Social Media Crisis Communication Guidebook for Public Health

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Project Information and Acknowledgements

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Background

This guidebook is designed to be used by public health practitioners for crisis communication on social media during emerging infectious disease outbreaks. The guidebook will help stakeholders understand how to best combine evidence on crisis communication during an emerging infectious disease, best practices for social media, and how to leverage communication channels for the greatest reach and acceptance of messages. Communicating during a pandemic, endemic, or outbreak is different than other types of health communication. Crises are dynamic events that interact across technological, social, political, economic, and natural factors in highly complex, unpredictable, and unanticipated ways. High levels of uncertainty result from emerging infectious diseases, creating unique communication challenges that are different from other health communication initiatives. Crisis communication is firmly rooted in both what is known and what is unknown. Crisis communication occurs throughout the duration of a crisis, like COVID-19, and beyond (1). Crisis communication influences risk perception, which in turn influences the behavioural response to the risk (2). Risk perception is the subjective judgement about the likelihood of the risk causing injury, disease, or even death (3). Effective crisis communication is essential to promote recommended prevention behaviors (e.g., physical distancing, hand hygiene, mask wearing), which decrease the burden of disease during emerging infectious diseases. For more information about the guidebook or to provide feedback, please contact Dr. Andrew Papadopoulos at apapadop@uoguelph.ca.
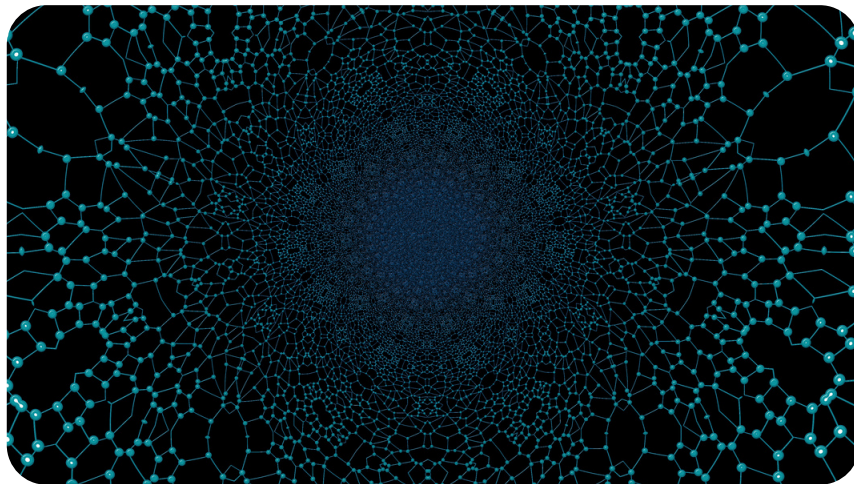
Suggested Citation

Social Media

What is social media?

Social media are internet-based technologies that allow collaboration and information sharing (4). Importantly, social media enables the two-way flow of information where the public can contribute to content development and sharing (5). Social media technologies are often referred to as web 2.0 technologies as they move from a one-way dissemination model of information sharing to an interactive environment where communication and conversations flow in multiple directions (4,5). In 2021, there were 31.76 million Canadians using social media, of which 73% used a form of social media daily, for an average of 1 hour and 46 minutes (6). The most popular social media networks in Canada in 2021 were Facebook (70%), followed by YouTube (55%), WhatsApp (41%), Instagram (40%), LinkedIn (31%), Twitter (25%) and TikTok (9%) (6).

Platform	Demographics	Best for
Facebook	The only platform where use is high among those 55+ and across income groups. Women are more likely than men to use Facebook and is most popular among those 25-34, followed by 35-44.	Reaching specific audience segments, including 55+, and joining conversations.
YouTube	Most used by those 18-34 with the adoption rate dropping as age increases. Women are more likely to use messaging apps compared to men, and the adoption rate increases as income increases.	Videos that are educational or provide "how to' information targeted to audience segments.
WhatsApp	Most used by those 18-34 with the adoption rate dropping as age increases. Women are more likely to use messaging apps compared to men, and the adoption rate increases as income increases.	Engaging in conversation with followers to answer questions and understand communication needs.

Platform	Demographics	Best for
Instagram	Most users are between 18 and 34 years old, with a high growth rate among those under 25. The platform has a consistent appeal across income groups and is most popular among women.	Being creative and providing image/video-based messages.
LinkedIn	Use is high across age groups, with the lowest adoption rate among those under 24 and over 55. Higher levels of education are associated with higher use.	Providing information to other organizations and relevant professional groups.
Twitter	Most users are people aged 18-24 and 25-34, with those 55+ least likely to use this platform. Men use Twitter slightly more than women and is popular among those with incomes between $60,000 and $99,000.	Using hashtags and creating conversation around relevant crisis information. Using hashtags to find trending crisis information and joining conversations to provide accurate information.
TikTok	Mostly used by those 18-34 with the adoption rate dropping as age increases. Women are more likely to use messaging apps compared to men, and the adoption rate increases as income increases.	Engaging in conversation with followers to answer questions and understand communication needs.

Why is social media important?

Social media has been successfully used for health promotion by providing information, disseminating campaigns, and providing social support (4). Emerging infectious disease requires a communication strategy that responds to the information needs of many different stakeholders, including the public, media, etc. As such, a variety of communication channels that represent stakeholder needs including social media, websites, and mass media are required. Emerging infectious disease usually results in increased information needs by stakeholders and social media plays an important role in influencing risk perception and the uptake of recommended behaviours (4,8). Social media provides a platform where the public can get information about the crisis and a place they can share their own experience and understanding (4). Thus, inaccurate and harmful information is also shared on social media, which makes it even more important to use effective crisis communication to counter misinformation (4).
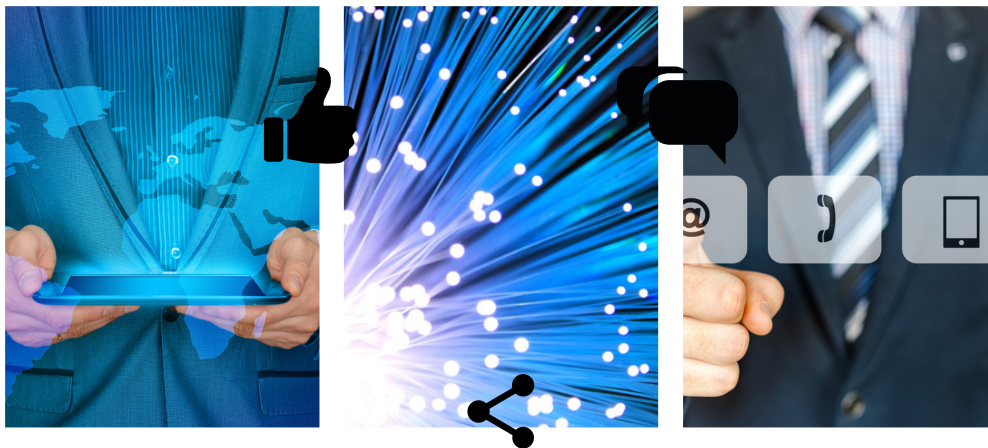
What are the benefits of using social media?

