Health Risk and Crisis Communication in Marikina and Pasig during Covid-19: The Case of Two Philippine Cities

Ma. Pamela Grace C. Muhi, Ph.D.
Polytechnic University of the Philippines Open University
ORCID: 97075; pgcmuhi@pup.edu.ph

Rosa Bella Quindoza, M.C.
Polytechnic University of the Philippines Open University
rbmquindoza@pup.edu.ph

ABSTRACT

The COVID-19 pandemic is the most significant health crisis of our time, which showcased the dynamism of governments around the globe as rapid response has become vital in addressing such a health crisis. In the Philippines, it was a test of leadership, especially to local governments, to ensure public health and safety while ensuring the continuous provision of social services among its constituents. Health communication as a risk and crisis management instrument has proven to be the most crucial aspect of governance in this global crisis. This study aims to highlight the good practices and lessons learned from local executives' efforts, which will serve as a benchmark for communication strategy and framework in the formulation of health crisis communication plans of local governments. Data on best practices of two Philippines cities – Marikina and Pasig – were drawn from interviews with city personnel and twenty (20) other informants who are residents of said cities. Likewise, news content analysis was conducted to support the interviews. Findings point to the need for the 4Is messaging structure and corresponding communication strategies throughout the phases of risk and crises. This is in the context of responding to the current situation and future emerging health crises focused on recovery, resiliency, and integrating proactive risk/crisis/disaster communication in all government processes and public health information, education, and communication.

Keywords: *health crisis communication, risk communication, health communication, local governments*

INTRODUCTION

One of the greatest crises of our times is the global coronavirus disease (COVID-19) pandemic, which has infected millions, registering over nine (9) million cases worldwide, including 479,133 deaths across 216 countries and territories as of June 2020. It was first documented when health authorities led by the World Health Organization (WHO) detected cases of pneumonia in December 2019, traced to severe acute respiratory syndrome coronavirus 2 (SARS-CoV2) in Wuhan, China, the outbreak's epicenter. COVID-19's development as a public health emergency of international concern (PHEIC) prompted swift action by government leaders and health risk and crisis managers. The "emergence and spread of new viruses or microbes" is one of the top sources of global health threats. Vulnerability is amplified during health crises such as the COVID-19 pandemic due, for instance, "to increased international travel and mobility" (WHO, 2012). In 2020, countries felt this vulnerability and the need for broadened concepts of resilience, safety, protection, and a new norm in governance and development to combat health crises.

Effective and planned communication is crucial in managing a pandemic. While this is generally classified under health communication – which studies and uses communication strategies to inform and influence decisions and actions for health improvement, communication in times of health emergency also falls under risk and crisis communication. On the one hand, risk communication informs people about environmental or health hazards or events that can cause public concern. It manages potential problems in a manner that promotes goodwill, disseminates information, and communicates potential crises and emergencies well, encouraging prudent action and reducing panic. While risk communication deals with things that might go wrong, crisis communication deals with things that do go wrong. On the other hand, crisis communication is seen as the cross between managing information and meaning during all three stages of prevention, response, and post-crisis learning. (Coombs, 2010, as cited in Janoske et al., 2012, National Response Plan, 2005). During crises and disasters, events unfold simultaneously and often unpredictably; hence, communication planning prepares governments for a proactive approach. It ensures a well-coordinated and systematic approach among all relevant stakeholders directed at assigning and simplifying roles and responsibilities to achieve the greatest good for the most significant number while maintaining enough resources to reach the most vulnerable groups in society (Seeger et al., 2003).

However, with the recurrence of pandemics, integrating risk and crisis communication with health communication is recommended as a vital component of a public health emergency response (Abraham, 2017). The pandemic's extent poses challenges in demonstrating the usefulness and understanding of limitations in existing disease outbreak communication

tools. Governments at all levels must coordinate and plan risk and crisis communication protocols following the principle of distributing "the right message, at the right time by the right person."

Over the years, the Philippines has had broad experience dealing with infectious diseases and health threats. There were at least 70 significant emergencies and biological hazard-related events from 2006 to 2016, to which the country's Department of Health (DOH) has responded (Law, 2016). Health was among the five (5) essential services devolved at the local level following the Local Government Code of 1991, or the Philippine Republic Act 7160 (Tapales, 1992). Carrying out the government's functions, including the provision of devolved services and the role of local government units (LGUs) in the localization of global sustainable development goals (SDGs) and disaster risk reduction and management (DRRM), requires proper communication management consolidated along vertical and horizontal networks. In general, LGUs in the country are not keen on data management due to their insufficient budget. Without solid baselines, forecasting would be difficult, leading to government planners and managers generating weak, if not inadequate, courses of action as the basis for crucial decisions by local executives. A crisis and risk communication plan is not foolproof against a global pandemic; there will be questions on implementation, monitoring, and evaluation of the communication strategy, which could lead to other management problems. However, having a working map at the start of any crisis will lead to systematic, collective action by all stakeholders in a unified path devoid of uncertainty and confusion.

During the COVID-19 pandemic, the LGUs in the Philippines, including 16 cities and one municipality in the National Capital Region (NCR), experienced communication challenges and thus undertook different communication and response strategies to the global pandemic. The media featured the proactive efforts of Marikina and Pasig LGUs, represented as cases for this research. While Marikina City has been recognized with exemplary governance throughout the years, Pasig City is a game changer led by its novice and millennial chief executive, who has demonstrated a swift and coordinated response to this crisis. The two cities have consistently landed the top-three spot in several NCR surveys on the satisfaction and approval ratings of LGUs' and local chief executives' responses to COVID-19 (RLR, 2020; Publicus Asia, 2020).

This research intends to determine the good practices of Marikina and Pasig LGUs in health crisis communication. It aims to identify their communication strategies in response to and managing the COVID-19 crisis and the corresponding perception of the cities' crisis managers and constituents. It seeks to draw recommendations for developing an LGU crisis and risk communication plan that builds on the pandemic experience and the prospect of integrating proactive risk and crisis communication in all government processes and public health communication.

Much of the literature on communication in situations of uncertainty and heightened concern, particularly risk and crisis, focused on (1) plans and case studies in the Asian region and a few from the Philippines and (2) toolkits and frameworks, mainly from the experience of the United States and Europe. Studies used the traditional approach to crisis and risk communication. They frequently focused on organizational risks during a crisis, including reputation, public relations, response, and the "success or failure…in moving forward after the crisis", rather than on how communication impacted the public and their behaviors (Young & Flowers, 2012; Janoske et al., 2012).

