

**Connecting Residents in the Face of H1N1:**

**Looking into a Communicative Model by the City of Ottawa**

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Thesis submitted to  
the Faculty of Graduate and Postdoctoral Studies  
in partial fulfillment of the requirements for the  
M.A. in Communication

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## **Abstract**

During the 2009 H1N1 pandemic, the City of Ottawa implemented a program to disseminate vaccination clinic information using the microblogging tool Twitter. The purpose of this thesis is to examine and evaluate whether this program constitutes a communicative model. The challenge for crisis communicators has been to convince a confused and skeptical public to be vaccinated against the virus. Drawing on Aristotle's *Rhetoric* and Rousseau's *The Social Contract*, the theoretical framework of this thesis feeds from Heidegger's (1977) views on technology, new media, Web 2.0 technologies, Eid's (2008) Crisis Decision-Making Model for Media Rational Responsibility, Rowan, Botan, Krepes, Samoilenko and Farnsworth's (2008) CAUSE model, Crozier's (1967) Theory of Bureaucratic Dysfunction and New Public Management. The thesis employs a case study approach and utilizes a qualitative research design to analyze the Twitter messages and internal City of Ottawa documents, and to conduct in-depth interviews with employees. Findings reveal and explain that the City of Ottawa's program constitutes a flawed communicative model. A recommended communicative model is put forth in order to improve the areas of planning, human resources and message design. This model contributes to the emerging field of social media, and is intended to help health crisis decision-makers communicate their messages effectively.

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## **Acknowledgements**

I would like to thank my thesis supervisor, Dr. Mahmoud Eid, for his guidance during my time at the University of Ottawa. Thank you for your passion and patience; I am very fortunate to have you as my mentor during this intellectual journey. The thesis has also been strengthened by the feedback from the members of the thesis committee, Drs. Luc Bonneville and Luc Dupont. I am grateful for your insight and comments at every stage of the project, and I appreciate your genuine enthusiasm about the topic and the thesis.

I must also recognize the City of Ottawa and the research participants for providing me the opportunity to study a truly fascinating case represents the current state of communication. Further, my sincere appreciation goes to the Department of Communication and the University of Ottawa for providing an environment that inspires student success. I am proud to have studied here for both my undergraduate and graduate degrees. My gratitude as well to every student leader in Ottawa and around the world that I have ever volunteered with or debated against. You helped prepare me for bigger things.

Finally, I thank my parents, Patrick and Stephanie Kennery, for their love and support. I am deeply grateful for all you have given me; I hope that I have made you as proud as you have made me.

# Chapter 1

## Introduction

### Preface

In June 2009, the influenza A (H1N1) virus became the first global influenza (flu) pandemic of the 21<sup>st</sup> century (World Health Organization, 2009). This new strain of influenza was detected only months earlier and quickly became an international outbreak (WHO, 2009). Public health organizations and governments were faced with high stakes, as humans had little natural immunity to the H1N1 virus (Public Health Agency of Canada, 2009a: 1). By the end of the summer of that year, more than 280,000 people had been infected, with almost 3,000 related deaths worldwide (Spika & Butler-Jones, 2009). This became even more troubling for public health leaders, as in contrast to the seasonal flu, “younger people [had] been disproportionately affected by the pandemic strain of the virus, with infections among people over 65 years of age representing only 5% of all reported cases” (Craig, Kasai, Li, Otsu & Khut, 2010: 11). This was an outbreak that put even the healthiest members of society at risk.

In Canada, a national mass-vaccination campaign was launched in October 2009 to inoculate citizens against the virus (PHAC, 2009b). The wide scope of such a project was unprecedented for the country. The campaign was foreseen as a tremendous challenge by the Canadian Medical Association (2009), which argued that Canada struggled with immunizing vulnerable groups against even the seasonal influenza, an annual public health routine. The Government of Canada obtained 50.4 million doses of vaccine to be distributed to the provinces and territories, with an expectation that less than 50 percent of Canadians would choose to be vaccinated (PHAC, 2009b).

To further complicate the response, public opinion during the pandemic can be characterized as confused and skeptical. Despite the government's expectations, some public opinion polls revealed that the number of Canadians that intended to get the vaccine actually decreased as the vaccination clinics approached (Gulli, 2009). There were concerns that the information being provided to citizens by the various levels of government was unclear, leading to skepticism about the true threat of the virus, and effectiveness and safety of the vaccine (Gulli, 2009). A study by Harris-Decima found that while citizens had a relatively favourable view of the federal government's handling of the crisis, upwards of 65% felt that "the media [had] overreacted to the H1N1 flu virus" (2009: 5). Government was tasked with persuading and informing an audience that was cynical and confused.

As a part of the H1N1 vaccination campaign, the City of Ottawa was responsible for inoculating its residents. For the city of more than 800,000 people, the vaccine was first made available to specific high-risk groups, then to the remaining residents in late November 2009 (City of Ottawa, 2006; City of Ottawa, 2009a). The City of Ottawa had a goal of immunizing more than 40 percent of residents through its own clinics, hospitals and family physicians (City of Ottawa, 2009a). One of the communication tactics the City of Ottawa relied on was an initiative that disseminated pertinent information to residents using the microblogging tool Twitter. Users of the social medium were able to subscribe to the City of Ottawa's messages to receive updates about vaccination clinic wait times and the latest news regarding the local H1N1 response. This program allowed residents to connect with almost instantaneous information, and provided the City of Ottawa with a tool for information dissemination and crowd control. Twitter was the only

social medium chosen by the City of Ottawa to respond to the crisis. This thesis examines this City of Ottawa Twitter program.

While the vaccination campaign challenges were significant on their own, it must be recognized that the H1N1 pandemic constitutes a *crisis* for the City of Ottawa. Eid offers the definition of a crisis as “a situation of sudden threat of destruction to the basics of a system combined with uncertainty as to the unfolding of events” (2008: 44). This is consistent with the situation faced by the City of Ottawa at the time of the H1N1 pandemic. On one front, the virus outbreak itself was a crisis. As humans possessed almost no natural immunity to H1N1, the situation was one of uncertainty about what actions needed to be taken by government decision-makers and the public. Spawning from this threat, the vaccination system itself was threatened by demand. Due to finite resources such as the amount of vaccine and number of nurses providing vaccinations, the local H1N1 vaccination clinics had difficulty handling the influx of residents (Helmer, 2009).

Given this nature of crises, Eid (2008) presents the notion of communication in a time of crisis as both a vice and a virtue. To Eid, communication “can work towards the benefit of . . . managing the crisis situation just as easily as it can work towards the exact opposite” (2008: 49). In this case, a strategy of *not* communicating would not be appropriate as many residents were looking to their government for guidance and information. Fearn-Banks believes that some crises have the potential to be stopped, positing that “ongoing public relations programs and regular two-way communications build relationships with key publics and thereby prevent crises, lessen the blow of crises, or limit the duration of crises” (Fearn-Banks, 2007: 12). Looking at these two

perspectives, it is apparent that effective communication is needed during a crisis, but one must be cautious of *how* this is done (at the risk of making the situation worse).

This challenge becomes greater when considering the nature of communication in the 21<sup>st</sup> century. With the rise of social media, information has become more easily accessible to all those with an Internet connection. While the digital divide is ever-present, Internet use in Canada has become commonplace in most homes and workplaces. According to Statistics Canada (2010), over 90 percent of Canadians have access to Internet in their homes. Recent research suggests that weekly Internet usage has surpassed time spent watching television amongst Canadians (Ipsos-Reid, 2010). The Internet is an increasingly important part of Canadians' daily lives.

Just as the Internet has been seen to change the way that people communicate and consume information, McMillian argues that “the Internet and other forms of computer-mediated communication have the potential of redefining the health communication process” (2000: 377). An increasing number of people are turning to search engines and health-related websites to gain access to health information (Lorence, Park & Fox, 2006). One of the most common reasons for researching and information-seeking is to reduce some kind of uncertainty (Boyle, Schmierbach & Armstrong, 2004). Understanding this, in times of crises or uncertainty, “if... emotional reactions to traumatic events are related to an underlying information shortage, people should attempt to reduce their uncertainty about the event by trying to learn more” (Boyle, Schmierbach & Armstrong, 2004: 157). When an issue concerns the health of an individual, it could be considered a significant motivator for seeking out information to reduce uncertainty. This extends beyond putting a person's mind at ease, as accessing information on the Internet also supports decision-

making (Kim, Hong & Park, 2008). Andreassen et al. found that “almost half of Internet users claim they have used the Internet to decide whether they need to see a doctor” (2007: 6). The study concluded that while online health information may not replace health services in the same way that the Internet has changed the traditional news cycle, online tools help support health decision-making.

While this connectivity provides opportunities for users, it also creates significant challenges for crisis decision-makers. The desires of the public have evolved from access to information, to *instantaneous* access to information. In the midst of the H1N1 pandemic, Ratzan put forward the argument:

This is not just a case of communicable chaos, but a real test of our ability to appropriately reach and inform citizens with understandable, reliable, and actionable news (information) they can use. It is about health literacy... People should know if they are at risk and what they can do. We need a widely known, accessible repository of trustworthy, actionable health information that everyone knows how to find and use.

(Ratzan, 2009: 413)

Here lies the significance in using social media for crisis communication response. The City of Ottawa case is a strong example of testing everyday technologies in a time of extreme uncertainty. When there is a health crisis, “coordinated and consistent communication [is] necessary to building and maintaining public trust and... for containing anxiety and fear” (Seeger, Reynolds & Sellnow, 2009: 501). Crisis decisions can determine whether communication builds trust or perpetuates panic. The double-edged sword of crisis communication described by Eid (2008), combined with the public’s desire for *as much information as possible, as quickly as possible*, leads the thesis to consider the City of Ottawa Twitter program.

## **Research Problem and Objectives**

The research problematic here is determining the strengths, limitations and implications of the City of Ottawa's use of Twitter. More specifically, the thesis is concerned with the internal processes that guided the use of this social medium, as well as the messages that were disseminated. While a strength of microblogging is the ability to connect users with instantaneous information, Twitter restricts the length of individual messages to just 140 characters. The balance between convenience and degradation of message quality is a challenging one. This is especially true for a governmental organization attempting to communicate clearly during a crisis, since health information can require in-depth explanations of technical terms. Furthermore, the clinic reporting system and its employees are of interest. There is potential in understanding how information flowed from the clinics to the employees responsible for disseminating information using Twitter. There is also significance in understanding the decision-making processes that were used when leveraging this social medium.

The purpose of this study is to examine and evaluate whether the actions taken by the City of Ottawa with the Twitter program constitutes a communicative model. If it does, it will be determined what parameters exist around such a model. Specifically when looking at message design and internal processes, there is much to be learned from this case. If it does not constitute a communicative model, lessons can be drawn from this case to help crisis decision-makers communicate their messages more effectively.

## Thesis Overview

Chapter 2, Literature Review, grounds the research in Aristotle's *Rhetoric* and Jean Jacques Rousseau's *The Social Contract*. Aristotle helps establish the foundations of effectively communicating messages. Without utilizing the roots of rhetoric: establishing credibility, appealing to the emotions of the audience and putting forward strong arguments; a crisis decision-maker would be less effective when attempting to persuade a public. Rousseau's treatise has implications for social networks such as Twitter, as he seeks to determine whether a system can exist where all members contribute to a common good, while still remaining individuals. The Social Contract also has significance for the nature of public health, as it is collaborative and community-focused.

Linked with these are key communication theories, crisis models and government theories. For communication, Heidegger's writings on technology as a tool to convey truth complement Aristotle's views about using information to persuade. This is significant for looking at the informative nature of media, rather than the end goal of trying to influence an audience. Looking at the wider implications of digital technologies, some of the larger questions surrounding new media are addressed. Beyond the tools themselves, new media represent a significant shift to a more globalized, decentralized communication landscape. From here, the rise of Web 2.0 is chronicled, drawing from recent literature on social media, including Twitter. The thesis benefits from an understanding of the principles behind these new communication tools, namely the enhanced ability for word-of-mouth referrals and access to information. Following this, two models of crisis communication are outlined, Eid's Crisis Decision-Making Model for Media Rational Responsibility (CD\_M<sup>3</sup>\_R<sup>2</sup>), and the CAUSE model put forth by

Rowan, Botan, Krepes, Samoilenko and Farnsworth. The CD\_M<sup>3</sup>\_R<sup>2</sup> is a guide for media decision-making during a crisis; with a focus on ensuring those decisions are both ethical and logical. The CAUSE model draws its name from five crisis communication goals put forward by the authors: confidence, awareness, understanding, satisfaction and enactment. For the government theories component, Crozier puts forth some relevant criticisms about bureaucracies, in that they can be clumsy, complicated and slow to respond to changing environments. Complementing this are the principles of New Public Management, which focus on the goals of making government more innovative and responsive to citizen needs.

The most relevant threads of knowledge are taken from these authors to identify key communicative model characteristics that would yield a greater potential for crisis decision-makers to be effective. With the research problematic in mind, a great emphasis should be placed on both persuasive and informative message design, while ensuring that the audience easily understands the messages. Without this, there is a risk that skeptical members of the audience remain unconvinced or misunderstand recommended actions. The communication flow should be bi-directional, in that there is two-way interaction with the audience. With the rise of social media being driven by more collaborative, open technologies, this is crucial in ensuring the crisis communicator uses the medium in the same manner as the audience. Decision-making processes should be supported with evidence, while still flexible enough to not fall into some of the bureaucratic traps cautioned against by Crozier. These processes need to be effective and consistent to ensure that the needs of the audience are met.

The purpose of Chapter 3 is to provide the methodology of the study. It begins by introducing several concepts that are investigated, including persuasive and informative messages, consistency, abbreviation and fragmentation. Next, the research design, a qualitative case study, is established. Understanding that similar crises have been studied through this lens, this is seen as an appropriate approach. The study's three research questions and eight sub-questions are set out, which guide the study to appropriately address the topic. Finally, overviews of the data collection and analysis methods are provided. Through analyzing Twitter messages and internal City of Ottawa documents, and conducting in-depth interviews with employees, the study has the opportunity to yield rich data about the functioning of the program.

Chapter 4 begins by outlining the main findings of the study vis-à-vis the effective communicative model characteristics established in the literature review. Through an analysis of the Twitter messages, internal employee documents and interview transcripts, the communicative model is understood, and significant issues about the nature of microblogging as a crisis communication tool are addressed. Included in this is an addressing of each research question and sub-question. Grounded in the theoretical framework established in the literature review, recommendations are put forth to improve upon the communicative model identified in the City of Ottawa case. The chapter concludes by discussing how such a model might function if put into practice while keeping in mind the characteristics established in Chapter 2 and the concepts set out in Chapter 3.

Chapter 5, Conclusion, reviews the most significant findings of the thesis, and identifies areas for future research. The limitations and implications of the study are

provided. Although the thesis only focuses on one of the many stories from the H1N1 crisis, this thesis contributes to the schools of knowledge of information dissemination, health communication and new media. The findings are expected to provide health crisis decision-makers with insight into how to communicate their messages more effectively using Twitter. The thesis concludes with summary of each chapter's contents.

## Chapter 2

### **Literature Review**

The objective of the literature review is to identify and analyze the theories relevant to the study. By building upon the foundations of rhetoric and communities, communication theories, crisis models and government theories are analyzed. From here, the relevant threads of knowledge are brought together to reveal the key characteristics of an effective communicative model. These characteristics are used as a unique theoretical framework to guide the research.

#### **Rhetoric and the Social Contract**

To shed light on the foundations of this topic, two philosophers offer insight. These provide an appropriate starting point to understand how health crisis decision-makers can communicate their messages effectively. The works of Aristotle are investigated, which provide the roots of communicating a message. The thesis benefits most from Aristotle's writings on the topic of rhetoric. Since the City of Ottawa program involves transmitting information to an audience, Aristotle's *Rhetoric* is an appropriate tool to understand that objective. Aristotle's ideas regarding rhetoric are helpful to the thesis because a program that was to ignore these principles would be less effective in convincing an audience to take action or adopt behaviours. Complementing this are the works of Jean Jacques Rousseau, specifically his writings concerning the Social Contract. Understanding that public health organizations are community-focused, bringing together many individuals to serve a common goal, his ideas on this subject are significant. The thesis benefits here

from the foundation of social networks; the bringing together of individuals for a common purpose. Twitter can be seen as a social network that facilitates online relationships of information-sharing.

### ***Aristotle's Rhetoric***

Born in 384 B.C. in today's Stavros, Greece, Aristotle, a son of a physician, was educated at Plato's Academy (Ross, 1968). During his 20-year stay, Aristotle contributed to the school through lecturing and undertook his own independent learning (Ross, 1968). Upon returning to Athens in 334, Aristotle taught in the Lyceum, a gymnasium (Rist, 1989). His followers were known as members of the Peripatetic school because Aristotle walked as he taught (Lindberg, 1992). It is around this time that he wrote pieces such as *Poetics* and *Rhetoric* (Rist, 1989). Aristotle is recognized for his work in physics, logic, morality and politics. With the thesis topic in mind, the emphasis here is on his writings on rhetoric as they provide appropriate philosophical grounding to critically analyze messages.

In *Rhetoric*, Aristotle writes, "let rhetoric be the power to observe the persuasiveness of which any particular matter admits" (Aristotle, trans. Lawson-Tancred, 1991, 74). This can be seen as a framework to be used to investigate rhetoric, as opposed to analyzing whether or not a speaker is successful in persuading an audience. The three underlying components of persuasion can be observed "through the character of the orator, through the emotions of the hearers and through the arguments of the speech" (Fortenbaugh, 2006: 207). The first characteristic concerns the credibility of the messenger. There are some individuals that an audience would perceive as more

trustworthy or genuine than others, as “we are persuaded by the speaker who appears to possess goodness and goodwill, and therefore need to know the character of each political arrangement” (Fortenbaugh, 2006: 289). Secondly, Aristotle refers to the importance of understanding the emotions of those who are being persuaded. The words and methods one employs should reflect the emotional state of audience. Regardless of the medium, a message transmitted to a complacent audience should be different than a message for an audience that is angry. The third characteristic is related to the selection of debate points. This is the ability to prove something with facts, and rebut dissenting views with effective counterarguments.

Aristotle sets out the three genres of rhetoric: deliberative, forensic and display. He establishes these as most concerned with the audience, rather than the speech or speaker itself. Each genre can be further categorized and possesses two possible competing objectives.

### *Deliberative Rhetoric*

For this genre of rhetoric, Aristotle establishes two categories: exhortation and deterrence. These are related to the concept of happiness, which he defines as “virtuous welfare, or self-sufficiency in life or the pleasantest secure life or material and physical well-being accompanied by the capacity or procure the same” (Aristotle, trans. Lawson-Tancred, 1991: 87). He characterizes the types of happiness as external advantages (such as a good reputation or wealth) and internal advantages (such as good health or strength).

