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## Communication in mass media surrounding public health crises: A comparative analysis

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COMMUNICATION IN MASS MEDIA SURROUNDING PUBLIC HEALTH  
CRISES: A COMPARITIVE ANALYSIS

A Thesis Submitted  
In Partial Fulfillment  
of the Requirements for the Designation  
University Honors

Megan Grace Kramer  
University of Northern Iowa  
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This Study by: Megan Grace Kramer

Entitled: Communication in Mass Media Surrounding Public Health Crises: A Comparative Analysis

has been approved as meeting the thesis or project requirement for the Designation University Honors.

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Date \_\_\_\_\_ Dr. Gayle Pohl, Honors Thesis Advisor, Department of Communication Studies

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Date \_\_\_\_\_ Dr. Jessica Moon, Director, University Honors Program

## **Introduction**

As a public relations major, studying the way our world communicates about what is most important to us has always intrigued me. Politics, world relations, and global pandemics alike are common topics of mass media communications aimed towards the citizens of a country. Given the fact that most of my college years have now occurred while our world is suffering through a global pandemic, I am intrigued to study this topic further. I am intrigued to study not only how we are currently communicating about global crises, but how we have communicated about them in the past and if we have learned from our past mistakes. I am of the belief that by studying our past mass media communication attempts when in times of crisis, we can better prepare ourselves for similar situations in the future and protect future generations from suffering and struggling any more than is unavoidable.

During the 2002-2003 SARS pandemic, we saw an infectious pathogen outbreak in China and then spread around the world, infecting over 10,000 individuals. With the 2009-2010 H1N1 influenza A pandemic, we saw a pathogen that infected people in over 70 countries around the world in a matter of months. Finally, with the 2019-present COVID-19 pandemic, we saw a respiratory disease spread at a rapid rate around the world, infecting over 8.3 million people in a matter of months. Mass media played a crucial role in disseminating health risk information to the public during each of these three pandemics, but the way in which they did so elicited a very different reaction from the public in each crisis.

## **Purpose**

The purpose of this research project is to examine communication in mass media in the United States and in China as it relates to the conveying of information and knowledge to the public surrounding public health crises. A literature review of secondary research will be

conducted to answer the following research question: *How does communication in mass media regarding public health crises in the United States and China compare over the course of three separate public health crises?* The findings of this thesis will describe and discuss the differences in mass media communication in the United States and China during the SARS, H1N1, and COVID-19 pandemics.

## **Methodology**

Studies were gathered using various resources such as Google Scholar, Rod Library's OneSearch Advanced Search, JSTOR, etc., and were found by searching various phrases such as "communication in mass media," "health crises communication," "pandemic communication," and more. This was done to answer the research question, *how does communication in mass media regarding public health crises in the United States and China compare over the course of three separate public health crises?* A comparative analysis was then performed, comparing the 2002-2003 SARS pandemic, the 2009-2010 H1N1 pandemic, and the 2019-present COVID-19 pandemic. This comparative analysis analyzes the data found within the literature review to see how communication has changed over time in the United States and China surrounding public health crises.

## **Literature Review**

### **Introduction**

Research has proven that in times of major public health crises, mass media are vital sources of information for the public, who expect official information from government officials and health agencies to be disseminated via mass media sources.

### **The Role of Mass Media in Communication with the Public**

Mass media has a great responsibility in communicating information with the public. Research has shown that the quantity and quality of information presented in and by the media shapes the attitudes, beliefs, and perceived norms of the public, which then influences the behavior of the public and impacts their decision making (Catalan-Matamoros et al., 2019). The media also employs various framing techniques to connect with the public in telling a story (Ogbodo et al., 2020). This leads to the media's ability to define the situation through their messaging and agenda-setting.

