

THE 2009 H1N1 PANDEMIC NARRATIVE  
IN NEWSPAPERS DISTRIBUTED  
WITHIN SASKATOON, SASKATCHEWAN

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In Partial Fulfillment of the Requirements  
For the Degree of Doctor of Philosophy  
In the Department of Community Health and Epidemiology  
University of Saskatchewan  
Saskatoon

By

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## ABSTRACT

It is known that disease outbreaks, either at a local or a global scale, elicit a social response from the society that it affects which follows a characteristic narrative. An epidemic narrative reflects and shapes the perception of the outbreak. An examination of the mass media provides a glimpse of the epidemic narrative that occurs alongside a disease outbreak. The primary objective of this study is to construct the 2009 H1N1 pandemic narrative from newspaper coverage available in Saskatoon, Saskatchewan, with a focus on how discourse in the news changes over time and geographically. The study draws on and combines three conceptual frameworks: epidemic narrative, anchoring, and framing, in order to construct the pandemic narrative as reflected by the newspaper coverage. The three frameworks were combined to address three aspects of a narrative: 1) there are common stories for common experiences; 2) new stories relate to old stories; and 3) stories of the same experience can have multiple perspectives and interpretations. When combined, these frameworks provide a nuanced understanding and analysis of an epidemic narrative. Articles from four local Saskatoon papers, the *StarPhoenix*, *Saskatoon Sun*, *Planet S*, and *The Sheaf* and two Canadian national newspapers, the *National Post* and the *Globe and Mail* were analyzed for the study. To analyze the articles, an approach referred to as qualitative content analysis was adapted. The primary focus of this approach is on the discourse and meanings of the text. The study provides an overview of the evolving newspaper coverage of the 2009 H1N1 pandemic in newspapers distributed within Saskatoon, Saskatchewan. The findings of the study highlight the importance of meaning and how meanings are constructed and reflected with a narrative. The findings also show how the broader socio-cultural context influences a narrative. The results illustrate the difficulties with communication during a fluid and uncertain situation such as a pandemic. This work can provide a basis for communication advice for future disease outbreaks.

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## CHAPTER 1 INTRODUCTION

### 1.1 Introduction

On April 25, 2009, while I was browsing one of my usual news sources, Fark,<sup>1</sup> I noticed the following headline: “President Mexico City: SHUT DOWN EVERYTHING.” It was a reference to an internet catchphrase (i.e. meme) based on the 2008 online Flash game *Pandemic II*.<sup>2</sup> The meme is used to indicate an overreaction to a situation. The headline caught my attention and I clicked the link to the article. It was the first news report that I read about a severe outbreak of a flu-like illness in Mexico, and Mexico City had shut down the city in response. Over the next few days, I noticed more and more articles from various news sources about the Mexican outbreak and of cases appearing in other countries. The World Health Organization (WHO) and national health officials were calling for action. Within days, the term pandemic started to appear in the headlines and articles. Since I have an interest in how people react to infectious diseases, this really caught my attention.

As I followed the developing news coverage over the next few weeks, I was intrigued by how the outbreak was discussed as it shifted from a Mexican outbreak to a potential pandemic and then, finally, to a pandemic. I noticed a lot of conflicting information, uncertainty, and differing attitudes and opinions in the various media sources and wondered how that might influence people’s reaction to the disease. I also noticed slight variation in the coverage from different regional news sources. Some of the variation included references to other outbreaks or local experiences, differences in the public health responses and different attitudes towards the responses. Based on my initial observations as the story unfolded, I decided that an in-depth

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<sup>1</sup> Fark.com is a news aggregator where users submit news articles with sarcastic and satirical commentary, known as a Fark Headline.

<sup>2</sup> The game is available online at [www.crazymonkeygames.com/Pandemic-2.html](http://www.crazymonkeygames.com/Pandemic-2.html). The player must evolve and spread a deadly infectious disease in order to kill the global population. The region of Madagascar is the most difficult region to infect in the game since it has no airports or bordering countries. The disease must spread through the island’s shipyard, which frequently shuts down early in the game. Images and videos of the President of Madagascar yelling the phrase, SHUT DOWN EVERYTHING, became an online joke among fans of the game.

study to examine how the news discussed the pandemic over time would be interesting to do. Also, given the regional variation that I noticed, I decided to localize the study to news coverage that was available at a specific location. Saskatoon, Saskatchewan was chosen for the study location since it is where I live and I am personally familiar with the area. My knowledge of the area would be useful in understanding the local context of the news stories. Newspapers were chosen as the media source since they are widely available in the community and they have a local focus (i.e. the local newspapers), but also include national and international stories. When making this decision, I was aware of the wide range of media sources from which people obtain information, however, a specific media source was required which was easy to collect and would yield a manageable set of data.

It is known that disease outbreaks, either at a local or a global scale, elicit a social response from the society that it affects. The social response follows a characteristic narrative which reflects the society in which it occurs (Rosenberg, 1989). In turn, the narrative can influence the public's perception about the epidemic and can influence public health policy (Wald, 2008). The mass media, a primary source through which the WHO and other health organizations communicate to the public, both reflect and shape the social response to the outbreak (Lyons, 2000; Seale, 2003). An examination of the mass media provides a glimpse of the epidemic narrative that occurs alongside a disease outbreak.

## 1.2 Purpose of Study

The primary objective of the study is to construct the epidemic narrative of the 2009 H1N1 pandemic, with a focus on how the themes and discussions in the news change over time and how that narrative varies between the local and national level. The epidemic narrative is reflected by the focus (i.e. the main themes) and the discourse of the news coverage over the course of the pandemic. The study is guided by three main research questions:

1. What are the main themes that are discussed in the newspapers in relation to the H1N1 pandemic and how are they discussed (i.e. the discourse)?
2. How do the themes and discourse change over time and how do these changes relate to the timeline of the pandemic?
3. How do the themes and discourse compare between the local and national newspapers?

Relevant articles from four local Saskatoon papers, the *StarPhoenix*, *Saskatoon Sun*, *Planet S*, and *The Sheaf* and two Canadian national newspapers, the *National Post* and the *Globe and Mail* were analyzed for the study. The *StarPhoenix* is Saskatoon's primary local daily newspaper and it also publishes the weekly *Saskatoon Sun*. The *Planet S* is a free bi-weekly news, arts, and entertainment tabloid. *The Sheaf* is a free weekly University of Saskatchewan student paper. The majority of Saskatoon's local newspaper coverage comes from the *StarPhoenix*, however, the other local newspapers were included to capture the range of newspapers read by Saskatoon residents. The two national newspapers, the *Globe and Mail* and the *National Post*, were chosen to provide an overview of the national-wide news coverage, irrespective of any political perspective of the news organization. The *Globe and Mail* is available for home delivery in Saskatchewan while the *National Post's* print edition is available in stores. All of the newspapers are available online.

The study draws on and combines three conceptual frameworks, epidemic narrative, anchoring, and framing, in order to construct the 2009 H1N1 pandemic narrative as reflected by the newspaper coverage. The conceptual frameworks were combined to address three aspects of a narrative: 1) there are common stories for common experiences; 2) new stories relate to old stories; and 3) stories of the same experience can have multiple perspectives and interpretations. An epidemic narrative identifies the common stories for disease outbreaks. Anchoring assumes that representations of new experiences (new stories) are anchored to previous experiences (old stories). Framing assumes that stories of the same experience can have multiple perspectives and interpretations. The way that the media presents the information and what they emphasize or omit can elicit different interpretations.

To analyze the articles, I adapted an approach described by David Altheide (1996) as qualitative content analysis. The approach shares similarities to content analysis and discourse analysis. The analysis begins with a protocol of expected themes, similar to content analysis, however, the protocol is flexible and may be revised as the analysis progresses. The primary focus of this approach is on the discourse and meanings presented in the documents.

### 1.3 Significance of the Study

The study provides an overview of the evolving newspaper coverage of the 2009 H1N1 pandemic in newspapers distributed within Saskatoon, Saskatchewan. The findings of the study highlight the importance of meaning and how it is constructed and reflected with an epidemic

narrative. The findings also illustrate how the broader socio-cultural context influences a narrative. The results illustrate the difficulties with communication during a fluid and uncertain situation such as a disease outbreak. The work can provide a basis for communication advice for future disease outbreaks.

#### 1.4 Dissertation Structure

This dissertation is divided into 13 chapters. Chapter 1 introduces the study. Chapter 2: Study Background and Context provides an overview of the study's health organizational and geographical context. It also provides background information on influenza, pandemic planning, and the 2009 H1N1 pandemic. Chapter 3: Theoretical Perspective and Frameworks highlights the relationship between media and perceptions of health, and the theoretical perspective and conceptual frameworks that inform this work. Chapter 4: Research Methodology includes a summary of the methodology, research methods, and analysis.

The results are divided into several chapters based on common themes and presented in Chapters 5 through 11. Chapter 5: Overview of the 2009 H1N1 Pandemic Narrative provides a broad overview of the epidemic narrative and outlines the remaining result chapters. Chapter 6: Defining the Outbreak focuses on the theme of defining and naming. Chapter 7: Influenza Activity and Spread discusses how the newspapers present stories of the sick and dead and the associated societal impacts. Chapter 8: Pandemic Preparedness and Response focuses on the coverage of pandemic planning and preparedness. It also presents the criticisms of the general public health response. Chapter 9: Public Health Measures presents the news coverage of specific public health measures and their associated social responses. Chapter 10: Vaccination focuses on issues regarding vaccination. Vaccination was put in a separate chapter from the other public health measures due to the extensive media focus on the issue. The final results chapter, Chapter 11: Post Pandemic Assessment and Lessons presents the stated lessons from the pandemic as presented in the newspaper coverage. Chapter 12: Summary of Results and Research Questions discusses the results in relation to the research questions. The final chapter, Chapter 13: Discussion and Conclusions highlights the main points based on the findings and connects them with broader socio-cultural context, the theoretical perspective and the broader literature. The chapter highlights contributions and limitations of the work and concludes with recommendations for future research and practice.

## CHAPTER 2 STUDY BACKGROUND AND CONTEXT

### 2.1 Introduction

This chapter provides an overview of the study's health organizational and geographical context. It also provides background information on influenza, pandemic planning prior to April 2009, and the H1N1 pandemic. The first section focuses on the study location and provides an overview of the international, federal, provincial and local organizations that are responsible for responding to a health crisis, such as the H1N1 pandemic. The second section provides a brief description of influenza. The third section focuses on pandemic planning internationally and in Canada prior to the H1N1 pandemic. The fourth section provides a brief timeline of the international and national spread and response the H1N1 pandemic based on official documentation from the associated health organizations.

### 2.2 Regional Health Organizations

#### 2.2.1 World Health Organization

The World Health Organization (WHO), a United Nations agency, provides leadership for and coordinates international public health efforts. Additional functions of the organization include promoting research and knowledge translation, setting health guidelines and standards, providing technical support and capacity building, and international surveillance (WHO, 2007). The WHO consists of 193 Member States and two Associate Members (non-state territories). The Member States appoint delegates to the WHO Assembly, which meets every year to set the organization's policy, approve the budget, and every five years appoints a Director-General for the WHO (WHO, 2007). The current Director General is Dr. Margaret Chan. Dr. Chan was appointed to the position in 2006 and was reappointed for a second five-year term in May 2012. In addition to the main headquarters in Geneva, Switzerland, there are six regional offices (African, Americas, Eastern Mediterranean, European, South-East Asia, and Western Pacific) that focus on health matters within their region. See Figure 2-1 for map of WHO regions.



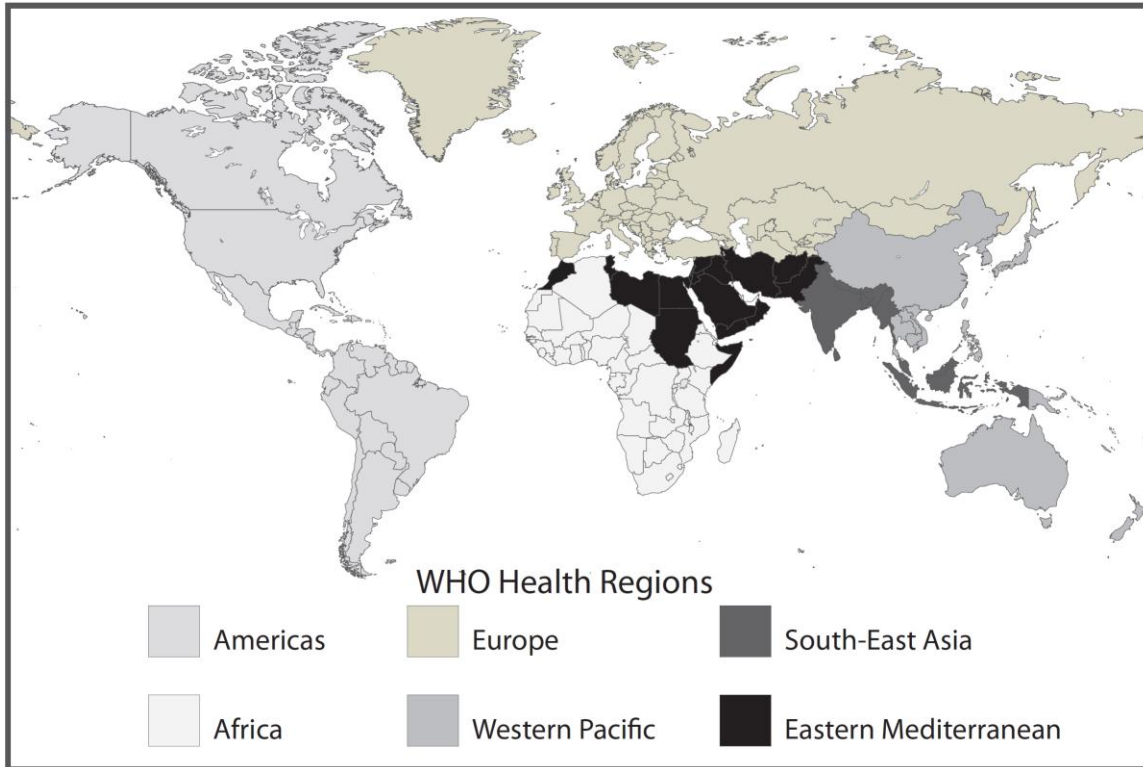


Figure 2-1: Map of the World Health Organization Regions

### 2.2.2 Canada

In Canada, the health care system is publically funded and a joint responsibility between the federal government, and the provincial and territorial governments. See Figure 2-2 for map of the Canadian provinces and territories. At the federal level, the Public Health Agency of Canada (PHAC) and Health Canada had prominent roles in the overall response to the H1N1 pandemic. Both agencies are part of the federal Health Portfolio and report to Parliament through the Minister of Health. The current Minister of Health is Leona Aglukkaq. She was appointed to the position in October 2008, thus her time in office included the 2009 pandemic.

The PHAC is the federal organization responsible for public health. The PHAC was established in September 2004 as part of the response to the 2003 SARS outbreak. The Chief Public Health Officer of Canada, currently Dr. Butler-Jones, manages the organization. The role of the agency includes promoting health, preventing and controlling chronic disease and injuries, preventing and controlling of infectious diseases, and preparing for and responding to public health emergencies such as disease outbreaks. The agency works in collaboration with all levels of government, as well as with other countries and the World Health Organization (PHAC,

2011). During a pandemic, the agency is responsible for coordinating the public health response in collaboration with the provinces and territories (Health Canada, 2009d).

Health Canada is the federal department responsible for the health care system. The provincial and territorial governments are responsible for the administration and delivery of health care services within their jurisdictions. The role of Health Canada includes setting and administering national principles for the health care system, assisting with the financing of provincial and territorial health care services, delivering health care services to specific groups (i.e. First Nations and Inuit), and providing other health-related function such as public health, health programs, and health research (Health Canada, 2009a). In the event of a pandemic, Health Canada provides emergency health care for First Nations reserves and federal government employees, and gives approval to drugs and vaccines (Health Canada, 2009d).



Figure 2-2: Political Map of Canada

### 2.2.3 Saskatchewan

The Saskatchewan Ministry of Health supervises and co-ordinates the delivery of health care services in the province. Saskatchewan Health establishes health policy, sets and monitors standards, provides funding, and supports regional health authorities and other health care

organizations. Most services are delivered through the province’s 12 regional health authorities (See Figure 2-3 for map of health regions), often referred to as health regions. The northern region, Athabasca Health Authority, is jointly funded through Saskatchewan Health and the federal government (Government of Saskatchewan, 2007b). The Saskatchewan Ministry of Health is located in Regina, the provincial capital (Refer to Figure 2-2 for the location of Regina).

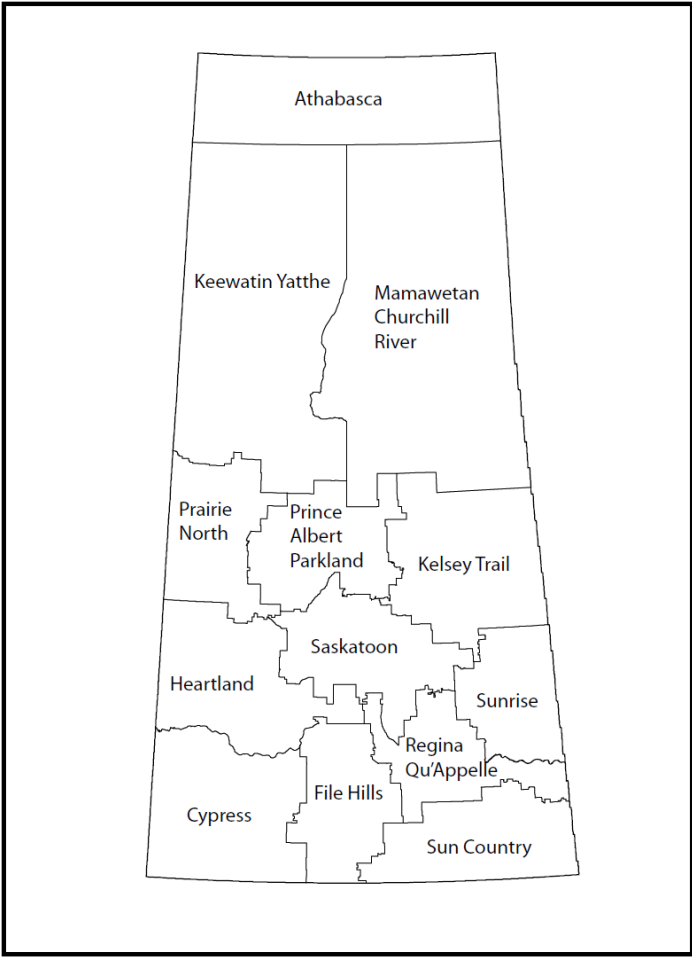


Figure 2-3: Map of Saskatchewan Health Regions

2.2.4 Saskatoon Health Region

The Saskatoon Health Region (SHR) (see Figure 2-3 for location of the health region within the province) is responsible for planning, organizing, delivering, and evaluating health care services and programs within its geographical area (see Figure 2-4 for a map of the health region) (Government of Saskatchewan, 2007a). SHR covers 32,000 square kilometers (5.25% of Saskatchewan’s geographic area) with approximately 300,000 people (30% of Saskatchewan’s

population). The region is a mix of urban and rural communities with Saskatoon as the largest urban centre. Over 84% of the region’s population lives in and around Saskatoon (Saskatoon Health Region, 2010).

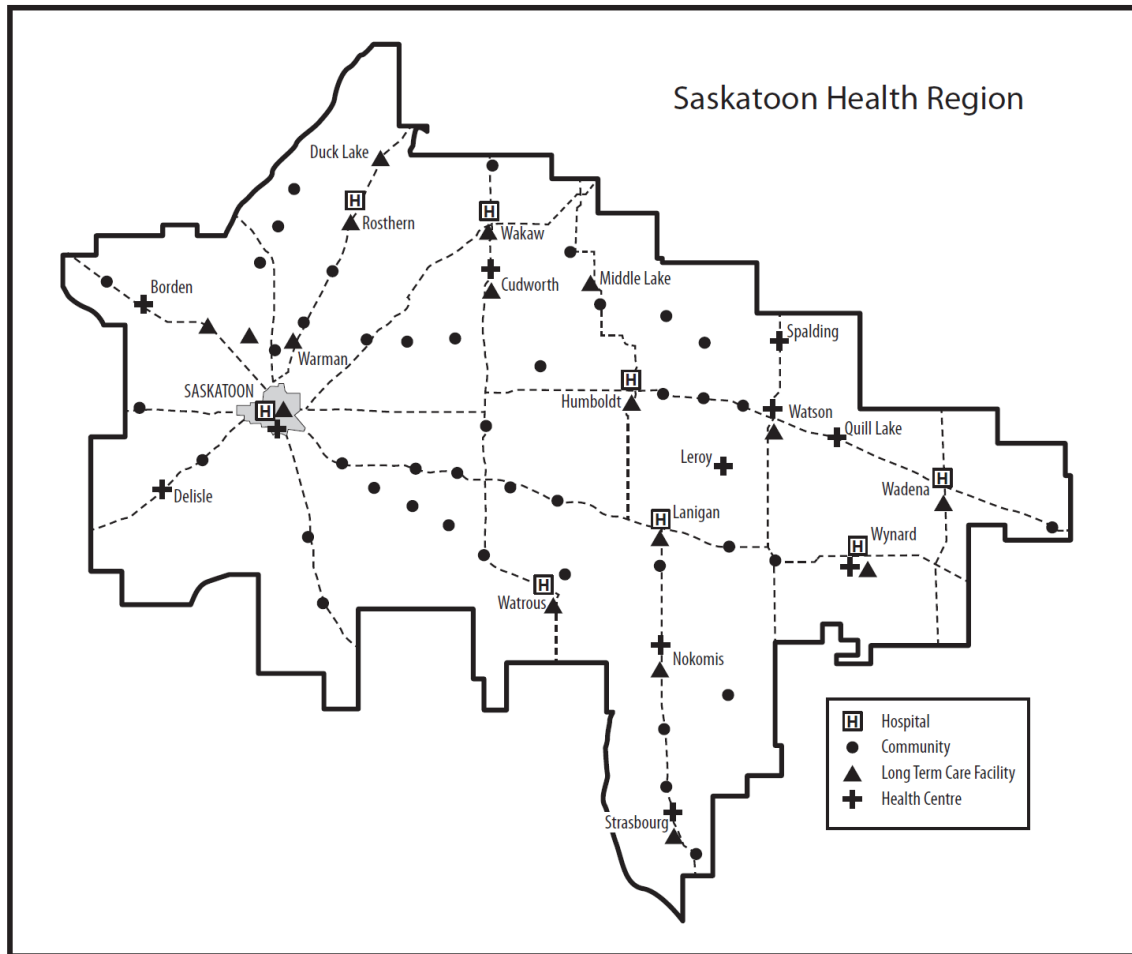


Figure 2-4: Map of Saskatoon Health Region

### 2.3 Influenza

Influenza is a common respiratory infection caused by an influenza virus. The illness is commonly referred to as *the flu* or *cold and flu*. These common terms also refer to other similar illnesses that include common colds. Influenza is also mistakenly confused with the term *stomach flu*, which is applied to any illness that causes nausea, vomiting and diarrhea (i.e. gastroenteritis). Influenza rarely causes these symptoms; the primary symptoms are respiratory (Health Canada, 2009c). Common symptoms of influenza include sudden onset of a high fever, cough, fatigue, muscle aches, sore throat, headache, and runny nose. Other less common symptoms include nausea, vomiting, and diarrhea (PHAC, 2012; WHO, 2012). Most people

recover within one to two weeks. However, the very young, the elderly, and those with other serious medical conditions can have serious complication, such as secondary bacterial infections, pneumonia, or death (Gladwin & Trattler, 2001; PHAC, 2012; WHO, 2012).

Influenza virus strains circulate every year which cause annual epidemics that usually peak in the late fall and winter months. The yearly outbreaks are referred to as seasonal influenza. The virus easily spreads from person to person through droplets when one sneezes or coughs. The virus can also spread on contaminated hands or surfaces (PHAC, 2012; WHO, 2012). Annual vaccinations are promoted as the most effective way to protect against the virus. Other preventive measures include hand washing, covering coughs and sneezes, cleaning common surfaces, and staying home when sick (Health Canada, 2009c; PHAC, 2012; WHO, 2012).

There are three types of the influenza virus: A, B and C. Types B and C are found almost exclusively in humans, while Type A has been widely found in humans and other mammals such as pigs and birds. Type A influenza viruses are further classified into subtypes according to the different types and combinations of surface proteins referred to as H and N (Gladwin & Trattler, 2001). Type A viruses are also the most common strains of seasonal influenza (PHAC, 2012). People are exposed to different strains of the influenza virus as it mutates periodically, which then provides partial immunity for the next exposure. When a drastic change occurs in a virus strain, a new strain can emerge where a large portion of the population has little to no immunity. A new influenza strain can lead to a pandemic (Health Canada, 2009c). The next section discusses pandemics and pandemic planning in more detail.

#### 2.4 Pandemic Planning Prior to the 2009 H1N1 Pandemic

A pandemic is a “worldwide outbreak of a specific disease to which people have little to no immunity” (PHAC, 2006). Unlike seasonal influenza, pandemic influenza is caused by a virus that is “either entirely new or has not circulated recently and widely in the human population” (WHO, 2009b). This creates an almost universal vulnerability to infection leading to an increase in worldwide illness (WHO, 2009b). The basic assumption about an influenza pandemic is that it is impossible to predict when it will occur or how severe it will be, but its inevitability is recognized. While the WHO does not consider it feasible to stop the spread of a pandemic virus, pandemic planning is considered important to minimize its impact (WHO, 2005b).

Pandemic plans developed prior to the 2009 pandemic have been influenced by two key events: the increase in outbreaks of avian influenza and resulting human cases since 2003, and

the 2003 SARS outbreak (WHO, 2005c). These events are discussed in the next section. Pandemic planning had certainly occurred prior to these events but the plans that were in place for the 2009 pandemic had been revised in light of new research and these outbreak experiences (WHO, 2005b).

#### 2.4.1 Influential outbreaks for pandemic planning

Since 2003, avian influenza (H5N1) has been viewed as a “potential pandemic” threat and was influential in the recent pandemic plans. The virus is endemic among bird populations in parts of Asia. There has been an increase in the number of outbreaks among birds and sporadic human cases with relatively high mortality rates, however, there has been little to no evidence of person-to-person spread. Southeast Asia, where H5N1 is endemic, is also a location where the majority of new influenza viruses emerge due to the large human populations in close interactions with pigs and domestic fowl. The close interaction allows human, swine, and avian influenza viruses to mix and mutate. There was concern that H5N1 could mutate, enabling it to spread person-to-person and trigger a pandemic. The probability of a new strain emerging in North America was thought to be relatively low (WHO, 2005c). As a result, pandemic planning frequently referred to avian influenza emerging from Asia as the next potential pandemic.

Severe acute respiratory syndrome (SARS) was new disease discovered in early 2003. The first cases were confirmed to have occurred in November 2002 in Guangdong Province, China. The disease spread from China to Hong Kong and from there to Vietnam, Singapore, Canada (i.e. Toronto), and elsewhere via international air travel. In Toronto, the majority of cases spread in the hospital setting (WHO, 2003). While not an influenza virus, the 2003 SARS outbreak was notable for pandemic planning since it was an example of a recent disease outbreak with international spread. The outbreak highlighted the importance of early disease recognition, political support for interventions, transparent communication among government and health partners and the public, and coordinated global and national efforts either to contain or to buy time for other public health measures to be implemented. The outbreak also exposed the gaps in the public health system (WHO, 2005c).

#### 2.4.2 WHO pandemic planning and pandemic phases

In 1999, the WHO (1999) published *Influenza pandemic plan: The Role of WHO and guidelines for national and regional planning*. The 1999 pandemic plan required updating due

to scientific advancements in our knowledge about the evolutionary biology of the influenza virus, new techniques for vaccine development and laboratory diagnosis, improved influenza diagnosis techniques, ongoing revision of the International Health Regulations, recognition of the endemic avian influenza (H5N1) in Asia and the increasing number of human cases since 2003, and the 2003 SARS outbreak (WHO, 2005c). The updated WHO pandemic plan based on the scientific and technological, advances and the lessons from avian influenza and SARS was released in 2005. The WHO urged individual countries to develop or update their national influenza preparedness plan according to the revised WHO version and recommendations. The revised plan also redefined the pandemic phases to address the public health risk of influenza infections, such as H5N1 in animals, and linked the newly defined phases to changes in public health response and practice (WHO, 2005c).

The pandemic phases were first introduced in 2005 when the WHO revised their pandemic guidance due to the potential threat of avian influenza (WHO, 2009e). In 2009, the World Health Organization revised the groupings and descriptions of the pandemic phases to make them easier to understand, more precise, and based upon observable phenomena (see Table 2-1 for a description of each phase). The guidelines are based on the transmission and geographic spread of the disease. In terms of pandemic preparedness and responses, Phases 1-3 correspond with preparedness and planning. Phases 4-6 signal the need to respond to an impending and ongoing pandemic, while post-pandemic (non-numbered) phases were elaborated to facilitate post-pandemic recovery activities (WHO, 2009a).

| PHASE                | DESCRIPTION  |
|----------------------|--|
| Phase 1              | No influenza virus circulating among animals have been reported to cause infection in humans.  |
| Phase 2              | An animal influenza virus circulating in domesticated or wild animals is known to have caused infection in humans and is therefore considered a specific potential pandemic threat.  |
| Phase 3              | An animal or human-animal influenza reassortant virus has caused sporadic cases or small clusters of disease in people, but has not resulted in human-to-human transmission sufficient to sustain community-level outbreaks. |
| Phase 4              | Human-to-human transmission of an animal or human-animal influenza reassortant virus able to sustain community-level outbreaks has been verified.  |
| Phase 5              | The same identified virus has caused sustained community level outbreaks in two or more countries in one WHO region.   |
| Phase 6              | In addition to the criteria defined in Phase 5, the same virus has caused sustained community level outbreaks in at least one other country in another WHO region.   |
| Post Peak Period     | Levels of pandemic influenza in most countries with adequate surveillance have dropped below peak levels.  |
| Post Pandemic Period | Levels of influenza activity have returned to the levels seen for seasonal influenza in most countries with adequate surveillance.   |

Table 2-1 Definition of Pandemic Phases  
(Source: WHO, 2009a)

The WHO's pandemic phases do not capture disease severity. Additional guidelines outline this dimension of the disease (WHO, 2009b). A major determinant for the severity is the virulence of the virus, which is measured by the number of cases of severe illness and deaths that it causes. However, other factors such as the contagiousness of the virus, population vulnerability, subsequent waves of spread, and the capacity to respond can influence the overall severity of a pandemic. A major difficulty for the assessment of severity is the potential for variability in virulence. The severity of a pandemic can vary significantly both geographically and over time. The overall vulnerability of the population or segments of the population due to underlying health conditions and poor social conditions can contribute to the severity. The same virus can cause mild illness in one location and cause high morbidity and mortality in another due to differences in population susceptibility. Additionally, pandemics tend to have two or three waves of illness. The severity of these waves can vary in the same locale. The contagiousness of a virus can also influence the severity of the outbreak. Combined with an almost universal vulnerability for infection, the virus can quickly spread leading to a large



number of ill individuals in a short amount of time. This can cause social and economic disruption. Rapid spread can overwhelm the capacity of governments and health care services to cope with the outbreak. The outbreak may be less devastating in areas with strong health care systems compared to areas with weak health systems. However, even strong health care systems can be overwhelmed with a large number of ill individuals (WHO, 2009b).

#### 2.4.3 Pandemic planning in Canada

Canada's pandemic influenza planning activities date back to 1983, and a pandemic influenza plan has been in place since 1988. Since then, the pandemic plan has evolved based on advances in research and the experiences with disease outbreaks in Canada and other countries (PHAC, 2006). The pandemic plan used during the 2009 H1N1 pandemic, the *Canadian Pandemic Influenza Plan for the Health Sector*, was first published in 2004 and revised in 2006 to reflect the changes in the WHO's pandemic phases.<sup>1</sup> The pandemic plan outlines how the health sector can prepare for and respond to an influenza pandemic, outlines the actions to take during each pandemic phase, and clarifies the roles and responsibilities of all levels of government, public health officials, and front-line health care workers. It also serves as a guideline and checklist for various jurisdictions, such as each level of government and health care institutions, to use with their own planning strategies (PHAC, 2006). The pandemic plan for Saskatchewan is closely aligned with the national plan (Government of Saskatchewan, 2010; Saskatchewan Ministry of Health, 2009).

The Canadian outbreak of SARS in 2003 strongly influenced the nation's pandemic planning. Prior to the outbreak, health care professionals and the general public had "limited personal experience with large outbreaks of serious respiratory infections" (PHAC, 2006, p. 78). SARS has been referred to as a "dress rehearsal for pandemic influenza" (Andresen, 2004, p. 181). The Canadian experience with SARS highlighted response issues at the national level and reinforced importance of preparedness activities. Part of the responses from SARS included the

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<sup>1</sup> The pandemic plan was further revised in June 2009 in response to the H1N1 pandemic. The revision included the addition of the role of Aboriginal Affairs and Northern Development Canada (previously Indian and Northern Affairs Canada) to the roles and responsibility section of the annex, *Planning Consideration in On Reserve First Nations Communities*.

establishment of the Public Health Agency of Canada and lessons from the outbreak were incorporated in the national pandemic plan (PHAC, 2006).

### 2.5 Overview of 2009 H1N1 Pandemic

This section includes a brief outline describing how the pandemic spread internationally, nationally, and in Saskatchewan based on the official documentation. Additional details of the pandemic are included in the results chapters as they were reported in the Canadian newspapers. Table 2-2 is a timeline of selected international, national, and provincial events during the 2009 H1N1 pandemic.

|             |             | International  | National  | Saskatchewan   |  |
|-------------|-------------|--|---|--|--|
| 2009<br>Mar | First Wave  | Detection of severe respiratory infections in Mexico<br>Mar 17 - First known Mexican case<br>Mar 28 - First known US case  |   |  |  |
| Apr         |             | Apr 23 - WHO announces outbreak<br>Apr 25 - Declared Public Health Emergency of International Concern<br>Apr 27 - WHO raises Alert to 4<br>Apr 29 - WHO raises Alert to 5, pandemic imminent<br>Apr 29 - First death outside of Mexico in US | Apr 26 - First Canadian cases confirmed in NS & BC<br>Apr 27 - PHAC issues travel advisory<br>Apr 28 - Cases confirmed in AB and ON<br>Apr 30 - Case confirmed in QB  |  |  |
| May         |             | May 1 - WHO negotiations with vaccine manufacturers<br>May 1 - WHO drops name "swine flu" for H1N1<br>May 3 - China quarantines Canadian & Mexican students<br>May 22 - Mexico relaxes restrictions  | May 2 - Virus found at Alberta hog farm<br>May 4 - First severe case in Canada reported<br>May 4 - Cases confirmed in PEI<br>May 7 - First Canadian death confirmed in AB<br>May 8 - Community outbreaks confirmed in Canada<br>May 9 - Case confirmed in MB<br>May 12 - Case confirmed in YT<br>May 18 - PHAC lifted Mexican travel advisory | May 7 - First SK cases in Saskatoon and Regina areas   |  |
| June        |             | June 11 - WHO declares pandemic, raises alert to 6<br>June 29 - First known Tamiflu-resistant case   | Severe outbreaks in northern Manitoba FN communities<br>June 1 - Case confirmed in NT<br>June 6 - Hand sanitizer shipment to FN debate<br>June 13 - Case confirmed in NL  | June 27 - First death reported in SK   |  |
| July        |             | July 16 - WHO changes reporting requirements   | July 21 - First Canadian case of Tamiflu-resistance   | July 23 - SK stops counting individual cases   |  |
| Aug         |             |  | Aug 6 - Report that Canada orders 50.4 million vaccine doses (Ordered in late July)<br>Aug 29 - First wave officially ends in Canada<br>Aug 30 - Second wave officially begins  |  |  |
| Sept        |             | Second Wave  |   | Sept 16 - Priority list released<br>Sept 17 - Body bag shipment to FN reserves   |  |
| Oct         |             |  |   | Oct 19-25 - Shipment of vaccines to P/T<br>Oct 21 - Health Canada authorizes adjuvanted vaccine<br>Oct 22 - Canada's vaccine campaigns begins<br>Oct 26 - Highly publicized death of 13-year-old boy | Oct 26 - Saskatoon begins vaccination campaign |
| Nov         | Peak in Nov |  | Nov 12 - Health Canada authorizes unadjuvanted vaccine<br>Mid Nov - Vaccine campaigns expand to general public  | Nov 25 - Mass vaccination in Saskatoon   |  |
| Dec         |             |  | Early to Mid Dec - Mass clinics close down  | Dec 17 - Mass vaccination clinics closed in Saskatoon  |  |
| 2010<br>Jan |             | Jan - WHO addresses allegations of improper influence by pharmaceutical companies  | Jan 1 - PHAC and Health Canada scale back response<br>Jan 27 - Second Wave declared over by PHAC  |  |  |
| Feb         |             |  |   |  |  |
| Mar         |             |  |   |  |  |
| Apr         |             |  |   |  |  |
| May         |             |  |   |  |  |
| June        |             |  |   |  |  |
| July        |             |  |   |  |  |
| Aug         |             | Aug 10 - WHO declares "Post-Pandemic Phase"  |   |  |  |

Table 2-2: Timeline of the 2009 H1N1 Pandemic

### 2.5.1 International experience of the 2009 H1N1 pandemic

In April 2009, an outbreak of a new strain of influenza A/H1N1, also known as swine flu, was identified in North America. The virus was initially referred to as swine flu due to genetic

similarities with swine influenza virus, however, it was later found to be a unique reassortment of avian, human, and swine influenza strains (WHO, 2009i). The virus quickly spread across the globe, leading to the declaration of a pandemic in June 2009 by the World Health Organization, the first in over forty years (WHO, 2009i).