Social media allows information to be shared quickly with specific subpopulations by targeting and tailoring messages (9). It provides a platform through which public health can share information, monitor misinformation, and engage with the public (10). Importantly, the effective use of social media for crisis communication has been found to have a large influence on behaviour, such as physical distancing, mask-wearing, and vaccine uptake (11,12). Unfortunately, public health defaults to passive dissemination of information on social media (9). This is missed opportunity because two-way communication where public health engages with followers to answer questions and ask for feedback is an important aspect of effective crisis communication (9,13). Two-way communication fosters understanding and trust among social media followers. In the sections below, we outline how to effectively use social media for crisis communication to foster a positive influence on risk perception and uptake of recommended behaviours.

Related resources for social media

Social Media in Public Health by the National Collaborating Centre for Healthy Public Policy

This guide goes over some of the basics about what social media is, what the commonly used platforms are, and how it is used by public health.

Social Media Toolkit for Ontario Public Health Units

While this guide was made for Ontario-based public health units, there is a lot of useful information around planning for social media use in public health, how to manage social media, and how to evaluate social media using metrics and other means. This guide also has a lot of great resources and references listed where you can find more information.

Writing for Social Media by the Centers for Disease Control and Prevention

This guide is not specific to crisis communication but goes over some of the details that may help when writing specifically for social media. Social media messages should be clear, action-oriented, easy to understand and share, and conversational.

CERC: Social Media and Mobile Media Devices

This chapter of CDC's Crisis and Emergency Risk Communication (CERC) manual discusses writing for social media during a crisis, monitoring social media for public response, and responding to misinformation.

Good job, Bruce: The guy behind North America's top public health Twitter account

This article describes Ottawa Public Health's success using Twitter to communicate crisis messages during COVID-19, including examples of how they use two-way communication.

Note: the title of each resource is hyperlinked.

Audience Segmentation

What is audience segmentation?

With the limited resources we have available in public health for social media, it's important to be strategic in order to maximize impact. The audience will judge the message based on the content of the message, the messenger, and the communication channel used (14). Thus, it is essential to know their information preferences, including preferred social media channels., Audience segmentation involves dividing a larger audience into subgroups based on similarities such as behaviours, needs, opinions, values, social determinants of health, and demographic information (e.g., age, education and income levels, gender, etc.) (14,15). It supports the development of crisis messages more suited to various subpopulations' needs and is more likely to result in behaviour change (15). The following table provides some example audience segments within the larger audience of young adults between 18-24 during COVID-19 and some considerations for social media use:

Audience Segments	Considerations for Communication Needs and Approaches
Living in urban vs rural settings	What is the availability of high-speed internet and smartphone connectivity in rural settings? Is there a difference in social media channel preference between settings? What are the information needs of each segment?
Vaccinated vs vaccine hesitant	Who are the trusted messengers of vaccine-related information that could be used to get factual and accurate information to the vaccine hesitant group? What are the factors that are contributing to their hesitancy that need to be addressed through the communication?

Some questions to address when doing audience segmentation:

- Who is impacted by the crisis and how? Do these groups share certain characteristics that can be used to better understand them through audience segmentation?
- Who do my segmented audiences trust as spokespersons or messengers on social media to deliver crisis messages? How do I know this?
- What is the appropriate reading level and language that crisis messages should use so that segments can understand?
- What social media channels do my segmented audiences prefer and use?
- What crisis messages do my audiences need to receive to best understand their risk and what actions need to be taken to protect their health?

Audiences can be chosen using epidemiological evidence that shows who is most impacted and most at risk of the emerging infectious disease. Available data through local public health, open government sources, and open datasets from research can be useful in learning more about various subpopulations.

Why is audience segmentation important?

The community that public health serves is highly segmented so a multifaceted approach is needed in response (16). Subpopulations can be effectively reached on social media during a crisis through targeting and tailoring both message content and message channels (9,16,17). Audience needs, including literacy levels, culture, and language, are all important aspects of audience segmentation during crises (16,17). During COVID-19, partnerships were developed with diaspora influencers, and community-based organizations to better meet the needs of audience segments. For example, vlogs with Chinese diaspora reinterpreted and recontextualized public health information about COVID-19 to better meet the needs of those who are Chinese and migrants in the U.S.A (18). Additionally, Spanish-speaking influencers were successfully partnered with to increase flu vaccination due to the language and culturally relevant information shared (19). Finally, a faith-based campaign successfully provided evidence-based information within a community experiencing inequities, increasing positive perception of COVID-19 public health efforts and trust (20). Audience segmentation can reflect a deeper understanding of the needs and wants of the public, which can be used to create culturally relevant crisis messages (21).

What are the benefits of audience segmentation?

Differences among people, including culture, demographics, and other characteristics, impact the way they communicate, understand, and respond to information during emerging infectious diseases (22). Audience segmentation allows crisis messages to be targeted and tailored so that messages are clearly understood, relevant, and influence behaviour uptake by audiences (22). Segmentation customizes messages, increases reach and exposure, and maximizes the impact of crisis communication efforts. When the best-suited social media platforms are chosen for various subpopulations, messages are more likely to have higher engagement and be spread through social networks. Engagement signals active interaction with the crisis message (23), and those same metrics (e.g., likes, shares, reactions, comments, etc.) can be perceived by individuals as the opinions shared by others (24). Viral messages, or messages that have the potential to spread across social networks, can directly influence risk perception (25). Importantly, messages that meet the needs of priority subpopulations have more potential for engagement and spread within social networks, in turn influencing risk perception and reducing the tendency for people to adopt what they perceive as shared negative opinions about crisis messages.

Related resources for audience segmentation

CERC: Messages and Audiences

This resource discusses how to understand audiences and audience segments in relation to a public health emergency. The resource also examines culture in the context of crisis messages, how to effectively deliver facts, and how to build trust and credibility.

SBCC For Emergency Preparedness Implementation Kit

The Toolkit's chapter on audience analysis and segmentation walks you through ways to identify priority audiences, gauge their knowledge, attitudes, and behaviours, barriers and facilitators to engaging in recommended behaviours, segmenting audiences, and identifying influencing audiences.