### ***Mass Media's Role in Communicating Information about Public Health Crises***

When it comes to public health crisis information, mass media plays a major role in communicating information and improving the knowledge and awareness surrounding the public health crisis of healthcare workers and the general public. Research has proven that times of public health crisis or pandemic “requires mass media information dissemination activities in conjunction with the health stakeholders to help individuals, authorities, the government, and others to understand the precarious worldwide and public health conditions...and identify health-related knowledge and training required” (Liu, 2020, p. 2). Mass media also “plays a key role in communication between researchers, scientists, public health experts and funding agencies, for effective and rapid global response” (Karasneh, 2020, p. 1898). News media specifically plays the critical role of providing publicity for and giving meaning to global health crises by way of providing public access on a global level. People around the world can perceive information about public health crises through news coverage (Meng et al., 2016). Research has proven that effective communication from government representatives and public health officials during times of public danger such as a global pandemic and other health emergencies is crucial to strengthen the resiliency of the public (Lee, 2020). This information should be phased and

specific to each situation, ensuring that communication precedes and monitors the operational and community response to a public health crisis through its various stages (Gupta et al., 2020). Though research has proven that clear and concise communication is necessary for the safety of the public during a public health crisis, a 2020 study found that there is no set of standard competencies for public health crisis communication (Ogbodo et al., 2020). This results in varied forms and methods of health crisis communication across pandemics, and inconsistencies throughout.

Regardless of there being no set standard for public health crisis communication in the media, the media has been used to communicate and disseminate information surrounding public health crises throughout various pandemics in the history of our world, including severe acute respiratory syndrome, mad cow disease, H1N1, avian influenza, MMR and the swine flu pandemic (Meng et al., 2016). Mass media immediately becomes the major source of information for the public when a novel virus breaks out, as happened with SARS in 2003, H1N1 in 2009 and now COVID-19 in 2019 (Anwar et al., 2020). For example, “during the H1N1 outbreak, clear communication and trust in government authorities lessened publics’ uncertainty about the pandemic, thereby leading to preventive measures” (Lee, 2020, p. 2). However, research has acknowledged that even when media coverage surrounding past public health crises such as Anthrax and H1N1 was technically correct, blame was regularly received for overreporting and/or inadequate or inaccurate coverage (Ogbodo et al., 2020). A study done on effective communication during the COVID-19 ‘infodemic’ specifically found that fear, distrust, and resistance are normal reactions for the public to have during a pandemic, highlighting further the need for trusted and credible information sources to move people from being in a stage of awareness to a stage of action (Gupta et al., 2020). In times of crisis, mass media needs to do

nothing more than provide accurate and timely health crisis information to those members of society that are affected (Lee, 2005).

### ***Public Trust in the Media***

A survey done on the public's trust and usage of mass media found that 80% of respondents replied that the media was their most important and valued source of health information (Hackett, 2008). For "users," or the members of the general public that take action based on public health information that they hear disseminated through mass media sources, "adverse effects of healthcare interventions are made up of a perception of exposure to risk, its consequences and the way that information on these is communicated" (Jefferson, 2000, p. 402). A real-world example of this paradigm coming to life is the MMR vaccine (Jefferson, 2000). When it comes to the primary source of information about a public health crisis, media channels have become the source that the public turns to for accurate, scientific information, updates on government decisions, and the general public's reaction (Fares, 2020). Therefore, it is key that mass media sources communicate transparent, full, and understandable messages about public health crises or emergencies to the public, because such a large majority of the public is already putting their trust in them.

### **Defining a Pandemic**

Many of the studies examined throughout this analysis discuss the health and risk communication that took place during the SARS, H1N1, and COVID-19 pandemics. Because of that, it is important to understand the terminology behind it. A pandemic is "an epidemic occurring worldwide over a wide area, crossing international boundaries, and usually affecting a large number of people. The agent must be able to infect humans, to cause disease in humans and to spread easily from human to human" (Fares, 2020, p. 2). While health communication and risk



communication are different things, they come together in times of crisis such as a pandemic. Research has proven that “health communication and risk communication in public health emergencies, including pandemics, aims to improve health outcomes by influencing, engaging, and reaching out to different at-risk audiences with health-related information” (Fares, 2020, p. 2). Health authorities are uniquely challenged during pandemic times because of the complexity of pandemic risk communication and the need to reach multiple groups and meet their inherently different needs (Fares, 2020). Additionally, global health crises or pandemics require “large-scale immediate actions by the government to connect with the public and a change in behavior of the public to combat rapid spread of the disease” (Ngai, 2020, p. 7). Mass media are the sources used to disseminate such information.