The outbreak first originated in Mexico, with cases reported in early March. The majority of the earliest reported Mexican cases occurred in otherwise healthy, young adults, which raised concerns over the new influenza strain (WHO, 2009f). Cases caused by the virus were also found in the United States. On April 24, the WHO issued its first disease outbreak report of an influenza-like illness in the United States and Mexico (WHO, 2009f). The next day, the WHO Director-General declared the event a *Public Health Emergency of International Concern* (WHO, 2009g). The WHO made no official recommendations for travel or trade restriction since they did not believe that travel restrictions would slow the spread of infection. Instead, the decision was left to individual countries to issue their own travel advisories and restrictions, as they deemed necessary (WHO, 2009g; 2009h).

Between April and June, the virus quickly spread to and established community-based transmission in multiple countries. On June 11, the WHO officially raised the pandemic alert to Phase 6, the highest level, declaring the outbreak a pandemic (WHO, 2009i). Many influenza scientists and public health experts disagreed with the WHO's decision to wait as long as they did to raise the alert to Phase 6. They argued that the criteria for a pandemic had been met several weeks prior and that the WHO postponed the decision unnecessarily. Many epidemiologists believed that the UK, Spain, and Japan were experiencing community-based outbreaks by mid-May (Cohen & Enserink, 2009). This would have met the criterion for community-based spread in one country in a second WHO region. However, WHO officials contended that these were localized outbreaks in schools and other institutions rather than community-based spread. The WHO claimed that science wasn't the only factor that they considered. They waited to ensure that countries were well prepared to prevent an overreaction. Many of the national pandemic plans were developed with a much deadlier strain (i.e. avian influenza) in mind (Cohen & Enserink, 2009).

On a separate scale for severity, the pandemic was rated as “moderate” (WHO, 2009i). For most individuals, the illness caused mild symptoms. It was severe in a minority of cases. As the illness spread, individuals who experienced severe symptoms included pregnant women, children

under five years of age, individuals with certain chronic health conditions and individuals with compromised immune systems (WHO, 2009i).

While the disease was generally considered mild, the virus “spread internationally with unprecedented speed. In past pandemics, influenza viruses have needed more than six months to spread as widely as the new H1N1 virus [had] spread in less than six weeks” (WHO, 2009c). Due to the increasing number of cases in countries with sustained community transmission, it had become “extremely difficult, if not impossible, to try and confirm them through laboratory testing” (WHO, 2009c). The WHO considered the spread of the virus within already affected countries and to new countries as “inevitable” (WHO, 2009c). As a result, the WHO advised countries to stop counting individual cases in July 2009. Countries were no longer required to submit reports on the number of confirmed cases and deaths to the WHO. Instead, surveillance activities changed to indicators used for monitoring seasonal influenza to divert resources to other measures and activities. Clusters of severe or fatal cases were closely monitored. Newly affected countries were still required to report on the first confirmed cases and provide weekly aggregated case numbers and descriptive epidemiology of early cases (WHO, 2009c). During the pandemic, the WHO issued guidance on public health measures that countries could apply to reduce or delay the transmission of the disease (WHO, 2011).

Influenza activity decreased by November or December 2009 in many locations and worldwide cases were tapering off by spring 2010. On August 10, 2010, the WHO declared the end of the pandemic and the beginning of the post-pandemic period (WHO, 2010).

#### 2.5.2 Canadian H1N1 pandemic experience

The initial Canadian cases were among travelers returning from Mexico. The first confirmed cases were reported on April 26 in Nova Scotia and British Columbia (PHAC, 2010). Shortly thereafter in May, community-based outbreaks were confirmed. Canada experienced two waves of the pandemic. The first began in April 2009, peaked in June and ended at the end of August 2009. The second wave began at the end of August and peaked in November 2009. During the second wave, influenza activity began in British Columbia and spread eastwards. Nation-wide influenza activity decreased in December 2009. The second wave resulted in four to five times more hospitalizations and deaths compared to the first wave. Groups who experienced higher rates of hospitalization and mortality included Aboriginal people, pregnant women, and individuals with at least one underlying health condition. An increase in influenza activity was

also reported in all provinces and territories during the second wave, except for Manitoba and Nunavut, which experienced higher flu activity during the first wave (PHAC, 2010). The PHAC declared the second wave over at the end of January 2010 (PHAC, 2010).

### 2.5.3 Pandemic in Saskatchewan

In April 2009, the Health Emergency Operations Centre was established in preparation for a potential outbreak and to coordinate the activities of the provincial Ministry of Health and relevant partners (Government of Saskatchewan, 2010). The first cases in the province were detected on May 6, 2009. The initial cases occurred among individuals who had returned from Mexico and their close contacts. Like the rest of the country, Saskatchewan experienced two waves of the pandemic with similar peaks of influenza activity. The first wave began in May 2009 and peaked in June and July 2009. The second wave began in September 2009 and peaked in November and December 2009 (Opondo, Wright, Findlater, Grauer, & Ugolini, 2011). The number of confirmed cases decreased by January 2010 and all influenza cases had disappeared in the province by late winter. The lack of any influenza at that time was “highly unusual” during the normal seasonal influenza cycle. The overall pandemic response to the pandemic in Saskatchewan was defined as “very successful” with 50% of the population vaccinated (Government of Saskatchewan, 2010).

The initial case in the Saskatoon Health Region was among the first detected in the province. The region experienced a similar pattern as the rest of the province. The total number of cases in the region is unknown due to selective testing, however, 909 cases were confirmed. More than half of these cases were among individuals under the age of 18. There were 9 reported deaths in health region, all among individuals who had underlying health conditions. More hospitalizations and deaths occurred among younger people than would be expected for seasonal influenza and pneumonia. The region’s vaccination campaign began in October 2009 and resulted in 49% of population being immunized between October and March 2010 (Opondo, et al., 2011).

## 2.6 Summary

To summarize, influenza is a common illness that occurs every year, however, occasionally a new strain will emerge to which the population has little to no immunity. This was the case for the 2009 H1N1 pandemic. The chapter provided an overview of the relevant health

organizations, the World Health Organization, Health Canada, Public Health Agency of Canada, the Saskatchewan Ministry of Health and the Saskatoon Health Region that responded to the 2009 H1N1 pandemic at the international, national, and local levels. Their response to the pandemic was influenced by years of pandemic planning in each health organization. Pandemic planning has been ongoing for years in anticipation of a possible pandemic. The plans are based on research and experiences with other disease outbreaks. The chapter concluded with an overview of the international and national spread of the pandemic based on the official documentation.

## CHAPTER 3 THEORETICAL PERSPECTIVE AND FRAMEWORKS

### 3.1 Introduction

This chapter considers the theoretical underpinnings of media and health studies and highlights the theoretical perspectives that inform this thesis. The first section focuses on the relationship between the media and perceptions of health. News media are recognized as important sources that shape and reflect public perceptions of health and illness and thus deserve examination. The section includes a discussion on risk communication and perception, a common approach to media studies in the health promotion and public health fields. While these studies tend to rely on a quantitative content analysis approach to assess the coverage and content of the media health messages, there is a need to move beyond this type of analysis and examine how the health messages are constructed. The section also includes a review of other media studies of the H1N1 pandemic.

To examine how messages are constructed in the media, I relied on a specific theoretical perspective, conceptual frameworks, and methodology that are an interconnected hierarchy of thought. The theoretical perspective is the highest level and locates the study in a particular world view. The conceptual frameworks, at the second level, are based on the theoretical perspective, but are explicitly grounded in the research questions and objectives. Both the theoretical perspective and conceptual framework influence my interpretation of the data. The methodology operationalizes the framework, informing the data collection and analysis strategy. The second section discusses the theoretical perspective common to the three conceptual frameworks (epidemic narrative, anchoring, and framing) that are combined and used in this study. The three conceptual frameworks are discussed in detail in the third section of this chapter. Examples of media studies that utilized each of these frameworks are also presented. These studies informed this study's methodology which is presented in the chapter that follows.

### 3.2 Media and Health

#### 3.2.1 Media representation and perceptions of health

Media representation studies essentially build from the assumption that knowledge of health and illness is socially constructed and shaped by the wider socio-cultural context. In addition to personal experience, individuals' knowledge of and experience about health and illness are



shaped and reflected by the media. Images and words used in the media provide particular ways of understanding health and illness (Lyons, 2000; Seale, 2003). As a result, media messages can affect the public's perceptions of health risks and health behaviors. Psychologist Antonia Lyons (2000) points out that individuals' beliefs about health and illness do not develop in isolation; instead they are shaped by the broader socio-cultural context, which includes the media. Media messages can, for example, influence people's perceptions regarding their risk to certain health threats, the public's attitudes towards people with an illness, their concept of who is responsible for health, and trust in public health interventions (Lyons, 2000; Nerlich & Halliday, 2007; Seale, 2003; Ungar, 1998; Wallis & Nerlich, 2005). According to medical sociologist Clive Seale (2003, p. 514),

When people get sick, or make decisions about health, or visit their health service providers, or decide what to think and vote about health care policy and finance, their behavior may be formulated in large part from resources drawn from various mass media. These can include depictions of what it is like to be sick, what causes illness, health and cure, how health care providers behave (or ought to) and the nature of health policies and their impact.

While it is difficult to determine the direct effects of any specific media type given the range of communications to which individuals are exposed, and the diverse patterns by which they access various media sources, media content does deserve examination as one mechanism from which representations develop (Joffe, 2002; Joffe & Haarhoff, 2002). The primary focus of a media representation study, therefore, is on the content of the media rather than the audience response to the message since it cannot be assumed that the intended message is what the audience accepts (Lupton, 1999).

Studies of media representations of health and illness have included a wide range of health topics and research methods. Most media representation studies follow one of two methodological approaches: a quantitative content approach focused on the surface content of the text or a qualitative approach concerned with the latent meaning of the text and the broader socio-cultural context in which the media messages are produced (Kline, 2003; Lupton, 1999). Quantitative content analysis was the dominant approach from the 1950s to 1970s and still remains influential, particularly in the fields of health promotion and public health (Lupton, 1999). Content analysis sees the content of media as composed of discrete messages, which can be isolated and counted, thus arriving at a quantitative understanding of the meaning. A quantitative approach is useful in determining how often a specific disease is mentioned or how

frequently specific health messages appear in the media over a period of time. For example, Frost and colleagues (1997) examined the amount of media coverage for select leading causes and risk factors for death, and Bomlitz and Brezis (2008) examined the amount of coverage for selected health topics. These studies are described in more detail in the next section. The primary concern of the approach is the surface content of the text, however, the approach says little about the underlying meanings of media messages and the social context from which the meanings are drawn, which is the primary focus in qualitative approaches (Kline, 2003; Lupton, 1999).

### 3.2.2 Risk communication and perception

A common focus for media studies in the health promotion and public health field is on risk communication and risk perception. Risk perception is the subjective judgments that individuals make when evaluating of the severity and characteristics of various health concerns (Slovic, 1987; 2000). The frequency of media coverage and specific messages presented in the media can influence the public's perception of risk. The media also serve as the intermediary between public health officials and the general public for communication. From a health promotion and public health point of view, media representation studies have consistently concluded that health-related content in the media is problematic (Bomlitz & Brezis, 2008; Kline, 2006). A ten-year review of health studies of media representations found that the media reports are consistently full of inaccuracies, misleading, and problematic themes and images. Regardless of whether the studies reviewed focused on the scope of the coverage, information provided, or the framing of the issues, media coverage of disease and illness was found to be lacking in adequate or correct health information (Kline, 2006).

The news media has been criticized for publishing inaccurate, sensationalized, or misleading stories that are not the most scientifically significant (Bomlitz & Brezis, 2008; Dudo, Dahlstrom, & Brossard, 2007; Frost, Frank, & Maibach, 1997; Glik, 2007; Kline, 2006; Nicol, Hurrell, McDowall, Bartlett, & Elmieh, 2008). Frost and colleagues (1997), for example, compared the leading causes and risk factors for death and the amount of media coverage for those causes and risk factors, while Bomlitz and Brezis (2008) looked at the relationship between the amount of media coverage for selected health topics and their actual risk to public health. Both studies found that the more common the cause of death, the less likely the media covered it. The amount of media coverage that a health issue may or may not receive, can distort the perceived risk from

the actual risk. However, what is considered “newsworthy” has little to do with health issues that are “high risk.” News reporting of disease risk has more to do with the rarity, novelty, and the dramatic and social components of the disease than with scientific notions of calculable risk (Bird, 1996; Bomlitz & Brezis, 2008; Brown, Chapman, & Lupton, 1996; Frost, Frank, & Maibach, 1997).

Despite the known problems with media reporting, the media still serves as an important means to communicate with the public during a disease outbreak (Glik, 2007). Several studies have assessed the content and effectiveness of disease risk communication in the media, concluding with suggestions for improvement. For example, Shrestha (2009) reviewed the media reporting of avian influenza and the potential pandemic threat in a Philippine newspaper between 2004 and 2006. The coverage primarily focused on the national and regional public policies regarding avian influenza with little focus on public awareness, preparation and intervention campaigns (Shrestha, 2009). Wilson and colleagues (2009) reviewed the media reporting right before and during the recognition of the 1968 Hong Kong flu pandemic for modern day lessons. They found a delay in the local recognition of the outbreak and local reporting increased abruptly once the health care and civil infrastructure were affected by increased absenteeism. Both of these studies emphasized the need for early warnings of an outbreak and improved communication between health officials and the media regarding the risks posed by the disease.

Similar studies have also assessed the media content and quality of risk communications of other disease outbreaks, including the 1976 swine flu inoculation campaign in the U.S. (Rubin & Hendy, 1977) and SARS (Lewison, 2008; Wilson, Thomson, & Mansoor, 2004), using content analysis. Rubin and Hendy (Rubin & Hendy, 1977) examined news stories from newspapers, news broadcasts, and output from a wire service during a single week of the 1976 inoculation program. They analyzed the stories for the presence or absence of information about the swine influenza, the swine vaccine (i.e. effectiveness, risk, side effects, priority groups), and the deaths that occurred (i.e. possible causes, expected death rate, local reactions). None of the news stories analyzed contained incorrect information of the clinical or epidemiology features of the disease, however, the information was often simplistic and lacked detail. Rubin and Hendy (1977) attributed the superficial reporting to the reporters being ill equipped to ask basic scientific questions. He emphasized the need for better communication between the health officials and

the media to improve the quality of information presented in the media. Wilson and colleagues (2004) examined the media coverage of SARS in a major New Zealand newspaper. Their analysis focused on the presence or absence of the clinical features of SARS, transmission, and prevention methods in each article. The articles that were examined did not contain any incorrect information but lacked detail according to the researchers. Wilson and colleagues (2004) stated that their findings illustrated the usefulness of the media to convey health messages but the findings also highlighted the importance of and need for health authorities to keep their key messages short, use simple language, and to use it consistently when providing information to the media.

A common feature of the previously mentioned studies is the use of quantitative content analysis to assess the quality and content of the disease risk communication in the media. The majority of these studies used a systematic categorization of health messages, such as the characteristics of the disease and prevention methods, and focused on whether these messages were present or absent in the media coverage. While this approach is useful to ensure that the health messages are conveyed in the media, it says little about the symbolic meanings that are conveyed and how they are constructed in the media. The approach reduces the media coverage to a checklist of health messages, an approach that is ill suited to explore the explicit and implicit meanings and how they are constructed within the media. As Kline (2003, p. 564) points out,

Content analysis is not well-suited to assess social, political, and economic influences on health, illness, and medical issues, nor does it accommodate attempts to address the ways in which health discourses constitute, reflect, and recreate cultural ideologies and hegemonies.

Additionally, the agendas of the media and of health professionals often conflict and it can be “difficult to convey complicated and contingent information to journalists who need to be direct and succinct – and also dramatic” (Kline, 2006, p. 51). Even with detailed information, there can be incongruities between the information provided and the news reports. The goal of the news is to tell a story. Instead of scientific “facts,” “news reporting is concerned with ‘storied’ accounts of health threats” (Kline, 2006, p. 51).

There is a need to move “beyond calculating the amount of coverage the news media gives selected health topics to an examination of how health messages are constructed” (Barry, Wharf-Higgins, & Naylor, 2007, p. 36). Kline (2006, p. 52) suggests that researchers need to “find ways to tease out the nuanced meanings and the implications of those representations.”

Additionally, the content of media coverage should be examined in relation to the broader social and historical context in which the media coverage is located (Lupton, 1999; Seale, 2003).

### 3.2.3 Media studies of the 2009 H1N1 Pandemic

There are other media studies of the H1N1 pandemic. The majority of the studies used quantitative content analysis to assess the media coverage. Several of these studies analyzed the coverage for a limited period of time and focused on a specific aspect of the pandemic.

One of the first media studies of the pandemic was a review of the European media coverage during the first week (April 27-May 3) of the pandemic (Duncan, 2009). The study was commissioned by the European Centre for Disease Prevention and Control in order to assess the effectiveness of the “announce early” strategy – one of the key principles of the WHO Outbreak Communication Guidelines (WHO, 2004). The strategy is in place as an attempt to improve the media coverage of a health crisis. Articles from the top three national newspapers and websites of the main broadcasters for 31 European countries were reviewed. Each article was analyzed for the main source of information in the story and whether the messages in the story were supportive, critical or neutral of the actions of the health and governmental authorities. National and international public health authorities were found to be the leading source of information in 75% of the articles, with the WHO as the main source (28% of articles). The overall tone was found to be factual in the majority of the articles (70%). Twenty-four percent of the articles were supportive of the actions taken by authorities, while only 6% were critical of health organizations and governments. Four percent of the articles were critical of health organizations and governments for not doing enough, while 2% were critical of health organizations and governments for being alarmist. The results of the study suggest that the early engagement with the media by the international and national public health authorities resulted in factual and non-alarmist reporting. Alarmist reporting had been a common complaint in media reporting of disease outbreaks (Duncan, 2009).

A second study used quantitative content analysis to examine Canadian newspapers’ portrayal of the vaccine and vaccination program (Rachul, Ries, & Caulfield, 2011). The study examined the content and tone of a sample of articles published from June 2009 until December 2009. Canadian newspaper articles, excluding letters to the editors, were identified with a key word search for H1N1 and vaccine or vaccination. The identified articles were stratified by province and a random sample of one third of the articles from each province was selected for

analysis. The content was coded based on three categories: (1) to vaccinate or not to vaccinate, (2) scientific evidence, and (3) risk and benefits. The tone of the article, whether it was purely descriptive, positive or negative towards vaccination, or both was also noted. Overall, the examined articles presented a fairly positive perspective of the vaccine and were supportive of vaccination (Rachul, Ries, & Caulfied, 2011).

Hilton and Hunt (2011) analyzed the content of newspaper articles in eight UK national newspapers from March 2009 to February 2010. Articles were included in the analysis based on two criteria: 1) H1N1 was the primary focus of the article and 2) the article had to be in specific sections of the newspaper. Letters to the editors were excluded in the study. The articles were examined for their manifest content (i.e. what was explicitly stated). To develop a coding framework for the analysis, a random sample of 100 articles was initially examined. Additional batches of 20 articles were coded until no new categories emerged. The resulting coding framework included 44 thematic categories. Each article was read and coded to indicate whether the categories were mentioned and to rate the general tone of the article. Descriptive statistics of the categories were used to analyze trends over time. Overall, the researchers found that the newspaper coverage reflected the scientific uncertainties about the course of the pandemic and did not distort the risk of the pandemic (Hilton & Hunt, 2011).

Fogarty and colleagues (2011) conducted a content analysis of news stories from five Sydney, Australia television channels between April 25, 2009 (the first report) and October 9, 2009 (prior to the release of the vaccine). The content was coded for messages about the seriousness of the disease, how the public could minimize contagion, and government responses to the emerging information. The researchers found that H1N1 was the leading health story for 8 of the 24 weeks of coverage. The news reports were generally non-alarmist and conveyed that H1N1 was potentially serious, however, the coverage lacked contextualization to assist the viewers in understanding the personal relevance of the disease (Fogarty, et al, 2011).

Two additional studies examined the relationship between the amount of media coverage and another factor. The first study examined the relationship between the amount of coverage and agricultural prices of hogs, cattle, corn and soybeans (Attavanich, McCarl, & Bessler, 2011). The researchers compared the daily count of four English newspapers (*New York Times*, *Japan Times*, *(London) Times*, and *China Daily*) that mentioned H1N1 to the respective prices. They did not distinguish between positive or negative articles or the focus of the articles. They found

a significant but temporary negative impact on hog prices but little impact on the other prices which was expected given the negative perception of pigs due to the name “swine flu.” The second study compared consultations rates based on lab data, hospital admissions and deaths to the amount of media coverage from April to December 2009 in Wales (Keramarou, et al., 2011). The relationship between the amount of media coverage and consultations rates was unclear in the study. The analysis of the articles seemed to be secondary to a discussion of the consultations rates and methods used for disease surveillance.

Instead of examining news articles, Henrich and Holmes (2011) examined user comments that were posted on-line in response to a news articles about the H1N1 vaccine. The authors examined the comments posted in response to 12 articles about the H1N1 vaccine on the websites of three major Canadian news sources. The most common themes in the comments were fear of H1N1 (18.8%), responsibility of media (17.85%), government competency (17.7%), government trustworthiness (10.7%), fear of the H1N1 vaccine (8.1%), pharmaceutical companies (7.6%), and personal protective measures (5.8%). Henrich and Holmes (2011) assumed that the more frequently a theme was mentioned in the news articles, the more likely that the theme influenced public perception about the vaccine.

Several studies examined the content of social media as a way to gauge public opinion during the pandemic. Chew and Eysenbach (2010) examined the content of “tweets<sup>1</sup>” between May and December 2009. The researchers used an open-source infoveillance system, which Eysenbach (2009) developed to gather information from Twitter. For the analysis, they examined the proportion of tweets that that used the term H1N1 versus swine flu. There was a gradual increase in the use of H1N1. By September, the use of H1N1 was as prevalent as the term swine flu. A sample of “tweets” from 9 time points was coded using the following categories: resources, direct or indirect personal experiences, personal reactions or opinions, jokes/parodies, marketing for H1N1-related products, and unrelated posts. The authors argue that Twitter can be used as a way to provide a snapshot of public opinion and behavioral response over the course of a public health emergency, such as the pandemic. Szomszer and colleagues (2011) examined how the pandemic was discussed on Twitter and analyzed the popularity of trusted news outlets and official health agencies on the site. They found that reputable sources were more popular than untrusted sources but there was still the potential for misinformation to spread through

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<sup>1</sup> “Tweets” are individual text-based posts on Twitter. A “tweet” is limited to 140 characters.

social media. A study by Tonya Smith (2011) examined the content on a sample of “tweets” on Twitter. The sample was limited to “tweets” on three key dates: (1) April 25 when the WHO held a press conference about the epidemic, (2) September 4 when the number of reported deaths “ramped up” and (3) October 24 when President Obama declared a national emergency in the U.S. The sample was coded based on three categories: health information, misinformation or disinformation, and uncertainty. The study also included a survey of a sample of Twitter users regarding their demographics, social media habits, and information about H1N1 that they recalled from Twitter. The survey examined how people determine the credibility of the information, and whether Twitter contributed to their decision to be vaccinated.

Unlike this study, the previously mentioned studies limited their focus to a specific topic and limited time period during the pandemic. These studies also limited their analysis to a quantitative approach which is concerned with quantity of the media coverage and the frequency of selected content rather than how the messages were presented in the media which is the focus of this study.

The remainder of this chapter discusses the overarching theoretical perspective and three conceptual frameworks, epidemic narrative, anchoring, and framing, which are combined to address the research objectives of this thesis. This work is concerned with the explicit and implicit meanings of the media coverage of H1N1 and interprets the coverage in relation to the broader socio-cultural context. The explicit meanings are clearly expressed in the text; implicit meanings are expressed indirectly; the reader must infer the meaning from the text. Implicit meanings can be problematic since they can be open to interpretation.

### 3.3 Theoretical Perspective

The theoretical perspective, which informs this work, is concerned with the subjective and contextual nature of how people create meaning and how these meanings are evident in forms of communication. The theoretical perspective underpins the three conceptual frameworks, epidemic narrative, anchoring, and framing that inform this study. The frameworks will be discussed in more detail in the next section, but first, the common theoretical perspective that underlines and links the frameworks will be discussed. The theoretical perspective and frameworks are influenced by a range of work from anthropology, psychology, and sociology that is concerned with culture, social representation, narrative, and communication. The basic assumption of the theoretical perspective is that representations are socially constructed and are



shaped by the wider socio-culture context. These representations are evident in various forms of communication, including the media.

### 3.3.1 Culture, social representation, and meaning

Culture is viewed as the incompletely shared perspectives, beliefs and attitudes of a social group. In other words, among a social group there is a degree of overlap in their perspectives, beliefs, and attitudes. While there are similarities, their perspectives, beliefs and attitudes are not homogenous. Culture structures meaning and is used to make sense of an experience. The “stuff” of culture includes the mental representations that are used to provide meaning and influences the perception of an experience. The mental representations are shaped by previous experiences. The following paragraphs address these ideas in more detail and an example will follow the explanation.

Within the literature, there are several terms used to define mental representations, such as construct, schema, model, frame, script, and template (Bradway & Barg, 2006; Casson, 1983; DeMunck, 2000; Dressler & Bindon, 2000; Farr, 1993; Frank, 1998; Garro, 2000; Goffman, 1974; Laszlo, 1997; Lyons, 2000; Moscovici, 1984; Murray, 2002; Quinn, 2005; Schwartz, 1978; Strauss & Quinn, 1997). There are some differences in how these terms are conceptualized depending on the researcher and their specific interests (Casson, 1983). However, for this work, it is the common definition that is the main concern. Mental representations are commonly defined as the “basis for all human information processing” (Casson, 1983, p. 430). Mental representations are used to form perceptions, categorize, organize, remember, solve problems and make decisions (Casson, 1983; DeMunck, 2000; Goffman, 1974; Strauss & Quinn, 1997). The basic purpose of representations, as described by sociologist Erving Goffman (1974, p. 21), is to “render what would otherwise be meaningless...into something meaningful.” The assumptions that an individual would use to interpret and describe an experience are another way to define mental representations. These assumptions may be explicit or implicit in their interpretation. It is not uncommon that an individual would be unable to describe their mental representations in any great detail, however, this does not affect their ability to use it (Goffman, 1974). An individual may use a common phrase, or idiom, to describe a situation, however, if asked they would be unable to give a clear definition of the phrase or state where the phrase came from. For example, a common phrase

that people use for feeling sick is “feeling under the weather.” People who use the phrase may know its meaning but may not know its origin.

Among a group of individuals with common life experiences, there is a degree of overlap and similarity among their mental representations. This overlap constitutes a shared understanding, which makes it a cultural or social representation. Thus, culture can be seen as the “by-product” of the cumulative, shared experiences of individuals (DeMunck, 2000). Social representations may be incompletely shared among members of a group or may be interpreted differently depending on the individual. In this case, it may not be the underlying mental representations that differ but rather there are individual interpretations of the same representations, such as different interpretations of a common experience (Garro, 2000). An example of this follows in the next paragraph.

Social representations of health and illness are dependent on the individuals within a group and the context in which they live. As an example, medical anthropologist and physician Arthur Kleinman’s (1988) work has examined how the cultural understandings of both patients and clinicians shape their definition, or representation, of a disorder or sickness. This work has been applied to clinical practice and teaching as a way to improve communication between patients and clinicians. Kleinman differentiates between two terms, illness and disease, as different representations based on the patients’ and clinicians’ perspectives and social context. The illness representation is the personal and social meaning that a patient attaches to a sickness or disorder. It may include a biological explanation but can also reflect social factors such as family, education, religious beliefs, and past experiences with illness and health care (Kleinman, Eisenberg, & Good, 1978). The patient’s representation reflects the patient’s understandings, lived experiences of the illness, and places the illness within the context of their daily life. The disease representation is from the clinician’s perspective (Kleinman, Eisenberg, & Good, 1978; Kleinman, 1988). The clinician’s representation is based on a combination of their “ethnocultural background, their professional training, and the context in which they work” (Kirmayer, 2001, p. 22). In other words, illness and disease are different representations of a sickness that differ based on the different mental representations and social contexts of the patient and the clinician. This is an example of differing perspectives of the same event (Goffman, 1974).

It is important to note that the illness and disease representations are not mutually exclusive from one another. As an example of overlapping mental representations, the illness may include a biological explanation for the experience but not to the same extent as the disease representation due to differences in medical understanding of the patient and clinician (Kleinman, Eisenberg, & Good, 1978). For example, an individual with diabetes would be concerned about the impact on their life with having to monitor and adjust their insulin levels with their food intake and physical activity; though they may not understand the biology and physiology of insulin and blood sugar level to the same extent as the physician. The individual with diabetes can understand in the impact of the biological processes without understanding the mechanisms that cause them. Additionally, when a patient presents an illness complaint to a clinician there can be “locally shared illness idioms,” or expressions, with which both are familiar and provide a common ground of understanding. The clinician understands the illness representation and then reframes it in terms of the disease when making a diagnosis (Kleinman, 1988, p. 5). On the other hand, there may be no common ground of understanding between the patient and clinician. For example, when the patient presents their complaints; the clinician does not understand the patient’s perspective and cannot make a link to a disease, which delays a diagnosis (Kleinman, Eisenberg, & Good, 1978).

Social representations can also change over time (Casson, 1983; DeMunck, 2000; Dressler & Bindon, 2000; Schwartz, 1978). Representations are not static but are capable to being manipulated, combined, or transformed in response to new experiences (Schwartz, 1978). In other words, as new experiences occur, they are interpreted in terms of the existing mental representations while at the same time the mental representations are created or reshaped by the new experiences. Returning to the illness/disease example, after a patient visits the clinician and receives a diagnosis, the patient may incorporate their understanding of the disease representation into their illness representation. In other words, when someone first becomes ill and they do not know what is wrong, they may describe their sickness in terms of the symptoms and the effect it has on their life. After receiving a diagnosis, they may incorporate what the clinician told them and may use the diagnosis as an explanation for their illness.

### 3.3.2 Social representations and narrative

Social representations are expressed through various forms of communication, including oral and written communication, in other words discourse (Laszlo, 1997; Quinn, 2005). Analyzing

discourse provides a way to interpret the underlying assumptions, or mental representations, that shape the social representations. Implicit and explicit meanings can be interpreted from clues, such as common key words, themes, and metaphors, in the discourse. These clues provide a guide to the kinds of ideas that a group shares and for understanding how ideas about a specific domain are connected (Bradway & Barg, 2006; Quinn, 2005).

A common form of discourse is a story or narrative. Narratives provide a structure to make sense of the world. They are constructed within a specific social context and are dependent upon the available cultural knowledge (Raoul, Canam, Henderson, & Paterson, 2007). A narrative is not a simple report of “the facts” but rather it is a social construction that is used to describe and provide meaning to experiences in a particular way (Gubrium & Holstein, 1998). A narrative organizes the representation in a way that makes sense to others within a social group since the group shares similar experiences and mental representations (Bradway & Barg, 2006; Laszlo, 1997; Murray, 2002; Schank & Abelson, 1995). There is extensive literature on narrative and narrative approaches, however, for this thesis, there are three aspects of narratives that are relevant. Each of these aspects relate to the conceptual frameworks, described in the next section. The three frameworks were combined to inform this work.

The first aspect is that there are common stories for common experiences. These have been referred to as “narrative structures,” “narrative frameworks,” “narrative templates,” “narrative types,” “metanarratives”, and “story skeletons” in various works (Frank, 1998; Laszlo, 1997; Murray, 2002; Raoul, et al. , 2007). The common stories are the culturally available narratives that help to shape individual stories. Similar to mental representations, individuals “learn these narrative forms without knowing they know them, and they then use them both to make sense of new stories and to improvise stories of their own” (Frank, 1998, p. 200). The narrative structure provides a way for the storyteller to organize their representations and convey meaning and for the listeners to “find their way through the story” (Frank, 1998, p. 200).

Social and health psychologist Michael Murray (2002, p. 654) suggests that when there is “some disturbance in our lives” such as an illness, “we can bring order to it by placing it within a narrative.” The resulting story, an illness narrative, is one example of a representation in the form of a story. When an individual is sick, they often relate their experience in the form of a story as a way to assign meaning to it and to convey their experience to others (Kleinman, 1988). Even though the specific illness may vary, there are common elements to the illness narrative

such as personal experience with the illness, experiences of social barriers and stigma, shifts in social relationships due to the illness, and interactions with the medical institutions and health care providers (Raoul, et al., 2007). Additionally, sociologist Arthur Frank (1998, p. 200) identifies three types of narrative structures or “skeletons on which many stories of illness are fleshed out.” The first structure is the restitution story that follows the storyline of becoming sick, suffering, being treated and returning to health through treatment. The second structure is the chaos story in which the suffering only increases, physicians are unable to find a cause or successfully treat the illness. As a result, the medical problems become social problems leading to further suffering. The third structure is the quest story in which the illness is seen as a condition from which something can be learned and passed on to others. Frank does not propose these narrative structures as distinct categories for decoding and classifying stories but rather as “usable pathways” for understanding illness narratives (Frank, 1998, p. 200). The narrative structures are not exclusive from one another and they can intertwine and shift over the course of the illness experience (Frank, 1998).

The second relevant aspect of narratives is that new stories are related to old stories. In other words, narratives of new experiences are interpreted and constructed in terms of past experiences (Murray, 2002; Schank & Abelson, 1995). The mental representations that are used to provide meaning are built upon past experiences and they provide material for the narrator to construct a new story. Thus, past experiences are incorporated into narratives of new experiences as a way to provide meaning (Gubrium & Holstein, 1998).

The third relevant aspect is that narratives of the same event can vary in perspective and interpretation. Individuals may construct different stories for the same event based on their individual perspectives and experiences (Laszlo, 1997; Murray, 2002). For example, the illness narrative can also be told from many different perspectives such as the point of view of the sick individual or from groups who experience an illness, from health professionals, researchers, policy makers, and from the broader society (Raoul, et al., 2007). Each storyteller would provide a different perspective of the illness and focus on different aspects of the experience. Additionally, the same storyteller may select different aspects of the experience depending on the particular circumstances of the storytelling and their audience (Gubrium & Holstein, 1998). The audience may then also interpret the narrative differently based on their own perspectives. The illness and disease representations are examples of differing perspectives and interpretations of

the same event. The clinician tells a particular story about a sickness using biomedical discourse, models, and metaphors while the patient would tell a different story based on their own experience and perspective. The two stories can also differ in meaning and interpretation based on who is the storyteller and who is the listener (Raoul, et al., 2007).

To link the theoretical perspective to media, media are an important form of communication. Media play a role in the development of social representations (Moscovici, 1961; 1984). In other words, media representations are social representations (Tuchman, 1978). Also, the media are unique types of storytellers. The individuals in the media are storytellers but they also convey stories from various sources. The common narratives appear in the media coverage.

### 3.4 Conceptual Frameworks

The three aspects of narratives that were highlighted, (1) common stories for common experiences, (2) new stories related to old stories, and (3) differing perspectives and interpretation, are linked to the three conceptual frameworks that were combined for this study. Each framework is discussed in detail in the following sections. The discussions also include a review of media representation studies that utilized each framework. The review of media studies focuses on studies of infectious diseases, with a few noted exceptions.

The first framework is the **epidemic narrative**, which identifies the common story for disease outbreaks. The epidemic narrative shares similarities to the illness narrative, discussed earlier, but can be viewed as the illness experience at a broader societal level. The second framework is **anchoring**, which comes from social representation theory (SRT). SRT focuses on how a social representation develops and changes when society is faced with a new phenomenon. According to the theory, the representation of a new experience is “anchored” to previous experiences (Moscovici, 1961; 1984). Anchoring is similar to the idea that new stories are related to old stories. The third section focuses on **framing**, which is based on the idea that stories of the same experience can have multiple perspectives and interpretations depending on the storytellers and audience. The way that the media present information and what they emphasize can elicit different responses and interpretations. Framing can change over time as new information about an epidemic becomes available, thus changing the perception of it (Glik, 2007). Frames also provide social meaning and can shed light on the broader social context in which news stories occur (Blakely, 2001). These conceptual frameworks, which have largely been applied independent of each other, were combined in this study to examine the narrative

construction, emphasis, and meaning conveyed in the newspaper coverage of the 2009 H1N1 pandemic.

### 3.4.1 Epidemic narrative

Epidemics are as much social as biological. Society “perceives and frames the outbreak, places blame, and negotiates a response” to an outbreak. At the same time, epidemics fit into a “biologically based model of disease” (Rosenberg, 1989, p. 14). Historian Charles Rosenberg (1989) suggests that epidemics as a social phenomenon follow a common narrative pattern. Common reactions to epidemics, especially when the disease is new, unexpected, or particularly devastating, are fear, panic, stigma, moralizing, and a call to action. Initially, an outbreak may not be noticed until it is unavoidable and must be acknowledged. Once it is acknowledged, explanations emerge in order to identify and contain the outbreak. The explanations serve to identify the causes and responsibility for the outbreak, to help regain control over the crisis, and to attempt to minimize society’s sense of vulnerability to the outbreak. As the disease spreads, it may be accompanied by panic, disorder, desperation, and the presence of an apocalyptic worldview, until the disease decreases naturally. If control efforts fail or an immediate solution is not discovered, then those seen as responsible for the outbreak may receive criticism or become scapegoats. These may include, for example, social groups of people or types of animals that are seen as carriers of the disease or even doctors, scientists, and public health and government officials that fail to contain the outbreak. The victims of the disease may face stigma or other measures that involve degrees of avoidance and exclusion. As the epidemic gradually subsides and disappears, society looks back for moral lessons that can be learned. The details of an outbreak narrative can vary significantly depending on factors such as time, place, severity and symptoms of the disease, and which segments of the population are affected the most (Rosenberg, 1989).

