Best Practices in Health Communication:

A Case Study of Nova Scotia Press Conferences During the Coronavirus (COVID-19) Pandemic

Sarah Alex MacIsaac

Department of Communication Studies, Mount Saint Vincent University

GPRL 6320: Thesis

Supervisor Dr. Amy Thurlow

July 2023

Contents

Abstract

This research addresses the best practices in health communication performed by the Nova Scotia government and Nova Scotia Health during the Coronavirus (COVID-19) pandemic in Nova Scotia, Canada. The COVID-19 pandemic has altered the health communication landscape globally. The goals of this study were: (1) to develop a model that could offer insight into which best practices are consistent and relevant within the literature concerning health communication and (2) to examine which best practices in health communication have been deployed by the Nova Scotia government and Nova Scotia Health during the COVID-19 pandemic. A three-phase methodological approach has been used to develop a model of best practices in health communication during a pandemic. Phase one, an inductive content analysis was used to examine best practices. Phase two, a case study approach was used to analyze press conference transcripts for the first six waves of COVID-19 in Nova Scotia. Phase three, an abductive approach from the case study analysis, supported the refinement of the model from phase one. The findings of this study produced the Best Practices in Health Communication in a Pandemic (BPHCP) Model consisting of eight best practices. This model has demonstrated consistent best practices in health communication that can be used to ensure organizations in this field are performing optimally for the public in maintaining public health and safety. The development of this BPHCP model has the potential to be deployed within practical applications of health communication to navigate the changing landscape.

Keywords: Best practices, health communication, novel coronavirus, COVID-19 pandemic, Nova Scotia government, Nova Scotia Health

Best Practices in Health Communication: A Case Study of Nova Scotia Press Conferences During the Coronavirus (COVID-19) Pandemic

The global public health crisis caused by the Novel Coronavirus (COVID-19) pandemic has notably reshaped the communication landscape. The challenges facing public health and government officials have never been so prominent in the face of increased public demand for health data. The communication delivery methods used to answer the increased demand for health data are critical in this landscape. With COVID-19, a fundamental issue throughout the pandemic has been maintaining public trust and support for control measures (Pan, 2021). The maintenance of public trust and support for those control measures can be significantly influenced through effective communication; this can be supported using tools and guidelines to increase the success of the public response concerning public health messaging in a crisis. The intended efficacy of communication for COVID-19 has been aimed at improving adherence to the protective behaviours necessary to control the spread of the virus. In this case, behavioural change is the focus when implementing practices for individuals to maintain their safety. Behavioural change at the provincial and community levels is a complex task, making it difficult to measure those outcomes (CDC, 2022). Evidence-based health communication strategies and best practices support and often improve behaviour change initiatives with the collaboration of public health (CDC, 2022).

Best practices are defined as evidence-based standards or guidelines used to promote optimal outcomes if followed. Best practices are generally practice-driven; however, they can also be grounded in systemic research and a grounded theoretical approach (Seeger, 2006, p. 233). The identification of best practices has been historically associated with the systematic overview, analysis, and assessment of existing processes to improve efficiency and quality

(Seeger, 2006). One of the challenges in developing a best practices approach is identifying a large sample of existing literature and cases where the generalized rules and principles can be integrated (Seeger, 2006). While extensive best practices approaches are implemented across various sectors, organizations, and fields, the best practices approach can be altered in all situations regarding the needs and outcome measures. In the realm of communication, each facet of crisis communication, risk communication, pandemic communication, and general health communication all contain variances in best practices to appropriately achieve the desired goal of public health and safety. Best practice standards and guidelines are not a one-sized fits all approach to effective communication strategies when faced with a global emergency, such as the COVID-19 pandemic.

As COVID-19 reshapes the communication landscape, the comprehension of best practices becomes essential when they are aimed at maintaining public health and safety. This research seeks to gain insight into the phenomenon of best practices in health communication, specifically within the context of a case study of Nova Scotia during the global COVID-19 pandemic. With gaining insight into the best practices in health communication, an additional key research objective for this study is to develop a model of best practices specific to health communication as it applies to the strategy of communication efforts during the COVID-19 pandemic. Primarily using academic and professional literature in examining best practices in health communication, the opportunity to perform a case study analysis portrays a real-world application of best practices. This pandemic has proven to be the first of its kind. Still, it will not be the last concerning access to information, misinformation, and the mass spread of information on social media. The case study approach was used to obtain research objectives based on the Nova Scotia government and Nova Scotia Health as a lens to witness best practices in

communication during the COVID-19 pandemic. This contribution from this research study provides another aspect, another viewpoint to contribute to the existing literature on improving health communication to be as effective as possible when and where it is needed. The research questions investigated here are:

> ***Research Question 1*:** Which best practices are the most consistent and relevant within the literature on health communication practices?
>
> ***Research Question 2*:** Which best practices have been deployed in the communication efforts by the Nova Scotia government and Nova Scotia Health during the COVID-19 pandemic?

The potential limitations of this research complement the objective and intended contributions as stated. This research study is simply a small examination of one moment in time, assessing one medium of health communication during the pandemic in Nova Scotia. While the best practices will be examined across various sources of the existing literature, the case study in this research is an empirical approach looking at a particular and limited data sample.

The remainder of this document has been structured to follow the research process executed in this study. This study has been performed using a three-phase method. The first phase describes the inductive coding process for developing a best practices model; the second phase describes the case study application of the best practices model developed in phase one; and the third phase describes the revision of the best practices model into its final state. The outline of this document consists of the following: literature review; methodology (phase one, phase two, phase three); results (phase one, phase two, phase three); discussion (phase one, phase two, phase three); conclusion; references; and appendices.

Literature Review

The following sections provide an overview of the existing literature on various areas of relevance to this study, providing the necessary background in moving through this research. Each section defines a key term, followed by definitions and supporting literature to support understanding each working aspect within this study.

Health Communication

Health communication is the communication methods and strategies employed to inform individuals about healthcare facts and personal best practices, aiming to improve patient outcomes, public health practices and overall behaviours (Ishikawa & Kiuchi, 2010). These communication methods include interpersonal or mass communication activities focused on improving individual health and behaviours. Health communication, health education, and health literacy are embedded in a common understanding of human communication and share the ideals of enhancing human health, improving health outcomes, and reducing health disparities (Allen et al., 2017). Within the facets of health communication, health education, and health literacy, this field of communication includes general health education, risk communication, health and policy advocacy, outbreak communication, patient/provider communication, and health literacy (Ratzan, Sommariva, & Rauh, 2020). These are essential when considering how health communication is crucial in influencing individual decision-making to protect and promote health during a health crisis (Rudd et al., 2003; Goto, 2020; Benksi et al., 2020). The implementation of effective health communication allows communicators to continuously learn, update, and solidify trust with the intended audience of such communication efforts (Benski et al., 2020). All public health institutions hold the responsibility of information dissemination that is concise and valid in any context. These institutions must promote population well-being and

communicate clear and consistent messages to the public to ensure individuals can care for their health. Organizations with productive communication policies and practices have the opportunity to augment their patients' health, whereas ineffective policies, procedures, and practices can negatively impact patient well-being (Vermeir et al., 2015; Ratna, 2019). There are situations in which productive communication policies and practices will be specific to a large-scale event, such as the COVID-19 global pandemic, where the need for effective communication to limit the negative impact on patient well-being is more relevant than ever.

Health Communication During the COVID-19 Pandemic

The novel Coronavirus (COVID-19) global pandemic has created unique challenges for public health practitioners and health communicators, which have warranted new development for existing health communication principles. COVID-19 represents the first global pandemic in the social media age, and it represents an unprecedented challenge for communicators in health care specifically (Wilkinson, 2020). Effective communication concerning public health is challenging as an everyday task; a global pandemic carries a heightened fear level from the public, increasing this challenge (Jacobsen & Vraga, 2020). Health communication focuses on improving society's health outcomes through interpersonal and mass media communication. To improve health outcomes, trust is imperative for the public to follow through with implementing the practices and procedures being put in place. This trust from the public towards health officials and government officials has been jeopardized throughout the pandemic with distinct consideration for misinformation and uncertainty. Some of the health communication challenges that require attention in this timeframe primarily focus on the new challenge of the “infodemic” at this time of health communication during the COVID-19 pandemic. The “infodemic” has fostered its own challenges surrounding health communication when discussing COVID-19

treatments and vaccines being deployed; the communication surrounding risk and uncertainty; health-information behaviours; the instantaneous nature of social media; and finally, the relationship between media literacy and health literacy when assessing all avenues causing increased challenges of communicating during COVID-19 (Ratzan, Sommariva, & Rauh, 2020).

According to T. Pan (2021), the key component of COVID-19 is maintaining public trust and support for control measures; the healthcare landscape has been significantly altered and has, in turn, affected health information management. Communication technologies have been at the forefront of the impacts on health communication during the COVID-19 global pandemic, and communication technologies have proven to carry difficulties in this "infodemic." The need for accurate health communication is more critical than ever with communication technology advancements in mind. This is the first pandemic in the social media age and requires new skills to adequately educate the public trustfully. Public health communication must maintain the public's attention and deliver messages in ways that are reliable and appropriate across languages, ages, cultural affiliations, and education levels for the target audience (Benski et al., 2020, p. 3).

Infodemic

As mentioned above, amidst the COVID-19 pandemic, there has also been an epidemic of "information," otherwise being labelled the "infodemic" or the "digital pandemic" (Banerjee & Meena, 2021, p. 2). An *infodemic* has been defined by the World Health Organization (2020) as too much information, including false or misleading information, in digital and physical environments during a disease outbreak. The COVID-19 pandemic is the first pandemic in history, accompanied by such vast technology and social media, which maintains the capabilities to keep the public safe, informed, and connected. While at the same time, this technology and

social media that keeps everyone informed and connected allows an alarming amount of misinformation to be shared at a lightning-fast pace across the globe (WHO, 2020). The repeated and detailed content about the virus, geographical statistics, and multiple sources of information can lead to increased stress and confusion in a crisis (Banerjee & Meena, 2021). Alongside the mass amount of data being shared, a large amount of misinformation, rumours, and conspiracy theories are discussed and shared at an increased rate. The challenges of health communication without the crisis of a pandemic are documented, yet the COVID-19 pandemic has added layers to an already challenging science with this infodemic (Bheekun, Lee, & Camporesi, 2021). The United Nations and the World Health Organisation have acknowledged the threat of the COVID-19 infodemic as being a serious threat to public health (Bheekun, Lee, & Camporesi, 2021, p.1).

Pandemic Communication

The COVID-19 pandemic has produced an explosion of information, especially in advanced communication technologies and social media (Finset et al., 2020). The volume of information concerning COVID-19 is overwhelming. Newspapers, social media platforms, television programs, and other channels have made it extremely difficult to determine whether the information is reliable and helpful or false and harmful to the public (Finset et al., 2020). As the COVID-19 virus spread rapidly worldwide, information and disinformation related to the pandemic also spread quickly and in massive amounts. The explosion of information created confusion and fear among many populations, in addition to the uncertainty and unknowns about the virus itself (Benski et al., 2020, p. 1). It is argued that pandemics are a particular crisis and require public health professionals and communicators to treat them differently than other crisis communication – the magnitude of this pandemic on global health in the age of social media and information has changed the importance of communication.

Risk and crisis communication is essential in comprehending the need for pandemic communication. Crisis communication is an emerging field in applied communication studies and is defined broadly as the collection, processing, and dissemination of information required to address a crisis (The Pennsylvania State University, 2020). The emergency nature of a crisis amid great uncertainty aggravates already complex decision-making with the urgent need for the management to make decisions rapidly (The Pennsylvania State University, 2020). In this case, the heightened experience of the COVID-19 pandemic has created a rapidly evolving version of crisis communication, otherwise described as pandemic communication. Risk communication defined by the World Health Organization describes risk communication in public health emergencies includes the range of communication capacities required through the preparedness, response, and recovery phases of a severe public health event to promote decision-making, to promote positive behaviour change, and the maintenance of trust (2022). It can be described as a two-way exchange of information between parties about the nature, significance, and control of any health risk (Hooker & Leask, 2020). Risk communication messages must convey accurate and objective knowledge about any health-affecting risk or hazard to diverse audiences. Public health risk communication messages must reflect local relevance and cultural competence, engender cooperation, and encourage constructive dialogue (Hooker & Leask, 2020). Crisis and risk communication research is critical in understanding and explaining pandemic communication. Applying the COVID-19 global pandemic requires an in-depth comprehension of crisis and risk communication on a level that has never been seen before in any pandemic historically.