### **Literature Review of Specified Pandemics**

#### **SARS, 2002 - 2003**

Severe Acute Respiratory Syndrome, also known as SARS, broke out and was officially declared a global pandemic in late 2002 and early 2003 (Ding, 2009). SARS is an infectious pathogen that causes atypical severe pneumonia among those infected (Galva, 2004). This disease infected individuals in approximately 37 countries around the globe, eventually infecting more than 10,000 individuals and killing more than 1,000 (Smith, 2006). A study done examining risk communication in an emerging epidemic (SARS) in China found that the initial stage of the SARS outbreak in the Guangdong province, from late 2002 to very early 2003, contained little to no official mass media coverage from any media outlet in China. Only a single press conference was offered on February 11<sup>th</sup>, 2003, by the Guangdong Municipal Government (Ding, 2009). It was claimed, during this press conference, that the local epidemic, SARS, was under control. Prior to the press conference, Chinese print media was otherwise silent about the

emerging pandemic. This study found that this anomaly was surrounded by media underreporting, but most consistently, official silence (Ding, 2009). However, it is important to note that this lack of urgency to respond to the SARS outbreak was not a universal reaction. A study found that, “despite an initial five-month period of denial by the Chinese government, within two weeks of the Hong Kong outbreak, WHO issued a global health alert regarding cases of atypical pneumonia” (Smith, 2006, p. 3118).

Research examining how Chinese print media functioned under censorship surrounding SARS examined the first six month period of the SARS outbreak, from December of 2002 to June of 2003. It was found that “during the six-month period, the Chinese media were silent about SARS except that in January 2003 limited reportage emerged in some newspapers within the Guangdong province” (Fleming, 2005, p. 319). When examining the spread of SARS and war-related rumors through new media in China, it was found that “the media control and censorship practiced in China also divert a significant amount of information from institutional channels of communication” (Ma, 2008, p. 376). It is crucial that, in times of crisis within any population, mass media provide accurate information in a timely matter to those affected by the crisis (Lee, 2005). When it comes to the freedom of press to publish what is necessary in a health crisis, research found that “press freedom, then, is crucial in the process of delivering emergency information. Without the free flow of information, immediate emergency warning is not possible” (Lee, 2005, p. 259). This directly impacts the health and safety of the citizens of that country and in some cases, their ability to survive.

While in China there was a struggle with censorship in mass media communications regarding the SARS outbreak, citizens of the United States were not receiving enough information. Research shows that “the lack of sufficient medical information on SARS meant

that, although there was a rapid flow of information, often this was not robust scientific information. Rather, much of the information presented during the outbreak was based on opinion, guesswork, and preliminary results” (Smith, 2006, p. 3117). This is dangerous in times of pandemic in a country because of the effects this can have on not only the economy but the herd behavior it can lead to. When an epidemic emerges, there is a level of uncertainty regarding the future of the epidemic, the impact it will have on supply and demand and resources, reducing confidence in the economies that are affected by the epidemic which leads to a potential for further reductions in investments (Smith, 2006). Smith also found that, when it comes to the impact epidemics have on economies, herd behavior might be an element at play. This is when individuals base the decisions they are making on the behavior and decisions of others (Smith, 2006). It is crucial, then, that we communicate directly and succinctly to all members of society, with the accurate health risk information they need.

Studies of United States mass media sources throughout the SARS pandemic found that the public felt the risks were being downplayed. It is proven that “the tone, and the perceived trustworthiness of, information sources, such as media, government and international bodies, is a significant factor determining the level of perceived risk and control over an outbreak” (Smith, 2006, p. 3115). Mass media, in times of crisis, can reduce the spread or transmission of viruses when the populations are alerted and aware of the characteristics of the virus and ways to prevent themselves from getting it (Cui, 2008). They also have the ability to cause the panic of societies when “feelings of vulnerability are heightened when the public feel that they can do little to ‘control’ their exposure to the risk of infection,” (Smith, 2006, p. 3115). This was the case with the SARS pandemic in the United States.