The epidemic narrative has a powerful influence on the public’s concern about the health crisis and can influence health policy. The focus of the epidemic narrative shapes how the public perceives the illness and directs the response. According to Wald (2008, p. 3), epidemic narratives can have a wide range of consequences:

They affect survival rates and contagion routes. They promote or mitigate the stigmatizing of individuals, groups, populations, locales (regional or global), behaviors, and lifestyles, and they change economics. They also influence how both scientists and the lay public understand the nature and consequences of

infection, how they imagine the threat, and why they react so fearfully to some disease outbreaks and not others at least as dangerous and pressing.

Since the epidemic narrative reflects and influences the overall perception of an illness, it is important to identify and analyze the epidemic narrative found in various sources such as scholarly and media discussions of the epidemic (Herring, 2008; Wald, 2008).

Researchers should examine the explicit and implicit meanings attached to specific diseases and the social conditions that influence which meanings are selected and favored (McGee, 1996; Wald, 2008). For example, Johnston (2005) used discourse analysis to examine the overarching narrative structure of the SARS media coverage in magazines and to situate SARS within the broader social context in which it occurred. The SARS narrative in the media followed a similar pattern as other epidemic narratives, however, the narrative was also shaped by and linked to other narratives, in other words, new stories linked to old stories. Johnston found that the SARS narrative was linked to narratives of emerging infectious disease, modernity, control, and collective anxieties of modern living. Johnston (2005) noted that while these were identifiable elements and presented each separately; they also overlapped with and were interdependent with one another throughout the overall narrative. The use of strict categories in the analysis and presentation posed the risk of simplifying the issues, which the researcher fully recognized (Johnston, 2005). This is common criticism of content analysis, which imposes categories of messages onto the media content. The quantitative approach is ill-suited to assess wide range of social, political, and economic influences on media representations of health (Kline, 2003). A similar critique was made by Frank (1998) regarding common illness narrative structures. While he identified three types of illness narratives, he pointed out that they are not mutually exclusive from each other; they can intertwine and shift over time. A narrative approach to media needs to take into account the complexity and interconnection of the news stories.

The primarily focus of this thesis is the epidemic narrative of the 2009 H1N1 pandemic as it is reflected in the news print media. For the purpose of this work, the epidemic narrative provides the overall conceptual framework and a structure for linking the individual news stories together. The epidemic narrative provides a guide to the themes that commonly occur during an epidemic, however, it also recognizes that there are specific themes that are unique to the disease and to the broader social context. The next two frameworks address specific aspects of the narrative, specifically how the new story is linked to old stories and the multiple perspectives and interpretations that occur in the narrative.



### 3.4.2 Anchoring and social representation theory

Part of the social response to an epidemic involves the process of defining and representing the event. One theory, which is concerned with the process in which representations of new ideas or events develop and change over time, is social representation theory (SRT). The theory was developed by French social psychologist Serge Moscovici (1961; 1984). Since Moscovici's (1961) seminal work is in French, the description of SRT in this thesis is based on the work of psychologist Helene Joffe (2002). SRT focuses on the group-based symbolic understandings (i.e. social representations) and communication regarding health issues (Joffe, 2002). A social representation is shaped by the knowledge shared by members of a community about a given object or event. When a new representation is formed, individuals build upon their known mental representations, which are based on previous experiences. The representation is based on known images, terms, descriptions, examples, models and metaphors (Washer, 2004).

SRT proposes that two processes are used in the development of social representations: anchoring and objectification (Joffe, 2002). Anchoring is a process in which the new phenomenon is linked to known familiar historical events, metaphors, or symbols in order to make an unfamiliar event understandable. Objectification works alongside with anchoring. The links to past ideas set up by anchoring are transformed into the mental representation of the new phenomenon. The new phenomenon takes on the characteristics and opinions of the past ideas to which it appears similar (Joffe, 2002). For example, Joffe (2002) suggests that the link between AIDS and "the other" is best understood in terms of anchoring. The AIDS epidemic was presented in terms of past epidemics where "the majority had been linked to foreigners, out-groups, and perverse practices," in other words, "the other" (Joffe, 2002, p. 564). While these processes are useful for making an unfamiliar event understandable and seem less threatening, it can also remove what is specific and different about the new event (Joffe, 2002). What is emphasized or omitted about the previous events, metaphors, or symbols to which the new object or event is anchored may distort the perception of the new phenomenon. An anchor can also attribute blame and promote stereotypes.

Social representation theory is also relevant for media representation studies. The theory was originally developed by French psychologist Moscovici (1961; 1984) to understand what happened when a scientific theory, psychoanalysis, became "common knowledge." Moscovici recognized that the media often act as intermediary between the research scientist and

individuals interested in science and assessed the social representation of psychoanalysis among the French general population and with the media in the mid- to late- 1950s. In regards to health issues, the first contact with a health concern may come through media and shape public perception. For example, the media played a key role in raising awareness of AIDS among the general public (Joffe, 2002). In regards to a public health emergency, such as the 2009 H1N1 pandemic, public health officials used the media to convey messages to the public. The media served as the intermediary between public health officials and the general public.

SRT also recognizes that since social representations are in the media as well as in people's minds, it is important to analyze the representations presented in media and among the public (Farr, 1993; Joffe, 2002). The public audience may accept the ideas presented in the media; but the ideas may also be negotiated or challenged (Joffe, 2002). Given this potential for public challenge, it is important not to assume that the social representations presented in the media are the same among the public. Consistent with the theoretical orientation of this study, the same story may be interpreted differently depending on the audience.

Social representation theory has been used in a few media representations studies of health and disease (Joffe & Haarhoff, 2002; Washer, 2004; 2006; Washer & Joffe, 2006). Joffe and Haarhoff (2002) examined how articles from British tabloids and broadsheets represented the 1995/1996 outbreaks Ebola in parts of Africa (Zaire, Gabon, and South Africa) and how the readers made sense of an illness that had no local presence but had been brought to their attention by the newspapers. Their content analysis looked for themes that emerged from an in-depth reading of the articles and the images that accompanied them. The main themes found in the print media were compared and contrasted to themes found in an analysis of 50 semi-structured, in-depth interviews with tabloid and broadsheet readers from London and Cambridge about their knowledge of Ebola. Both the newspapers' and public's representations viewed Ebola as an African problem, associated with African practices, and posing little threat to Britain. The media, however, emphasized its potential threat due to globalization while most readers felt detached from it (Joffe & Haarhoff, 2002).

Washer's (2004; 2006; Washer & Joffe, 2006) studies focused on media representations of SARS, mad cow and methicillin-resistant *Staphylococcus aureas* (MRSA) in British newspapers. These studies did not examine whether the newspaper's representations were similar to those found among the public, which is a key component of the social representation theory (Joffe,

2002; Joffe & Haarhoff, 2002). Using content analysis of the newspaper's texts, these studies examine the representations of each disease. In Washer's (2004) SARS study, he examined how the disease was defined as a threat to the British public. Since SARS was unlikely to affect the British public, messages about "us" (i.e. the British) and "them" (i.e. the Chinese) were prevalent in the British coverage. He also examined how messages from other diseases such as AIDS and Ebola resonated in the SARS discourse. Washer's (2006) examination of Bovine Spongiform Encephalopathy (BSE or "mad cow") and variant Creutzfeldt Jacob Disease (vCJD) in the British media focused on three "snapshots" of the coverage over a 10-year period, 1986 to 1996. In the analysis, he examined how the disease was defined, who or what was at risk, who was to blame, and its spread. Washer and Joffe's (2006) study of MRSA examined how the disease was defined and who or what was to blame for it. The findings of these studies are common elements of an epidemic narrative (Rosenberg, 1989).

There have been a few attempts to connect social representation theory to narrative approaches (Flick, 1995; Laszlo, 1997; Murray, 2002). The main criticism of studies that use social representation theory is the use of categorical coding schemes. SRT considers the categorical anchoring of a representation rather than their storied nature. The analysis, frequently content analysis, organizes anchors with categories without considering their place in the narrative (Murray, 2002). Murray (2002) suggests that instead of identifying strict categories of anchors, categorical codes should be examined in terms of how they are used within the narrative. This is a similar observation made by Frank (1998) regarding types of illness narratives. Strict categories can simplify the issues and hide the complexity and interaction between different types of anchors within a narrative.

For the remainder of this thesis, the terms *anchor* or *anchoring* will be used to refer to the conceptual framework that has been described. This is to avoid confusion between the terms *social representation* as presented in the theoretical perspective and *social representation theory* as described in this section.

### 3.4.3 Framing

Media stories present an issue using one perspective or another, which "are called frames and refer to the parameters regarding what will be included and excluded in particular stories" (Clarke & Everest, 2006, p. 2592). In other words, media stories define issues from a specific point of view. The point of view, or perspective, influences how the issue is discussed as well as

how it is *not* discussed. The concept of framing is derived from work in psychology and sociology (Davis, 1992). This approach is grounded in the theoretical work of sociologist Erving Goffman (1974). According to Goffman (1974), individuals actively classify, organize, and interpret their life experiences to make sense of them through the use of frames or “schemata of interpretation.” The frame allows individuals to “locate, perceive, identify, and label” events and occurrences and as a result provides meaning to experiences and guides action (Goffman, 1974, p. 21). People essentially ask ‘what is going on?’ and their organization of information that answers this question is framing (Blakely, 2001). While Goffman provides the theoretical underpinning of framing, it has since developed into a number of approaches used in management and organizational studies, social movements studies and media studies. The inconsistency of approaches occurs with the definition and measurement of frames (Konig, n.d.). As Altheide (1996, p. 29) points out frames are “much easier to ‘talk about’ than to specify for research purposes.” How a frame is defined and identified is dependent upon the perspective and purpose of the research project. For example, one perspective may define a media frame as the format of a media story (e.g. the structure of the story, the location, the size, etc.). Other perspectives might define a frame as the focus or the themes of the media story (Altheide, 1996). For this work, I define a frame as the perspective or main theme of the story.

The relationship between the concept of frames and news media was further developed by Gaye Tuchman (1978). Tuchman (1978) used social construction to explain how news stories are representative of societal knowledge. In news media, frames are the "persistent selection, emphasis, and exclusion about what exists, what happens, and what matters" (Gitlin, 1980, p. 7). Frames "enable journalists to process large amounts of information quickly and routinely, to recognize it as information, to assign it to cognitive categories, and to package it to efficiently relay to their audience" (Gitlin, 1980, p. 7). The frame is the perspective and interpretation of the storyteller.

According to Debra Blakely (2001), a frame is the central organizing idea or story line of a news story that provides social meaning. Pan and Kosicki (1993) equate the term frame to the theme(s) of a news story. The theme is not the same as the topic of story (e.g. influenza). Instead, the theme is:

...an idea that connects different semantic elements of a story (descriptions of an action or actor, quotes of sources, background information) into a coherent whole...The structured array of signifying elements sets up parameter of a

cognitive 'window' through which a news story is 'seen'. The intended meaning of a news story has the capability of directing attention as well as restricting the perspective available to audiences. Because of this structuring function, a theme is also called a frame (Pan & Kosicki, 1993, p. 59).

The way a phenomenon is structured, organized, presented, and interpreted by the media has a potential impact on the way in which the public thinks about a particular phenomenon (Blakely, 2001; Clarke & Everest, 2006). News frames in terms of health information determine how people view an illness (Beaudoin, 2007). The frame that is used defines the issue, explains who or what is responsible, and suggests potential solutions. For example, two possible frames for discussing illegal drug use, for example, are as a “public health issue” or as a “criminal justice issue” (Altheide, 1996, p. 30). The frame that is used influences how the issue is discussed and, just as significantly, how it is not discussed. Within a criminal justice frame, drug use would be discussed in terms of legality and punishment. A public health frame, on the other hand, would include discussions of treatment, intervention, and health education. Any overlap in the different themes, such as public health themes within a criminal justice frame, would seem out of place (Altheide, 1996, p. 30-31). These two frames provide different perspectives and meanings to the experience of illegal drug use. Each frame defines the issue differently and creates a different representation.

Frame analysis, as a methodology, is a collection of related, although not consistent, tools for identifying the frames of a story and the subsequent analysis (Konig, n.d.; Scheufele, 1999). A common method is to look for the key themes within media texts and examine how language and the structure of news stories emphasize certain aspects and omit others. To identify frames, most studies adapt techniques such as discourse analysis, sociolinguistics analysis, and content analysis to suit the needs of the study (Billing, Deacon, Golding, Konig, & Macmillan, 2005; Konig, n.d.).

Both Blakely (2001; 2003) and Hume (2000) used a frame approach to examine media portrayals of the influenza pandemics of the 20th century. Blakely (2001; 2003) examined the social construction of the 1918 Spanish flu, the 1957 Asian flu, and the 1968 Hong Kong flu pandemics in the *New York Times* while Hume (2000) focused on how the 1918 influenza and the anxieties surrounding the outbreak were portrayed in magazines. Blakely (2001; 2003) focused on whether the social construction of each flu event changed over time in relation to the public health policies. The study included all influenza-related news stories, wire stories,

correspondent stories, letters to the editor and editorials from 1917-1920, 1957-1960, and 1967-1970. For the analysis, she identified three main frames for each pandemic. The first was the *narrative discourse* of the disease, which included how the pandemic was defined, if and how it impacted the community, if blaming or war metaphors were present, and beliefs about causes and responsibility for the disease. The second was *arbiter frames*, which were sources of information (e.g. scientists, medical practitioners, and government authorities were expected). The third was *public health policy frames*, which were the public health responses to the pandemic. The public health responses were identified and categorized as medical, behavioral, ecological, or future research and action. Other than the three main frames and associated questions for each frame, Blakely did not provide a detailed description of the specific methods used. Blakely (2001) did provide a detailed case study description of each pandemic and a summary of the findings for each identified frame. She found that there were changes over time in the narrative construction of the disease, the arbiters for each pandemic, and the public health policy response, however, there was some overlap in the themes for all three pandemics. The overall theme of the 1918 Spanish influenza was described as a panicked environment with behavioral measures taken by public health officials in reaction to an out-of-control situation. Coverage of the 1957 Asian influenza emphasized a faith in science to control the disease through vaccination and antibiotics, which eventually evolved into cautious optimism. The theme of the 1968 Hong Kong influenza consisted of one that used nature to explain the inability of scientists to control the disease; instead scientists and medicine would only hold it at bay. In all three pandemics, naming was an issue and war metaphors were common but were more so in the 1918 pandemic, which occurred during WWI. The arbiters for each pandemic changed as public health policies and health mechanisms changed over time. Individual officials were the majority of the arbiters during the 1918 pandemic while in the following pandemics, institutions such as the CDC and WHO were the main sources of information. Overall, Blakely's study provided a basis for understanding how the news media have portrayed past influenza pandemics and provided a useful comparison for the 2009 H1N1 pandemic. It also provided a useful model on how to approach the news coverage of the 2009 H1N1 pandemic.

Hume (2000) also used frame analysis to examine how magazines portrayed anxieties about the 1918 influenza during and after the pandemic. Magazines were chosen instead of newspapers because of their prominence and popularity during the time period and they were the

only medium to reach national audiences during the years examined. She presents a case study description of pandemic similar to that presented by Blakely (2001; 2003) and like Blakely did not provide extensive details on the methodology.

Stephenson and Jamieson (2009) examined the representation of the threat of an influenza pandemic and the public health response to it in contemporary Australian newspapers. While they do not explicitly state that they use frame analysis approach, the content analysis method they used is commonly used in frame analysis studies. They also used a similar theoretical perspective, namely that representations are socially constructed with media as one mechanism that helps to shape and reflect these representations. The main purpose of the Stephenson and Jamieson study was to understand how public understanding of an influenza pandemic was shaped during a time in which the possibility of one was anticipated. The authors also situated their analysis in relation to changes in biomedical, public health and public understandings of emerging infectious disease threats. The two main objectives of the study were to identify the characteristics of an anticipated pandemic and of the public health response as portrayed in the newspaper coverage. They were also interested in understanding how the characteristics were similar or different from existing or more familiar public health threats such as other infectious diseases. They examined a sample of Australia newspaper articles published between January 2004 to February 2007 that discussed pandemic influenza and more specifically, avian influenza H5N1, the virus commonly discussed as one that could trigger a pandemic. Their analysis focused on the themes that were explicitly mentioned in each article. They further identified 'taken-for-granted' or institutionalized ways of thinking that might influence what can be said and done about a particular health issue. For example, a common representation of HIV was as a "gay disease" which served to legitimize discrimination and create "the other" (Stephenson & Jamieson, 2009, p. 529). An advantage of this study is that they focused on themes derived from the data and situated them within the scientific and public health discussions of emerging infectious diseases as well as in the broader social and political conditions.

Two other studies focused on the metaphorical framing of SARS (Wallis & Nerlich 2005) and the anticipated influenza pandemic (Nerlich & Halliday 2007) in the British media. Metaphors are one device used to signify the use of frames in the media. Others devices include exemplars, catchphrases, depictions, and visual images (Gamson & Modigliami, 1989; Pan & Kosicki, 1993). These devices are used to imply specific meanings to the given topic.

According to social representation theory, these are types of anchors that provide meaning. Wallis and Nerlich's (2005) and Nerlich and Halliday's (2007) studies also provide a detailed description of their methods and provide a useful guide for examining the comparisons and metaphors that are used to define the pandemic through the use of anchoring, as described in the previous section.

The Wallis and Nerlich (2005) study examined five UK daily newspapers from March 2003 to July 2003, which included tabloid newspapers and broadsheets to give a cross section of political allegiances, editorial approaches, and readership profile. Even brief mentions in business, sports, and comic journalism were extracted and analyzed. The comprehensive approach, according to Wallis and Nerlich (2005, p. 2631), "provided better coverage of the readers' total exposures to the information and frames which structured representations of SARS in the media." They adapted a qualitative method standard in linguistic metaphor studies to deal with the amount of the material. This involved two complete readings of the material. The first was used to mark up metaphors and common phrases and to outline a map of linguistic patterns and frequencies. The second read through involved a structured reading of the articles with pieces from all newspapers read in sequence to establish chronological patterns and linguistic developments through the development of the outbreak. This method allowed the researchers to look at extended stretches of media discourse and not only at isolated sentences. Wallis and Nerlich (2005) found that there was an avoidance of war and plague metaphors, which tend to dominate "control of disease" discourse. Instead there was a reliance on killer and control metaphors for SARS. The results of the study identify common ways that an infectious disease has been defined in the media. The Nerlich and Halliday (2007) study examined the sources for common phrases, metaphors, or references to pertinent historical events that were used by experts and the media to create images of a future pandemic in order to mobilize action in the present. They also examined how the metaphors were used (i.e. to inform, to warn, to blame, etc) and by whom they were used. The methods used were the same as those in the Wallis and Nerlich (2005) on SARS. Both of these studies provide examples of how to analyze metaphorical framing used in the media coverage of the 2009 H1N1 pandemic and examples of the types of metaphors that are commonly used in a disease outbreak. Metaphors are also a type of anchor.



Two other media framing studies by Beaudoin (2007) and Leslie (2006) focused on SARS. These studies provide examples of media frames that have been used for disease reporting, how they change over time, and the possible consequences for such framing and changes. Leslie (2006) found that when news stories about SARS framed the disease as a public health issue, health officials provided information and possible solutions. SARS gradually shifted to a political economy framing in which politicians and business leaders provided assessments and possible solutions. Leslie found that when frames shift, the disease narrative changes in terms of who is responsible for it and who can provide solutions. Essentially, the media frames influence who should be consulted for facts and what sort of facts and solutions these sources should offer. Beaudoin (2007) also examined changes in media frames used for SARS in China and the United States. He examines whether the news environment and the SARS timelines predicted which news frame would be used. The frames identified and used in the study include attribution of responsibility, which included blaming; human interest, such as stories that put a human face or an emotional angle to humanize or dramatize a story; the economic consequences; and the severity of the disease. Beaudoin (2007) noted the presence or absence of each frame and used several statistical analysis techniques to test for differences between news agencies, between months and for changes over time.

Two other relevant studies that examined the way the media frames disease are Davis' (1992) work on the media framing of chronic disease risks and Clarke and Everest's (2006) study on the framing of cancer in magazine stories. Although the focus of these two studies is on non-infectious diseases, they both provide examples of the types of media frames used for disease reporting and provide methodological models.

Davis' (1992) central argument is that the way the media define or frame chronic disease risks influences the decisions that policymakers make regarding appropriate policies. The decision made by policymakers depends on the message conveyed by four types of media frames common in disease reporting: the importance of the problem, the evidence, the impact, and the cause. Each frame reflects the journalists' interpretation of the epidemiological information and is constructed according to a set of framing devices common in routine journalistic practices. Davis (1992, pp. 58-76) defined these as the story placement, visuals, the length, and a definition as "unique". For the strength of the evidence, devices include emphasis on research, oversimplification, and reliance on sources. Devices for the impact include symbols or

metaphors, personalization, and numbers. Cause focuses on blaming and responsibility through the use of metaphors and personalization. Davis (1992) applied his framework to the media coverage of two chronic diseases. The first case study was on the link between maternal alcohol consumption and fetal defects and the second case study was on the risks for heart disease. The studies highlighted common ways in which epidemiological information is presented based on common journalistic practices. The interpretation and presentation of the information can influence the response to the disease.

Clarke and Everest (2006) used a different approach to examining the media framing of cancer. They began with three identified frames: medical frame, political-economy frame, and lifestyle frame. Each of these frames views health and illness in a different way and influences how an illness is discussed in terms of cause, responsibility, and solutions. A medical frame discusses cancer in terms of “biologically based pathologies originating in the malfunction of the genes, cells, and organs in the individual body” (Clarke & Everest, 2006, p. 2592). Treatment, rather than prevention, is emphasized. The political-economy frame considers diseases as “originating in causes that lie outside of the individual such as social structural inequities and related threats to health such as poverty, unemployment, homelessness, and environmental contaminants” (Clarke & Everest, 2006, p. 2592). In the lifestyle frame, “disease is thought to be the consequence of individual choice to engage in unhealthy behaviors such as diet, smoking, alcohol consumption and sexual promiscuity (Clarke & Everest, 2006, p. 2592). The authors analyzed each magazine story for the manifest content or framing and the latent content. Manifest content was defined as the explicit, the intended and surface content. Latent content is the implicit and “perhaps unintended themes” (Clarke & Everest, 2006, p. 2593). For the manifest content, the articles were categorized by the type of cancer discussed and by the three previously identified frames: medical, political economy, and lifestyle. For the latent analysis, the researchers read and re-read all the articles to discover new themes that emerged from the data. The new themes were then used to analyze the articles in another systematic reading. The frequency of each theme and illustrative descriptions from each article for the categories were included in the analysis. The approach used by Clarke and Everest is an example of what Altheide (1996) refers to as ethnographic or qualitative content analysis. In this approach, an initial coding scheme is developed prior to analysis while new themes that emerge from the data are incorporated into the coding scheme as the analysis progresses. Unlike a quantitative content

analysis, both quantitative and qualitative data are collected for each category and the discourse or meaning within each category is closely examined.

At least one known media representation study on an infectious disease has combined both social representation theory (SRT) and the concept of framing. In the previously mentioned framing studies, past events, symbols and metaphors are considered in the analysis, however, the researchers do not make the explicit link to social representation theory and the concept of anchoring. According to SRT, past events, symbols and metaphors are common anchors used to provide meaning to a new phenomenon. In media framing, they are considered rhetoric devices that indicate a frame but media framing does not explicitly state how these devices provide meaning. Boyd, Jardine and Driedger (2009) examine how the print news media frames BSE (“mad cow disease”) and vCJD risks in Canada. In the study, SRT was used to understand how the media explains the risks of mad cow disease by anchoring the disease to past events, symbols, and metaphors. According to Boyd and colleagues (2009), it is important to consider the comparisons or anchors that are used when talking about a disease to ensure that evidence-based consequences are emphasized rather than speculative or unrealized consequences. Framing is also important to consider since how the media frames an illness draws attention to some aspects of the disease and away from other aspects. As previously mentioned studies have shown, how the disease is framed influences who is consulted for information as well as how causes, responsibility, and solutions for the disease are presented and discussed. For the analysis, the authors began with initial a priori categories that were developed through an extensive review of previous studies examining media representations of BSE (Boyd, et al., 2009). The articles were classified by the following categories: health, government, blame, mistrust, definition, descriptions, control actions, economy, and others. Subcategories were added when needed. They found that BSE was more commonly framed as an economic concern rather than a health concern, which would not discourage beef consumption. They also found that the effects of specific use of anchors to help frame the issue help to establish its dominant characteristics. According to the authors, the comparisons used actually diminished the perceived health risk of BSE by emphasizing the economic concerns rather than the human health concerns. Even though BSE is a different type of health risk than influenza, there is significant overlap in the frames identified in other studies of media representation of a disease. This, along with other studies, assisted in the development of the protocol that was used in this

study for the analysis of the 2009 influenza pandemic media coverage. The Boyd, et al. (2009) study also demonstrates that media framing and social representation theory can successfully be used together to better understand how the media represents and characterizes health risks.

### 3.5 Summary

To summarize, the overall theoretical perspective of this thesis assumes that representations of health and illness are socially constructed and are based on the broader socio-cultural context. Social representations are evident in various forms of communication, including the media. The media are recognized as an important source that shapes and reflects the knowledge of and experiences of health and illness through the words and images that are used (Lupton, 1999; Seale, 2003). These have implications for a range of issues, including risk perception, health behaviors, individuals' attitudes towards people with an illness, the public's concept of who is responsible for health and their trust in public health interventions (Lyons, 2000; Nerlich & Halliday, 2007; Seale, 2003; Ungar, 1998; Wallis & Nerlich, 2005). As a reflection and source of social representations, the media content deserves examination as one mechanism from which representations develop (Joffe, 2002; Joffe & Haarhoff, 2002). However, the analysis requires an approach that focuses on the underlying meanings and considers social context from which the meanings are drawn. Underlying meanings and social context are the foundation of social representations.

Additionally, the theoretical perspective assumes that social representations are frequently structured in a story form or a narrative. Since "news reporting is concerned with 'storied' accounts of health threats" (Kline, 2006, p. 51), a narrative approach was determined to be appropriate for this study. To construct the overall 2009 pandemic narrative in the news media, three aspects of narratives are highlighted: (1) there are common stories for common experiences; (2) new stories are related to old stories; (3) narratives of the same event can vary in perspective and interpretation. To address each of these components of a narrative, three conceptual frameworks were chosen and discussed in this chapter. Each framework was drawn from various works and the three are combined for this thesis in order to construct the overall narrative of the 2009 H1N1 pandemic.

The first conceptual framework, **an epidemic narrative**, is the common narrative pattern for epidemics. While the specifics of the epidemic narrative may vary depending on the disease and the broader socio-culture context, there are common themes for how an epidemic is discussed

(Rosenberg, 1989). The second framework, **anchoring**, addresses why new stories are related to old stories and how meaning is transferred to the new story or experience. Anchoring is when a new experience is linked to known or familiar historical events, metaphors, or symbols in order to make the unfamiliar event understandable (Moscovici, 1961; 1984). In terms of an epidemic narrative, previous epidemics or diseases may be referenced in order to make sense of the new epidemic. The concept of **framing** addresses the third aspect of narratives. There can be different stories of the same event based on different perspectives. Based on framing, media stories present an issue using one perspective or another and the perspective that is presented influences what aspects of the experience are emphasized and omitted. Taken together, the conceptual frameworks influenced how and what was examined in the media coverage. This will be discussed in the next chapter.

Along with each framework, there were examples of media representations studies that utilize the respective framework. These studies served as examples of how studies have applied each framework, how disease outbreaks and the response to them have been represented by the media in the past, and provided methodological models that were adapted for this study. The relationship between the studies and the methodological model will be discussed in the next chapter.

## CHAPTER 4 RESEARCH METHODOLOGY

### 4.1 Introduction

This chapter focuses on the methodology that was used in this study. The methodology was informed by the theoretical orientation and conceptual frameworks discussed in the previous chapter. The first section of this chapter presents the research objectives and questions. The second section focuses on the specific methods that were used to address the research questions. An approach referred to as qualitative content analysis was adapted for the study (Altheide, 1996). Similar to content analysis, the analysis uses a protocol with expected themes, however, categories are flexible and new categories are expected to emerge as the analysis progresses. Additionally, the approach focuses on the language and meaning of the text. The protocol that was developed for the analysis is also presented in the second section. In the third, and final, section, data collection and analysis are described.

### 4.2 Research Objective and Questions

The main purpose of the study is to construct the overall 2009 H1N1 pandemic narrative from local and national newspapers distributed within Saskatoon, Saskatchewan. The epidemic narrative is reflected by the perspective and discourse of the news coverage of the pandemic. The study was guided by three research questions:

1. What are the main themes that are discussed in the newspapers in relation to the H1N1 pandemic and how are they discussed (i.e. the discourse)?
2. How do the themes and discourse change over time and how do these changes relate to the timeline of the pandemic?
3. How do the themes and discourse compare between the local and national newspapers?

The first question is concerned with what aspects of the pandemic are emphasized in the newspaper coverage and how these aspects are discussed. For this question, articles were analyzed for their main theme(s) and the specific language and meanings that were used. The results shed light on the overall narrative of the pandemic. Since an epidemic narrative can vary over time and place (Rosenberg, 1989), the next two questions are concerned with the temporal and regional differences in the narrative as reflected by the newspaper reports. The second

question is concerned with how the themes and discourse change over time. For example, differences in the themes and discourse during the pre-pandemic period, during the pandemic, and during the post-pandemic period as well as changes in the focus in relation to events that occurred during the pandemic were anticipated. The final question is concerned with similarities and differences in the main themes and discourse between the local and national newspapers. This sheds light on whether there were key differences between the Saskatoon context and the broader Canadian context.

### 4.3 Methodological Approach

#### 4.3.1 Qualitative content analysis

Common methodologies of media representation studies are content analysis, sociolinguistic analysis, discourse analysis, or some combination of these approaches. For this study, I adapted Altheide's (1996) approach, referred to as ethnographic or qualitative content analysis. The approach shares similarities to content analysis and discourse analysis, beginning with a protocol with expected themes, similar to content analysis. However the protocol is flexible and may be revised as the analysis progresses. Altheide (1996) distinguishes the approach from quantitative content analysis, which assumes that the frequency and patterns of messages would inform the "audience members" of the media messages. However, readers are an "active audience" and can interpret messages in many different ways, so the impact of the message cannot be understood without considering the explicit and implicit meaning along with the broader context in which the news reporting occurs, which is similar to discourse analysis (Altheide, 1996). In other words, the readers of a news story may interpret the story in different ways depending on their various perspectives and experiences.

The primary focus of the approach is on the emphasis and meaning of the documents, rather than the frequency of specific themes. According to Altheide (1996), the overlapping concepts of media frames, themes and discourse capture the emphasis and meaning of the documents. A media frame is a very broad thematic emphasis or definition of a report. The frame defines the primary focus, parameter, or boundary for discussing a particular event. Themes are the recurring concepts or meanings that occur throughout multiple reports. Certain themes become appropriate if a particular frame is adopted. The concept of discourse refers to the words and

meanings that one uses to talk about an issue. The frame or emphasis, and discourse work together to provide meaning within the document.

When analyzing an article using a qualitative content approach, the primary perspective (or frame), the recurring concepts (or themes), and discourse are all noted. Unlike quantitative content analysis, both numerical and narrative data for each category are collected and analyzed. The approach is also useful for discovering emergent pattern, emphases, and themes by using systematic, but not rigid, categories and variables. The categories are used to initially guide the analysis, but other categories are expected and allowed to emerge throughout the analysis process. According to Altheide (1996), the disadvantage of looking at the news content as static, concrete categories, rather than allowing for changes and new categories to emerge is that important and unexpected thematic patterns may be lost. The analysis requires a reflexive process and constant comparisons and contrasts to relevant situations, settings, styles, images, meanings and nuances. The approach also views individual news stories as part of a continuing storyline, which fits well with the idea that the epidemic narrative will emerge from the total news coverage of the pandemic.

#### 4.4 Protocol

Following the approach described by Altheide (1996), an initial protocol was developed to guide the analysis. The protocol is divided into three main sections: (1) reference information, (2) focus and summary of the article, and (3) themes & discourse. Each section is described in the following sub-sections.

##### 4.4.1 Protocol: reference information

Basic reference information (see Table 4-1) was collected for each article, which included the electronic file name, author (if available), date, title of article, newspaper, page, section, document type (i.e. news, column or opinion, letter) word count, and whether an image was included with the article.



| Reference Information |   |
|-----------------------|---|
| File name             | name of the pdf file  |
| Author                | if available  |
| Date                  |   |
| Title of Article      |   |
| Newspaper             |   |
| Page                  |   |
| Section               |   |
| Document Type         | i.e. news, brief, business, sports, column, opinion, editorial, letter, series, etc |
| Length                | word count  |
| Image                 | yes or no   |

Table 4-1: Protocol – Reference Information

#### 4.4.2 Protocol: focus and summary article

The second section is concerned with the main topic and focus of the article (see Table 4-2). Since all of the articles that mentioned H1N1 or swine flu were included in the study, it was important to note whether or not H1N1 was the main topic of the article. Examples of articles in which H1N1 was not the main topic but was still mentioned were sports or businesses articles that referenced the disease. These articles were still analyzed for the way the flu was referenced and discussed since they are part of the epidemic narrative. The primary focus of the articles was noted and used to group articles into broad categories. In addition, the regional focus of the article (i.e. local Saskatoon, specific provinces or territories, national or international) was noted. To assist with developing a broad overview of the coverage and a timeline of events, a brief summary of the article and specific events that were mentioned in the articles were recorded.

| Focus and Summary         |   |
|---------------------------|---|
| H1N1 Main topic           | yes or no   |
| Primary focus             |   |
| Brief summary             | 2-3 sentence summary                                      |
| Regional focus            | Saskatoon, Province or territory, National, International |
| Specific events and dates | Used to develop a timeline of events                      |

Table 4-2: Protocol – Focus and Summary of Article

#### 4.4.3 Protocol: themes and discourse

The third section of the protocol focuses specifically on the content and language of the articles and looks for common themes and discourse. The third section of the protocol was initially divided into five broad categories: defining the outbreak, beliefs about causes and responsibility, impact of the outbreak, public health policy and response, and sources of information. See Table 4-3 for a description of each category and sub-categories.

| Themes & Discourse                         |  |
|--|--|
| 1) Defining the outbreak                   |  |
| Disease name                               | swine flu, H1N1, others  |
| Use of anchors                             | define anchor and how it is used   |
| 2) Beliefs about causes and responsibility |  |
| Who/what is responsible                    | may range from directly causing it, responsibility for spreading it, or providing protection from it |
| Blame, criticism, mistrust                 | who or what is blamed is closely linked to ideas about responsibility and cause                      |
| 3) Impact of Outbreak                      |  |
| Human impact                               | severity (# sick/death; symptoms), risk factors, personalization (human face)                        |
| Social impact                              | changes or disruption in behavior, human interactions, and social events                             |
| Emotional impact                           | reported fears or anxiety  |
| Economic impact                            | economic consequences on individuals, businesses, governments, etc.                                  |
| Political impact                           | political consequences, changes, or influence  |
| 4) Public Health Policy and Response       |  |
| Medical approach                           | stockpiling and use of medical supplies, drugs, vaccination  |
| Behavioural approach                       | changes in personal behaviour through persuasion, inducement, coercion                               |
| Ecological approach                        | changes in disease-promoting environment   |
| Further research or action                 | research, preparedness and planning, lessons learned   |
| 5) Sources of information                  |  |
|  | who or what is cited within the article  |

Table 4-3: Protocol – Themes and Discourse

The third section of the protocol was developed based on the three conceptual frameworks (epidemic narrative, framing, and anchoring) and was also influenced by the findings of the media representation studies discussed in the previous chapter. The conceptual frameworks and

media studies have been discussed in detail in the previous chapter, however, they will be briefly described in this section as they related to the protocol. Table 4-4 provides a full illustration of the linkages between the protocol, research questions, and the conceptual frameworks and associated studies. As an example, I will highlight how the research questions and protocol links to the epidemic narrative, anchoring, and framing based on Blakely's (2001) study of the 1918, 1957, and 1968 flu pandemics.

The first research question, "what are the main themes and how are they discussed?", corresponds with the five broad categories of the protocol. These categories also correspond with the common elements of an epidemic narrative (refer to Table 4-4). The specifics of an epidemic narrative depend upon the impact of the outbreak which corresponds with the impact category of the protocol. The specificity also depends upon the time and place, which correspond with the second and third research questions, respectively. The conceptual framework of anchoring corresponds with anchor sub-category of defining the outbreak category.