Best Practices in Health Communication

Best practices, in the most basic definition, describe the procedures produced by research and experiences that produce optimal results and are then established or proposed as a standard suitable for widespread adoption (Merriam-Webster, 2022). In terms of health care, best practices are often used to describe evidence-based practices of health care professionals. In the case of this research, evidence-based practices are used by communication practitioners to communicate about health and safety. These best practices are developed through continuous research and practice, and best practices exist in any field that is continuously and necessarily evolving with developments and changing landscapes in society (e.g., communication technologies, a global pandemic). For healthcare organizations, best practices in health communication are implemented and continuously revised as needed to influence the health outcomes or desired health behaviours of the public. It is crucial to alter the communication practices to suit the target audiences best and measure the outcomes of behavioural interventions put in place. Determining what is working and what is not fosters the development of new practices to yield better outcomes.

Health communication is an essential element in the improvement of the health of populations. Healthcare systems employ professionals with various communication backgrounds, including advertising, public relations, and journalism (Treise et al., 2016), to support health and government officials in communication crises with the magnitude of the COVID-19 pandemic, among other crises. These individuals are positioned to play a valuable role in developing partnerships for developing, disseminating, and evaluating evidence-based health communication interventions that improve healthcare education and delivery (Treise et al., 2016). Evidence-based practices and procedures, especially for health communication, are required to vary across institutions and organizations, though researchers tailor them to accommodate each circumstance

in which these practices are applied (Treise et al., 2016). These best practices are often implemented through active research and are part of proper management within an organization's communication procedures. Public health leaders are continuously refining their communication strategies, which is more relevant than ever in the time of COVID-19.

Theoretical Framework

To limit the scope of the relevant data within this research, the theoretical framework used in this study is rooted in Grunig's Excellence Theory. Grunig's Excellence Theory was introduced in 1984 and originated with J. E. Grunig and T. T. Hunt's *Managing Public Relations*. Grunig's Excellence Theory identified a multitude of variables that contribute to organizational effectiveness, including the communication function of an organization. The ten principles were outlined by Grunig and the Excellence Study team as the most dominant variables for public relations in making contributions to overall organizational effectiveness (Hung-Baesecke, Chen, & Ni, 2021). This study was funded by the International Association of Business Communicators (IABC) Research Foundation and was ultimately conducting a study of best practices in communication management (Low, 2022, p. 10595). The best practices identified were later coined the ten generic principles of excellence. Grunig and the Excellence Study team identified the following ten generic principles: (1) Involvement of PR in strategic management; (2) Empowerment of PR in the dominant coalition or a direct reporting to senior management; (3) Integrated PR function; (4) PR as a management function, separate from other functions; (5) PR unit headed by a manager rather than a technician; (6) Two-way symmetrical (mixed- motive) model of PR; (7) Department with the knowledge needed to practice the managerial role in symmetrical PR; (8) Symmetrical system of internal communication; (9) Diversity embodied in all roles; (10) Ethics and integrity (Low, 2022, p. 10596). These principles can be used in an

organization's public relations and communications functions to structure the appropriate actions with management and the entire organization to effectively address the necessary public (Hung-Baesecke, Chen, & Ni, 2021). These are the guiding principles used to design organizational structures to produce effective communications and produce optimal outcomes from practices.

The systems approach of Grunig's Excellence Theory recognizes the importance of the environment for an organization to be effective by indicating mutual needs between an organization and its environment. The excellence theory first discussed the importance of public relations to organizations and society based on social responsibility managerial decisions and the quality of relationships with stakeholder public (Browning, 2010). To produce acceptable efforts, organizations must consider the environment to identify the public affected by potential organizational decisions or who want organizations to make decisions to solve problems that affect them (Low, 2022, p. 10595). This is crucial for organizations to communicate symmetrically with the public to foster quality relationships with them; this is key in gaining insight into the research of the best practices and systems used by the Nova Scotia government and Nova Scotia Health in their communications responses throughout the COVID-19 pandemic. The use of the ten generic principles of excellent public relations produced by Grunig and the Excellence Study team provides a point of reference in developing the BPHCP Model produced in phase one of this study. Excellence Theory is a well-known, widely used, and accepted model in Public Relations and organizational management settings (Low, 2022). This model is substantial and prominent in Public Relations theory and the literature surrounding best practices; it offers a frame of reference for producing a best practices model. The principles outlined in Excellence Theory focus on how to guide organizational structure to be excellent in practice. Similarly, this study intends to extract the best guiding principles in communication

techniques in health communication. The ten generic principles of excellence guide in interpreting and analyzing the results of the methodological approach of the inductive content analysis outlined in phase one of this research.

Methodology

This research investigates the communication practices employed by the Nova Scotia government and Nova Scotia Health during the COVID-19 global pandemic. This research has two distinct parts: 1) a thorough review of the literature to establish a set of best practices that could logically be employed during a pandemic; and 2) the application of the indicated practices to the case study of the Nova Scotia government and Nova Scotia Health to determine whether or not these practices were followed. By dividing this research into two distinct portions of investigation, three phases of execution were required to investigate the research questions initially proposed thoroughly. The first phase was performed through an inductive content analysis to develop a model of best practices in health communication that contained the most consistent and relevant practices. The second phase of this research was to apply the model of best practices developed in phase one, using a case study approach to understand the best practices proposed in the model in its real-life context (Crowe et al., 2011). This method was chosen to examine the presence and absence of the best practices established through my review of the literature on health communication to create a model of best practices in health communication applicable to a global pandemic. The third phase used an abductive approach in revising the model from phase one with the support of the results from phase two. These revisions followed the case study application of the best practices model to the COVID-19 pandemic in Nova Scotia.

Phase One → Inductive Coding for a Best Practices Model

In the early stages of this research, while conducting the initial literature review, an inductive content analysis was conducted to identify a list of consistent best practices in organizational and health communication environments. The initial research into the general concept of best communication practices led to examining literature surrounding the best practices specific to health communication (Appendix I). A large contribution of this research was focused on implementing best practices in outbreak and crisis communication. In moving forward to examine the best practices deployed by the province, a more specific analytical model was required to look into the presence and absence of evidence-based practices in the communication efforts of the public.

This analysis was conducted with two articles at the forefront of the methodological process, including the 5-step process of inductive content analysis by D. F. Vears and L. Gilliam (2022) and the 5-step procedure used for the inductive analysis of qualitative data from David R. Thomas (2003). This inductive content analysis built a model of best practices by amalgamating existing practices and fine-tuning them to suit the circumstances and lens of the COVID-19 global pandemic.

Step One: Read and Familiarise (Preparation of Raw Data)

The academic and professional literature examined various best practices from both theoretical and practical standpoints. The theoretical articles producing their models of best practices were primarily based on outbreak and crisis communication theory, often applying a new lens of communication in the digital era. The practical, evidence-based models proposed by large organizations were often following an outbreak or crisis that requires extensive, precise mass communication. There were ten articles to become familiar with to comprehend the context in which these best practices were developed. These articles or resources were from a peer-

reviewed academic article or a reputable, professional website produced by large, well-known organizations (i.e., The World Health Organization, Harvard Business Review, the Canadian Pandemic Influenza Preparedness (CPIP) Task Group).

While growing familiar with the data collected, a coding manual was developed to track the content and models presented throughout the literature. This coding manual for this phase included a table capturing the source from which this data was collected, the best practices being presented (Appendix B), and all explanations or definitions required to comprehend said best practice. This coding manual was extensively used throughout the entire process of all five steps in this coding process.

Inclusion Criteria for Best Practices Data. The sources of best practices reviewed to support the development of the Best Practices in Health Communication in a Pandemic (BPHCP) Model have been comprised of ten sources, both academic and professional literature, varying from guidebooks and frameworks of the World Health Organization to the Canadian Pandemic Influenza Preparedness Task Group and their communication strategies. All scholarly articles outlining the best practices of communication must have been peer-reviewed, and any professional sources of best practices must be well-known and supported websites. Many of the sources used were published by communication and public relations practitioners, researchers, and educators – many of these sources have been prominent names in the overall literature of health communication, outbreak communication, and best practices literature. The use of academic and professional resources expanded the avenue in which health communication can be considered; there are other highly knowledgeable sources of health communication practices outside the academic or professional worlds.

These sources were required to be initially published in English, with no room for translational errors. The existing models of best practices that were deconstructed to reconstruct the new model had to be well-sourced, cited, and substantiated in practice.

Step Two: First-round Coding – Identify Big-Picture Meaning Units (Creation of Categories)

As directed by Vears & Gillam (2022), this step in the coding process is the starting step in organizing the data in "big picture" terms (p. 117). In identifying and labelling sections of the texts, the idea was to divide the data provided from each resource into broader sections. The structure of the articles and documents allowed for some guidance in discovering the big-picture units of meaning being coded (Vears & Gillam, 2022, p. 118). By coding the articles, the handbooks provided by the WHO and CPIP, and the practical models proposed by communications and public relations practitioners – the big-picture meaning units were broadly categorized by resource. All big-picture categories were captured in the coding manual; each category contained all corresponding best practice models and frameworks from the literature in preparation for the next step of second-round coding. Some of these big-picture categories required context for the data, for example, "lessons from the COVID-19 pandemic", "public health risk, crisis, and outbreak communication," and "general communication frameworks for effective communication."

Step Three: Second-round Coding – Developing Subcategories and Fine-grained Codes (Overlapping Coding and Uncoded Text)

Second-round coding took place when diving deeper into the big-picture categories, allowing the examination of the data or practices within each category. The second coding round was increasingly fine-tuned, looking at the specific best practices outlined within each category. This distinction within each big-picture category offered insight into the singular best practices

being employed by researchers and practitioners. Within the larger categories like “lessons from the COVID-19 pandemic”, further investigation was needed to code the distinguished best practices such as “being proactive,” “focusing on the public,” and “leading with empathetic communication.”

Within the second round of coding and finding overlapping best practices or codes in the data, there were commonalities with codes from the data that required refinement in the next step of the analysis. There were consistencies in best practices published and deployed in the data, supporting the continuous refinement in determining the most consistent and relevant best practices in place for communications during the pandemic.

Step Four: Refining the Fine-grained Subcategories (Continuing Revision and Refinement of Category System)

The fourth step in this process, outlined by Vears & Gillam (2022), consisted of refining the subcategories developed in the earlier stages. With continuous revision and refinement of the categorical system, there were clear indications from the third step that identified the best practices that overlapped with the existing models of best practices. The best practices that were overlapping and outlined in multiple articles were then appointed as a subcategory supported by multiple resources for implementing its practice. As indicated by Vears & Gillam (2022), some subcategories will be so similar that they will be condensed into one. In contrast, others will be distinct, remaining as stand-alone categories (Vears & Gillam, 2022, p. 122).

An example of that would be the practice outlined by Vincent T. Covello (2003): to communicate clearly and with compassion. This practice was reiterated in articles by both the TSNE Partners in Social Change article in 2020 and P. Hyland in 2021, communicating with

empathy and being thoughtful in your writing/speaking. These best practices were condensed into one subcategory labelled the *best practice of communicating with compassion and empathy.*

Each subcategory was documented in the coding manual, accompanied by a necessary explanation regarding the relationship between best practices being condensed into singular best practices. All best practices that required contextual interpretation were noted, compiling academic definitions to support the compilation and distinction of best practices. All sources and authors were updated within the coding manual to ensure consistency in documentation.