## **H1N1, 2009-2010**

The 2009-2010 influenza A pandemic, also known as the H1N1 virus, was first detected in Mexico in the spring of 2009 (Meyer, 2018). By June of 2009, the World Health Organization, also known as WHO, had raised the pandemic alert level to the highest possible level, after reports came in from over 70 countries reporting that they had detected cases within their borders (Meyer, 2018). H1N1 is a “highly transmittable form of virus that initially appeared deadly...seen to perfectly fit the disease profile of a lethal pandemic influenza anticipated to affect human health on a scale similar to the 1918 flu” (Lin, 2014, p. 50). Because of this, its outbreak immediately attracted global attention and incited fear among people around the world (Lin, 2014). With awareness heightened, the public was ready to receive the health risk communication.

Throughout the early stages of the H1N1 pandemic in the United States, very little was known about the severity of the disease or how it was transmitted to humans. All that was known about it was its similarities to the 1918 flu. As a result, H1N1 received ample coverage from mass media and public concern was raised in response (Lin, 2014). In the case of H1N1, when faced with a pandemic with possibility of a very high mortality rate, “public officials identified mass media channels such as television, radio, and newspaper to promote public awareness, increase public knowledge, and cue the public to adopt protective behaviors” (Lin, 2014, p. 51). Other studies found that online newspapers and social media platforms carried an important role in disseminating health risk information about SARS (Cui, 2008).

The emerging H1N1 pandemic coincided with the emergence of social media being used not only as a form of social networking, but as a form of mass media communication. This was found in various studies to have hurt the messaging surrounding H1N1 from health authorities, representatives, and organizations. It was found that there was a significant lack of consistency in

the messages they were disseminating, and a lack of consistency in messages across multiple communication channels (Fares, 2020). The rapid dissemination of information and communications on the H1N1 pandemic via social media channels suggested inconsistency, creating a very large source of confusion for the public (Fares, 2020). Research found that “public perception of the threat posed by H1N1 virus was nearly equally split, however, with 45% indicating that the media coverage hyped the threat and 46% considered the threat to be genuine” (Lagoe, 2013, p. 129). This demonstrates that the communication in mass media in the United States surrounding the H1N1 virus was not efficient or effective, with almost a split vote in public sentiment on mass media content of the subject.

When the H1N1 pandemic first broke out in China, “Beijing authorities utilized a wide range of communication channels – including (but not limited to) broadcast and print media, the Internet, and mobile phones – to inform local residents about all aspects of the disease” (Hu, 2014, p. 299). Lowrey found in his 2004 study that this use of multiple platforms and means of communication about the heightened threat levels had an impact on increasing people’s reliance on interpersonal networks to a larger extent than they utilized any other media type (Lowrey, 2009). This was a result of Chinese authorities prohibiting Chinese media from reporting on the 2002-2003 SARS pandemic, turning Chinese citizens to interpersonal networks and other sources of information (Hu, 2014). This harmed the Chinese government’s ability to communicate properly about the H1N1 pandemic because “mass media outlets are better at helping people understand the external environment and obtain action cues whereas interpersonal networks are better for securing emotional support from peers” (Hu, 2014, p. 301). Those interpersonal networks can’t provide citizens the health risk information they need to avoid a pandemic and, in some instances, survive a pandemic.

A 2010 study found that, with the emergence of the H1N1 pandemic, when masses of Chinese citizens turned to social media in obtaining health risk information, the Chinese government and health authorities made little use of any social media platforms at the beginning of the pandemic (Ding, 2010). However, when authorities began to explore using social media platforms to disseminate information, research found that “health communication professionals should continue to attach importance to traditional mass media types even while exploring newer media, such as mobile phones” (Hu, 2014, p. 299). China’s risk communication surrounding H1N1 was also found to have remained linear, a one-way process, when the world was trending towards needing two-way communications lines surrounding pandemics and public health crises (Ding, 2010).

### **COVID-19, 2019 - present**

COVID-19, coronavirus disease discovered in 2019, was first discovered in China in November of 2019 (Ngai, 2020). This respiratory disease acted similarly to that of the SARS and H1N1 viruses, and when COVID-19 was discovered in many countries by March of 2020, the WHO officially declared the disease a pandemic on March 11, 2020 (Ngai, 2020). By January 23<sup>rd</sup>, 2020, the Chinese government imposed a strict lockdown in Wuhan, China, which was the epicenter of the COVID-19 virus (Ngai, 2020). By July of 2020, there were at least 8,385,440 cases and 450,686 deaths noted due to COVID-19 (Gupta, 2020). The pandemic had spread around the world.