CDCynergy's Understanding Audiences During a Crisis

This webpage discusses audiences' concerns during crises that should be addressed by crisis messages to meet needs, maintain trust, as well as how to develop effective crisis messages.

Note: the title of each resource is hyperlinked.

Guiding Prinicples

What are guiding principles?

Many resources are available describing risk communication for public health emergencies, including the CDC's Crisis and Emergency Risk Communication manual and the Canadian Pandemic Influenza Preparedness: Public Health Measures Strategy. In order to create a concise and relevant list of guiding principles for social media crisis communication during emerging infectious diseases, a literature review was conducted (26). The guiding principles of effective crisis communication that contribute to public trust include clarity, compassion and empathy, correction of misinformation, timeliness, and transparency. Two social media best practices that increase social media message effectiveness include call to action and conversational tone. Below are the key features and example social media text that demonstrate these guiding principles and best practices (26):

Guiding Principle	Key Features	Example Post
Call to Action	- Asks the public to do something as a result of the information - Visit a website, share the post, watch a video, look at an infographic, help others, etc. - Make sure to describe the link and benefits in the post text, rather than just a link at the end of a post	
Clarity	- Uses plain language (i.e., common terms, parallel form, short sentences) - Conveys complex information visually - Targets and tailors information to audience(s)	

Guiding Principle	Key Features	Example Post
Compassion and Empathy ▶	• Validates and shows emotion • Expresses concern and willingness to impact future tragedy	
Conversational Tone 👆	• Balances friendly conversational tone with professionalism • Uses first or second person, contractions, and implements good spelling and grammar	
Correction of Misinformation ▶	• Addresses and corrects misinformation including rumours and myths	
Timeliness ▶	• Communicates information and decisions as they become available or are made • Shares information within 24 hours of first release, based on COVID-19: a timeline of Canada's first-wave response	
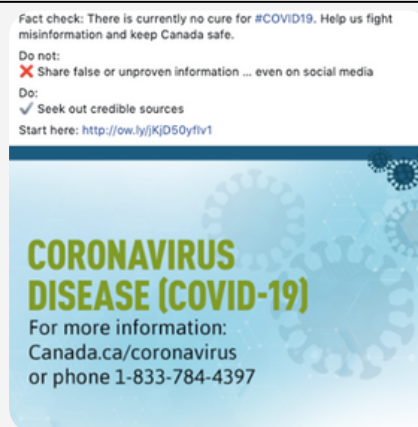
Guiding Principle	Key Features	Example Post
Transparency	• Provides honest and accurate information • Shares strengths and weakness, uncertainties, and completeness of information • Communicates future research and decisions or how they will go about finding answer	

 Guiding principle

 Social media best practice

Why are these guiding principles important?

Trust is one of the most important outcomes of effective crisis communication because it impacts whether people will engage in the recommended behaviours (22,27). Crisis communication must be positively rated for several characteristics to earn public trust. Characteristics such as the quality and content of a message, and communication channels used for the message play an important role in influencing risk perception and trust (26). For the public to perceive the source of crisis information as trustworthy, messages must be timely, compassionate, and transparent (28–32). When guiding principles are incorporated into crisis messages, crisis communication can promote trust, influence risk perception, and behaviour change (29,31,33).

What are the benefits of these guiding principles?

Research examining social media crisis messages for use of the guiding principles has found that they are related to the public's emotional response to messages. Research that examined COVID-19 Facebook posts by federal public health and news media found low and inconsistent adherence to the guiding principles, with the exception of call to action (26). Most Facebook posts made by public health exhibit two or three guiding principles per post, whereas posts by news media exhibit either one or two (26). Overall, negative sentiment or emotional response was highest for public health and news media sources, although news media received more negative comments overall (26).
Crisis communication must consistently incorporate all relevant guiding principles into messages to increase message acceptance and compliance with risk protective behaviours (26). Each message should aim to reflect the guiding principles that are relevant to the topic and the intended audience. Ultimately, not every message will incorporate each guiding principle, but some principles are critical and should be used consistently.

For example, clarity should be used in every message to ensure understanding and increase the relevance to different subpopulations. Wherever possible, transparency should be used to show how decisions are being made, the balance of information including what is unknown. This primes audiences to understand that as science evolves, directives and information may change. Further, call to action and conversational tone should be applied in all messages as these are best practices of social media. Conversational tone appeals to the social aspect of the platforms and call to action provides audiences with more information about the topic of the message. Timeliness, especially with new or changing decisions, is important as audiences judge the trustworthiness of messages against how quickly they are released and often believe the first source.

Similar research examined the use of guiding principles in federal-level government, politicians, and public health Twitter posts related to COVID-19. Again, the use of guiding principles was found to be low and inconsistent (34). The use of guiding principles and how it relates to tweet engagement was also explored. Tweets written with clarity, compassion and empathy, conversational tone, and correction of misinformation were associated with higher odds of having good tweet engagement (34). In terms of the source, politicians and public health were also associated with having good tweet engagement, while government was associated with lower engagement (34). Importantly, tweets that used two, three, or four guiding principles were associated with increased engagement (34).

The guiding principles are interrelated and likely function together to increase message acceptance and uptake of public health measures. Messages that reflect the guiding principles result in increased positive response to crisis messages on social media and higher engagement.

Related resources for guiding principles

WHO Strategic Communications Framework for effective communications

This framework provides a strategic approach to effectively communicating across a broad range of health issues, including emerging infectious diseases.

CDC's Crisis and Emergency Risk Communication (CERC)

The CERC manual describes the principles of crisis and emergency risk communication and how to address different challenges while communicating during a crisis.

Examining Social Media Crisis Communication During Early COVID-19 from Public Health and News Media for Quality, Content, and Corresponding Public Sentiment

This research article examines the quality and content of Canadian COVID-19 Facebook posts for key guiding principles of effective crisis communication and the resulting public emotional response to the posts.
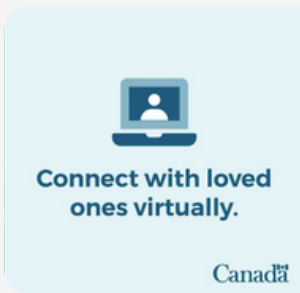
Note: the title of each resource is hyperlinked.

Theory-Based Communication for Behaviour Change

What is theory-based communication for behaviour change?