Step Five: Synthesis and Interpretation

In synthesizing and interpreting data, the subcategories produced through steps three and four were refined to produce a model of best practices. This model, titled the Best Practices in Health Communication in a Pandemic (BPHCP), was refined to consist of 12 best practices. The continuous revision and refinement of the fine-grained subcategories in this step ultimately led to the creation of the BPHCP model, containing practices applicable to health communication, focusing on pandemic communications. Through interpretation of the coding produced through the big-picture categorization and subcategories, the synthesizing and connection of the categories support the creation of the narrative in examining the best practice in health communication (Vears & Gillam, 2022, p. 122) for use. As stated by Vears & Gillam (2022), the aim of inductive content analysis is to remain close to the phenomenon being investigated in this case, the most consistent and relevant best practices in place related to health communication.

In synthesizing and interpreting the data, Grunig's Excellence Theory and the ten generic principles of excellence were reflected upon. The theoretical framework was used as a guiding tool in analyzing the results derived from the inductive content analysis. The analysis that produced the BPHCP Model containing 12 best practices was actively compared to the model of

ten generic principles of excellence with the intention of promoting trustworthiness in the 12 best practices outlined. Using an existing prominent model in Public Relations theory and practice allowed for accurate synthesis and interpretation of the outcomes of promoting the 12 best practices in relation to health communication moving into phase two.

Phase Two → Case Study Application of the BPHCP Model

The second phase of this research was to use a case study approach in assessing the application of the BPHCP Model developed in phase one. This phase of the research was conducted using the case of the communication efforts of the Nova Scotia government and Nova Scotia Health – working through the first six waves of the Novel Coronavirus (COVID-19; SARS-CoV-2) pandemic. Using a case study approach allowed for an in-depth, multi-faceted comprehension of the BPHCP Model proposed in phase one of this research in a real-life context (Crowe et al., 2011). This case study was conducted with the guidance of an article titled 'The case study approach' by Sarah Crowe et al. (2011). Crowe et al. (2011) focus on the main stages of research activity when undertaking a case study, outlining the stages of defining the case; selecting the case(s); collecting and analyzing the data; interpreting data; and reporting the findings (p.5).

Step One: Defining the Case

In defining the case, Crowe et al. (2011) state that each case should have a pre-defined boundary clarifying the intent and period covered by the case study, the relevant social group, organization, or geographical area of interest to the investigator, the types of evidence to be collected, and the priorities for data collection and analysis (p. 5). In evaluating the BPHCP Model, specifically, to apply this model during a pandemic, the cases were defined as communication efforts from the Nova Scotia government and Nova Scotia Health during the

COVID-19 pandemic in Nova Scotia. The specific communication efforts are the press conference transcripts produced by the province of Nova Scotia. The focus was whether they were deploying best practices within their press conferences during a select timeframe: March 15, 2020, to March 14, 2022. Even further within that timeframe, cases were then categorized and defined into sections determined by waves of COVID-19 in the province, then again further defined by a two-week limit from the first announcement of the corresponding wave in the province.

Step Two: Selecting the Case

In conducting an instrumental case study (Crowe et al., 2011), the case selection was aligned closely to witness overall communication efforts from the press conferences from the province of Nova Scotia and, therefore, aiding in the real-life application of the proposed model of best practices from phase one.

Inclusion Criteria for Press Conference Data. The inclusion criteria for this case were designed to attain the most appropriate data. The press conference transcripts were verbatim transcripts directly produced from the press conferences by the Nova Scotia government. These press conferences were live-streamed initially to the public of Nova Scotia within the first two weeks from the announcement of wave one, wave two, wave three, wave four, wave five, and wave six. These transcripts are the document with the most critical communication addressed to the public, allowing for thorough content analysis.

In selecting the case, accessibility is a central consideration (Crowe et al., 2011). The press conference transcripts were accessed through the official Nova Scotia Government public YouTube profile (https://www.youtube.com/@nsgov/videos), with cross-referencing the corresponding news releases provided on the Nova Scotia Government Webpage

(https://novascotia.ca/coronavirus/.) following the press conferences. These press conferences were originally live-streamed to the greater public as they occurred in real time. The Nova Scotia Government YouTube profile archived each press conference, audio update, information session, and advertisement on this profile organized under the 'Novel Coronavirus (COVID-19)' playlist. This playlist houses a total of 209 videos spanning from March 6, 2020, to March 8, 2022. The press conference videos were cross-referenced with the provincial government's YouTube profile to ensure the accuracy of the press conference dates and lengths of each conference and ensure the dates were correct across multiple platforms. The transcripts were collected from the video by accessing the direct recording of the original live stream of each press conference. The videos were viewed to determine the use of translators or interpreters that may have yet to be picked up on through the transcripts alone.

As previously stated, the data I have collected were pulled within a specific time frame in each wave of COVID-19 in Nova Scotia. Due to heavy communication coinciding with the announcement of a new wave, the distinction of the two-week time frame captured a consistent window of time where the communication method and practices could be deployed similarly in the face of mass information spread.

The two-week time frame of each wave of COVID-19 in the province has been outlined through a review of the media provided both at the provincial and national level of media as Nova Scotia entered a new wave of COVID-19. See the dates below.

- Wave One: March 15, 2020, to March 29, 2020.
- Wave Two: October 1, 2020, to October 15, 2020.
- Wave Three: April 1, 2021, to April 15, 2021.
- Wave Four: August 1, 2021, to August 15, 2021.

- Wave Five: December 8, 2021, to December 22, 2021.
- Wave Six: March t, 2022, to March 15, 2022.

Further inclusion criteria include that this press conference data has been collected only in English. The province of Nova Scotia provides English and French copies of all published government documents.

Step Three: Collecting the Data

The data was collected in a cross-sectional manner; the press conferences were collected from the Nova Scotia government's YouTube profile. This YouTube channel was used as a secondary publishing method following the live stream of the press conferences across all Nova Scotia government social media platforms and mass media outlets. Although the press conference transcripts were collected from one source, each conference was cross-referenced using the official Nova Scotia government and COVID-19-specific online website. This cross-reference between the two websites ensured press conference dates, times, lengths, and content before collecting the data.

Throughout the process of collecting the press conference transcript data, the coding manual was used in the organization of the data. This portion of the coding manual was used to track the corresponding wave of COVID-19 (wave one through to wave six), the start and end dates of each wave, the start and end dates of the two-week time constraint; the press conference release date; the length of the press conference; and the indicator that each press conference had been transcribed successfully.

Step Four: Analysing, Interpreting, and Reporting Case Studies

The fourth step of the Crowe et al. (2001) method of this case study was analyzing, interpreting, and reporting case studies. This was done with an abductive approach in the content

analysis of the press conference transcripts. This abductive approach of coding and analysis was adopted as it combines both induction and deduction in developing the proposed model of best practices in health communication (Vila-Henninger et al., 2022). To examine the BPHCP Model with press conference transcripts, another step-by-step process outlined by Zhang & Wildemuth (2005) supported the process of performing this content analysis. Step one (prepare the data) and step two (define the unit of analysis) were already complete, having conducted the initial analysis in phase one (Zhang & Wildemuth, 2005). For step three (develop categories and a coding scheme), the categories assigned to the data were the 12 best practices outlined in the BPHCP Model. The coding scheme for these categories was developed deductively and inductively throughout the data analysis. The initial coding scheme was based on the preliminary model of best practices. Each best practice was designated codes generated through definitions, academic articles, and related explanations from the sources from which the best practices were derived.

The development of categories and the coding scheme was mirrored in the coding manual in which each best practice was stated. Each best practice carried information regarding the explanation of importance in academic and professional settings. Any relevant definitions were recorded, the codes were recorded, and there was space included for notes to be made during the raw data analysis.

Step four (test the coding scheme on a text sample) (Zhang & Wildemuth, 2005) was supported by revising coding rules moving toward step five. In step five (code all the text in the analysis of the raw data), new codes were developed working through the content from each press conference transcript in all COVID-19 waves in Nova Scotia. Step six (assess the coding consistency) was performed consistently with the abductive approach in this content analysis.

Step seven (concluding the coded data) occurred throughout the process of comparing data present within each wave of COVID-19. Making sense of the themes, the categories identified, and their properties (Zhang & Wildemuth, 2005) was an active process throughout the data analysis. Utilizing the coding manual was crucial in concluding by noting patterns, identifying relationships across practices, and exploring reconstructions of best practices' meanings. Lastly, in step eight (reporting methods and findings), the coding manual housed the results/findings of the data analysis. This section of the coding manual displays a table organized by the 12 best practices from the BPHCP Model and waves one through six of COVID-19. While coding the raw data, each best practice was identified as present or absent in the corresponding wave (Appendices C-H). Monitoring and reporting my analytical procedures and processes straightforwardly and ultimately (Zhang & Wildemuth, 2005, p. 5) was completed through notetaking and recording all decisions and changes made throughout conducting the for each best practice. All processes conducted in this content analysis were recorded and submitted directly into the coding manual. This section of the coding manual contained space for all decisions made throughout the research, specifically in the procedural decisions made regarding the analytical and methodological changes that occurred during the process. Each decision was dated and listed with the rationale.

Phase Three → BPHCP Model Revision

The conclusions drawn from the coded data and the overall results from the case study conducted in phase two support phase three of this research. Following the initial development of the proposed BPHCP Model consisting of 12 best practices in phase one and the real-life application of that model with the case study in phase two, phase three focused on revising the proposed best practices model. In making sense of the dimensions of categories, identifying

relationships within the data, and uncovering patterns of practices – the next phase of this research was to revise the original model to support the research question, which best practices are the most consistent and relevant in health communication.

This proposed model of best practices was revised using the results from the case study analysis. The analysis and findings from the case study revealed that each best practice was identified as present or absent within each wave of COVID-19 communications in Nova Scotia. Coding the data of each press conference transcript in each wave of COVID-19 in Nova Scotia led to recognizing commonalities in the coding rules across various best practices. Inside the coding manual for this analysis, a section labelled 'notes during coding' housed insights into relationships identified and patterns noticed. It was noted that when the codes were inductively added into the coding scheme and rules, some overlapped the best practices. This discovery through analysis led to the recognition that the proposed 12 best practices within the BPHCP Model could be further revised to include fewer best practices while achieving the same results. Any best practices continuously coded concurrently throughout multiple press conferences and waves of COVID-19 were noted with the possibility of condensing those practices into one best practice. This combination of best practices through the coding occurred to revise the BPHCP Model consisting of 12 best practices to become the BPHCP Model consisting of eight best practices (Tables 1, 2, 3). The rules of deploying all 12 best practices were still captured in the revised BPHCP Model, but they were condensed to create a more manageable and concise model.

Results

Phase One → Inductive Coding for the 12 Best Practices Model

The results of the inductive content analysis conducted in phase one of this research provided the proposed Best Practices in Health Communication in a Pandemic (BPHCP) Model shown in Table 1. This model of best practices contains one-dozen best practices found to be the most consistent and relevant across academic and professional literature. These best practices were prominent in the literature (Appendix I) and analyzed through pattern recognition.

As shown in Table 1, all best practices have been labelled with numbers 1-12; this order of best practices has been done for organizational purposes. These listed numbers do not indicate the order of importance when deploying communications with these best practices.

Table 1

Best Practices in Health Communication in a Pandemic (BPHCP) Model

Best Practices
Best Practice #1: Provide Information in a Timely Manner
Best Practice #2: Health Care and Policy Advised by the Best Available Evidence
Best Practice #3: Be Proactive
Best Practice #4: Focus on the People
Best Practice #5: One Prominent Voice Leading the Information Charge
Best Practice #6: Be Truthful, Honest, Open, Transparent
Best Practice #7: Communicate with Compassion and Empathy
Best Practice #8: Be Clear and Concise
Best Practice #9: Strive for Inclusivity and Diversity
Best Practice #10: Build Trust and Credibility
Best Practice #11: Communicate in a Coordinated Fashion
Best Practice #12: Recognize that Uncertainty is Inevitable

Phase Two → Case Study Application of the BPHCP Model

Through the process of abductive content analysis in the case study application, the BPHCP Model was examined in terms of the absence or presence of best practices in the press conference communications coming from the Nova Scotia government and Nova Scotia Health in waves one, two, three, four, five, and six of the COVID-19 pandemic in Nova Scotia. The

results were displayed using a status of ‘PRESENT’ or ‘ABSENT’ for each of the 12 best practices during each wave.