Studies found that “the coronavirus disease 2019 (COVID-19) pandemic has not only caused significant challenges for health systems all over the globe but also fueled the surge of numerous rumors, hoaxes, and misinformation, regarding the etiology, outcomes, prevention, and cure of the disease” (Hossain, 2020, p. 171). This has stemmed from the social media age we

live in, in which pandemic information can be spread via social media platforms. In a 2020 study done on the misinformation surrounding the COVID-19 pandemic, it was found that information on COVID-19 spread widely at a rapid rate, though much of it was false. The study found that “this resulted in an ‘infodemic’, whereby waves of misinformation and rumors on the pandemic interfered with quelling it” (Fares, 2020, p. 411). Fake news on the pandemic spread more rapidly than true, accurate news did (Hossain, 2020). This damaged the ability of the mass media to be or appear as authentic.

However, social media was not the only media tool used by the public to attain information on the emerging COVID-19 pandemic. A study on community perceptions of the COVID-19 pandemic found that “mass media became the major source of information about the novel coronavirus. Much like the previous pandemics of SARS (2003), H1N1 (2009), and MERS (2012), the media significantly contributed to the COVID-19 infodemic” (Anwar, 2020, p. 1). Though there are various resources publicly available for anyone to access regarding COVID-19 pandemic information, there remain significant risk communication knowledge gaps (Chesser, 2021). It was found that, despite the large amounts of information available, mass media cannot accurately capture pandemic outbreaks in real time, failing to become the leading indicator in pandemic development news (covid 2). Therefore, it cannot be accurately used as a forewarning function in public health communication and health risk communication (Liu, 2020). Because of this, public sentiment of mass media sources decreased.

A phenomenon that occurs throughout pandemics and health risk communication is mass communication fatigue, when citizens are overfed with reports and information, dampening the effect the media is able to have (Ogbodo, 2020). This was found to have happened with the dissemination of news surrounding COVID-19. Not only has the public been overfed with news

and reports on COVID-19, but research has also found that “there are too many sources and sites through which one can obtain information, and many of them are not credible which resulted in misinformation and difficulties to distinguish between rumors and reality” (Al-Azzam, 2021, p. 1898). United States citizens are not only being overfed information, but they also cannot sift through the large number of resources to determine which resources are trustworthy.

Additionally, studies found that media sources overhyping the pandemic and its concerns led to more health or stressful conditions that could have been avoided (Ogbodo, 2020). A study done on the media framing of COVID-19 found that “the overwhelming nature of the virus has been hyped in the media and fear has gripped the people, some of whom may have died or lived in apprehension” (Ogbodo, 2020, p. 261).

Research done on the COVID-19 outbreak in China found that “the public blamed not only individuals who put others at greater risk during the epidemic, but also government, particularly local government figures for their perceived failures in risk communication and control measures” (Dong, 2020, p. 9). The Chinese public responded online at an earlier point to the emerging pandemic than their government agencies did, leading the Chinese version of Twitter (Sina Weibo) to be a highly used form of media by the Chinese public to follow the spread of COVID-19 and what their government officials and agencies were doing (Dong, 2020). However, when the Chinese government did begin to utilize such platforms to convey health risk information, the public engaged at a very low rate with their posts (Dong, 2020). There was a disconnect between what Chinese citizens were seeking and what the government officials were giving them.



## Discussion

There were many themes that were discovered throughout the literature review on mass media communication in the United States and China regarding SARS, H1N1, and COVID-19. The first theme that was noted was the initial coverup and silence on the 2002-2003 SARS pandemic. While Chinese mass media struggled with censorship and press freedom issues surrounding their ability to talk about SARS, the United States struggled with an overload of information that was either inaccurate or not informative about what the public truly needed to know.