Intervention effectiveness can be improved by applying behaviour change theory which describes how behaviours develop. One of the most widely used models to explain health behaviour change is the Health Belief Model. The model indicates that people will adopt a health behaviour if they think they are susceptible, if they believe the disease would be severe if they got it, believe there are positive benefits to taking action that outweigh any barriers, and believe they can successfully take action (self-efficacy) and are given the steps they need to do so (cues to action) (35–37). These constructs are areas that crisis communication should incorporate to influence risk perception and behaviour (37). Crisis communication must demonstrate the threat, which is the combination of severity and susceptibility information, provide benefits to adopting the behaviour change and ways to overcome barriers, and provide individuals with the information they need to be able to feel that they both can adopt the behaviour and know how to. The following describes each construct in more detail (38,39) :

Construct	Key Features	Example Post
Severity	A person's feelings on the seriousness of contracting the disease, which can be evaluated by both the medical consequences (illness, death) and the social consequences (family life, social relationships)	
Susceptibility	A person's feelings of being vulnerable to the disease, which can be influenced by numbers like deaths and spread of variants	

Construct	Key Features	Example Post
Benefits	A person's feelings of the effectiveness of taking action against the disease and how engaging in public health measures reduces disease transmission	
Barriers	A person's obstacles to performing the behaviour and how difficult and challenging it is to adhere to public health measures	
Cues to action/ efficacy	Prompts to engage in a behaviour, such as reminders to self-screen for COVID-19 or get a test if you have symptoms and the level of confidence a person has for engaging in the behaviour	

Another widely used behaviour change model in health communication is the Extended Parallel Processing Model (40). It helps us understand how fear, in combination with efficacy, can help us influence behaviour change. Several constructs of the model overlap with those of the Health Belief Model, including threat (severity and susceptibility) and efficacy (40). When perceived threat and efficacy are high, the theory says that individuals will engage in recommended protective behaviours (41). However, if fear is high and efficacy is low, individuals respond defensively, reject the message, and do not engage in the recommended behaviour (41). Messages should be crafted to promote high levels of threat and high levels of efficacy (both that an individual feels they can engage in the behaviour and that the behaviour will be effective at overcoming the threat if they do) in order to promote behaviour changes (41).

Results from a meta-analysis show that both severity and susceptibility features in messages produce persuasive effects such as behaviour change (41). References to the severity of the threat in terms of morbidity and mortality and the population's susceptibility to a threat are important. Both the Health Belief Model and the Extended Parallel Processing Model, as well as the associated research, tend to collapse these constructs together as 'threat'. While the meta-analysis indicates that both severity and susceptibility are important and influence behaviour, it isn't clear how threat is impacted if disease severity is perceived as low(er), but susceptibility is perceived as high(er) (such as with the Omicron SARS-CoV2 variant) or vice versa. What is clear, is that messages should aim to elicit a high threat appeal in combination with high efficacy to influence behaviour (41). Vivid language, pictures, and individualist language can help increase perceptions of threat (41). Pre-testing messages that aim to have high threat appeal and high efficacy will help ensure they have the intended impacts, especially if perceived severity or susceptibility is thought to be lower in a population.

Why is theory-based communication for behaviour change important?

COVID-19 has demonstrated both the difficulty and importance of crisis communication where adherence to risk protective measures can decrease the burden of disease. The Health Belief Model has been extensively used to study many public health issues including vaccination, sexual health, emerging infectious disease, and disease management (342). The model has increased our understanding of why individuals may take action when faced with a threat (42). The constructs are underpinned by individual characteristics, which further allows us to implement what is known from audiences to target and tailor crisis messages to the needs of individuals. The application of the constructs when developing crisis messages can help increase the relevance of messages and ensure that individuals understand their risk and feel confident in taking action.

What are the benefits of theory-based communication for behaviour change?

The use of Health Belief Model constructs in crisis communication varies widely but often the constructs are not consistently incorporated into crisis messages (43,44). Research examining the use of constructs on Instagram by 33 different types of accounts including government and public health, politicians, news media, science communicators, and brand influencers found the constructs were not widely used in either post captions or images (39). Further, constructs were not used very well in combination with each other (39). When the sentiment or emotional response to the Instagram posts was examined, neutral sentiment was the most common (39). Instagram posts that included information about severity, benefits, barriers, and cues to action/efficacy were associated with significantly higher positive sentiment (39). Sentiment and engagement are important ways to assess whether the public is accepting of the message.

Related resources for theory-based communication for behaviour change

The Health Belief Model

This resource explains the model in more detail, including considerations for implementation within a public health context.

Theory at a Glace: A Guide for Health Promotion Practice

This resource provides information about theories, including the Health Belief Model, for behaviour change.

The Health Belief Model: How public health can address the misinformation crisis beyond COVID-19

This research paper proposes an intervention for misinformation that relies on the Health Belief Model to bridge the risk associated with misinformation and its impact on health.

A content analysis of Canadian influencer crisis messages on Instagram and the public's response during COVID-19

This research paper examined COVID-19-related crisis messages across Canadian influencer accounts posted on Instagram for Health Belief Model and Extended Parallel Processing Model constructs and the corresponding sentiment and engagement.

Note: the title of each resource is hyperlinked.
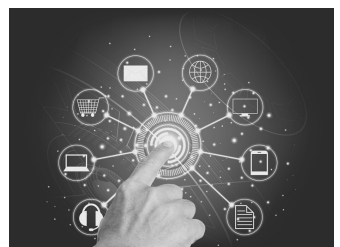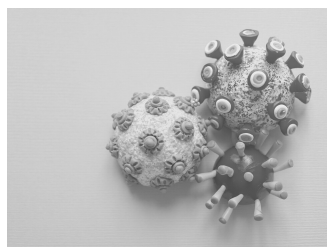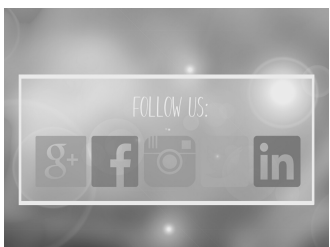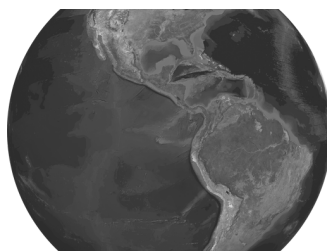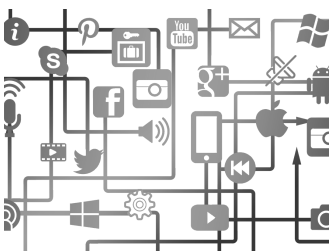
Partnerships and Spokespersons

What are partnerships and spokespersons?

Strategic partnerships between public health and other sectors including social media, technology, brand influencers, and even celebrities can strengthen social media crisis communication. Partnerships with social media and technology companies could help public health increase the reach of messages, aid in fact-checking, and analyze the impact of messages (17,44,45). Social media experts within public health can identify potential partners and work to build partnerships both in the context of a crisis and during emergency preparedness planning (27). Partnerships with other credible and trusted organizations or individuals can boost the credibility of public health messages and reduce the impact of misinformation (45). Public health can also strategically mention, retweet, share, or quote influential actors on social media to get higher engagement on their crisis messages (46).