As shown in Appendix A, within the dedicated two-week timeframe of each wave, there were eleven press conferences in wave one, five in wave two, eight in wave three, and one in wave four.

The table in Appendix B shows that all twelve best practices outlined in the proposed model were present in the press conference transcripts provided during wave one of COVID-19 in Nova Scotia, with the designated period of March 15, 2020, to March 29, 2020.

The table in Appendix C shows that all twelve best practices outlined in the proposed model were present in the press conference transcripts provided during wave two of COVID-19 in Nova Scotia, with the designated period of October 1, 2020, to October 15, 2020.

The table in Appendix D shows that all twelve best practices outlined in the proposed model were present in the press conference transcripts provided during wave three of COVID-19 in Nova Scotia, with the designated period of April 1, 2021, to April 15, 2021.

The table in Appendix E shows that all twelve best practices outlined in the proposed model were present in the press conference transcripts provided during wave four of COVID-19 in Nova Scotia, with the designated period of August 1, 2021, to August 15, 2021.

The table in Appendix F shows that ‘Best Practice #1 – Provide Information in a Timely Manner’ was absent from the press conference transcripts during wave five. The remaining eleven best practices (#2-#12) were present in the press conference transcripts provided during wave five of COVID-19 in Nova Scotia, with the designated period of December 8, 2021, to December 22, 2021.

The table in Appendix H shows that all twelve best practices outlined in the proposed model were absent in the press conference transcripts provided during wave six of COVID-19 in Nova Scotia, with the designated period of March 1, 2022, to March 15, 2022.

Phase Three → BPHCP Model Revision

The results of revising the model of best practices in phase three produced a downsized model of best practices moving from 12 best practices to 8 best practices in health communication. As shown in Table 1, the initial development of the BPHCP Model contained 12 best practices. Table 2 shows the working model of best practices following the case study application and analysis of the first model in the context of a real-life pandemic and crisis needing communication. The working model of best practices in Table 2 displays the process of combining best practices from the data analysis in phase two as prominent themes in the revised model. The results of this revision of the best practices model can be shown in Table 3. Table 3 displays the fully revised BPHCP Model. Each best practice has been labelled with numbers 1-8; this order of best practices has been done for organizational purposes. These listed numbers do not indicate the order of importance when deploying communications with these best practices.

Table 2

Working Model of Best Practices in Health Communication Post Case Study Analysis

Number	Best Practices
Best Practice #1	BP #1 – Provide information in a timely manner.
Best Practice #2	BP #2 & BP #10 – Health care and policy advised by best available evidence & build trust and credibility.
Best Practice #3	BP #4 & BP #7 & BP #10 – Focus on the people & communication with compassion and empathy & build trust and credibility.
Best Practice #4	BP #5 – One prominent voice leading the charge.
Best Practice #5	BP #6 & BP #10 – Be truthful, honest, open, transparent & build trust and credibility.
Best Practice #6	BP #8 & BP #9 – Be clear and concise & strive for inclusivity and diversity
Best Practice #7	BP #11 – Communicate in a coordinated fashion.
Best Practice #8	BP #12 & BP #3 – Recognize that uncertainty is inevitable & be proactive.

Table 3

Revised Best Practices of Health Communication in a Pandemic (BPHCP) Model

Revised BPHCP Model
Best Practice #1: Provide Information in a Timely Manner
Best Practice #2: Health Care and Health Policy Should be Advised by the Best Available and Credible Evidence
Best Practice #3: Focus on the People by Communicating with Compassion and Empathy
Best Practice #4: One Prominent Voice as the Lead Communicator
Best Practice #5: Be Truthful, Open, and Honest
Best Practice #6: Be Clear and Concise
Best Practice #7: Communicate in a Coordinated Fashion with all Government and Partners
Best Practice #8: Recognize that Uncertainty is Inevitable While Focusing on Available Proactive Strategies

Discussion

This chapter will discuss findings related to the primary research questions and associated follow-up questions. The focus of this research was to answer two questions. The first research

question is: Which best practices are most consistent and relevant within the literature on health communication practices? The second research question examines which best practices have been deployed in the context of crisis communication and whether the Nova Scotia government and Nova Scotia Health responded to the pandemic using those practices. The three-phase process outlined in the methodological approach has answered each of these questions by developing the BPHCP Model. This model of best practices of health communication during a pandemic identifies eight distinct best practices.

As previously completed in the methodology and results chapters, this discussion chapter will be organized similarly following the three-phase category separation. This chapter will discuss the following categories: phase one, phase two, and phase three. The subcategories in phase two include case selection, pattern recognition in the data analysis, context requires coding, and patterns in the absence and presence of best practices. The subcategory in phase three includes the revision process of best practices. Each of these categories outlined will further expand on the processes and development within each phase of this research.

Phase One → Inductive Coding for a Best Practices Model

The first phase of this research was conducted to answer the first research question developed early on – which best practices are most consistent and relevant within the literature on health communication practices? The answer to this research question began early in the development stage of the literature review, diving into the background surrounding best practices, health communication, and the Novel Coronavirus (COVID-19) pandemic in Nova Scotia. Before developing a proposed best practice model through inductive content analysis, I searched for a model to act as an analytical tool consistent across organizational systems. This model aimed to examine further the communications efforts of the province of Nova Scotia

(Nova Scotia government and Nova Scotia Health) during the COVID-19 pandemic. When it was clear that there were a vast number of models, yet no models were the same, and there was not one transparent model designated for best practices in health communication efforts. Models introduced by Ratzan, Sommariva & Rauh (2020); Covello (2003); TSNE Partners in Social Change (2020); Harvard Business Review - Argenti (2020); World Health Organization (2004, 2017); Canadian Pandemic Influenza Preparedness Task Group (2018); Hyland-Wood et al. (2021); Heath (2020); Perleth et al. (2001); Jacobsen & Vraga (2020) all provided insight into best practices in communication, some of which were general communication practices where some provided insight into best practices in health communication. Each of these models varied in several practices and varied in order of importance depending on the author. There were best practices that were consistently published across organizational systems that supported the development of one proposed model where the most consistent and relevant practices were amalgamated.

The choice to conduct an inductive content analysis was to employ a methodological approach commonly used with text-based data and health-related research (Vears & Gillam, 2022). Inductive content analysis is functional when the goal is to describe and understand the phenomenon being investigated (Bloor & Wood, 2006; Elo & Kyngas, 2008; Vaismoradi et al., 2013); it is particularly appropriate when aiming for the application of the findings (Vears & Gillam, 2022) – in this case, using inductive content analysis to determine best practices to be then applied to a case study approach for secondary research. This technique allowed me to identify the key themes from the data and then produce those themes or categories as a proposed model of best practices.

Phase Two → Case Study Application of the BPHCP Model

The second phase of this research was conducted using a case study approach; this case was performed to apply the BPHCP Model and examine those practices in a real-life context (Crowe et al., 2011). I initially analyzed the applicability of the original 12 best practices in the BPHCP Model established in phase one of my research to the Nova Scotia government and Nova Scotia Health and their communication efforts in the form of press conferences during the novel coronavirus (COVID-19) in the province of Nova Scotia. I chose this case to examine the second research question of which best practices have been deployed in crisis communication and whether the Nova Scotia government and Nova Scotia Health responded to the pandemic using those practices. The specific case of Nova Scotia in the pandemic is highly relevant as we live in a world facing COVID-19. As a consumer of the media and press conferences presented by the Nova Scotia government and Nova Scotia Health, I wanted the opportunity to delve into the practices employed by our government in communicating with the public in high-stress times. The Nova Scotia government and Nova Scotia Health work as one under the authority of the province of Nova Scotia; therefore, the press conferences used to update and educate the public of Nova Scotia was done through the collaboration of both organizations. During this process, the BPHCP was ultimately refined to include eight best practices which were applied to the case.

Case Selection

Within the case selection of using the Nova Scotia government and Nova Scotia Health as the organization of focus, the communication medium selected for this case was the press conferences in the form of transcripts. The objective was to understand how they communicated COVID-19-related information through press conferences during the first six waves of the pandemic. The Nova Scotia government utilized the press conferences as a mass presentation of information to the media to the public of Nova Scotia. They were used in clarifying information

related to the COVID-19 pandemic, presenting essential communication in maintaining public safety and public health during a crisis. The data transcripts also contained the portion of press conferences in which reporters can ask questions, and the responses offer greater insight into the communication efforts of the province, specifically the acting premier and Dr. Robert Strang, chief medical officer. The presentation of information, followed by the question periods with the attending journalists, created availability to analyze the presence of communication practices, the effectiveness of communication, and the delivery of information. Although it was not explicitly included in the data analysis, the press conference transcripts provided insight into the context in which the information was being communicated. The tone, emotion, thoughts, and feelings delivered through speech were considered in the analysis when coding for the best practices in the data.

As stated in the methodology, one aspect of the inclusion criteria in collecting the press conferences provided by the province was the timeframe from which the press conferences were collected. The press conferences collected must have been published within the first two weeks of announcing a new wave, from wave one through wave six. The actual start and end dates of each wave of the Nova Scotia pandemic were collected and then reduced to the two-week window of time.

This choice was made to consider the timeliness of the communication during a crisis. It was imperative to access data that was manageable to analyze in a meaningful way. Utilizing the premise of Best Practice #1 from the BPHCP Model is to communicate promptly; the thought process was that communication efforts should be the heaviest during the first two weeks of each wave of COVID-19. The information in this period would be most crucial in maintaining health, safety, and livelihoods as the province entered into a new wave of the COVID-19 virus with

updated public health information, updated scientific evidence, new restrictions, and policies put in place at that time.

Inside the analysis portion of the case study of phase two, another choice in methodological guidance was required in facing the data analysis of the press conference transcripts. The choice was made to utilize an abductive analysis approach. After utilizing an inductive approach to analyzing best practices in phase one, the model of best practices was created to be used in the abductive approach in coding the data. As stated by Thompson (2022), adopting an abductive methodology means one does not enter the field with an open mind but rather with the theoretical understanding to set the parameters for first-stage findings and prevent the discovery of abstract results outside the research questions. The parameters set prior to the data analysis were to use the 12 best practices from the BPHCP Model as the basis of the coding scheme for the data analysis. All 12 best practices were previously organized within the coding manual to contain the sources and support of the practice, along with any related explanations or required definitions in comprehending the best communication practice. In analyzing themes and setting a coding scheme, each practice was designated codes deduced by those practices. Throughout the process of analyzing the data, there were additional codes discovered inductively. The data itself provided greater insight into the potential codes being used to convey the use of best practices. In using the press conference transcripts, there were significant instances in which context was required to gain the complete picture of communication efforts spoken by the premier of Nova Scotia or Dr. Robert Strang, the Chief Medical Officer of Nova Scotia; these context-required codes were recorded to determine better the presence and absence of the 12 best practices. Some of which could not be determined by single one-word codes. The

context was highly regarded in this instance of coding as the press conferences included a significant amount of free-speech and emotionally based language.

Pattern Recognition in the Data Analysis

While analyzing the data, there were other unexpected findings when coding for best practices. While inductively adding new codes into the coding scheme and coding manual, there were instances in which multiple best practices shared code words that notified the presence of one or more practices. Finding one best practice's presence leads to finding another's presence. The findings were consistent in that the codes assigned for Best Practice #7 – Communicate with Compassion and Empathy, were consistently "double-coded" with the codes assigned for Best Practice #4 – Focus on and Listen to the People. Throughout the first five waves of COVID-19, these practices were coded simultaneously.