On this point, he posits that the genre of deliberative rhetoric has two potential objectives: advantage or harm. Aristotle categorizes five of the most frequent topics of

discussion: “revenue, war and peace, the defence of the realm, imports and exports, and legislation” (Aristotle, trans. Lawson-Tancred, 1991: 84). He advises that a speaker must have the appropriate background knowledge of each of these topics in order to appropriately defend him or herself in a debate. For example, when discussing the topic of war, “the speaker must know both the present and potential strength of the city, the nature of existing forces and of such as might be added, and also what wars she has had in what way she has been at war” (Aristotle, trans. Lawson-Tancred, 1991: 85). Without this knowledge, the speaker would not be seen as credible when speaking about the subject matter. In turn, this lack of credibility would be a significant obstacle to persuading an audience.

To Aristotle, deliberative rhetoric is superior to the other genres. He portrays it as “more scrupulous, more broadly based, more personal, more easily focused on the facts, more disinterested, and more dependent on artistic proofs” (Neel, 1994: 154) than forensic and display rhetoric. This view is in line with the tense of this genre because deliberative rhetoric is focused on the future. In the same vein, rhetoric can be seen as “most susceptible to technical analysis when it is aimed at deliberative judgment” (Garsten, 2006: 118).

### *Forensic Rhetoric*

The second genre Aristotle sets out can be classified as either prosecution or defense, each being related to some form of litigation. Aristotle outlines that this genre is focused on the past and its objective is either justice or injustice. Succinctly, he defines injustice as “voluntary illegal harm” (Aristotle, trans. Lawson-Tancred, 1991: 111). He discusses

the concept of injustice in the context of acts of injustice, specifically the reasons for committing crime and the criminals themselves.

Contrasting this with deliberative rhetoric, Aristotle portrays forensic rhetoric as “more unscrupulous, more narrowly based, more impersonal, more prone to pandering, more susceptible to emotional appeal, and more open to nonessential arguments” (Neel, 1994: 154). He focuses more on the motivations behind committing crimes, rather than providing a framework for determining or presenting the facts of a case.

### *Display Rhetoric*

Rhetoric of this type can be categorized as either praise or denigration. Aristotle says that display oratory can be used for the purpose of nobility and baseness, or vice and virtue. He defines nobility as “that which is praiseworthy through being intrinsically eligible” (Aristotle, trans. Lawson-Tancred, 1991: 105). Aristotle argues that things that would yield a reward or a better reputation are examples of what makes an individual noble. He claims that virtue is related to nobility because it requires “the capacity to produce advantages and to preserve them, and also the capacity for many and signal good works, for all men in all cases” (Aristotle, trans. Lawson-Tancred, 1991: 105). Aristotle outlines the elements of virtue include a number of qualities, including courage, prudence and wisdom.

### *Rousseau’s Social Contract*

Jean Jacques Rousseau was born in Geneva on June 28, 1712 (Damrosch, 2005). With his mother dying in the month after his birth, he was raised by his father (a watchmaker) and

his aunt, and grew up reading romantic novels left by his mother (Damrosch, 2005). After Rousseau's father abandoned him, he was sent to boarding school in his teenage years (Gauthier, 2006). He left shortly after, "decid[ing] to quit Geneva, and make his way in the world" (Gauthier, 2006: 112). From here, he wandered between France and Italy, taking up servant jobs while developing his mind as an intellectual. It is from this conflicted, investigative mind that provides the body of work that is emphasized here: *The Social Contract*.

Rousseau begins the first chapter of this 1762 treatise: "Man was born free, and he is everywhere in chains" (Rousseau, trans. Cranston, 1968: 49). This serves as an emphatic starting point for the narrative he presents in the proceeding sections. He discusses the concept of a family being the first society, because it includes a leader (father) and people (children). To Rousseau, children must be obedient to their fathers only insofar as they *need* to be. Reciprocally, a father must provide for his children until such time as they are able to provide for themselves. Rousseau posits that "man's first law is to watch over his own preservation; his first care he owes to himself; and as soon as he reaches the age of reason, he becomes to only judge of the best means to preserve himself; he becomes his own master" (Rousseau, trans. Cranston, 1968: 50). The key implication for Rousseau's stance here is that he equates freedom with the ability to provide for one's self. More specifically, he believes that "the idea of being *born* free is not that one is able to provide adequately for oneself at birth, but rather that one is born *to* freedom – that one naturally comes to maturity as a being whose powers are adequate for his needs and desires" (Gauthier, 2006: 27, *emphasis in original*).

From this point, Rousseau turns his focus to the issues of strength and slavery. Here, he “contrasts the liberty that lies in the harmony of power and desire with three alternative conditions: slavery, illusion and prestige. Each of these is a way of being unfree, a way in which one’s powers fail to be adequate to meet one’s needs” (Gauthier, 2006: 7). Rousseau claims that the right to slavery does not exist. He sets out the premise that when a state is victorious in war, it does not have the right to kill those who have been conquered since the battle has ended. Understanding this, Rousseau argues that enslavement of the former enemy cannot be justified either because it is an unsound action from a contractual standpoint. For example, “it would always be absurd to say: ‘I hereby make a covenant with you which is wholly at your expense and wholly to my advantage; I will respect it so long as I please and you shall respect it so long as I wish’” (Rousseau, trans. Cranston, 1968: 58).

With this narrative, Rousseau sets out the central purpose of the treatise as a determination of the possibility of having legitimate political authority. He states his goal is to “try always to bring together what right permits with what interest prescribes so that justice and utility are in no way divided” (Rousseau, trans. Cranston, 1968: 49). Rousseau questions if a state can exist that protects the rights of its citizens without infringing upon those same rights. On this point, he sets out the question:

How to find a form of association which will defend the person and goods each member with the collective force of all, and under which each individual, while uniting himself with the others, obeys no one but himself, and remains as free as before.

(Rousseau, trans. Cranston, 1968: 60)

He confronts this issue with the concept of the Social Contract. The definition Rousseau establishes is that, without condition, all members of a community must surrender

themselves to the community as a whole. The conditions of this reciprocal agreement are that every individual is bound by the same rules, no one loses their individual freedoms for being a part of the community and no one has a right to anything that would be against the general will. This is a necessity for Rousseau, in that “man enters into the social contract to escape an unbearable situation: a state of nature becomes, let us say, a state of universal opposition” (Levine, 1976: 22).

To Rousseau, the Social Contract breaks down the walls between individual forces and requires a collective will. This union should be seen as one whole person since it is made up of many equal parts with the same moral boundaries. The call to action then is that “the members of the association transform themselves from a group of isolated individuals with many different wills into a community with a common will or interest” (Jennings, 1994: 118). The challenge for such an assertion is clear; it is fair to argue that at least two individuals’ interests will become conflicted in some way (Hill, 2006).

Rousseau establishes distinct definitions that guide his treatise from this point forward. Under the Social Contract, the unified body is known as “republic” or “body politic” (whereas in the past it was called a “city”). The further categorization is as follows: “the public person thus formed by the union of all other persons was once called the *city*, and is now known as the *republic* or *body politic*. In its passive role it is called the *state*, when it plays an active role it is the *sovereign*” (Rousseau, trans. Cranston, 1968: 61-62, *emphasis in original*). In this arrangement, participants are known collectively as “people”, individually as “citizens”, and as “subjects” since they are under the rule of the laws of the state. Every individual is tied in two ways, “first to his fellow

contractees and second as a member of the state in relation to the sovereign” (Jennings, 1994: 118).

Linked with Rhetoric and The Social Contract are several communication theories, crisis models and government theories relevant to the study. These categories serve only the purpose of organizing the discussion, as these ideas can transcend between categories. In the communication theories section, the thesis traces from the most general new media roots to today’s modern communication tools, including Twitter. Secondly, the crisis models section provides an overview of the definition and types of crises, and two relevant crisis decision-making models. Finally, the government theories section focuses on the weaknesses of traditional bureaucratic systems, and the more modern approaches to public administration.

### **Communication Theories**

It is important to investigate relevant communication theories because they are related to the phenomenon that is studied here. Since Twitter is a tool that is under the umbrella of communication, it is possible to trace from its original roots to better understand what it means today. This includes looking at the nature of technology, new media, Web 2.0 and social media, and Twitter itself.

### ***Heidegger: The Question Concerning Technology***

While the proceeding discussion concerns the concepts of new media and the latest forms of online communication, it is worth first looking at the nature of technology itself. To

this end, Heidegger's writings on technology provide an appropriate foundation for looking at the role of the informative nature of media.

Heidegger argues that the total essence of technology has to do with revealing, or in other words "we say 'truth' and usually understand it as the correctness of an idea" (1977: 12). While he writes here from a macro perspective of technology, through a modern lens it can be seen as informing the audience through representation of the truth, as opposed to misleading it or demanding something from it. Even with modern technologies focused on manufacturing, he argues that they are still focused on revealing things. To Heidegger, "it reveals whatever does not bring itself forth and does not yet lie here before us, whatever can look and turn out now one way and now another" (1977: 13). Here, he draws upon the example of building a house, where the truth lies in the finished product, not the means of creating the structure itself.

### *New Media Theories*

Manovich explains, "the popular understanding of new media identifies it with the use of a computer for distribution and exhibition rather than production" (2001: 19). He is correct that there is not a universally accepted definition of new media. Lister, Dovey, Giddings, Grant and Kelly discuss the concept of new media in the context of new media being more about a shift in technology and less about being a specific classification.

More specifically, they posit:

The term 'new media' emerged to capture a sense that quite rapidly from the late 1980s on, the world of media and communications began to look quite different and this difference was not restricted to one sector or element of that world, although the actual thinking of change may have been different from medium to medium. This was the case from printing, photography, through television, to telecommunications. Of course, media

had continually been in a state of technological, institutional, and cultural change or development; they never stood still.

(Lister, Dovey, Giddings, Grant & Kelly, 2009: 10)

During and after such shifts, they characterize the world as post-modern, globalized and post-industrial, with decentralized political orders. This “technoculture” brought upon by new media is more than just new tools and technologies; it is a fundamental shift in the way the world works.

Complementing this, Manovich (2001) identifies five principles that distinguish new media from old media. These are numerical representation (new media can be described through mathematics and can be programmed), modularity (new media have objects consisting of smaller individual parts like pixels or characters), automation (humans are not needed for all steps of the process), variability (many different versions of the same media can be reconstructed in several different ways) and transcoding (computerizing media) (Manovich, 2001). These represent the general characteristics of new media from a practical level.

### ***Web 2.0 and Social Media***

Connected with this shift is the evolution of Internet communication at the turn of the 21<sup>st</sup> century. While the early mainstream phase of the Internet included the fundamentals of visiting web pages and sending e-mails, new tools emerged that put a greater emphasis on interactivity and collaboration between users. As Kamel Boulous and Wheeler explain, “the second incarnation of the Web (Web 2.0) has been called the ‘social Web’, because, in contrast to Web 1.0, its content can be more easily generated and published by users, and the collective intelligence of users encourages more democratic use” (2007: 2).

Hazleton, Harrison-Rexrode and Kennan (2007) characterize information using Web 2.0 as more accessible, instant and sharable. If the introduction of the Internet to mainstream use represented a shift in the way information was consumed, Web 2.0 tools place even greater control in the hands of the audience. As Strauss, El-Ansary and Frost note, “consumer control of both the television remote control and the computer mouse means that marketers can no longer hold an individual captive for 30 seconds in front of a screen” (2006: 14). Where users were connected with exponentially more sources of information through the World Wide Web, the pillars of user-generated content and interactivity began to increase the depth and accessibility of that information.

Kamel Boulous and Wheeler characterize Web 2.0 as “a more human approach to interactivity on the Web, [which] better supports group interaction and fosters a greater sense of community in a potentially ‘cold’ social environment” (2007: 3). The authors describe social media as tools that bring people together in spite of disagreements or differences. While this is a highly optimistic view of these tools, Web 2.0 is in many ways an evolution (rather than a revolution) of communicating online. As Licklider and Taylor discuss decades prior, “on-line interactive communities... will be communities not of common location, but of common interest” (1968: 37-38). The common thread between these views is that Web 2.0 is concerned with users connecting along lines of mutual purpose and understanding. Communicating over the Internet has become more than communicating for the sake of communicating; rather a greater priority is now placed on seeking out and cultivating new connections.

An alternate view of the use of social media is related to the idea that social

media provide a window into the lives of others. Neidzviecki hypothesizes that the rise of social media was driven by a desire to watch and to be watched, or a “Peep culture”.

Peep culture is reality TV, YouTube, Twitter, Flickr, MySpace and Facebook. It’s blogs, chat rooms, amateur porn sites, virally spread digital movies of a fat kid pretending to be a Jedi Knight, cell phone photos – posted online- of your drunk friend making out with her ex-boyfriend, and citizen surveillance. Peep is the backbone of Web 2.0 and the engine of corporate and government data mining. It’s like the famous line about pornography: you know it when you see it. All the time, every day, everywhere.

(Neidzviecki, 2009: 2-3)

This hunger for information about our friends and neighbours was not created upon the emergence of social media, however has perpetuated with each advance of new technology. As McLuhan and Fiore write, “the older, traditional ideas of private, isolated thoughts and actions – the patterns of mechanistic technologies – are very seriously threatened by new methods of instantaneous electronic information retrieval” (1967: 12). Even decades earlier, the correlation between increased connectivity and the public’s desire for information was evident to communication scholars.

Evidence of this new Web environment can be seen in the popularity of social networking websites (SNSs), which can be characterized as online mediated communities (Goodings, Locke & Brown, 2007). They allow users to create public profiles for themselves, connect with other users through messages, and share data such as text and images (Goodings, Locke & Brown, 2007). boyd<sup>1</sup> and Ellison offer a definition of SNSs within the boundaries of three specific characteristics:

web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their

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<sup>1</sup> danah boyd’s name is spelled in lowercase (<http://www.danah.org/name.html>)

list of connections and those made by others within the system. The nature and nomenclature of these connections may vary from site to site.

(boyd & Ellison, 2007: 211)

The final sentence of that definition reveals the flexible aspect of SNSs: each tool possesses many of the same characteristics, yet offers something unique to users.

Examples of the uses SNSs include dating and romance (Friendster.com), friendships (MySpace.com) or employment (LinkedIn.com) (Ellison, Steinfield & Lampe, 2007).

The most popular SNS is Facebook, with over 500 million active users, more than half of which log on every day (Facebook, 2010). Created in 2004 as a website for Harvard University students to interact, Facebook users each have “a personalized profile page which contains personal information and a list of friends. Users may send messages to one another, join topical social groups, and share photographs, weblog posts and brief public messages on a bulletin board called ‘the wall’” (Golder, Wilkinson & Huberman, 2007: 2). Facebook is an example of how SNSs provide multiple tools for users on a single platform.

### ***Twitter***

Twitter sits at the intersection between blogs and SNSs because it combines the simplicity and immediacy of blogs with the subscription and connection aspects of social networks. Twitter is a social network where users publish short messages (or “Tweets”; a maximum of 140 characters each) about any topic that interests them (Huberman, Romero & Wu, 2009). Each user has a personalized aggregated feed of messages from users that they have chosen to subscribe to, or “follow” (Jansen, Zhang, Sobel & Chowdury, 2009). While popular for personal use, media organizations, businesses and

government agencies have begun to make use of it to connect with users who are interested in their messages.

Twitter users publish and share a variety of content, “whether it’s breaking news, a local traffic jam, a deal at your favorite shop or a funny pick-me-up from a friend, Twitter keeps you informed with what matters most to you today and helps you discover what might matter to you most tomorrow” (Twitter, 2010a: para. 1). To summarize, the medium provides users with access to almost instantaneous information on a subscription basis. Understanding the definition of a blogs provided earlier, Twitter has been described as a “microblogging” tool because posts are much shorter than blog posts, making the tool intuitive for use with text messages (short message service; SMS) on mobile phones (Barnes, 2009). Twitter currently has a membership of over 145 million users (Twitter, 2010b). While this number is less than Facebook, Twitter is one of the fastest expanding social media sites, growing “1,448 percent year over year, from 1.2 million unique visitors in May 2008 to 18.2 million in 2009” (Nielson, 2009a). Neidzviecki posits that much of the appeal of Twitter is that it is “connection with very low expectation” (2009: 129).

The social nature of Web 2.0 tools creates an electronic word-of-mouth effect, and Twitter is an example of this in action. The notion of a user spreading a message to their personal network about their experiences with a product or service (positive or negative) can be influential (Smith & Chaffey, 2002). Jansen, Zhang, Sobel and Chowdury found that:

microblogging is a potentially rich avenue for companies to explore as part of their overall branding strategy. Customer brand perceptions and purchasing decisions appear increasingly influenced by Web communications and social networking services, as consumers

increasingly use these communication technologies for trusted sources of information, insights, and opinions. This trend offers new opportunities to build brand relationships with potential customers and [electronic word of mouth] communication platforms.

(Jansen, Zhang, Sobel & Chowdury, 2009: 2186)

There are two main implications to be drawn from this argument. Firstly, conversations about an organization's brand will take place on Twitter regardless of that organization's use of the medium. An organization would benefit from being a participant in the discussions. Secondly, Twitter is a representation of one of the principles of Web 2.0: users sharing information with their networks. There is validity in providing information through a medium where it is easier for this information to be passed along through electronic word-of-mouth.

There is an important point along these lines in terms of credibility. While Twitter is not isolated from hoaxes and false identities seen elsewhere on the Internet, legitimate online identities offer users a chance to subscribe to messages from users that they are interested in. Beyond simple *interest*, this act of opting in to a user's messages is a way to demonstrate credibility and trust. When a user then endorses a message to their own subscribers, this is a referral is more trusted than a traditional broadcasted message.

While academic research about microblogging is limited, anecdotal evidence suggests that Twitter is being used in a variety of ways to disseminate information. As Cashmore explains, "newspapers use Twitter as both a source of stories and a way to distribute their own headlines. Many of the top Twitter users are news agencies, and Twitter members have been known to Tweet about breaking news hours before its coverage on television" (2009: ii). The 2008 election of U.S. President Barack Obama has provided opportunities for communication scholars; the backbone of the successful

campaign relied heavily on social media tools, including Twitter (Carney, 2008). As Obama's campaign manager reflects:

We realized that a smart, and large, Internet presence was the best way to provide people with the opportunity and the tools to get involved in the campaign – they were already immersed in the world of technology and would be more likely to encounter us there. We met people where they lived, instead of forcing them to deviate from their habits or lifestyle to seek us out.

(Plouffe, 2009: 378)

As microblogging gains further popularity, more empirical research will be performed to learn more about its effects on communicators and audiences.

## **Crisis Models**

Before reviewing some of the relevant crisis decision-making models, the concept of a crisis must first be defined. The word “crisis” conjures up visions of chaos and destruction. Coombs argues that “[c]rises are largely perceptual. If stakeholders believe there is a crisis, the organization is in a crisis unless it can successfully persuade stakeholders that it is not” (2008: 99). However, an emotion-based definition such as this places crisis decision-makers on their heels. Is the situation not a crisis if the public is unaware? In an organizational context, Ulmer, Sellnow and Seeger offer a working definition of “a specific, *unexpected*, and *nonroutine* event or series of events that create high levels of *uncertainty* and *threaten* or are perceived to threaten an organization's *high-priority goals*” (2007: 7, *emphasis in original*). Eid provides a definition of a crisis as “a situation of sudden threat of destruction to the basics of a system combined with uncertainty as to the unfolding of events” (2008: 44). He establishes seven distinctive

categories on the same continuum for stress situations: problem, accident, disaster, terrorism, conflict, crisis and war.