Literature also covered risk reduction, management, and recovery plans (United Kingdom Government (UKG), 2020; NCDC India, 2016; Philippine NDRRMC, 2011; US Department of Commerce, n.d.) and cases of communication management strategy in general (Janoske et al., 2012; Fearn-Banks, 2010) and in specific events such as health crisis, outbreak, pandemic (Wang et al., 2020; Atina et al., 2020; Abraham, 2017; George & Kwansah-Aidoo, 2017; Palmer et al., 2013; European Centre for Disease Prevention and Control, 2013; Powers & Xiao, 2008); environmental risks (Telles, 2015); disasters (Rahman, 2019; Herovic et al., 2017); and animal disease risks (Llarena, 2007).

To address the COVID-19 health crisis, different countries and governments employ different strategies in exchanging much-needed information with the public as a crucial aspect of governance. Perhaps the country most vulnerable to COVID-19 due to its proximity to China, Taiwan reactivated the Central Epidemic Command Centre (CECC) under a unified central command system. Its communication strategy centered around giving reassurance and educating the public, fighting misinformation, disseminating clear and compassionate messages to the public, providing daily press briefings, and conducting an interim assessment of outcomes to determine public opinion on government efforts through the Taiwan Public Opinion Foundation (Wang et al., 2020; Atina et al., 2020; Taiwan Centres for Disease Control (TCDC), 2020). The New Zealand government's approach placed science, leadership, and careful language at the forefront. The government used message framing guided by the principle of eradicating the social stigma associated with COVID-19 patients and potential cases and a massive public campaign for national unity in addressing the crisis. It recognized that communicating the concept of elimination to the public was crucial in the government's response (Health New Zealand, 2020). Meanwhile, "public communication, understanding, and enforcement" to enhance public health education for citizens to take responsible and safer risk judgment is a support program for the United Kingdom's recovery strategy (UKG, 2020).

Recent literature suggested tools, guidelines, and communication models to bridge theory and practice. It was emphasized that while no single idea or model captures the broad range of considerations for crisis and risk

communication efforts, these tools and models can apply to a specific event phase (Janoske et al., 2012; Lundgren & Mc Makin, 2013; Zaremba, 2010). These tools and models sought to inform practice and guide evaluations of crisis, emergency, and risk communication in public and private sectors in the fields of public health (Seeger et al., 2018; Schwarz et al., 2016; Lundgren & Mc Makin, 2013; California Department of Public Health, 2011); environmental risks (Lundgren & Mc Makin, 2013); digital and social media crisis (Jin & Austin, 2017; Sheehan & Quinn-Allan 2015; Maltoni, 2010). Likewise, the literature emphasized challenges, opportunities, and solutions in risk and crisis communication (Ndlela, 2019; Gamhewage, 2014; Infanti et al., 2013; WHO, 2012; Zaremba, 2010; APHA, 2009).

This study seeks to contribute to risk and crisis communication literature as well as to the development and application of a crisis/risk communication strategy, particularly in the country's local government sector, and integrating the same in government processes towards sustainable development, informed and resilient localities and citizens, in addressing uncertainties and heightened concern.

Risk and Crisis Communication Framework

While this study intends to draw an emerging local strategy for health risk and crisis communication from the experiences of the LGU study areas in the context of the COVID-19 pandemic, it is guided by Crisis and Emergency Risk Communication (CERC), a general communication model developed in 2001.

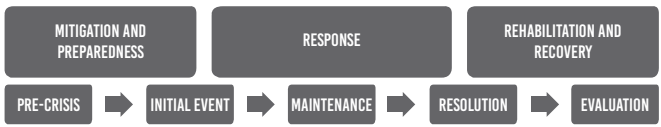
The CERC model integrates the "many traditional notions of health and risk communication with work in crisis and disaster communication," which presents a similar context in the current management of the health crisis and risk brought about by COVID-19. Categorized under theories of communication and crisis development, this overarching framework understands concern as (1) a complex phenomenon resulting from "multiple…unrelated factors, involving multiple actors and decisions often interacting in non-linear ways"; (2) grounded in a theoretical perspective through "constant comparative processes"; and, (3) "time-ordered, time-dependent and time-sensitive" (Auer et al., 2016; Sellnow & Seeger, 2013; Zaremba, 2010; Reynolds & Seeger, 2005).

Based on Janoske et al. (2012), the CERC model espouses that because of its complexity, crisis (1) has a clear developmental structure and demonstrates an "identifiable if not predictable order and pattern" as will be reflected in the unfolding events or phases of the COVID-19 health crisis in the case areas; (2) prominently features "disorder" and "disruption" not only among the public or, in this study regarded as the city residents and stakeholders, but also among crisis managers, or primarily the local governments; and, (3) has various stages which require specific groups of

communication stakeholders and tailored strategies in these phases. While previous crisis communication models identify preparedness, response, and recovery as the usual phases, CERC reflects a five-stage model for crisis, emergency, and risk communication that corresponds to the "relatively general and discrete phases" in the development of a crisis or situations of heightened concern: (1) pre-crisis, (2) initial event, (3) maintenance, (4) resolution, and (5) evaluation. Complementing the model is the DRRM framework currently used in the Philippines that outlines risk management in the Mitigation, Preparedness, Response, Rehabilitation, and Recovery phases towards safer, adaptive, and disaster-resilient Filipino communities towards sustainable development (Philippine NDRRMC, 2011).

Figure 1

Philippine DRRM Framework Risk Management Phases and CERC Model's Phases in the Development of Crisis



The model further involves making available resources and complementing them with existing resources to address an emerging public health crisis. These broad sets of strategies and suggestions for communication messaging need to effectively incorporate the "established public health methods for risk communication with principles of crisis communication" and strategically direct the same to the most exigent public at each stage" (Reynolds, Galdo, and Sokler, 2002 as cited in Janoske et al., 2012).

METHODOLOGY

Design and Data Sources

This qualitative study uses descriptive research design to generate data on local government's efforts in response to the COVID-19 pandemic, focusing on the two Philippine cities of Marikina and Pasig. Primary data sources included interviews with three city personnel involved in the actual pandemic response and twenty informants who are current and long-time residents of each LGU. This study labeled these informants as Risk and Crisis Managers and Public, respectively. The informants were selected with the following criteria: (1) the 'Manager' informant (MI) must be (a) employed by the city government and (b) involved in the pandemic response. Thus, 'Manager' informants may come from the City Planning Development Office, Disaster Risk Reduction Management Office, and the Public Information Office of the city; and (2) the sole requirement for 'Public' informant (PI) is that they are current residents of said cities for not less than ten years. This will ensure they have the experience to assess the crisis and disaster responses within the period of the current administration.