In phase one, the BPHCP Model consisted of 12 best practices using that original model; best practice #7 was titled “communication with compassion and empathy” (Covello, 2003; TSNE, 2020; Hyland-Wood et al., 2021); this practice was defined as involving acceptance and allowing perspectives and emotions from other individuals and sharing those sentiments in encouragement and support. Some of the codes assigned to this practice include emotions, caring, compassion, empathy, and the recognition of emotions in others. Similarly, Best Practice #4 from the original BPHCP Model was titled “focus on and listen to the people” (Ratzan, Sommariva, & Rauh, 2020; Covello, 2003; WHO, 2017); this practice was defined by the concept that communications must help the public see health information, advice, or guidance applicable to them, their families, and all that they care about; it is about listening to the needs of people. Some of the codes assigned to this practice include caring, compassion, empathy, listening to the needs of the public, and safety for all individuals and families. It was found in the

coding that these best practices could be accomplished as one, under one umbrella theme, or by proxy of one set best practice. These discoveries were unexpected, and there were other best practices that overlapped and were concurrent when using the originally proposed BPHCP Model. Examples of text data from the press conference transcripts in each wave can be found presented in Table 4.

Table 4

Examples of Data Passages Coded for Best Practice #7 and Best Practice #4

Wave, Date, Page Number	Press Conference Data Passage
Wave One: Wednesday, March 18th, 2020, p. 33.	"…this is a time we need to be there for Nova Scotians, we need to be kind, caring, and compassionate."
Wave Two: Tuesday, November 17th, 2020, p. 1.	"I understand this is very stressful and I get that you are scared…"
Wave Three: Wednesday, April 28th, 2021, p. 83.	"The case numbers you see every day are people, not statistics, they are Nova Scotians who need our compassion and kindness..."
Wave Four: Tuesday, September 14th, 2021, p. 6.	"And to all Nova Scotians, please treat everyone around you whether in person or on social media with caring and kindness…"
Wave Five: Monday, December 13th, 2021, p. 18.	"…there is much anxiety here right now and even some anger and those are emotions in a situation like this…"

The subsequent pattern recognition was that of best practice #12: recognizing that uncertainty is inevitable (Hyland-Wood et al., 2021; WHO, 2004, 2017) is a crucial practice in that health emergencies are uncertain due to the ever-changing landscape of scientific and

medical evidence. It is inevitable, but providing as much certainty as possible is essential, helping the public prepare for the current and longer-term future (WHO, 2017). This practice means recognizing that some things are sometimes unknown, and the only way to move forward is to control what can be controlled actively; this aspect of recognizing the uncertainty is considered best practice #3: be proactive. This practice of being proactive in health communication is seeking appropriate ways to spread meaningful information and medical advice (Ratzan, Sommariva, & Rauh, 2020). Argenti (2020) discusses the importance of proactive communication when dealing with uncertainties; the goal is to communicate as much information as possible and continue acting where it is possible. Planning is essential for communicating during an outbreak where possible. Best practices #12 and #3 often indicate the other being present in the data. These best practices were coded together within the data portraying the relationship and the patterns within these practices. Examples can be found presented in Table 5.

Table 5

Examples of Data Passages Coded for Best Practice #12 and Best Practice #3

Wave, Date, Page Number	Press Conference Data Passage
Wave Two: Friday, November 27th, 2021, p. 73.	"We've started with more detailed conversations within the provincial government and as we develop, we get more certainty from the federal level and develop in more detail our vaccine plans..."
Wave Three: Tuesday, April 27th, 2021, p. 76.	"We're generally decreasing some of our less essential day surgeries…so we can be prepared for the possibility of having more patients with COVID in our hospitals…"
Wave Four: Tuesday, September 14th, 2021, p. 15.	"…we are looking at this and saying what do we need to put in place in the healthcare system in Nova Scotia so people with prolonged symptoms form COVID get the appropriate supports and treatment as you can appreciate this is very much an evolving field in health care..."

Another opportunity for combined best practices presented itself in the data, including best practice #10: Build trust and credibility (CDC, 2018; WHO, 2004, 2017), which was defined as being the most critical objective for effective outbreak communication in building and maintaining trust with those in charge of reducing harm to health, economies, and societies (WHO, 2004) and stated by the CDC (2018), trust and credibility can significantly influence the ability of persuasion when it is essential in public health safety recommendations during an outbreak. The CDC (2018) outlined four factors that determine whether an audience will perceive a messenger as trusted and credible: empathy and caring; honesty and openness; dedication and commitment; competence and expertise. With this definition alone, the codes assigned to other best practices were identifiable from the CDC's 2018 model. The best practices

depicted in this model include best practice #2 – health care and policy must be advised by the best available evidence; best practice #6 – be truthful, honest, open, and transparent; and best practice #7 – communicate with compassion and empathy. The codes assigned to best practice #10 included trustworthiness, honesty, evidence, empathy, and compassion – all of which were assigned to the stated best practices. This was found through the inductive approach in the abductive content analysis of the case study data.

This recognition of these practices was a surprise in that it could be controversial, considering the practice of building trust and credibility has been defined as being one of the most critical objectives in outbreak communication. Considering multiple best practices embody similar explanations and requirements for communication, this meant further investigation was required in the development/revision of the model of best practices in health communication from phase one. That said, each discovery of the close overlap in the data coding across many best practices provoked phase three – revising the best practice model in health communication. The revision would not have been completed without the data analysis providing insight into patterns and recognizing thematic consistencies. The goal of using a case study in applying the BPHCP Model was to gain insight into the real-life context and witness the practical application of a proposed model or theory.

Context Required Coding

An additional aspect of the coding process in phase two was the context required for analysis. The increased frequency and prominence of qualitative research over the past 30 years promoted the introduction of standards in qualitative research (Hemmler et al., 2022). The dynamic, reflexive, open-ended, contextually sensitive, and interactive nature of qualitative research answer questions that quantitative research cannot, though this same reasoning is why

others perceive qualitative research to be unreliable (Tobin & Begley, 2004; Weston et al., 2001). Nevertheless, researchers like Hemmler et al. (2022) see value in the heavily contextualized nature of qualitative data. Qualitative research considers the natural contexts in which individuals or groups function, in this case, how they communicate, to gain an in-depth understanding of the real-life context (Korstjens & Moser, 2017, p. 274). The reality we perceive as qualitative researchers are constructed by social, cultural, historical, and individual contexts. Therefore, we look for variety in descriptions, explorations, and explanations of phenomena in real-world contexts (Korstjens & Moser, 2017). Influence from the researcher is inevitable, yet the context in the analysis was required to understand the methods of Dr. Robert Strang and the premier in the press conference transcripts of each wave of COVID-19 in Nova Scotia. It is deemed essential in qualitative research to examine the "real-world" and genuine sentiments in communication efforts in the analysis of best practices, some of which look at the honesty, openness, transparency, compassion, and empathy put forward by the lead communicators essential in comprehending the complete picture of each press conference and which practices were being utilized. I anticipate that even though the press conference was presented to distribute mass amounts of medical information affecting public health and safety, the first six waves (and currently) of COVID-19 were a time of high stress. It was impossible to receive information from the province without any "real-world" thoughts, feelings, and language being used in the process. This coding process required consideration of context within the communication produced by the province.

Patterns in Absence and Presence of Best Practices

As stated throughout this document, the main goal in deploying this case study approach was to examine the BPHCP Model to see which practices were used in the press conference

communications in Nova Scotia during COVID-19. The results of the data analysis were recording the absence or presence of each of the 12 best practices outlined in the original BPHCP Model within the press conference for waves one through six. As shown in appendices C – G, all twelve best practices outlined in the BPHCP Model were present during the first, second, third, and fourth waves of the COVID-19 pandemic in Nova Scotia. This shows that the Nova Scotia government and Nova Scotia Health effectively deployed all twelve best practices when presenting new relevant information relevant to the COVID-19 health and safety information. The communication efforts of the press conferences coming from the province of Nova Scotia remained consistent throughout the first four waves; all best practices were present in the data. Initially, I did not think these best practices would be as profoundly present as they were. Reviewing the wave data collection table in Appendix A, within the dedicated two-week timeframe of each wave, there were eleven press conferences in wave one, five press conferences in wave two, eight press conferences in wave three, and one press conference in wave four. It could be understood that waves one, two, and three would see a greater chance of employing all 12 best practices as they were the waves with the most press conferences. Even in wave four, with only one press conference, all best practices were deployed in that one press conference – which was surprising.

Appendix G shows that wave five was the first wave of press conferences that did not successfully deploy all twelve best practices in their communication efforts. Best practice #1 – providing information in a timely manner, was absent from the analysis of the press conference data. The first and only press conference was conducted on December 13th, 2021, five days following the official announcement of the fifth wave arriving in Nova Scotia on December 8th, 2021. The results from wave five were more in line with my hypothesis for the fourth wave; the

limited quantity of press conference communications would result in fewer deployed best practices.

Lastly, as shown in Appendix H, all twelve best practices outlined in the BPHCP Model were absent from wave six of COVID-19 in Nova Scotia. No press conferences were released within this designated timeframe during the sixth wave, resulting in zero communication practices. The lesser quantity of press conferences could have been anticipated following the pattern of reduced communication efforts in wave four and wave five; what was not anticipated was that there would be zero press conferences conducted in the sixth wave of COVID-19 in Nova Scotia, as the virus continued to impact public health and safety.

Phase Three → BPHCP Model Revision

The results from phase three of this research produced the revised BPHCP Model. Following the data analysis of the case study using the first proposed BPHCP Model created in phase one, the revision was the next step in presenting a BPHCP Model that was concise, functional, and productive. As outlined in phase one, the original model was developed using a content analysis of existing best practice models in the literature and the professional realm of communications and public relations. The first BPHCP Model was derived distinctly from the existing literature, whereas the revised BPHCP Model has been derived using the existing literature, along with the support from evidence-based results of a case study application. The abductive approach to research supports the inference of a new theory or the development of an existing theory (Conaty, 2021). This approach in the case study analysis of the data supported the development of an existing theory or, in this case, the refinement of an existing model of the process.

Revision Process of Best Practices

The patterns recognized in the data analysis and coding scheme were already discussed within the discussion of phase two results. However, the same pattern recognition is crucial in this portion of phase three to revise the model of best practices. In the results chapter, three tables (Tables 1, 2, 3) provide visuals of the best practice models throughout the process of development to revision. Table 1 shows the BPHCP Model with 12 best practices, table 2 shows the working model of best practices post-case study analysis (showing the downsizing from 12 best practices to eight best practices), and Table 3 shows the revised BPHCP Model.

These combinations of best practices have been supported through the coding scheme and data analysis conducted in phase two and further reconstructed in phase three. The first BPHCP Model contained individual practices without room for consideration of actions to achieve that best practice's goal. The revised BPHCP Model offers best practices as umbrella terms or umbrella themes consisting of multiple actions and considerations inside that best practice. Those best practices are evidence-based standards or sets of guidelines proven to produce optimal outcomes (Covello, 2003); these best practices are related to how to carry out a task or configure communication efforts in this instance.

In the findings of the revision of the model of best practices, it was crucial to include the explanations and definitions within each practice as they act as an umbrella term or theme in support of the tasks of effective communication practices in health communication. These practices can be described in the order reflected in the revised BPHCP Model as follows:

1. **Provide Information in a Timely Manner:** This practice remains as intended from the original model of 12 best practices. The WHO (2004) describes announcing early and disseminating information promptly as bringing a core best practice. It sets the standard for public expectations of government officials when facing a crisis or an outbreak.