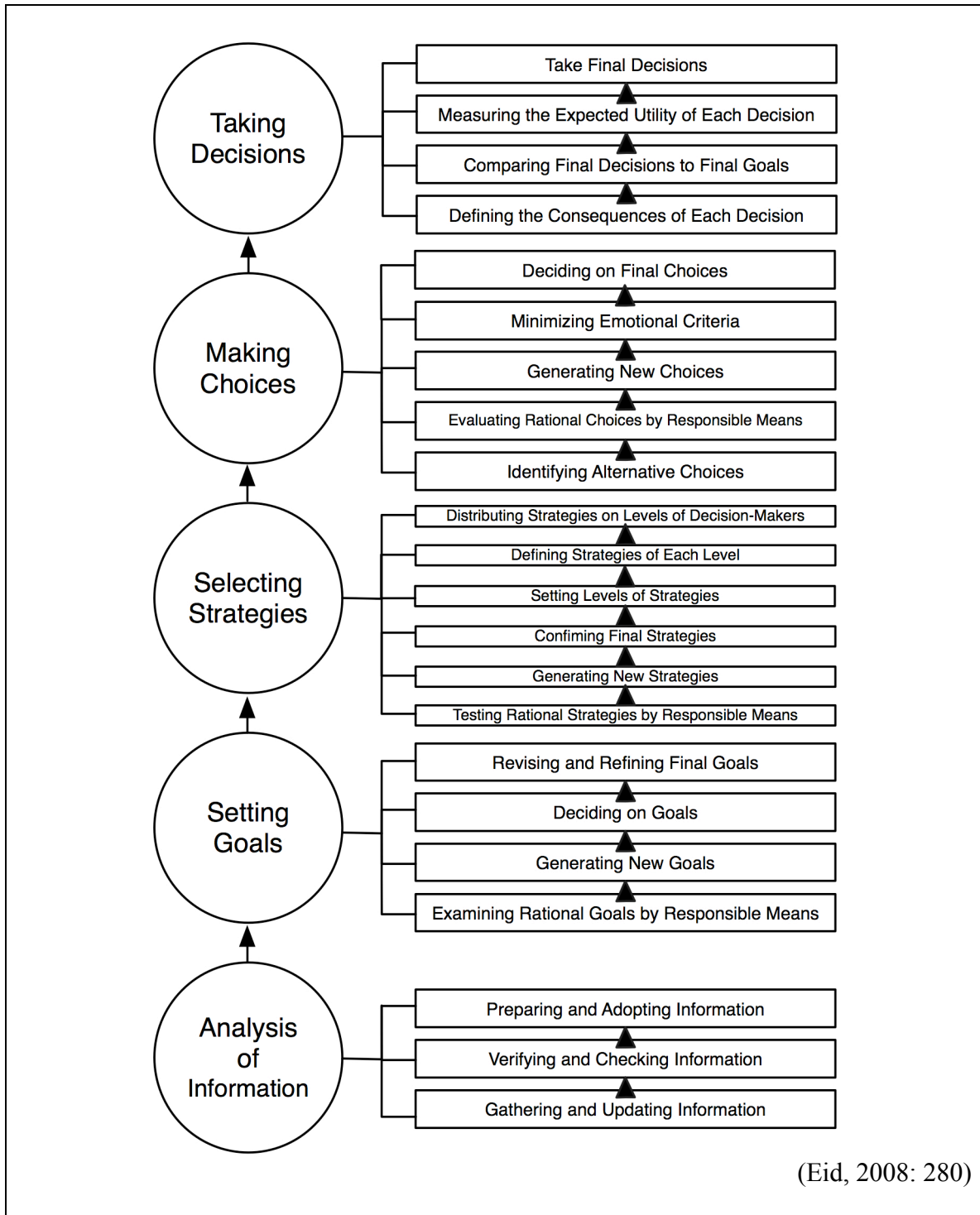
Fearn-Banks (2007) identifies five stages to every crisis: detection, prevention or preparation, containment, recovery, and learning. In a similar vein, Coombs writes that there are three phases of crisis management: “pre-crisis, crisis response, and post-crisis” (2009: 99). The common theme between these two perspectives is that crisis management involves preparation and planning, responding to the crisis itself, and acting after the crisis. There are several types of crises, the implications of which are dependent on the players involved. Ulmer, Sellnow and Seeger (2001) divide crises into two categories: intentional and unintentional. Intentional crises are “initiated by intentional acts designed to harm an organization” (Ulmer, Sellnow & Seeger, 2001: 9). The seven subcategories provided for this example include terrorism, sabotage, workplace violence, poor employee relationships, poor risk management, hostile takeovers and unethical leadership (Ulmer, Sellnow & Seeger, 2001). Unintentional crises include natural disasters, disease outbreaks, unforeseeable technical interactions, product failure and downturns in the economy (Ulmer, Sellnow & Seeger, 2001). There are many types of crises that could threaten an organization and even though they may be unintentional they can still be prepared for.

### ***Crisis Decision-Making Model for Media Rational Responsibility***

Eid (2008) puts forth the Crisis Decision-Making Model for Media Rational Responsibility (CD<sub>M</sub><sup>3</sup><sub>R</sub><sup>2</sup>) as a guide for rational and responsible decision-making

during a crisis. For the thesis, only the most relevant component of this model is used, which concerns the media's crisis decision-making (see *Figure 1*).

**Figure 1: The Media's Crisis-Decision-Making, a component of the CD\_M<sup>3</sup>\_R<sup>2</sup>**



This is significant for studying the current phenomenon because it focuses on the decision-making processes used by crisis communicators. Similar to the City of Ottawa Twitter program, the media are seen as having an ethical responsibility to the public to provide accurate and timely information. The CD\_M<sup>3</sup>\_R<sup>2</sup> helps guide decision-making from the collection of information through to taking the final decisions. Eid explains that this component of the model:

consists of five consecutive and successive actions. Also, the involved actions in each task have the same nature as the tasks themselves. The five tasks are: 1) analysis of information; 2) setting goals; 3) selecting strategies; 4) making choices; and 5) taking decisions. To fulfill each of these tasks, there are actions that need to be taken.

(Eid, 2008: 279)

To complete the first task, analysis of information, Eid (2008) states that decision-makers must gather and update, verify and check, and prepare and adopt information. He underscores that “there should be a careful analysis of the information that is to be incorporated into the news in order to avoid being guilty in cases of unethical practices by journalists” (Eid, 2008: 279). Eid cites examples such as a 2003 case where a *New York Times* journalist was found to have fabricated complete stories, and a *Los Angeles Times* staff member that doctored a photo of the Iraq War. In this first task, Eid establishes checks and balances to ensure the disseminated information is correct.

For the second task, setting goals, he proposes a set of actions that includes drawing from the other components of the CD\_M<sup>3</sup>\_R<sup>2</sup>, specifically “the rational goals coming from the ‘rational thinking’ component should be examined by measures of the ‘responsible conduct’ component” (Eid, 2008: 279). The other components he refers to must be reflected upon here because they have implications for the rest of the discussion.

He explains that “the components ‘rational thinking’ and ‘responsible conduct’ of the media work as the two balancing sides of a weighing scale, i.e. two forces or strengths whose influences are directed towards a third component – that of crisis decision-making” (Eid, 2008: 266). In other words, the component of the model that this thesis is concerned with is *informed by* the balance between “rational thinking” and “responsible conduct”. Concluding this second task, “new goals other than those rationally suggested should be generated, final goals should be decided, and then the final goals should be revised and refined” (Eid, 2008: 279). This allows the media decision-makers to establish clear and tested objectives.

For the third task, Eid draws upon the same two components of the CD\_M<sup>3</sup>\_R<sup>2</sup>.

Understanding that this task calls for selecting strategies; he states:

the strategies suggested in the “rational thinking” component should be tested by the measures of the “responsible conduct” component; new strategies should be generated, final strategies should be confirmed, levels of strategies should be set, strategies of each level should be defined, and strategies should be distributed to the media decision-makers.

(Eid, 2008: 279)

This is a logical progression for this component of the model: it makes sense that strategies should be selected after setting goals during a crisis. Here, Eid proposes a comprehensive set of strategic planning actions that need to be undertaken. This begins the same way as with the previous task, by testing rational thinking against the benchmarks of responsible conduct. Once this is accomplished and new strategies are established, Eid proposes a process to move forward.

For the fourth task, making choices, Eid states that “new choices should be generated, choices should be adjusted, emotional criteria in making choices should be minimized, and final choices should be decided” (2008: 281). The key point Eid makes

here is that “the evaluation of rational choices by ethical principles will lead to the selection of a better choice” (Eid, 2008: 281).

Finally, for the fifth task of taking decisions, Eid proposes that media professionals take the following actions: “the consequences of each decision should be defined, decisions should be compared to final goals, the expected utility of each decision should be measured, and then final decisions should be taken” (Eid, 2008: 282). This can be seen as a sort of check-and-balance process. By taking the time to reflect upon the potential pitfalls of the final choices, while reflecting upon these choices in relation to the goals established earlier, the decision-making will be more effective.

### ***CAUSE Model***

Rowan, Botan, Krepes, Samoilenko and Farnsworth propose five goals for communicators when working in crisis situations: “confidence, awareness, understanding, satisfaction (with proposed solutions) and enactment, or moving from agreement to action” (2008: 173). They put forth this model in the context of emergency managers, specifically when communicating with the public both prior to and during a crisis.

The authors stress the importance of emergency officials being able to gain the confidence of the public. If the audience trusts the communicator, it will be more likely to comply with instructions. They provide the example of the fact that “local officials who are trying to encourage household preparedness for pandemic flu, severe storms, or power outages must deal with a good deal of un-informed skepticism” (Rowan, Botan, Krepes, Samoilenko & Farnsworth, 2008: 173). In the midst of a crisis, a credibility gap can be dangerous. If the public is uncertain about the leadership or integrity of those

responsible for responding to a crisis, this will make communicating more difficult for decision-makers. Rowan, Botan, Krepes, Samoilenko and Farnsworth propose training spokespersons, focusing on at-risk groups and community outreach as methods to help build confidence.

For the awareness component of the CAUSE model, the authors state that “warnings must be *detected, decoded, interpreted, and confirmed*” (Rowan, Botan, Krepes, Samoilenko & Farnsworth, 2008: 176, *emphasis in original*). When a warning signal is put out, ranging from a siren to a piece of literature, the public must both receive it and understand it. If the public does not interpret a message in the intended manner, they will not take the recommended steps. Finally, if a particular threat is not confirmed, another response gap may exist. The authors draw upon the example of a tornado warning, in that even if a family understands that there is a tornado warning, they may not take action right away. Instead, “they talk to one another about what they have heard and how others are planning to respond” (Rowan, Botan, Krepes, Samoilenko & Farnsworth, 2008: 176). On this note, the authors suggest that repetition is the best method for addressing issues of awareness. If the audience hears a warning enough, they are more likely to comply.

It can be challenging to understand some messages during a crisis. The authors draw a significant distinction here:

efforts to deepen understanding are needed when people pronounce the terms in a message and understand the terms’ referents, but do not understand the intended meanings of key terms, cannot visualize a complex structure or process, or have an intuitive notion inconsistent with that of widely accepted expert knowledge.

(Rowan, Botan, Krepes, Samoilenko & Farnsworth, 2008: 178)

This is another perception gap that crisis communicators need to be concerned with. By using language that the audience does not understand, information can be lost or misinterpreted. The authors put forward the example that the public would not know the difference between the terms “tornado watch” and “tornado warning”, though the terms may be commonly used by emergency planning professionals. However, sometimes technical language cannot be avoided due to the subject matter. To reconcile this, the authors recommend a hybrid concept: “good quasi-scientific explanations contain features such as diagrams, analogies, headings, titles, and previous statements (e.g. the five parts of the radar are ...) that assist people in seeing the ‘big picture’” (Rowan, Botan, Krepes, Samoilenko & Farnsworth, 2008: 178). This is a difficult balance to strike: the integrity of technical information with both the interest level and knowledge of the public.

If the public is unsatisfied with the identified solutions, there is another point of contention that needs to be addressed. More specifically, if the audience feels as though the problem is not probable or severe, or if the solution is too costly or will not work, they will be less likely to take the prescribed action. Crisis communicators need to address a number of barriers when recommending solutions. For example, the authors provide some hypothetical questions the public may ask themselves:

- How likely is it that the pandemic flu would keep me housebound for weeks?
- How badly would I suffer if I did not have a battery-powered radio during a power outage?
- I know I will lose time and money preparing an evacuation plan in case of hurricane. Will the possible benefits outweigh this certain loss?
- Making a paper copy of key cell phone numbers takes time. Will I ever need it?
- Will my friends laugh at me if I seem too worried about emergency preparedness?

(Rowan, Botan, Krepes, Samoilenko & Farnsworth, 2008: 180).

These are legitimate questions for an individual to ask him or herself when encountering a crisis communication message. In turn, the message must demonstrate the risks associated with the crisis. The authors suggest a two-sided persuasion approach, where “emergency messages in other than the most time-urgent situations should start *objectively, fully, and fairly* acknowledging a fair evaluation of the public’s arguments” (Rowan, Botan, Krepes, Samoilenko & Farnsworth, 2008: 181, *emphasis in original*). After which point, if the communicator still feels the action is warranted, then the other side of the story is presented to the audience. This is done to make the audience feel listened to and is a chance for the decision-maker to analyze the public opinion environment. By identifying the major concerns of the audience first and foremost, messages can be better designed to break down barriers.

The final point of the CAUSE model involves motivating the audience to act. The authors identify this as a significant challenge. The ideal emergency response situation is getting the audience to make something part of their daily lives. Drawing from the example of preparing emergency kits, “people may be more likely to adapt and maintain this set of behaviors if they begin to associate them with times when organizing is important such as the beginning of the school year or in connection with sending holiday greeting cards” (Rowan, Botan, Krepes, Samoilenko & Farnsworth, 2008: 182). The audience will be more likely to act if the prescribed action is easy and they feel as though it is worth their time.

## **Government Theories**

The realm of government provides the last set of theories as it is important to recognize the nature of communication in public organizations. The first area the thesis looks at is bureaucracy. The word itself is sometimes used as an argument against governmental procedures or regulations, and it is this point of contention that is drawn from in order to better understand the nature of how governments operate. Crozier's Theory of Bureaucratic Dysfunction is examined in order to identify challenges faced by governmental organizations in terms of processes and procedures. Secondly, the thesis benefits from looking at the principles of New Public Management, as popularized by Margaret Thatcher.

### ***Crozier: Theory of Bureaucratic Dysfunction***

Responding to the Theory of Bureaucracy established by Max Weber decades prior, Crozier writes *The Bureaucratic Phenomenon* in an effort to test Weber's hypotheses. Crozier argues that the word itself "evokes the slowness, the ponderousness, the routine, the complication of procedures, and the maladapted response of 'bureaucratic' organizations to the needs which they should satisfy" (1967: 3).

The author goes on to review two cases, the Parisian Clerical Agency, and the Industrial Monopoly in order to review how bureaucracies actually operate. As it follows, he establishes the Theory of Bureaucratic Dysfunction as an organization that is:

unable to correct its own errors, whose dysfunctions, therefore are part of its reinforcing equilibrium, meets certain criticisms made earlier of the human relations theories of bureaucracy. It is general and systematic; it emphasizes rational patterns instead of the logic of sentiments.

(Crozier, 1967: 195)

Furthermore, he makes the point that a bureaucratic organization will not adapt to change, it will resist it. He argues that the organization will only change when there are no other options left, such as in times of crisis. Crozier writes that decisions will often be made by the senior management and forced upon the rest of the organization.

### ***New Public Management***

Made popular by Prime Minister Margaret Thatcher's work in the 1980s reforming the public service of the United Kingdom, New Public Management (NPM) "expresses the idea that the cumulative flow of policy decisions over the past twenty years has amounted to a substantial shift in the governance and management of the 'state sector'" (Barzelay, 2001: 2-3). The term can be seen as a management philosophy in the realm of government. The overarching principles of NPM have been characterized as follows:

1. Reverting to core functions
2. Decentralizing and devolving authority
3. Limiting the size and scope of government; "rightsizing"
4. Restoring civil society
5. Adopting market principles
6. Managing for results, satisfying citizens, and holding government accountable
7. Empowering employees, citizens and communities
8. Introducing e-government and modern technology

(Andrisani, Hakim & Savas, 2002a: 2)

At a glance, some of these tasks can be seen as a libertarian downsizing of government, however the implications for NPM are wider than that. Through a communication lens, NPM can be seen as an attempt to make government more responsive to its citizens.

Charih and Rouillard (1997) argue that this means treating citizens as clients, in a

relationship where public servants are acting more like entrepreneurs than analysts. To this point, “with the proliferation of new management techniques, there is a departure from bureaucratic government to a new form of organization that favours simple and innovative management... supported by stronger internal and external communications systems” (Charih & Rouillard, 1997: 34). From a larger perspective, NPM is a school of thought that has risen in response to some of the shortcomings identified by Crozier.

### **Communicative Model Characteristics**

This section outlines the effective characteristics of a communicative model vis-à-vis the theories and models discussed in this chapter. It is outside the scope of this thesis to determine effectiveness in the sense that the program was successful or unsuccessful in persuading Ottawa residents to be vaccinated. What the thesis is most concerned with is the *potential* for effectiveness. The argument here is that a program that ignores or fails to possess these characteristics is at a disadvantage when disseminating its crisis messages. By realizing the characteristics outlined here, health crisis decision-makers would have the potential to be more effective. For the thesis, effectiveness is understood as the extent to which the City of Ottawa Twitter program possesses or exhibits these characteristics. These characteristics act as a theoretical framework to guide the research and are rooted in the most relevant threads of knowledge from the ideas outlined in the literature review.

### ***Message Design***

This thesis benefits by looking at possible functions of the messages disseminated using Twitter. During the crisis, different segments of the audience could be persuaded or

informed, either concurrently or successively. The writings of Aristotle and Heidegger provide valuable complementary perspectives. During the beginning of the vaccination clinics, the City of Ottawa may have focused on the early adopters of the vaccine and provided *informative* messages using Twitter. This is in line with Heidegger's view that technology should be used to provide an accurate representation of the truth. Once that group has been addressed, the focus may have turned to *persuasion* for those residents who were not as immediately willing to receive the vaccine. This may have involved dispelling myths regarding the vaccine or breaking down any perceived barriers. Understanding the public opinion environment during the H1N1 crisis, this principle is important. When faced with a confused, skeptical public, a communicative model would be less effective if it did not exhibit this characteristic. This correlates with Aristotle's view of rhetoric, specifically that credibility must be established, the audience's emotions must be understood and strong debate points must be put forth.

Regardless of message function, there is a tension between crisis communication needs and the character limit for Twitter messages. Specifically in health communication, technical terms and instructions often require in-depth explanation, while the chosen medium is not well suited to thorough wording. This is a challenging balance. A communicator may compensate for this character limit by abbreviating words, fragmenting the information into more than one message, or providing link for further information-seeking. The sacrifice for any of these options is *clarity*, as the messages chosen to compensate for the character limit must still be understood by the public. The element of consistency is also significant, as it ensures that the communicator is not re-negotiating terms after a meaning as already been established. Drawing from the aspects

outlined in the CAUSE model for crisis communication, messages need to raise awareness of the issue using understandable language, as well as ensure the audience is satisfied with the recommended solutions.

