaggerated or downplayed the risks of the virus, the contagion between media platforms, and the ways in which this information flow affected threat perceptions among the general public.

The RAMS framework was also examined via in-depth phone interviews with public health information officers (PIOs) in the United States (Jin et al., 2019). They interviewed PIOs at local, state, and national levels, shared their experiences and insights related to how infectious disease threats (IDTs) are communicated to the public and how they develop and assess IDT messages, emphasizing the need to prioritize time and efforts when it comes to deciding whether, when, and how to amplify and disseminate information about different IDTs, including new and emerging threats. Other key observations are: (i) traditional media still plays the most significant role in IDT information amplification and diffusion processes; and (ii) external experts and physicians are valuable and trusted sources but underutilized in IDT communication.

IDT appraisal model

Advocating for public health authorities' leadership role in optimally communicating about infectious diseases to help individuals understand these situations and respond, the IDT appraisal model was proposed and examined empirically by Jin and colleagues (2020) through an online experiment among US adults. Their results supported the hypothesized model (see Figure 2), mapping individuals' coping strategy preferences as predicted by their perceived predictability and controllability of an infectious disease, which drive individuals' affect valence, information seeking, and conative reactions

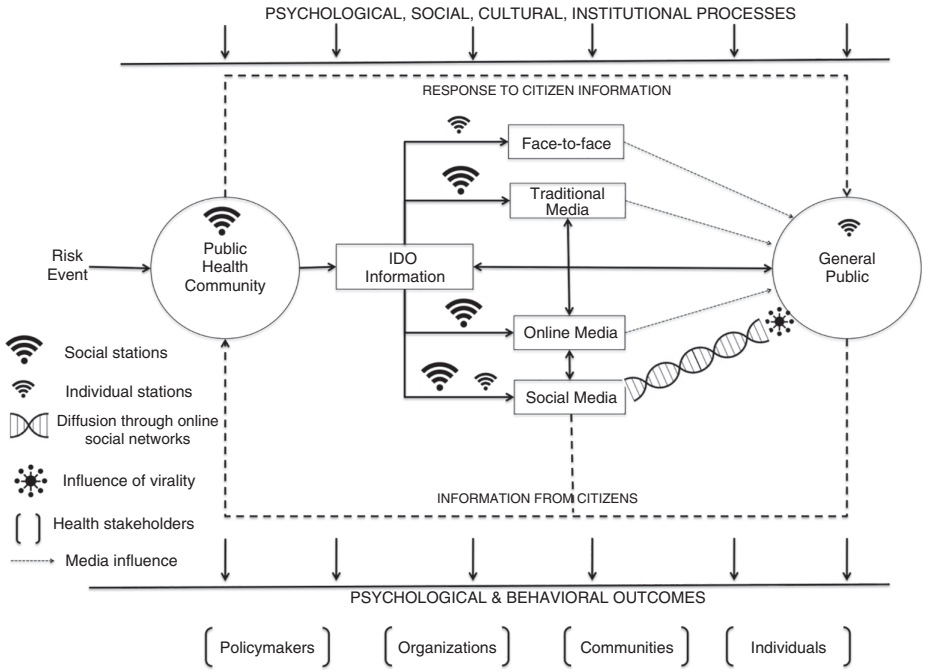

Figure 1 The risk amplification through media spread (RAMS) framework.
Vijaykumar et al. (2015).

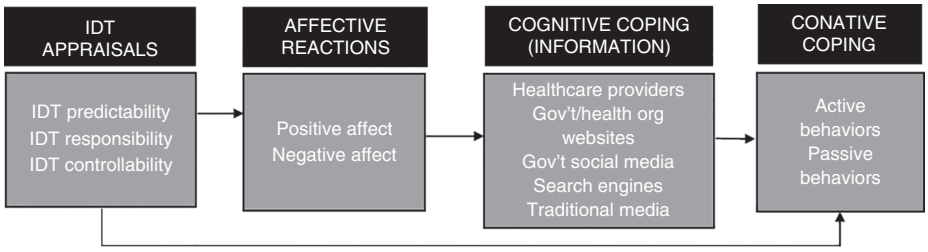

Figure 2 The infectious disease threat (IDT) appraisal model.
Jin et al. (2020).

in passive and active ways of coping/responding to a public health crisis caused by an IDT.