The most influential media framing study in the development of the protocol was Blakely's (2001) examination of the social construction of the 1918, the 1957, and the 1968 flu pandemics in a single newspaper. For the study, Blakely focused on three aspects: the narrative discourse, the sources of information and the public health policy and response. The protocol includes all three of these aspects, however, the category of the narrative discourse has been expanded based on the epidemic narrative. In my protocol, Blakely's public health policy frame would be considered part of the narrative. The identified frames and themes in the other previously discussed studies (see previous chapter) also correspond with the categories in the protocol (refer Table 4-4).

| Epidemic Narrative (Rosenberg 1989)   |                                  | Social Representation Theory  | Media Frame Studies                           |   |  | Article Protocol Themes/Discourse  |  |
|---|----------------------------------|---|---|---|--|--|--|
| Common elements   | Specifics of narrative depend on |   | Purpose of frames (Altheide 1996; Davis 1992) | Blakely 2001; 2003  | Frames based on other studies  |  |  |
| <b>RQ1. What are the main themes, or frames, that are discussed in the newspapers in relation to the H1N1 pandemic and how are they discussed (i.e. the discourse)?</b> |                                  |   |   |   |  |  |  |
| Explanations and definition of disease  |                                  | Anchors (historical events, metaphors, symbols) provide specific meanings | Defines the issue                             | Definition of disease   | Defining the threat (Stephenson & Jamieson 2009)   | <b>Defining the Outbreak</b>   |  |
|   |                                  |   |   |   | Comparison to other health threats (Stephenson & Jamieson 2009);   | Disease name (swine flu/H1N1/others)   |  |
|   |                                  |   |   | Metaphors used to define disease  | Metaphors (Wallis & Nerlich 2005; Nerlich & Halliday 2007); Past events, symbols, metaphors (Boyd et al 2009)  | Use of "anchors"   |  |
| Causes and responsibilities   |                                  |   | Explains who or what responsible              | Beliefs of causes and responsibility  | Blaming and responsibilities (Beaudoin 2007; Boyd et al 2009; Leslie 2006; Nerlich & Halliday 2007)  | <b>Beliefs of causes and responsibility</b><br>Who or what is defined as responsible (may range from directly causing it, responsibility for spreading it, or providing protection from it)<br><br>Blame, criticism, or mistrust (who or what is blamed is closely linked to ideas about responsibility and cause) |  |
| Overall impact of outbreak<br>Human impact (severity and symptoms, vulnerable populations)  |                                  |   |   | Impact on community   | Overall impact (Davis 1992)  |  | <b>Impact of Outbreak</b>                              |
|   |                                  |   |   |   | Severity (Beaudoin 2007); Human interest (Beaudoin 2007)   |  | Human Impact (severity, risk factors, personalization) |
|   |                                  |   |   | Fear and Anxiety (Hume 2000)<br>Economic (Beaudoin 2007); Political-economy (Clark & Everest 2006; Boyd et al 2009) | Social impact (changes in behavior/human interactions/social events)<br><br>Emotional impact (reported fears or anxiety)<br><br>Economic (economic consequences of outbreak on individuals, businesses, governments, etc)<br>Political (political consequences or political changes due to outbreak) |  |  |
| Regain control over crisis  |                                  |   | Possible solutions                            | Public Health Policy  | Public health response (Boyd et al 2009; Stephenson & Jamieson 2009)   | <b>Public Health Policy and Responses</b>  |  |
|   | Medical Approach                 |   |   | Medical frame (Clark & Everest 2006)  | Medical approach (for example, stockpiling and use of medical supplies, drugs, vaccination; discussions about vaccine program will be included here)   |  |  |
|   | Behavioural                      |   |   | Lifestyle (Clark & Everest 2006)  | Behavioral approach (changes in personal behavior through persuasion, inducement, coercion)  |  |  |
|   | Ecological                       |   |   |   | Ecological approach (changes in disease-promoting environment)   |  |  |
| Lessons for future epidemics  |                                  |   | Future research or action                     |   | Further research or action needed (including preparedness planning)  |  |  |
|   |                                  |   | Arbiter, who was providing the information    | Perspective influences who provides information (Leslie 2006; Boyd et al 2009)                                      | Sources of information (note who or what is cited within the article)  |  |  |
| <b>RQ2. How do the themes and discourse change over time and how do these changes relate to the timeline of the pandemic?</b>   |                                  |   |   |   |  |  |  |
|   | time                             |   |   | changes over time   | changes over time (Beaudoin 2007; Leslie 2006)   | Date of article  |  |
| <b>RQ3. How do the themes and discourse compare between the local and national newspapers?</b>  |                                  |   |   |   |  |  |  |
|   | place                            |   |   |   |  | geographical focus of the article  |  |

Table 4-4: Development of Protocol

For the purpose of this work, the overall news coverage represents the overall epidemic narrative in which individual news articles are part of this broader narrative. The assumption is that individual news articles would focus on specific aspects of the epidemic narrative rather than the overall narrative. The concept of framing provided a useful way to understand how news

articles report on an issue. Media framing is concerned with the emphasis and meaning of a news story. An individual frame used by a news story can be considered one piece of the overall epidemic narrative. For example, an article might focus on a way that the outbreak is affecting the community such as the social, economic, or political impact. As another example, an article might discuss the role and responsibilities of the government, health organizations, or individuals in preventing and controlling the outbreak. When the articles are viewed collectively, the main themes or frames would help to form the overall narrative. Also, by examining the news coverage chronologically or regionally, differences in the narrative over time or regional differences may be evident.

Part of the epidemic narrative is to define and develop a representation for the outbreak. Within media framing, the use of metaphors, symbols, and comparisons when defining and discussing an issue is well recognized, however, little is said about the specific role they play in developing a representation (Gamson & Modigliani, 1989; Pan & Kosicki, 1993). Social representation theory and the process of anchoring address this issue. Representations develop through the process of anchoring, in which the new phenomenon is linked or anchored to known historical events, metaphors, and symbols in order to make it understandable in familiar terms. Based on this framework, it is important to note comparisons to other events, metaphors, symbols that are used by the media but also to examine how they are used in the narrative. Depending on the perspective of given article, a specific anchor may be used to provide a specific meaning.

#### 4.5 Data Collection and Analysis

##### 4.5.1 Description of newspaper sources

Newspapers were chosen as the data source since they are widely available in the community and they have a local focus (i.e. the local newspapers), but also include national and international stories. There are a wide range of media sources from which people obtain information, however, a specific media source was required for the study which was easy to collect and would yield a manageable set of data. In addition, compared to other media sources, newspapers may provide a “better measure of media coverage of an acute risk event” compared to chronic health risks (Driedger, 2007, p. 784). Print media, compared to televised media, can provide more detailed analysis and commentary on an event and may contain multiple stories on any given day

that highlight different aspects of the event. The primary constraint with print media is space rather than time (Driedger, 2007).

The data sources include four local Saskatoon newspapers, the *StarPhoenix*, *Saskatoon Sun*, *Planet S*, and *The Sheaf*, and two national newspapers, the *Globe and Mail* and the *National Post*. The *StarPhoenix* is Saskatoon's primary local newspaper, which is published daily (Monday – Saturday) and they also publish the weekly *Saskatoon Sun*, both available for home delivery. The *StarPhoenix* is also available online (<http://www.thestarphoenix.com/>). The *Planet S* is a free bi-weekly tabloid that focuses on news, arts, and entertainment in Saskatoon. The news section of *Planet S* focuses on relevant issues rather than the day-to-day news. *The Sheaf* is a free weekly (during the academic year) student newspaper at the University of Saskatchewan. The paper focuses on relevant issues to the university student population. Both the *Planet S* and *The Sheaf* are available in print and online (<http://www.planetsmag.com/> and <http://www.thesheaf.com/>). The majority of the Saskatoon newspaper coverage is from the *StarPhoenix*. Given the limited number of articles in the *Saskatoon Sun*, the *Planet S*, and *The Sheaf*, their presence in the results section is minimal. Nevertheless, the other three papers were read during the analysis to capture the range of newspapers that were be read by Saskatoon residents.

The two national newspapers, the *Globe and Mail* and the *National Post*, are the second and third most widely circulated English-language newspapers in Canada. The *Toronto Star* has the highest circulation but the print edition is distributed almost entirely within Ontario so it was not relevant for a Saskatoon-based focus. The *Globe and Mail* and the *National Post*, both based in Toronto, were chosen to provide an overview of the national-wide news coverage, irrespective of any political perspective of the news organization. The *Globe and Mail* is available for home delivery and online (<http://www.theglobeandmail.com/>). The print edition of the *National Post* is not available for home delivery in Saskatchewan but the print edition is available in stores and also online (<http://www.nationalpost.com/>).

The *National Post* and *StarPhoenix* are part of the same news organization, initially CanWest and sold to Post Media Network in October 2009. As part of the same news chain, articles may be republished from one to the other as well as from other localized newspapers across Canada published under the same umbrella network. The result is identical articles appearing in both the *National Post* and *StarPhoenix*. Articles in the *StarPhoenix* may originate from the local level

(i.e. *StarPhoenix*), the national level (i.e. *National Post*), or from other localized newspapers in the chain. For example, articles focused on the provincial level may be sourced from the *Regina Leader-Post*. While the *StarPhoenix* is considered the local newspaper as opposed to the national newspapers for this study, articles in the newspaper are not geographically limited to Saskatoon.

#### 4.5.2 Selection criteria

Articles were identified and collected using a key word search for “swine flu OR H1N1 OR pandemic” after April 24, 2009, the date of the first outbreak notice issued by the WHO, until the end of August 2010. The end of August was chosen to include the official end of the pandemic, (August 10), and to capture content-relevant articles published in weeks that followed. An additional search was done for potential articles published during the week prior to April 24, with the key word search of “Mexico AND (flu-like OR influenza-like)” to identify articles that mentioned the Mexican outbreak prior to the WHO’s announcement. The text of the articles from the *StarPhoenix*, *Saskatoon Sun*, *Globe and Mail* and the *National Post* were collected using the key word search through the *ProQuest Newsstand* database. Articles from *Planet S* and *The Sheaf* were collected from their respective websites: <http://www.planetsmag.com/> and <http://thesheaf.com/>.

With the selection criteria, a total of 1692 articles were identified. H1N1 was the main topic in 70% (1196) of the identified articles. A breakdown of the number of articles by newspaper is listed in Table 4-5. Relevant articles include all news stories, news briefs, editorials, and letters to the editors that mention H1N1 or swine flu regardless of whether or not it is the main topic of the article. Table 4-6 and Table 4-7 respectively contain a breakdown of the type of newspaper article (i.e. news, editorial, letters, etc.) and number of articles by section of the newspaper. This was done to examine the full range of discussions in which the pandemic is mentioned. For example, articles in the business and sports section may mention H1N1 and its impact in those respective areas and are therefore part of the epidemic narrative.

| Newspaper             | Main Topic | Mentioned | Total |
|-----------------------|------------|-----------|-------|
| <i>StarPhoenix</i>    | 373        | 141       | 514   |
| <i>Saskatoon Sun</i>  | 10         | 3         | 13    |
| <i>The Sheaf</i>      | 14         | 4         | 18    |
| <i>Planet S</i>       | 2          | 0         | 2     |
| <i>Globe and Mail</i> | 474        | 228       | 702   |
| <i>National Post</i>  | 323        | 120       | 443   |
| Total                 | 1196       | 496       | 1692  |

Table 4-5: Total Number of Articles by Newspaper, April 23, 2009  
– Aug 31, 2010

| Newspaper   | <i>Globe &amp; Mail</i> | <i>National Post</i> | <i>StarPhoenix</i> | <i>Saskatoon Sun</i> |
|-------------|-------------------------|----------------------|--------------------|----------------------|
| Business    | -                       | 67                   | 66                 | -                    |
| Caption     | -                       | 2                    | 8                  | -                    |
| Column      | -                       | 29                   | 42                 | 3                    |
| Correction  | -                       | -                    | 1                  | -                    |
| Editorial   | 37                      | 6                    | 12                 | -                    |
| Letter      | -                       | 38                   | 26                 | -                    |
| News        | 665                     | 197                  | 288                | 10                   |
| News, brief | -                       | 72                   | 33                 | -                    |
| Obituary    | -                       | -                    | 1                  | -                    |
| Opinion     | -                       | 10                   | 4                  | -                    |
| Series      | -                       | 1                    | 2                  | -                    |
| Sports      | -                       | 20                   | 29                 | -                    |
| Statistics  | -                       | 1                    | 2                  | -                    |

Table 4-6: Type of Article by Newspaper  
(Note: Information on article type was not available for *The Sheaf*  
and *Planet S.*)



| <i>Globe and Mail</i> |     | <i>National Post</i> |     | <i>StarPhoenix</i> |     |
|-----------------------|-----|----------------------|-----|--------------------|-----|
| Book Review           | 2   | Arts & Life          | 19  | Arts & Life        | 9   |
| B.C. News             | 18  | Business             | 2   | Bright Side        | 2   |
| Business              | 75  | Canada               | 133 | Business           | 35  |
| Column                | 14  | Cold & Flu           | 10  | Forum              | 63  |
| Comment               | 25  | Column               | 1   | International News | 3   |
| Editorial             | 37  | Comment              | 1   | Local              | 75  |
| Focus                 | 20  | Editorial            | 18  | Local/Regional     | 1   |
| Globe Life            | 82  | Financial Post       | 52  | National           | 101 |
| Globe Review          | 23  | Issues & Ideas       | 15  | News               | 103 |
| Globe Toronto         | 3   | Letter to the Editor | 38  | Personal Finance   | 1   |
| Health                | 4   | National             | 6   | Religion           | 1   |
| International News    | 41  | News                 | 80  | Special Section    | 2   |
| Letter to the Editor  | 63  | Post Homes           | 2   | Sports             | 29  |
| National              | 229 | Sports               | 19  | Third Page         | 44  |
| National News         | 11  | Toronto News         | 20  | Weekend Extra      | 15  |
| News                  | 1   | Weekend Extra        | 5   | World              | 30  |
| Obituaries            | 1   | World                | 22  |                    |     |
| Report on Business    | 8   |                      |     | <i>The Sheaf</i>   |     |
| Science               | 1   |                      |     | Classified         | 1   |
| Sports                | 25  | <i>Saskatoon Sun</i> |     | News               | 10  |
| Toronto News          | 12  | Health               | 1   | Opinion            | 6   |
| Travel                | 7   | News                 | 12  | Sports             | 1   |

Table 4-7: Number of Articles by Newspaper Section.

All identified articles from the time period were included for analysis rather than a smaller sample. This is for two related reasons. First, the analysis is concerned with the media representation and possible changes over the course of the pandemic. Second the rhythm of the news coverage often differs from the rhythm of an outbreak. For example, increases in news coverage tend to correspond with key events during the outbreak, such as the recognition of the outbreak, identification of the causes, development and availability of a cure, rather than the epidemic curve<sup>1</sup> (Drache, Feldman, & Clifton, 2003).

During the 2009 pandemic, peaks in the number of articles corresponded with the recognition of the outbreak (April 2009) and the vaccination campaign (Nov 2009) in Canada (see Figure 5-1). If a smaller sample is selected, periods with less coverage may potentially be missed. Due to the volume of the text, images that accompanied the articles were not included in the analysis.

<sup>1</sup> An epidemic curve is the distribution of cases over time (AFMC, 2011).

### 4.5.3 Analysis

The analysis of the newspaper articles followed the qualitative content analysis approach outlined by Altheide (1996). The analysis, which focused on the emphasis and meaning implied in the data, was guided by the protocol. To assist with the initial organization and analysis, the data were entered into database set up in Microsoft Access. The database was useful for keeping track of the individual articles and their associated data, however, as the analysis progressed, the database became cumbersome. This experience is elaborated below. Following the protocol, the basic reference information for each article was entered along with summary information from the second section of the protocol. The bulk of the results came from the third section of the protocol. The data entered for this section included a code word (elaborated below) to assist with organizing the data within each category, along with direct quotes and summary description of the text.

For defining the outbreak, the specific names (swine flu, H1N1, others) that were used in the article were noted, along with any anchors that were used to define or described the outbreak. Anchors included comparisons to other events, metaphors, or symbols. For beliefs about causes and responsibility, any references to the cause or responsibility were noted. This ranged from things, individuals, or organizations that were seen as responsible for directly causing the disease, spreading the disease, or providing protection or prevention. Since blaming and criticism is closely linked to beliefs about causes and responsibility, any blaming, criticism, or mistrust were noted in terms of who or what was blamed or criticized and why. Potential impacts of the outbreak included the human impact, social impact, emotional impact, economic impact, and political impact (refer to Table 4-3 for a description of each). For the public health response, any control or prevention actions were recorded and broadly categorized as medical, behavioral, ecological, or for future research or action. Finally, the sources of information article drew upon, such as types of individuals or organizations that are quoted, were noted.

Once all of the articles had been read and entered, the data from the third section of the protocol was extracted from the database, organized by the pre-existing categories of protocol and associated sub-categories. This was done because the database was too rigid to expand, combine, and revise the predefined categories. There was also significant overlap and linkages between many of the pre-defined categories. This has been noted before in media studies and was a criticism of quantitative content analysis. Rigid categories can simplify the issues and

ignore the complexity of the data. Take for example the name swine flu. Relevant data was categorized under defining the outbreak as H1N1 versus swine flu, pigs as a symbol (i.e. anchor) for the outbreak, pigs and pork produce as something to blame, and the economic impact on the pork industry. Due to the setup of the Access database, it was difficult to link these pieces of data. Attempts to make changes after the data had been entered might have deleted pieces of information or corrupted the database. For this reason, the data for this study was exacted from the database for further analysis.

The resulting text was read through again, summarized, and reorganized, based on the similarities, differences, and linkages between categories. Many of the initial categories were divided and merged with others due to linkages between them. For example, some data that was categorized under economic impact was linked to data regarding the name of the disease (i.e. the economic impact on the pork industry due to the name swine flu) or with the public health impact (i.e. the economic impact on the travel industry and travel advisories). As a result, there are differences in the final organization of the results from the initial protocol, which was expected. Table 4-8 indicates approximately how the initial categories in the protocol were reorganized into the categories presented in the results chapters. Some of the initial categories from the protocol are still used while others have been merged. The final organization of the results can be grouped into four broad themes: 1) naming the disease; 2) the affected population (labeled as human impact in Table 4-8); 3) efforts to contain the outbreak (consists of the list of public health policies and responses in Table 4-8); and 4) lessons learned (labeled as the post-pandemic assessment and lessons Table 4-8). The themes of anchoring, beliefs of causes and responsibility, social impact, economic impact, political impact, emotional impact, and sources of information are interwoven with the final four themes. The organization of the results chapters will also be discussed in the next chapter.

| Article Protocol Themes/Discourse   | Result Sections  |
|---|--|
| <b>Defining the Outbreak</b>  | <b>Defining the Outbreak</b>   |
| Defining a pandemic (category added during analysis)  | <b>Defining a Pandemic</b><br>^ Criticism of the H1N1 pandemic<br>◇ Anchoring to seasonal flu and past pandemics   |
| Disease name (H1N1/swine flu/others)  | <b>Naming the Disease</b><br># Impact on pork industry<br>◇ Anchoring to Mad Cow Disease<br>^ Criticism of term  |
| Anchors ◇   |  |
| <b>Beliefs of causes and responsibility</b><br>Who or what is defined as responsible *<br>INTERMINGLED IN PUBLIC HEALTH RESPONSES<br>Blame, criticism, or mistrust ^  |  |
| <b>Impact of Outbreak</b><br>Human Impact (severity, risk factors, personalization)<br>Social impact/disruption @<br>Emotional impact - INTERMINGLED WITH VARIOUS CATEGORIES<br>Economic impact #<br>Political impact ● | <b>Influenza Activity and Spread (Human Impact)</b><br>○, #, @ Absentee rates at schools and workplaces  |
| <b>Public Health Policy and Responses</b>   |  |
| Medical approach  | <b>Quarantine and Isolation</b><br><b>Antiviral Drugs</b><br><b>Vaccination</b> ^, *   |
| Behavioral approach   | <b>Handwashing and respiratory etiquette</b><br>○, @ Handwashing Concerns<br><b>Social Behavior</b><br>@, ^ Concerns about changes<br><b>Facemasks</b> ^   |
| Ecological approach   | <b>Travel Restrictions and screening travellers</b><br>^ Criticism of travel advisories<br># Impact on travel industry<br><b>Cancellations and Closures</b><br>○, ^, @ Criticism of cancellations/closures<br><b>Surface Cleaning</b>  |
| Further research or action needed   | <b>Pandemic Preparedness and Response</b><br>* Pandemic Preparedness in the community<br>◇ SARS and pandemic preparedness<br>^ Criticism of pandemic planning and response<br>^, ● Political criticism<br>*, ● Jurisdictional issues (including FN)<br><b>Post Pandemic assessment and lessons</b><br>^ Criticisms |
| Sources of information  | Multiple voices in the epidemic narrative  |

Table 4-8: Linkage between protocol categories and results

#### 4.6 Summary

To summarize, the main purpose of this study is to construct the overall 2009 H1N1 pandemic narrative from newspapers distributed within Saskatoon, Saskatchewan. To do so, an approach referred to as qualitative content analysis was adapted. Following the analysis technique, a protocol was developed that was informed by the theoretical and conceptual frameworks of the study. Relevant articles were collected from four local newspapers (*StarPhoenix, Saskatoon Sun, Planet S, and The Sheaf*) and two national newspapers (*Globe and Mail and National Post*). Articles were identified and collected using a key word search within the following time frame: April 24, 2009 to Aug 31, 2010. Each article was analyzed based on the developed protocol. As the analysis progressed, the categories based on the protocol were reorganized. The resulting data was summarized and will be presented in the results chapters.

CHAPTER 5  
OVERVIEW OF THE 2009 H1N1 PANDEMIC NARRATIVE

5.1 Introduction

This chapter gives an overview of the 2009 H1N1 pandemic narrative. The overview is a very broad and gives a general description of the narrative in the newspapers. Additional details on specific themes and events are provided in the individual result chapters (Chapters 6 through 11). The chapter also outlines the organization of the results chapters.

5.2 Overview of 2009 H1N1 Pandemic Narrative

The media coverage of the 2009 H1N1 pandemic can be divided into three periods: (1) Pre-Pandemic/First Wave, (2) Second Wave/Vaccination Campaign, and (3) Post-Second Wave (see Table 5-1 for the total number of articles by time period). These periods correspond approximately to the initial spread of the virus and influenza activity in Canada. The Pre-Pandemic/First Wave period began in April 2009 and lasted until the end of August 2009. The Second Wave/Vaccination Campaign period started at the end of August 2009 lasted until late January 2010. The Post-Second Wave started in late January 2010 and lasted until the end of the pandemic in August 2010.

|                         | Pre-Pandemic/First Wave: April 23 - Aug 29, 2009 | Second Wave/Vaccination Campaign: Aug 30, 2009 - Jan 27, 2010 | Post-Second Wave: Jan 28 - Aug 31, 2010 |
|-------------------------|--|---|---|
| <i>StarPhoenix</i>      | 172  | 309   | 33                                      |
| <i>Globe &amp; Mail</i> | 267  | 367   | 68                                      |
| <i>National Post</i>    | 191  | 210   | 42                                      |
| Total                   | 630  | 886   | 143                                     |

Table 5-1: Total Number of Articles by Time Period

There were two peaks in the media coverage during the first and second time periods (see Figure 5- for a weekly count of the newspaper articles). The first peak in media coverage occurred in April and early May 2009. This peak corresponded with the coverage following the WHO’s initial announcement of the outbreak. The second, larger peak occurred in late October and early November 2009, which corresponded with the mass vaccination campaign in Canada.

According to Rosenberg (1989), an epidemic narrative follows a characteristic pattern. Initially, an outbreak may not be noticed until it reaches a point where it is unavoidable and must be acknowledged. Once the outbreak is acknowledged, explanations emerge in order to identify

and contain the outbreak. The explanations serve to identify the causes and responsibility for the outbreak, to help regain control over the crisis, and to attempt to minimize society's sense of vulnerability to the outbreak. As the disease spreads, it may be accompanied by panic, disorder, desperation, and the presence of an apocalyptic worldview. If control efforts fail or an immediate solution is not discovered, then those seen as responsible for the outbreak may receive criticism or become scapegoats. As the epidemic gradually subsides and disappears, society looks back for the lessons that can be learned. This narrative pattern is evident in the media coverage and loosely corresponds with the three identified periods. These observations will be elaborated in the sections that follow.

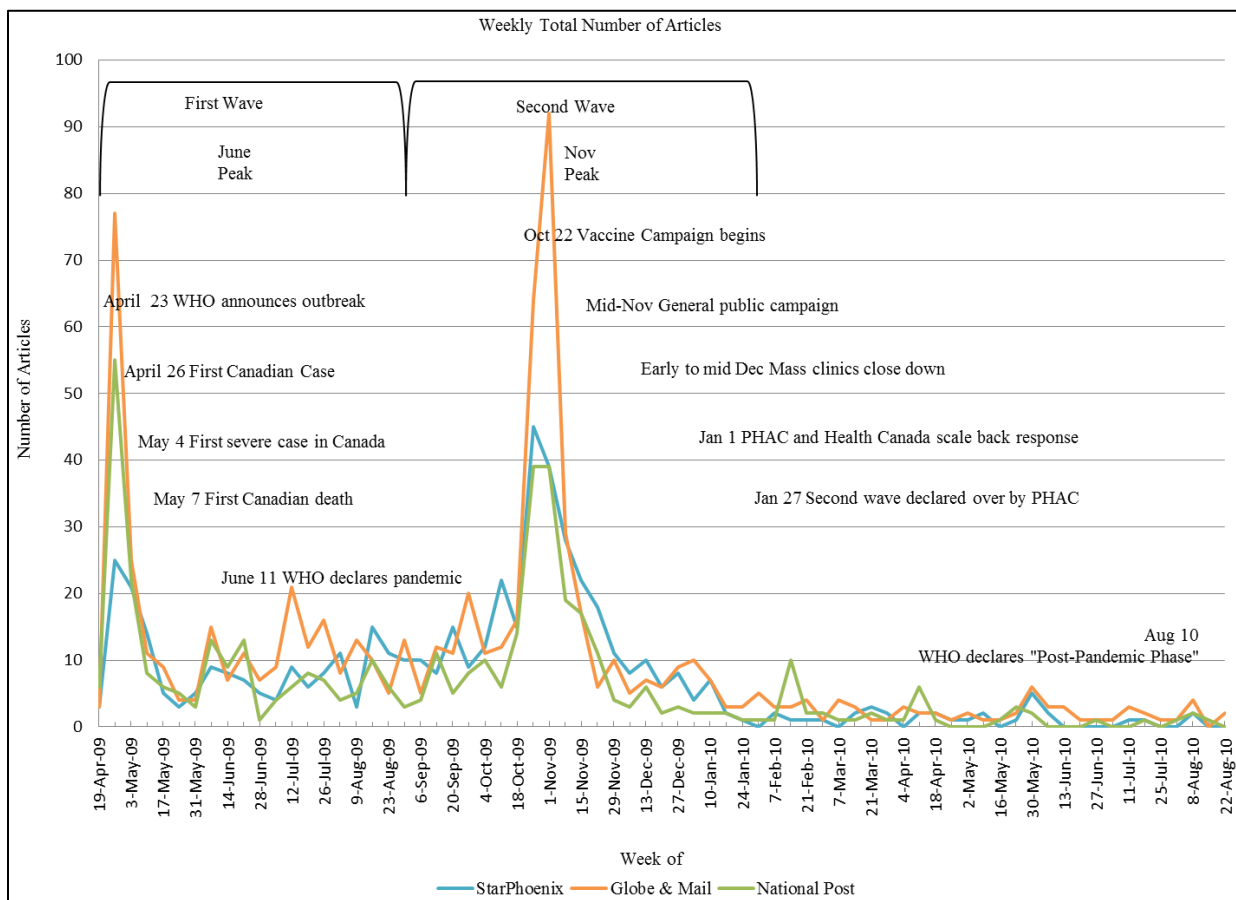


Figure 5-1: Weekly Total Number of Articles

### 5.2.1 Period 1: Pre-Pandemic/First Wave

The first period, Pre-Pandemic and First Wave, started in April 2009 and lasted until August 29, 2009. The time frame began with the initial media coverage of the outbreak and ended with official end of the first wave in Canada. Media coverage during the first period included the

initial recognition of the outbreak and the development of explanations to identify and contain the outbreak. The time period began with the initial identification of the outbreak in Mexico. Issues that were discussed included who was affected by the disease, the Mexican public's reaction to the outbreak, and Mexico's public health responses. Media discussions regarding the identification of the outbreak focused on whether to call the disease swine flu or H1N1 and whether or not the outbreak was a pandemic. The coverage also documented the uncertainty, fear and panic as the virus spread. Articles documented the global spread of the virus as well as the spread within Canada. As the virus spread, initial containment efforts focused on travel-related measures. The focus eventually shifted to measures to contain community-based outbreaks. These measures included preparation for the anticipated second wave, efforts to limit social contact (e.g. closures, isolations, etc.) and individual methods (e.g. hand washing, respiratory etiquette). In the media, there was the perception that the control efforts (e.g. travel-related measures) failed to prevent the spread, and the solutions (i.e. pandemic preparation and vaccination) were too slow to materialize, both of which contributed to criticism and blaming. Public health officials, politicians, and public health measures (i.e. travel advisories, quarantine/isolation, cancellations and closures) also received criticism during this time. Throughout this period, social, economic, and political influences on the public health response and impacts from the outbreak were discussed.

### 5.2.2 Period 2: Second Wave/Vaccination Campaign

The second period, Second Wave and Vaccination Campaign, started on August 30, 2009 and lasted until January 27, 2010. The second period began with the official start of the second wave and ended with the end of the second wave. The period included the second wave in Canada and included extensive coverage of the status of the vaccine campaign. Coverage focused on the status of vaccine production, the initial set-up of vaccination clinics, the vaccine roll-out, and eventually, the good and bad of the vaccine campaign. Perceptions about and criticism of slow and ineffective efforts were prevalent during this period. Media accounts also focused on the level of flu activity and the social and economic impacts of the second wave.

### 5.2.3 Period 3: Post-Second Wave

The final period, Post-Second Wave, started on January 28, 2010 and lasted until the end of the pandemic in August 2010. The media coverage had significantly decreased by this period



and articles were infrequent compared to the previous period. This drop in coverage corresponded with the end of the vaccination campaign and the drop in flu activity. During the final period, media focused on the decline of the pandemic and the lessons that could be learned from the pandemic and public health responses.

### 5.3 Organization of Results

Rather than a chronological presentation of the results, findings have been divided into broad themes of the pandemic narrative. Many of the themes of the narrative overlap chronologically and intertwine with each other which would make a clear chronological presentation of the results difficult. The results are divided into six chapters and are organized by the four broad themes: 1) naming the disease (Chapter 6); 2) the affected population (Chapter 7); 3) efforts to contain the outbreak (Chapter 8 through 10); and 4) lessons learned (Chapter 11). The four themes are based on the reorganization of the protocol. Table 4-8 indicates approximately how the initial categories in the protocol were reorganized into the categories presented in the results chapters. Some of the initial categories from the protocol are still used while others have been merged with others. For example, naming the disease, the affected population (labeled as human impact in protocol), efforts to contain the outbreak (labeled as public health policies and responses, and lessons learned (labeled as post-pandemic assessment and lessons) are categories in the protocol. The themes of anchoring, beliefs of causes and responsibility, social impact, economic impact, political impact, emotional impact, and sources of information are interwoven with the final four themes.

The following is a brief description of each chapter. Chapter 6: Defining the Outbreak focuses on the theme of defining and naming the outbreak. Chapter 6 examines how the terms pandemic, H1N1 and swine were defined and applied to the outbreak. Chapter 7: Influenza Activity and Spread discusses how the media discussed the spread of the virus and the flu activity. Indicators of flu activity included confirmed and suspected cases and deaths and absentee rates in schools and workplaces. Chapter 7 also discusses how personal stories were presented and highlights the associated societal impacts. Chapter 8: Pandemic Preparedness and Response examines the coverage of the pandemic planning and preparedness efforts. It also presents criticisms of the preparations efforts and public health difficulties due to different jurisdictions. Chapter 9: Public Health Measures presents the representation of specific health measures, their criticisms, and associated social impacts. Chapter 10: Vaccination focuses on

issues regarding the vaccination campaign. Vaccination was put in a separate chapter due to the extensive media focus on the issue. Chapter 11: Post Pandemic Assessment and Lessons presents the stated lessons from pandemic and assessments of the public health response.

For ease of citation throughout the result chapters each article was assigned an ID# which includes an abbreviation of the newspaper name and a number based on its order chronologically as well as by page number. See Appendix A for a list of the ID# and associated article. This was done to shorten the in-text citation of the articles and to separate the citation style of the data set from the references used in the dissertation.

#### 5.4 Summary

In summary, this chapter provides a brief chronological overview of the 2009 H1N1 pandemic narrative. The overview and media coverage was divided into three periods: the pre-pandemic/first wave, the second wave/vaccination campaign, and the post-second wave. The chapter also outlines the organization of the results chapters.

## CHAPTER 6 DEFINING THE OUTBREAK

### 6.1 Introduction

The first of the result chapters focuses on how the terms pandemic, H1N1 and swine flu were used in the media to define the outbreak and the associated discourses regarding the labels. The first section focuses on how the term pandemic was presented in the media and how it was used to define the 2009 H1N1 pandemic. Initially, the outbreak was identified as an extended flu season in Mexico. The outbreak eventually shifted to a potential pandemic and finally was labeled as a pandemic. A common discussion over the course of the outbreak was whether or not H1N1 was a pandemic, since the term is understood from various perspectives. The section examines the conflicting definitions of the term pandemic, resulting criticism, and the anchors that were used to define the term pandemic. The second section focuses on the names that were used for the disease: H1N1 and swine flu. Both terms were applied to the disease, however, there was disagreement over their usage. The term swine flu was frequently criticized due to the perceived link to pigs and the resulting economic impact on the pork industry. The second section also presents the media discussions and criticism associated with the use of the names H1N1 and swine flu.

### 6.2 Defining a Pandemic

#### 6.2.1 Declaration of the 2009 Pandemic

On April 24, 2009, the World Health Organization announced the outbreak in Mexico. Mexican health officials released a media statement blaming “the surge in illnesses...on an extended flu season” (GM87). The first known cases of the outbreak started around March 18, although cases may have occurred earlier (GM87). Mexican officials insisted that the outbreak was not an epidemic and that they were taking measures to reduce the risk of transmission (GM1). Following the 2003 SARS outbreak, health officials paid close attention to these types of health alerts based on the assumption that eventually one would be the “beginning of the next pandemic” (GM1). On the day of the initial health alert, the WHO said that there was no evidence that the pandemic alert level should be raised (GM2).

The following day, April 25, news articles included more speculation about whether the outbreak was a potential pandemic after “health officials around the world went on high alert for

a potential global flu pandemic...there have been three flu pandemics in the past century and experts say another could happen at any time” (GM3). In anticipation of a possible pandemic, the WHO activated a global epidemic operations centre (NP5). While health officials were on alert for a possible pandemic, they also emphasized the unknowns of the situation. For example, Dr. Butler-Jones, the Chief Medical Officer of Canada, stated

What it will lead to is impossible to predict...We do not know whether this swine influenza virus, or some other influenza virus, will lead to the next pandemic. Scientists and public health agencies around the world, though, remain on high alert (SP2).

On April 27, the WHO declared that “the likelihood of a pandemic has increased” and “raised its alert level to match” from level 3 to level 4 (see Table 2-1 for the definition of the pandemic alert levels). The WHO emphasized that a pandemic was “possible” but it was “not inevitable” (GM9, GM16, GM25). On April 29, the pandemic alert was raised to level 5. The increase to level 5 “signaled that a pandemic is imminent and [the WHO] urged countries to implement their pandemic plans” (GM43, SP15, SP17). During the month of May, the WHO did not raise the pandemic alert to level 6, which would officially signal a pandemic, since there was no evidence of sustained community-level spread outside of North America (GM86). Dr. Keiji Fukuda, a WHO official, stated, “We are not certain when we will go to Phase 6. There’s not a timetable. There’s no timetable for how viruses like this spread out” (SP36).

On June 10, the day before the WHO declared the outbreak a pandemic, Dr Keiji Fukuda, WHO’s acting assistant director general, emphasized the importance to understand what a pandemic means during a press conference.

It means the virus continues to spread and infections are occurring in at least two regions of the world. It does not mean the virus has become more lethal or that people are getting seriously sick at higher numbers or higher rates than they are now (SP78).

On June 11, 2009, the WHO raised the pandemic alert to level 6, officially declaring a pandemic (GM147, NP119). Level 6 indicated that there was community-based spread of the virus in more than one WHO region of the world. At the time, there was community-based spread in North America and Australasia. Europe, South America and Asia were also on the verge of broad community-based spread (GM144). In Canada, “health authorities tried to calm nerves by indicating that the long awaited pandemic was largely technical scientific criteria” (GM145). While health officials emphasized that the definition of a pandemic was “technical

scientific criteria,” news reports described the increase to Level 6 as a “full-blown pandemic” (GM9, GM81, GM118, GM139, NP31, SP78). Following the declaration of the pandemic, the media focus during the summer and early fall shifted to the expected second wave which was expected to intensify in the winter and could become “more sinister,” however, this message was accompanied with one that pointed out that it was impossible to predict what would happen (GM142, GM183, GM211, GM228, GM231, GM255, GM259, GM265, GM269, SP113, SP149, SP151, SP160, SP164, SP166, SP169, SP170, SP172, SP178, SP179, SP180). In Canada, the second wave officially began at the end of August 2009 and increased by October 2009.

By December 2009, there were inquiries about whether the pandemic could be declared over, however, the WHO stated that it was too early to decide. In the US and Canada, the number of cases and deaths were decreasing and the Canadian second wave was officially declared over in January 2010 (SP 482). However, the decrease in the number of cases was not occurring in the entire Northern Hemisphere. There was still the possibility of a third wave in the spring (SP63), however, one was not expected in Canada by health experts due to nation’s mass vaccination campaign (GM525, SP434, GM615). In one article, an Ontario health official pointed out that conflicting interests, such as political or financial pressures, can influence the decision to prematurely declare that an outbreak has peaked or has ended. As an example, the health official referred to the 2003 SARS outbreak in Toronto. Due to the economic impact of the outbreak, “experts and government authorities were under ‘tremendous pressure’ at the time to announce the demise of that outbreak...but no sooner had they predicted the end was nigh than another deadly wave of the virus unexpectedly erupted inside a city hospital” (NP366).