Message design is significant for an effective communicative model because it represents the public face of a campaign. These messages, read by Ottawa residents, may or may not have influenced their actions. As discussed in Chapter 1, messages such as these can work for or against a crisis decision-maker. Understanding this, message design that fails to exhibit these characteristics would be less effective. For the audience, this could mean the difference between success and chaos. Thus, the significance for crisis decision-makers is to understand how to use appropriate words and phrases to communicate messages more effectively.

### ***Two-Way Interaction with the Audience***

The second piece that guides the study is the notion that the model should include a two-way interaction with the audience. This point is drawn from several theories discussed in this chapter. The principles of NPM call upon governments to look at its citizens as customers and to remember “satisfaction of the needs of these consumers, as identified by participation, consultation and the new marketing techniques, is the ultimate goal of public administration” (Charih & Rouillard, 1997: 39). This more audience-focused relationship must be in stark contrast to the picture of unresponsive bureaucracies painted by Crozier. If using social media can be seen as a step towards making government more efficient, then these tools must be used to their full potential.

In the deepest sense, this is the responsibility for a government to respond to its citizens' needs. Social media such as Twitter are founded on the concept of interactivity. What would a social network be if it were only one person participating? Social media can be seen as incarnations of Rousseau's vision of a society where every person buys into the same set of rules and is moving in a collective direction, yet each still remains independent. User-submitted content on an SNS is one example of a group of people engaging in a group dialogue and sharing knowledge to further the community's social capital. For the City of Ottawa program, this means using Twitter in the same manner that citizens use it, by interacting openly.

Leveraging social media for communicating with an audience *invites* two-way interaction. Tools such as Twitter are venues where users interact promptly and openly. Users subscribe to messages from individuals and organizations they care about for exactly that reason: to create connections of common interest. The significance for an effective communicative model is being able to anticipate and appropriately address user comments and questions. Like message design, the significance here is that a program that fails to interact with users would be less effective. For crisis communicators this means the choice between a dialogue and a monologue; open or closed.

### ***Decision-Making***

The two crisis communication models outlined earlier provide strong points to draw upon for decision-makers involved with the Twitter program. On one hand, it is important to establish constructs to ensure the most appropriate decisions are made. At the same time, it is important to avoid the shortcomings of bureaucracies discussed by Crozier. These

internal processes are vital to ensuring the message being disseminated is relevant and accurate. In the case of the City of Ottawa, the process involves getting necessary information from a clinic or from a decision-maker, developing that message, and posting it in a timely manner.

To this end, the thesis is concerned with effective decision-making by City of Ottawa employees. Decision-makers need to have the appropriate information, tools and environment to review options and make choices. Eid's CD\_M<sup>3</sup>\_R<sup>2</sup> makes this distinction by acknowledging that there are a number of important areas to evaluate before making a final decision. The CAUSE model supports this by putting the audience at the forefront of crisis decision-making. Drawing from both these models, it is evident that decision-making should follow a clear, consistent process in order to make choices that positively affect the audience.

The significance for an effective communicative model is that a program will be less effective if it does not have the appropriate decision-making supports and processes. Without a view of what is on the horizon, employees are flying blind and will be less effective when making choices. In a public health crisis that involves communicating with an emotional and skeptical public, effective decision-making should be paramount. In turn, crisis decision-makers will benefit from fewer difficulties and a greater potential for success.

Rooted in Aristotle and Rousseau's ideas and driven by the theories outlined in this chapter, the thesis now has a theoretical framework to guide the research. An effective communicative model should be cognizant of understandable, consistent message design. Communicators also must be certain that social media are being utilized

in ways that respect how the audience itself uses the tools. Finally, the decision-making processes must be clearly defined, while responsive to the audience's needs.

## Chapter 3

### **Research Design and Methodology**

Based on the context and the theoretical framework provided in the previous chapters, this chapter outlines the method by which the study was conducted.

#### **Concepts**

Before establishing a method to explore this topic, the investigated concepts must be set out. Neuman defines conceptualization as “the process [of] developing clear, rigorous, systematic conceptual definitions for abstract ideas [and] concepts” (2007: 208). To this end, working definitions are established vis-à-vis the effective communicative model characteristics. The concepts here are public health crisis, persuasive message, informative message, consistency, interactivity, abbreviation, fragmentation and information-seeking.

#### ***Public Health Crisis***

As discussed earlier, a crisis can be either escalated or de-escalated by the actions taken by communicators (Eid, 2008). To Eid, a crisis is “a situation of sudden threat of destruction to the basics of a system combined with uncertainty as to the unfolding of events” (2008: 44). This has implications for both the state of mind of the audience and the nature of the communication being undertaken. Others characterize individuals during a crisis as worrisome and fearful (Lachlan & Spence, 2007). This is the general construct that is used for this thesis. To make this applicable to public health, the situation

presented by Eid in this context is a global influenza pandemic.

### ***Persuasive Message***

Understanding that the two possible functions of messages identified by the theoretical framework is persuading or informing, concepts for each of these should be established.

Drawing upon Aristotle's views on rhetoric, and understanding the need to analyze individual messages, a Neo-Aristotelian rhetorical criticism provides guidance. The five canons of rhetoric for this kind of criticism are:

(a) *invention*, the development of the persuasive arguments through *ethos*, the credibility of the speaker, *pathos*, appealing to the emotions of the audience, and *logos*, presenting logical evidence; (b) *disposition*, the organization of a persuasive message; (c) *elocution*, a speaker's style or use of language to express ideas; (d) *delivery*, the nonverbal manner in which a speaker presents a message; and (e) *memory*, the strategy a speaker employs to recall information for a presentation.

(Frey, Botan & Kreps, 2008: 569, *emphasis in original*)

For the purpose of establishing a working definition of persuasion, only the first canon guides the research. While the others are relevant to the overall nature of a debate, the thesis is concerned here with only the messages at face value. An attempt at persuasion would be less likely to be effective if it did not exhibit one of the three components of the *invention* canon. Thus, a persuasive message is defined as any message that appears to establish credibility of the communicator, appeal to the emotions of the audience or put forth an argument.

### ***Informative Message***

Inversely, there is the informative nature of messages. While like persuasive messages this category is not mutually exclusive, a concept must be established for messages used for informational purposes. Heidegger's view of technology as a representation of truth is a valid perspective here. If "technology is a mode of revealing" (Heidegger, 1977: 13) the truth, then the use of Twitter for informative purposes would be providing unedited facts to an audience. An alternate perspective to take may be not what an informative message *is*, but rather what it *is not*. For example, if a message were to not fall within the conceptual definition of a persuasive message (as it did not appear to establish credibility of the communicator, appeal to the emotions of the audience, or provide arguments), does it automatically qualify as an informative message? In some ways, this is possible. While acknowledging that some persuasive messages are informative, and some informative messages are persuasive, the thesis seeks to categorize messages and distinguish between the two. Understanding that this is a qualitative study, a reasonable amount of interpretation power must exist with the researcher. To guide this interpretation, an informative message is defined as any message that communicates a fact in a non-persuasive manner.

### ***Consistency***

The fundamentals of branding indicate that repetition is necessary in order to establish an identity in the minds of the audience. More simply, words and symbols chosen during a communication campaign should be consistent in order to avoid having to reconstruct or re-explain previously established norms. For example, an organization would be remiss if

it dramatically altered its slogan or logo identifiers on a weekly basis. The audience would become confused about the mission and benefits of the organization as they would be constantly reintroduced what the organization stands for. The choice of language can be looked at the same way. When a communicator and an audience successfully establish a meaning for something, it is counter-productive to undermine that meaning by changing or contradicting it frequently. For the purposes of this thesis, consistency is defined as instances of using uniform words or symbols on a continuous basis.

### ***Interactivity***

One of the characteristics of Web 2.0 tools is the ability for users to interact with one another. This can be seen as a broad term, however communication scholars and professionals can provide some relevant interpretations. For Bernays, public relations is "an art applied to a science... a two-way street... [where the public relations practitioner] interprets his client to the public [and] interprets the public to the client" (Tye, 1998: 91). This is the same general concept of interactivity being a dialogue, not a monologue. NPM has implications here, as it demands that government treat citizens as clients. For this case, interactivity is defined as any instance of direct response to an individual user. This construct covers instances such as responding to a user question or participating in an online dialogue with another user.

### ***Abbreviation***

Twitter requires each message be 140 characters or less (including spaces and punctuation), which raises significant issues for the clarity of information transmitted

using this medium. While communicating in a crisis features higher stakes, this can be even more problematic when attempting to disseminate technical health information. One such recourse for adapting to the character limit would be using abbreviations to shorten words and terms. This study benefits from looking at how this was done for the present case. For the purposes of this study, abbreviation is defined as the shortening of a word or phrase.

### ***Fragmentation***

A second recourse for adapting to the Twitter character limit is dividing longer messages into more than one message. This would allow the communicator to avoid abbreviations. The risk is having members of the audience miss the second (or subsequent messages), and the full amount of information not being received. For this case, fragmentation is considered any instance where a single message is divided into two or more separate messages.

### ***Opportunities for Information-Seeking***

A third recourse for adapting to a medium with such limitations is to link followers with supporting resources for further research. Regardless of this notion being a compromise on clear messaging, providing opportunities for further information-seeking is also a benefit to the audience. Especially during a crisis, “if... emotional reactions to traumatic events are related to an underlying information shortage, people should attempt to reduce their uncertainty about the event by trying to learn more” (Boyle, Schmierbach & Armstrong, 2004: 157). Keeping in mind that a key motivator of online health

information-seeking is reducing uncertainty, a crisis communication program would be less effective if it did not provide an avenue for that action (Morahan-Martin, 2004). For the purposes of this thesis, an opportunity for information-seeking is defined as any instance of a point of contact or the location of additional resources being identified by the communicator.

## **Research Design**

This thesis uses a case study approach. According to Creswell, researching using a case study method “involves the study of an issue explored through one or more cases within a bounded system (i.e., a setting, a context)” (2007: 73). For this thesis, the bounded system is the use of microblogging by the City of Ottawa and during its H1N1 mass-vaccination clinics. The time frame of this study is from October 25, 2009 to December 23, 2009 – from the beginning of the clinics to the wind down of the busiest part of the campaign (City of Ottawa, 2009b; City of Ottawa, 2009c). This example serves as an intrinsic case study because “the focus is on the case itself (e.g., evaluating a program...) [and] the case presents an unusual or unique situation” (Creswell, 2007: 74).

Other recent Canadian public health crises include the 2003 Severe Acute Respiratory Syndrome (SARS) outbreak in Toronto, the 2003 bovine spongiform encephalopathy (mad cow disease) detection in Canadian beef, the 2008 listeriosis outbreak at Maple Leaf Foods, and the 2000 E. coli contamination in Walkerton, Ontario. In studying these crises, other researchers looking at specific cases have examined at the effects of the crisis on the front-line health care workers in terms of fear, stress and the disease itself (Tolomiczenko et al., 2005; Gearing, Saini & McNeill, 2007; Rambaldini et

al., 2005; Maunder et al., 2003). Since it is appropriate to use a case study approach, this thesis does not focus on the effects of the crisis on individuals involved, but on the decision-making of City of Ottawa employees.

The thesis uses inductive reasoning because it focuses on a specific case, and generalizes the findings to the wider issue of information dissemination using microblogging during a public health crisis. It is a microscopic study for the same reason – the study looks into only the City of Ottawa example instead of how other jurisdictions dealt with the same crisis. If a communicative model is identified based on these findings, it could be used elsewhere in other contexts.

This study has several delimitations that are important to identify. The effectiveness of messaging, such as the influence of media on residents, is not studied. The thesis does not attempt to evaluate the medium, instead explores its use in this particular situation. The credibility of Twitter as a medium is not considered in this study. While it is true that Aristotle underscores the importance of the messenger in convincing an audience, his writings are drawn upon to better understand the fundamentals of communicating a message. Credibility is looked at in line with the concept established earlier in the chapter.

Furthermore, understanding that this is an exploratory study, and similar studies have not yet been undertaken, only the English-language messages are considered in this study. This is not only because of the abilities of the researcher, but also since these Twitter accounts existed separately and were each intended to be stand-alone sources of information for residents. Significant implications can be drawn from these first steps, and these findings serve as strong starting points for future research in any number of

languages. It is also important to note that English was the more popular of the two Twitter accounts, with approximately 2,200 subscribers (followers). Far fewer residents subscribed to the City of Ottawa's French-language Twitter account in comparison (approximately 50).

The research design helped maintain both reliability and validity for the research findings. On the first note, Neuman says "reliability means dependency or consistency" (2007: 222). In qualitative studies such as this, researchers are concerned with being consistent in how they make observations over a number of different data collection tools, and over a period of time (Neuman, 2007). For example, this is accomplished in the thesis by using the same interview guide for each in-depth interview. By being consistent in the methods for this data collection tool, the findings are more reliable. Validity is concerned with the truth, but more specifically "qualitative researchers are more interested in authentic than the idea of a single version of truth. *Authenticity* means giving a fair, honest, and balanced account of social life from the viewpoint of someone who lives it every day" (Neuman, 2007: 222, *emphasis in original*). Validity is maintained in the thesis by the informed consent process. Interviewees are ensured that their responses will remain confidential, and that they are not coerced in any way. Furthermore, the concepts set out earlier in the chapter are tested rigorously for each data collection tool. The findings are authentic because the appropriate questions are asked and the necessary areas are focused on vis-à-vis the conceptual definitions.

## Research Questions

Understanding that this thesis employs a case study approach, research questions and sub-questions are established to guide the methodology. These questions are informed by the characteristics of an effective communicative model and assist in measuring the concepts defined at the beginning of this chapter. This study uses three main research questions and eight sub-questions:

RQ1: What types of messages were disseminated?

RQ1a: How were the messages consistent?

RQ1b: How were messages modified based for the Twitter character limit?

RQ1c: How did messages provide opportunities for further information-seeking?

RQ1d: How did employees respond to user questions and comments?

RQ2: What employee decision-making guides existed?

RQ3: What was the structure of the microblogging program?

RQ3a: How did employees make decisions?

RQ3b: What were the program goals?

RQ3c: How did the situation being a crisis affect the program?

RQ3d: How did employees correct mistakes?

As established earlier, an effective communicative model created for these purposes should focus on strong message design, interact with the audience and use appropriate decision-making processes. These research questions can yield rich data related to the theoretical framework and the conceptualized definitions.

## **Data Collection and Analysis**

The research design is a qualitative approach with a case study of the City of Ottawa's Twitter program. This includes in-depth interviews with employees, an analysis of the internal documents used to guide the program, and a textual analysis of the English-language Twitter messages.

### ***Methods***

Creswell posits “the data collection in case study research is typically, extensive, drawing on multiple sources of information, such as observations, interviews, documents, and audiovisual materials” (2007: 75). The study takes this into account, relying on an analysis of documents and in-depth interviews to gather data, a combination of both unobtrusive and intrusive means. This approach yielded significant data related to the operation of the Twitter program.

Analyzing text can help “describe the content, structure, and functions of the messages contained in text” (Frey, Botan & Kreps, 2008: 561) All English-language Twitter messages, documents and guides related to the program were analyzed. The analysis of the Twitter messages yields insight into addressing RQ1 (What types of messages were disseminated?) and its research sub-questions. By reviewing City of Ottawa internal documents, information can be retrieved to address RQ2 (What employee decision-making guides existed?).

According to Ferguson, “interviews enable the researcher to acquire large amounts of information in a relatively short time” (2000: 181). To this end, individual in-

depth interviews were conducted with employees who were involved in the operation of the program. There is significance in understanding the viewpoints of these individuals, as “qualitative researchers emphasize seeing the world from the eyes of the participants in the study and are more holistic (studying the whole person, group, or culture rather than one small, measurable aspect of it)” (Jackson, Gillis & Verberg, 2008: 424). This data collection method provides insight into RQ3 (What was the structure of the microblogging program?) and its research sub-questions.

### ***Sampling Strategy***

This thesis uses a nonprobability sampling strategy, given its qualitative research design. According to Neuman, qualitative researchers “focus on how the sample or small collection of cases, units, or activities illuminates key features of social life.... to collect cases, events, or actions that clarify and deepen understanding” (2008: 346).

Understanding this, the study uses a purposive sampling technique. This is an appropriate strategy for cases where “a researcher uses it to select unique cases that are especially informative” (Neuman, 2008: 348). Ferguson provides the example that a researcher “can learn more about the investment opportunities in Asia by examining a carefully selected sample of newspapers that subscribe to international wire services than by drawing a random sample from an index of newspapers” (2000: 91).

Qualitative studies are concerned with the richness of data yielded from first-hand accounts of participants or actual text from a case. Only the employees who have been directly involved with the program were invited to participate in the study. Interviewing individuals outside of this group would not be relevant to the study. Only the documents

that relate to the carrying out of the program were reviewed. After an initial consultation with the City of Ottawa, these individuals and documents were selected based on the relevancy to the case.

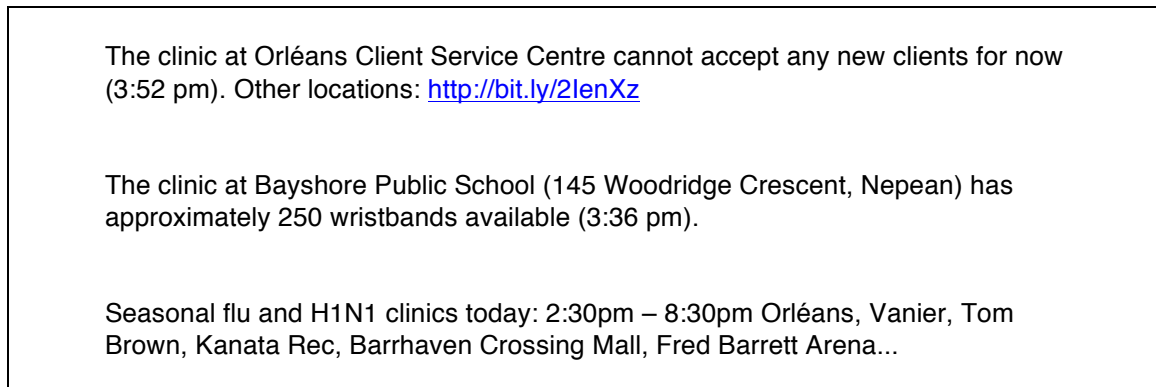
### ***Tools and Procedures***

#### *Microblog Messages*

The first data source is the public face of the Twitter program: the individual Twitter messages that were disseminated during the crisis. For this part of the study, a total of 1,164 Twitter messages were textually analyzed. This includes all Twitter messages sent between the first message (on October 23, 2009) to the final message before a holiday break and wind-down of the busiest part of the campaign (on December 23, 2009). A multi-faceted analysis was chosen as the most appropriate approach to analyze these messages. These include aspects of Neo-Aristotelian criticism for looking at persuasion, focusing on the informative nature of the messages, as well as how messages were adapted to compensate for the character limit. The thesis must look beyond one single aspect of the messages to provide a stronger understanding of the use of microblogging in a crisis situation. By looking at the two possible uses of the medium, either persuasion or information, evidence emerges regarding the possibilities and limitations of the City of Ottawa's use of Twitter. Furthermore, as understood by the effective communicative model characteristics, the thesis must explore how the messages were abbreviated, fragmented, or provided links for further information. While this study is not focused on the direct influence these messages had on the audience, these concepts provide insight into the message quality.