The spokespersons chosen for crisis messages has a big impact on trust and effectiveness as well. Physicians, celebrities, brand influencers, media, and politicians that are viewed favourably by the public have all been found to have positive impacts on risk perception, message sharing on social media, and if individuals engaged in risk protective measures during COVID-19 (19,25,47–51). Spokespersons should use the guiding principles in their crisis messages to ensure their messages are understood, relevant, provide balanced information, are honest, and can influence risk protective measures (22,32).

Why are partnerships and spokespersons important?

In a crisis like an emerging infectious disease, credibility and trust have a big influence on people following public health's advice. Organizations and people that are trusted listen to the public, can counter misinformation, and respond to people's needs. Using people trusted by various subpopulations better connects them to the information and allows accurate information to be put into the context of their values, needs, and wants. Further, those spokespersons such as politicians, brand influencers, and celebrities who have large social media followings can amplify public health messages.

What are the benefits of partnerships and spokespersons?

High levels of engagement were found for brand influencers, celebrities, and some politicians (e.g. Justin Trudeau), which can be leveraged by public health to influence risk perception and increase the virality of messaging (25). Partnerships between trusted and influential spokespersons not only ensures accurate information is being shared among those with large followings but can also help drive followers to public health accounts (48,51). Further, partnering with those that have strong relationships with their followers better targets and tailors messages to subpopulations, ensuring information is understood, able to be applied, and can overcome the disproportionate harms caused by emerging infectious disease on racialized and priority populations (32).

Related resources

CERC: Spokesperson

This chapter of the CERC manual looks at the role of spokespersons in crisis communication and the characteristics that make a good spokesperson.

Best Practices in Crisis Communication: An Expert Panel Process

This research article analyzes best practices for crisis communication, including partnering with the public and credible organizations and people.

Note: the title of each resource is hyperlinked.

Monitoring and Evaluation

What is monitoring and evaluation?

Social media platforms have functions that allow public health to better understand the needs of subpopulations, how people are responding to crisis messages and the reach of messages. Social media monitoring can be used to identify information gaps, platforms used by subpopulations, and improve the timeliness of messages (9,52–54).

Sentiment Analysis

Sentiment analysis tells you the emotional response individuals have on social media to your crisis messages. As you monitor sentiment, you will develop a better understanding of how your followers are responding to different types of messages. This information can help inform your strategy for the various platforms you use to get more positive sentiment in relation to your posts.

Engagement Metrics

Engagement metrics, such as likes, shares/retweets, or number of comments, show how actively involved your audience is with your content. Looking at a combination of metrics helps you decide how active your followers are with your content; shares can spread accurate information through social networks, comments indicate conversation among your followers, and reactions (likes, loves, etc.) can indicate someone's opinion of your content (23).

Why are monitoring and evaluation important?

People use reactions, comments, shares, etc. to evaluate the crisis content they see on social media. Engagement provides indirect social information and has been found to influence individuals' personal attitudes on crisis information (30). Analysis of the comments provides information about the public's emotional response to crisis messaging, which signals their acceptance of messages. Public health can use social media engagement and comments to understand the information needs of their communities and identify any gaps (16).

Sentiment analysis can measure the public's response to crisis messaging. Negative comments on social media posts have been shown to persuade others to also view the post in a negative light (55). Single negative comments can influence others to also view the content and the source in a negative light. Comments left on social media posts have been found to influence people's judgments of the message and the source (30,56).

What are the benefits of monitoring and evaluation?

Reactions, including likes and shares, can increase how much attention people pay to your social media posts (30). For example, increased likes on social media have been linked to more positive attitudes towards the flu vaccination (30). Shares help crisis information organically spread through follower networks as well, increasing the reach of public health crisis messages (23). Understanding and incorporating aspects of crisis messages that increase reactions and shares will increase the reach and positive impact of crisis messages.

Further, monitoring sentiment and adjusting messages that have a high number of negative comments is important so that individuals do not negatively judge the source and information itself. Reply to negative comments to provide clarification and resources to increase understanding. Working towards an understanding of the characteristics of crisis messages, such as guiding principles and Health Belief Model constructs, that increase positive sentiment will increase the effectiveness of your crisis communication.

Related resources

How to Conduct a Social Media Sentiment Analysis

This blog post by Hootsuite walks you through what sentiment analysis is and how to do it with various online tools.

What is Social Media Analytics? (Plus Free and Paid Tools)

Another Hootsuite resource that explains social media analytics and what free and paid tools offer in terms of allowing you to monitor and evaluate your communication.

14 of the Best Sentiment Analysis Tools

This resource goes over 14 paid and unpaid sentiment analysis tools that can help you monitor the sentiment of comments. Many of the tools listed have further social media analytic capabilities as well.

The Most Important Social Media Metrics to Track

This resource goes over what social media metrics are and why you should track them, as well as different types of engagement metrics and what they mean.

Note: the title of each resource is hyperlinked.

PUTTING IT TOGETHER

Social media is a vital tool for quickly sharing crisis messages, engaging in dialogue with followers, and ensuring information is targeted and tailored. Social media is an essential part of a crisis communication strategy. With the help of this guide, you will learn to better target and tailor crisis messages, create engaging, accurate, and balanced content, and measure your impact. We suggest the following 4-step approach to embarking on evidence-based social media crisis communication in the context of public health and emerging infectious diseases:

1 **Define audience(s)**

2 **Draft messages**

4 **Monitor and evaluate**

3 **Use appropriate channels**

① AUDIENCE SEGEMENTATION

Different audiences have different communication needs during a crisis. Audience segmentation defines groups within your community that share similar qualities. Audience segments share similar social media preferences and similar knowledge, concerns and motivations that inform the targeting and tailoring of your crisis messages. Various traits of your communities will impact how they receive messages and whether they will act on them including demographics, social determinants, culture, and trust in sources. During a crisis, people have a harder time taking in and remembering information because of stress and fear. Ensuring crisis messages reflect audience segments' literacy, information needs and wants, and their risk, means they can better understand the message and the actions they need to take.

