Risk Communication Mitigation of Misinformation

COVID-19: The Social Media Perspective

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Abstract

Previous infectious disease outbreaks throughout history have provided a framework of risk communication examples to help develop and expand current practices. The growth of social media in the past decade has enabled many to share their voice and organizations have broken down barriers to two-way communication with their stakeholders; however, it is with this growth that the spread of misinformation has become more prevalent during public health crises.

A review of the literature highlights best practices for risk communication on social media, the role of emotions in risk perception, and the current infodemic the public is facing during the COVID-19 pandemic. A case study on risk communication during the Ebola outbreak is used to identify and compare the strategic uses of social media during an infectious disease outbreak. Further analysis is done on the implications and learnings from the case study on risk communication for COVID-19. The findings indicate that government officials and health organizations must position themselves as a trustworthy, reliable source for information and actively counter any misinformation in order to effectively communicate risk.

Keywords: Risk communication, COVID-19, social media, misinformation, Ebola

Research Question

What tactics can public health officials use to effectively communicate risk and minimize the spread of misinformation on social media during a pandemic?

The COVID-19 pandemic is continuously impacting countless individuals worldwide, leading to over 49 million cases and 1.2 million deaths at the time of this paper's publication (World Health Organization [WHO], 2020). Throughout the past 11 months of 2020, health organizations, governments, and public health experts have been strategically communicating the risk COVID-19 poses to the public. Social media has become a valuable tool for a variety of reasons in risk communications during a global health pandemic:

> Due to its conversional and transparent characteristics, social media allows for health authorities to post real-time information as a crisis unfolds, as well as quickly reach a large number of people at a low cost. In addition, as social media allows two-way communications between health authorities and the public, health authorities can quickly address public concerns and reduce public panic during the crisis. (Lwin et al., 2018, p. 1)

Despite the advantages of social media for risk communication, it can also create some challenges. Misinformation is easily spread by non-reliable sources and can overshadow important information from government officials and health organizations. Social media can also impact users' risk perceptions through emotions; this can influence an individual's preventative behaviours during infectious disease outbreaks (Oh et al., 2020, p. 6).

The current situation COVID-19 has presented can be compared to other outbreaks such as H1N1 (i..e, the 2009 swine flu), MERS (i.e., Middle East Respiratory Syndrome), and Ebola, thus providing the best and worst practices to learn from. This essay analyzes the social media perspective on COVID-19 through a risk communication lens to identify tools and tactics for effective communication by health organizations. I argue that the spread of misinformation on social media impairs effective risk communication efforts on behalf of government officials and health organizations.

Literature Review

The following literature review highlights previous works that contextualize the role and challenges around social media risk communication during an infectious disease outbreak. The literature, organized chronologically, includes a paper by Lin et al. (2016) which discusses the best practices of using social media for risk and crisis communication, a study by Oh et al. (2020) that analyzes the effects of social media on preventative behaviours and lastly a study by Islam et al. (2020) which focuses on misinformation on social media during COVID-19.

Lin et al. (2016) state that social media has not been used to its full potential for risk and crisis communication as it has only recently begun to be an entirely separate tool from legacy media and that crisis managers may not understand how to utilize it effectively (p. 601). As such, the goal of this paper is to highlight foundational best practices for effective risk and crisis communication on social media platforms. The six areas to focus on as suggested by Lin et al. are; "fully integrate social media into decision making and policy development," "actively engage in dialogue online," "use media affordances to provide credible sources of information," "be cautious about message update speed," "own the hashtag," "cooperate with the public and similar organizations," and "monitor misinformation" (pp. 602-604). Lin et al. emphasize that social media can be an excellent tool for government agencies and crisis communication practitioners, given they understand and utilize the seven mentioned best practices as a framework for consideration.