The unit of analysis was each individual time-stamped message. Examples of these are provided in *Figure 2*.

**Figure 2: Examples of Twitter messages**



(City of Ottawa, 2009d)

By analyzing these data, answers to the RQ1 (What types of messages were disseminated?) and its sub-questions were obtained. It was also possible to observe the limitations of the medium of microblogging. Data were exported to a spreadsheet program in order to keep the messages organized during the analysis. These messages are available to the general public, and did not require any additional approval by the City of Ottawa.

### *Organizational Documents*

Five internal City of Ottawa documents were analyzed, obtained with permission from the City of Ottawa. These documents included:

- A document titled *Twitter Canned Messages* consisting of a list of draft Twitter messages

- A document titled *Twitter: A How To Guide (October)* that included a list of what employees needed to disseminate Twitter messages, Twitter login information, employee phone numbers, a proposed schedule of messages and draft messages
- A document titled *Twitter: A How To Guide (December)* with updated content from the October document
- A document with clinic listing messages for a week in November
- On-call schedule for message disseminators for the entire length of the campaign

The rationale for studying these materials is to find answers to RQ2 (What employee decision-making guides existed?).

### *In-Depth Interviews*

As discussed earlier, all employees who were involved with the operation of the program were invited to participate in in-depth interviews. Conducting in-depth interviews with these individuals is an appropriate approach because it helps address RQ3 (What was the structure of the microblogging program?) and its sub-questions. The in-depth interviews also yielded important data for addressing the central purpose of the thesis, determining if the City of Ottawa's Twitter program constitutes a communicative model. The in-depth interviews were conducted after the aforementioned data were analyzed, in order to adapt interview questions where further employee clarification was needed. Interviewees were identified through a liaison at the City of Ottawa.

Thirteen individual in-depth interviews conducted with City of Ottawa employees who were involved with the Twitter program. Three interviewees were responsible for sending the Twitter messages. Outside the crisis, two of these individuals were Project

Officers with the City of Ottawa (one was responsible for updating the City of Ottawa website; one was involved with a youth tobacco prevention program). The remaining interviewee was a receptionist with the public health information line. The other ten interviewees were responsible for reporting updates at the various vaccination clinics. While their job titles before the crisis varied, they were called upon for their roles as emergency responders with the City of Ottawa's Emergency Reception and Lodging Committee. Some also held community centre management positions with the City of Ottawa Parks, Recreation and Culture department.

In-depth interviews have been conducted using a semi-structured guideline, which includes basic questions to guide discussions. Understanding this, the conversations with each interviewee flowed naturally from the responses that were provided. Given the concepts established at the beginning of the chapter, a number of themes were investigated through questions in the the semi-structured guideline. These are considered variables that were measured during this portion of the study. Interview questions were posed to the respondents that concentrated on the following themes:

- Employees' roles in the program and associated responsibilities
- The process employees followed to make decisions. Examples include how employees decided to report information or post Twitter messages (and the content of those messages)
- The goals of the Twitter program and if employees believed that it accomplished those goals
- How employees interacted with other employees who supported the program

- If employees believed the situation constituted a crisis and how that may have affected the program
- How employees interacted with Twitter users and responded to questions

Respondents were interviewed individually and their identities were kept confidential. In addition to the standard ethical clearance by the University of Ottawa Research Ethics Board (*Appendix A*), an internal City of Ottawa policy required the researcher to also obtain a second approval through the Ottawa Public Health Research Ethics Board (*Appendix B*). This was accomplished by submitting a formal request for research ethics review, a research proposal, draft recruitment text for prospective interviewees, the informed consent form, the semi-structured interview guideline, a draft thesis table of contents and the ethics approval notice from the University of Ottawa Research Ethics Board. Once this approval obtained, in order to be convenient for prospective interviewees, in-depth interviews were conducted at the employees' work locations.

It is also important to recognize that the researcher is an employee of the City of Ottawa, and one that participated in the Twitter program during the H1N1 vaccination clinics. The researcher's role for the purposes of this thesis is that of an observer. While the researcher was the interviewer for this part of the study, roles were made clear through informed consent. All procedures established by the University of Ottawa Research Ethics Board and the Ottawa Public Health Research Ethics Board have been adhered to, in order to prevent any biases from influencing the outcome of the study, including the collection and analysis of the data.

Following each of the 13 interviews, the audio recording was transcribed verbatim into Microsoft Word. This audio included both the interviewer and interviewee.

Recordings were listened to repeatedly to ensure the intricacies of each conversation were included.

Following this, each transcript was imported into the qualitative research software NVivo. This software was used to manage and analyze the information. Once importing the transcripts, a first round of coding using the tree node function. These nodes helped code the respondents' answers to the same questions that were posed. This was instrumental in laying out interviewees' responses side-by-side to gauge consistency and to identify dissenting views.

After this initial coding was complete, several additional rounds of coding were done using the free node function. This was used to identify findings that were not covered in the semi-structured interview guidelines. For example, sometimes a respondent would have a story from the field, and important information would arise about the functioning of the program. Since this is qualitative research, the thesis is concerned with emerging themes and findings, and NVivo helped accomplish this.

## Chapter 4

### **Findings and Analysis**

The findings are discussed vis-à-vis the characteristics of an effective communicative model established in the literature review. The research questions and sub-questions are also reflected upon in order to guide the discussion.

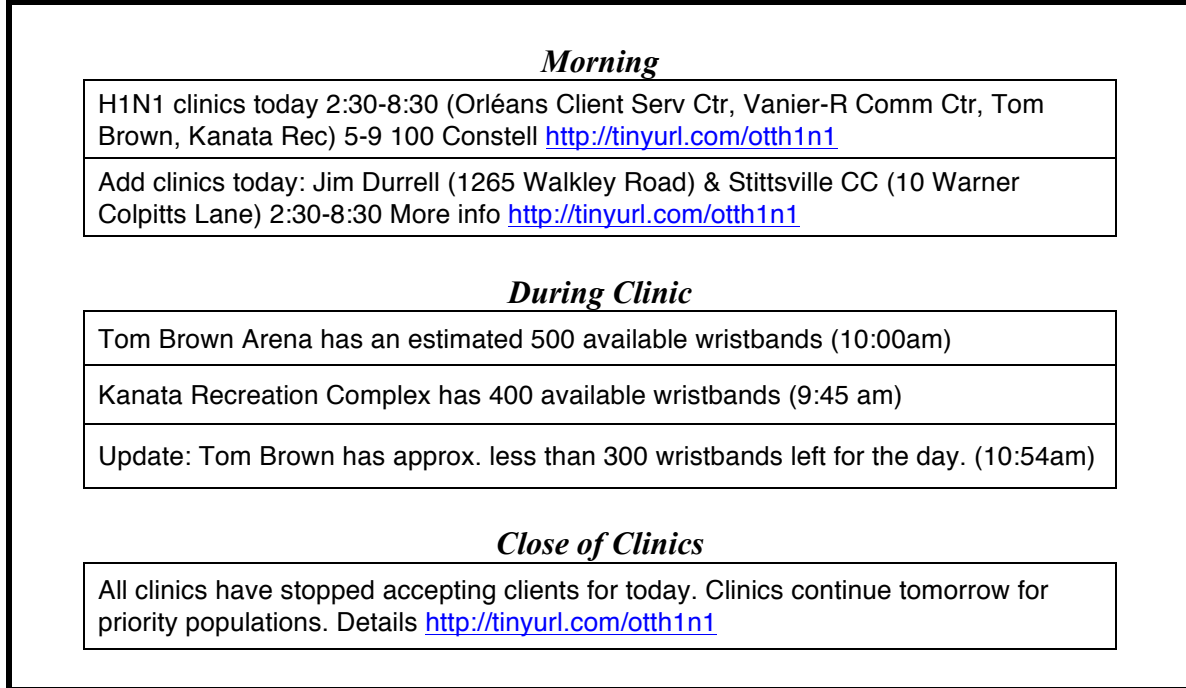
#### **Message Design**

The first characteristics of an effective communicative model are concerned with the design of the messages. This helps address RQ1 (What types of messages were disseminated?) and its accompanying sub-questions. In sum, these questions impose upon the thesis the task of analyzing the quality of the individual messages.

#### ***Messages Were Informative, Not Persuasive***

The majority of Twitter messages focused on program status updates, such as vaccination wait times or clinic closures. There was a consistent structure to the routine daily messages: a message in the morning announcing clinic locations, messages about wait times or wristband availability, and a message at the end of the day with information about protocol for the next day. Examples of the three types of daily messages are included in *Figure 3*.

**Figure 3: Examples of routine daily messages posted to the City of Ottawa Twitter account**



In addition to these routine messages, there were messages linking to press releases and reminders about crowd control procedures. Looking at the bigger picture, all of the program’s Twitter messages were informative in nature. These informative messages reveal a communicator that believes the audience is already convinced that the vaccine will help them.

Inversely, the conceptual definition established earlier for persuasive messages is any message that appears to establish credibility on the part of the communicator, to appeal to the emotions of the audience, or to provide an argument. Once again, these categories are not mutually exclusive. Within this construct, few Twitter messages appeared to have the qualities of a persuasive message. In a general sense, a frequent daily message including the phrase “Find the clinic *closest to you*” (*emphasis added*) is the only example of persuasion that can be identified. This phrasing provides an

argument that a clinic is in close proximity to every household, an attempt to combat impressions that there were barriers to obtaining the vaccine. By stating that the clinics are conveniently located, the City of Ottawa is providing an argument in favour of attending the clinic.

The implications of this should be identified. Firstly, by not attempting to establish credibility as a communicator, the City of Ottawa is assuming that it will be listened to *ex-officio* of being a public health unit. This approach ignores opposition to the vaccination campaign, and instead focuses only on the residents that already consider the organization to be credible. Recalling the public opinion environment discussed earlier, one of skepticism, this is a significant gap in the program's message design.

Secondly, none of the messages attempted to appeal to the emotions of the audience. This is either a success or a shortcoming. In a crisis, it is possible that a public health organization responsible for administering potentially life-saving vaccinations would prefer if the public was stoic. With early adopters already panicking in long line-ups at clinics, perpetuating any feelings of anxiousness to the wider public may make crowd control overwhelming and more challenging. However, an alternative view is that in order to persuade unconvinced residents that the vaccine is necessary, there must be a sense of urgency presented to them. If they feel as though the recommended action (getting vaccinated) will not make a difference, emotion can help counter that complacency.

Thirdly, not providing an argument in favour of getting vaccinated is a not a recommended approach. There were public concerns about the safety and effectiveness of the vaccine; however there does not seem to be any attempt to use Twitter to refute

opposing views or correct misinformation. Overall, with this approach the City of Ottawa has answered every question about *where*, *when* and *how* to get the vaccine, but has failed to answer a more pressing question: *why*?

### ***Messages Were Generally Consistent***

Aside from the routine clinic location names, there were four identifiable terms that are relevant to understanding the consistency of the messages (RQ1a: How were the messages consistent?). The first concerns the reservation system that helped manage the crowd flow at the clinics. Upon arriving at a clinic, residents were provided a wristband indicating a specific time they were to return for their vaccination. This would allow front-line employees to manage client intake based on available resources, thus reducing line-ups and wait times. Twitter was used to notify the public when more wristbands had become available at a particular location, or when a clinic had run out of wristbands. The term “wristband” was used interchangeably with the perceived synonym “bracelet” quite often over the course of the vaccination campaign. It is assumed that each of these words was referring to the same reservation system since there were not any messages indicating otherwise. There is a risk in this inconsistency because residents may be confused between the two words.

Furthermore, early in the campaign the vaccine was only available to certain high-risk members of the public as chosen by the City of Ottawa (or possibly determined by another level of government). This was not a group that was easily distinguished such as residents living in specific neighbourhoods or an age range, as it included:

- People 6 months old to 65-years-old with chronic medical conditions
- Pregnant women
- Healthy children between 6 months and five years of age

- Health care workers
- Household contacts and care providers of infants younger than six months and people with compromised immune systems
- women will also have the option to receive the non-adjuvanted H1N1 vaccine, which is expected to be delivered in mid-November.

(City of Ottawa, 2009e: para. 4)

The short-forms “priority groups” and “priority populations” were used interchangeably in Twitter messages to distinguish this and to reinforce that only these groups would be eligible to be vaccinated. It is likely that complicated terms such as these were explained using other media such as the City of Ottawa website and through news outlets. Once the public understood who qualified as a “priority group”, the short-form used on Twitter is understood. However, the inconsistency between the word “groups” and “populations” is an oversight in the message design.

An additional group was added to qualify for the vaccine in the middle of the campaign: employees of health care institutions that dealt directly with the public. It does not appear as though that this category was added to the original priority group list, as it was distinguished separately in Twitter messages. However, the term used in messages for this group was “*individual front-line* health care workers” (*emphasis added*). Notice the double qualification added to the core job occupation here. It is assumed that the term “individual” was to ensure qualified individuals did not bring members of their family to also receive the vaccine at the same time. Furthermore, these health care workers needed to be working on the “front-line” interacting with patients, rather than working in the office administration. It appears that this term was used consistently throughout the campaign, despite the narrow definition.

Despite the Twitter character limit, the term “vaccination” was almost always used than the shorter equivalent “shot” (used only once, in the first Twitter message sent). The choice of the more technical, longer term is outside the scope of this study, but it does provide insight for the tone of language used in this case. For consistency, aside from the one deviation, the term “vaccination” was used consistently.

***Common and Uncommon Abbreviations Were Used***

The City of Ottawa made frequent use of both common and uncommon abbreviations in its Twitter messages. These can be understood as abbreviations that are commonly used in the English language (see *Figure 4*). Some of these used address identifiers that are used in everyday life and they would not have a significant negative impact on the quality of the messages.

***Figure 4: Examples of abbreviations from Twitter messages that can be considered commonly used***

<i>Abbreviation</i>	<i>Long-form</i>
approx.	approximately
ppl	people
rd	road
st	street
blvd	boulevard
& (ampersand)	and
@ (at sign)	at
2morrow	tomorrow
hrs	hours

Inversely, uncommon abbreviations were used to shorten words and phrases to suit a situation, and perhaps would have not been abbreviated in such a way in another

situation. Many of these concerned the names of the locations of the clinics such as community centres and arenas. An example is included in *Figure 5*.

***Figure 5: An example of a Twitter message using abbreviations that cannot be considered commonly used***

H1N1 clinics today 2:30-8:30 (Orléans Client Serv Ctr, Vanier-R Comm Ctr, Tom Brown, Kanata Rec) 5-9 100 Constell <http://tinyurl.com/otth1n1>

This example demonstrates that the City of Ottawa attempted to include a large amount of information into a 140-character message: the locations and operating times of five different clinics, and a link for further information. Addresses have been mostly omitted from the message in order to ensure all of the clinic names could be included in some way. While it could be argued that these locations may be known to established residents, it is possible that for others this message could not stand alone as a sole source of information. A portion of the audience would need to make use of the link provided to fully understand the location name, seek out an address, and find out if they are eligible for the vaccine. To address RQ1b (How were messages modified based for the Twitter character limit?), it is evident that the City of Ottawa made use of both common and uncommon abbreviations to compensate for the character limit.

### ***Messages Were Fragmented***

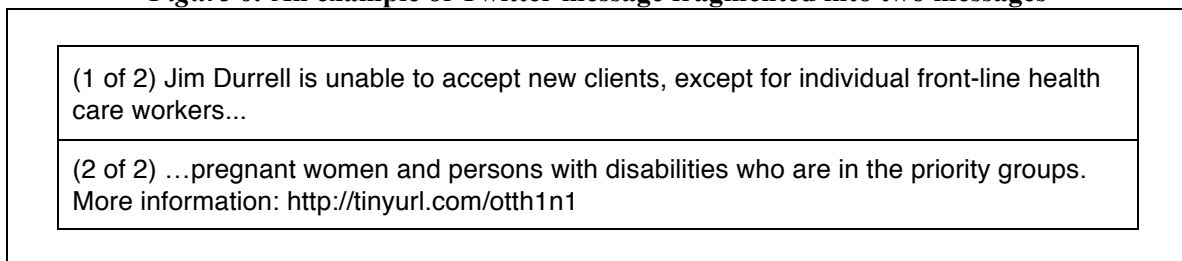
Another compensation for the Twitter character limit would be splitting one message into two (or more) subsequent messages. While this is not a quantitative study, it is worth noting that 42 messages<sup>2</sup> were fragmented (or 3.62 percent of the total). Some of these were identified (i.e. “1 of 2”), while others were appended with ellipses at the end and

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<sup>2</sup> 42 represents the end result of the fragmentation, this means 21 split into two

beginning of the messages. No messages were fragmented into three or more parts, only into two. The break between two messages was sometimes done in a natural manner between sentences, such as the split between a main listing of clinics with the same operating hours and a clinic with different operating hours. However, *Figure 6* shows a fragmentation where this was done in a less natural way.

**Figure 6: An example of Twitter message fragmented into two messages**



This example demonstrates the challenge for communicators in a crisis that involves technical or complex language. Using a medium with a character limit to communicate complicated language sometimes necessitates fragmentation (RQ1b: How were messages modified based for the Twitter character limit?). The risk is having the audience miss the second message. In this example there are two strategies to identify the fragmentation to the audience: the use of ellipses, and “1 of 2” and “2 of 2” identifiers.

### ***Messages Provided a Link for Further Information-Seeking***

As discussed earlier, a third recourse for the Twitter character limit is redirecting users to another location, by an Internet hyperlink or a point of contact such as a phone number.

This tactic has been revealed in some of the figures provided thus far in the chapter.

Through the analysis of the Twitter messages, 222 messages provided a link for further information. This was done often to link users to the generic clinic listing and frequently

asked questions page, appended by default to some messages. This finding is significant for addressing RQ1c (How did messages provide opportunities for further information-seeking?), in that it is evident that a link was provided often to direct residents to a website for more information.

### **Two-Way Interaction with the Audience**

The next characteristic the thesis is concerned with is how the City of Ottawa interacted with users on Twitter. The concept established in the previous chapter was any instance of direct response to a user or a dialogue with a user.

#### ***Users Were Responded to Privately or Ignored***

Two out of the three message disseminators claimed they either did not receive any questions from Twitter users or were not responsible for monitoring for user feedback during the crisis. For the one interviewee that did respond to users, she identified restrictions on how this was done. When asked how and when she responded to users, she stated:

[PARTICIPANT]

If someone posted a question at us, like at Ottawa health, I would try and click on their profile and try to send them a private message. And usually the message would consist... like if it was something logistical, I would answer the question. If it was something health-related, I would direct them with a standard message to call the OPH Information health line... sometimes there was a few times when I clicked on their profile and they didn't have a... like they had disabled their direct message, so at those parts I would just leave, I couldn't respond their message...