Goals of audience segmentation:

1. Define subpopulations according to shared characteristics that may impact their crisis communication needs and behaviours
2. Target and tailor crisis messages according to audience segments needs and wants
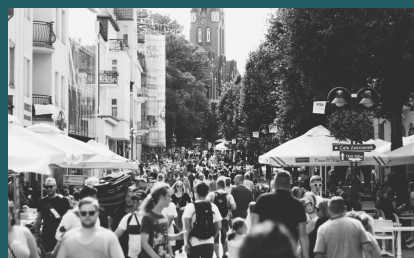
2 DRAFT MESSAGES

When developing social media posts during an emerging infectious disease, the guiding principles and Health Belief Model constructs should be reflected where relevant. Other behaviour change models, such as the Extended Parallel Processing Model, may also be useful in developing crisis messages that resonate with your audiences. Your messages should reflect your audience's information needs and wants, rather than be one-size-fits all messages. The following points reflect the guiding principles and Health Belief Model constructs:

- **Be first:** the public often remembers and trusts the first source of crisis information they see. Make sure to get information out on social media platforms quickly. If you cannot provide information that you know other sources are, create posts that let followers know you are working on the issue.
- **Be transparent:** Include information about what is known but also what is unknown and how public health/science/government will go about finding the answers. Balanced information is key to ensuring trust and overcoming misinformation on social media.
- **Be compassionate:** Let your followers know you understand the specific difficulties (based on your audience segmentation) they are facing because of the crisis and that you are doing everything you can to help.
- **Be clear and concise:** Use language that is appropriate for the literacy and language of your audience, as well as using a more conversational tone so that followers feel that you are speaking directly to them.
- **Influence risk perception:** Include relevant information about the severity and susceptibility of the emerging infectious disease so followers understand the threat and want to take action.
- **Promote self-efficacy and action:** Provide steps that can be taken by audience segments to engage in risk protective behaviours. It is essential followers feel able to engage in the behaviour or else the fear they feel from the risk information will lead them to ignore the messages.
- **Provide resources:** Include links for appropriate resources that can help audiences find out more information. Make sure to directly talk about links within your post text and what they will find by clicking the link.

3 USE APPROPRIATE CHANNELS

Crisis communication should include the repetition of key messages on multiple channels, such as social media, news media, and websites. Social media use has consistently grown and became increasingly important during COVID-19. Public health audiences are highly segmented, and the selection of appropriate social media platforms should reflect this. A highly segmented approach to public health communication is difficult, so a layered approach where messages intended for the general public are used in combination with a segmented approach may be more realistic. Social media includes social networks (e.g. Facebook), blogs, forums (e.g. Reddit), and photo and video sharing platforms (e.g. Pinterest). Select the appropriate social media platform that reflects your audience's preferences. Social media allows for unique communication opportunities:

- **Two-way communication:** You can ask questions and respond to follower questions. Social media allows followers to be part of the crisis response, which fosters trust.
- **Transparency:** The nature of social media where messages can be posted quickly and reach large audiences allows for increased information sharing around uncertainties.
- **Communities:** Groups may already exist that reflect audience segments, which can be leveraged to provide targeted and tailored information. Influencers may also have trusted relationships with communities that represent your audience segments. Partnerships with those who are trusted by your audiences can help provide accurate information through a credible spokesperson.
- **Connection:** Compassionate messages and dialogue help foster connection between public health and followers at a time when social connections are important.

4 MONITOR AND EVALUATE

Use social media analytics, such as Facebook Insights or Hootsuite Analytics, to assess the effectiveness of your crisis messages. There are tools embedded within each social media platform, as well social media management dashboards like Hootsuite or Buffer. These tools allow you to review key performance metrics such as:

- **Follower growth:** Based on your social media profile to see if you have attracted more followers through effective crisis communication and partnerships
- **Engagement:** Reach, shares, views, etc. that give you an idea of how much your followers are interacting with your content
- **Traffic sources:** Where your followers are referred to your social media from such as google or other organizations and influencers
- **Sentiment:** Are you getting an overall more appropriate emotional response to your crisis information?
- **Response time:** Social media management platforms like Hootsuite can let you know if you are quickly responding to questions and comments from followers
- **Demographics of followers:** Age, gender, location, and other information about your followers that you can use to understand if you are reaching your audience segments or find out more about segment's platform preferences
- **Following links:** click-through numbers will show if you are providing resources that followers need and want
- **Watching trends:** significant backlash, confusion or even positive engagement or comments allows you to better understand how to meet audience needs and wants

Using this information, you can focus your resources better to evaluate what is working for your audiences and why. Use this information to feedback into audience segmentation and creation of messages to better target and tailor your platform use and crisis messaging.
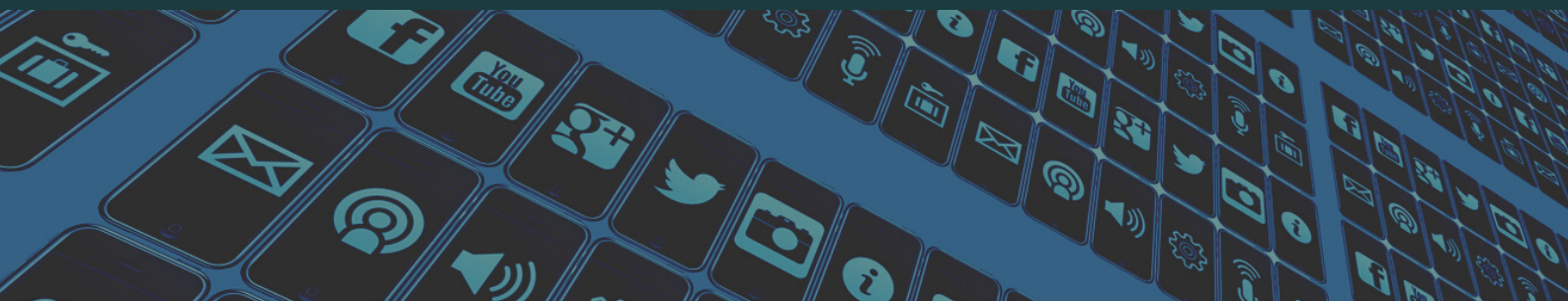
References

1. Seeger M, Sellnow TL, Ulmer RR. Crisis Communication and the Public Health. Published January 2008. Accessed November 8, 2021.
http://www.hamptonpress.com/Merchant2/merchant.mvc?
Screen=PROD&Store_Code=HP&Product_Code=1-57273-750-6

2. Rogers MB, Pearce J. Chapter 6: Risk Communication, Risk Perception and Behavior as Foundations of Effective National Security Practices. In: Strategic Intelligence Management: National Security Imperatives and Information and Communications Technologies. OECD; 2013:66-74. https://www.oecd.org/gov/risk/2013-rogers-pearce-risk-comm-chapter-elsevier.pdf

3. Paek HJ, Hove T. Risk Perceptions and Risk Characteristics. In: Oxford Research Encyclopedia of Communication. Oxford University Press; 2017.
doi:10.1093/acrefore/9780190228613.013.283