Themes that were noted surrounding the 2009-2010 H1N1 virus were that rapid message dissemination is not effective in communication about an evolving pandemic when the information you are spreading is not completely accurate due to lack of knowledge in the early stages of a pandemic. The H1N1 pandemic demonstrated that messaging coming from health authorities and health organizations in the United States needs to be consistent and disseminated on reliable channels that all members of the public can access. Inconsistent messaging from health authorities on various channels at an inconsistent rate leads to more confusion and distrust from the public. Additionally, the H1N1 pandemic proved that just because new technologies are surfacing on the scene of mass media such as social media platforms, older, tried and true mass media platforms cannot be ignored. Not all members of society adopt technology at the same rate, and you cannot exclude certain societal groups from receiving health risk communication because of the channels you select. In China, we saw the attempt to use too many communication channels at once to disseminate information and the affect that had on how the messaging was perceived by Chinese citizens.

A theme noticed throughout the ongoing COVID-19 pandemic is that too much news is not always good news. As we have seen happen with the prevalence of social media in the United States, misinformation is now worse than ever because the number of resources the public can choose from to receive information has grown infinitely bigger. We are living in an infodemic where we are inundated with information everywhere we turn, and mass media did not help the situation by disseminating COVID-19 news and information at unprecedented rates. While mass media has the ability to overhype a pandemic and heighten the public's alertness to it, they should not do so intentionally so as to panic the public and desensitize them to the information being disseminated by mass media. In China, we saw the disconnect between the rate of social media adoption for message dissemination by government officials and health agencies and the timeline with which Chinese citizens went to those sources for health risk information.

The biggest similarities between these three pandemics in both the United States and China were that, at any given point during each pandemic, there was such a rapid rate of information dissemination that it was turning citizens off from wanting to pursue further information and research. Additionally, there was too much information overall, and too many sources being used to disseminate said information. Citizens could not decipher for themselves which information was accurate and what the best sources to go to for accurate information were. Finally, we see the attempt to adopt preferred channels of communication by both the United States and China in their use of social media and other online, digital platforms.

Differences that were noted between the three pandemics in both countries were that, during the SARS pandemic from 2002-2003, the public felt as though the risks of the virus were being downplayed by the media. Citizens felt that they weren't being communicated with

honestly and public sentiment towards officials and the media decreased. During the 2009-2010 H1N1 pandemic, we saw an overcorrection. There was enough caution and fear about the influenza that public concern was raised, and public sentiment was split evenly regarding whether or not the media hyped the threat of the pandemic or portrayed it in a genuine way. Finally, with the COVID-19 pandemic, too much misinformation was spread early on by media sources. Whether they knew the information to be inaccurate or not, the spreading of misinformation resulted in a decrease in the ability of the media to appear as authentic.

### **Recommendations**

Considering studying three different pandemics that have happened throughout the course of my lifetime, I came to three major recommendations for the handling of future pandemics or global health crises. First, I would recommend that media sources practice transparent, realistic communication. Citizens want to know the truth about the situation they are dealing with, even if, in the early stages of a public health crisis, not much is known. Research has proven that the best situation is one in which you can raise public concern but not turn them off by giving them false information as fact.

Second, I would recommend that government officials and health agencies that are disseminating health risk information use specific, predetermined mass media sources to disseminate said information. For example, they should choose a singular social media platform and specified social media account to disseminate information and ensure that the predetermined channel is known to the public. This can help to avoid an infodemic and allow no room for confusion among citizens as to what the source of accurate, official information is.

Finally, I would recommend that government officials and health agencies have open lines of communication with citizens. Research has proven that citizens respond best when they

have a way to communicate with those authorities, or a place to go to pose questions. With citizens who don't feel that they have an adequate source for this, public sentiment has been proven to decrease surrounding health risk dissemination by media sources in a global health crisis.

### **Conclusion**

Much can be learned by examining our historic ways of utilizing mass media in communicating about public health crises and pandemics to better prepare ourselves, both in the United States and China and all around the world, should we ever face another pandemic in our lifetimes. The 2002-2003 SARS pandemic taught us that we need to communicate transparently and realistically with our publics. The 2009-2010 H1N1 pandemic taught us that we need to use specified, predetermined channels of communication to disseminate health risk information through. COVID-19 taught us that we need to have open lines of communication for citizens to access and use when we live in the age of misinformation and an infodemic.