The WHO’s emergency committee waited until February 2010 to determine whether the pandemic’s peak has passed (GM648). The emergency committee waited several more months, until August 2010, to meet and to determine whether the pandemic could be declared over (SP513; GM697, GM698). On Aug 10, the WHO officially declared the pandemic over, however, as an article in the *StarPhoenix* noted the “announcement received little fanfare, with health headlines already focused on other emerging stories, such as research identifying a ‘superbug’ in hospitals in India that’s resistant to antibiotics” (SP514).

### 6.2.2 Criticism of the H1N1 Pandemic and the pandemic alert system

The news coverage was filled with mixed messages on the definition of a pandemic and about the inability to predict an outbreak versus the potential severity of a pandemic. A common

criticism that appeared in the media was that H1N1 was not a pandemic as the term was commonly understood, as opposed to the official definition used by the WHO. The term *commonly understood* refers to the definition of the term as the general population would understand it. In other words, it is the mental representation of the term pandemic from the perspective of the general population. In articles that suggested that H1N1 was not a pandemic, the term pandemic would be in quotes or phrases such as “so-called pandemic” or “flu scare” would be used (NP382, NP427, SP153, SP490).

The main issue regarding whether or not H1N1 was a pandemic was whether it fit the definition of a pandemic, however, there were at least two conflicting definitions presented in the media that were used interchangeably and without a clear distinction between the two. The first definition was the WHO’s definition based on the alert system and second was the “common understanding” of the term, in other words, the social representation of the term. The criticism was based on an underlying assumption that pandemics always result in high number of deaths and are more severe than seasonal flu. These assumptions are based on comparison to past flu pandemics and to the impact of seasonal flu. This aspect of the media reporting will be discussed in more detail in the next sub-section on anchoring. The alert system used to declare a pandemic was based solely on the geographical spread of the virus and made no reference to the severity.

One source for the criticism and confusion was the fact that the WHO originally included severity in their pandemic definition but later dropped it. The original version of the alert scale, developed in 1999, defined a pandemic as involving “serious morbidity and mortality.” The alert system used during the H1N1 pandemic made no explicit reference to the deadliness of an outbreak (GM631, NP441, SP78). Several editorials in the *National Post* claimed that the WHO changed the definition of a pandemic to “fabricate” a pandemic as a cover for a predicted avian flu pandemic that had not happened and for political and financial gains. The editorials also claimed that the change “render[ed] the term ‘flu pandemic’ essentially meaningless – risking lethal public complacency if a bona fide one hits” (NP243, NP123, NP428). Additional editorials criticized the lack of a severity indicator on the pandemic alert system claim that it is not relevant for the general public (GM626, SP83, SP509). Without a severity indicator, it did not “articulate a real sense of gravity of the flu outbreak, and how much a public danger it really is”

(SP173). An article published in June 2010 that focused on the lessons of the pandemic made a similar statement:

We've heard this bad word pandemic, but this is about the same as we would see in a bad influenza season or it's less than that, or it's more. We don't have a yard stick. There was no context (SP509).

For future changes to the alert system, the WHO planned to include an assessment of the severity as well as the geographical spread (SP76).

The WHO and other health officials continued to emphasize that a pandemic can be either mild or severe and that the definition of a pandemic is based on the geographical spread of a virus rather than its severity (GM87, GM143, NP31, SP86, SP106, SP268). However, there are many examples in the media that suggested otherwise. When there was an increase in the pandemic alert level, the media linked it to an increase in the severity of the disease and to the worst case scenarios. For example, a *National Post* article suggested that the pandemic alert system sent the wrong signal to the public since it “can reach its top level in a mild pandemic so it appears to foretell doomsday even if people around the world have only the sniffles” (NP84). Another example was a quote in a *StarPhoenix* article which asked “Six is what, the bubonic plague?” (SP27). A *Globe and Mail* article suggested that the increase from phase 3 to 4 was a “sign of increasing severity of the outbreak” (GM41). Another *Globe and Mail* article stated, “If this flu can cause serious illness and death, this is more ominous, and makes it more likely it could become a pandemic strain” (GM39). A *National Post* article defined a pandemic as a “global outbreak of a serious new illness” (NP22).

There were efforts in the media coverage to correct the perception. A *Globe and Mail* article addressed common reader comments and questions about H1N1. One of the reader comments was “I keep reading about ‘epidemic’ and ‘pandemic’ which implies imminent threat but I don't see an epidemic or pandemic out there, just fear-mongering.” The article addressed the comment by stating that pandemic refers to geographical spread of a virus, not its severity (GM357). However, the reader comment also highlighted another perception about pandemics that was not mentioned in the *Globe and Mail* article. It is the perception that during a pandemic, there must be widespread illness and death, a perception that does not recognize the variable nature of a pandemic. A pandemic tends to occur in waves and can affect different locations or the same locations at different times with varying severity (WHO, 2009b).

Other articles emphasized the difference between the technical definition by the WHO and the common understanding of the term with quotes such as “a real pandemic – at least in the sense of the word that most people understand intuitively: a great many people dying or becoming seriously ill” (NP350), “a pandemic in the layman's sense of that word (infecting a high percentage of a population and killing a high percentage of those infected)” (NP428), and “ordinary pandemics kill at least a million people worldwide” (GM380). The assumption that pandemics are deadly is partly based on the comparisons that are used to define how a pandemic should be. The comparisons or anchors that were used will be discussed in the next section.

One issue that was not raised in the media coverage regarding the criticism is how severity should be used to determine if a pandemic exists. If mortality is a defining factor, at what point would one declare a pandemic? Also, mortality rates can be difficult to determine while an outbreak is in progress. Another issue has to do with the purpose of the alert system. The alert system is used to determine when an outbreak has turned into a pandemic and “allows governments and public health agencies to respond appropriately to protect people” (SP173). Ideally, the impact (i.e. the mortality rates) would be less due to the public health response.

### 6.2.3 Anchoring to seasonal flu and past pandemics

The main comparisons or anchors used in the media were past pandemics, particularly the 1918 Spanish flu, and seasonal flu. H1N1 was continually compared and contrasted to seasonal influenza and as more information about the virus emerged, the messages changed to reflect that. However, those changes can lead to confusion.

Early in the outbreak, when cases were generally mild in Canada, H1N1 was described as behaving like seasonal flu in terms of its severity (SP64, GM77, SP50, SP53, SP54, SP60, SP68, SP71, SP80, SP106, SP439). There are potential issues with using severity as a point for comparison such as the different ways in which severity can be defined. For example, severity can be defined by the number of serious cases, by the mortality rate, or by the demographics of those affected. Different media messages were presented depending on which characteristic of severity was used to compare and contrast H1N1 to seasonal flu. When serious cases or deaths of H1N1 were reported, it was compared to seasonal flu in terms of the average number of deaths and hospitalizations that occurred yearly due to seasonal flu (GM43, GM67, NP10). The general message was that the initial serious cases and deaths from H1N1 were no cause for alarm since they occur every year with seasonal flu and were expected (GM43, SP6, SP21, SP27, SP47,



SP100, SP101, SP103). Though over time, a different picture emerged in Canada in terms of the affected age groups. Individuals tended to be younger, sicker and needed more time on ventilators than was the case with seasonal influenza (GM168, GM176, GM268, GM273, GM277, GM386, GM631, NP366, NP430, SP136, SP166, SP172, SP178, SP273, SP303, SP430, SP448).

Various health officials emphasized that a pandemic could be "no more serious than a regular seasonal strain" (NP31, NP32). For example, Keiji Fukuda, WHO's acting assistant director general, said "it's possible an outbreak could technically be labeled a pandemic but not be much deadlier than the seasonal flu" (SP78). This reflected the absence of a measure of severity in the WHO's definition of a pandemic. Similarly, Dr Butler-Jones, the chief medical officer in Canada, stated that "the big difference between an ordinary influenza and a pandemic is not the severity of the disease but the numbers of people who could become ill" (GM55). Messages from the WHO generally did not refer to the number of people who are ill as a defining factor, however, one of the main differences between pandemic flu and seasonal flu is that the population has little to no immunity to a pandemic flu. Since the virus is a novel strain, more people are susceptible to it and can become ill (GM39, NP269, SP101). The difference in the number of sick individuals was frequently overshadowed by a focus on the total number of confirmed deaths compared to the estimates for seasonal flu (GM599, GM671, NP191, NP251, NP296, NP355, NP422, SP153, SP372, SP380, SP439, SP508).

There are potential issues with using seasonal flu as an anchor because of pre-existing perceptions of seasonal flu. Seasonal flu tends to fall into the catch-all phrase of colds and flu. As one article put it, "cold and flu, the pair are so often mentioned tandem it's as though they've become one all-encompassing term in the popular vernacular: coldandflu" (NP413). There was also evidence of confusion between and lumping together colds, flu, stomach flu, and allergies in the media coverage (GM115, GM201, GM577, SP153). For example, an article referring to the first known case of H1N1 in Mexico referred to the illness as a "cold" (GM48). Survey results published in the *Globe and Mail* in Oct 2009, reported that 59% of respondents believed the virus was "not more worrisome than a common cold" (GM368). A letter to the editor in the *National Post* described the symptoms as "similar to spring allergies" (NP20). The catch-all phrase "colds and flu" consists of a group of illnesses that people have yearly experience with, which can make people wonder "what's the big deal, it is just the flu." Seasonal flu occurs every

year and does not receive the same amount of media attention (GM94, GM230, GM357, GM285, GM544, NP123, NP428, NP434, SP83, SP86, SP153, SP274, SP364, SP488).

Due to the emphasis in media on the number of deaths from H1N1 (see next chapter for a detailed discussion), there were questions raised in the media about why H1N1 was considered a pandemic drawing on the number of reported deaths compared to seasonal influenza and other pandemics. For example, an editorial published in Oct 2009 in the *National Post* questioned how H1N1 could be declared a pandemic when it was “11 weeks into the outbreak and swine flu had killed 144 worldwide – the same number who die of seasonal flu worldwide every few hours” (NP243). Another example was a letter to the editor in the *National Post* published in April 2009 that criticized the warnings of a potential pandemic:

I'm sure that someone will shortly be able to explain to me how the World Health Organization can warn of a 'flu pandemic' on the basis of less than 200 deaths. A pandemic is described as a situation when a flu such as the so-called Spanish flu of 1918, which killed millions, takes hold...if this was a pandemic, then thousands would already be dying (NP20).

Past pandemics, particularly the 1918 Spanish flu, were commonly cited as a defining example of what a pandemic would be like. The most common defining feature was the large number of deaths that should occur during a pandemic, as reflected in the previous quote. Another example was an editorial in the *National Post* which stated, "pandemics were far deadlier than the yearly outbreaks of seasonal flu...what other distinguishing feature should a flu pandemic have other than severity [defined as mortality]?" (NP380). Of the 3 pandemics during the 20th century, 1918 was most frequently used for comparisons. Comparisons between H1N1 and past pandemics emphasized the number of deaths that occurred (GM3, GM16, GM144, GM298, GM602, GM615, NP84, SP8).

Similarities between H1N1 and 1918 Spanish flu were also noted, such as the age distribution of severe cases and deaths (GM39, GM46, GM87, GM574, GM600, NP11, NP233, SP238), and the mild first wave of Spanish flu followed by a more severe wave in summer and fall. The first wave of H1N1 was described as “mild” and was expected to become more severe in the second and third waves based on the experience of 1918 (GM29, GM32, GM67, GM139, GM140, GM174, GM183, GM228, GM247, NP22, NP62, SP417). Another noted similarity was the disproportionate impact on First Nation reserves during the 1918 pandemic and H1N1 pandemic. Poverty, poor nutrition, overcrowding, and a lack of clean water in reserve

communities contributed to the rapid spread of the disease (GM188, GM189, GM280, NP113, SP220).

In addition to the similarities between H1N1 and the 1918 pandemic, several articles also highlighted the differences in medical technology and improved general social conditions between 1918-1919 and 2009 (GM11, GM44, GM77, GM99, GM206, GM544, NP24, NP32, NP71, NP227, NP251, NP252, SP22, SP27, SP338). Nevertheless, 1918 was still treated as the standard for pandemics or as the "worst-case scenario" (GM38, GM597, NP94). As a *StarPhoenix* article stated:

Horror fantasies about the flu are always about the possibility of a repeat of the 1918 Spanish flu...images of people dropping dead in the street have become somehow iconic in our thinking about the flu (SP27).

A *National Post* article had a similar statement along with a reassurance about H1N1:

...public perception is tainted by images from the devastation of the 1918 Spanish flu...calm down and take some reassurance...the chances of living were far better than the chances of dying (NP51).

Compared to 1918, there were few references to the 1957 Asian and 1968 Hong Kong flu pandemics<sup>1</sup> (GM3, GM44). Some comparisons were made to 1957 in terms of the pattern of spread (SP189, SP195, SP405, SP440) and a few comparisons were made to 1968, which like H1N1 had reported cases of transmission to pigs (SP29). There also were references to number of deaths during 1968, approximately 1 million, since that was the last pandemic (GM145, NP8, NP12, SP86). However, the main focus was on the number of deaths during the 1918 pandemic.

Based on the comparisons to seasonal flu and past pandemics, there are two media assumptions that emerge about the definition of a pandemic. The first assumption is that pandemics result in high number of deaths based on to the linkage with 1918 Spanish flu. This comparison can overestimate and exaggerate the potential impact of a pandemic, leading to undue alarm. Media anchoring to 1918 was not unique for 2009 H1N1. Previous pandemics (1957 Asian flu and 1968 Hong Kong flu) and the recent fear of avian influenza were also anchored to it (Blakely, 2001; Herring, 2008). In comparisons, media focus on the high number of deaths, which overshadowed other features of 1918, such as the variations in mortality rates. The second assumption is that pandemics are worse than seasonal flu. However, comparisons to

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<sup>1</sup> The estimated number of deaths for the two pandemics is 2 million deaths in 1957 and 1 million deaths in 1968 (WHO, 2005b).

seasonal flu can underestimate the risk. Seasonal flu is a known health risk that people frequently underestimate and can confuse with other respiratory (i.e. cold) and even non-respiratory (i.e. stomach flu) illnesses that vary in severity (Health Canada, 2009c).

### 6.3 Naming the Disease: H1N1 or Swine flu

#### 6.3.1 Initial name of the disease

Initial newspaper reports in the *Globe and Mail* and the *StarPhoenix* on April 24, 2009 reported "Mexican illness" that was described as a "deadly flu-like" illness, a "mysterious respiratory infection" of "unknown cause", and "severe cases of seasonal flu" (GM1, SP1). Over the next few days, reports attributed the Mexican outbreak to a new strain of influenza A/H1N1. The virus was a mixture of swine, human and avian viruses, which the Centers for Disease Control and Prevention in Atlanta was quoted as describing as an "unusual combination" (SP2). Despite the genetic makeup of the virus, the disease was officially named swine flu by the World Health Organization because it was structured like a virus that usually infects pigs (GM2, GM3, GM5, GM11, GM25, NP5). Following that announcement, newspapers began referring to the disease as swine flu and would use images of pigs in reference to the disease (NP82, NP188, NP205, SP18, SP29).

#### 6.3.2 Impact on the pork industry

With the name swine flu pigs became stigmatized, which negatively affected the global pork industry (GM96, GM312, NP35, SP42). There were false impressions that the disease could spread through contact with pigs or through pork products despite evidence that showed otherwise and the repeated reassurances from health and agriculture officials that pork products were safe (GM2, GM54, NP8, NP9). A *Globe and Mail* article stated the name swine flu created "pork backlash even though a human can't get the flu by eating pork" (GM54). During the spring and into the summer, news articles reported on the global reaction to the name with actions such as import bans on pork products, decreased prices and demand of pork, and cases where pigs were quarantined or slaughtered.

At the end of April and into May 2009, several countries banned pork imports from countries with reported cases of H1N1 (GM4, GM31, GM33, GM82, GM86, NP22, NP35, NP64, SP29, SP37, SP41, SP108, SP186). At the time, the three countries that were most affected by the pork bans were Mexico, US, and Canada, nations which were also among the world's top pork

exporters in global trade (NP64). In May, a report of infected pigs at a central Alberta hog farm triggered "dozens of countries" to ban pork either from Alberta or from all of Canada (SP29, SP36, SP299, NP62, NP64). The newspaper coverage of the event focused on the overall impact on the pork industry in Alberta and in Canada but it also put a human face on it by focusing on the farmer and the "family business" that was affected. A *Globe and Mail* article described the event as a "dream turned into nightmare" for the farmer and his family (GM99, GM106). In another article from the *Globe and Mail*, the farmer said "this entire event has been extremely stressful for my family" (GM135). The infected pigs were eventually slaughtered (GM135). Several months later, in August 2009, pigs on several hog farms in Manitoba also had confirmed cases of H1N1. The Manitoba pork industry expected "another blow" due to the infected pigs (SP176). There were no follow up news articles on the infected pigs in Manitoba.

In addition to import bans that affected the Canadian pork industry, articles also focused on the reaction towards pigs in other countries. For example, one *Globe and Mail* article reported that in the United Arab Emirates supermarkets pulled pork from the shelves as "a precautionary measure" (GM71). In Egypt, a nationwide pig slaughter was ordered (SP27) and in Baghdad, Iraq officials killed wild boar due to fears of swine flu (GM61). Afghanistan, a country with "no pig farms," quarantined the sole pig in the Kabul zoo. At the time, the country had no confirmed cases and "no direct civilian flights between Kabul and Mexico," however, the pig was quarantined because "people worried it could infect them" (GM95, SP40).

Due to the stigma for pigs and the bans on pork imports, the value of a pig dropped to the point where it cost more to feed a pig than what a farmer would receive for one (GM112, GM121, SP99, SP115, SP152). The financial impact was reported as "prompting about 1,000 hog farmers, or 11 per cent of Canada's total, to leave the industry" (SP253). A *Globe and Mail* editorial titled "Pig farmers are victims of a swinish disregard for the truth," stated that, "by using the adjective 'swine' when describing this H1N1 influenza A human pandemic, we [Canadians] have effectively bankrupted many Canadian pork producers." The author of the editorial, also a veterinarian, encourages Canadians to continue eating pork from Canada (GM112). However, the term 'swine flu' was not the sole factor impacting the industry in Canada. Other factors included the high feed prices, the rising Canadian dollar, and trade restrictions due to new U.S. meat labeling laws (GM181, GM200, GM696, GM148, GM336,

NP180, NP228, SP129, SP161, SP162, SP383, SP390, SP455, SP463, SP501, SP503) However, the impact of the swine flu name received a great deal of attention in the news media

### 6.3.3 Anchoring to Mad Cow Disease and fear of animals

The reaction towards pigs was described as a “largely unfounded fear” (NP62) and “without scientifically justifiable evidence” (NP141). However, the reaction is not uncommon for illnesses that have a real or perceived connection with animals. An article in the *StarPhoenix* pointed out that, “people respond with panic in terms of connecting illness with animals” (SP18). In a few articles, the impact on the pork industry was anchored to the effect of Mad Cow Disease on the Canadian beef industry in 2003<sup>2</sup> (GM82). An article published in the *National Post* on April 30, 2009, stated that pork producers were “bracing for a market collapse along the lines of what happened to Canadian beef exports after an Alberta cow tested positive for Mad Cow in 2003” (NP35). On the same day, an article in the *StarPhoenix* described the term swine flu as “misleading” and that the “moniker could have a similar effect as Mad Cow Disease [had] on the beef industry earlier in the decade” (SP18). Another *National Post* article published on May 11, 2009, described economic situation as a “human flu emergency turned into a mini Mad Cow-type crisis” (NP84). While most articles focused on the negative impact that the name swine flu had on the pork industry, one *National Post* article in the Arts and Life section took advantage of the fear of illnesses that had a perceived linked to animals by stating “we’ve had mad cow disease, and foot and mouth, and bird and now swine” as a way to promote beans rather than meat as a source for protein (NP67).

### 6.3.4 Name changed to H1N1

There was international pressure from politicians and the pork industry to change the official name of the disease due to the incorrect connection with pigs and resulting economic impact (GM82, SP21, SP26, SP36, SP242). In addition to H1N1, at least two other names were suggested: Mexican flu and North American flu (GM17, GM28, GM46). For example, Israel’s

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<sup>2</sup> In May 2003, a single case of bovine spongiform encephalopathy, or Mad Cow Disease, was reported in Alberta. The case resulted in a worldwide ban on Canadian beef products. Prior to the ban, Canada was the third largest exporter of beef with a market value of \$4.1 billion (Boame, Parson, & Trant, 2004; Forge & Frechette, 2005; Poulin & Boame, 2003)

deputy health minister stated that Israel “would use the term Mexico flu rather than swine flu” to indicate that it has nothing to do with pigs (GM11). In Canada, Prime Minister Stephen Harper referred to the illness as “Mexican flu” at a news conference. However, Mexican officials reacted to the name by pointing out that the virus was present worldwide. The spokesman for the Mexican embassy in Ottawa stated that, “it’s pointless to try to blame a county, a whole country, for the dissemination of a virus (SP21). Another name that was suggested by pig farmers was “North American flu” in order to “dissociate it from perceptions that it was spread through contact from animals and animal products (GM31, GM54, NP22). The geographic names, Mexican flu and North American flu, were discouraged due to the potential stigma of a geographical location.

Initially, the WHO stated that they planned to stick with the name “swine flu” (GM31), however, they changed their stance in May "over worries the name [swine flu] was causing people to avoid pork" and to clarify that the illness primarily affected humans (NP43, SP27, GM11, SP268). There were some objections to the name H1N1 from scientists that were noted in a *Globe and Mail* article. The name “influenza A/H1N1 was already taken by the virus that caused 1918 Spanish flu and still exist[ed] as a type of common flu” (GM54). The challenge was finding “a catchy name that [was] easy to remember and [did not] assign blame to an animal or region” (GM54).

After the WHO officially dropped the name swine flu for H1N1, Canada officials made an effort to emphasize and promote the name change. For example, Prime Minister Stephen Harper "adopted the new terminology for the swine flu, calling it the 'H1N1' virus while speaking to reporters" in Regina. According to Harper:

This is obviously a medical condition so it makes sense to refer to it that way. And I gather that is a standard the World Health Organization is now trying to encourage...One of the reasons we are encouraging people to move away from the term swine flu, it's because the fact is that this does not in any way impact upon pork products (SP26).

Following the name change, health officials, the pork industry and politicians reassured consumers that pork was safe to eat and that H1N1 was not a “food safety risk” but rather a “human flu” (SP107). They also took measures to counter-act the negative perception either through words or their actions reported in the media (GM75, GM81, GM96, GM97, GM112, GM242, NP75, NP79, NP82, SP57, SP165, SP176, SP268, SP514). For example, a joint statement signed by delegates from Canada, the U.S. and Mexico urged that the “the flu virus be

referred to as H1N1, not swine flu, as it was originally dubbed” (SP165). In an effort by federal politicians to show Canadians that pork was safe to eat, “MPs and staffers wolfed down pulled-pork sandwiches served by federal cabinet ministers” (GM82). In Saskatchewan, the Agriculture minister issued a press release assuring that pork is safe and “encouraged residents to pack a few more ham sandwiches for lunch or throw a pork roast on the barbecue” (SP57).

### 6.3.5 Continued criticism of the term “swine flu”

Despite the name change from the WHO, the new name, H1N1 did not "immediately catch on" (GM249). Many newspaper articles used both terms “swine flu” and "H1N1" in their reporting, however, they frequently preferred the use of one or the other. H1N1 was frequently referred to as the "scientific" or "official name" and swine flu was described as "dubbed," "popularly known as," "also known as," "otherwise known as," "widely known as," "previously known as," "once known as," "formerly known as," "commonly known as," or articles used quotations around the term swine flu. Articles that focused on the impact to the pork industry and were explicitly critical of the term, used phrases such as "so-called swine flu," "inappropriately labeled," "originally dubbed," “the moniker," or "re-branding of the swine flu" (SP115, SP165, GM124). Other articles used a combination of the two terms such as "swine influenza A/H1N1", "human swine flu", "human swine H1N1 influenza", or "H1N1 swine flu."

The continued usage of the term “swine flu” in the media drew criticism and was seen as disrespectful to the pork industry. The Saskatchewan agriculture minister, for example, referred to the usage of “swine flu” as “name-calling [that] needs to stop” (SP165). Readers of the *StarPhoenix* and the *Globe and Mail* also expressed their displeasure with newspapers continuing to use the term “swine flu”. Two letters to the editor in the *StarPhoenix* requested that the newspaper “show some respect for Canadian farmers” and refer to the virus as H1N1 (SP48, SP61). In the *Globe and Mail*, a reader criticized an article that “acknowledge[d] on the inside page that pigs have little to do with swine flu, but front-line presentations belie[d] that” (GM47). A *Globe and Mail* news article described the entire situation as a “semantic debate” where

...different names [were] favored by different countries and top health officials. WHO originally went with swine flu but then junked the evocative name in favor of the more prosaic A/H1N1 [and]...the media stuck to the term swine flu (GM220).



The debate was not a simple matter of semantics. The name that was used for the disease carried implicit meanings which had broader economic and political implications. The term H1N1 had the least damaging implications.

#### 6.4 Summary

There were two naming issues in the media coverage of the 2009 H1N1 pandemic. The first was defining the outbreak as a pandemic and the second was defining the disease as H1N1 or swine flu. In both cases, anchoring was influential in creating a representation of the name. The common anchors for the term, “pandemic,” included past pandemics and seasonal influenza. With these anchors, the number of deaths was the primary characteristic that was emphasized and influenced the perception of the severity of a pandemic. Pandemics were assumed to be worse than seasonal flu and cause high rates of mortality. This was in contrast to the official definition of a pandemic, which makes no reference to severity. The term swine flu was anchored to pigs and incorrectly assigned blame to the animals. The connection to pigs drove the response against pigs and pork products. Some may call the naming issues a semantic debate, however, this dismisses the importance of the implicit meaning of the names applied to a disease. The names, and their associated anchors, created certain expectations about the disease and influenced how people responded to the disease.

## CHAPTER 7 INFLUENZA ACTIVITY AND SPREAD

### 7.1 Introduction

The second chapter of the results focuses on the newspaper reports regarding the global and national spread of the disease and the reported flu activity in various locations. In the initial months, news reports focused on the confirmed number of cases and deaths. As the method of disease surveillance changed from counting confirmed cases to tracking absentee rates in schools and workplaces, media reports reflected the change. To personalize the experience, news media also focused on individual stories.

### 7.2 Human Impact of Pandemic

#### 7.2.1 Reported flu activity – cases and death

##### Pre-pandemic period

Following the announcement of the Mexican outbreak, newspaper coverage was filled with reports of confirmed and suspected cases and deaths. The first report of Mexican cases with “relatively high case-fatality rate” was published in the *National Post* on April 23, 2009 (NP1). Over the next few days, additional articles in the *Globe and Mail* and the *StarPhoenix* provided more details of the outbreak in Mexico and the related cases in the United States (GM1, GM2, GM3, NP4, NP5, SP1, SP2). There were reports of clusters of flu-like cases in Mexico and the United States (California and Texas) and several reported deaths in Mexico. Most of the cases in Mexico involved healthy adults with no known record of prior illnesses. Initial reports of the number of deaths published on April 24 and 25 ranged from 20 to 58 confirmed deaths while other articles reported 60 to 70 possible deaths and at least 800 severe cases (GM1, GM3, NP6, SP3).

On April 27, the first Canadian cases were reported in Nova Scotia and British Columbia. These cases occurred among travelers returning from Mexico. The Nova Scotia cases were among a group of students and teachers returning from a school trip. The cases were “so mild” that it took a several days for anyone to report them. They were described as “cases of allergies or sniffles dating to just after the trip return” (NP7). A Nova Scotia school official stated that “if there wasn’t the Mexican backdrop,” the students would be “wondering what the big deal was” about their illnesses (NP7). On an international scale, there were more reports in the Canadian

newspapers of confirmed cases and a possible death in the United States. Possible cases were also reported in parts of Europe, Israel, and New Zealand (GM4, GM12, NP8, NP9, NP16, SP4, SP6).

By April 28 (five days after the first news report), some news articles began to question the severity of outbreak and the “early hype” of a potential pandemic. Conflicting reports on the number of cases in Mexico added to the confusion. Some articles suggested that there were 1900 cases and 149 possible deaths. However, the data was still “sketchy” and the full scope of the outbreak was not fully known. Also, it was possible that many mild cases had gone unnoticed and the rate of severe cases and deaths was an over estimation (GM39, NP11, NP13, NP24, NP23). One article noted that there was “very little hard data on who [had] been infected” and reported that there were only 26 confirmed cases and 7 deaths, which was far less than the 149 suspected deaths reported in other reports. Another potential issue that likely skewed the data was that flu-related deaths among young adults tended to stand out while deaths among the very young and old might have been attributed to other respiratory illnesses (GM46). While it was difficult to assess the situation in Mexico, cases outside of Mexico had been mild in the initial month. The initial Canadian cases were reported as “more mild even than the regular seasonal flu” (NP23). Despite concerns about the quality of the data and suspected severity of disease from health officials, media continued to focus on the number of confirmed and suspected cases and deaths over the next few weeks (GM46).

On April 29, 2009 eight countries had confirmed cases and the number of confirmed Canadian cases increased from 6 to 13. Cases had been confirmed in Alberta, Ontario, British Columbia and Nova Scotia (GM27, GM32, GM33, GM41, GM40, NP18, NP21, SP7, SP9). All of the confirmed cases were among travelers returning from Mexico (GM29). In Saskatchewan, health officials initially stated that they would only report the number of confirmed cases and would not include suspected cases in order to avoid confusion, however, they reversed the decision a few hours later and announced that they would report confirmed and suspected cases. At the time, there were no confirmed cases but there were 10 possible cases “under investigation” in Cypress, Five Hills, Prince Alberta Parkland and Prairie North health regions (SP10, SP16).

The first death outside of Mexico was reported in the United States on April 30 (SP17). New cases were also confirmed in Canada, bringing the total to 19 confirmed cases. While media

described the increase in the number of confirmed cases as “climbed,” “jumped,” “rose,” or “soared,” health officials continually stated that the increase in cases was “expected” and “not surprising at all” (GM43, NP31). Among the new cases, there were two individuals who had not travelled to Mexico but had been around people who had recently returned (NP31). By the end of April, nine countries had confirmed cases (GM44).

Newspapers reports of the confirmed cases and deaths were common during the month of May. Due to the frequency of the reports, critics feared that “swine flu hysteria [could] spread faster than the virus itself” (SP27). At the same time, health officials emphasized that the increase in the number of cases and deaths were expected while also stressing that virus has been mild (GM74, GM80). In Canada, the first cases in Quebec and New Brunswick were reported on May 1 and May 2, respectively (SP21, SP26). The first case in Manitoba and the first hospitalized case in Alberta were reported on May 4. At the time, health officials were not “yet ready to classify the [hospitalized] case as severe and suggested that other factors could have contributed to the girl’s hospitalization” (GM86, NP64, NP72, SP29, SP36). By early May, there was also evidence of community-based spread in Canada (SP36, NP64).

Internationally, the virus did “not seem to be spreading aggressively outside of North America” (NP88, SP41). In Mexico, the outbreak was reported to be on the decline despite the increase in the number of confirmed cases. The increase in cases was due to the backlog of testing (GM55, GM81, GM106, NP41, NP42, NP48, NP86, SP21, SP23, SP52, SP59). Mexican officials originally estimated that there were 176 possible deaths due to the virus but later changed the estimation to 100. Of those suspected deaths, only 26 were confirmed in a lab (GM88, SP31, SP40, NP52, NP62, NP71). The second US death, which was the second death outside of Mexico, was reported on May 6. The woman was reported to have “chronic underlying health conditions” (GM93, NP72, SP38, SP41).

On May 8, the first two cases were reported in Saskatchewan. One was a high school student in Saskatoon and the other was a woman in her 20s from Regina Qu’Appelle Health Region. The same day, a possible death was reported in Alberta (NP80, SP46). The next day, the death was confirmed in the newspaper. The Alberta woman had died at the end of April and “had a mild form of H1N1 with chronic pre-existing medical conditions.” Due to her mild symptoms and pre-existing health conditions, the physicians that were taking care of her did not think about the flu as a possibility at the time of her death. The connection between H1N1 and the woman’s

death was made when the woman's mother had a confirmed case and health authorities tracked down her recent contacts (GM103, NP83, SP47).

On May 11, a third US death and hundreds of more cases were reported in the United States (GM106). The same day, two more cases were confirmed in Saskatchewan, one in the Heartland Health Region and the second in Prince Alberta Parkland Health Region (SP50). Six more cases were reported the following day, May 12, in the Saskatoon Health Region (SP53). Confirmed cases among employees at Toronto's University Health Network also caught the media's attention, however, due to privacy reasons, hospital officials would not reveal at which hospital the employees worked (GM107, NP87, SP53).

On May 15, additional cases were reported in the Saskatoon Health Region bringing the total to 17 confirmed cases in the region. Two articles published in the *StarPhoenix* on May 15 and May 16 reported that two thirds of the confirmed cases in Saskatchewan were from the Saskatoon Health Region. The two articles also pointed out that confirmed number of cases underreported the total number of cases. Many of the individuals with confirmed cases had family members who were also ill but the family members had mild symptoms and were not tested. The reporting was also skewed since some health regions were sending more samples than others to be tested (SP60, SP62). Despite the acknowledgement of potential issues that could distort the flu activity reports, the title of the May 16 *StarPhoenix* article was "Saskatoon area proves hotspot for H1N1 virus." The article title could give the false impression that the Saskatoon area was harder hit than other areas in the province. The number of cases in Saskatchewan continued to be reported in the *StarPhoenix* until the end of May (SP66, SP68, SP71). By mid to late May, a *Globe and Mail* article suggested that the worst of the outbreak was over (GM118). Although, in another *Global and Mail* article, two influenza experts pointed out that it was still above normal flu activity for the time of year (GM117). At the end of May, there were over 8,500 confirmed cases in 39 countries and 75 confirmed deaths in 4 countries (GM117).

Media reports of flu activity continued into the summer months, although with less frequency. Two more Canadian deaths were reported in late spring and early summer. A Toronto death was reported at the end of May and a second death was report at the beginning of June in Ottawa. Both individuals had several "underlying medical conditions" and it was unclear what role H1N1 played in the deaths (NP99, NP105). During the late spring and early summer,

there were also reports of flu activity in several schools (refer to the next section for an overview of the reporting of absentee rates). The media reports of school outbreaks included several Ottawa area schools and a Regina elementary school (SP72, SP73, SP75). Out of 400 students at the Regina school, over 150 students were reported to be ill, however, only one student was tested and confirmed to have H1N1. Since the majority of the students were not tested, this was an example where the confirmed number of cases did not provide an accurate measure of the extent of the illness. There were also suspected cases in several Saskatoon schools but the schools did not experience the same level of illness as the Regina elementary (SP73, SP79).

Later in the summer, the flu was spreading in summer camps and in several First Nation communities in northern Manitoba. Throughout June, the newspapers reported on the disproportionate number of severe cases in Nunavut and among First Nation communities in Manitoba and northwest Ontario (GM131, GM136, GM139, GM158, NP110, NP132, NP138, SP72, SP74, SP76, SP77, SP78, SP82, SP87, SP98). St. Theresa Point, Manitoba was the first FN community reported in the news with a severe outbreak. Initially, there were only 2 confirmed cases of H1N1, though “hundreds more” reported being ill in the community of 3,200 individuals. Other affected communities in Manitoba included Garden Hill and those in the Island Lake region. Sick individuals from the Manitoba communities were flown to Winnipeg for hospitalization and many were put on ventilators. A *Globe and Mail* article claimed that several provincial health officials in Manitoba tried to “play down Manitoba’s growing numbers of severely ill flu patients,” while at the same time, “the World Health Organization was highlighting” the severe cases among Canada’s Aboriginal population (GM139). In mid-June, a reserve in Northwest Ontario reported a similar outbreak. They only had 10 confirmed cases, however, they eventually stopped testing and treated everyone as though they had H1N1 (NP120, SP87). It was not clear if the First Nation population in Saskatchewan was similarly affected since cases were broken down by health region and not by ethnicity (SP79).

The severe outbreaks in several First Nation communities appeared to be “unique in the country” and many other FN communities were concerned that they would be similarly affected (GM141). Leaders of the communities were concerned about the potential impact of the virus in the impoverished reserves. Many lacked the infrastructure to deal with a severe outbreak and residents lived in overcrowded housing, with some lacking running water. These were recognized as conditions under which the virus could quickly spread (GM131, GM136, NP110,

NP113, NP121, NP134, SP72, SP74, SP76, SP77, SP78, SP89, SP97). Several articles focused on why First Nation communities were likely to be severely affected. Most cited overcrowding, poor living conditions, and complications from other illnesses as contributing factors. Genetics was also identified as a potential factor but was mentioned less frequently than the others (NP113, SP79).