Furthermore, Jin et al. (2021) applied the IDT model to shed insight on how higher education institutions communicate with students regarding airborne and sexually transmitted diseases, two of the most severe types of public health crises confronting college campuses. Findings generated from an online survey among college students indicated that IDT type can lead to different patterns of threat appraisal and protective action-taking intentions among college students: participants perceived a sexually transmitted IDT as significantly more predictable and more controllable than an airborne IDT; they were more likely to take protective action toward an airborne IDT than a sexually transmitted IDT; and the negative feelings (i.e., anger, sadness, surprise, and confusion) and the positive emotion of hope were sequential mediators

in the relationship between IDT appraisal and protective action-taking intentions for both IDTs.

Health crisis communicative behaviors: information seeking, sharing, and vetting

One of the significant knowledge gaps in public health crises lies in how to effectively communicate about uncertainty and risk during emergencies like IDOs. Lee and Jin (2019) developed two multiple-item scales for measuring publics' health crisis information seeking and sharing (CISS), which include seven types of crisis information-seeking behavior and 17 types of crisis information-sharing behavior crossing over platforms, channels, and information sources. The CISS scales provide a valid and reliable tool for crisis communication researchers and practitioners to measure publics' information-seeking and sharing activities in social-mediated public health crisis communication.

Furthermore, at-risk and affected individuals' overexposure to health crisis information can put them at higher misinformation risk caused by false or inaccurate health crisis information with varied credibility, from multiple media channels and different sources (van der Meer & Jin, 2020). Further, Lu and Jin (2020) proposed and identified a two-step process of crisis information vetting (i.e., primary vetting and secondary vetting), grounded in elaboration likelihood model (ELM) and metacognition theory, via in-depth interviews and focus groups (see Figure 3): the primary vetting stage is composed by motivation to vet crisis information, emotional coping, and cognitive processing of the information, through which individuals make judgments on whether the crisis information they received is accurate based on multiple characteristics of the information itself. In the secondary vetting stage, individuals make further judgments on whether the conclusions they made in the primary vetting stage are indeed valid, leading to their conclusion about their prior conclusion about the crisis situation and themselves.

The crisis information vetting process (Lu & Jin, 2020) further delineates two sub-steps: First, crisis information is assessed by individuals according to (i) how consistent the crisis information is to their memories and common sense, (ii) how certain they feel after reading the crisis information (e.g., conclusive or not), and (iii) how they feel about themselves when reading it. From there, some individuals will further assess their feelings about themselves in terms of: (i) whether the initial crisis information makes them feel objective, satisfied, and confident; and (ii) how strongly they attempt to counterargue against the initial information through detecting source bias cues and attempting to make sense of opposing information. Until then, individuals might not trust the initial crisis information unless they reasonably question the information and obtain satisfying answers about the information and themselves (Lu & Jin, 2020). Further, not every individual vets the initial crisis information: for those who are not even motivated to vet at all, they either take no further action or proceed toward crisis information transmission to others (i.e., sharing the information with others or seeking further