4. Tang L, Bie B, Park SE, Zhi D. Social media and outbreaks of emerging infectious diseases: A systematic review of literature. Am J Infect Control. 2018;46(9):962-972.
doi:10.1016/j.ajic.2018.02.010

5. National Collaborating Centre for Determinants of Health, National Collaborating Centre for Aboriginal Health. Social Media in Public Health.; 2015.
https://ncchpp.wpengine.com/docs/2015_TC_KT_SocialMediaPH_en.pdf

6. Statista Research Department. Social media usage in Canada. Statista. Published August 25, 2021. Accessed November 8, 2021. https://www.statista.com/topics/2729/social-networking-in-canada/

7. Gruzd A, Mai P. The State of Social Media in Canada 2020. Published online 2020.
doi:10.5683/SP2/XIW8EW

8. Tsao SF, Chen H, Tisseverasinghe T, Yang Y, Li L, Butt ZA. What social media told us in the time of COVID-19: a scoping review. Lancet Digit Health. 2021;3(3):e175-e194.
doi:10.1016/S2589-7500(20)30315-0

9. Khan Y, Tracey S, O'Sullivan T, Gournis E, Johnson I. Retiring the Flip Phones: Exploring Social Media Use for Managing Public Health Incidents. Disaster Med Public Health Prep. 2019;13(5-6):859-867. doi:10.1017/dmp.2018.147

10. Kothari A, Foisey L, Donelle L, Bauer M. How do Canadian public health agencies respond to the COVID-19 emergency using social media: a protocol for a case study using content and sentiment analysis. BMJ Open. 2021;11(4):e041818. doi:10.1136/bmjopen-2020-041818

11. Cinelli M, Quattrociocchi W, Galeazzi A, et al. The COVID-19 social media infodemic. Sci Rep. 2020;10(1):16598. doi:10.1038/s41598-020-73510-5

12. Tworek H, Beacock I, Ojo E. Democratic Health Communications during Covid-19: A RAPID Response. University of British Columbia; 2020:116.
https://democracy2017.sites.olt.ubc.ca/files/2020/09/Democratic-Health-Communication-during-Covid_FINAL.pdf

13. Warren KE, Wen LS. Measles, social media and surveillance in Baltimore City. J Public Health Oxf Engl. 2017;39(3):e73-e78. doi:10.1093/pubmed/fdw076

14. Centers for Disease Control. Audiences and Messages - Thinking Them Through. CDCynergy. Published February 21, 2003. Accessed November 8, 2021. https://www.orau.gov/cdcynergy/erc/content/activeinformation/essential_principles/EP-audiences_content.htm

15. Health Communication Capacity Collaborative. Unit 4: Audience Analysis and Segmentation – Emergency Communication Preparedness Implementation Kit. Johns Hopkins University; 2016. Accessed November 8, 2021. https://sbccimplementationkits.org/sbcc-in-emergencies/lessons/unit-4-audience-analysis-and-segmentation/

16. Jin Y, Austin L, Vijaykumar S, Jun H, Nowak G. Communicating about infectious disease threats: Insights from public health information officers. Public Relat Rev. 2019;45(1):167-177. doi:10.1016/j.pubrev.2018.12.003

17. Tangcharoensathien V, Calleja N, Nguyen T, et al. Framework for Managing the COVID-19 Infodemic: Methods and Results of an Online, Crowdsourced WHO Technical Consultation. J Med Internet Res. 2020;22(6):e19659. doi:10.2196/19659

18. Zhang LT, Zhao S. Diaspora micro-influencers and COVID-19 communication on social media: The case of Chinese-speaking YouTube vloggers. Multilingua. 2020;39(5):553-563. doi:10.1515/multi-2020-0099

19. Bonnevie E, Rosenberg SD, Kummeth C, Goldbarg J, Wartella E, Smyser J. Using social media influencers to increase knowledge and positive attitudes toward the flu vaccine. PLOS ONE. 2020;15(10):e0240828. doi:10.1371/journal.pone.0240828

20. Brewer LC, Asiedu GB, Jones C, et al. Emergency Preparedness and Risk Communication Among African American Churches: Leveraging a Community-Based Participatory Research Partnership COVID-19 Initiative. Prev Chronic Dis. 2020;17:E158. doi:10.5888/pcd17.200408

21. Mackay M, Jaworski J, McWhirter JE, Gillis D, & Papadopoulos A. Review and thematic analysis of guiding principles for effective crisis communication using social media. Journal of Public Health and Epidemiology 14.2 (2022): 72-87. doi.org/10.5897/JPHE2022.1384

22. CDC. CERC Manual | Crisis & Emergency Risk Communication (CERC). Published January 23, 2018. Accessed August 12, 2021. https://emergency.cdc.gov/cerc/manual/index.asp

23. Grady DA, Hollifield A, Sturgill A, eds. The Golden Age of Data: Media Analytics in Study & Practice. 1st ed. Routledge; 2019. doi:10.4324/9780429276859

24. Peter C, Rossmann C, Keyling T. Exemplification 2.0: Roles of direct and indirect social information in conveying health messages through social network sites. J Media Psychol Theor Methods Appl. 20140331;26(1):19. doi:10.1027/1864-1105/a000103

25. Vijaykumar S, Jin Y, Nowak G. Social Media and the Virality of Risk: The Risk Amplification through Media Spread (RAMS) Model. J Homel Secur Emerg Manag. 2015;12(3):653-677. doi:10.1515/jhsem-2014-0072

26. MacKay M, Colangeli T, Gillis D, McWhirter J, Papadopoulos A. Examining Social Media Crisis Communication during Early COVID-19 from Public Health and News Media for Quality, Content, and Corresponding Public Sentiment. Int J Environ Res Public Health. 2021;18(15):7986. doi:10.3390/ijerph18157986

27. World Health Organization. WHO Strategic Communications Framework for Effective Communications.; 2017. https://www.who.int/mediacentre/communication-framework.pdf

28. Glik DC. Risk communication for public health emergencies. Annu Rev Public Health. 2007;28:33-54. doi:10.1146/annurev.publhealth.28.021406.144123

29. Henry B. Canadian Pandemic Influenza Preparedness: Communications strategy. Can Commun Dis Rep. 2018;44(5):106-109. doi:10.14745/ccdr.v44i05a03

30. Peters RG, Covello VT, McCallum DB. The Determinants of Trust and Credibility in Environmental Risk Communication: An Empirical Study. Risk Anal. 1997;17(1):43-54. doi:10.1111/j.1539-6924.1997.tb00842.x

31. Vaughan E, Tinker T. Effective Health Risk Communication About Pandemic Influenza for Vulnerable Populations. Am J Public Health. 2009;99(S2):S324-S332. doi:10.2105/AJPH.2009.162537