### Pandemic period

By the second week of June, the fourth Canadian death and first death in Quebec was reported. Cases were also confirmed in every province and territory except for Newfoundland and Labrador (GM136, NP109). Worldwide, over 70 countries had confirmed cases including 140 confirmed deaths (GM140, GM145, SP78). Due to the number of confirmed deaths, some questioned why H1N1 continued to make headlines. It was viewed as a “pesky little virus” and not a “killer” (GM682). Despite the media criticism, the WHO declared H1N1 a pandemic on June 11, 2009 based on their official definition. H1N1 was unique in the fact that the majority of severe cases occurred in people under 25 and about half of the cases were among previously healthy individuals (SP80). Four days later, two more deaths, both in individuals with chronic health conditions, were reported in Quebec and the first death outside of North America was reported. The first confirmed cases in Newfoundland and Labrador were reported as well (GM149, NP119). On June 17, four more deaths were reported in Manitoba and Quebec, bringing the total to 11. One of the deaths was “an apparently healthy Winnipeg man in his 40s” and the youngest Canadian to die so far. The death was described as “premature...by anyone’s test” (GM152). The second death in Manitoba and the two deaths in Quebec were individuals with underlying health problems (GM152). The second death in Manitoba gained additional media attention after it was reported that the woman had been turned away from the hospital twice before being put on a ventilator (NP124).

Around this time, Ontario made changes in their testing policy. Health officials recommended not to test sick individuals unless they were pregnant, hospitalized, or had underlying health conditions (NP121). In Saskatchewan, health officials were no longer reporting the number of cases by health region since it could give the wrong impression that the risk of infection is greater in certain regions. A higher number of cases in certain health regions were likely due to increased testing in those areas (SP91). It was also noted that the total number of confirmed cases was “difficult to interpret...because testing is largely...discouraged in the

main centres” (SP100). Saskatchewan health officials advised doctors to discontinue testing for mild symptoms since resources were needed elsewhere (SP91, SP100, SP106, SP170). Despite the changes in testing and the previous acknowledgements that many cases were not tested, the newspapers continued to emphasize the number of confirmed cases.

In late June, several more Canadian deaths were reported, including a six year old and a teenager in Ontario. The news reports noted whether the individuals had pre-existing health conditions (GM156, NP130, NP133, SP95). The first serious cases and deaths in Saskatchewan occurred in late June. Two individuals were hospitalized in intensive care, though the medical officer would not identify where the individuals were from or where they were being treated due to privacy concerns (SP100, SP101). One of these individuals was the first reported death in Saskatchewan and the second death was reported the next day on June 30. Other than the sex and age range of these individuals, no other information was provided due to privacy reasons (SP101, SP103).

By July, more than 100 countries had confirmed cases (GM170, GM172). One study, which was not identified but was referred to two *Globe and Mail* articles, suggested that Canada was the hardest hit county based on the per capita estimates (GM171, GM172). The study estimated that there were 100,000 infected, which was “far and above the 7,983 lab-confirmed cases” (GM171). Identified “hotspots” included Saskatchewan and Manitoba (GM171). Dr. Butler-Jones, the country’s chief public health officer, “warned reporters to be very suspicious” about using these kinds of estimates to guide their impressions of the severity of the outbreak (GM172). He suggested that it was more likely that Canada tested a larger percentage of the total number of cases and was therefore not a reflection of actual severity (GM172).

Confirmed cases in Canada and worldwide were reported but with decreasing frequency during the month of July. At the beginning of July, the first reported death of a child occurred in Saskatchewan. Other than the fact that the child had “serious underlying health problems,” no other information was available in the news report, presumably due to privacy issues (SP106). Two other deaths, one in Manitoba and one in Alberta gained some media attention. The first was a Winnipeg pastor (GM201, NP143) and the second was a Calgary woman in her mid-20s who had ties to Saskatchewan. It was believed that she became ill following a recent trip to Saskatchewan. She was the first person in Alberta to die with no pre-existing medical conditions (GM205, SP110). In eastern Canada, Nova Scotia reported an increase of serious cases but no



deaths (GM182). Also during July, flu activity at Ontario summer camps was reported. The outbreak had been expected to wane during the summer months but it did not follow expectations (GM192, GM196, GM203, NP149). In mid-July, the WHO stated that H1N1 was too widespread to make counting cases possible and advised countries to stop spending resources tracking the illness, though this did not stop the newspapers from reporting updates on the number of confirmed cases and deaths when they were available (GM224, GM244, NP154, SP127).

In August and September, there was less coverage of the number of confirmed cases due to changes in testing, however, the confirmed deaths were reported (NP205). It was commonly noted that H1N1 was not as deadly as originally feared (GM223, GM241, GM247, GM697, GM698). Coverage focused on the reported deaths and the number of hospitalizations (SP178, SP179, GM277, GM279). In September, the first Tamiflu drug-resistant case was found in Alberta, however, officials stated that Canadians should not be alarmed by it (GM289, NP201).

British Columbia was the first province to experience an increase in flu activity for the fall flu season (GM335, NP223, SP261). In late September, a First Nation reserve in British Columbia was identified as the site of the first outbreak of the fall flu season (GM292). There was also a report of an outbreak in several Vancouver elementary schools (GM301). Flu activity was increasing elsewhere in the country but was still considered low, in contrast to the flu activity in the United States. Flu activity in the U.S. was high at the time (GM337, SP231, SP232). While flu activity was still low in Canada outside of British Columbia, new cases were identified in other provinces. One case included the death of a high school student in Saskatchewan in early October (GM353, NP232, SP247, SP249, SP251, SP253, SP263, SP267). Near the end of October, federal health officials declared that Canada was in the second wave of H1N1 after a significant level of sickness was present in the rest of the country. By then, there were at least 4,800 known deaths worldwide, including 80 in Canada (GM374, SP271). The number of confirmed cases during the second wave was infrequently mentioned since the majority of cases were not tested (SP306). However, outbreaks in schools and high profile deaths were noted in the newspapers (refer to the next two sections for an overview of these issues). In Saskatchewan, there were a number of schools, including the University of Saskatchewan, with reported outbreaks. Some of the schools and communities were identified in the newspapers but not all of them (SP293, SP279, SP297, SP301). Health officials stressed that

people should not panic since these types of outbreaks were expected and the majority of cases were mild (SP288). Nationally, several more deaths were reported including a preteen and 13-year old from Ontario. Both of these deaths gained a great deal of media attention since they were both young and apparently healthy (GM375, GM386, GM381, GM382, GM395, GM415, GM422, NP260, NP269, NP266, NP286, NP293, SP291, SP292, SP300, SP326, SP319). While the two deaths were reported as rare, news reports alternated between cautioning against panic over the two deaths and using them as an example of the risk from H1N1. News reports in November commented on the spike in the number of cases and the higher than normal flu activity in many locations. There were also updates on the number of confirmed deaths and hospitalizations (GM472 GM485, GM492, GM524, GM525, GM529, GM537, GM539, GM546, NP298, NP317, NP322, SP327, SP337, SP341, SP350, SP352, SP358, SP362, SP363, SP370, SP374, SP375, SP382, SP389, SP395, SP397); though, some articles suggested that relying solely on the deaths and hospitalizations did not paint a true picture of the current flu activity (NP351).

By mid-November, reports suggested that the peak of the second wave was nearly done, however, it did not mean that the second wave was over and flu activity was still high for the time of year (NP361, NP366, NP367, SP400, SP404, SP405, SP406, SP409, SP413, SP418). By the end of November and beginning of December, the activity was leveling off in most locations in Canada and some article mentioned the potential for a third wave (GM533, GM576, GM579, GM581, NP379, NP381, SP426, SP430, SP429, SP432, SP440, SP445). By this time, most coverage summarized the number of deaths and hospitalizations over the course of the second wave (GM602, NP394, SP448, SP449, SP450, SP514). In Canada, there were nearly 400 reported deaths and more than 11,000 deaths worldwide (GM607, GM615, SP466).

During January, there were fewer people diagnosed with H1N1 and overall the flu activity was well below normal (GM615, GM646, SP472, SP478, SP479, SP481, SP495). Due to the low levels of flu activity for the time of year and the number of confirmed deaths from H1N1, an article published in February suggested that the 2009/2010 flu season was the “wimpiest one yet” (GM646). This assessment and many like it seemed to ignore the level of flu activity in previous months and relied solely on the number of confirmed deaths to assess the impact of H1N1. The flu activity in Canada ended abruptly in January and Canada did not experience a third wave. There were very few news reports of flu activity after December except for occasionally reports

of flu activity in other parts of the world. The H1N1 pandemic was declared over in August of 2010.

### 7.2.2 Reported flu activity – absentee rates at schools and workplaces

In addition to the confirmed cases and deaths, absentee rates at schools and workplaces were used as indicators of flu activity and were reported in the media. The absentee rates at the schools are reported in the media as they occurred, since schools are required to report absentee rates of 10% or more to local public health. Work absenteeism during the pandemic was reported after the fact with survey data (SP279, SP292).

During the first wave in June, there were some areas reporting a high number of absent students at schools (SP72, SP73, SP75) while other locations were reporting no noticeable absenteeism at the schools (GM152). Once the schools were closed for the summer, news reports shifted to the impact in summer camps, particularly in Ontario (GM155). Reports about school absentee rates began again in October during the second wave. In Saskatoon, six local schools reported greater than 10% absenteeism, which was “akin to peak flu season” (SP279, SP292). In Saskatchewan, schools on two First Nation communities closed due to high absentee rates (SP306). Similar reports of high absenteeism in schools came from other parts of Canada. In Ottawa, 20% of the city schools had rates of 10% or higher (SP292). Montreal reported eight schools with high absentee rates, which was “double the number of schools that have been hit in the past” (SP301). Some schools in Alberta reported that more than 30% of the students were staying home (GM415). A school in New Brunswick was described as “almost deserted, with 340 of 640 absent” (GM421). News reports of high school absenteeism continued into November. By the beginning of November, ten public schools in Saskatoon reported high absenteeism (SP323) and many other schools around Canada were still reporting 10% or more absentee rates (SP351). Some schools in British Columbia and in New Brunswick ended up closing due to the high rates of absent students (GM485, GM513). One thing that was noted about the absentee rates was that it couldn’t be assumed that the absent students had H1N1 but it was considered a strong indicator (SP292).

Workplaces were expected to experience similar rates of high absenteeism and many articles during the first wave and the beginning of the second wave focused on how businesses should prepare for the pandemic. Possible business impacts included the possibility of a quarter to a third of their staff sick, the potential for lost productivity, and business interruptions (GM78,

GM198, GM526, GM464, NP94, NP219, NP308, SP239, SP241, SP250, SP256, SP284, SP460). One article on pandemic preparedness for businesses referred to labor laws that required companies to take steps to protect employees, and employers' obligation to prevent the spread of the flu in workplaces. It also stated that businesses needed to be aware of privacy laws and the need to protect confidential medical information of employees in the event that they become sick (NP94). Despite the emphasis on the need to be prepared, survey results reported in a *Globe and Mail* article found that the majority of small businesses (8 out of 10) did not consider preparing for disruptions during a pandemic as a high priority (GM356). While many of the articles focused on the financial impact on businesses due to absenteeism, some also noted the impact on employees and families due to missed wages (GM556).

The extent of the national workplace absentee rates was not reported until January and February 2010, well after the peak of the second wave had passed. A *Globe and Mail* article published in December noted that by December, H1N1 was not considered a "common cause of sickness for employees" (GM587). One of the few articles that reported on the impact in workplaces during the pandemic was from a First Nation reserve. Small work places were having trouble staying open, such as the community store, which was the only place in the community that sold food. Half of the staff was reported to be absent and the store struggled to stay open (SP87).

Locally, a two part series in the *StarPhoenix* published on June 1 and June 2, 2010 reported on the impact of H1N1 on public health workers and education workers at Saskatoon Public Schools (SPS) and Greater Saskatoon Catholic Schools (GSCS). The first part reported the absentee rates on various "days of interest" from Sept 2008 to Nov 2009 and included the weather for the day and notable events (i.e. concerts, sports events) that occurred. The second part focused specifically on the impact of the H1N1 outbreak. The absentee rates started to rise above average every day in the last week of Sept 2009, peaked around late October/early November and continued to be high until mid-November which coincided with the level of flu activity in the city (SP504, SP505).

National workplace absentee rates were reported in January and February 2010. The reports were the first results of Statistics Canada's survey to assess the impact of the flu on the workforce. The PHAC asked Statistics Canada to assess the impact of flu on the workforce over a three-month period, although there were no numbers from previous years to compare the

impact. The first survey results reported by the newspapers examined the absentee rates during the month of November. More than one million, or 9% of the workforce, missed work due to the flu. Whether it was due H1N1 or seasonal flu is unclear. Flu-related absenteeism was highest in Newfoundland and lowest in Quebec. On average, 1.5 million people lost about 20 hours of work because they were sick or an immediate family member was ill. Workers aged 30 to 44 had the highest absenteeism rates, women missed more work than men, and twice as many employees with children missed work. About 600,000 people put in 8.6 million extra hours of overtime with health care workers most likely to have extra hours (GM628, NP405, NP406, SP478).

One issue that was highlighted in the Statistics Canada figures was influence of on absentee rates during a pandemic. Finding childcare was an issue when schools were closed or when the children were sick (GM4, GM556). One *Globe and Mail* article published in November pointed out that many families have two working parents, though it is still mainly the mothers that stay home with sick children leading to a “bias [that] still had an impact on the role of mothers in the workforce” (GM556). Two other articles in the *StarPhoenix* focused on the impact of a pandemic on working mothers and the workforce in general (SP135, SP241). The first article suggested that a “critical component of flu plans” should focus on “the role of women, who are often the caregivers of their families” (SP135). The other article suggested that social impacts of closing schools and “imposing no sniffles or cough rules has to be seriously considered” (SP241). Similar issues regarding childcare occurred in Mexico when the restrictions were in place. Due to the lack of childcare and concerns about missed work and wages, some workers took their children to their workplaces. Though, this was considered “a joke because they’ll be at risk of infection” at work as well (GM72, NP13).

The last quote highlights an issue that would affect absentee rates which is the perception of safe and unsafe places. Some people may stay home from work or school due to the fear of illness. It was not clear how many absent students at schools were actually due to H1N1 and how much was due to parents keeping children home due to fears of becoming sick (GM301, GM513, NP335). During the pandemic, some workplaces continued the bring-your-kid-to-work-day. A perceived “fringe benefit” of the practice was that children would “skip the sniffing, flu-ravaged classrooms and hang out in offices stocked with hand sanitizer and adults, who know how to cough into their sleeves.” In regards to bring-your-kid-to-work-day, two parents stated “I

think he's more exposed at school" and "I certainly don't think keeping her in school is going to keep her safe" (GM434). In both cases, the school was perceived as an unsafe place.

Another issue that influenced absentee rates was school and work policies regarding absenteeism. Some schools suspended their perfect attendance prizes to encourage students to stay home when sick (GM383). Many colleges and universities also changed their absentee policies and no longer required a doctor's note. Instead they allowed students, staff and faculty to self-diagnose and stay home for a week. While they did suspect that some would abuse the system and pretend to be sick, the potential abuse was considered minor compared to the health benefits, which included not requiring medical personnel to spend their time writing notes (GM567). Some workplace policies were thought to discourage employees from staying home when sick. Some workers feared for their job security if they stayed home, or would not be paid if they did not show up (GM78, GM147 GM466, SP184, GM326). For example, a survey of US workers found that 72% feared that they would lose their job or fall behind if they didn't show up to work (GM147). Another survey from Quebec found that about a quarter of employees planned to show up to work even if they were sick (GM363). An employer's effort "to set limits on sick leave could backfire by leading to increased 'sickness presenteeism' and inadvertently increase sick leave" by spreading the illness to others (GM147). There were reports of businesses that addressed these issues by becoming more flexible with their sick policies and making arrangements for workers to work at home while ill (GM383, GM466). There were other businesses though, that tightened their policies to avoid unnecessary absenteeism. For example, workers with the Alberta government had "to swear a legal oath that they had the swine flu if they miss[ed] more than three days of work," however, they did not require a medical note to ease the pressure on doctors (SP352). There was also a report about a law firm that had "tough H1N1 laws for its employees" and still required a medical note. This was "contrary to urgings from medical communities for employers to avoid bothering doctors with requests for sick notes" (GM572).

### 7.2.3 Personal Stories

Personal stories of individuals who were ill or died from H1N1 were also included in the news reports. Some of these individuals became profile news stories and were used as examples of the risk posed by H1N1. Not all of these individuals were identified by name in the media; some reports only included the age, sex and location due to privacy concerns. Family members

named some individuals. Health officials did not provide information or gave limited information due to privacy issues. In Saskatchewan, health officials did not disclose the names, ages, and locations of those who tested positive or died from the virus as a way to maintain privacy and patient confidentiality (SP54).

One of the earliest identified cases was a five-year old boy in Mexico, initially referred to as “patient zero<sup>1</sup>.” When he was sick, his illness was described as a “brief cold.” During late April and early May 2009, the five-year-old boy’s picture was “all over the news,” and he became the “face of a disease.” It was later determined that he was not “patient zero” when cases were confirmed from March 2009, prior to when the boy was ill (GM27, GM56, GM106). There was some criticism of the coverage that labeled the boy as “patient zero.” For example, one article stated that the boy “had his 15 minutes of infamy” as “patient zero” (GM27). Another article suggested that while the news media “didn’t directly blame [the five-year old] it certainly singled him out in the hunt for the flu’s origin.” The article stated that the case raised questions about privacy and that “patients’ names should not be revealed, particularly children’s” (GM56).

Within Canada, some of the individuals who died or who became sick were identified and received a great deal of attention in the media as examples of the risks from H1N1. The first identified death was the first known Canadian death, a woman from a northern Alberta Métis community in May 2009. News coverage provided her name, age, and location (SP55). As an example of the impact on young individuals, a *Globe and Mail* article included the story of a young boy from Brampton, Ontario who died a day after complaining of symptoms in June 2009 (GM170). Another highlighted story included the July death of a 6-year-old girl. She was the third H1N1 death in Saskatchewan. The girl contracted the virus while at the hospital for a bone condition and died within a week. The father of the child stated that, “what they say about H1N1 is very true, that it certainly has an effect on the sick...an awful lot faster than it does on you and me.” Family members did not speak to the media about her death until October 2009. They chose to share her story as a way to advocate for prevention methods such as hand washing and vaccination (SP284).

The October deaths of two healthy youth, a preteen girl and a 13 year old boy from Ontario, gained a great deal of media attention, especially the death of the young boy (SP300). Both were used as examples of the risks of H1N1 and the importance of vaccinations. For example, a

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<sup>1</sup> Patient zero is the initial case in disease outbreak.

*National Post* editorial, critical of the anti-vaccine messages, stated that, “every parent who believes [anti-vaccine] nonsense – should note the case of a seemingly healthy young girl from Cornwall, Ontario, who came down with the flu and shortness of breath last Friday and was dead by Sunday” (NP256). The death of the “otherwise healthy” 13-year-old boy received a great deal of media attention. The teenager “seemed otherwise healthy” and “died suddenly after showing only minor symptoms” (GM381, GM384, SP292). Coverage focused on the widespread impact of the boy’s death and how he became the “human face” of H1N1 (GM451, NP299). As his father noted, his son’s “death has captured a nation trying to find answers to a disease that is currently wearing the face of our beautiful son” (SP326).

Personal stories of pregnant women were also highlighted as examples of the risk. One story was about a Quebec mother who died after giving birth in August (GM251, SP209). Other stories highlighted individuals who died after being turned away from the hospital. One example was a Manitoba woman who died in June after being turned away twice from the hospital (NP124). Another story was about a Calgary woman with ties to a Saskatchewan First Nation community who passed away in July. She became ill after a recent trip to Saskatchewan and was the first person in Alberta with “no pre-existing medical conditions to die from the virus” (GM184, GM185, GM187, SP110, SP112). The woman was described as “mid-20s” with “no history of health problems,” “healthy,” and “a mother of four.” Alberta Health Services did not identify the woman but family and friends provided her name to the media. Reports stated that she was sent home from the hospital and later died, which “rais[ed] questions about medical vigilance and readiness” (GM184, GM186, GM193).

Other deaths profiled included a Toronto educator who was working at a Canadian school in Hong Kong (GM315) and an Ottawa Chemistry professor who was raised in Saskatoon (GM549, NP346, SP388). The professor was described as a “rising academic star and healthy father of three young children” (GM549). Articles noted that the professor’s spouse was an MD and that he was “as lucky as you can be in the Canadian system of having a highly qualified and loving person right there. And still, there’s just some things you cannot control” (GM549). Another personal story included a February 2010 story of a 21-year-old Toronto rapper who died “in a matter of days” before Christmas from H1N1. His mother had urged him to get vaccinated but he refused. The article focused on how his death saved several lives since he donated his kidneys, liver, eyes and other tissue” (NP415).



In addition to the news reports on specific individuals, there was also a feature article profiling the “victims of H1N1.” It was initially published in the *National Post* on Oct 28, 2009 (NP264), appeared in the *StarPhoenix* a few days later on November 2, 2009 (SP321) and focused on the 96 known deaths to date. The article noted that “the names of many had not been released for privacy reasons but some have been made known.” The article begins with the following quote:

They lived in Canada’s small towns and big cities, from coast to coast. They were children, parents, friends and neighbours. Some had health problems before the virus struck them down, but many were young and vital (NP264, SP321).

Of the 96 deaths, 96% had “pre-existing health conditions.” The article gave an overview of the known deaths broken down by province with the sex, age, and whether they had a pre-existing health conditions with descriptions such as “otherwise healthy,” “no previous medical issues,” “healthy, friendly,” “healthy child whose death sparked a wave of concern,” “relatively healthy,” “history of asthma and diabetes,” “many health problems,” and “history of asthma and was overweight” (NP264, SP321). In many cases, the term underlying or pre-existing health condition was not defined which makes the term difficult to interpret. The term provides an explanation for the death and thus carries an emotional meaning: it provides a reason for the death. In contrast, the death of a “healthy” individual may appear more shocking.

While many of the publicized deaths were used as examples of H1N1’s risks, there were also words of caution about over emphasizing certain deaths, particularly deaths among healthy individuals. For example, a column questioning the benefit of the anticipated vaccine suggested that, “healthy people have little to fear” since two thirds of “serious illness and deaths” occur in individuals with “serious underlying health problems.” Deaths in healthy individuals are likely to occur as more people become sick but those “individual tragedies will be blown out of proportion by the media” (GM391). As previously stated, deaths in healthy individuals are more shocking since they are unexpected.

One story that tried to counter the fear of healthy individuals dying from H1N1 was that of a pastor in Manitoba. The death of an “apparently healthy pastor of a church in rural Manitoba” occurred in July (GM176). Initially, the family declined to comment and asked friends and the congregation not to comment (NP143). A few days after his death, there was a *Globe and Mail* article that contained an extensive biography of the pastor and recounted his last days. In the article, his wife wanted “people to understand that her husband was the rare, random case: most

patients with H1N1 get better.” She did not want “the pastor’s story to make people hide from life for fear of the flu” (GM201).

Another editorial, critical of the highly publicized deaths of healthy youths, commented that there has been “scant reporting...about the one specific group of children who have suffered the most fatalities...disabled children” (NP302). The editorial also noted the difference in reporting on “healthy” children and those who “had an underlying medical condition” pointing to the example of the “healthy Ontario teen” who “captured front-page headlines in newspapers across Canada” and the death of a child with a “underlying medical condition” which “merit[ed] less than five lines of press in Minnesota newspapers.” The author refers to the phrase “underlying medical condition” as

...a mantra that we’ve heard repeated so often in the new reports of H1N1 deaths. It’s almost expected, so let’s sweep his death under the rug and not panic. In fact, the term underlying medical condition is deliberately used to reassure the public that it wasn’t one of their healthy children (NP302).

Not all of the stories were of individuals who died, some included survival stories. These included a November story of a “mother of two young children” who emerged from a “medically induced coma after complete respiratory failure.” The woman “went from being perfectly healthy to ridiculously sick in a very short period of time and the doctors [weren’t] even sure why.” Her case was described as a “miracle” by family members. Alberta Health Services did not comment on the cases due to privacy issues (SP376). Two other cases included the stories of two pregnant women. One case was described as a “happy ending” and “quintessential non-story of the H1N1 pandemic” (GM608). Another as a “tale of survival – and that of her baby – comprise one of the remarkable stories to emerge from Canada’s battle with the swine flu.” The baby, delivered by C-section after the mother went into premature labor, was described as a “miracle baby” (SP497).

### 7.3 Summary

The newspaper coverage of the influenza activity and spread included reports on the confirmed number of cases, hospitalizations, and deaths. Once surveillance methods changed from counting confirmed cases to tracking absentee rates in schools, the media reports reflected the change. The media tended to emphasize the number of confirmed cases and deaths which did not give a clear picture of the outbreak. At times, the surveillance data was incomplete and it was also possible that many mild cases went unnoticed or were not tested due to testing

guidelines. Reliance on only the number of confirmed cases and deaths did not give represent the full scope of the outbreak.

To personalize the experience, there were also stories of individuals who died or were sick but recovered. The terms underlying or pre-existing health conditions and healthy were frequently used when describing an individual who died. In many cases, the term underlying or pre-existing health condition was not defined which made the term difficult to interpret. It was unclear what would be defined as an underlying health condition which may distort the perception of what it means to be healthy. Cases of young and healthy individuals also gained a great deal of media attention, which can further distort the perception of the disease.

## CHAPTER 8 PANDEMIC PREPAREDNESS AND RESPONSE

### 8.1 Introduction

This chapter focuses on the print media coverage of Canada's pandemic planning and preparedness over the course of the pandemic. The first section examines the coverage of the planning and preparedness activities by health officials, health organizations, and the broader community. The second section discusses media emphasis on the role of SARS in pandemic preparedness. The third section focuses on the criticism of the preparedness activities and the speed with which they occurred. The section also includes media criticism of the general pandemic response due to jurisdictional issues.

### 8.2 Pandemic Preparedness in Canada

News reports about pandemic planning and preparedness were common during the spring and summer months. When the WHO raised the pandemic alert level to 5 on April 29, the WHO urged countries to increase their preparations for a possible pandemic (GM9, GM27, GM32, GM43, SP17). The increase in alert level was “a signal to governments...to the pharmaceutical industry and the business communities, that certain actions should be undertaken with increased urgency and an accelerated pace” (GM43, SP17).

#### 8.2.1 Canada's pandemic preparedness during first wave

In Canada, the common message about pandemic preparedness was that Canada was “well-prepared” for a possible pandemic and was “among the most prepared countries in the world” (GM6, GM195, GM199, GM206, GM216, NP84, SP2, SP6, SP7, SP8, SP21). Health officials and scientists had “long been preparing for a new flu virus that could cause a global pandemic [and] Canada was among the first to start preparations for a pandemic” (GM3). Canada's pandemic influenza plan, revised in 2006, contained “a range of measures that could be implemented in the event a pandemic arrives” (GM43, SP17). Canada and many provinces, including Saskatchewan, had their pandemic plans in place as a precaution by late April and early May (SP16). The initiation of the pandemic plans and continuing preparation during the summer months was needed not only for the spring and summer but to prevent “a bigger problem when and if [H1N1] comes back in October or November” (GM55, GM132, GM229, NP176, SP26). The overall goal was to “try to minimize the spread in the community, and blunt the

epidemic long enough for people to develop immunity in a natural way, or for the global community to develop a vaccine” (SP72).

The perception that Canada was well prepared was reflected in public opinion surveys that were reported in the media. In early May, a public opinion survey, commissioned by the Canadian Federation of Nurses Unions, asked respondents if they felt that Canada was well prepared to deal with a major pandemic. The majority of respondents (60%) said that the country was prepared, while 33.5% said Canada was unprepared (GM137). In June, after the pandemic was officially declared, health officials continued to remind the public of the need to be prepared for the fall wave. A common phrase was to “remain as vigilant as possible” (SP80). The declaration of the pandemic did not change the direction of Canada’s preparations since preparations had been ongoing since early May (GM144, GM145).

During the summer months, news article reported on the various preparation efforts, which included stockpiling supplies and equipment (GM211, NP174, SP166, SP169, SP179, SP197, SP242, SP251, SP268), plans to increase medical personnel (SP82, SP135, SP181), and plans to prioritize who would receive access to scarce resources. These plans also included legal, clinical and ethical issues and outlined the number of resources that were available (GM183). In July, several articles focused on the number of ventilators available nationwide which was identified as a need during the first wave. The PHAC was ordering more ventilators to increase the national stockpile in case provinces did not have enough (GM173, GM174, GM176, GM194). Many of the articles focused on the number of ventilators that were available, the associated costs for needed ventilators and their difficulties with finding that information. The PHAC told the *Globe and Mail* that there was no point in counting the number of ventilators that were in stockpile when trained personnel were still needed to operate them (GM273).

In August 2009, the newspapers focus on national preparations shifted to the Council of the Federation<sup>1</sup> meeting held in Regina, Saskatchewan. The provincial and territorial premiers met to discuss a range of issues and among the issues were preparedness for H1N1. Pandemic preparedness was added to the agenda after Aboriginal leaders met with the premiers to emphasize the importance of pandemic planning for First Nation communities and the need for

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<sup>1</sup> The Council of the Federation is a meeting of the provincial and territorial premiers to encourage collaborative intergovernmental relations.

co-operation between aboriginal groups, the federal government, and provincial governments (NP167, SP136). The Premiers refrained from criticizing Ottawa but said more work was needed to improve the preparations. Discussions included ways to “beef up education programs, co-operate on vaccine purchases and prepare hospitals” (GM235). The premiers also suggested that discussions with Ottawa needed to go beyond the cost of vaccine and who was responsible for the costs and include discussions on the broader costs for services and supplies. Other discussions included co-operation between provinces in order to move medical professional and equipment to help harder hit areas (GM235, NP169, SP140).

### 8.2.2 Pandemic preparedness in the community

Newspaper reports on pandemic preparedness also focused on efforts that were underway in the broader community, such as within schools and workplaces. During the summer months, schools, daycares, and universities across the country used the time to revise and implement their pandemic plans (GM192). Reported efforts included setting up locations to isolate sick children, setting up cleaning protocol and adding more hand washing stations. Protocols were also established for reporting above average absentee rates, which was used as an indicator for influenza activity within the community (see section 7.2.2 for a discussion on how absentee rates were reported in the media). Within public schools, the plans required flexibility to deal with the unknowns and to avoid drastic interruptions to the school year (GM197, GM260, GM301, NP179, SP293, SP146). The *StarPhoenix* reported that the Saskatoon school divisions already had pandemic plans and were distributing copies to schools administrators, students and parents. The University of Saskatchewan was also working “very closely” with the Saskatoon Health Region on their pandemic plan (SP24).

In addition to schools, articles reported on pandemic planning in workplaces. Most of the preparations occurred during the first wave in anticipation for the second wave. Many business-related articles outlined the importance for workplaces to have a plan in place and suggested ways in which employers could do so (GM37, NP73, SP39, SP226, SP234, SP241). Some articles also reported on the lack of planning in workplaces, for example, a *Globe and Mail* article reported that 87% of companies did not have a contingency plan in place and suggested that they were more preoccupied with immediate financial challenges than a distant hypothetical” (GM198). To help workplaces prepare, Federal Health Minister Aglukkaq announced in August that nearly \$1 million in funding would be available to help small

businesses prepare pandemic plans and to deal with increased absenteeism and other effects of the pandemic (SP146). In Saskatchewan, the provincial government distributed pandemic planning guides to workplaces (SP223, SP226). In Saskatoon, the city also prepared for the second wave of the pandemic by implementing “education, policy, and procedure to make sure city work continue[d] and employees [were] prepared,” though, the city would not take some of the “extreme measures” that a few US cities had implemented such as setting up quarantine for sick employees at work (SP160).

Health officials were also encouraging individuals to consider pandemic planning and to think about what they would do if they or family members became sick or if H1N1 became widespread in their local community (GM25). Recommendations for individual pandemic planning included following public health measures and warnings, to have a personal plan, and to maintain an emergency kit of supplies at home (GM39, SP239). An additional suggestion from the PHAC was for everyone to have a “flu buddy,” someone who would be willing to help care for them if they are sick. Canadians were recommended to “talk with family, friends and neighbors” and to figure out how they might help each other during the H1N1 pandemic (NP170, SP197).

### 8.3 SARS and Pandemic Preparedness

The 2003 SARS outbreak was commonly mentioned in discussions regarding pandemic planning and preparedness. The outbreak was “as close to the H1N1 pandemic as Canada had experienced in recent years” (GM321) and was the “last major threat of a global pandemic” (GM235, NP34). The media also used SARS as a comparison for the H1N1 response in Canada and China. The two countries had been affected by SARS and received criticisms for their responses. Some media reports focused on how Canada and China were making a point to quickly respond to H1N1 as a way to prove that they had learned the lessons from SARS and would not make the same mistakes. For example, an April 28 editorial published in the *StarPhoenix* described Canada’s response as “calm” as compared to the “mistakes that bedeviled the fight against SARS” (SP8). Similarly, two *Globe and Mail* articles published in late April and early May, reported that the Chinese government was “taking pains to show that it [had] learned from its bungled handling of the SARS outbreak.” The Chinese government “vowed transparency” during H1N1, and was “making a point of being seen as responding swiftly to any potential H1N1 outbreak” (GM33, GM83).

The lessons of SARS were commonly mentioned in relation to pandemic planning and preparedness. The SARS outbreak highlighted the importance of planning when dealing with a disease outbreak. Many of the lessons learned from SARS were applied to the pandemic plans used for H1N1 and changed the way that Canada and many countries approach disease outbreaks (GM16, GM78, GM84, NP7, NP155, SP8, SP20). In addition, the SARS outbreak encouraged “the development, adoption, and updating of pandemic plans in health-care institutions, businesses, and non-profit organizations such as schools and places of worship” (GM6, GM16, SP484).

The SARS outbreak also highlighted the need for investment and improvement in the public health infrastructure in order to respond quickly (GM17, GM28, SP76). In Canada, one lesson was the importance of leadership at the national level during a disease outbreak. In 2004, the Public Health Agency of Canada was established and the position of Chief Public Health Officer was created (GM6, NP84). During the H1N1 pandemic, Dr Butler-Jones was a prominent figure in communication with the public and media. Another lesson and noted change was the improvement in communication between jurisdictions, nationally and internationally. Effective and steady communication among various agencies and health care providers was necessary during a disease outbreak (NP4). An early warning system was put in place in Canada and around the world after the SARS outbreak (GM146). Prior to SARS, it was likely that “Mexico, like other countries, would have investigated [the outbreak] but not alerted other nations” (GM1). While many the criticism and lessons from SARS were used to prepare for H1N1, the H1N1 pandemic response had its own set of criticisms.

#### 8.4 Criticism of Pandemic Planning and Response

While media coverage focused on the ongoing pandemic preparations, there was also ongoing media criticism of the preparation. This section focuses on media criticism of pandemic preparations and the general public health response. Criticisms of specific public health measures are included in their respective sections in the next chapter. Some of the criticisms were that guidelines were general and vague, efforts were slow, and communication was poor. For example, one article referred to Canada as “the tortoise” since health officials boasted of being first with a plan but was not the first to receive the vaccine, had not released a priority list, and was not among the nine developed countries that agreed to donate vaccine to the Third World (GM331). There was also criticism about how the federal leadership was



communicating with the public, with comparisons drawn to the US. In the US, the Obama administration had communicated to the public about the risks from H1N1 while Canada's federal leaders failed to express the same. Also in the US, there was a televised town hall session with governors, health officials, school leaders, and President Obama where they addressed questions from the public. In comparison, Canadian health officials' communication was described as "spoon-feeding to the public at news conferences" with discussions and decisions done "behind-the-scenes" without public input (GM186, GM460). With the perceived "poor communication" from the federal government, some critics claimed that it allowed misinformation to spread (GM417).

Inconsistent communication was another criticism that could be linked to differences between jurisdictions and with scientific uncertainty. For example, in an article regarding safety measures for frontline workers and the effectiveness of the N95 mask to prevent the spread of influenza, the president of the Canadian Federation of Nurses Union noted:

We can have a battle of the words and, let me tell you, we've been having it: Researcher X said this, researcher Y said that. What we all agree on is that the evidence is not clear. What we learned from SARS is that it's too dangerous to wait for conclusive science before deciding on protective measures. Therefore, while scientific debate persists, we have to exercise the precautionary principle: Be safe and not sorry (SP228).

While this quote was in regards to N95 masks, the same observation could be applied to many other public health measures that were or were not taken during the H1N1 pandemic. It can become problematic when the information from health professionals, especially when presented in the media, "seem[ed] inconsistent at best and contradictory at worst" (SP223, SP302).

Another criticism was the perceived communication gap between public health officials and front line health care workers. Newspapers reported that doctors and nurses did not feel prepared for the second wave and wanted a clear statement of recommendations. The preparedness guidelines were vague and did not take into account their clinical reality. (SP228).

#### 8.4.1 Political criticism

Political blaming and criticism of the pandemic preparations and response was also reported (GM191, GM244, NP164, SP179, SP183, SP197, SP212, SP237). As one article pointed out, in addition to difficulties in delivering health services and cost, "there's always the complicating factor of the politicians inserting themselves into the debate on health care delivery" (SP302).

The official opposition frequently criticized the government's response, going as far as to refer to the H1N1 pandemic as Prime Minister Stephen Harper's "Hurricane Katrina<sup>2</sup>" (GM491, NP300). Hurricane Katrina is used as an example of a slow and poorly handled government response to a disaster. The Liberals claimed that the federal government was not well-prepared, lacked leadership, and had poor communication with the public. A cited example of poor communication was the almost daily press conferences held by Dr. Butler-Jones and the Health Minister during April and May which decreased to about one a week by the summer months. The Liberal and NDP health critics claimed that the Health Minister was "too silent" during the summer (NP149, SP145). This raises the question of how frequently health officials should communicate with the media and public during a public health emergency, especially when it can last for months. In response to the criticism, Health Minister Aglukkaq was quoted in the media as stating that opposition members were "playing politics with an important health issue" (SP145, SP146). She also met with the opposition critics in August at a House of Commons health committee meeting to assure the MPs that the pandemic planning for the fall was well under way (SP146).