2. **Health Care and Health Policy Should be Advised by the Best Available and Credible Evidence:** This practice comprised the original best practices #2 and #10, combining health care and policy advised by the best available evidence with aspects of building trust and credibility. CPIP (2018) states that the importance of one guiding principle for communications during an outbreak is to provide information that the latest scientific/medical evidence has informed. Using the best available scientific and medical evidence supports the practice in building credibility in providing the most accurate public health and safety information.
3. **Focus on the People by Communicating with Compassion and Empathy:** This practice comprised the original best practices #4, #7, and #10, combining a focus on the people, communicating with compassion and empathy, and aspects of building trust and credibility. Focusing on the people and listening to the public (Ratzan, Sommariva, & Rauh, 2020; Covello, 2003; WHO, 2017) is about listening to the needs of the public, creating tailored messages to their needs, in doing so, the efforts are focused on being empathetic and compassionate toward those in crisis. Building trust and credibility speaks to the trust that communicators continue to focus on the individual.
4. **One Prominent Voice as the Lead Communicator:** This practice remains as intended from the original BPHCP Model with 12 best practices. Having a consistent and trustworthy leader in the public's eyes and using messengers trusted by the public supports compliance with public health safety measures and protocols (Abu-Akel, Spitz, & West, 2021).
5. **Be Truthful, Open, and Honest**: This practice was comprised of the original best practices #6 and #10; be truthful, honest, open, transparent, and aspects of building trust

and credibility, with a greater focus on the concept of building trust through truthful and transparent communication as indicated in #6. These best practices are straightforward in that communication efforts should be truthful, honest, and open to building trust and credibility with the public. Trust is the foundation of pandemic, crisis, or outbreak communication and comes from the perception of motives and competence of authorities (WHO, 2004; 2017).

6. **Be Clear and Concise:** This practice comprised the original best practices #8 and #9; be clear and concise and strive for inclusivity and diversity. The combination of these practices resulted in the broad umbrella term or theme of communicating clearly and concisely; striving for inclusivity and diversity is a part of being clear and concise for all. In health communication, being clear and concise should always consider the inclusion of the public consuming the message. All considerations in sharing public health and safety information should consider media literacy skills, health literacy, language barriers, using inclusive language, and education levels. As defined by Hyland-Wood et al. (2021) and the WHO (2017), when communicating with a variety of members of the public, providing information that is easy to comprehend is crucial in understanding health risks and taking appropriate actions. Using explicit, concise, and plain language supports these inclusive and diverse communication efforts.
7. **Communicate in a Coordinated Fashion with all Government and Partners:** This practice remains as intended from the original BPHCP Model. Coordinated communication among governments and partners who share public health responsibilities must ensure that all information is consistent (CPIP, 2018).

8. **Recognize that Uncertainty is Inevitable While Focusing on Available Proactive Strategies:** This practice comprised the original best practices #12 and #3; recognize that uncertainty is inevitable and be proactive. These best practices indicate that health emergencies contain uncertainties; it is crucial to be honest and provide certainty where available (Hyland-Wood et al., 2021; WHO, 2004, 2017). Preparing the public for the future requires proactive efforts in completing currently available tasks to battle the uncertainty and face what will be faced.

Theoretical Framework

The theoretical framework of Grunig's Excellence Theory introduced a well-known, comprehensive framework that defines the role of public relations in making healthcare organizations more effective. The framework of Grunig's 10 Principles of Excellence demonstrates valuable insight into the role of public relations in organizational success. Another aspect of utilizing the Excellence Theory as the theoretical framework was comprehending the development of a model with similar structures and desired outcomes (relevant to the situation). Excellence Theory has extended into a global public relations theory, ultimately providing generic principles that can be effectively applied in most countries across the globe. The consistent application in the literature and the consistent application within professional practices allows for this Excellence Theory to be used as a basis of comprehension in developing a working communication model and tool. The 10 Principles of Excellence have identified the principles or practices that contribute to organizational effectiveness (Low, 2022, p. 10595). In the context of this study, the BPHCP Model identifies eight best practices that contribute to the organizational effectiveness of communicating relevant health information within a global pandemic. Similarly to Grunig's framework, the BPHCP Model is a framework that supports

effective organizational communication efforts when communicating with the general public concerning public health and safety.

As indicated in step five of the methodological approach in phase one (pp. 21-22), the ten generic principles of excellence outlined in the Excellence Theory were used as a guiding framework in developing the 12 best practices within the BPHCP Model in phase one. The intention of introducing Grunig's Excellence Theory and the ten principles early in phase one was to ensure those best practices were in line with and reflected existing Public Relations theory and practice. The comparison of the two models indicated there was consistency between the ten generic principles of excellence and the 12 best practices of the BPHCP Model (Table 6). The generic principles and best practices do not match word for word, although the similarities are consistent across multiple practices and principles when considering the context in which each model is used in practice. By using Grunig's Excellence Theory and ten generic principles of excellence as a guiding framework in phase one, grounding the BPHCP Model in this theory increased the trustworthiness of the findings of those initial 12 best practices.

Table 6

Examples of Consistencies in Grunig's Ten Generic Principles of Excellence and the 12 Best Practices from the BPHCP Model

10 Generic Principles	12 Best Practices	Similarities
#5. PR unit headed by a manager rather than a technician.	#5. One prominent voice leading the information charge.	Generic Principle of Excellence #5 outlines that any PR unit should be headed by a professional public relations manager, someone who is knowledgeable in the area with the necessary skills in the area to promote optimal outcomes. Similarly, Best Practice #12 outlines that there should be one prominent voice leading the information charge, ultimately putting a well-known, knowledgeable leader that the public trusts as the main communicator of all necessary public health information.
#6. Two-way symmetrical model of PR.	#11. Communicate in a coordinated fashion.	Generic Principle of Excellence #6 outlines the importance of using dialogue-based approaches in PR to be effective in resolving conflicts, preventing problems, and building and maintaining relationships with publics. Best Practice #11 outlines the importance of communicating in a coordinated fashion across partners involved in promoting public health information. The coordinated communication between stakeholders prevents problems with information dissemination and ensuring the public trusts the accuracy of shared communications.
#9. Diversity embodied in all roles.	#9. Strive for inclusivity and diversity.	Generic Principle of Excellence #9 outlines the importance of diversity in PR departments in all roles, so decisions and communications are inclusive. Similarly, Best Practice #9 outlines the practice of striving for inclusivity and diversity, when communicating with a wide variety of audiences and members of the public, it is essential to provide all necessary information that is comprehensive for everyone consistently.

Contributions

There are three main contributions of this study. The first contribution is the less common methodological approach of utilizing an inductive content analysis in the first phase of this study to ultimately produce a proposed model of 12 best practices in health communication, developing the BPHCP Model. The second contribution is using an empirical case study in phase two of this study, as this type of research is based on observation and measurement of phenomena as directly experienced by the researcher. The data has been gathered to be compared against the hypothesis, but the results are still based on real-life experiences (San Martin-Rodriguez et al., 2005). Lastly, the third contribution from this study is the revised model of eight best practices in health communication. This model is intended to be utilized as a tool in support of future communication efforts related to health communication. There is an opportunity for this model of best practices to be a valuable tool in the planning and execution of communications in a time of crisis, such as a pandemic. This research contributes to the gap in existing research by providing one proposed model of best practices as a substantial model in health communication. This is one small piece of an extensive and complex system of communications. However, how this study was conducted offers an opportunity for continued growth and development of best practices in health communication.

It is necessary to identify the contributions of this research with respect to the existing literature surrounding the general concept of health communication, health communication during the COVID-19 pandemic, the infodemic, pandemic communication, and best practices in health communication as it was mirrored in the original literature review. Each concept listed above has directly influenced the development of the BPHCP Model developed in this research. While conducting the initial literature review, it was clear there was an opportunity to fill in a

gap in the knowledge in an elaborate collaboration of each concept that was explored. This research has contributed to the gap in the knowledge surrounding health communication during the COVID-19 pandemic and the best practices required to communicate effectively in this new landscape of health communication. With the consideration of the scope of this research, each area in the literature review was explored with the intention of contributing to this new avenue in the research concerning best practices and the revolutionized pandemic communication. Ultimately, this research contributes new discoveries to advance the existing literature surrounding health communication and best practices in theory and Public Relations and Communication practices.

Conclusion

This chapter will conclude this research study by summarizing the key research findings and focusing on the research aims and questions. This chapter also discusses the value of this research and the limitations and possibilities for future research. This research aimed to gain insight into the phenomenon of best practices in health communication, specifically, with the scope of using the Nova Scotia government and Nova Scotia Health as a case study to witness best practices being deployed during the global COVID-19 pandemic. The two main research questions examined in this study were: 1) which best practices are the most consistent and relevant within the literature on health communication practices? and 2) which best practices have been deployed in crisis communication and whether the Nova Scotia government and Nova Scotia Health responded to the pandemic using those practices. An additional research objective was understanding how the province of Nova Scotia identified and used best practices.

Using a three-phase step in conducting this research study, the process of each step attributed to answering the research questions while offering a proposed model of best practices

in health communication as one of the significant research contributions. Phase one answered the first research question of which best practices are the most consistent and relevant within the literature on health communication practices. The result of the inductive content analysis in phase one was the proposed model of 12 best practices, as shown in Table 1 in the results section. The 12 best practices outlined in the BPHCP Model were found through analysis to be the most consistent and relevant across a multitude of academic and professional resources and the existing literature on best practices in health communication.

The second phase of this research study aimed to examine the best practices utilized by the Nova Scotia government and Nova Scotia Health during the COVID-19 pandemic. Specifically, the aim was to assess which of the 12 best practices in the BPHCP Model from phase one were absent or present in the press conferences throughout COVID-19 waves one, two, three, four, five, and six in Nova Scotia. The results indicate that in waves one, two, three, and four – all 12 best practices were present in the press conference communications presented to the public of Nova Scotia. The results indicate that in wave five, 11 best practices were present in the press conference communications delivered, meaning the one best practice that was absent from the data in wave five was best practice #1: providing information in a timely manner. The results also indicate that in wave six, all 12 best practices were absent in the press conference communications, as zero press conferences were presented when the data was collected. Further findings in phase two show significant overlaps in deploying individual best practices within the 12 best practices in the BPHCP Model. These results also support and address the research aim of understanding the identification and use of best practices in the real-world context displayed through the case study.

The third and final phase of this research was intended to utilize the findings from phase one and phase two and provide a revised model of eight best practices in health communication following the abductive content analysis within the case study of phase two. This model revision was a follow-up contribution using the results and findings presented from the first two phases of this study, which both answered the outlined research questions and addressed the complementary research aims. The results of this model revision indicate that the contents of the initially proposed BPHCP Model could be reworked into a more concise and manageable model of eight best practices, shown in Table 3 (p. 28) in the results section. The content of all practices remained intact in this revised model; each practice was redefined and recategorized as overarching thematic practices yielding the same results when employed in communication efforts.

Limitations

The limitations of this research mimic that of qualitative research in general. The validity, reliability, and generalizability are limited in qualitative research. The main limitation of this research is focused on the data analysis and the proposal of this model of best practices. The interpretation, synthesizing, and presentation of the data concerning the research questions are highly dependent on individual perspectives, preconceptions, and assumptions. Specific to this research, it is limited in that this proposed model of best practices in one interpretation of evidence-based practices and standards set that can be applied during a pandemic to communicate at a higher standard to achieve the desired outcomes of public health, safety, and knowledge. This case study of the communication response from the Nova Scotia government and Nova Scotia Health during the COVID-19 pandemic in Nova Scotia is only one application of this proposed model.

Recommendations

The practical application of these findings offers an opportunity to implement this proposed model within the realm of health communication. This BPHCP Model of best practices is one model, at one moment in time, though it has been produced through the culmination of various models of best practices, simply in a more concise model. As a health communication tool, the findings of this research in the form of this model of best practices can act as a guide in producing communication efforts in the instance of another pandemic outside of COVID-19 or in the example of outbreak communication. Having an analytical tool or guide supports communication and public relations practitioners in having a basis for moving forward in a crisis that may require guidance.

There is an opportunity for future research using this proposed model of best practices; as this proposed model of best practices has been applied to one case study, there is a need for further application and testing. To establish the efficiency of this proposed model of best practices in health communication, future research could build on that application, using various case studies as an avenue to examine a different context of the real-world outside of the COVID-19 pandemic in Nova Scotia.