A study conducted by Oh et al. (2020) aims to understand "how social media use is related to emotional responses and risk perception, which in turn predict preventive behaviors" (p. 1). They specifically analyze and collect data on the Middle East Respiratory Syndrome coronavirus (MERS) in South Korea from 2015 and focus on the role of anger and fear among

social media users. The study used participants (n=400) who completed an online survey and measured their social media use, personal-level risk perception, anger and fear (p. 5). Oh et al. state that their findings indicate social media use is related to fear and anger towards the MERS outbreak, and these emotions mediate the relationship between social media use, risk perception, and preventative behaviours (p. 7). They conclude the paper suggesting that public health communicators must pay more attention to the role of emotions during infectious disease outbreaks and that people use social media to share not only factual information but also emotionally centered dialogue about the outbreak.

Islam et al. (2020) define an infodemic as "an overabundance of information—some accurate and some not—that makes it hard for people to find trustworthy sources and reliable guidance when they need it," and reference the mass amounts of information presented to the public during the current COVID-19 pandemic (p. 1621). The study collected COVID-19 infodemic reports from December 31, 2019 to April 5, 2020, from various sources, including Facebook and Twitter, to determine the spread of rumours, stigma, and conspiracy theories. It was found that 24 per cent of misinformation was related to illness, transmission, and mortality. Moreover, Islam et al. state that their research showed "of the 2,276 reports for which text ratings were available, 1,856 claims were false (82%), 204 were correct (9%), 176 were misleading (8%), and 31 were not proven (1%)," illustrating just how prevalent COVID-19 misinformation is on social media (p. 1622).

The study's discussion emphasizes the role rumours can play in deceiving the public as they can mask as credible infection control and prevention strategies and ultimately reduce trust in governments and health organizations. To conclude, Islam et al. (2020) state, "governments and other agencies must understand the patterns of COVID-19–related rumors, stigma, and

conspiracy theories circulating the globe so that they can develop appropriate risk communication messages" (p. 1627).

Ebola Case Study

COVID-19 is not the first infectious disease outbreak the world has faced, nor will it likely be the last. This fact provides plenty of previous examples of risk communication for public health and safety purposes. One specific example analyzed in this essay is the Ebola outbreak that infected at least 28,600 people from December 2013 to January 2016 (Guidry et al., 2017, p. 477). This case study specifically focuses on the Centers for Disease Control and Prevention (CDC), the World Health Organization (WHO) and Médecins Sans Frontières (MSF, also known as Doctors without Borders) and their communication efforts on Twitter and Instagram (p. 478). Understanding the best and worst practices from these health organizations will help guide similar organizations' risk communication efforts.

While presenting fewer cases than COVID-19, Ebola has an average 50 per cent mortality rate and, in some specific outbreaks, can even reach a 90 per cent mortality rate (Guidry et al., 2017, p. 478). A combined total of 779 tweets and 107 Instagram posts from the CDC, WHO, and MSF were collected dating between September to December 2014 by Guidry et al. to understand which strategies were used and the responses received from the public (p. 480). Of these tweets and Instagram posts, the most prevalent messages among each organization were crisis response (42 per cent), Ebola news (28.6 per cent), and prevention (17.9 per cent) (Guidry et al., 2017, p. 481). MSF posts primarily consisted of fear images, survivor stories, and information about crisis response strategies. This strategy differed from the CDC and WHO and led to high engagement for MSF on Instagram; however, Twitter posts by the CDC and WHO on preventative measures outperformed on that platform.

The role of risk perception also impacts an audience's engagement with the health organization's social media posts. Guidry et al. (2017) state that 83.2 per cent of Instagram posts included some sort of risk perception variables such as fear, danger, identifiable victim, and dreaded outcomes, compared to only 46.6 per cent of Twitter posts (p. 482). The more a post includes risk perception messages, the higher engagement it receives from the public, thus allowing posts specifically on Instagram from health organizations to reach a broader audience. MSF posts featured many risk perception variables that received lots of engagement while frequently counterbalancing with positive messages as per risk communication best practices. Guidry et al. (2017) credit this to the fact that "MSF's target audiences wanted to understand the full scope of the risk, with a balance between sharing the gravity of a health crisis and the hope of a solution for the same crisis" (p. 483).