Table 1

Manager Informants' Profile

Category/ Participant Code	City/ Office	Profile
MI1	Markina City Public Information Office	Tasked with updating the public on COVID-19 cases and LGU response, with 17 years of service and experience in crisis/risk management and communication
MI2	Pasig City Disaster Risk Reduction and Management Office	With 21 years of service, I was assigned as Resource Unit Leader and member of the COVID-19 Incident Management Team (IMT), involved in disaster response in 2009, which was challenging because there were no systems, tools, or written plan then on how to manage a large-scale disaster
MI3	Pasig City Treasurer's Office	Has 16 years in service, experience in crisis/risk management and communication revolving around financial transactions, and was tasked to implement the Cash Transfer Program (CTP) as part of the COVID-19 response

'Public' informants (PI) for Marikina City comprised of employed individuals, a student, and a housewife who cited their previous crisis experiences, such as Typhoon Ondoy in 2009, the recent Taal Volcano Eruption, and other personal crises. For Pasig City, informants are government employees and housewives with no previous health crisis experiences, but with the challenges during typhoons and flooding Typhoons Milenyo in 2006 and Ondoy in 2009, including limited means or access to some services. Their usual sources of information are TV, radio, online news, social media, and other online platforms.

Secondary data were sourced from two (2) online media sites, GMA Network, and Philippine Daily Inquirer, which featured news and stories (Appendix 1) on the pandemic response of the two (2) LGUs between March and May, and from social media accounts of the two (2) LGUs, to document the published response of the city governments on the pandemic from March to June. These are actual records to show the initial and ongoing efforts of the city and supplement or validate the responses of the city government personnel as informants in this study.

Instrumentation and Data Collection

The study used interview guides for the 'Managers' (MI) focused on the LGU's initial response, ongoing efforts and perceived effectiveness, and challenges experienced in addressing the ongoing crisis. The interviews

conducted with the 'Public' (PI) centered on questions to determine their profile, awareness, knowledge, satisfaction, and opinion on the current efforts of their local government, as well on the sources of information during the pandemic, kinds of information sought by the informants, and recommendations for effective communication during the pandemic. Data on the perception of the informants showed the effectiveness of the city government's efforts. Further, the responses related to the information needs and requirements of the informants presented a pattern of their awareness, information demanded by the 'Public' from its government, and a validation of the LGU's communication strategies. It likewise served as the basis for conceptualizing message structures unique during a health crisis. Finally, the data on commonly used communication platforms indicate the most preferred information channels by the 'Public' regarding accessibility, appropriateness, and effectiveness. From these data sets, the study developed a framework of how messages are structured and which medium or institutions should be involved to create local governments' swift and well-coordinated risk and crisis response.

Data Analysis

The data gathered were analyzed and served as baselines on the good practices in health risk and crisis communication as a factor of crisis management and in developing recommendations and communication strategies for LGU risk and crisis communication plans. The study identified themes from interview transcripts, which were then analyzed and presented to provide a landscape of the local government's current health crisis communication efforts. The responses of the 'Public' informants rendered color and meaning to the overview presented by the city personnel. The discussion from news content analysis traversed over the two cases to illustrate the overall similarities and contrasts on various analysis points.

FINDINGS AND DISCUSSION

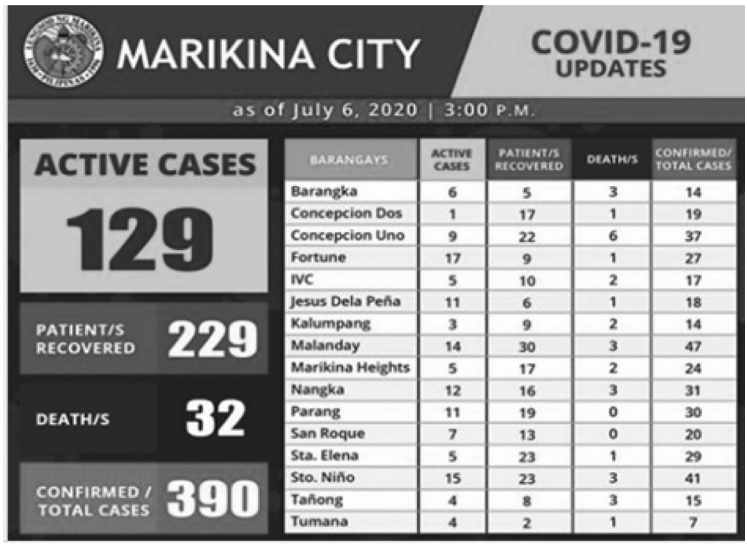
LGU crisis and risk communication practices and strategies

Based on the study's data sources, information on the COVID-19 pandemic is exchanged chiefly at the local government level through (1) broadcast media, specifically television for news, public address, and press conferences; (2) online/digital media mainly through the government agency and LGU websites, social media accounts of the LGU, the local chief executive (LCE), the city public information office and other relevant offices or command center for immediate announcements, updates, online news; and, (3) barangay (village) leaders for public announcements. In Marikina and Pasig, the local chief executives are actively on top of crisis communication, as observed in media coverage. Both cities also used the city and Public Information Office (PIO)'s official Facebook Pages during the COVID-19 response.

Manager Informant 1 (MI1) shared that as an overall strategy, Marikina Mayor Marcelino "Marcy" Teodoro is "hands-on" and on top of crisis communication as he speaks to the public through traditional and social media in giving announcements/directives. Likewise, the LGU releases announcements and advisories to inform the public of essential actions or news within their locality. Additionally, all sectors and stakeholders are considered when handling crisis communication, often through social media. Concerned city departments, for instance, the City Health Office, served as information sources. Before dissemination, the information is validated to ensure its accuracy. The city uses feedback gathered through social media and personal interactions with crisis managers to evaluate its communication strategy. The Marikina PIO Facebook Page contained daily updates on the pandemic, such as number of confirmed and active cases, deaths, and recoveries disaggregated per barangay and presented in tabular form (Figure 2) as well as health, safety, and preventive measures and protocols. This 'Manager' informant reiterated that COVID-19 case updates are provided daily. At the same time, feedback is monitored and relayed to proper authorities, and complaints and requests of netizens are facilitated from Mondays through Fridays. Other social media postings are mostly about announcements of the mayor, details of COVID-19 response, services and actions, and health infographics and audio-visual materials. Similarly, the analyzed news items focused more on the LGU's early and proactive response to COVID–19, including its clamor for the DOH to approve the city's testing facility.