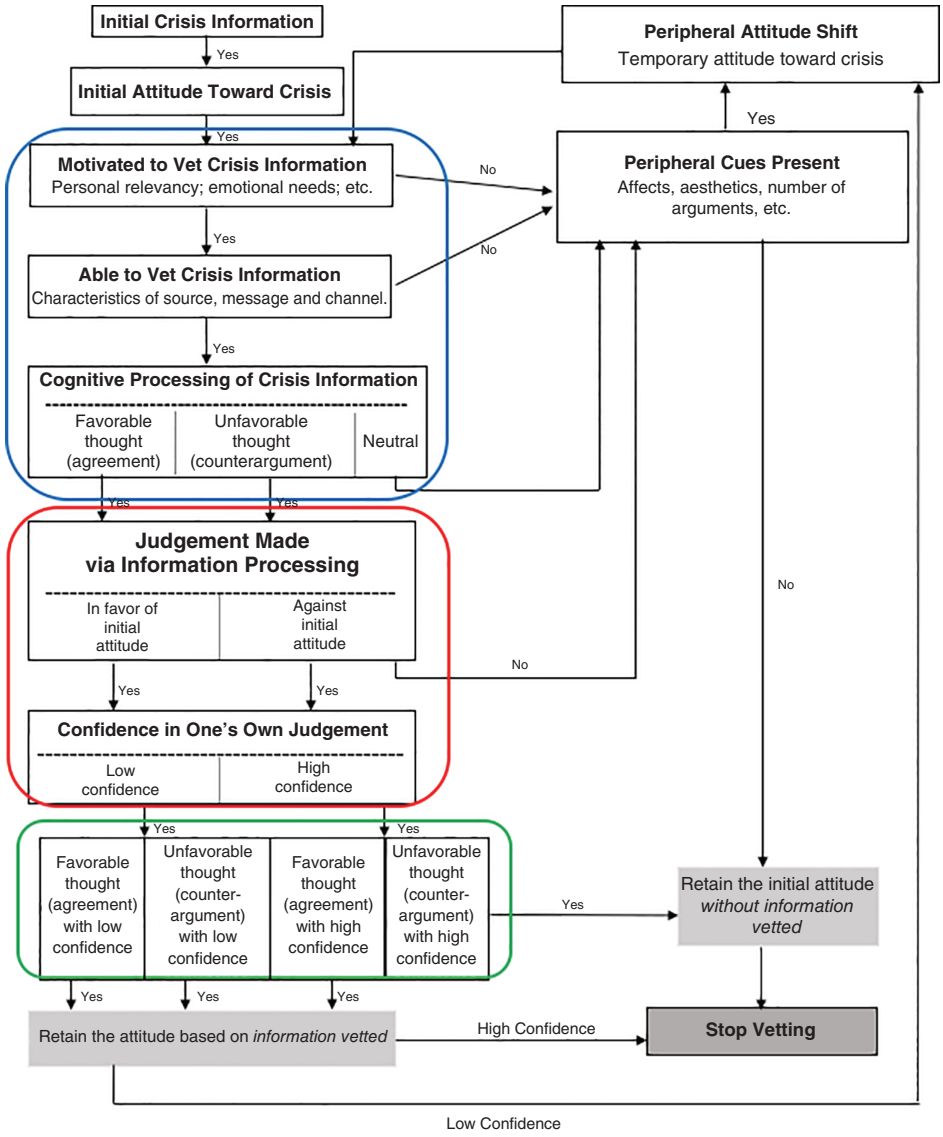

Figure 3 The crisis information vetting process.
Lu & Jin (2020).

information, in line with the current one); conversely, for those who are motivated to vet crisis information, they enter the information vetting process and proceed toward the primary vetting, during which some may stop further vetting and accept the initial crisis information as is while others may enter the secondary vetting to continue with crisis information processing until satisfying vetting results are obtained.

Digital technology and health crisis (mis)information management

A novel challenge for managers of public health crises in the twenty-first century is that of online health misinformation. In the IDO context, misinformation was initially identified as a problem during the 2009 H1N1 pandemic, but its harmful impact grew during the 2014–2016 Ebola outbreak and the 2018 Zika pandemic (Wang et al., 2019). The volume of misinformation triggered by COVID-19 has, however, been so unprecedented that the World Health Organization (WHO) has launched an exclusive effort focused on managing this "infodemic" (Tangcharoensathien et al., 2020).