Misinformation was also prevalent on social media during the Ebola outbreak, and a key finding of this study noted that "the three health organizations rarely posted messages aimed at combating Ebola-related misinformation. Overall, less than 3% of Instagram posts and just 1% of tweets addressed Ebola-related misinformation, with no significant differences between the three organizations." (Guidry et al., 2017, p. 483). This can be considered a missed opportunity in risk communication for the CDC, WHO, and MSF. It would've allowed the opportunity to highlight and dispel misinformation, ultimately gaining the public's trust.

Critical Analysis: COVID-19 and Other Implications

The findings from the above case study on Ebola indicate that specific strategies work best for communicating risk with large public audiences through social media, which can be utilized in future global pandemics. The risk communication efforts of the CDC, WHO, and MSF proved to be somewhat successful during the Ebola outbreak as they were able to

communicate risk at a basic level, primarily sharing relevant news regarding the situation and their crisis response; however, they failed to follow the two-way communication model as well as monitor misinformation. Lin et al. (2016) state, "risk and crisis managers, as well as public health practitioners, should actively engage in ongoing conversations online with the public, listening to stakeholders' concerns and replying to victims' requests for assistance in a timely manner," as a best practice (p. 602), but this was not evident in the communication efforts by the CDC, WHO, and MSF.

At this point, it is clear that misinformation is prominent during public health crises such as Ebola or COVID-19; moreover, trusted sources are not doing enough to combat this issue on social media. For example, a study by Bridgman et al. (2020) found high levels of misinformation about COVID-19 on Twitter when compared to traditional media (see Appendix A), leading to low levels of risk perception. Another study stated that false information spreads six times faster on social media than reliable information (Dizikes, 2018). As mentioned in the case study above, the major health organizations failed to monitor and respond to misinformation related to Ebola. Misinformation arises when there is an absence of information from trusted sources as people search for any form of information to avoid the discomfort of not knowing anything (Lin et al., 2016, p. 604). The CDC, WHO, and MSF should have proactively built upon the public's trust in them through open dialogue and acknowledging concerns, and then proceeding to speak up and counter any misinformation.

Now in the present day of the COVID-19 pandemic, risk communication efforts are still ongoing. Government officials and health organizations should actively be combating misinformation on social media, playing off the public's emotions to develop robust risk perceptions, and further developing their role as a trusted resource for information. Fear and

anger, hazard, and outrage; each of these emotions can affect risk perception among the intended audiences. The role of fear specifically was found to influence risk perceptions positively and thus encourage preventive behaviours during a pandemic such as COVID-19 (Oh et al., 2020, p. 6), and this can be seen in MSFs Instagram posts including fear images and the high level of engagement they gained. Using emotion as a risk perception tactic can be beneficial for crisis and risk managers when communicating preventative actions. Ultimately, social media should be used openly and transparently by public health authorities during COVID-19 to work alongside the public to achieve effective risk communication (Malecki et al., 2020, p. 5).

Conclusion

COVID-19 presents numerous risks to public health and safety, similar to Ebola and other previous infectious disease outbreaks. Proactive risk communication is essential for health authorities to prevent misinformation and positively impact preventative behaviours. While social media platforms such as Twitter and Facebook have been taking steps to combat misinformation, the spread of rumours, stigma, and conspiracy theories is still ongoing; and government officials and health organizations are responsible for correcting them. The case study of risk communication on social media during the Ebola outbreak highlighted in this essay provided examples and lessons to be utilized during the current COVID-19 pandemic. Further discussion around the role of risk perception and emotions will help guide effective risk communication efforts to encourage preventive behaviours among the public. Social media is an excellent tool for the rapid dissemination of risk information; however, risk and crisis managers must follow best practices in order for it to be effective and mitigate any misinformation that would jeopardize individuals' health.

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Appendix A

Figure 1: Frequency of COVID-19 Related Misinformation (Bridgman et al., 2020, p. 4)