Figure 2

Marikina PIO COVID-19 Updates



BARANGAYS	ACTIVE CASES	PATIENT/S RECOVERED	DEATH/S	CONFIRMED/ TOTAL CASES
Barangka	6	5	3	14
Concepcion Dos	1	17	1	19
Concepcion Uno	9	22	6	37
Fortune	17	9	1	27
IVC	5	10	2	17
Jesus Dela Peña	11	6	1	18
Kalumpang	3	9	2	14
Malanday	14	30	3	47
Marikina Heights	5	17	2	24
Nangka	12	16	3	31
Parang	11	19	0	30
San Roque	7	13	0	20
Sta. Elena	5	23	1	29
Sto. Niño	15	23	3	41
Tañong	4	8	3	15
Tumana	4	2	1	7

As validated in the interviews (MIs and PIs), all informants turned to the government as information sources across all online media platforms. It is evident in their responses that the public completely trusts and expects the government to provide them with comprehensive and accurate information on the pandemic.

In the case of the Pasig LGU, the overall strategy includes a good flow of information, preparedness drills in place, and an Incident Management Team (IMT), which serves as the focal point of crisis management covering different areas of concern. At the same time, all public inquiries are jointly attended by the city PIO, *Ugnayan sa Pasig,* and the Pasig Command Centre. It also established a direct emergency communication network among stakeholders in all its barangays and IMS text blast capability. All personnel involved in incident response received a hand radio and a cell phone to relay information and situation reports immediately. As it envisions participatory governance, civil society, including medical frontliners and volunteers, is also involved in policy formulation and implementation. Relevant, timely, reliable, and verified information is exchanged and filtered only according to data privacy law and patient confidentiality. Maintaining a database of COVID-19 cases for sharing with relevant offices and regular training and peer reviews with other local DRRMOs, serve as monitoring and evaluation mechanisms. This ensures that the city's capability, capacity, and correspondence can meet future crises and emergencies.

The Pasig City Public Information Office (PIO) Facebook page contains daily updates like the Fcrisesk page of Marikina (Figure 3). However, one can take note of a few contrasts in the handling of posts and information. First, the Pasig City PIO uses more infographics and digital posters, which are all internally generated. Second, it is linked through the personal Facebook page of Mayor Victor Maria Regis "Vico" N. Sotto (thus, much of the perspective is through the eyes of the LCE, reflecting his activities and accomplishments). Third, message treatment entails a story-telling approach (Figure 3). It tells a story behind every situation, such as the recovery of COVID-19 patients and their dismissal from the quarantine facility, and it sends a message of hope and triumph amid the crisis. The digital posters were likewise combined with a short narrative depicting the current situation of ordinary citizens. In contrast, the news analyzed by the Pasig City Government centered primarily on the city's provision of social

Figure 3

(left) Pasig PIO COVID-19 Updates; (right) Sample of Story Video

amelioration and financial assistance to different sectors.

The primary information needed by the PIs is about the status of the current pandemic: the number of cases, recoveries, deaths, and the number of individuals tested to determine the extent of the health crisis at various levels. The public wants to follow the progression of the COVID-19 crisis, and the numbers most often paint a grim picture of the situation to the public. In contrast, the number of individuals tested and the recoveries imply the story's bright side. Data on the number of people tested and recovered may also be equated with public trust in the appropriate health care or with the practical and swift response of the government. Informants also wanted to know about the COVID-19 pandemic: its origin, nature, characteristics, and other scientific information on this infectious disease. Another critical information on COVID-19 is the health and safety protocols: the specific preventive measures to be undertaken, the do's and don'ts. Likewise, informants wanted the latest announcements, advisories, prevailing community quarantine directives, and corresponding policies and guidelines from the national government through the Office of the President or the Inter-Agency Task Force on Emerging Infectious Diseases (IATF – EID) created to address this pandemic, and information on how these are translated as local government initiatives and actions.

As in the CERC model's initial crisis phase, communication is directed to the public and affected groups by establishing spokesperson credibility and providing emergency courses of action. As part of the maintenance phase, necessary background information, listening to public feedback, correcting misinformation, and empowering decision-making are employed, mainly through social media account feedback. Under the CERC resolution stage, the public is provided updates regarding causes and new risks or understandings through analysis of the problems and reinforcing what worked. Through information exchange, the public is persuaded to support necessary policy and resource allocation, and the LGU can strengthen its capacity and credibility in crisis management (Sellnow & Seeger, 2013; Janoske et al., 2012; Reynolds & Seeger, 2005).

Throughout these exchanges, the trust and credibility of the LGUs have been vital, as pointed out by Abraham, 2011. The 2017 Philippine Trust Index showed the government earned an 80% trust rating, a 30% increase from its 2015 rating. The survey noted that Filipinos were satisfied with the government's current performance, which was equated with high trust ratings (PTI, 2017). However, Fernandez et al. (2016) drew attention to the high distrust of people towards government officials. Therefore, there can be great difficulty initiating risk communication on the part of the government when it is mired with much public skepticism towards the real motives of politicians, scientific experts, and regulatory bodies. With the government as the primary information source, it should be ensured that the public trusts the credibility and competence of public officials in disseminating critical information during a health crisis.

Perception of Health Risks and Crisis Communication

Perception of Risk and Crisis Managers

Crisis communication manager informants (MI) perceive that communicating to the public that their local government is in charge listening to public feedback and addressing challenges contributes to the LGUs' overall COVID-19 crisis management. These strategies are discussed further in the succeeding sections.

Communicating that the LGU is in Charge of the Crisis

Communication is acknowledged as key to more effective and efficient public service as it promotes stability and order among the public, ensures proper resource allocation, and creates feedback mechanisms. This makes all response arrangements easier and assures the communities that the LGU is on top with its clear and decisive actions. As such, the public is advised to rely on the information from official channels (MI3). In addition, concerted efforts from the top management are viewed as commendable, as they always strive for the best but recognize areas of improvement (MI2). During the crisis, the city mayor allows heads of concerned offices "to speak to the people through social media" and "issue notices and advisories that contain verified data and information" (MI1).

Capitalizing on the Role of Citizen Feedback

MI1 cited the vital role of 'netizens' in giving the LGU valuable feedback by letting the government know what is happening in their communities through social media pages. This is seen as especially crucial in emergencies.