32. MacKay M, Colangeli T, Thaivalappil A, Del Bianco A, McWhirter J, Papadopoulos A. A Review and Analysis of the Literature on Public Health Emergency Communication Practices. J Community Health. Published online September 13, 2021. doi:10.1007/s10900-021-01032-w

33. van der Weerd W, Timmermans DR, Beaujean DJ, Oudhoff J, van Steenbergen JE. Monitoring the level of government trust, risk perception and intention of the general public to adopt protective measures during the influenza A (H1N1) pandemic in the Netherlands. BMC Public Health. 2011;11(1):575. doi:10.1186/1471-2458-11-575

34. MacKay M, Cimino A, Yousefinaghani S, McWhirter JE, Dara R, Papadopoulos A. Canadian COVID-19 crisis communication on Twitter: Mixed methods research examining tweets from government, politicians, and public health for crisis communication guiding principles and tweet engagement. Int J Environ Res Public Health. 2022; 19(11). doi.org/10.3390/ijerph19116954

35. Chen H, Li X, Gao J, et al. Health Belief Model Perspective on the Control of COVID-19 Vaccine Hesitancy and the Promotion of Vaccination in China: Web-Based Cross-sectional Study. J Med Internet Res. 2021;23(9):e29329. doi:10.2196/29329

36. Jones CL, Jensen JD, Scherr CL, Brown NR, Christy K, Weaver J. The Health Belief Model as an Explanatory Framework in Communication Research: Exploring Parallel, Serial, and Moderated Mediation. Health Commun. 2015;30(6):566-576. doi:10.1080/10410236.2013.873363

37. Maunder L. Motivating people to stay at home: using the Health Belief Model to improve the effectiveness of public health messaging during the COVID-19 pandemic. Transl Behav Med. 2021;(ibab080). doi:10.1093/tbm/ibab080

38. Raamkumar AS, Tan SG, Wee HL. Use of Health Belief Model–Based Deep Learning Classifiers for COVID-19 Social Media Content to Examine Public Perceptions of Physical Distancing: Model Development and Case Study. JMIR Public Health Surveill. 2020;6(3):e20493. doi:10.2196/20493

39. MacKay M, Ford C, Colangeli T, Gillis D, McWhirter JE, Papadopoulos A. A content analysis of Canadian influencer crisis messages on Instagram and the public's response during COVID-19. BMC Public Health. 2022;22(1):763. doi:10.1186/s12889-022-13129-5

40. Zhao S, Wu X. From Information Exposure to Protective Behaviors: Investigating the Underlying Mechanism in COVID-19 Outbreak Using Social Amplification Theory and Extended Parallel Process Model. Front Psychol. 2021;12:1351. doi:10.3389/fpsyg.2021.631116

41. Witte K, Allen M. A Meta-Analysis of Fear Appeals: Implications for Effective Public Health Campaigns. Health Educ Behav. 2000;27(5):591-615. doi:10.1177/109019810002700506

42. Carico R "Ron," Sheppard J, Thomas CB. Community pharmacists and communication in the time of COVID-19: Applying the health belief model. Res Soc Adm Pharm. 2021;17(1):1984-1987. doi:10.1016/j.sapharm.2020.03.017

43. Meadows CZ, Tang L, Liu W. Twitter message types, health beliefs, and vaccine attitudes during the 2015 measles outbreak in California. Am J Infect Control. 2019;47(11):1314-1318. doi:10.1016/j.ajic.2019.05.007

44. Ranjit YS, Shin H, First JM, Houston JB. COVID-19 protective model: the role of threat perceptions and informational cues in influencing behavior. J Risk Res. 2021;24(3-4):449-465. doi:10.1080/13669877.2021.1887328

45. Vraga EK, Bode L. Addressing COVID-19 Misinformation on Social Media Preemptively and Responsively. Emerg Infect Dis. 2021;27(2). doi:10.3201/eid2702.203139

46. Kim H, Han JY, Seo Y. Effects of Facebook Comments on Attitude Toward Vaccines: The Roles of Perceived Distributions of Public Opinion and Perceived Vaccine Efficacy. J Health Commun. 2020;25(2):159-169. doi:10.1080/10810730.2020.1723039

47. Solnick RE, Chao G, Ross RD, Kraft-Todd GT, Kocher KE. Emergency Physicians and Personal Narratives Improve the Perceived Effectiveness of COVID-19 Public Health Recommendations on Social Media: A Randomized Experiment. Acad Emerg Med. 2021;28(2):172-183. doi:10.1111/acem.14188

48. Kamiński M, Szymańska C, Nowak JK. Whose Tweets on COVID-19 Gain the Most Attention: Celebrities, Political, or Scientific Authorities? Cyberpsychology Behav Soc Netw. 2021;24(2):123-128. doi:10.1089/cyber.2020.0336

49. Mututwa W, Matsilele T. COVID-19 infections on international celebrities: self presentation and tweeting down pandemic awareness. J Sci Commun. 2020;19(5):A09. doi:10.22323/2.19050209

50. Fridman I, Lucas N, Henke D, Zigler CK. Association Between Public Knowledge About COVID-19, Trust in Information Sources, and Adherence to Social Distancing: Cross-Sectional Survey. JMIR Public Health Surveill. 2020;6(3):e22060. doi:10.2196/22060

51. Abu-Akel A, Spitz A, West R. The effect of spokesperson attribution on public health message sharing during the COVID-19 pandemic. PLOS ONE. 2021;16(2):e0245100. doi:10.1371/journal.pone.0245100

52. Ding H, Zhang J. Social media and participatory risk communication during the H1N1 flu epidemic: A comparative study. China Media Res. 2010;6:80-91.

53. Jong W. Evaluating Crisis Communication. A 30-item Checklist for Assessing Performance during COVID-19 and Other Pandemics. J Health Commun. 2020;25(12):962-970. doi:10.1080/10810730.2021.1871791

54. Renshaw SL, Mai S, Dubois E, Sutton J, Butts CT. Cutting Through the Noise: Predictors of Successful Online Message Retransmission in the First 8 Months of the COVID-19 Pandemic. Health Secur. 2021;19(1):31-43. doi:10.1089/hs.2020.0200

55. Winter S, Brückner C, Krämer NC. They Came, They Liked, They Commented: Social Influence on Facebook News Channels. Cyberpsychology Behav Soc Netw. 2015;18(8):431-436. doi:10.1089/cyber.2015.0005

56. Lee EJ, Jang YJ. What Do Others' Reactions to News on Internet Portal Sites Tell Us? Effects of Presentation Format and Readers' Need for Cognition on Reality Perception. Commun Res. 2010;37(6):825-846. doi:10.1177/0093650210376189