This response reveals a program that was hesitant to engage with users beyond the

standard script of announcing wait times. Users were referred, privately when possible (or not at all if not possible), to a different channel of communication to have questions addressed.

She explained that the message disseminators did not publicly respond to questions because the Twitter account also fed information onto the City of Ottawa website: “We really didn’t want to post things because it would appear on the City of Ottawa... they had put a widget on their front page, or the OPH page, so we didn’t want messages going on to that as well.” This statement is consistent with what was found through the analysis of the Twitter messages. The convention on Twitter is to direct a response beginning with the username of the intended recipient (i.e. “@ottawaresident You only need to bring your Ontario health card or driver’s license to the clinic”). In this regard, there were no instances of direct public interaction with users. Further to this, it is important to note that although there were approximately 2,200 followers of the English-language Twitter account, the City of Ottawa did not follow any users in return. The program was most concerned with publishing messages, and not reading messages from other users.

There are two conclusions to be drawn for RQ1d (How did employees respond to user questions and comments?). Firstly, there is a significant deviation among the message disseminators where two of them did not monitor for user feedback or address user questions at all. This is a significant gap for effective communication. Either the message disseminators did not see it as their role, or less emphasis was placed on it when training employees for the program. Secondly, the City of Ottawa’s use of *social* media in this instance was not *social* at all. Limited by a system that published Twitter messages

onto the City of Ottawa website (presumably to make the information more accessible to residents), users seeking engagement were redirected to a general public information phone line.

### **Decision-Making**

The next characteristic of effective communicative models concerns decision-making. Understanding the structure of the program is beneficial in this regard, as it provides insight into the division of tasks and how the information flowed during the crisis response. From here, decision-making processes are appropriately scrutinized and reflected upon.

### ***Two Groups of Employees: Message Disseminators and Clinic Contacts***

The general structure of the program consisted of a centralized on-call employee that would be responsible for sending Twitter messages (message disseminator), and a group of employees that would call the message disseminator to report information about their assigned clinic (clinic contacts).

There were three participants who were message disseminators, who shared a mobile phone to delegate the responsibilities of posting Twitter messages. These individuals were invited to participate for different reasons. Before the crisis, one employee was responsible for updating the City of Ottawa website, while another was assigned because there were no other tasks assigned to her. A third participant indicated that she was included because she was asked if she would like to work additional hours.

Upon receiving a phone call from a clinic, the message disseminator would post a Twitter message with the time, location and clinic status (number of wristbands available, availability to those who did not have wristbands, or if the clinic was no longer accepting clients). If a clinic contact had not updated for a long period of time, the message disseminator would instead call the clinic contact to solicit updated information. The message disseminators made use of prepared messages that they would copy from. The goal was that this would speed up messages and ensure consistency between individuals. However, situations arose throughout the crisis that required that messages be written directly by a message disseminator, as they had not been planned for in advance.

In addition to the reporting and posting of information, the message disseminators would also send e-mails to a distribution list that consisted of senior level managers, nurses and the City of Ottawa information call centre. Furthermore, as the administrator of the Twitter account, they would also be responsible for responding to user questions and comments using the Twitter website. While participants were split on actually receiving any comments from users, the responsibility appears to have fallen in their portfolio.

In contrast to the message disseminators, clinic contacts carried out their roles concurrently to one another. Several participants indicated that they had been recruited to participate in the H1N1 response because of their role on the City of Ottawa's Emergency Reception and Lodging Committee, while others were called upon because of their management role with the Parks, Recreation and Culture department. A clinic contact's role would be to call the centralized Twitter phone number to report the status of their respective clinic. The information provided during this phone call included the wait time

or number of wristbands available at the clinic, and updates about whether or not the clinic was accepting new clients.

Outside the context of the Twitter program, a clinic contact was also seen as the non-clinical site manager. This role included the tasks of supervising employees and implementing crowd control measures such as the wristband system. These individuals had a front-line role during the H1N1 crisis, and worked long days directly interacting with residents, in addition to their reporting responsibilities.

### ***The Two Groups Were Significantly Detached***

While the division of roles was well understood between the message disseminators and the clinic contacts, the clinic contacts were disconnected from the message disseminators from social and feedback perspectives. Some clinic contacts characterized the message disseminators as “mysterious people at the other end of the phone” as they did not know *who* they were, only what they were supposed to do. One participant was able to name a department that they believed the message disseminators were from (Information Technology Services), which was incorrect based on the positions of the other participants (public health workers).

Linked with this was the notion that some (and possibly most) clinic contacts had never used Twitter before. While this was not asked in the in-depth interviews, there were a few instances of participants mentioning that they had never used Twitter in their personal or professional lives. While their roles did not necessitate using the medium, it is concerning that they were sending information to someone that they did not know, to be disseminated through a medium that they had no experience with.

Building on this, when asked if clinic contacts had access to the Twitter messages, it was evident that not all clinic contacts had that ability. There were three common scenarios: a clinic contact was not able to see the Twitter messages, a clinic contact received the messages on a mobile phone automatically, or a clinic contact viewed them when it was convenient based on computer availability at a clinic location. This resulted in an inconsistent feedback loop, where clinic contacts were phoning a centralized number that they felt detached from, and sometimes did not see the result of the call (the Twitter message). Along the same lines, while frequent conference calls among clinic contacts was pointed to as a tool for capacity building, message disseminators were either not invited or did not participate in those calls.

### ***System Was Not Completely Closed***

The general system of clinic contacts forwarding information to message disseminators was not a completely closed system. While this was a consistent perspective of the program, there were a few mentions of other individuals directing information to be sent as well. One clinic contact made reference that occasionally clinical staff would call the Twitter phone number to provide updates (in addition to the official clinic contact). However, most clinic contacts were confident in their ironclad responsibility to be the only spokesperson of their clinic.

Furthermore, a message disseminator expressed concerns that sometimes individuals in management roles would request that complicated protocol information posted to Twitter in addition to the clinic updates. This brief excerpt demonstrates this, as a participant was asked about abbreviating the Twitter messages:

[PARTICIPANT]

...if it was something that you couldn't really abbreviate, I'd just try to play around with the words and the spacing and rephrase it. I know a few times it was probably wasn't a good idea, but I didn't know what to do at the time. I kind of had to do a part one, part two message. Because just what management was asking us to put in the message, you could just not fit it in 140 characters, so I did that a few times on the weekends. But then, it was confusing, so I just stopped doing it.

[INTERVIEWER]

You mentioned what management wanted you to put in there, what can you... can you expand on that a little bit? So there's information from the clinics, as well as management?

[PARTICIPANT]

Yeah, sometimes if the management... like if they had... this is where... because they had priority, so certain populations could get the vaccine before others, so if you were like a young child, or elderly, or pregnant, you got to skip the line basically, and get your shot. So I think that when some clinics closed, they had messages up that was like "clinic is closed, except if you're pregnant, you're elderly, if you're all these things" and to clarify that in people's minds, but you couldn't fit that in 140 characters.

While this was not the designated use of the Twitter program, these examples demonstrate that the process occasionally deviated from the established plan. This reality does not dramatically modify the system, however opens it up to a few exceptions to be cognizant of.

### ***Decision-Making Guides Were Available***

Two Microsoft Word files titled *Twitter: A How To Guide* provided a great deal of context about the operation of the program. One document is identified as "October" and the other as "December". These documents appear to have been used as guides for message disseminators for carrying out their responsibilities. Each document began with a section titled *What You Need*, which consisted of a short list:

1. A computer with Twitter.com access
  2. Schedule of clinics
  3. OPH Twitter Log in information
  4. A schedule and list of names and phone numbers for the Twitter contact people on site (Suggestion: See [employee name] for this [phone number])
  5. Distribution list for email updates
  6. Back up telephone numbers for support
- (name and contact information redacted)*

The remainder of the document consists of a proposed schedule of messages and draft messages that appear to have been routinely used. The December document differs in that it includes some optional health messaging about avoiding the flu, and tips such as hand-washing and coughing into one's sleeve. It also includes proposals for future use of the Twitter accounts (outside the scope of the thesis).

This document constitutes a decision-making guide for message disseminators as it provides relevant logistical information, draft messages, and emergency contact information (RQ2: What employee decision-making guides existed?). The decision-making processes used by message disseminators were guided by a common document in order to ensure uniformity in messages.

While the analysis of the Twitter messages found abbreviations and fragmentations, the five-page document titled *Twitter Canned Messages* was useful in understanding employee decision-making. Firstly, it appears as though the common and uncommon abbreviations identified during the analysis of the Twitter messages may have come from this same document. This includes the example in *Figure 5*, where some uncommon abbreviations were used to make the daily clinic listing more succinct. The significance here is that the abbreviations seen in the Twitter messages were sometimes taken from a list of pre-determined messages, not solely an employee's best judgment.

An instance of fragmentation was found in this document, which was an informative message about vaccine eligibility, used as an example in *Figure 6*. A frequent fragmentation identified in the analysis of the Twitter messages (the daily clinic listing) was not in the draft messages. Inversely to the abbreviations, the significance of finding few instances of these in the internal documents shows that the fragmenting of messages was the decision of the employees responsible for disseminating the messages.

### ***Decision-Making Processes Were Not Consistent***

The study looks at the decision-making processes followed by employees involved in the program (RQ3a: How did employees make decisions?). The significance for crisis communication here is developing a better understanding the structures in place for when employees became uncertain about carrying out their duties. Where such structures were absent, it is important to understand *how* employees made certain decisions related to the program.

Clinic contacts believed that they had a simple job, which was reinforced through their daily conference calls. Since the wristband system was an almost quantitative method of crowd control, there were few decisions that needed to be made related to reporting the information about the number of wristbands available. Clinic contacts were clear that they provided a limited amount of information.

However, when it came to deciding *when* to report the information, the responsibilities unrelated to the Twitter program had first priority. Interviewees stated that while they were encouraged to report the information in intervals of 30 or 60 minutes, other demands of their jobs often superseded this responsibility. These

conflicting factors included having to manage large crowds at face-to-face interactions with residents at the clinic sites. The following excerpt demonstrates a clinic contact describing this experience:

[INTERVIEWER]

You touched upon this earlier, how did you decide when to report information?

[PARTICIPANT]

At the beginning, honestly, whenever we could take a breath. And again, like I said, we were, me especially, I was not as consistent at getting the information updated as I should have been. Just, we were so busy and overwhelmed at the beginning, that we just updated it whenever we thought of it, I guess, or basically when we ran out of bracelets. As time went on, then when there was significant changes in the number of bracelets available, that's when we would update the information.

Once again, participants pointed to daily conference calls among team members as a method that was used to reinforce procedures. Clinic contacts were reminded frequently to not neglect their Twitter update responsibilities.

Inversely, a concern was raised by a message disseminator that questioned the decision-making process of a clinic contact that may not have been as disciplined or experienced as their peers. This was a response to a question about receiving conflicting information:

[PARTICIPANT]

Towards the end, when it was slowing down in last couple weeks of December... there was less clinics open, and they weren't very busy, but one person kept calling me and kind of giving me mis-... she was sort of nervous because she was new... so she would get nervous and tell me "there's too many people here, there's not enough" or "we have to close" and so that was a question... yeah, so I would that would be conflicting information.

This is almost the opposite of the issue of not reporting the information often enough: reporting too much or inconsistent information. This example also shows the downsides of a participant not fully understanding what Twitter is or what it is being used for.

For message disseminators, more of their decision-making was reliant on the employee's individual judgment. Participants in this role were asked a number of questions related to decision-making, specifically how they decided when to abbreviate or fragment messages, and what steps they took to clarify conflicting information they received. While interviewees often pointed to the "canned" messages, they were often placed in unexpected situations and were forced to disseminate messages that had not been planned for.

The abbreviation and fragmentation aspects of the Twitter messages are examples of how the decision-making relied on the employee's best judgement. It appears as though sometimes situations demanded a longer message, which conflicted with the Twitter character limit. The emerging theme from message disseminators was that with the expectation of instantaneous information, it was up to them to make the decision. When asked about how and when she chose to send one idea over more than one Twitter message, a participant responded:

[PARTICIPANT]

Really, I just was like "I need to write this, I can't figure out how." Haha. I honestly couldn't figure out how to get it all in there, so I just did "one of two" "two of two". Sometimes I did that, but sometimes I did the dot... like three dots at the end and three dots at the beginning of the next message to kind of show that there wasn't finished. I don't know if that was very clear or not, but I tried to avoid that but sometimes I did that if I didn't have anything else.

Another recourse taken by a different message disseminator is that for deciding when and

how to abbreviate certain words, she would use the search engine Google to test the popularity of a particular abbreviation. This was an interesting case of a makeshift environmental analysis on the message disseminator's part.

In terms of reporting information, participants were asked if any of their actions were subject to approval by a manager or supervisor. For the clinic contacts, they indicated strongly that they had the sole authority to report the information. This was the same case for the message disseminators, who relied on a list of prepared messages. There were no requirements to seek out a manager's approval, as the phone call from the clinic contact was considered the official information. Put simply, any additional approval requirements in a system with a goal of being instantaneous would be counter-intuitive. There was a large degree of trust on both ends of the system.

Looking at the larger picture, there was an effort from the beginning to standardize operation procedures as much as possible. Clinic contacts were given their marching orders with a narrow scope of information to provide. The decision on *when* to report the information was left up to them, which was at the mercy of other competing factors. Message disseminators relied heavily on prepared messages, and organized makeshift solutions when a different message was required.

On a similar note, participants asked if and how Twitter messages were corrected during the course of the campaign (RQ3d: How did employees correct mistakes?). All of the participants from this category indicated that incorrect messages were posted at some point and provided two possible recourses for addressing this. The first would be a follow-up message indicating that the information had *changed* (as opposed to admitting a mistake). Participants classified the rapidly changing information coming from clinics

as the source of the perceived mistake. If a clinic was updating often, messages were sent out just as often to keep the public abreast of the newest available information.

### ***Participants Shared Common Views About the Program's Goals***

The prevalent goals identified by participants were to *facilitate* the large influx of residents who were seeking H1N1 vaccinations and to *improve* access to information for residents (RQ3b: What were the program goals?). As one interviewee explained, “we live in an age of immediate gratification” and Twitter was thought to be an appropriate tool to help meet that expectation. A less common view was that a goal of the program later in the campaign was to be a promotional tool to increase the number of residents coming to the clinics. One participant stated that Twitter was used to demonstrate to hesitant residents that the wait times had dropped dramatically and it would not take long to receive a vaccination. This can be seen as similar to the persuasive messages that were absent from the disseminated Twitter messages.

A belief that emerged is that Twitter had “proven itself” to non-believers over the course of the campaign due to its perceived effectiveness. Clinic contacts perceived Twitter as effective once they saw the end-result: residents approaching them in person about seeing information on Twitter. One clinic contact admitted that after neglecting his Twitter duties for some time, he changed his view once speaking with residents who had used it. This view was similar to one expressed by a message disseminator:

[PARTICIPANT]

I think that people here didn't really realize how good it could have been. So, people were saying “oh, this is just an extra thing, like, we're already so busy, this is just an extra thing that you're putting on us.” But once people realized the value of it, it became incredibly important. Like, the program became important to each thing of operations because it was such a communicator... helping everyone communicate.

Regardless of the varying degrees of how serious the participants took the program, they were consistent in identifying the goals of the Twitter program.

### ***Participants Had Varying Opinions About the Situation Constituting a Crisis***

Two direct interview questions proved to be the ones that many participants needed to think the longest about. These questions were: “Did the H1N1 vaccination campaign constitute a crisis for the City of Ottawa?” and “How did that affect the Twitter program?” The findings here are significant for RQ3c (How did the situation being a crisis affect the program?). Firstly, the study found that interviewees were split on whether the situation constituted a crisis. While it is not expected that all interviewees would share same definition of a crisis, let alone the specific one has been conceptualized, it is significant that some did not view the situation as a crisis even in their own way.

A prevalent view was that the situation constituted a crisis only within the first few days of long line-ups. Afterwards, as the crowd control mechanisms became more routine, it was no longer a crisis. In this view, participants equated a crisis with the notion that something that the City of Ottawa did not have control of. Employees believed that they were called upon to do their jobs and had done their jobs well. They viewed a crisis as the impression that they had somehow mishandled the situation. This is a localized view of the concept of a crisis. Regardless of the situation being classified as a pandemic by Canadian and international health authorities, the participants felt as though everything was under control at the clinics and thus was not a crisis.

Some respondents felt that the program was not affected by the crisis because Twitter *was the solution* to the crisis. In this light, participants equated a crisis with issues of inconvenience of waiting in a long line-up. Once Twitter began to prove its worth, they saw the program as mitigating any feelings of the situation being a crisis because it was able to bring crowds under control and satisfy the public's desire for instantaneous information. When asked about how the crisis affected the Twitter program, a clinic contact noted that it raised the stakes of their role:

[PARTICIPANT]

I think it just meant that you had to be more diligent about keeping up with your updates. When I was in the really busy centres we were trying to keep up with them every half hour if we possibly could. But not to let it go too long. The more information people have, the less uptight and panic they get.

These are the most useful characteristics of social media during a crisis: frequent, timely updates can be seen as helpful in diffusing public unrest and uncertainty.