Addressing Challenges in Gathering Case Information and Misinformation

The challenge of collecting case information and spreading false news was recognized. To address this, responsible personnel exerted effort in convincing residents to provide accurate information through proper orientation, case documentation, advisories on prevention and treatment, and to be vigilant against false online information.

Perceptions of The Public and Stakeholders

Specific to crisis communication, the interrelationship between the crisis and the public perceptions has to be examined (Wang & Dong, 2017). In this study, perceptions referred to awareness, satisfaction, and views of the public on the effectiveness and challenges of LGU health risk and crisis communication efforts, as elaborated in the following sections.

Aware of LGU Health Risks and Crisis Communication Efforts

From the responses, most of the Marikina informants are familiar, while the Pasig informants were unanimous in saying that they are aware of the communication efforts of the LGU. They see the communication and information exchange as orderly, timely, and appropriate messaging.

Mostly Satisfied with LGU Health Risk and Crisis Communication Efforts

In general, most of the informants from Marikina were satisfied with the current efforts of the local government. One cited evidence of relatively low COVID cases compared with other cities (PI4). This statement linked LGU's good performance to the low number of COVID cases. However, PI1 was not fully satisfied with the performance of the city government and cited the lack of transparency, which in a follow-up interview was associated with incomplete information and lack of explanation for the sudden spike of COVID-19 cases in a particular barangay. This suggests the need for detailed and consistent information to help the public understand the situation and to avoid misinterpretation and skepticism.

Key informants from Pasig stated that they are generally satisfied with the communication efforts concerning crisis management. Informants believed that the City of Pasig "has done and is doing its best to inform its residents and to address this crisis" (PI7) and that the city mayor was actively handling the planning and implementation of COVID-19 management strategies. These are done with agility, responsiveness, equitable consideration of the poor and the vulnerable, innovativeness, and the perfect packaging of the initiatives consistent with the mayor's reform and good governance campaign messages (PI9).

Effective Messaging and Communication Efforts toward Crisis Response and Management

The transparency exhibited by the LCE in Pasig is seen as an indication of the trust and dependability of the LGU. Informants indicated that how the mayor and his team successfully communicated his campaign message is almost like how the city government expressed his COVID-related initiatives. The LCE and the people in charge of social media management were responsive to questions and clarifications and open to suggestions. This was attributed to having a "millennial mayor who has mastery of the [use of] new media." The comment sections of social media and news articles reflect the satisfaction of the public, residents, and non-residents on the LGU's handling of the pandemic (PI9). An informant (P10), however, stated that the success of LGU efforts at crisis management is still dependent on the discipline and compliance of its people. The Pasig LGU effectively emphasized "social equity, good governance, and innovation" in its messaging and action. This, and the household census conducted in

the previous year, contributed to the efficient delivery of services and social amelioration.

Marikina informants generally believed that the LGU was effective in its pandemic response, which was again equated with low transmission cases. For a city recognized for its resilient and well-disciplined citizens, one can still note some breaches in protocols, especially during the first days of implementation when everybody is still in the coping phase (PI5)—nevertheless, the Marikina government-initiated compliance mechanisms for the public, particularly during the pandemic.

Challenges in Communication at Different Levels

Although informants believed in the effectiveness of the local government, there were still several communication challenges that should be addressed at the level of: (1) barangays: an (a) implementation of community quarantine; (b) politics, engagement, and coordination with some barangay officials and residents; (c) residents who do not have access to technology rely more on their barangay, which at times is not as well-versed in appropriate and effective messaging; (2) LGU: (d) intensification of information dissemination, especially with the use of social media and through the engagement of barangays and homeowners' association; (e) a clear communication plan for a more coordinated and proactive response; (f) enforcement of the various LGU plans; (3) national: (g) confusion arising from information given at the national and the LGU levels due to inadequate and unclear national guidelines and information that would sometimes hinder local implementation.

Recommendations for an Enhanced and Integrated Health, Risk, and Crisis Communication

In response to the challenges identified, informants suggested the following recommendations for enhanced health risk and crisis communication: (1) sustaining communication efforts; (2) more detailed messaging; (3) capacitating city and barangay personnel; (4) maximizing technology and media; (5) employing a coordinated approach with barangays and sectors; and, (6) integrating risk and crisis communication with LGU processes.

Sustaining Current Communication Efforts

Informants from Pasig recognized the need to sustain the communication efforts and methods of the LGU, which are already in place, particularly the timely exchange of information and open and accessible communication lines for the public (PI10). It must also develop consistent communication strategies from the LGU to the barangays. PI9 said since the LGU works "closest to the people," the policies, health regulation, and

social services delivered have essential implications on how the public "trust or distrust the entire government."

More Detailed Messaging and Information on COVID-19

The need for more information on COVID-19 has been a recurring response among Marikina PIs. This shows that the public demands detailed and accurate information and perhaps some explanations for notable changes in the situation. During a health crisis, the government should ensure accurate, complete, and timely information on health interventions from legitimate sources (PI15). Authorities should interpret information and data rather than make it prone to multiple interpretations. The public will rely more on the messages and information their trusted government officials exchanged since there is no distrust towards the LGU.

Capacitating LGU Personnel and Barangays on Risk and Crisis Communication Related to Health

In Marikina, the knowledge and skills of personnel regarding risk and crisis communication must be enhanced. While there are intensive capability enhancement programs on DRRM, the scope may be expanded to accommodate and integrate health risk and crisis communication fully. According to MI1, the capacities of LGU personnel are developed by carrying out tasks in media relations, public information, and education during the management of the pandemic.

To address the messaging and communication challenges at the barangay level, it was recommended by Pasig informants that barangay leaders undergo capacity development in public engagement, messaging, and new media use. The LGU should also strengthen traditional or non-technology-based communication media, like public address systems, brochures, and information guides, especially for areas with limited access to technology and social media. The city's Rescue Emergency Disaster (RED) Training Centre can be fully utilized.

Maximising the Use of Technology and Effective Use of Mediafor Risk and Crisis Communication

Undoubtedly, social media has become an indispensable tool for public communication. According to GSMA Intelligence, 47% of the Philippine population can access mobile data and an Internet connection (Garcia, 2016). As emphasized in Abraham (2011), the use of the internet and social media for public service may be encouraged down to the barangay level to complement other traditional forms of communication.