The concluding section of the three-phase process used in this research clearly outlines the results of best practices in health communication and how the BPHCP Model was utilized within the press conferences produced by the province of Nova Scotia during COVID-19. The concluding chapter covered the research questions and aims and provided the study results that supported the response to those questions and the research aims that were addressed. The key takeaways from this chapter include the original BPHCP Model with 12 best practices communication outlined in phase one through inductive content analysis using existing academic

and professional literature (Table 1). The next takeaway is the case study application of the model to examine the communication efforts and witness which best practices were absent or present in each wave of COVID-19 in Nova Scotia within the press conference transcripts produced by the Nova Scotia government and Nova Scotia Health. Considering the whole picture, these communication efforts are primarily successful in adopting the use of best practices throughout the majority of the press conferences produced in the designated timeframe of this research study. The case study application supported the revision and further development of the BPHCP Model (Table 3). This revised version of the BPHCP Model holds the opportunity to become a stand-alone model to contribute to the world of health communication, along with further research into this area of study.

Along with concluding the results and findings produced from this research study, the discussion regarding the contributions derived from this research, along with the limitations of this study, and the recommendations for future research all frame this one research study into the existing realm of communication and best practice literature when considering health communication. This research aimed to address the knowledge gap surrounding best practices of health communication in the environment of a global pandemic, specific to the province of Nova Scotia. This goal was completed, ultimately addressing the gap in knowledge of best practices in health communication by offering a proposed model of 8 best practices in health communication to exist in the surrounding knowledge and be utilized as a model point of reference in health communication moving forward.

References

Abu-Akel, A., Spitz, A., & West, R. (2021). The effect of spokesperson attribution on public health message sharing during the COVID-19 pandemic. *PLOS One, 16*(2), 1-15. https://doi.org/ 10.1371/journal.pone.0245100

Allen, M. P., Auld, E., Logan, R., Montes, J. H., & Rosen, S. (2017, July 10). *Improving collaboration among health communication, health education, and health literacy*. Retrieved April 2022, from National Academy of Medicine: https://nam.edu/improving-collaboration-among-health-communication-health-education-and-health-literacy/

Argenti, P. A. (2020, March 13). *Communicating through the Coronavirus crisis*. Retrieved May 2022, from Harvard Business Review: https://hbr.org/2020/03/communicating-through-the-coronavirus-crisis

Banerjee, D., & Meena, K. S. (2021, March). COVID-19 as an "infodemic" in public health: Critical role of the social media. *Frontiers in Public Health, 9*, 1-8. https://doi.org/10.3389/fpubh.2021.610623

Benski, C., Goto, A., Reich, M. R., & Creative Health Teams. (2020, November 23). Developing health communication materials during a pandemic. *Frontiers in Communication, 5*, 1-6. https://doi.org/10.3389/fcomm.2020.603656

Bheekun, Z., Lee, G., & Camporesi, S. (2021). Challenges on an 'infodemic': Separating fact from fiction in a pandemic. *International Emergency Nursing, 57*, 1-2. https://doi.org/10.1016/j.ienj.2021.101029

Bloor, M., & Wood, F. (2006). *Keywords in qualitative methods.* SAGE Publications Ltd. https://doi.org/10.4135/9781849209403

Browning, N. (2010). *Beyond excellence theory: A critical examination of the Grunigian model.* Athens: The University of Georgia.

Centers for Disease Control and Prevention. (2018). *CERC: Crisis and emergency risk communication introduction.* Atlanta: Centers for Disease Control and Prevention. https://emergency.cdc.gov/cerc/ppt/CERC_Introduction.pdf

Centers for Disease Control and Prevention. (2022, April 15). *Health communication strategies and resources*. Retrieved 2023, from Centers for Disease Control and Prevention: National Prevention Information Network: https://npin.cdc.gov/pages/health-communication-strategies

Conaty, F. (2021). Abduction as a methodological approach to case study research in management accounting - an illustrative case. *Accounting, Finance & Governance Review, 27*, 1-26. https://doi.org/10.52399/001c.22171

Covello, V. T. (2003). Best practices in public health risk and crisis communication. *Journal of Health Communication, 1*(8), 5-8. https://doi.org/10.1080/713851971

Crowe, S., Cresswell, K., Robertson, A., Huby, G., Avery, A., & Sheikh, A. (2011). The case study approach. *BMC Medical Research Methodology, 11*(100), 1-9. http://www.biomedcentral.com/1471-2288/11/100

Elo, S., & Kyngas, H. (2008). The qualitative content analysis process. *Leading Global Nursing Research, 62*(1), 107-115. https://doi.org/10.1111/j.1365-2648.2007.04569.x

Finset, A., Bosworth, H., Butow, P., Gulbrandsen, P., Hulsman, R. L., & Piertese, A. H. (2020). Effective health communication - a key factor in fighting the COVID-19 pandemic. *Patient Education and Counseling, 103*, 873-876. https://doi.org/10.1016/j.pec.2020.03.027

Goto, A. (2020, June). Communicating with the public: Lessons learned post-disaster. *Journal of Global Health Science, 2*(1), 1-8. https://doi.org/10.35500/jghs.2020.2.e6

Grunig, J. E., & Hunt, T. (1984). *Managing public relations.* New York: Holt, Rinehart and Winston.

Heath, S. (2020, December 30). *3 key best practices for public health communication, education*. Retrieved December 2020, from Patient Engagement HIT: https://patientengagementhit.com/news/3-key-best-practices-for-public-health-communication-education

Hemmler, V. L., Kenney, A. W., & Holder, S. (2020). Beyond a coefficient: An interactive process for achieving inter-rater consistency in qualitative coding. Qualitative Research, 22(1), 194-219. https://doi.org/10.1177/1468794120976072

Henry, B. on behalf of the Canadian Pandemic Influenza Preparedness (CPIP) Task Group. (2018). Canadian pandemic influenza preparedness: Communications strategy. *Implementation Science, 44*(5), 106-109. https://doi.org/10.14745/ccdr.v44i05a03

Hooker, C., & Leask, J. (2020, November 09). Risk communication should be explicit about values. A perspective on early communication during COVID-19. *Bioethical Inquiry*, 1-9. https://doi.org/10.1007/s11673-020-10057-0

Hung-Baesecke, C.-J. F., Chen, Y.-R. R., & Ni, L. (2021, February). 16 the excellence theory - origins, contribution and critique. In C. Valentini, *Public Relations* (Vol. 27). Jyväskylä, Finland: De Gruyter Mouton.

Hyland-Wood, B., Gardner, J., Leask, J., & Ecker, U. K. (2021). Toward effective government communication strategies in the era of COVID-19. *Humanities and Social Sciences Communications, 8*(30). https://doi.org/10.1057/s41599-020-00701-w

Ishikawa, H., & Kiuchi, T. (2010). Health literacy and health communication. *BioPsychoSocial Medicine, 4*(18), 1-5. https://doi.org/10.1186/1751-0759-4-18

Jacobsen, K. H., & Vraga, E. K. (2020). Improving communication about COVID-19 and emerging infectious diseases. *Stichting European Society for Clinical Investigation Journal Foundation*, 1. https://doi.org/10.1111/eci.13225

Korstjens, I., & Moser, A. (2017). Series: Practical guidance to qualitative research. Part 2: Context, research questions and designs. European Journal of General Practice, 23(1), 274-279. https://doi.org/10.1080/13814788.2017.1375090

Low, S. R. (2022). Public relations in higher education: A confirmatory analysis of Grunig's excellence theory. *Journal of Positive School Psychology, 6*(8), 10594-10598.

Merriam-Webster. (2022). *Best practice*. Retrieved June 2022, from Merriam-Webster.com Dictionary: https://www.merriam-webster.com/dictionary/best%20practice

Pan, T. (2021, February 18). *Health communication in the age of COVID: BC's response*. Retrieved June 2022, from Canadian Health Information Management Association: https://www.echima.ca/health-communication-in-the-age-of-covid/.

Perleth, M., Jakubowski, E., & Busse, R. (2001). What is 'best practice' in health care? State of the art and perspectives in improving the effectiveness and efficiency of the European health care systems. *Health Policy, 56*(3), 235-250. https://doi.org/10.1016/S0168-8510(00)00138-X

Ratna, H. (2019). The importance of effective communication in healthcare practice. *Harvard Public Health Review, 23*(1), 1-6. https://www.jstor.org/stable/48546767

Ratzan, S. C., Sommariva, S., & Rauh, L. (2020, June). Enhancing global health communication during a crisis: Lessons from the COVID-19 pandemic. *Public Health Research & Practice, 30*(2), 1-6. https://doi.org/10.17061/phrp3022010

Rudd, R., Comings, J. P., & Hyde, J. N. (2003). Leave no one behind: Improving health and risk communication through attention to literacy. *Journal of Health Communication, 8*(1), 104-155. https://doi.org/10.1080/713851983

San Martin-Rodriguez, L., Beaulieu, M.-D., D'Amour, D., & Ferrada-Videla, M. (2005). The determinants of successful collaboration: A review of theoretical and empirical studies. *Journal of Interprofessional Care, 19*(1), 132-147. https://doi.org/10.1080/13561820500082677

Seeger, M. W. (2006). Best practices in crisis communication: An expert panel process. *Journal of Applied Communication Research, 34*(3), 232-244. https://doi.org/10.1080/00909880600769944

The Pennsylvania State University. (2020). *Crisis communication*. Retrieved June 2022, from The Arthur W. Page Center for Integrity in Public Communication: https://pagecentertraining.psu.edu/public-relations-ethics/ethics-in-crisis-management/lesson-1-prominent-ethical-issues-in-crisis-situations/crisis-communication/

Thomas, D. R. (2003, September). A general inductive approach for qualitative data analysis. *American Journal of Evaluation, 27*(2), 1-11. https://doi.org/10.1177/1098214005283748

Thompson, J. (2022). A guide to abductive thematic analysis. *The Qualitative Report, 27*(5), 1410-1421. https://doi.org/10.46743/2160-3715/2022.5340

Tobin, G. A., & Begley, C. M. (2004). Methodological rigour within a qualitative framework. Journal of Advanced Nursing, 48(4), 388-396. https://doi.org/10.1111/j.1365-2648.2004.03207.x

Treise et al., 2016, D., Baralt, C., Birnbrauer, K., Krieger, J., & Neil, J. (2016). Establishing the need for health communication research: Best practices model for building transdisciplinary collaborations. *Journal of Applied Communication Research, 44*(2), 194-198.

TSNE's Communications Team. (2020, March 21). *Communications best practices during the COVID-19 pandemic*. Retrieved from TSNE Partners in Social Change: https://www.tsne.org/blog/communications-best-practices-during-covid-19-pandemic

Vaismoradi, M., Turunen, H., & Bondas, T. (2013). Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. *Nursing & Health Sciences, 15*(3), 393-405. https://doi.org/10.1111/nhs.12048

Vears, D. F., & Gillam, L. (2022). Inductive content analysis: A guide for beginning qualitative researchers. *Focus on Health Professional Education, 23*(1), 111-127. https://doi.org/10.11157/fohpe.v23i1.544

Vermeir, P., Vandijck, D., Degroote, S., Peleman, R., Verhaeghe, R., Mortier, E., . . . Vogelaers, D. (2015). Communication in healthcare: a narrative review of the literature and practical recommendations. *The International Journal of Clinical Practice, 69*(11), 1257-1267. https://doi.org/10.1111/ijcp.12686

Vila-Henninger, L., Dupuy, C., Van Ingelgom, V., Caprioli, M., Teuber, F., Pennetreau, D., . . . Le Gall, C. (2022). Abductive coding: Theory building and qualitative (re)analysis. *Sociological Methods & Research*, 1-34. https://doi.org/10.1177/00491241211067508

Weston, C., Gandell, T., Beauchamp, J., & McAlpine, L. (2001). Analyzing interview data: The development and evolution of a coding system. Qualitative Sociology, 24(3), 381-400. https://doi.org/10.1023/A:1010690908200

Wilkinson, S. (2020, October 7). *Best practices for public-health communications in the era of COVID-19*. Retrieved May 2022, from IWCE's Urgent Communications: https://urgentcomm.com/2020/10/07/best-practices-for-public-health-communications-in-the-era-of-covid-19/

World Health Organization. (2004). *Best practices for communicating with the public during an outbreak.* Singapore: World Health Organization.