Limitations encountered were the ability to only study the mass media reaction to public health crises in two countries. More will need to be examined to prepare for a future pandemic more thoroughly. Additionally, when further studied, it should be noted that additional pandemics should be examined to expand the time period of pandemics being researched. In future research, ensure that specific countries and pandemics are studied within determined time periods, and consider researching the most highly used forms of mass media within each to examine further how social media has changed the media reporting landscape.

By learning from our past mistakes and anticipating what future needs will arise, we can utilize the mass media resources we have at our fingertips to alert the public in a calm, controlled

manner to matters that need their attention while avoiding mass panic and a future of confusion and chaos.

## References

- Al-Azzam, S., Hawamdeh, S., Muflih, S., Karasneh, R., Khader, Y., & Soudah, O. (2021). Media's effect on shaping knowledge, awareness risk perceptions and communication practices of pandemic COVID-19 among pharmacists. *Research in Social and Administrative Pharmacy, 17(1)*, 1897-1902. <https://doi.org/10.1016/j.sapharm.2020.04.027>.
- Anwar, A., Malik, M., Raees, V., & Anwar, A. (2020). Role of mass media and public health communications in the COVID-19 pandemic. *Cureus, 12(9)*, 1-12. DOI. 10.7759/cureus.10453.
- Catalan-Matamoros, D., & Penafiel-Saiz, C. (2019). The use of traditional media for public communication about medicines: a systematic review of characteristics and outcomes. *Health Communication, 34(4)*, 415-423. <https://doi.org/10.1080/10410236.2017.1405485>
- Chesser, A., Ham, A., McCray-Miller, M., Vargas, I., Woods, N. (2021). SARS-CoV2, the COVID-19 pandemic and community perceptions. *Journal of Primary Care & Community Health, 12(1)*, 1-5. [10.1177/2150132721995451](https://doi.org/10.1177/2150132721995451).
- Cui, J., Sun, Y., & Zhu, H. (2008). The impact of media on the control of infectious diseases. *Journal of Dynamics and Differential Equations, 20(1)*, 31-53. 10.1007/s10884-007-9075- 0.
- Ding, H. (2009). Rhetorics of alternative media in an emerging epidemic: SARS, censorship, and extra-institutional risk communication. *Technical Communication Quarterly, 18(4)*, 327-350. <https://doi.org/10.1080/10572250903149548>.

- Ding, H. (2010). Social media and participatory risk communication during the H1N1 flu epidemic: a comparative study of the United States and China. *China Media Report Overseas*, 6(4), 80-91.
- Dong, M., Fielding, R., Lam, W., Liao, Q., Yang, L., & Yuan, J. (2020). Public engagement and government responsiveness in the communications about COVID-19 during the early epidemic stage in China: infodemiology study on social media data. *Journal of Medical Internet Research*, 22(5), 1-13.
- Fares, J., & Mheidly, N. (2020). Leveraging media and health communication strategies to overcome the COVID-19 infodemic. *Journal of Public Health Policy*, 41(1), 410-420. <https://doi.org/10.1057/s41271-020-00247>.
- Fleming, K., & Zhang, E. (2005). Examination of characteristics of news media under censorship: a content analysis of selected Chinese newspapers' SARS coverage. *Asian Journal of Communication*, 15(3), 319-339. <https://doi.org/10.1080/01292980500261639>.
- Galva, J. (2004). Sever acute respiratory syndrome: description, epidemiology, and control measures. *International Journal of Global Health and Health Disparities*, 3(1), 1-10.
- Gupta, A., & Reddy, BV. (2020). Importance of effective communication during COVID-19 infodemic. *Journal of Family Medicine and Primary Care*, 10(9), 3793-3796. DOI. 10.4103/jfmprc.jfmprc\_719\_20.
- Hackett, A. (2008). Risk, its perception and the media: the MMR controversy. *Community Practitioner*, 81(7), 22-30.
- Hossain, M., Mazumder, H., & Tasnim, S. (2020). Impact of rumors and misinformation on COVID-19 in social media. *Journal of Preventative Medicine & Public Health*, 53(1), 171-174. <https://doi.org/10.3961/jpmph.20.094>.