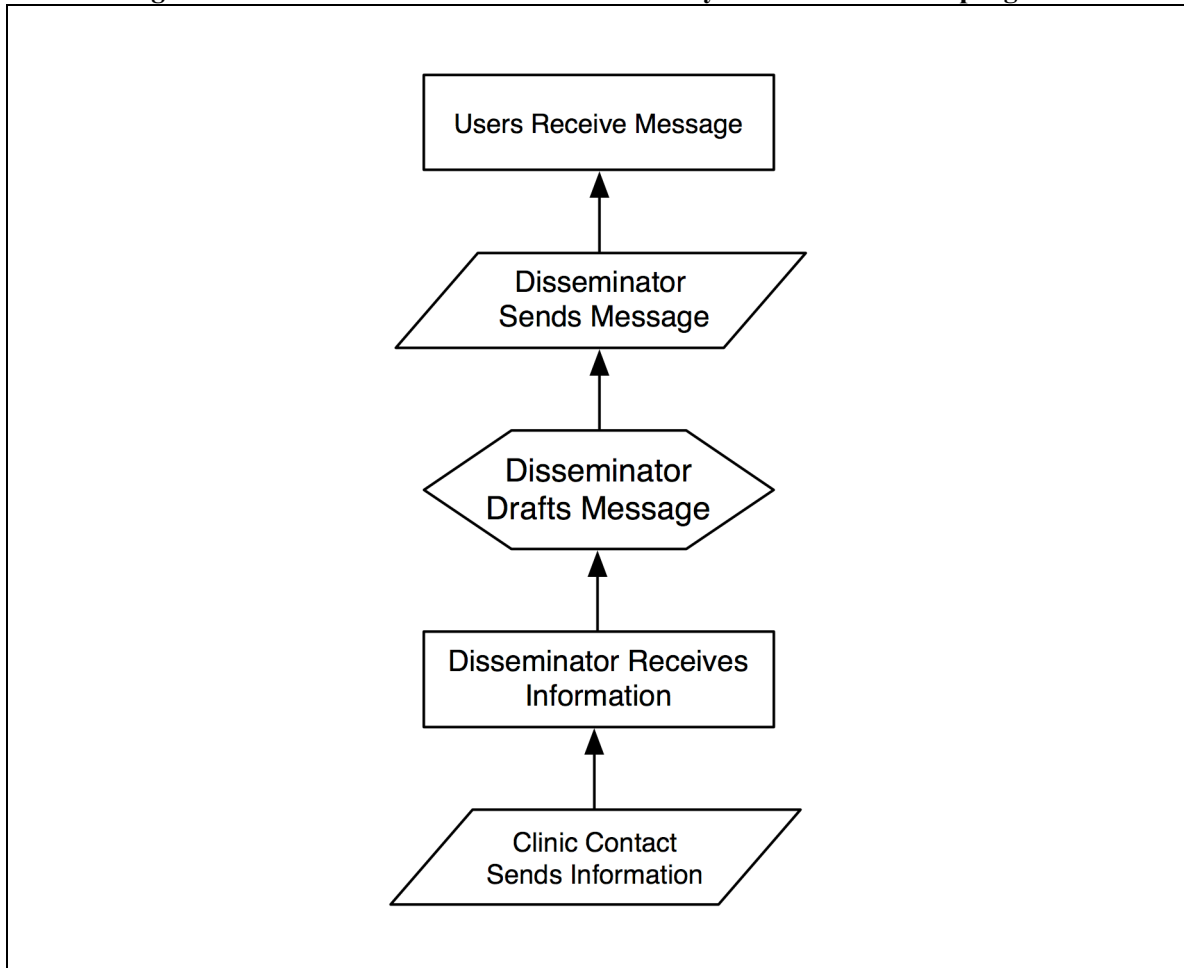
Participants pointed to two potential causes of the perpetuation of public sentiment about it being a crisis. Firstly, some interviewees felt that the media had sensationalized the issue and contributed to feelings of public uncertainty. Secondly, a participant was able to identify the occurrence of two deaths attributed to the H1N1 flu virus that occurred near the beginning of the clinics: one in Toronto and one in nearby Cornwall. Drawing from these examples, he said that these incidents contributed to the feeling that it was a crisis. This motivated more residents to seek out the vaccine because they felt more at risk.

## **The Communicative Model**

To address the central purpose of the thesis: the City of Ottawa Twitter program constitutes a communicative model, though not the most effective one. Drawing from these findings, a clearer picture emerges in *Figure 7* as the communicative model used during the H1N1 vaccination campaign.

The City of Ottawa communicative model consists of five successive steps that begins with the clinic contact sending information and ends with Twitter users receiving a message. The arrows designate the direction in which the information flows (from the bottom upwards). The parallelogram shapes represent input or output steps. These are used twice, for the clinic contact sending information (input) and the disseminator sending a message (output). The rectangular shapes are used to signify process steps such as receipt of a message or information. The lone hexagon in the middle of the model represents a preparation step. Here, it is used to portray the disseminator preparing a Twitter message.

**Figure 7: The communicative model of the City of Ottawa Twitter program**



To review, the findings paint the picture of a microblogging program that was hastily assembled, yet perceived as effective by its participants. This professed success is anecdotal; stories told by City of Ottawa employees and residents about how the wait time update system made a difference in managing the crisis. The Twitter program made use of a number of employees with two clearly defined roles. However, despite the clarity of the division of tasks was, these roles came with challenges. The clinic contacts had blind faith in the message disseminators to pass along reported information to Ottawa residents. Some clinic contacts had hazy impressions about who these individuals at the

end of the phone were, and did not have any experience with Twitter or actually witness the end-result disseminated messages. Other clinic contacts admitted that they had neglected their reporting duties because of the overwhelming crowd control responsibilities at their clinics. Message disseminators mirrored this sentiment; they felt as though that the Twitter program was not seen as significant by some participants until it had proven its value through front-line resident feedback.

Many decision-making supports were established, in addition to the simplification of the clinic contacts' options of reporting information (only the clinic location and status). However, the non-Twitter demands of this job threatened the program goal of providing immediate information. Clinic contacts had a number of competing priorities, making it challenging to contact the message disseminators. In another light, the message disseminators were required to squeeze complex messages into just 140 characters. While there were many links for further information-seeking provided, abbreviations and fragmented messages were also seen as necessary to communicate the full idea coming from the City of Ottawa. When decision-making guides did not suffice, message disseminators were forced to rely on their best judgment for messages, which were seen by the message disseminators as not always clear. Fragmented messages did not appear to be a large concern, though some of the uncommon abbreviations originated from the canned Twitter messages.

While the thesis does not focus on the effectiveness of the Twitter program from the audience's perspective, data provided insight into how residents were treated. Despite an organizational goal of making use of *social* media, the City of Ottawa's use of Twitter was decidedly *anti-social*. While decision-making was centralized and efficient for

instantaneous information, the City of Ottawa fell into some bureaucratic traps in line with what Crozier cautioned against. Despite using a medium that *invites* interaction, the systems put in place recoiled from it. Put simply, the Twitter program was a monologue, not a dialogue.

The public face of the Twitter program was an aggregated feed of wait time updates from clinics spread out across the city. The City of Ottawa used this to disseminate informative messages to residents throughout the crisis. However, despite the reduction in wait times in the month of December, the Twitter communication strategy did not evolve. There was little attempt to persuade prospective late adopters of the vaccine. The City of Ottawa focused on only those residents who were already convinced the vaccine would help them.

## **Discussion**

This case study provides a number of significant learning opportunities for health crisis decision-makers. Returning to the central purpose of the thesis, it has been found that a communicative model exists, albeit with some shortcomings. The linear model of information flow became clear when participants were asked about their roles in the program, but other issues became evident when more questions were asked. Some additional questions are imposed upon the thesis by the findings of the study.

### ***Can Twitter be Used for Persuasion?***

The goal of the City of Ottawa Twitter program was to provide timely updates of an informative nature to residents. This was a goal that was understood by all participants

and the program was perceived to have accomplished that goal. However, the absence of persuasive messages warrants some further discussion. While it is possible messages of this type were transmitted through traditional media (such as print or radio advertisements), the question beckons: can Twitter be used for persuasion at all? Or does the nature of the medium inherently non-persuasive?

Drawing from the roots of Aristotle's view of rhetoric, this question can be addressed. It can at least be *attempted* to establish credibility in 140 characters. Regardless of the chosen medium, words are still words. This may include messages about the history of the organization in promoting a healthier city, or referrals from residents on how they had a pleasant experience receiving their vaccinations. Further, a communicator need not more than words to appeal to the emotions of the audience. Tying this in with strong arguments in favour of getting vaccinated would help dispel myths and misinformation. This would encourage reluctant residents to reconsider visiting a clinic. These three dimensions of persuasion could complement the systematic informative messages being transmitted.

### ***Should Twitter be Used in a Health Crisis?***

This case reveals the inevitable conflict between technical health information and a medium that places length restrictions on messages. Among the concerns of uncommon abbreviations and the need for fragmentation, the next issue for crisis decision-makers is whether Twitter should be used in a health crisis at all. Perhaps the risk of unclear information outweighs the benefits of the medium.

Looking at the larger picture, it is evident that the principles of social media *are parallel to* the communication needs of an organization managing a crisis. Aside from the popularity of social media, tools such as SNSs and blogs “can be particularly effective in sidestepping technological, economic, and political obstacles to diffuse information in a crisis” (Macias, Hilyard & Freimuth, 2009: 4). These new communication activities are a response to the changed desires of the public. This presents both a risk and an opportunity. Hackler and Saxton argue that “I.T. has raised the bar for critical organizational activities by changing donors’ and other stakeholders’ expectations” (2007: 475). The opportunity here is to reverse the trend of negative public opinion towards bureaucratic organizations.

Not only should social media tools be utilized in a crisis because they make information more accessible, but they should be employed to help meet the public’s expectations. Just as the Internet has become a daily necessity for many, SNSs are beginning to dominate online activities. Worldwide, Nielsen (2009b) found that SNS use has surpassed e-mail in terms of time spent online, with two-thirds of total users visiting blogs or SNSs. With the popularity of social media tools, it is imperative that government begins to have a presence where the conversations are already taking place. While the recourses of abbreviating, fragmenting and linking cannot be avoided when using these media, comprehensive planning can reduce the risk of poor judgment or inconsistent actions.

### ***Can Bureaucracies Use Social Media in a Social Way?***

The City of Ottawa used Twitter, a social medium, for the primary purpose of broadcasting messages, as opposed to interacting with residents. If and when questions were received, they were met with a standardized response that redirected the resident to general phone line (or not addressed at all). It would be interesting to observe this style of customer service in any other circumstance; informing residents through one medium, but refusing to respond through that same medium. While social media can facilitate easier online conversations, the City of Ottawa's interaction with users became cumbersome. The discussion that follows is whether bureaucracies can use social media in an interactive way, or are the restrictions in place too large of a burden to attempt real-time online communication?

The answer here would be to place the same emphasis on a social media program as other communication components. If an employee is responsible for answering a public phone line, that same person can be a resource for answering messages on Twitter. Understandably, there are some privacy and legal limitations about providing specific health consultations online, however for general information it is entirely possible. From the City of Ottawa case, resident comments were not planned for or considered a priority. If the correct amount of preparation is done, an organization can interact with social media users in dynamic ways.

### ***A Recommended Communicative Model***

Moving forward, modifications can be made to the City of Ottawa communicative model to strengthen it for future crises. This recommended model is guided by the effective

communicative model characteristics identified in Chapter 2, and represents a more preferred option for the City of Ottawa case. These recommendations also have implications for different circumstances; while this case focused on crisis response at a municipal level, the findings can be used in national or international circumstances, inside and outside the health domain. For example, while the City of Ottawa example was concerned with transmitting information from multiple vaccine clinics, the principle of aggregating and standardizing multiple sources of information is something that can be generalized for other circumstances. The recommendations are not mutually exclusive nor entirely theoretical in nature. These recommendations would be relevant for an organization that put the appropriate resources towards a full-fledged microblogging program.

### *Closing the Decision-Making Gaps*

While the City of Ottawa Twitter program had a clear division of tasks, some of the largest gaps were not anticipated. This is linked to the communicative model characteristic concerned with effective decision-making. Without the necessary information, decisions will not be as effective or well-informed. Not all clinic contacts had access to the Twitter messages, and often had to rely on sparse computer availability at their specific site. There was a competency gap because some of the clinic contacts felt disconnected from the message disseminators and did not have an understanding about what Twitter was. Further, the Twitter program was sometimes neglected by clinic contacts due to carelessness or competing priorities. On the message disseminator side, sometimes the decision-making guides in place did not suffice, and thus the official messages had to be drafted by an employee that was not a communication professional.

The first recommendation is to ensure all clinic contacts are familiar with Twitter through training. If everyone understands the goals of the program and use of the medium, the same sense of urgency will be felt in all participants. To reduce competing demands, it is recommended that the clinic contact responsibilities be delegated to individuals who are not supervising employees or who are not key decision-makers at the site. Sometimes the face-to-face priorities can outweigh the off-site ones, and this can be improved by having a second employee. This individual must have access to the Twitter messages after they are disseminated, to ensure that the feedback loop is closed completely.

For the act of message dissemination, it is not recommended that this role be decentralized to the clinics. As seen between even the three interviewees who had this responsibility, the risk of message inconsistency is too large to warrant giving each clinic contact the ability to disseminate Twitter messages. What should change, however, is that the message disseminators should be communication professionals. Findings from the in-depth interviews showed that the responsibility had fallen to these individuals by happenstance, as they were not chosen for any particular skill set. This would become useful for when message content would need to be created at a moment's notice or it did not fall under the purview of a decision-making guide. It would also be recommended that these message disseminators be invited to participate in the conference calls with the clinic contacts, in an effort to improve internal communication and break down uncertainties between the two groups.

### *Strengthening Message Design*

An effective communicative model characteristic established in Chapter 2 is message design. Without clear, consistent messaging, the audience may not understand or respect the intentions behind the message itself. While the challenges of Twitter's character limit cannot be completely overcome, they can be better planned for. The City of Ottawa had several useful decision-making aids in place for its message disseminators, but these can be expanded upon in a number of ways. Firstly, the canned messages made use of uncommon abbreviations, so it followed naturally that those same messages were used by the message disseminators. By pre-testing the messages (through focus groups) to ensure they are clear, the most appropriate, widely-understood abbreviations will be used. This would also assist with consistency of words and phrases, as the language can be optimized for both clarity and succinctness. Furthermore, fragmented messages appear to be a nature of the medium. By having specific strategies for this in the internal document guides, the message disseminators will not be placed in a situation where there are unnatural breaks between messages.

Once again, it is recommended that persuasive messages be used throughout the campaign, with an emphasis on late adopters as vaccine demand drops. While it is understood that a rush of additional residents to clinics during the highest demand times is not preferable, the tone of messages needs to evolve as the target audience changes. In the City of Ottawa case, the same messaging was used throughout the campaign, regardless of the drop in demand for the vaccine. The preferred strategy would be to focus on the reasons *why* residents are not going to the clinics, to correct misinformation, and to communicate the sense of urgency required for some residents to act.

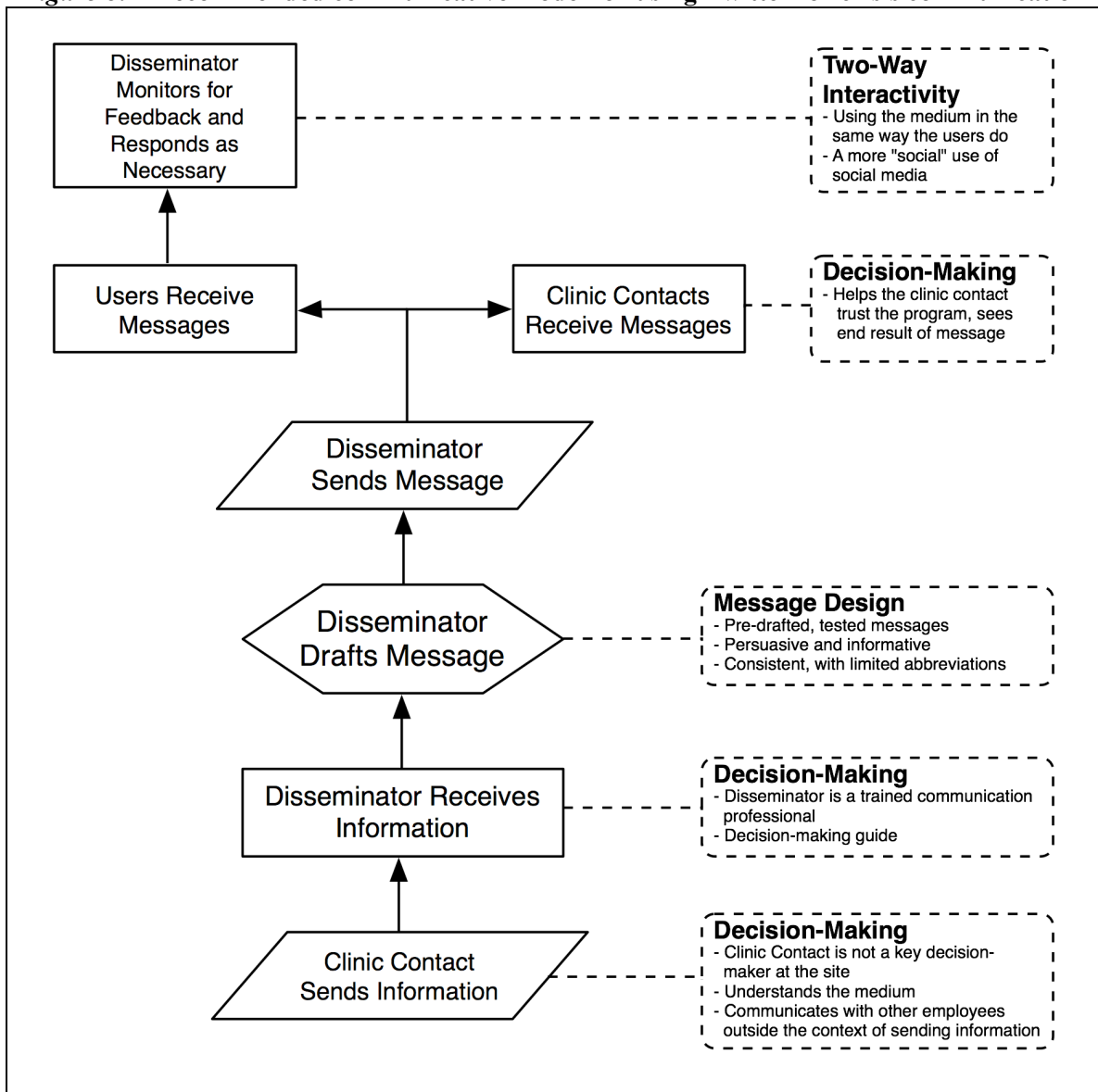
### *Interacting Openly*

Finally, a more effective program would directly address user questions and comments in a timely manner. This is linked with the communicative model characteristic concerned with two-way interactivity with users. The gap in the City of Ottawa program was that responding to users was not considered a priority. Being able to interact with users using a tool such as Twitter will help make the government more responsive to residents' needs. For this to occur, the correct amount of planning needs to be done, and the appropriate human resources need to be allocated. Prepared responses need to be developed alongside the prepared informative and persuasive messages. This is a routine public relations exercise that would allow the message disseminators to more effectively address user questions. In addition, message disseminators must have access to resources to answer questions that had not been planned for. This is preferred over the option of delegating all user questions to a separate medium.

### *The Model*

Drawing upon these recommendations and the City of Ottawa case, *Figure 8* outlines a more effective communicative model for information dissemination using Twitter during a crisis.

**Figure 8: A recommended communicative model for using Twitter for crisis communication**



The model consists of six successive steps that begins with the clinic contact sending information and ends with the disseminator reviewing and responding to audience feedback. In the model, the arrows designate the direction in which the information flows (from the bottom upwards). The parallelogram shapes represent input or output steps. These are used twice, for the clinic contact sending information (input) and the disseminator sending a message (output). The rectangular shapes are used to signify

process steps such as receipt of a message or information. The hexagon in the middle of the model represents a preparation step. Here, it is used to portray the disseminator preparing a Twitter message. Finally, the dotted boxes on the right side describe the benefits of the recommended model vis-à-vis the effective communicative model characteristics grounded in the theories and models from the literature review.

To be clear, the proposed model is not what was in place during the crisis. The proposed model makes a number of improvements over the City of Ottawa example, and acts as a charter or starting point for future research or practical use by government decision-makers. The addition of directly answering user questions promotes greater customer service and public relations. Message disseminators are responsible for addressing user feedback, and are now trained communication professionals. Secondly, by adding persuasive messages to complement the informative messages, the messages begin to focus on not just those who already want to be vaccinated, but also skeptical residents that have played a role in elevating the crisis. The model also includes the message disseminator in the internal communication opportunities that they were previously excluded from. Finally, the Twitter messages are transmitted to not only the followers, but also the clinic contacts, to close the feedback loop.