#### 8.4.2 Jurisdictional issues

Inconsistencies between jurisdictions were another source of media criticism. Critics focused on the inconsistencies with practices and policies (SP149) and the lack of clear messages from municipal, provincial and federal health officials (GM403). Jurisdictions can overlap which creates "a cacophony of voices" (GM460) and can leave "cracks for things to fall through" (GM491). The problems were attributed in the newspapers to the lack of strong federal leadership. In response to the jurisdictional criticism, federal officials cited the legal reason for jurisdictional differences. For example, the Health Minister argued that the delivery of health care was the constitutional responsibility of the provinces and territories, however, critics argued that the constitutional argument was a poor substitute for the lack of federal leadership. They argued that Canada should "not limit itself to a patchwork of regional pandemic responses...only the federal government can provide the leadership and co-ordination required to achieve this

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<sup>2</sup> Hurricane Katrina hit the U.S. Gulf of Mexico coast (Mississippi and Louisiana) in August 2005 and was one of the worst natural disasters in U.S. history. The U.S. federal government was criticised for their mismanagement and lack of leadership in the response to the disaster.

objective” (GM219). One article pointed out that, “the problem with viruses is they don’t understand borders very well. Since they don’t understand borders very well, you need a uniform approach to tackling them” (GM255).

In mid-August, a *Globe and Mail* article reported on an editorial published in the Canadian Medical Association Journal that suggested Canada needed a “health czar,” a “powerful, independent health officer to co-ordinate country wide response” rather than the chief public health officer who was limited in what he can do. The public health officer “provides guidance [and] no directive” (GM255). The limitations of the position, they argued, create a flawed system, especially during a pandemic since “too much time could be spent wrangling over how provinces want to do things differently” (GM255). When the Public Health Agency of Canada was created and Dr. Butler-Jones was appointed in 2004, the CMA recommended that federal legislation that would give him clear legal powers in a time of a crisis, but the recommendation was not followed. At the time, Dr. Butler-Jones said that his role would be to act as a national facilitator (SP151). A collaborative approach was preferable over a “one-size-fits all directive” which could also present problems due to variation between locations (NP178). The reported arguments against a “health czar” centered on ideas on which level of government was responsible for health and the need to balance national consistency in practices and the ability adjust for local needs.

#### 8.4.3 Pandemic response in First Nation communities

Concerns about pandemic planning and jurisdictional responsibility for First Nations health care and services were first highlighted in June 2009 after several communities in northern Manitoba were hit hard by H1N1. Print articles noted that jurisdictional issues with First Nations’ health care and services are common since the federal government holds the constitutional responsibility for “Indians and lands reserved for Indians,” which includes the delivery of health care on reserve. In contrast, the provinces hold responsibility for health care within their jurisdiction (GM189, SP89). Print media described health care on reserve as a “jurisdictional minefield” (SP220), “jurisdictional battle” (SP82), and “political football between the federal and provincial governments” (NP110). “It is common for First Nations people to “fall through the cracks, with the two governments blaming one another for the failure to deliver proper services” (GM189, SP89, SP135). Media cited H1N1 as another example of the jurisdictional difficulties with health care delivery in reserve communities.

The federal response to the outbreaks in the northern Manitoba communities raised concerns about the state of pandemic planning for First Nation reserves and the speed with which the federal government responded (NP110, SP102, SP97). One article brought forward concerns expressed by the chiefs of the region that the federal government had not delivered flu masks, respirators, and hand sanitizer, items they were obliged to supply in accordance with the Canadian Pandemic Influenza Plan (GM158). First Nation chiefs in Manitoba wanted the provincial and federal governments to declare a state of emergency as an attempt to “speed up efforts to stop the spread of the deadly virus on reserves” (GM189, NP134, SP97). Health Canada claimed that their response occurred in a “timely manner” and that there were “logistical challenges for identifying sufficient sources for supplies and making arrangements for shipments” (NP134). Supplies had to be flown into the community due to the remote location of the northern reserve

Native leaders accused health officials of ignoring the outbreak on the reserves and pointed to flaws in the pandemic plan regarding First Nation communities (GM139). For example, Garden Hill First Nation, one of the heavily affected communities, had no masks, hand sanitizers, or new equipment (GM142). Media pointed out that Canada’s pandemic preparedness plan did not include specific protocols for aboriginal communities and was in need of revision (GM142). Aboriginal leaders were reported stating that they had tried to work with federal officials to develop a pandemic plan but nothing was done until the virus was spreading in the northern Manitoba communities (SP82).

There was also reported conflict between the Manitoba government and the federal government regarding pandemic planning on First Nations. The Manitoba health minister, Theresa Oswald, expressed frustration at the federal government’s response and said that the province was prevented from doing more because it didn’t have jurisdiction. The problem with strict jurisdictions and limiting the province’s ability to help during a pandemic, according to Oswald, was that the virus “does not see culture....[it] does not see whether you’re First Nation, Inuk, a white person and so on” (SP76). The frustration expressed by Manitoba’s health minister led to dispute between the provincial health minister and the federal health minister in the media. The federal health minister replied that Manitoba’s health minister never offered to help Ottawa with the pandemic flu planning on First Nations. Oswald claimed that the Manitoba government

had offered to help with pandemic planning on First Nations at least 13 times since May 4 but was repeatedly turned down (SP76).

An event that was used to illustrate the slow response by the federal government and had extensive media coverage during the summer months was the hand sanitizer debate. Health officials spent “precious time debating the wisdom of sending hand sanitizer, which can contain up to 70% alcohol, to the communities” (GM158). An editorial described the response as “an appalling case of bureaucratic bungling that not only insulted residents of stricken communities but also place[ed] their lives at risk” (GM162). Other editorials and articles described it as “patronizing” and the “latest scandal du jour” (GM162). An editorial about the incident asked why First Nation chiefs could not make their own decisions on whether or not to obtain hand sanitizer based on the advice of public health specialists. It did not seem necessary for the government to be “checking off on the shipping list” (NP135). According to another editorial, the debate “boils down to the paternalism directly built into the Indian Act.” It pointed to the need to “update the relationship between Canada’s First Nations and the rest of the country” (SP102). A *National Post* editorial claimed that the debate about hand sanitizers was not as “paternalistic” as others had claimed but were based on contractual obligations not to supply alcohol-based products to reserves. The focus, according to the editorial, should be on improving pandemic planning rather than using the event to “renew the eternal, tiresome debate over exactly who is to blame for First Nation poverty and living conditions” (NP137). Similarly, a *Globe and Mail* editorial said that the event pointed “gaping holes in Canada’s pandemic preparedness” and in defense of Health Canada, that the communities were dry communities<sup>3</sup>. The writer was less dismissive of the poverty issues stating that “it is a travesty” that there has not been more attention to the “link between poverty and pandemic influenza (and illness more generally)” (GM171). In July, print media reported that the Senate Committee on Aboriginal People met to discuss the federal government’s handling of the outbreak on Manitoba reserves (GM158, GM162).

In September, an unusual number of body bags were sent to First Nation communities from Health Canada along with medical supplies. The shipment gained a great deal of media attention. Coverage of the incident varied between calling the shipment insensitive, outrage over the shipment, and saying that the incident was blown out of proportion (SP201, SP205). Some

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<sup>3</sup> A dry community prohibits the use and sale of alcohol.

coverage stated that it was evidence that the federal government devalued aboriginal lives and likened it to “sending smallpox contaminated blankets” or “fears of 1918 all over again” (GM294, SP204, SP205, SP206). One article used the incident to criticize the Conservative party in power (SP206). There were also reports that the opposition Liberal party health critic published flyers stating “no vaccine, just body bags” as a way to criticize the Conservatives (NP283). The media reports on the total number of body bags were unclear. Two articles indicated that 30 were sent to Wasagamack First Nation, 20 were sent God’s Lake First Nation, and a shipment was expected in Red Sucker Lake First Nation (GM290, SP200). However, an editorial expressing outrage over the shipment commented “that it didn’t occur to anyone at Health Canada that it’s a numbskull notion to toss 200 body bags into shipments of gloves, hand sanitizers, and masks is nearly incomprehensible.” The anonymous editorial does refer to the 30 that were sent to Wasagamack, however, there was no indication where the figure of 200 came from (SP201). It appears that the editorial exaggerated the number of bags that were sent to increase the outrage. Whether or not it was an intentional exaggeration, it misrepresents the situation.

The government apologized for the shipment and admitted that it was “unacceptable” and “insensitive to send body bags in a shipment of medical supplies to First Nation communities awaiting help to prepare for the fall flu season.” The shipment in “no way reflected how severely they expected the H1N1 virus to hit native communities.” Health Minister Aglukkag ordered an investigation into shipment (SP200). Despite the amount of coverage when the incident occurred, very little was subsequently reported about the results of the investigation, which revealed that the nurse-in-charge had ordered the shipment. One of the few articles that reported the results of the investigation used the lack of coverage as a way to criticize the initial outrage against the federal government (NP229).

### 8.5 Summary

News reports about pandemic planning and preparedness was part of the media coverage of the pandemic response. Stories on pandemic planning and preparedness were common during the spring and summer of 2009. These stories focused on efforts by health officials, health organizations, and the broader community. The role of SARS in Canada’s pandemic planning and preparedness was also emphasized in the media. In the newspaper coverage, there was a shift in the perception regarding Canada’s pandemic preparedness. In the initial months of the

outbreak, media reports highlighted health officials commenting that Canada was well prepared. The Canadian experience of SARS was used as a contrast to illustrate how well Canada was responding. As the months passed, there was increasing criticism regarding the speed with which the preparation activities occurred. Preparedness efforts were seen as slow and there was concern about whether measures would be in place in a timely manner.

Another focus of criticism of the general pandemic response was jurisdictional issues that were seen as hampering an effective national and regional response to H1N1, particularly with regard to First Nation reserve communities. There were jurisdictional inconsistencies with practices and policies and a lack of clear messages from municipal, provincial and federal health officials. In health care, jurisdictions can overlap and leave gaps in services as was evident in the pandemic response in First Nations reserve communities.

## CHAPTER 9 PUBLIC HEALTH MEASURES

### 9.1 Introduction

This chapter focuses the news coverage of specific health measures that were used during the pandemic. The discussions include the perceptions of each measure, the measure's social and economic impact, and associated criticism. The first section examines the coverage of the travel related measures included travel advisories and screening of travelers. These measures were prevalent in the initial months of the pandemic. The second section focuses on quarantine and isolation. Coverage of these measures overlapped with travel restrictions. In the initial months, the focus was on preventing the geographical spread of the virus. The third section focuses on cancellations and closures in Mexico, Canada, and around the world. The fourth section examines the media discussions about hand washing and respiratory etiquette and the fifth section examines changes in social behaviors as way to prevent the spread of influenza. The last three sections examine the media coverage of facemasks, surface cleaning, and antiviral drugs. Given the significant media coverage of the vaccine and vaccination campaign, this topic is presented on its own in the next chapter.

### 9.2 Travel Restrictions

#### 9.2.1 Travel advisories and screening travelers

Following the WHO's announcement of the Mexican outbreak on April 24, 2009, Canadian health officials did not issue a travel advisory to Mexico. At the time, the virus had not yet been identified and instead they told travelers to take the "usual travel precautions" (GM1, GM3, NP7, SP2). The PHAC did, however, inform quarantine services to be on the alert for ill travelers returning from Mexico (NP1, NP2). Additionally, travelers were provided information about the symptoms of the illness as a public service announcement on the airplanes (SP9). If travelers became ill after returning from Mexico and required medical attention, they were advised to inform their doctor that they had travelled to Mexico recently (GM1). In Mexico, travelers with flu symptoms were advised not to fly and all travelers had to fill out health questionnaires (NP5).

The WHO repeatedly advised against closing borders and restricting travel since those measures would not stop the spread of the virus and would cause economic harm. Some countries, including the United States, issued advisories about travel to Mexico. The European



Union advised against non-essential travel to Mexico. The EU also advised against non-essential travel to parts of the United States and Canada where cases had been confirmed (GM4, GM9, GM15, GM32, GM40, GM83, NP11, NP44, SP6, SP21, SP67). Numerous countries, including Canada were screening passengers from Mexico for flu-like symptoms (GM10, NP8, SP9). Some countries used thermal cameras to screen passengers. A few days later, on April 27, the PHAC issued an advisory against non-essential travel to Mexico (GM15, GM32, GM45, NP11, NP22, SP6, SP9, SP10, SP11). The travel advisory was lifted three weeks later on May 18, although the Canada Border Service Agency was still assessing travelers for signs of illness (GM118). By that time, the outbreak appeared to be leveling off in Mexico and it was already spreading throughout Canada and elsewhere in the world (GM118, GM120, GM125, NP92, SP64).

### 9.2.2 Criticism of travel advisories and screening travellers

There was criticism of both the delayed decision by the PHAC to issue a travel advisory and the necessity of the travel advisories. For example, a *Globe and Mail* editorial was critical of Canada's delay in issuing a travel advisory for non-essential visits "to the epicenter of a swine flu outbreak." According to the editorial, the delay in the decision spoke "poorly of Canada's ability to stay on top of an emerging health threat" (GM15). The World Health Organization advised against travel bans but left the decision up to individual countries. The editorial was also critical of the WHO's recommendation since "both the U.S. Centers for Disease Control and Prevention and the European Union's Health Commissioner warned against non-essential travel" (GM15). On the other hand, there was also criticism regarding the usefulness of travel advisories. Critics pointed out that past travel advisories did not seem to prevent the spread of outbreaks and have the potential to cause fear and anxiety (GM39, SP23). For example, an editorial in the *StarPhoenix* described the travel-related actions such as checking temperatures or issuing travel advisories as "panicky reactions" that were ineffective and "only serve to discourage vulnerable countries from identify the threat of similar outbreaks, or announcing it when they occur, for fear of the economic fallout" (SP8). Another article suggested that travel bans were political and allowed "political people to be able to say 'we did something'" rather than implementing a measure based on "good science or medicine" (NP44).

Some of the criticism was likened the response to the SARS outbreak in 2003 (GM15). In one case, parallels were drawn between SARS and H1N1 since cases of both diseases spread via

air travel (SP301). Other articles used SARS as an example of why travel advisories were not useful and pointed to the economic damage that they can cause. For example, a *National Post* article questioned Canadian authorities' decision to issue a travel advisory since it went against the advice of the WHO and against Canada's "remonstration when [Canada was] at the receiving end of the travel advisory during SARS" (NP84). The owners of a travel tour operator also likened the Mexican travel advisories to the SARS outbreak. It was seen as the "same sort of move [that] decimated travel to all parts of Canada with SARS in 2003....they painted the whole thing with the same brush, and the same thing happen[ed] in Mexico" (NP18, NP44).

### 9.2.3 Impact on travel industry

The initial outbreak in Mexico and resulting travel advisories had a negative economic impact on the travel industry (GM157, GM518). The travel advisories prompted many airlines and other travel tour operators to cancel flights and other travel-related services to Mexico (GM4, GM17, GM20, GM27, GM32, GM41, GM45, GM52, GM70, GM85, GM125, GM138, GM150, GM177, GM243, GM249, GM531, NP7, NP17, NP18, NP36, NP49, NP74, NP78, NP97, NP111, NP115, NP118, NP122, NP125, NP140, NP150, NP165, NP198, NP440, NP218, NP321, NP395, SP9, SP12, SP468, SP118, SP124, SP126, SP272, SP273). Tourism to Mexico decreased during the initial outbreak period. Other countries with confirmed cases, including Canada, also experienced a decrease in travel and tourism during the pandemic (GM295, GM318, GM494, GM612, GM641, GM661, GM683, GM691, NP58, NP107, NP401, NP435, SP235). Some countries such as Jamaica, Egypt and the Dominican Republic experienced an increase in tourism due to the avoidance of Mexico (NP89). To encourage travel again, some resorts in Mexico offered a "flu-free guarantee" with a free vacation to any tourist who became sick with flu while on holiday (GM120, SP56).

### 9.3 Quarantine and Isolation

Quarantine is used to separate healthy individuals who have been exposed and may become ill and isolation is used to separate sick individuals from those who are healthy (AFMC, 2011). Articles frequently did not distinguish between the terms quarantine and isolation and used them interchangeably. For example, there were some articles that used the term quarantine in reference to the separation of sick individuals from healthy (GM65, SP52, SP253).

During the first and second wave, there were a few reports of quarantine and isolation. The majority of the media reports on this topic came shortly after the outbreak was announced. Canadian health officials advised recent travelers from Mexico who became ill or individuals who had been in contact with an ill traveler to go home and isolate themselves from others or to go to a hospital (SP9). There were also reports of some employers advising their employees to stay home after returning from Mexico regardless of whether or not they were ill. For example, in Saskatchewan, Crown corporation employees (i.e. SGI, SaskEnergy) who had returned from Mexico were told to spend a week at home with pay before returning to work. This advice was slightly different from the advice of Saskatchewan Ministry of Health, which was to stay home only if they were ill (SP32). Once there were confirmed cases in Canada, it was reported that these sick individuals were placed under “medical isolation” (NP4) or under “self-imposed seclusion in their homes at the requests of health officials” (GM8). As additional cases were confirmed in Canada, the newspapers reported that the sick individuals were isolated (SP84, NP144).

There were mixed opinions about using quarantine and isolation to prevent the spread of H1N1. Some sources suggested that the two measures are not effective public health measures on a large scale since they do not substantially reduce the risk of spread and can increase fear and panic among the public (GM39, GM382). The negative perception of the two measures, along with the positive perception, were reflected through the words that were used to describe the measures. For example, articles that presented a more positive or neutral view described quarantine and isolation as “self-imposed” (GM8, SP267). A negative view used words such as “locking sick people inside” (SP171), “forced” (GM83), and “draconian” (GM423).

There was also a media example of the inconsistent use of quarantine. An article about Canadians who became ill while vacationing in Mexico gave an account of a family who returned home while sick. They returned on a Friday, went to the hospital and were subsequently sent home. The mother of the sick children stated “I fully expected they would keep them in quarantine because they had come from Mexico and they were sick.” On the following Monday, laboratory tests confirmed that they had influenza A and on the next day it was confirmed that they were infected with the H1N1 strain. The family was placed under quarantine after the test results, however, they had already “come into contact with dozens of

friends and relatives since their return.” The mother thought that “they [health officials] should have told them right away to stay in quarantine” (GM65).

Quarantine was also criticized when specific groups were targeted regardless of exposure. There were reports of countries that would quarantine travelers from countries with confirmed cases (GM77 GM83, GM86, NP64, SP36). For example, in some countries, Mexican citizens, who showed no signs of being ill or in contact with ill individuals, were kept in quarantine “solely because of their passports” (GM83). The Mexican President condemned countries that quarantined Mexican travelers based on their country of origin as a discriminatory measure (SP41).

One instance of quarantine that was highly publicized in the newspapers occurred at the beginning of May. Chinese officials quarantined a group of Canadian students as a precaution (GM86, NP64, SP36). Canadian officials questioned China about why the students had been quarantined and why the Canadian consular officials were granted limited access to the students. The Canadian officials did not believe that there was any reason to quarantine the students. According to China, the quarantine was “in line with international and domestic law and the students had agreed to the quarantine” (GM93, NP72, SP38). While the WHO stated that quarantine was up to the discretion of individual countries, they did contact countries that imposed a quarantine to ask “about the public health justification for their action” (GM93).

An editorial in the *Globe and Mail* criticized China for the quarantine claiming that they did so “for no other reason than they are Canadian and that Canada has an outbreak of the swine flu.” The measure was viewed as “no more justified than rounding up Chinese visitors to Canada would have been after SARS broke out in 2003 in China.” The author called the measure a “nonsensical method of disease control” and that “quarantining smacks of a totalitarian approach to public health.” The writer also questioned the effect on foreign relations, stating that it was “not a terribly friendly practice to single out healthy foreigners for a useless method of control” and that “foreign visitors should not bear the brunt of China’s anxiety without sound medical cause” (GM92). On May 7, 2009, newspapers reported that the quarantined students had been released since none of the student had recent contact with a flu victim (NP77, SP43). The decision to release the students was made after the Canadian government and the WHO raised questions about the necessity of the quarantine (NP75). This was not the only instance in where China quarantined international travelers. They also

quarantined travelers from the other countries and checked temperatures of arriving international passengers (GM208).

## 9.4 Cancellations and Closures

### 9.4.1 Cancellations and closures in Mexico

During the initial outbreak in Mexico, the Mexican government imposed a nation-wide closure of all schools and restricted the opening of bars, restaurants and other venues (e.g. cinemas, churches, museums, and libraries) where people congregate. Many events were cancelled or postponed and several sporting events were closed to fans (GM3, GM4, GM15, GM16, GM26, GM30, GM40, GM42, GM53, GM72, GM101, GM108, GM111, GM257, NP5, NP9, NP13, NP29, NP59, NP63, SP11, SP14, SP30). Newspaper accounts described the shutdown in Mexico City as “life under lockdown” and “virtual shutdown mode.” The streets were described as “eerily bereft of traffic,” “eerily quiet,” and “as empty as the Saskatchewan plain” (GM15, GM72, GM105, SP31, SP44). The five-day shutdown in Mexico ended on May 6 (GM85, GM88, SP44). According to a senior analyst with the Pan-American Health Organization the “the draconian measures taken by the Mexican government... have dramatically curtained the spread of swine flu.” According to the analysis, the measures prevented more than 8,000 deaths and 30,000 hospitalizations (GM103).

### 9.4.2 Cancellations and closures in Canada

There were also closures and cancellations in Canada due to H1N1 but not to the same extent as in Mexico. In Canada, there were reports of some school closings, though very few schools around the country actually closed. There were also reports of social events that were cancelled or postponed. In addition, there were discussions and criticism about the usefulness of these measures during an influenza pandemic. A common discussion in the news was whether or not to close schools due to influenza. The main issues with school closures were the need to balance the social disruption with the health benefits and the potential for this measure to prevent or slow the spread of the flu. The pandemic guidelines called for schools to close when transmission was widespread and severe but by then school closures might do little to slow the spread. Also, students may go elsewhere in a community such as the mall or movies while schools were closed (GM58). There were Canadian schools that closed but many school districts decided against it. During the first wave, the first school closing occurred in British Columbia after an elementary

school student was diagnosed with H1N1 (GM55, GM80, GM152, SP21). Also, several First Nation communities in northern Manitoba closed their schools during the community outbreaks (GM141, SP72). Not all school districts decided to close when there were cases confirmed among the student body, as was the case in Alberta after a student was diagnosed with H1N1 (SP36). Once the school year was over, the newspapers' focus shifted from schools to summer camps, particularly in Ontario. Most camps sent sick children home rather than closing since the majority of the cases were mild. Only one camp closed due to a high number of cases (GM192, GM196, NP147).

During the second wave, there were a few reports of school closings. Two First Nation communities in Saskatchewan closed their schools after a number of students had flu-like symptoms. The schools were closed as a precaution, allowing school officials to clean the schools (SP306). Schools were also closed in a New Brunswick community and a school district in British Columbia closed all their schools due to a high absentee rate. School officials noted that it was unclear whether the high absentee rate was due to people staying home because they were afraid of becoming sick or if they were actually sick (GM421, GM485).

In addition to school closings, there were reports of other events that were cancelled or postponed due to the pandemic. In the spring, before H1N1 was declared a pandemic, there was concern about the potential impact of a pandemic on summer entertainment such as concert tours, movies, theatre, and festivals. A pandemic was viewed as a "threat to attendance" (GM109, SP30). Over the course of the pandemic, there were several newspaper reports of sporting events and other activities that were cancelled due to flu concerns. For example, a breastfeeding challenge in Montreal was cancelled in October as a precautionary measure since babies under six months of age were too young to be vaccinated (NP220). Locally, there were sporting events and others events such as conferences there were postponed or cancelled (SP150, SP249, SP253, SP262, SP281, SP297, SP334, SP470).

There were also concerns about how the pandemic would affect holiday events during Halloween and Christmas, with more about the potential impact on Halloween since that was during the peak of the second wave (GM583). During Halloween, fewer trick-or-treaters were expected due to H1N1 fear. The PHAC did not caution against participating in Halloween activities, which was described as an "extreme" reaction. Rather they encouraged people to take precautions such as washing hands and staying home if ill (NP240, SP264, SP301). Due to the

suggested precautions, a *StarPhoenix* article described the upcoming Halloween activities as “very clinical” (SP264). Despite the suggestions from the PHAC, there were some communities in New Brunswick and Newfoundland that postponed Halloween events due to level of flu activity in those areas (GM421, GM434).

The potential impact of H1N1 on the winter Olympics was also a concern in the media, however, by the time the Olympics started in February 2010, the flu was less of a concern. Organizers of the Olympics did not expect the games to be cancelled due to the pandemic. They stated that “the Olympics [were] going to take place no matter what.” The impact was expected to be “felt in smaller ways, [such as] absence of athletes, cluster of fever and chills, [and] paranoia over coughs and fevers.” Cancelling the games or closing events to spectators was not seen a “necessary or wise.” Olympic organizers also pointed out that the 1968 summer and winter Olympic Games took place during the last pandemic (GM179, NP191).

#### 9.4.3 Cancellations and closures around the world

There were also reports of cancellations, closures, and the resulting difficulties from other parts of the world. It was reported, for example, that during the spring in Britain, organizers of events tried to obtain insurance in case of cancellation due H1N1. However, no insurers were offering coverage for the impact of the virus (NP69). During the second wave, there were reports of schools closures, a ban on public gatherings, and restricted travel for a three-week period in Ukraine. The response in Ukraine was described as the “most draconian measures taken by any country since the flu first appeared in Mexico” in the spring (GM524, NP298, NP371, SP318). Other reports included hospitals under quarantine in Romania, and schools closures in Afghanistan, Japan, China, and India, and other countries (GM33, GM117, GM246, NP298).

#### 9.4.4 Criticism of cancellations and closures

The main reasons given for the cancellations or closures were “as a precaution,” “concerns about contagion,” and to “safe guard health,” although there were just as many reasons given for not cancelling events or closing places along with criticism of the existing measures (GM26, GM30, GM42, GM53, NP26, NP220, SP249). Some criticisms of the measures included that they were “aggressive,” “ridiculous,” “irresponsible,” and “didn’t make sense to do” (GM30, GM81, GM102, SP84, SP170). The main reason for these comments was that the social and

economic impact was viewed as more important than the potential health benefit (GM9, GM30, NP186, SP139). Another issue was that people should not fear the flu virus. Cancellations and closures were likely to lead to unnecessary panic (GM130, GM279, SP139).

It was also suggested that these measures were not likely to stop the spread of the virus. Other measure such as hand washing and vaccination were suggested as more effective against the virus. This was a common view regarding school closures in Canada. The WHO did recommend closing schools at the start of a community outbreak to slow the spread but according to Saskatchewan's deputy chief medical health officer, Dr Saqib Shabah, this advice applied more to developing countries where schools were crowded, have poor air quality, have no running water, and there was limited access to medical services. Schools in Canada were viewed as well equipped to deal with a flu outbreak (SP193). The usefulness of closing schools once the virus was spreading in the community was also questioned. Schools were viewed as a controlled situation while closing schools created an uncontrolled situation with students out in the community where the virus can spread (GM43, GM260, SP323). Another issue was the impact that school closures would have on the absentee rates in the work force due to parents needing to stay home with their children. The resulting absentee rate among health care workers was a concern during a pandemic (GM208, NP154).

## 9.5 Hand washing and Respiratory Etiquette

### 9.5.1 Hand washing and respiratory etiquette as prevention

Prevention methods were frequently mentioned in articles. Common prevention methods included hand washing, respiratory etiquette (i.e. coughing and sneezing into sleeves), staying home when sick and avoiding those who are ill, consistent surface cleaning, and vaccination. Hand washing and coughing or sneezing into one's sleeve rather than hand were two measures that were commonly mentioned together and were described as "personal actions" that individuals can take to protect themselves (SP23). The use of alcohol based hand sanitizers was also coupled with hand washing. These measures were promoted as the "best line of defense" against H1N1 (SP35, SP306) and as "key in stopping the spread" (GM170). For example, one editorial stated the following:

...slowing the disease's spread...means obeying the common sense rules of infection control we all learned from our mothers when we were four: washing



our hands, covering our faces when we sneeze and generally avoiding unnecessary contact between fingers and eyes, noses and mouths (NP32).

Other common descriptions of the measures included “simple,” “effective,” “common sense,” and “sensible” (GM16, GM206, GM218, NP84, SP35, SP179, SP274). The messages about hand washing and respiratory etiquette continued even after the vaccination was available in the fall since the public “still need[ed] to use precautions” (SP406).

In addition to the frequent mentions in the news, several articles reported that the measures were being taught in schools and in the broader community (SP24, SP46, SP323). For example, a *StarPhoenix* article published in May 2009 stated that “lessons in cough and sneeze etiquette are on the agenda for Saskatoon students in the wave of the swine flu outbreak” (SP24). Another *StarPhoenix* editorial noted, “like classes across the nation, my son’s kindergarten class is learning proper hand washing techniques. It’s a bit like hand washing for anarchists, mind you, but it’s a start” (SP241). Other *StarPhoenix* articles reported that similar messages were taught in Regina schools (SP62) and at the University of Saskatchewan (SP293). By the fall, many local schools had increased the number of hand-washing stations and had hand sanitizers available for students (SP286). The lesson of the importance of hand washing among school children was evident in some of the children’s Christmas stories that were published in the *StarPhoenix* in December 2009. In one story, Santa Claus failed to wash his hands and became sick with H1N1. He was not able to deliver presents until he “washed [his] hands in warm water, for like, five minutes” (SP453). There were also public campaigns targeting the broader Saskatoon community such as an inner-city BBQ held in the summer. At the event, “volunteers...mingled with the crowd, showing them how to use hand sanitizers when soap and water aren’t available” (SP202).

With the campaign to promote hand washing and respiratory etiquette, there was a noted increase in both. In terms of hand washing and hand sanitizers, several articles noted that there was an increase in hand washing and in the use of hand sanitizers (GM30, GM155, GM192, NP151, SP241, SP286, SP293). As one article put it, “hand washing hasn’t been this de rigueur since the 2003 SARS outbreak” (SP241). Another article pointed out that hand sanitizer dispensers were “now almost everywhere. They’re in the office, in schools, in the gym, in people’s homes, in public buildings, in women’s purses...I just hope we don’t find out someday that the stuff causes cancer” (SP246). Manufacturers had to increase production to keep up with increased demand of hand sanitizer (GM72, GM425, SP407, SP485).

With the messages about sneezing and coughing into ones sleeves, it also became “unusual to see someone use their hands” when coughing or sneezing (GM602). By the spring of 2010, Dr. Butler-Jones, Canada’s Chief Public Health Officer, commented that, “in international airports you could always spot the Canadians because they were coughing into their sleeves...to see that behavior change in a matter of months is really quite amazing” (NP431). There were also suggestions that rates of seasonal flu and other viral diseases had decreased during the first months of 2010 from improved hand washing and respiratory etiquette (GM647, GM682).

### 9.5.2 Hand washing and hand sanitizer concerns

One reported concern about hand washing was whether people would do it correctly. For example, one article regarding hand-washing instructions in schools said that “instructions are fine as far as they go, though children, and frankly, many adults are not terribly committed, by nature, to following them” (GM528). Another article took issue with calling hand washing “common sense” since “many...still aren’t doing it correctly” (NP406).

Another concern was the effectiveness of the measures. In October, there were reports in the *StarPhoenix* and *National Post* about a “controversial Canadian study” that argued that there was “no evidence” that frequent hand washing prevented the spread of influenza. The PHAC commissioned 2007 study was commissioned by the Council of Canadian Academies (Low, et al., 2007). In response to the media coverage of the study, the PHAC stated that there was “substantial evidence to support hand hygiene as a basic premise of infection prevention and control measures” (SP222). An editorial in the *National Post* noted that it was a “tad strange” that health officials, including Dr. Butler-Jones, were emphasizing hand washing when there was a study that concluded that, “it didn’t do much to prevent an outbreak” (NP227).

There were also concerns about the misuse of hand sanitizers. One such incident, which was widely criticized, occurred in the summer when federal officials spent days debating whether or not to send hand sanitizers to aboriginal communities, due to concerns of alcohol abuse (GM158, NP132, SP94). This incident was part of the criticism regarding the slow response by the federal government to help First Nation communities that were hit hard by H1N1 covered in the previous chapter. The Grand Chief, the representative for Manitoba’s northern reserves, and the chiefs of the affected communities demanded an apology and an explanation for the debate. According to the Grand Chief, the hand sanitizer debate was “partly racism and partly ignorance” (NP134). Hand sanitizers were necessary in several communities since many of the

homes lacked running water so hand washing was not an option (SP94). Two other reported concerns about hand sanitizers occurred in Vancouver and Winnipeg. During the second wave, Vancouver schools banned hand sanitizers, despite recommendations, due to concerns about students either drinking or setting the gel on fire (GM344, NP230). At the beginning of 2010, workers at Winnipeg's main homeless shelter confiscated sanitizer bottles and stopped leaving table salt on tables after addicts used salt to separate the alcohol from the hand sanitizer (SP485).

## 9.6 Social Behavior

### 9.6.1 Reported changes in social behavior

As one article stated, “an early symptom of the swine flu pandemic is the change it brings to social behavior” (GM383). Changes in social behaviors such as greetings that involved direct physical contact (i.e. handshakes, kiss on the cheek, hugging) were also discouraged as ways to prevent the spread of H1N1 (GM25, NP114, SP131, SP185). Maintaining a “social distance” of one meter was also recommended (GM25). The behavioral changes were commonly linked with proper etiquette. The media was full of “H1N1 etiquette tips and stories” and phrases such as “H1N1-friendly rules,” “swine flu behavior,” and “new era of etiquette” (GM309).

Two areas of life where behavioral changes were commonly noted by the media were religious settings and sports. In religious settings, “close contact is part of worship in many faiths, but...are ways to spread the flu” (GM64). Reported changes in religious services included suspending communion, refraining from hand shaking, not participating in a receiving line at the end of service, emptying water fonts and baptisms, and wearing protective gloves when picking up collection plates (GM64, GM451, GM305, NP215, NP352, SP27, SP216, SP258). Locally, the Roman Catholic Diocese of Saskatoon suspended the communion cup portion of the communion<sup>1</sup> in October 2009 based on recommendations from the Saskatoon Health Region. They continued sharing bread to ensure that they were “doing [communion] as a faith-based community” (NP239, SP259). The practices were restored in January 2010 after the threat of H1N1 had passed (SP477).

Behavioral changes associated with sporting events and among team interactions were also noted in the media. The mostly commonly mentioned sport was hockey and the changes were

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<sup>1</sup> Communion is a Christian ritual in remembrance of the Last Supper in which the blood (wine) and body (bread) of Christ is consumed. In some Christian denominations, such as the Catholic Church, the wine is served in a common cup.

encouraged widely from pro leagues to local youth leagues. The changes included not sharing water bottles, towels, clothing or soap, washing hands after handling equipment, and handshakes or high fives between players replaced by fist bumps (GM372, GM383, GM407, GM447, GM448, SP216). Evidence of the changes included an image that accompanied a National Post article which showed the hockey player's numbers on the bottle (NP 232).

Prior to the winter Olympics in Vancouver, athletes were told to use an "elbow bump" or "fist bump" when greeting fellow competitors rather than handshakes, high-fives, or cheek-to-cheek kisses to prevent the spread of the virus (GM383). However, during the Olympics (February 2010), there were no mentions of these changes in the newspapers. By February, the second wave had passed in Canada.

In other areas of life, greetings were the most commonly reported change, however, other changes include measures to increase social distance. In regards to handshakes, reported examples included a Quebec mayor who banned handshakes during a municipal election (NP177), a minister who asked those at a funeral for an H1N1 victim to refrain from handshakes (SP326), and graduating university students forgoing handshakes and instead "curtsied, winked, saluted, nodded, and fist bumped" (SP275). A poll conducted in October for media sources, found that 30% of those who responded were shaking hands less than before the pandemic. The poll also found that about a quarter of respondents were using public transit less often due to fears of the flu (SP271). A decrease in the use of public transit had been reported in Mexico during the initial outbreak. It was also reported that family and friends avoided visiting one another and stayed in touch by phone, e-mail, and text message (GM72, NP13).

When complete avoidance was not possible, physically distancing oneself from others was suggested. An example of this included a Saskatoon city policy. In order to prepare for the second wave, the city of Saskatoon developed a number of policies for city employees, including a social distancing policy which encouraged employees to stand six-feet apart when talking. According to the city's emergency measures coordinator, employees needed to know that "it's not acceptable to share pencils or be a close talker" (SP160, SP364). Another example of social behavior included party advice for the upcoming holiday season, such as tips on how to serve food to prevent the spread of the disease (GM285). At Christmas time, there was advice on whether or not to use the mistletoe tradition. To address and encourage the use of mistletoe, a British etiquette entity issued a press release saying that a handshake was more likely than a kiss

on the cheek to transmit H1N1. The release stated that “kissing under the mistletoe is probably okay...as long as you don’t touch the person otherwise, except on the shoulder or upper arm” (GM592).

### 9.6.2 Concerns about changes in social behavior

There were concerns about how the behavioral changes would impact how people socialize within their community, how the changes interfere with traditions, and criticism by those who thought the changes unnecessary. Also, advice on appropriate behavior change was not always consistent (GM309). An article focusing on the potential psychological impact of an epidemic noted that during a crisis, people “count on community cohesion” but “when you have something that’s invisible, when you have something that’s contagious, it raises a different sort of fear – a fear that often divides people instead of bringing them together” (SP184). A similar sentiment was noted in an article regarding the changes in religious ceremonies. There were concerns about the “breakdown of community because people [were] terrorized by the possibility they might come down with something when they [came] to church” (GM305).