There is a strong belief in the appropriateness of online/social media as the most effective platform in terms of reach, accessibility, and real-time

information. According to Marikina informants, LGUs must maximize the use of social media and other internet-based channels. However, the caveat is the tendency to receive and react to false information. Thus, the accuracy of the data should be ensured for the public who should be constantly warned to check the source of information. Traditional and online media may also be used by assigning specific or additional personnel to undertake media relations to share the local government's efforts at the national level. MI3 mentioned the creation of a regional city database of constituents. It proposed a Citizen Application, which can be used in emergencies and facilitates contact for the City Command Centre (C3) personnel to ask for details about the 'emergency'. At the same time, a responder shall be deployed to the location recorded in the application. Upgrading communication infrastructures, suasprovidingn of free connection for all and communication equipment and gadgets like two-way radios for every household, were also recommended (PI11 and PI13).

Employing a More Coordinated Approach and Effective Engagement with Barangays and Sectors

The immediate presence and action of barangay officials as the first touch point of the public to its LGU has been commonly underscored in the responses. There was even a suggestion for the barangay to conduct house-to-house visits and regular roving activities within their respective areas (PI11 and PI12). Informants implied that the presence of authorities gives them a sense of security in ensuring that everybody follows the health and safety protocols to avoid infection risks and in the demand for swift delivery of basic services and public assistance.

Health crisis requires various approaches to engage all sectors concerned and thus requires vertical integration that involves all units of the current local government structure, from the city government down to the barangay level. Likewise, horizontal integration calls for the engagement of other sectors, such as private organizations, government, police, military, media, religious, academe, as participants. This approach in integration through networks is based on the idea that organizations are interdependent and should work together to achieve a commonly desirable goal (Kapucu & Garayev, 2014). It is also identified as an emergency management mechanism appropriate for disaster and risk management.

MI2 suggested a centralized response tool that must emanate from the national government for all city and barangay risk and crisis managers. According to Marikina informants, public information campaigns should be strengthened by involving the lowest unit of local government structures. The informants from Pasig believe that communication must occur in "numerous directions, between and among agencies, organizations, first responders, support personnel, government, and the media" (PI6). The Pasig LGU is seen to be visible in various media and different sectors of society, partly due to the growing popularity of the LCE.

Informants from the two LGUs underscored the need for engagement of a broader network with the media and sectors. For traditional mass media, areas or public sectors with limited access to new media must be identified. The use of online and social media should be responsive and include ways how to counter false news or unreliable information. As revealed in Ahadzadeh & Sharif (2017), online platforms proved to be a safe and valuable source of health risk information during the pandemic because of the community quarantine.

Identifying entry points for cooperation and coordination in building and maintaining a network with sectors for risk and crisis communication and management is essential. For instance, community organizations can be approached through incentives, schools in disseminating information through the curriculum, students and parents, the universities through its research, extension, and instruction mandates in the conduct scientific studies and data analytics to support LGUs' information generation, church, and faith-based organizations can also be enjoined in communicating among its brethren in times of crisis and via public good or values, non-government or peoples' organizations through similar interests or advocacies and private sector via their corporate social responsibility.

Integrating Risk and Crisis Communication with LGU Plans, Programs, and Processes

It was recognized that risk and crisis communication should be integrated with local government processes. MI1 informant emphasized the imperative of 'institutionalizing' risk and crisis communication. In contrast, for Pasig 'Public' informants, "new policies can be developed from strategies that worked, and the lessons learned" from managing the pandemic.

For some Marikina informants, this needs further elaboration during the follow-up interviews with the student and housewife informants since they are unfamiliar with the concept of integration. Ultimately, all informants agreed that the LGU should have communication plans during disaster and health crises. To further improve the communication efforts, informants suggested that public information, education, and communication strategies should be integral in planning, programming, assessment, and evaluation and consolidated in a "cohesive communication plan" (PI8, PI9). As in CERC's Evaluation phase, communication is pursued to "discuss the adequacy of response and work toward lessons and new understandings" by evaluating communication plan performance, documenting lessons learned, and determining specific actions to improve the crisis plan".

Local Health Risk and Crisis Communication Framework

From the findings, this study developed a local Health Risk and Crisis (R&C) Communication Framework (Figure 4). It consisted of ***message structure, health information to be exchanged, communicators, communication strategies, communication medium and communication tools***, all of which can be applied during health crisis and disaster. This R&C Communication Framework was plotted with Figure 1 to reflect the message and communication component required in the phases when risk, crisis, and emergency arises and are managed (Figure 5). Based on the responses, the types of messages for risk and crisis communication may be classified primarily into 4Is: (1) Informational, (2) Instructional, (3) Influential, and (4) Institutional.

Informational messages are focused on the awareness of the audience, which in this case include risks and incidence of an outbreak, statistical updates, nature and symptoms of the infectious diseases, including the authorities' current efforts in response to the health crisis at hand and corresponding public feedback. Instructional messages are geared towards building the knowledge of the people on how to deal with the crisis specifically. These are clear-cut procedural messages such as the preventive measures as well as the health and safety protocols to be observed by the public once the situation sets in. It also includes guidelines and regulations on what to do if an individual is affected. Influential messages target changes in behaviour and attitudes of the audience. During and after the pandemic, it is expected that there will be more lifestyle changes as we adapt to the new social setting. Moving forward with this health crisis, Institutional messages or those which effect long-term policy and societal changes are also necessary.

Figure 4

Local Health Risk and Crisis Communication Framework by Muhi and Quindoza

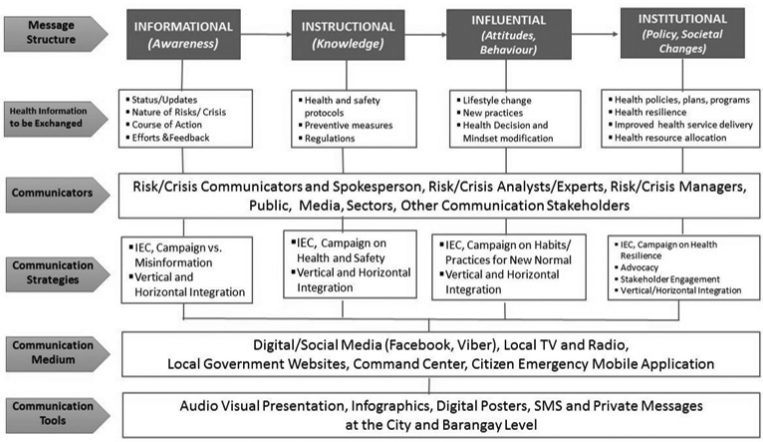
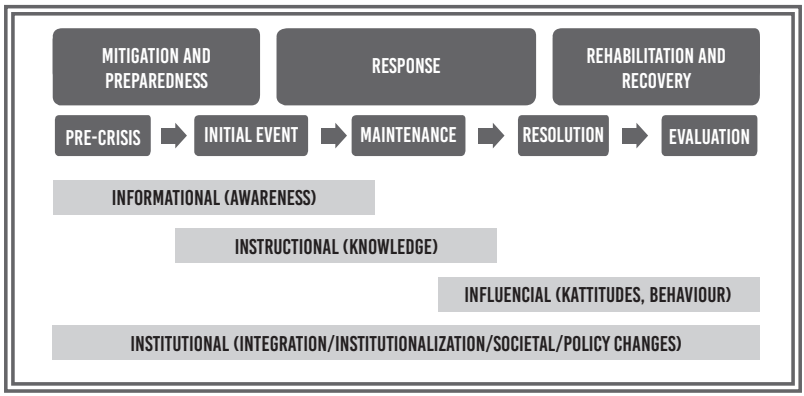