- Hu, B., & Zhang, D. (2014). Channel selection and knowledge acquisition during the 2009 Beijing H1N1 flu crisis: a media system dependency theory perspective. *Chinese Journal of Communication*, 7(3), 299-318. <http://dx.doi.org/10.1080/17544750.2014.926951>.
- Jefferson, T. (2000). Real or perceived adverse effects of vaccines and the media: a tale of our times. *Journal of Epidemiology and Community Health*, 54(6), 402-403. Doi.134.161.122.30.
- Johnson, K. (2015). Mobile phones: news consumption, news creation, and news organization accommodations. *Mobile Phone Behavior*, 3(24), 1-7. DOI.10.4018/978-1-4666-8239-9.
- Karasneh, R., Al-Azzam, S., Muflih, S., Soudah, O., Hawamdeh, S., Khader, Y. (2020). Media's effect on shaping knowledge, awareness risk perceptions and communication practices of pandemic COVID-19 among pharmacists. *Research in Social and Administrative Pharmacy*, 17( ), 1897-1902. <https://doi.org/10.1016/j.sapharm.2020.04.027>.
- Lago, C., & Lin, C. (2013). Effects of news media and interpersonal interactions on H1N1 risk perception and vaccination intent. *Communication Research Reports*, 30(2), 127-136. <https://doi.org/10.1080/08824096.2012.762907>.
- Lee, A. (2005). Between global and local: the glocalization of online news coverage on the trans-regional crisis of SARS. *Asian Journal of Communication*, 15(3), 255-273. <https://doi.org/10.1080/01292980500260714>.
- Lee, Y., & Li, J. (2020). The role of communication transparency and organizational trust in publics' perceptions, attitudes and social distancing behavior: a case study of the COVID-19 outbreak. *Journal of Contingencies and Crisis Management*, 1-17. <https://doi.org/10.1111/1468-5973.12354>.



- Lin, L. (2014). Media use and communication inequalities in a public health emergency: a case study of 2009-2010 pandemic influenza A virus subtype H1N1. *Public Health Reports*, *129(1)*, 49-60. [10.1177/00333549141296S408](https://doi.org/10.1177/00333549141296S408).
- Liu, Q., et. al. (2020). Health communication through news media during the early stage of the COVID-19 outbreak in China: digital topic modeling approach. *Journal of Medical Internet Research*, *22(4)*, 1-12. [10.2196/19118](https://doi.org/10.2196/19118).
- Lowrey, W. (2009). Media dependency during a large-scale social disruption: the case of September 11. *Mass Communication & Society*, *7(3)*, 339-357. [https://doi.org/10.1207/s15327825mcs0703\\_5](https://doi.org/10.1207/s15327825mcs0703_5).
- Ma, R. (2008). Spread of SARS and war-related rumors through new media in China. *Communication Quarterly*, *56(4)*, 376-39. <https://doi.org/10.1080/01463370802448204>.
- Meng, J., & Pan, P. (2016). Media frames across stages of a health crisis: a crisis management approach to news coverage of flu pandemic. *Journal of Contingencies and Crisis Management*, *24(2)*, 95-106. <https://doi.org/10.1111/1468-5973.12105>.
- Meyer, L., Rossmann, C., & Schulz, P. (2018). The mediated amplification of a crisis: communicating the A/H1N1 pandemic in press releases and press coverage in Europe. *Risk Analysis*, *38(2)*, 357-375. [10.1111/risa.12841](https://doi.org/10.1111/risa.12841).
- Ngai, C. (2020). Grappling with the COVID-19 health crisis: content analysis of communication strategies and their effects on public engagement on social media. *Journal of Medical Internet Research*, *22(8)*, 1-16. [10.2196/21360](https://doi.org/10.2196/21360).
- Ogbodo, J., Onwe, E., Chukwu, J., Nwasum, C., Nwakpu, E., Nwankwo, S., Elem, S., & Ogbaeja, N. (2020). Communicating health crisis: a content analysis of global media

framing of COVID-19. *Health Promotions Perspectives*, 10(3), 257-269. [10.34172/hpp.2020.40](https://doi.org/10.34172/hpp.2020.40).

Smith, R. (2006). Responding to global infectious disease outbreaks: lessons from SARS on the role of risk perception, communication and management. *Social Science & Medicine*, 63(1), 3113-3123. <https://doi.org/10.1016/j.socscimed.2006.08.004>.