It is important to reflect on how this recommended model would work if put to use. The explanation of this is supported by the theories and models discussed in Chapter 2, the concepts defined in Chapter 3 and the findings from this chapter. Working from the bottom upwards, there are a number of changes to the role of clinic contact. Firstly, this person is no longer a key decision-maker at the clinic site, as the thesis found that some employees in this role became overwhelmed with competing responsibilities. This

improvement facilitates more effective decision-making as required by the theoretical framework, as the clinic contact has more time to weigh options and carry out their duties. Drawing deeper from the crisis models discussed in Chapter 2, Eid's CD\_M<sup>3</sup>\_R<sup>2</sup> comes to mind here. If a communicator's most effective, rational, ethical decision-making begins with the first action of analyzing information; a model that provides the communicator the necessary time to do this is preferred. This person also better understands the medium of Twitter. The study found that employees were ignorant about the communication tool, which impacted their trust in the program.

Moving to the next step, the message disseminator is in receipt of an update from the clinic contact. Here, the most significant change is that this person is a communication professional. This is an improvement from the City of Ottawa program, which made use of employees who were selected for the role of message disseminator by happenstance. This change is also emphasizing stronger decision-making in the area where it is perhaps most important. Looking at the CD\_M<sup>3</sup>\_R<sup>2</sup> once again, the third communicator action of selecting strategies stands to benefit here. By choosing strong communicators to make communication decisions, the most appropriate strategies can be selected.

Next, this message disseminator drafts a message. Learning from the Twitter messages analyzed in the study, persuasive messages now complement the communication regiment. Furthermore, messages are consistent, make limited use of uncommon abbreviations and fragmentations, and provide links for information-seeking whenever possible. These priorities were conceptualized in Chapter 3 and analyzed when the Twitter messages were reviewed. This piece is also guided by what was learned in the

literature review, specifically by adopting the principles of rhetoric put forward by Aristotle (establishing credibility, appealing to the emotions of the audience and putting forward appropriate arguments). The components of the CAUSE model also stress the importance of ensuring the public *understands* the message. With this recommended change, the communication focus has broadened to influence the more skeptical members of the public, while emphasizing that all users have access to high-quality, well-crafted messages.

After the message disseminator sends the Twitter message, it is received by residents who have subscribed on Twitter and all clinic contacts. This closes the feedback gap that was found through the in-depth interviews with City of Ottawa employees. This contributes to more effective decision-making because if there is a mistake in a Twitter message, there is an opportunity for the clinic contact to follow up with the message disseminator to ask for a clarification. This recommendation extends the Web 2.0 principle of accessible information beyond the audience, to the employees who are part of the program.

Finally, the most public gap in the City of Ottawa program is closed by the message disseminator monitoring and responding to user comments and questions. It was found through the in-depth interviews that this was not considered a priority. This shortcoming can be seen as in line with one of the issues Crozier raises: bureaucracies resist change. While the City of Ottawa used a social medium for crisis communication, it was hesitant to engage with residents. Moving beyond this, this recommendation is grounded in the theoretical framework component of two-way interaction with the audience and the concept of public interactivity. As argued earlier in the chapter, it is

possible for governmental organizations to participate in discussions online if the right amount of preparation is done and the appropriate resources are allocated. One of the principles of NPM is concerned with treating citizens as clients – this piece of the recommended model accomplishes this. Web 2.0 is supposed to be a more human approach to communicating online. This can be accomplished by using social media tools to create online communities of common interest. Social media should be *social*. By responding to users' questions and comments, users benefit from a higher degree of customer service. In turn, communicators benefit from a higher degree of trust and credibility – invaluable currency, especially during a crisis.

## Chapter 5

### **Conclusion**

#### **Significant Findings**

The first pandemic of the 21<sup>st</sup> century was certain to provide many opportunities for communication scholars. With the rise of mainstream Internet use in the 1990s, and evolution of online communication thereafter, this crisis presented a chance to view emerging technologies in a unique light. It is in these times of uncertainty where society has the opportunity to re-imagine the tools used every day. The study found that heightened value was placed on Twitter during a crisis. If bureaucracies resist change, as argued by Crozier, then a crisis is a powerful catalyst for overcoming hesitation and acting more boldly. It is important to learn from such new projects in order to better leverage these tools in the future.

It is evident that social media are still in their infancy and the foundation of knowledge on this topic is just beginning its development. Similar to the rise of any new technology, this is an opportunity for new ideas. This study aimed to be one of those first steps in better understanding how social media have changed communication. Through contributing to the schools of knowledge of information dissemination, health communication and new media, this thesis has established significant findings for helping better understand social media use during a crisis.

Returning to the central purpose of the thesis, the City of Ottawa program constitutes a flawed communicative model. However, the most significant findings lie in these flaws, as they provide important lessons for future crises. The thesis studied a pioneering attempt at using microblogging to facilitate crisis communication. From here,

it is evident there are specific communicative model characteristics in the realms of message design, decision-making and interactivity that need to be given close attention in future projects. While these lessons alone will not guarantee success, they can help health crisis decision-makers avoid preventable mistakes and communicate their messages more effectively.

The City of Ottawa Twitter program, although hastily assembled, was perceived by employees as effective in achieving organizational objectives. The responsibilities of program participants were clearly defined. The clinic contacts benefited from having simple, standardized procedures, but this performance was challenged by competing demands and a lack of knowledge of the medium being used. For the message disseminators, the initial decision-making tools were useful, but did not go far enough in addressing some of the issues that arose during the crisis.

The thesis also examined inevitable tensions between complex information and a simple messaging system. While fragmenting and abbreviating messages are not ideal, they were necessary sacrifices in order to transmit the information in a timely manner. The most significant finding here is that crisis decision-makers need to learn to communicate in new ways. By placing an emphasis on message design before the crisis, a compromise can be struck between the conventions of the social medium and the integrity of technical terms.

These challenges raised the questions of if the shortcomings of the City of Ottawa Twitter program are inherent in either the limitations technology or the nature of public sector organizations. It was argued that these gaps could be bridged with the correct steps. While public organizations often lag behind their private sector counterparts, it is

possible for governments to use social media in an interactive, dynamic way. Regardless of the Twitter character limit, persuasive messages can and *should* complement the communication regimen in order to position the organization as credible, and its messages as trustworthy. The ability to disseminate short, timely messages to subscribers is an invaluable asset for crisis decision-makers.

Moving forward, the recommended model proposed in the thesis was not in place during the H1N1 crisis, but it could very well be in place for the next pandemic. The recommended model builds upon the City of Ottawa case by being better prepared. A significant finding was that while some messages were prepared in advance, the quality of these messages could be improved. By conducting focus group testing on the prepared messages, clearer preferred options could be realized. This includes a limited number of abbreviations and fragmentations, with an emphasis on including links for further information-seeking and consistency in word choice. This would take some of the burden off of the message disseminators, who often attempted to force too many words into just 140 characters.

The thesis identified a number of feedback gaps that could be closed with the right preparation. The recommended model calls for the clinic contacts to have access to the Twitter messages as a matter of necessity, not convenience. This would help facilitate trust in the system, as the contacts would see the end result of the phone call they placed to the disseminator. Fundamentally, crisis decision-makers must be prepared for addressing user questions and comments. As the audience has come to expect a certain level of customer service, these users cannot be ignored.

Human resources were found as an underlying issue through the in-depth interviews with City of Ottawa employees. On one end, there were the clinic contacts that were sometimes too overwhelmed to fulfill their duties in the Twitter program. On the other end were the message disseminators who were chosen for their roles by happenstance. By ensuring that the clinic contacts are individuals with limited competing priorities, and the message disseminators are trained communication professionals, these responsibilities would be better carried out.

The recommended Twitter program would be one where all its participants understand the tools being used and respect the overall objectives. A more comprehensive program could be developed that could disseminate higher quality messages to a more engaged audience. User questions and comments would not be shied away from, rather acknowledged and addressed in a timely manner. Overall, a program would benefit from being an integral part of the entirety of crisis communication preparations.

It is important to underscore that communicating during a crisis comes with significant risks. As discussed at the beginning of the thesis, crisis communication is a double-edged sword that may help or harm crisis decision-makers. In a public health context, the crisis is further elevated because the subject matter has to do with the lives and well-being of families and communities. Coupled with the reality that social media make messages *more instantaneous* and *more easily spread* through online networks, health crisis communication using these new tools becomes even riskier. While the message resulting from an effective decision can go to a larger audience even quicker, the message resulting from an *ineffective* decision can travel *that same route*. It is at this

high-risk intersection that the double-edged sword becomes sharper. The thesis has made a significant contribution to knowledge because it has drawn relevant, useful lessons for using social media for health crisis communication. The recommended model acts as a charter for crisis decision-makers because it allows them to build upon the lessons of the City of Ottawa case.

### **Limitations and Implications**

It must be acknowledged that this was just one case in the myriad examples during the H1N1 pandemic response. It is also true that different jurisdictions have unique realities to deal with during public health crises. Across Canada and around the world, there are other lessons to be learned about communicating during the same crisis. This study serves as one approach that can be adapted for other similar situations where social media are leveraged by crisis decision-makers.

A limitation of the study was that it only analyzed the English language Twitter messages disseminated during the crisis. The justification for this includes, but also extends beyond, the abilities of the researcher. Since the City of Ottawa created separate English and French Twitter accounts, the intention was for each to be a stand-alone source of information. Furthermore, with the implications of microblogging still being understood, the thesis benefited from taking a narrow focus instead of attempting to consider bilingualism as another dimension of the study. The findings of the thesis could be drawn upon for other languages.

While Twitter is one example of a popular social media tool at this point in time, it will lose its relevance as new tools emerge. What are most significant, however, are the

principles of social media that will not die when certain websites fade into obscurity. The evolution of online communication with Web 2.0 is not something that will lapse. Society will not regress to the Web 1.0 world of static web pages and e-mail-centric online communication. Interactive, collaborative, real-time communication over the Internet is something that will continue to exist regardless of which tool facilitates it. Understanding the strengths and limitations of social media from a wider perspective will remain relevant as these tools evolve. Understanding the implications of short, timely electronic messages as part of a crisis communication plan will remain to be significant.

The study has contributed to the emerging schools of knowledge related to social media. Future studies will benefit from the findings here. The recommended model for microblogging could be tested and improved upon. The constructs established here can be expanded upon to examine the true effectiveness of Twitter messages on the audience. It would be intriguing to test the power of the medium from a perspective of persuasion. More specifically, research could be conducted on whether Twitter is considered a credible source of information in itself. As social media and the field of communication move forward, here lies a strong starting point for future research.

Outside of academia, this study has relevance for government communication practitioners. It is hoped that the lessons learned here will make it easier for crisis communication planning at any level of government. The recommended model can help health crisis decision-makers create an effective microblogging program to be used in a crisis. Understanding the City of Ottawa example, crisis decision-makers will know the usefulness of prepared messages, the risks of abbreviating messages, the importance of monitoring for user feedback, and the value of planning ahead. It is evident from this

thesis that the social media component of a crisis communication plan must be part of the overall strategy. Without allocating the appropriate resources, a hastily-assembled strategy will not use social media to their full potential.

Outside the health communication realm, the findings of this thesis can be generalized for other settings. Treating clinic contacts as multiple sources of crisis information is one way to apply these findings to other contexts. Clinic contacts could be substituted for border service workers or diplomats abroad. The municipal message disseminator could be an individual at any level of government, or in the private sector.

Aristotle said, “it is absurd to hold that a man ought to be ashamed of being unable to defend himself with limbs, but not of being unable to defend himself with speech and reason” (Aristotle, trans. Rhys Roberts, 1981: 8). Citizens impose upon their public servants the responsibility to communicate effectively. The stakes are higher during a crisis; constituents turn to their governments for protection, guidance, and above all, excellence. Simply providing the service is not enough; the public has come to expect something more. By connecting residents with high-quality information using social media, governments can provide this heightened level of access to information when it is needed most.

## **Thesis Summary**

The 2009 H1N1 pandemic emerged as a tremendous challenge for health crisis communicators. At its core, the danger of the situation was a virus that seemed to target the healthiest members of society. With thousands of deaths worldwide, Canada launched an unprecedented mass-vaccination campaign. This task was made even more

challenging when it became apparent that the public was skeptical of the vaccine and their governments.

The City of Ottawa was charged with vaccinating almost one million members of this disinterested public. To facilitate crowd control at the clinics across the city, a Twitter program was established to allow residents to subscribe to short, timely updates about the vaccination clinics. With the first global influenza pandemic of the 21<sup>st</sup> century, and the public increasingly turning to the Internet for health information, there was an opportunity in examining the Twitter program. This includes not only understanding what kind of communicative model exists, but also the implications for Twitter as a medium during a public health crisis.

Following from this, the second chapter traces from foundation of Aristotle's *Rhetoric* and Rousseau's *The Social Contract* through to the theoretical framework that guides the study. Aristotle's views are significant for the thesis as he provides the foundation of communicating a message to an audience. This is relevant for looking at the persuasive nature of messages. Rousseau writes about a society in which all members contribute to a common direction, yet still remain individuals. This body of work is useful for the purposes of understanding the nature of both social networks and public health organizations.

From the reviewed communication theories, it is evident that new media represent a shift to a more decentralized, globalized communication landscape. Pairing this reality with Web 2.0 technologies, this means that the audience now has enriched access to information, in terms of both depth and timeliness. This translates to a much more news-

hungry audience, with heightened expectations to know as much as possible, as quickly as possible.

Linked with this are Eid's  $CD\_M^3\_R^2$  and the CAUSE model, which present important frameworks for not only effective decision-making during crises, but for a focusing on the audience itself. Eid's model takes a media decision-maker through the steps of analyzing information through to taking decisions. The emphasis here is balancing the two components of rational thinking and responsible conduct. The CAUSE model sets out specific goals for crisis communicators, which focus on ensuring the audience understands and agrees with recommended actions.

Government theories present criticisms of traditional bureaucracy and propose a way forward. Crozier cautions against some of the shortcomings of bureaucratic systems in that they are significantly unresponsive to the changing needs of citizens. New Public Management presents an antidote of sorts, by changing the focus of government to one that is citizen-centric by applying private sector principles to government services. The lessons here provide specific areas to be aware of when looking at governmental organizations.

Drawing from these theories and models, the key characteristics of an effective communicative model emerge. This model would need to focus on clear, consistent message design to ensure that the recommended actions are not only understood, but acted upon. This includes using both persuasive and informative messages to engage residents. Furthermore, users of Twitter should be interacted with in a true dialogue. Using the medium only to transmit one-way messages would not suffice, as it would not respect the way that users are utilizing the technology. Finally, a communicative model

should provide effective ways to make decisions, striking an appropriate balance between expediency and thoroughness, as to not exhibit any of the shortcomings of common bureaucracies.

Key definitions are conceptualized before setting out the research design. These include terms such as persuasive message, informative message, consistency, abbreviation and fragmentation. These are important to establish in order to rigorously test the constructs during the study. The research design of the case study is set out, a qualitative approach that draws upon three data collection methods: analysis of Twitter messages, analysis of internal employee documents and in-depth interviews with City of Ottawa employees. The Twitter messages provide much insight into the public face of the program: what residents were seeing as they were making the decision about whether to attend a vaccination clinic. The other two data sources round out the study by filling in the gaps for the behind-the-scenes portions of the program. As it can be with many public relations programs, what is transmitted to the public is a result of internal decision-making. These decisions and the corresponding internal processes are worth scrutinizing, especially during a crisis.

Findings reveal a hastily assembled program that was perceived as effective by City of Ottawa employees. A textual analysis of the Twitter messages revealed that the audience was in receipt of a constant stream of informative messages, with the absence of attempts by the program to engage in persuasion. The limits of the medium were tested on a daily basis, as employees attempted to force a large amount of information into just 140 characters. While messages were generally consistent, the natural recourses of abbreviating and fragmenting were used. This sacrificed message quality, and the overall

effectiveness of the messages. Internal City of Ottawa documents constituted decision-making guides, which answered some, but not all, questions that arose during the vaccination campaign. In-depth interviews with employees helped identify that the program constitutes a communicative model, albeit a flawed one. While roles were clearly defined and understood, there were significant gaps in between employees and the public. The concept of user interactivity was not planned for, and thus was not leveraged to improve client service. Despite the decision-making guides, inconsistent choices were made that did not benefit the program or residents. While the goal of facilitating crowd control was accomplished on an anecdotal level, the thesis found that some residents were overlooked.

A recommended communicative model is put forth that is intended to help health crisis decision-makers communicate their messages more effectively in similar situations. This model is informed by the City of Ottawa study, and looks at effectiveness vis-à-vis the characteristics established in the literature review. Public organizations can and *should* strengthen their crisis planning to include a dynamic social media component. The principles of social media are parallel to the communication needs of these organizations during crises. The key point for this recommendation is that preparation should be paramount. By allocating the necessary human resources and testing messages prior to a crisis, the audience benefits from a heightened level of customer service and the needed high-quality messages to satisfy its desire for as much information as possible, as quickly as possible. Social media are a part of the Web 2.0 evolution - tools that were born to meet the expectations of the audience. In turn, governments must learn to use these same tools engage, inform and meet the needs of citizens.

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# Appendices

## Appendix A: Approval from University of Ottawa Research Ethics Board

File Number: [REDACTED]		Date (mm/dd/yyyy): 06/15/2010	
<b>Université d'Ottawa</b> Service de subventions de recherche et déontologie	<b>University of Ottawa</b> Research Grants and Ethics Services		
<b>Ethics Approval Notice</b> <b>Social Science and Humanities REB</b>			
<b>Principal Investigator / Supervisor / Co-investigator(s) / Student(s)</b>			
<u>First Name</u>	<u>Last Name</u>	<u>Affiliation</u>	<u>Role</u>
Mahmoud	Eid	Arts / Communication	Supervisor
Ryan	Kennery	Arts / Communication	Student Researcher
<b>File Number:</b> [REDACTED]			
<b>Type of Project:</b> Master's Thesis			
<b>Title:</b> Connecting Residents in the Face of H1N1: Looking into a Communicative Model by the City of Ottawa			
<b>Approval Date (mm/dd/yyyy)</b>	<b>Expiry Date (mm/dd/yyyy)</b>	<b>Approval Type</b>	
06/15/2010	06/14/2011	Ia	
(Ia: Approval, Ib: Approval for initial stage only)			
<b>Special Conditions / Comments:</b> N/A			
[REDACTED]			

## Appendix B: Approval from Ottawa Public Health Research Ethics Board



July 28, 2010

Research Ethics Board  
Ottawa Public Health

**Re: Research Project** [REDACTED]

**Renewal/Expiry Date: October 2011**

University of Ottawa  
Faculty of Arts  
Department of Communications

Dear Ryan Kennery,

I am pleased to inform you that your proposal has been reviewed and accepted by the Ottawa Public Health Research Ethics Board. You may begin data collection as per the schedule you have established.

You are reminded to inform the Board of any changes in your proposal by completing Appendix G (attached). At the end of your study, you are required to submit an end of project report using Appendix F (attached). Please submit the completed forms as indicated to the Secretariat.

On behalf of the Board, we wish you well in your research. Please do not hesitate to contact

[REDACTED] if you require further information.

Sincerely,

[REDACTED]  
**Chair, Research Ethics Board  
Ottawa Public Health**

Attachments: 2