World Health Organization. (2017). *WHO strategic communications framework for effective communications.* Retrieved April 2022, from World Health Organization: https://www.who.int/docs/default-source/documents/communicating-for-health/communication-framework.pdf?sfvrsn=93aa6138_0

World Health Organization. (2020, September 23). *Managing the COVID-19 infodemic: Promoting health behaviours and mitigating the harm from misinformation and disinformation*. Retrieved July 2022, from World Health Organization: https://www.who.int/news/item/23-09-2020-managing-the-covid-19-infodemic-promoting-healthy-behaviours-and-mitigating-the-harm-from-misinformation-and-disinformation

World Health Organization. (2022, September 14). *WHO policy brief: Building trust through risk communication and community engagement.* Retrieved 2023, from World Health Organization: https://www.who.int/publications/i/item/WHO-2019-nCoV-Policy_Brief-RCCE-2022.1

Zhang, Y., & Wildemuth, B. M. (2005). Qualitative analysis of content. In B. Wildemuth, *Applications of social research methods to questions in information and library science.* Westport, Connecticut: Libraries Unlimited.

Appendix A

Press Conference Data Collection Table

Wave	Collection Timeframe	Press Conference Date	Length	Transcribed (Y/N)
Wave 1	March 15th, 2020 – March 29th, 2020	Sunday, March 15th, 2020	56:10:00	Y
		Monday, March 16th, 2020	55:34:00	Y
		Tuesday, March 17th, 2020	35:34:00	Y
		Wednesday, March 18th, 2020	42:14:00	Y
		Thursday, March 19th, 2020	40:59:00	Y
		Friday, March 20th, 2020	1:00:36	Y
		Sunday, March 22nd, 2020	39:38:00	Y
		Monday, March 23rd, 2020	37:09:00	Y
		Thursday, March 26th, 2020	55:15:00	Y
		Friday, March 27th, 2020	1:02:19	Y
		Sunday, March 29th, 2020	34:42:00	Y
Wave 2	November 17th, 2021 – December 1st, 2021	Tuesday, November 17th, 2020	1:24:15	Y
		Friday, November 20th, 2020	1:31:07	Y
		Tuesday, November 24th, 2020	1:24:06	Y
		Friday, November 27th, 2020	1:18:33	Y
		Tuesday, December 1st, 2020	1:09:35	Y
Wave 3	April 15th, 2021 – April 29th, 2021	Friday, April 16th, 2021	50:03:00	Y
		Tuesday, April 20th, 2021	54:10:00	Y
		Thursday, April 22nd, 2021	58:23:00	Y

		Sunday, April 25th, 2021	46:39:00	Y
		Monday, April 26th, 2021	1:05:09	Y
		Tuesday, April 27th, 2021	57:11:00	Y
		Wednesday, April 28th, 2021	1:00:51	Y
		Thursday, April 29th, 2021	48:18:00	Y
Wave 4	September 14th, 2021 – September 28th, 2021	Tuesday, September 14th, 2021	52:12:00	Y
Wave 5	December 8th, 2021 – December 22nd, 2021	Monday, December 13th, 2021	1:12:51	Y
Wave 6	March 1st, 2022 – March 14th, 2022	No Press Conferences until March 18th, 2022		

Appendix B

Best Practices in Health Communication in a Pandemic (BPHCP) Model

Best Practices
Best Practice #1: Provide Information in a Timely Manner
Best Practice #2: Health Care and Policy Advised by the Best Available Evidence
Best Practice #3: Be Proactive
Best Practice #4: Focus on the People
Best Practice #5: One Prominent Voice Leading the Information Charge
Best Practice #6: Be Truthful, Honest, Open, Transparent
Best Practice #7: Communicate with Compassion and Empathy
Best Practice #8: Be Clear and Concise
Best Practice #9: Strive for Inclusivity and Diversity
Best Practice #10: Build Trust and Credibility
Best Practice #11: Communicate in a Coordinated Fashion
Best Practice #12: Recognize that Uncertainty is Inevitable

Appendix C

Wave 1: March 15th, 2020 – March 29th, 2020

Best Practice	Status
Best Practice #1: Provide Information in a Timely Manner	**PRESENT**
Best Practice #2: Health Care and Policy Advised by the Best Available Evidence	**PRESENT**
Best Practice #3: Be Proactive	**PRESENT**
Best Practice #4: Focus on the People	**PRESENT**
Best Practice #5: One Prominent Voice Leading the Information Charge	**PRESENT**
Best Practice #6: Be Truthful, Honest, Open, Transparent	**PRESENT**
Best Practice #7: Communicate with Compassion and Empathy	**PRESENT**
Best Practice #8: Be Clear and Concise	**PRESENT**
Best Practice #9: Strive for Inclusivity and Diversity	**PRESENT**
Best Practice #10: Build Trust and Credibility	**PRESENT**
Best Practice #11: Communicate in a Coordinated Fashion	**PRESENT**
Best Practice #12: Recognize that Uncertainty is Inevitable	**PRESENT**

Appendix D

Wave 2: October 1st, 2020 – October 15th, 2020

Best Practice	Status
Best Practice #1: Provide Information in a Timely Manner	**PRESENT**
Best Practice #2: Health Care and Policy Advised by the Best Available Evidence	**PRESENT**
Best Practice #3: Be Proactive	**PRESENT**
Best Practice #4: Focus on the People	**PRESENT**
Best Practice #5: One Prominent Voice Leading the Information Charge	**PRESENT**
Best Practice #6: Be Truthful, Honest, Open, Transparent	**PRESENT**
Best Practice #7: Communicate with Compassion and Empathy	**PRESENT**
Best Practice #8: Be Clear and Concise	**PRESENT**
Best Practice #9: Strive for Inclusivity and Diversity	**PRESENT**
Best Practice #10: Build Trust and Credibility	**PRESENT**
Best Practice #11: Communicate in a Coordinated Fashion	**PRESENT**
Best Practice #12: Recognize that Uncertainty is Inevitable	**PRESENT**

Appendix E

Wave 3: April 1st, 2021 – April 15th, 2021

Best Practice	Status
Best Practice #1: Provide Information in a Timely Manner	**PRESENT**
Best Practice #2: Health Care and Policy Advised by the Best Available Evidence	**PRESENT**
Best Practice #3: Be Proactive	**PRESENT**
Best Practice #4: Focus on the People	**PRESENT**
Best Practice #5: One Prominent Voice Leading the Information Charge	**PRESENT**
Best Practice #6: Be Truthful, Honest, Open, Transparent	**PRESENT**
Best Practice #7: Communicate with Compassion and Empathy	**PRESENT**
Best Practice #8: Be Clear and Concise	**PRESENT**
Best Practice #9: Strive for Inclusivity and Diversity	**PRESENT**
Best Practice #10: Build Trust and Credibility	**PRESENT**
Best Practice #11: Communicate in a Coordinated Fashion	**PRESENT**
Best Practice #12: Recognize that Uncertainty is Inevitable	**PRESENT**

Appendix F

Wave 4: August 1st, 2021 – August 15th, 2021

Best Practice	Status
Best Practice #1: Provide Information in a Timely Manner	**PRESENT**
Best Practice #2: Health Care and Policy Advised by the Best Available Evidence	**PRESENT**
Best Practice #3: Be Proactive	**PRESENT**
Best Practice #4: Focus on the People	**PRESENT**
Best Practice #5: One Prominent Voice Leading the Information Charge	**PRESENT**
Best Practice #6: Be Truthful, Honest, Open, Transparent	**PRESENT**
Best Practice #7: Communicate with Compassion and Empathy	**PRESENT**
Best Practice #8: Be Clear and Concise	**PRESENT**
Best Practice #9: Strive for Inclusivity and Diversity	**PRESENT**
Best Practice #10: Build Trust and Credibility	**PRESENT**
Best Practice #11: Communicate in a Coordinated Fashion	**PRESENT**
Best Practice #12: Recognize that Uncertainty is Inevitable	**PRESENT**

Appendix G

Wave 5: December 8th, 2021 – December 22nd, 2021

Best Practice	Status
Best Practice #1: Provide Information in a Timely Manner	**ABSENT**
Best Practice #2: Health Care and Policy Advised by the Best Available Evidence	**PRESENT**
Best Practice #3: Be Proactive	**PRESENT**
Best Practice #4: Focus on the People	**PRESENT**
Best Practice #5: One Prominent Voice Leading the Information Charge	**PRESENT**
Best Practice #6: Be Truthful, Honest, Open, Transparent	**PRESENT**
Best Practice #7: Communicate with Compassion and Empathy	**PRESENT**
Best Practice #8: Be Clear and Concise	**PRESENT**
Best Practice #9: Strive for Inclusivity and Diversity	**PRESENT**
Best Practice #10: Build Trust and Credibility	**PRESENT**
Best Practice #11: Communicate in a Coordinated Fashion	**PRESENT**
Best Practice #12: Recognize that Uncertainty is Inevitable	**PRESENT**

Appendix H

Wave 6: March 1st, 2022 – March 15th, 2022

Best Practice	Status
Best Practice #1: Provide Information in a Timely Manner	**ABSENT**
Best Practice #2: Health Care and Policy Advised by the Best Available Evidence	**ABSENT**
Best Practice #3: Be Proactive	**ABSENT**
Best Practice #4: Focus on the People	**ABSENT**
Best Practice #5: One Prominent Voice Leading the Information Charge	**ABSENT**
Best Practice #6: Be Truthful, Honest, Open, Transparent	**ABSENT**
Best Practice #7: Communicate with Compassion and Empathy	**ABSENT**
Best Practice #8: Be Clear and Concise	**ABSENT**
Best Practice #9: Strive for Inclusivity and Diversity	**ABSENT**
Best Practice #10: Build Trust and Credibility	**ABSENT**
Best Practice #11: Communicate in a Coordinated Fashion	**ABSENT**
Best Practice #12: Recognize that Uncertainty is Inevitable	**ABSENT**

Appendix I

Phase 1: Literature Used in the Inductive Content Analysis

Source No.	Source Type	Author(s)	Year	Title	Journal Title/Main Source
1	Peer-Reviewed Journal Article	S. Ratzan, S. Sommariva & L. Rauh	2020	Enhancing global health communication during a crisis: Lessons from the COVID-19 pandemic	Public Health Research & Practice
2	Peer-Reviewed Journal Article	Vincent T. Covello	2003	Best Practices in Public Health Risk and Crisis Communication	Journal of Health Communication
3	Editorial Article	Sara Heath	2020	3 Key Best Practices for Public Health Communication, Education	Xtelligent – Health Care Media
4	Document from Website	TSNE Partners in Social Change Communications Team	2020	Communications Best Practices During the COVID-19 Pandemic	TSNE Partners in Social Change
5	Document from Website	Paul A. Argenti	2020	Communicating Through the Coronavirus Crisis	Harvard Business Review
6	Report	World Health Organization	2004	Outbreak communication: Best practices for communicating with the public during an outbreak	World Health Organization
7	Report	World Health Organization	2017	WHO Strategic Communications Framework for effective communications	World Health Organization
8	Peer-Reviewed Journal Article	B. Henry	2018	Canadian Pandemic Influenza Preparedness: Communications strategy	Canada Communicable Disease Report
9	Peer-Reviewed Journal Article	M. Perleth, E. Jakubowski & R. Busse	2001	What is ‘best practice’ in health care? State of the art and perspectives in improving the effectiveness and efficiency of the European health care systems	Health Policy
10	Peer-Reviewed Journal Article	B. Hyland-Wood, J. Gardner, J. Leask & U. K. H. Ecker	2021	Toward effective government communication strategies in the era of COVID-19	Humanities and Social Sciences Communications