While sources of misinformation can be hard to ascertain, the content can vary widely and have harmful impacts on health and society. Frequently found forms of misinformation relate to prevention and treatment of disease, questions being raised of health authorities. Falsely attributing blame for the pandemic by spreading rumors about minority communities (e.g., Asian Americans in the USA and Europe) and spreading conspiracy theories have led to stigmatizing and discriminatory behavior and violence. The ubiquity of new media technologies makes it easy to reconfigure content and misrepresent ideas and spread messages where truth and falsehoods are intertwined. (Mis)information in different shades of truth interacts with demographic factors like age and affects the extent to which social media users believe the information to be accurate and credible, and their willingness to share it with others in their small online networks. The enormity and complexity of this challenge has compelled key players in the public health ecosystem to develop a range of strategies to counteract misinformation.

New challenges and opportunities for effective public health crisis communication

Information and communication technologies (ICTs) have brought forth opportunities and challenges to public health crisis communication. On one hand, ICTs make an enormous amount of health crisis information more accessible, enabling individuals to have access to information from different sources with various perspectives. On the other hand, health crisis information overload can lead to unintended communication outcomes, such as health risk tolerance (Jun & Jin, 2021), which can potentially undermine the effectiveness of public health crisis communication efforts and even cause unintended harm to disease control and prevention.

Another construct associated with the unintended effects of public health and risk communication is risk tolerance (Jun & Jin, 2021). First, through qualitative research (in-depth interviews and focus groups), they conceptualized risk tolerance, in a public health context, as an individual's unwillingness to overcome a preventable risk threatening their own health and well-being. Then, a multiple-item scale for measuring at-risk

individuals' tolerance of different health risk types was developed based on survey data, rendering two risk tolerance types: (i) compulsive tendency toward risk taking (CTRT), indicating an individual's unwillingness to refrain from risky behaviors even if they know the negative consequences; and (ii) inertial resistance to risk prevention (IRRP), indicating one's indifference toward or intentionally ignoring messages advocating for behavioral changes towards healthier outcomes. This new health risk tolerance and the scales developed for capturing its varied dimensions provide a valuable framework and a new psychometric tool for public health crisis communication scholars and practitioners to factor in individual differences (e.g., individuals' varied tolerance of different health risks and crisis issues) when considering health crisis response messages and persuasive approaches.

Looking ahead, the fundamental principles of crisis communication and existing crisis communication theories continue to apply to managing public health crises in the twenty-first century. However, the unique opportunities and challenges in public health crisis communication demand frameworks that are sensitive to specific health issues, information needs and preferences of the public, and the uncertainty and complexity that typically characterize such events. This will help communicate about a public health crisis more effectively so as to protect public health and save lives. Crisis communication scholars and practitioners, in the arena of public health crises, should work on further: (i) tackling informational and audience-response challenges in different types of public health crisis caused by communicative diseases (e.g., IDOs), NCDs, and chronic diseases; and (ii) bridging the gap between health organizations' communication objectives and behavioral outcomes among affected and at-risk populations, combating health misinformation (van der Meer & Jin, 2020) and minimizing unintended effects of such risk tolerance (Jun & Jin, 2021) more effectively.

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Further reading

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ABSTRACT

This entry provides an overview of public health crises and public health crisis communication, grounded in crisis communication and literature around emerging infectious disease outbreaks (IDOs). It lays down the theoretical foundations for communication and crisis information management in times of public health risks and emergencies, heralded by two conceptual frameworks developed specifically to tackle IDOs and applicable to other health crises: Vijaykumar et al.'s risk amplification through media spread (RAMS) framework and Jin et al.'s infectious disease threat (IDT) appraisal model. It outlines key crisis communicative behaviors of individuals, including crisis information seeking and sharing (CISS) and crisis information vetting, summarizing empirical evidences in the context of IDOs. The rise of online misinformation as a critical concern in the communication management of IDOs and emerging interventions to combat this threat are further examined. Unique challenges and opportunities embedded in public health crisis communication (e.g., overcoming unintended effects of public health crisis communication) are identified for future research.

KEYWORDS

crisis communication; crisis information seeking and sharing; crisis information vetting; crisis (mis)information management; infectious disease outbreak (IDO); infectious disease threat (IDT) appraisal model; online misinformation; public health crisis; risk amplification through media spread (RAMS) framework; social media