Figure 5

Messaging in Different Phases of Risk and Crisis Communication



CONCLUSION

The unprecedented global pandemic is a true test of leadership and governance among local governments in the Philippines. At the same time, communication has proven to be an essential governance component that weaves the people together in times of crisis. This health crisis of our time offers an opportunity to reflect on the readiness and responsiveness of local governments in serving their constituents. In risk and crisis communication, situations of heightened concern are closely linked to response strategies and public perceptions (Wang & Dong, 2017). The study findings revealed that communication strategies implemented by local officials were following the CERC model framework except for the recovery component since, as of this writing, the COVID-19 Pandemic is still ongoing. This study's proposed local Health Risk and Crisis (R&C) Communication Framework consisted of an Informational, Instructional, Influential, and Institutional message structure required in the phases when risk, crisis, and emergency arise and are managed, as well as corresponding information to be exchanged, communicators communication strategies, communication medium, and communication tools.

Communication interventions need to be perceived well by their stakeholders. As indicated in the interviews, the public is highly aware and generally satisfied with the current communication efforts of the Cities of Marikina and Pasig. They also view these efforts as influential and contributory to crisis management. Challenges were pointed out regarding a "whole-of-government" approach by engaging vertical and horizontal networks.

LIMITATIONS AND RECOMMENDATIONS

This study focused only on the cities of Marikina and Pasig and its early response at the onset of the COVID-19 Pandemic. Marikina and Pasig were the most active Metro Manila cities in being responsive and the most visible in all media platforms. Thus, their swift actions to address the unprecedented health crisis are worth investigation, and the perception of their respective constituents is equally essential.

The study period was limited to March and June 2020, identified as the early phase of the pandemic, since this study looked into the early response in times of crisis. Future studies may consider the overall reaction of the national government and other local government units in the country throughout the problem.

Furthermore, integrated health, risk, and crisis communication was recognized as an imperative course of action to institutionalize health risk and crisis communication within government plans, programs, and processes. The localized framework can be valuable for local health and risk communicators, crisis analysts, and managers in managing the COVID-19 pandemic and for similar or emerging crises or risks in the current DRRM strategy and in developing a culture of health and risk resilience. Future research can cover risk perception and the application and evaluation of these frameworks in the context of health, risk and crisis communication.

REFERENCES

Abraham, T. (2017). Lessons from the pandemic: The need for new tools for risk and outbreak communication. *Emerging Health Threats Journal,* 4(1). https://doi.org/10.3402/ehtj.v4i0.7160

Ahadzadeh, A.S., & Sharif, S.P. (2017). Online health information seeking among Malaysian women: Technology acceptance model perspective. *SEARCH: The Journal of the South East Asia Research Centre for Communications and Humanities*, (9) 1, 47-70. https://fslmjournals.taylors.edu.my/wp-content/uploads/SEARCH/SEARCH-2017-9-1/SEARCH-2017-P3-9-1.pdf

American Public Health Association. (2009). *Expert round table on social media and risk communication during times of crisis: Strategic challenges and opportunities. Government-to-Citizen Communications: Utilising multiple digital channels effectively.* directory.govloop.com/files/govloop/files/5.pdf◎.

Jin, Y., & Austin, L. (2017). *Social media and crisis communication* (1st ed.). Routledge.

California Department of Public Health. (2011). *Crisis and emergency risk communication tool kit.* https://www.calhospitalprepare.org/post/crisis-and-emergency-risk-communications-toolkit

Cousins, S. (2020). New Zealand eliminates Covid-19. *The Lancet,* 395(10235), 1474. https://doi.org/10.1016/S0140-6736(20)31097-7

European Centre for Disease Prevention and Control. (2013). *A literature review on effective risk communication for the prevention and control of communicable diseases in Europe.* ECDC. https://doi.org/10.2900/64747

Fearn-Banks, K. (2010). *Crisis communications: A casebook approach*. (4th Ed.). Routledge. https://doi.org/10.4324/9780203849521

Fernandez, P. R., Kaur, S. & Ng, K. H. (2016). The representation of government agencies in the health debates on radio frequency (RF) exposure in Malaysia. *SEARCH: The Journal of the South East Asia Research Centre for Communications and Humanities,* 8(1), 1-16.

Gamhewage, G. (2014). *Introduction to risk communication.* World Health Organization. https://cdn.who.int/media/docs/default-source/documents/publications/an-introduction-to-risk-communication266a5b8a-da53-4e24-a231-479e02eda627.pdf?sfvrsn=2dbf5d82_1&download=true https://www.who.int/risk-communication/introduction-to-risk-communication.pdf?ua=1

Garcia, K. (2016, January 29). *Statistics on broadband and mobile Internet in the PH.* Rappler. https://www.rappler.com/brandrap/tech-and-innovation/120737-ph-internet-statistics.

George, A. M., & Kwansah-Aidoo, K. (Eds.). (2017). *Culture and crisis communication: Transboundary cases from nonwestern perspectives.* Wiley.

Health New Zealand. (2020). *Covid-19 current cases.* https://www.health.govt.nz/our-work/diseases-and-conditions/covid-19-novel-coronavirus/covid-19-current-situation/covid-19-current-cases#lab

Herovic, E., Sellnow, T.L., & Anthony, K. E. (2017). Risk communication as interacting arguments: Viewing the l'aquila earthquake disaster through the message convergence framework. *Argumentation and Advocacy,* 51(2), 73-86. https://doi.org/10.1080/00028533.2014.11821840

Husnayain A., Fuad A., & Su, E.C. (2020). Applications of Google Search Trends for risk communication in infectious disease management: A case study of the COVID-19 outbreak in Taiwan. *International Journal of Infectious Diseases,* 95, 221-223. https://doi.org/10.1016/j.ijid.2020.03.021

Janoske, M., Liu, B., & Sheppard, B. (2012). *Understanding risk communication best practices: A guide for emergency managers and communicators.* Science and Technology Directorate of the U.S. Department of Homeland Security. https://www.start.umd.edu/sites/default/files/publications/local_attachments/UnderstandingRiskCommunicationBestPractices.pdf

Kapucu, N., & Garayev, V. (2014). Structure and network performance: Horizontal and vertical networks in emergency management. *Administration & Society,* 48(8). https://doi.org/10.1177/0095399714541270

Llarena, E.C. (2007). *Communicating risk on foot and mouth disease.* [Unpublished thesis]. University of the Philippines.

Lundgren, R.E., & McMakin, A.H. (Eds.). (2013). R*isk communication: A handbook for communicating environmental, safety, and health risks* (5th ed.). Wiley. https://doi.org/10.1002/9781118645734

Maltoni, V. (2010). *Applying risk communication principles to social media crisis.* Conversation Agent. http://www.conversationagent.com/2010/08/applying-risk-communication-principles-to-social-media-crisis.html.

National Centre for Disease Control India. (2016). *National Risk Communication Plan.* https://ncdc.gov.in/WriteReadData/l892s/File593.pdf

National Disaster Risk Reduction and Management. (2011). *National Disaster Risk Reduction and Management Plan (NDRRMP)* 2011-2028. https://www.adrc.asia/documents/dm_information/Philippines_NDRRM_Plan_2011-2028.pdf

Ndlela, M. N. (2019). *Crisis communication: A stakeholder approach.* Palgrave McMillan.

Palmer, A., Irlbeck, E., Meyers, C., & Chambers, T. (2013). A case study of the risk and crisis communications used in the 2008 Salmonella outbreak. *Journal of Applied Communications,* 97(1), 38-49. https://doi.org/10.4148/1051-0834.1102

Philippine Disaster Risk Reduction and Management Knowledge Centre. http://121.127.9.136/ocddrrmkc/

Powers, J.H., & Xiao, X., (Eds). (2008). *The social construction of SARS: Studies of a health communication crisis.* John Benjamins. https://doi.org/10.1075/dapsac.30

Publicus Asia. (2020). *NCR COVID-19 survey: Mayor LGU/approval highest in Pasig, Valenzuela and Marikina.* http://www.publicusasia.com/ncr-covid-19-survey-2-mayor-lgu-approval-highest-in-pasig-valenzuela-marikina-manila/

Rahman, A., & Munadi, K. (2019). Communicating risk in enhancing disaster preparedness: A pragmatic example of disaster risk communication approach from the case of Smong story. *IOP Conference Series: Earth and Environmental Science, 273*(1), 1-8. https://doi.org/10.1088/1755-1315/273/1/012040

Reynolds, B., & Seeger, M.W. (2005). Crisis and emergency risk communication as an integrative model. *Journal of Health Communication, 10*(1), 43-55. https://doi.org/10.1080/10810730590904571

RLR Research and Analysis, Inc., (2020). *Satisfaction rating of local chief executives' response to Covid-19.* https://www.rlrresearch.com/

Schwarz, A., Seeger, M. W., & Auer, C. (Eds.). (2016*). The handbook of international crisis communication research.* Wiley-Blackwell.

Seeger, M. W., Pechta, L. E., Price, S. M., Lubell, K. M., Rose, D. A., Sapru, S., Chansky, M. C., & Smith, B. (2018). A conceptual model for evaluating emergency risk communication in public health. *Health Security, 16*(3). https://doi.org/10.1089/hs.2018.0020

Sellnow, T.L., & Seeger, M.W. (2013*). Theorising crisis communication.* Wiley.

Sheehan, M., & Quinn-Allan, D. (2015). *Crisis communication in a digital world.* Cambridge University Press.

Taiwan Centres for Disease Control. (2020). *Attention COVID-19.* https://www.cdc.gov.tw/En

Tapales, P.D. (1992). Devolution and empowerment: LGC 1991 and local autonomy in the Philippines. *Philippine Journal of Public Administration, 36(*2), 101-114. https://www.pssc.org.ph/wp-content/pssc-archives/Philippine%20Journal%20of%20Public%20Administration/1992/Num%202/07_Devolution%20and%20Empowerment.pdf

Telles, J.P.R. (2015). Televised ecotopianism: An ecocritical analysis on environmental risk and risk reduction discourses in Philippine environmental documentaries. *SEARCH: The Journal of the South East Asia Research Centre for Communications and Humanities,* 7(2), 61-82.

U.S. Department of Commerce. (n.d.) *Risk Communication Strategy.*

United Kingdom Government. (2020*). Our plan to rebuild: UK Government's Covid-19 recovery strategy.* https://www.gov.uk/

government/publications/our-plan-to-rebuild-the-uk-governments-covid-19-recovery-strategy

van Brunnersum, S. (2020, April 27*). Coronavirus: Vulnerable Filipinos fight for survival during lockdown.* DW. https://www.dw.com/en/coronavirus-vulnerable-filipinos-fight-for-survival-during-lockdown/a-53258915

Wang, J.C., Ng, C.Y., & Brook, R.H. (2020). Response to Covid-19 in Taiwan: Big data analytics, new technology, and proactive testing. *JAMA, 323*(14), 1341-1342. https://doi.org/10.1001/jama.2020.3151

Wang, Y., & Dong, C. (2017). Applying social media in crisis communication: A quantitative review of social media-related crisis communication research from 2009 to 2017. *International Journal of Crisis Communication*, 1(1), 29-37.

World Health OrganisationOrganization. (2012). 21st century challenges and opportunities for risk communications. *ESSACHESS Journal for Communication Studies (5)* 1 https://www.who.int/risk-communication/21st-century-challenges-opportunities-for-risk-comms.pdf?ua=1

World Health Organization. (2020). *100 days of COVID-19 in the Philippines: How WHO supported the Philippine response.* https://www.who.int/philippines/news/feature-stories/detail/100-days-of-covid-19-in-the-philippines-how-who-supported-the-philippine-response

World Health Organization. (2020*). Corona virus disease (COVID-19) pandemic.* https://www.who.int/emergencies/diseases/novel-coronavirus-2019

Young, C. L., & Flowers, A. (2012). Fight viral with viral: A case study of Domino's Pizza crisis communication strategies*. Case Studies in Strategic Communication,* 1, 93-106.

Zaremba, A.J. (2010*). Crisis communication: Theory and practice*. Routledge.