Changes in social greetings were seen as interfering with how people interact with one another. For example, two *Globe and Mail* articles focused on the importance of social greetings and how the pandemic has impacted them. One article noted that social greetings “have a lot of do with one’s own identity – and how to acknowledge others” (GM89). The other article noted that “showing a vulnerability is the whole point of the custom...flesh-to-flesh contact is a sign of trust” and that avoiding shaking hands could be seen as rude. The writer suggested that if he avoided greeting his friends due to fear of the flu, he might as well stay home (GM431). To counter the perception of rudeness, a conference in Saskatoon used posters to remind delegates to wash or sanitize hands frequently and not to be “offended if someone declines to shake hands” (SP295). In regards to social greetings, there were greeting suggestions that did not require physical contact (NP246, SP367). An example includes an account from the *StarPhoenix*:

When leaders of the First Baptist Church [in Saskatoon]...told their 1,300 members that, because of the flu, they would share smiles instead of handshakes during the service, some parishioners grumbled. Then, they got creative. People stood in the aisles and waved. Others danced, bumped fists or knocked elbows...they know it's temporary. But the need for human connection is real and no flu can stop it (SP258).

Some criticisms of the behavior changes were that they were unnecessary and an overreaction. Changes in religious ceremony were viewed as an overreaction especially considering that H1N1 had not killed as many people as seasonal flu. There were also some who thought that the behavior changes did little prevent the spread of the flu and could actually increase the risk of spreading the flu (GM305). For example, a letter to the editor commented on the change in communion where the bread was placed in the individual's hands instead of on the tongue by the priest. The writer of the letter believed that the change was more of a risk of transmitting the flu since it required hand to mouth contact (NP359). Regarding the changes in sports, an infectious disease specialist was not in favor of suspending hand shaking after the game because "physical contact [is] a natural consequence of most team sports [so] there is little to be gained by forgoing shaking hands" (SP385). The main challenge with the changes in social behavior was identifying what was reasonable prevention and what was "over the top" (GM309).

There were also news reports of efforts to continue with traditions while still preventing the spread of the flu. For example, some churches served communion bread with toothpicks, put bleach in holy water, and used electronic holy water dispensers" (GM542). An Italian inventor developed an electronic holy water dispenser that worked like an automatic soap dispenser. The inventor made it "out of concerns that fear of H1N1 was eroding traditions (NP341, SP378). These efforts were contrasted to the response during the 1918 Spanish flu. At the time, churches were closed, however, "this time...churches have 21st century technology at their disposal." Church closures were not seen as necessary as long as certain precautions were taken (GM305).

### 9.7 Face masks

During the outbreak in Mexico, facemasks were widely used and were mentioned in news reports (GM72, GM88, GM102, GM105). The Mexican government advised residents to wear face masks as a precaution. In Mexico City, soldiers handed out face masks at checkpoints (GM108, NP8). There were additional media references to the use of face masks in other parts of the world (GM89). For example, a *Globe and Mail* article about the response in China mentioned that Chinese daily newspapers were running photographs of people around the world wearing face masks (GM33). In Canada, face masks were not widely used by the general public. There were occasional references to their usage in airports (GM4), among suspected cases at hospitals (GM32), and among health care workers. Health care workers were advised to use a "proper type of mask," namely the N95 masks (SP8, SP171, SP228). Among the general public,

the use of face masks was discouraged by the Chief Public Health Officer, Dr. Butler-Jones, and other health officials (GM25, GM29). Dr. Butler-Jones advised against wearing face masks except in a hospital setting since they provided little protection and can a false sense of security (GM43, NP31, SP17).

### 9.8 Surface Cleaning

Consistent surface cleaning was promoted as a prevention measure. Advice on how to properly clean when someone was sick was provided in some articles (NP410, SP385). Other articles noted the increase in extra cleaning in various locations including hospitals (SP84, SP172), schools (GM55), and workplaces (GM78). In Saskatchewan, the pandemic preparedness guide sent to employers included instructions on proper cleaning and recommended frequent cleaning of common surfaces such as doorknobs and computer keyboards (SP234). Several *StarPhoenix* articles during the first wave reported that the local Saskatoon schools had “instructed their caretakers to increase cleaning and disinfecting in places where germs are easily spread” (SP24). Additional instructions were given to Regina schools (SP62). Again in the fall, the University of Saskatchewan increased “cleaning and disinfection procedures” after several students became sick (SP293).

### 9.9 Antiviral Drugs

Early in the outbreak, H1N1 was found to be susceptible to two antiviral drugs, Tamiflu and Relenza. Some news coverage focused on the use of the drugs, though Tamiflu was primarily mentioned, in the pandemic response. Antivirals, along with other measures, were used to “buy time” until the vaccination was ready (SP164). In late April and early May 2009, articles focused on how much of the drugs were in stockpiles and the distribution of the drugs (GM3, GM9, GM33, NP10, SP23). Internationally, the WHO had a stockpile of antivirals, which they distributed to developing countries, although, not in a sufficient amount. In response, the World Bank and private companies, which were not identified, expressed a willingness to help with needed doses (GM43, SP21). Canada was reported to have a sufficient amount of the drugs in stockpile (GM4, GM43). On May 1, an article reported that the antivirals had been distributed to the provinces and territories on a per-capita basis and were stored in “undisclosed secure sites.” An additional amount was kept in the national stockpile as a backup. In preparation, Saskatchewan was the first province to distribute some of the stockpile to regional health

authorities and pharmacies. There were no confirmed cases of H1N1 at the time but there were a few suspected cases (GM55). An article in the *StarPhoenix* mentioned that the province would cover the cost of drug for anyone who became ill (SP10). Other provinces and territories did not distribute the drugs at that time but reported that pharmacies within their jurisdiction had supplies (GM55).

Early concerns about the antivirals included individuals stockpiling the drug, which would decrease the availability, lead to the potential for overuse of the drug, and subsequent development of drug resistance in the virus. Articles reported that individuals who were not sick were filling prescriptions for Tamiflu and that the drug was “flying off the shelves” (SP23, SP35). In an April article about how to prepare for a possible pandemic, individuals were advised not to “run out and fill a prescription” since “augmenting individual stockpiles [was] not all that useful as a national plan to combat a possible pandemic” (GM25). The article also stated that “without professional guidance, people may not use...the right dosage or for the specified length of time.” Instead social distancing measures and behavioral changes were recommended as precautionary measures (GM25). Various health officials, including Canada’s Chief Public Health Officer, warned healthy individuals not to take the drugs as a precautionary measure against the flu since it could cause the virus to become resistant (GM43, GM174). To prevent the overuse of Tamiflu, the WHO recommended that only at risk groups be treated with antivirals and healthy individuals with mild illness did not need the drugs (NP367, SP409).

Reports on antivirals continued into the summer months as part of discussions on preparation for the second wave. Reports focused on provincial and territorial plans for costs and distribution of the antivirals, improved access to remote communities and from pharmacists and improving surveillance to make the best use of the drugs (GM224, SP140, SP171). Another issue that was raised during the summer was the use of Tamiflu in children. In July, the Health Minister signed a temporary order allowing doctors to prescribe Tamiflu in children under the age of one, despite limited safety data in that age group. The measure was justified due to the risk that H1N1 posed to infants and insufficient treatment options for sick babies (GM212, NP158, SP121). In August 2009, a *Globe and Mail* article reported on a study that raised questions about the effectiveness of Tamiflu in treating symptoms from H1N1 and potential side effects for children under 12. However, the Public Health Agency assured that Tamiflu had a



“strong safety profile” and did not make any changes regarding the use of Tamiflu in children since other studies have shown that the drug was effective for seasonal flu in children (GM241).

There were fewer mentions of antivirals by the time the vaccination arrived, however a November article reported that there were more prescriptions for Tamiflu than in April. There was also a worldwide shortage of children’s doses of Tamiflu so pharmacists were remixing adult doses “the old-fashioned way – with a mortar and pestle.” The shortage of Tamiflu for children was identified as “a lesson for preparing for the next one” along with ensuring that there are adequate supplies of antivirals for the length of a pandemic (GM560). In July 2010, another *Globe and Mail* article reported that the leftover stockpiles of Tamiflu in federal and provincial warehouses were about to expire which raised questions about how large the stockpile needs to be and the “value of spending public dollars to restock...in case of a future pandemic” (GM688).

### 9.10 Summary

The chapter provides an overview of the news coverage of specific health measures that were used during the pandemic. These included travel-related measures, quarantine and isolation, cancellations and closures, hand washing and respiratory etiquette, changes in social behavior, and the use of facemasks. Some measures were viewed negatively while others were viewed more favorably. Measures that were viewed positively were one that were not forced or mandatory, did not target specific groups, and were individually-based measures (i.e. hand washing). Conversely, interventions that were deemed arbitrary or invasive were portrayed as ineffective, unnecessary, and an overreaction. There were a range of social, economic, political and emotional factors that influenced the perception of each measure. There was a need to balancing the social, economic, and emotional impact of a measure with the perceived health benefit.

The following summarizes the perceptions of each measure, the measure’s social and economic impact and the associated criticism. News reports on travel-related measures such as travel advisories, bans, and screening travelers were common in the initial months of the outbreak. These measures were seen as ineffective and caused more harm than good, however, there was also criticism of Canada’s delay in issuing a travel advisory to Mexico. Even though travel advisories were viewed as ineffective, they provided the appearance of responding to the outbreak. Reports about quarantine and isolation were also common in the initial months but the newspapers were unclear with the distinction between the two measures. There were also

different perceptions about the measure depending on whether it was viewed as forced or voluntary. Quarantine, along with travel-related measures, was also criticized when it targeted specific groups regardless of exposure to H1N1. During the initial outbreak in Mexico, cancellations and closures were common measures to contain the spread of H1N1. In Canada, there were mixed opinions about its use. There was a need to balance the social and economic impact from cancelling events or closing locations such as schools with the health benefit. Hand washing and respiratory etiquette were promoted as personal actions that individuals could take to protect themselves from H1N1. These measures were viewed positively and commonly referred to as easy common sense measures. Changes in social behaviors to prevent the spread of H1N1 were also promoted, however, there were concerns about the impact on social relationships. Facemasks were another measure that was commonly mentioned or used in images within the media, however, Canadian health officials discouraged their use since they could provide a false sense of security against H1N1. These measures were all viewed as ways to “buy time” for the vaccination.

## CHAPTER 10 VACCINATION

### 10.1 Introduction

This chapter focuses on the media coverage of the vaccination campaign. The print media vaccination narrative was pulled out as a separate topic from the other public health measures due to the extensive focus it received. The layout of this chapter closely follows the chronological media coverage of vaccine development, the vaccination campaign, and post-campaign commentary.

### 10.2 Vaccination Campaign Planning Stage

#### 10.2.1 Vaccine production and campaign planning

When the outbreak was first announced, there was no specific vaccine for the strain and seasonal flu vaccines were noted to be unlikely to offer any protection against H1N1 (GM11). Efforts to develop a vaccine quickly began with the identification of the virus and negotiations with drug manufactures (GM9, GM16, GM76, NP5, NP31, SP6). Initial negotiations included an international meeting about how samples of the virus would be shared, who would use the samples to develop vaccine, and ensuring that vaccines were available, either by donation or at affordable prices, for poorer countries (GM153). Restrictions were placed on drug makers to prevent them from patenting the virus samples and then offering the vaccine at unaffordable prices (SP65). During the “height of fears of bird flu,” Indonesia refused to share H5H1 virus samples without a guarantee that the vaccine would be provided to poorer countries at affordable prices (SP63). In late April, Canada began discussions for a vaccine with GlaxoSmithKline, the sole vaccine manufacturer for the country, in case one became “necessary” (GM55).

While efforts were underway to develop a vaccine, there were some questions about the necessity of a vaccine. For example, an editorial in the *National Post*, which was critical of the hype and panic over the outbreak in Mexico, suggested that a vaccine was not necessary (NP71). The author wrote:

It's true we have no vaccine for this flu. But two years ago, two of the three strains in the seasonal flu were mismatched against the actual viruses in circulation. There was no appreciable increase in cases or deaths.

The WHO proceeded with vaccine development stating that it was better to be cautious and have a vaccine available regardless of how the disease develops. WHO's early estimates suggested it

would take three to six months to produce a vaccine in large enough quantities. Ideally, the vaccine would be ready by the fall, in time for the anticipated second wave (SP31).

During the month of May, the newspapers reported that vaccine production had not started (GM117). Drug manufacturers were waiting on guidance from the WHO about when to start mass producing vaccine for H1N1. There were concerns that producing the vaccines would cause some companies to cut production of seasonal flu vaccine. Drug companies were urged “to work to boost production for seasonal vaccines while developing an injection for possible use against” H1N1 (SP65). Following the declaration of the pandemic in June, the pharmaceutical companies began production (GM145). The increase in the pandemic alert level to 6, an official pandemic, allowed the WHO to free up money and sign contracts with drug companies to move ahead with the vaccine production (GM145).

During the summer months, newspaper articles focused on when the vaccine would be ready and provided updates on the planning stages of the campaign nationally and within the provinces and territories. There were many reports about when the vaccine would be ready and whether it would be in time for the second wave. Estimates suggested that the vaccine would be done by August or September but not available for the public until several weeks later, around November, due to clinical trials (GM174, GM183, NP146, SP113). In July, WHO officials stated that a fully licensed vaccine “may not be ready until the end of the year, months after a second wave of flu is expected to hit Canada.” If that was the case, the WHO suggested that countries might have to use the vaccine with limited safety data (SP113). Due to the potential use of the H1N1 vaccine with limited safety data, there were some references to the rushed distribution of the 1976 swine flu vaccine and the resulting cases of Guillain-Barre syndrome<sup>1</sup> (GM74, GM665). However, WHO officials gave reassurance that vaccines are “much better purified than the way they were in 1976” so it was unlikely that the side effect would occur again (SP113).

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<sup>1</sup> In 1976, the United States carried out a nation-wide immunization campaign due to fears of a possible swine flu pandemic. The vaccine increased the risk of developing Guillain-Barre syndrome (GBS). As a result, the vaccine program ended. GBS is a rare disorder in which the immune system damages the nerve cells leading to muscle weakness and paralysis. Most people recover from GBS while some have permanent nerve damage. In rare cases, death can occur (CDC, 2009; 2011; Sencer & Millar, 2006)

The PHAC was planning for a universal H1N1 vaccination program to start by November. Initial vaccination would be based on a developed priority list with the rest of the public immunized before Christmas, which ideally would be before the “worst of a potential winter flu season” (GM145, GM168, SP88). In Canada, immunization would not be mandatory and it was expected that not all Canadians would want a vaccine, however, everyone was encouraged to be vaccinated (SP128). Along with the federal plans, individual provinces and territories were developing their vaccination plans during the summer months. In Saskatchewan, the vaccination plans included a province wide campaign to encourage everyone to get vaccinated, based on the recommendations of the federal government (GM146, SP79).

Along with updates on when the vaccine would be available, there were also reports about potential issues with the supply due to production problems. In July, there were reports that drug companies were having trouble growing the virus, which was delaying production. As a result, countries might only get half of what they need. There was no guarantee that Canada would receive their full supply in time (GM185, GM195). One advantage that Canada had was the domestic capacity for developing the vaccine. Since the vaccine was being produced in Canada, they did “not have to fight other countries to guarantee their supplies” (GM195). In August, it was reported that the drug company in Canada was waiting for syringes and were producing the vaccine quicker than they could package it (GM259). In August, the federal government placed their order for 50.5 million doses of vaccine. The order was made based on the assumption that 75% of the Canadian population would want a vaccine and that two doses would be required. There were concerns about ordering vaccine that had not been tested but the “alternative of not ordering them [was] not acceptable” (SP140). Clinical testing was still required to determine whether one or two doses would be needed (GM259, SP172).

During this time, there was criticism regarding the speed in which Canada’s “sole supplier” was developing and testing the vaccine. Clinical tests were already underway in other countries. In response to the criticism, Dr. Butler-Jones was reported as being “unfazed” providing assurances that the vaccine would be ready by November (GM230). Ideally, the vaccine would be available before the second wave but estimates suggested that the second wave could hit early in the fall instead of in December. Antivirals and other measures were in place to “buy time” until the vaccine was ready (NP183, SP164, SP169, SP189).

In September, most reports were suggesting November for the vaccine rollout, however, Dr. Butler-Jones suggested that Canada could speed up delivery if the virus became more severe. He stated that if a reasonable amount of data on the safety and effectiveness of the vaccine became available and the disease became worse, Canada could move up the vaccination schedule. This was “contrary to the federal government’s insistence that Canada should not expect the vaccine until mid-November.” Canada would have the vaccine by October but it was not clear if there would be enough safety information to start vaccination. Health Canada wanted time to review clinical trial data and to follow the regulatory process for approving the vaccine. Canada was currently reviewing clinical trial data from Europe and was set to begin clinical trials in Canada in October (NP235, SP244).

By September, other countries, such as the US, China and Australia, had already started their vaccination campaigns (GM274). The federal government again received criticism for being behind. Newspapers reported on an editorial in the Canadian Medical Journal (CMJ) that claimed that Canada’s vaccination plan was flawed and could “leave high-risk groups unprotected from the H1N1 virus.” The CMJ editorial questioned why “Canada is first with a plan but last with a vaccine.” The editorial claimed that a different approach was needed to fast track the vaccine for the most vulnerable and further claimed that the vaccine could be available a month earlier. In the newspapers, Dr Butler-Jones responded to the CMJ editorial criticism. He said that a different approach would not lessen the vaccine development time since the vaccine order was done at the end of July while countries there were currently vaccinating placed their order in late May (GM268, GM269, GM271, NP203, SP175, SP198, SP232, SP178, SP179). Federal health officials insisted that there was “no delay” in Canada’s vaccine campaign and that they would be ready for large-scale immunization programs by the first week of November, if not sooner (NP235, SP244).

Reports of the ongoing planning during September included the organization of facilities and personnel to administer the vaccine (SP179, SP183). Nationwide, there were not enough health workers to deliver the shot. In many locations, health regions planned to hire student nurses, recall retired nurses, and reassign public health nurses from their regular duties. In British Columbia and Alberta, they were considering enlisting pharmacists to administer the vaccine (GM263, SP236). Local reports for Saskatchewan stated that the province would fully prepare for the vaccination campaign by November. In a survey conducted for the *Regina Leader-Post*

and published in the *StarPhoenix*, the majority of respondents, two-thirds, were “confident that they would be able to get vaccinated in a timely way,” though only 59% said that they would be willing to get vaccinated (SP183). Vaccine doses had been ordered based on the estimation that three fourths of the population would want to be vaccinated and two doses would be needed. In Saskatoon, the SHR was planning on 75 to 80 percent of the population being vaccinated. Normally, 25 percent of the population receives a vaccine for seasonal flu (SP230). By the end of September, studies had shown that one dose of the vaccine would be enough, however, children may still need two doses (GM300). One dose would likely increase the chance of getting a higher percentage of the population vaccinated since people would not have to line up for multiple shots (SP195). Canada had ordered 50 million doses based on the assumption that two doses would be needed. At that time, it was unclear whether the federal government would change its order or donate the extra doses to developing countries (GM288). Other rich countries were pledging to share extra vaccines with developing countries (SP199).

Coverage during October included information about the preparation, estimates on when the vaccine would be available, and continued criticism of the preparations of the vaccination campaign. National health officials continued to defend Canada’s vaccination strategy against criticism that it was slow and would be too late for the fall wave (GM345, SP261). In early October, it became apparent that the two versions of the vaccine, one with an adjuvant for general use and one without<sup>2</sup>, which was recommended for pregnant women, might not be available at the same time. Messages about when the non-adjuvant vaccine would be available were mixed. The Federal Health Minister said at a press conference that the vaccine was on track to be released by the first week of November. However, provincial health officials warned that there may be a two-week delay between the general vaccine with an adjuvant and the one without an adjuvant. Additionally, the Chief Public Health officer, Dr. Butler-Jones, said that he was not certain when the vaccine without an adjuvant would be available. There were concerns

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<sup>2</sup> An adjuvant is a substance added to a vaccine to increase the immune response. Without an adjuvant, more antigen, the active ingredient, is needed in the vaccine for an effective immune response. The non-adjuvant version of the H1N1 vaccine was recommended for pregnant women, due to the lack of clinical data on the safety of the adjuvant for that group (Health Canada, 2009b; 2009e).

about the safety of the adjuvant for pregnant women; though, some health officials believed that both versions of the vaccine would be safe to use (GM350, GM418). The decision to order the non-adjuvant vaccine for pregnant women was a “precautionary measure...that most other countries were not taking” (SP261). The overall safety of adjuvant was also questioned. There were conflicting messages from public officials and “conspiratorial websites” about the safety record of the adjuvant (GM418, SP280). For example, there were concerns reported in the newspapers that it could cause Gulf War syndrome<sup>3</sup> but there was no scientific evidence to support it (GM408).

In terms of preparation, the Saskatoon Health Region announced in early October that it would scale back public health services in order to redirect resources toward the mass immunization. A similar reduction in programs and services was previously announced for the Regina Qu’Appelle Health Region. Due to the scale back in public health services, the opposition NDP health critic said that she was concerned that the provincial government was not doing enough to provide assistance to health regions. Other provinces had recruited retired nurses to assist with the campaign, which did not occur in Saskatchewan. One of the noted difficulties in planning for human resources was the uncertainty about how many people would want to be vaccinated (SP230, SP233). In order to operate the vaccine campaigns, many health regions had to disrupt other health programs and services. There were some who questioned why the service disruptions were necessary since seasonal flu clinics are done without the same disruptions (NP245).

On October 19 and 20, articles reported that the vaccines had been shipped to the provinces and territories in preparation for the rollout. Health Canada was reviewing the data and approval was expected within a week. In the meantime, health regions were continuing with preparations. Also, health officials emphasized the safety of the vaccine and encouraged everyone to get

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<sup>3</sup> Squalene is an adjuvant used in several vaccines including seasonal flu vaccines and the 2009 H1N1 vaccine. The adjuvant was used in an experimental anthrax vaccine given to soldiers in the 1991 Gulf War. It was thought to be the cause of the Gulf War syndrome in many veterans due to the presence of antibodies to squalene in most patients affected by the syndrome. However, evidence has been inconclusive on the linkages between the two (Lippi, Targher, & Franchini, 2010).



vaccinated once the vaccine was available, while reminding people to wait their turn (GM353, GM355, GM358, SP261, SP263). Two days later, reports stated that Health Canada had authorized the vaccine and the vaccine campaigns would soon be underway (NP244). Health care workers were the first in line for immunization, followed by high-risk groups based on a released priority list. Mass immunization for the general public was expected to begin in November.

### 10.2.2 Priority lists

The initial work on the vaccine priority list began in July and with the expectation that the list would be released in September (GM227, SP128). There was criticism of Canada's delayed release since the United States released its priority list in July 2009 (NP163). The US priority list included pregnant women, those who lived with infants under 6 months, health care workers and emergency medical services personal, children and young people between 6 months and 24 years, non-elderly adults with underlying risk factors or medical conditions (SP128). To counter the perceived "lack of urgency" about the priority lists that was presented in the media, the PHAC responded that there would be "enough vaccine for all Canadians" and the PHAC wanted to develop a list "based on scientific and epidemiology evidence" (GM227, SP128).

Until the PHAC released the priority list, media coverage focused on who should be included and often mentioned "expert opinions" and studies. Health care workers were commonly mentioned (GM194). The WHO recommended that all countries immunize health care workers first "in order to maintain a functional health system as the pandemic evolves." The WHO did not make recommendations on other groups to include and instead left the decision up to individual countries (SP113). While health care workers were recommended to be first in line for the vaccine, there was concern about whether the health care workers would agree to take "an unproven vaccine for an uncertain threat." Normally, 40 to 60 percent of health care workers opt out for the flu vaccine each year. In Saskatchewan, fewer than half of nurses get a flu shot (GM209). The PHAC had no plans to force health care workers to be vaccinated due to the need for informed consent and the right to refuse a vaccine. But there were fears that "sensitivity towards the rights of health care workers could undermine efforts" (NP157, NP216, SP210). Health care workers who are unwilling to get vaccinated could lead to high absenteeism when they are needed most (GM209).

Pregnant women were a second group that was mentioned for inclusion on the priority list since they were at high risk of complications. Health officials and doctors were urging all pregnant women to be immunized (NP212). A special campaign that targeted pregnant women included posters, fact sheets, and mail outs. Pregnant women tend to avoid vaccinations due to fears of a possible side effect to the “unborn child” (SP209). To alleviate concerns about vaccine safety, health officials, including Canada’s Chief Public Health Officer, said it was a matter of “balancing risk” of immunization and becoming sick. Influenza during pregnancy was a “nasty disease” while immunization was a “small theoretical risk of something that might happen” (NP163, SP128).

Children were a third group that was frequently mentioned since they are known to be a significant transmission risk (NP129). The results of a US study, published in both the *StarPhoenix* and the *National Post*, suggested that the best way to contain a flu pandemic was to vaccinate school children and parents but to skip most adults since schools were the “main breeding ground.” The results of the study were counter to the priority groups set by the CDC in the US. The study argued that it was best to vaccinate those mostly likely to transmit the virus rather than those at highest risk of complications, which was basis of the priority list (NP184, SP157). Following the report, the media continued to focus on the need to include children as a priority group and suggested that public health authorities should not ignore those outside of high risk groups when establishing a priority list (GM654, NP197, SP189). However, the PHAC did not say whether school children would be among the first immunized. One health official suggested that the opportunity for maximum benefit will have passed by the time the vaccine is available (SP189).

Other suggestions for a priority group included those age 5 to 40 years old, though, the 18 to 30 year old may be a challenge to convince since they may not see themselves as being at risk (NP129). Aboriginal and remote communities were suggested as priority groups by candidates for the national chief of the Assembly of First Nations. Remote communities were suggested as a priority group due to the “fear that major urban centres [would] get [the vaccine] first and...poor people in the remote communities will be the very, very last to get it but the first to get the disease” (GM188). Additionally, the chief doctor for the winter Olympics wanted athletes to be treated as priority group since he did not believe that the vaccine would be available in a “timely manner” (GM343).

In September, the PHAC released the list, which included children, pregnant women, health care workers, those in remote communities and adults with chronic conditions. The list was developed based on those at greatest risk of complications and designed to decrease sickness and death and to “maintain the smooth function of society” (NP203). Provinces and territories could use the list for guidance for planning purposes and interpret it “based on local circumstances and realities” (GM291). There were some noted regional variations on additional priority groups, which gained some criticism. For example, Vancouver Coastal Health included residents of Downtown Eastside due to pre-existing medical conditions and addictions (GM360). Additionally, prisoners were included as a priority group in British Columbia due to the fear of prisons becoming a “breeding ground.” Correctional officers were upset about the decision to give prisoners priority over prison staff (GM373, GM393). Regardless of who was “first in line,” health officials continually recommended that everyone should get the new shot when it becomes available to them.

### 10.2.3 Seasonal flu vaccine and H1N1

In September, there were news reports about a controversial unpublished Canadian study that suggested that the seasonal flu vaccine increased the risk of H1N1. However, similar studies in Australia, the UK, the US, and Mexico concluded that the seasonal flu vaccine had no effect on immunity (SP239). The results of the unpublished led to additional confusion surrounding the vaccination campaigns (GM306, GM319, GM324, NP217, SP211). While the study was still under peer review, many provinces, but not all, were reconsidering when to do their seasonal flu vaccine campaigns due to the study results (GM316). Quebec, Alberta, Saskatchewan, Ontario and Nova Scotia decided to suspend seasonal flu shot for anyone under 65 years of age until after the H1N1 vaccine campaign (GM306, GM310, SP211, SP214). Alberta decided to offer the seasonal flu vaccine to high-risk people until the H1N1 vaccine was available and Manitoba dropped health care workers from the priority list for the seasonal flu vaccine (NP224). In October, Saskatchewan changed their decision to limit the seasonal flu vaccine to seniors and people in long-term care homes, though the seasonal flu vaccine campaign would stop once the mass H1N1 immunizations began (SP263). Other countries and the WHO chose not make any changes or recommendations based on the study (GM316). The inconsistencies in the changes and recommendations lead to “public confusion and...questions about whether the safest options were being offered” (GM319). It also raised concerns about whether people would show up for

either vaccine (GM319). As one article pointed out the study “confused things very badly...and certainly cost [public health] credibility from the public because of conflicting recommendations” (GM310).

### 10.3 Vaccine Campaign

Canada’s “largest immunization campaign” began on October 22, 2009 (GM375, SP277). By the time the vaccine campaign began, the second wave of H1N1 was already underway and critics questioned whether it would be too late to vaccinate most people. There was also concern that “healthy people may feel a sense of urgency to jump the queue.” While health officials encouraged everyone to be vaccinated, they also asked that everyone wait their turn (GM359). Immunization for the general public nationwide was expected to begin in November. The first few weeks of the campaign were limited to those on the priority list (GM381, GM432, SP276, SP279, SP288, SP295, SP306). When the vaccine campaign began, there was a massive increase in news coverage focusing on a range of issues including safety and risk information about the vaccine, clinic locations and times, who was next in line for the vaccine, and the problems and complaints about the vaccine campaign.

#### 10.3.1 Vaccine supply and demand

In the initial weeks of the vaccine campaign, problems from across the country were reported in the news. These included a limited supply of vaccine doses, long line ups, clinics closing or turning people away either due to limited supply or for not being on the priority list, and variation between provinces, which increased the confusion. An initial concern with the campaign was the inconsistency between provinces for distributing the vaccine. For example, in Alberta, Saskatchewan, and Quebec the vaccine was initially available through public clinics. Ontario and British Columbia used physicians and family health care practices as well as public clinics. Most jurisdictions opted for a phase-in approach with health care workers the first to be vaccinated, followed by the high-risk groups (i.e. groups likely to develop complications) identified by the priority list. Alberta originally opened the clinics to the general public based on “voluntary compliance,” however the clinics became overwhelmed and nationwide supply issues soon became a problem.

Early on in the campaign, it became apparent that there would be vaccine shortage that was expected to last over the first few weeks (GM395). The shortage was due to a delay in

production due to a brief switch from adjuvant to non-adjuvant vaccines for pregnant women, and to quality testing of the vaccines before shipping. The supply limitations provided further support to the argument that Canada should have more than one vaccine manufacturer for future pandemics. Many other countries had more than one supplier. One advantage that Canada did have was a domestic manufacturer since there were concerns that countries with vaccine manufacturers would close their borders and hoard the vaccine supplies (GM499).

The federal government warned the provinces and territories that they would receive less vaccine than expected (GM412, NP282, NP286, SP307, SP311, SP315). With the shortage, articles frequently reported how many doses were delivered and the shortfall from expected amount. Ontario, Manitoba and Alberta governments issued warnings about the vaccine shortage. Saskatchewan had originally planned to vaccinate all high-risk groups but changed plans to focus on those aged 6 months to 5 years and pregnant women due to the limited supply (GM412, NP282, NP286, SP293, SP302, SP307, SP311, SP315, GM452).

Along with the shortage of vaccine, demand for the vaccine was well above what was expected. Butler-Jones said that health officials did not expect the long lineups that were the norm for the first week of the campaign. The demand was “in sharp contrast to earlier polls that said few Canadians planned to get the vaccine” (GM393). The increased demand was linked to the highly publicized death of a healthy 13-year-old Ontario boy. The common messages from health officials was for “Canadians to remain patient” and wait their turn so that those in the priority groups could get their shots first (SP301).

With the limited supply and high demand, there were many news reports about how clinics around the country were doing. The common focus of articles was on experiences at clinics with long line ups, clinics that canceled due to limited supplies, ones that extend their hours or expanded the number of locations to meet demand, or ones that turned people away that did not meet eligibility requirements or due to long wait (GM468, GM529, NP259). In British Columbia, clinics had long lineups during the first few days of the campaign and had to turn people away near closing time. In response, many clinics extended their hours to deal with the long lines. There was also confusion about the priority group process. British Columbia health officials had to appeal to healthy British Columbia residents “to step aside and let those with chronic health problems move to the front of the line.” They insisted that immunization would still be useful in mid-November, despite what was quoted by some experts in the media (GM393,

GM396). The day before, Richard Schabas, a former Ontario chief medical officer of health and Neil Rau, an infectious disease specialist, wrote an opinion column in the *Globe and Mail* suggesting that vaccination would be pointless by the time that it is available for the general public (GM391).

Ontario clinics, most notably in Toronto and Ottawa, had to turn people away shortly after opening due to the long lines and limited supplies (NP281, NP289, NP327, SP283). Toronto had originally planned to open vaccination for the general public during the first week of November but cancelled due to the shortage of the vaccine. Instead the focus would be on priority groups. News articles about the experience in Toronto included quotes from individuals waiting in lines that were mostly critical of the clinics. For example, despite the defined priority groups, one individual stated that, “everybody feels like they’re a priority.” Another woman who was noted to be 7 months pregnant and waited three hours in the rain stated that she did not “believe it [was] as organized as it could be.” Similarly another article questioned why the clinics weren’t better prepared when “they’ve known about the swine flu and they’ve been warning us about an outbreak for months.” A third article questioned why more locations weren’t available (NP281, NP289). Alberta originally offered the vaccine to all residents but “clinics were unable to keep up.” They opened more locations after the “massive lineups and limited the vaccine to high risk groups (GM374, NP260, SP292, SP319, SP344).

Among the reports of problems, there were some articles that focused on clinics that did not have issues or on efforts that were put in place to address the problems. In Saskatchewan, the vaccine rollout “seemed to be working very well” compared to the experience in other provinces. The province did not experience clinic shutdowns like in other provinces. While there were long lines, the vaccination was limited to the highest risk groups and adjustments were made based on the available supplies. Efforts were also put in place to speed up the process, including consent forms available online and the use of video presentations about the vaccine and process for those waiting (SP322, SP325, SP340, SP358). Two articles in the *Globe and Mail* reported on a clinic in Sault Ste Marie, Ontario that did not experience long lineups. To prevent the lineups, the clinic used a call centre to book appointments (GM398, GM415). Another clinic in Quebec, which originally had lineups, adapted a “Disney-inspired” coupon system that allowed people to come back at a later time when the lines exceeded an hour. Other cities in Canada used

wristbands or time tickets. Clinics in Toronto, Ottawa, and Vancouver adapted tickets or bracelets to reserve a place in line (GM553).

In addition to the supply and demand issues, there were reported issues with communication between the federal and provincial government regarding the amount that would be shipped every week. This made it difficult for provinces to plan for the week. One miscommunication that was reported on occurred when the Prime Minister announced that 1.8 million doses were expected to be delivered during the second week of November. The *National Post* article noted that Ontario's chief medical officer appeared to be "caught off-guard" by the announcement and stated that they had not "received any confirmation from the federal government" concerning the number of doses to be delivered. Other premiers voiced similar concerns about the lack of information regarding the vaccine supplies. In response, federal officials stated that the provinces would receive speedy updates on the vaccine deliveries (NP317, SP337).

Despite the problems, one assurance given in the media was that Canada's vaccination campaign was doing better than other countries' campaigns. The Prime Minister stated at a press conference that the vaccination program was "better than those of many other countries" (GM536). As one article stated "Canadians can take solace in one generally overlooked fact. Most other industrialized countries have considerably less of the vaccine on hand" (NP348). The article also pointed out that "those places [were] not seeing the same kind of controversy and saturation of media coverage around the availability of vaccine" (NP348). Similarly another article pointed out that "patience [was] needed with the vaccine program, there have been glitches but [when] examined dispassionately the mass immunization has hardly been a disaster" (GM495).

In the Canadian print media there were a few reports of the supplies problems in other parts of the world. At the end of October, reports stated that there were also supply problems in the U.S. despite having four vaccine suppliers. The shortage caused some individuals to "beg or lie about being pregnant or having underlying health conditions" (GM366, GM408). Additionally, there was also controversy about employees of financial companies receiving the vaccine while community clinics had none. Supplies were also low in Mexico after "most vaccines were snapped up by wealthy countries. In contrast, coverage from Britain had "no pictures of long line-ups, no cries of injustice that vaccines were going to the wealthy." Britain's campaign was done by invitation to those at high risk of complications (GM524).

### 10.3.2 Queue jumping

During the first week of November, there was outrage over several publicized cases of queue jumping. These occurred at the same time as the vaccine shortage was being reported. The cases raised issues regarding the ethics of defining priority groups, the definition of “high risk,” and the presence of a two tier health care system in Canada. The coverage turned into a debate about private versus public health care and who is responsible (and who to blame) for health care (GM502, GM504, GM508, GM510, NP323, SP357).

Several of the cases involved hockey teams, including the Calgary Flames, the Toronto Maple Leafs and Abbotsford Heat (a British Columbia team). Players, coaching staff, management, and family members of the Calgary Flames were given “special H1N1 vaccinations” which were arranged through Alberta Health Services. The case gained a great deal of public outrage given the fact that “high risk groups...stand in line for hours to get the shot while a small elite group received it with little effort.” The Flames released a statement regarding the incident but never acknowledged any wrong-doing: “The players did not believe or even realize that they were “cutting in front of high risk groups.” The medical staff for the team thought that the players should receive the vaccine “given the risk associated with frequent physical contact, extreme exertion and busy travel schedule.” Also, the team was vaccinated a day before the limited vaccine supply led the Alberta government to restrict the vaccine to those on the priority group. Alberta had originally opened the vaccination to the general public. Two Alberta Health Authority employees were fired for the decision (GM486, GM517, NP309, NP311, NP318, NP319, NP329, SP332, SP344). A spokesman for the Alberta Union of Provincial Employees called the fired employees “scapegoats” for the “government blunders” in connection with the vaccine rollout (GM517).

In the case of the Abbotsford Heath, the British Columbia pro hockey team returned from a road trip with five members showing symptoms of the flu. A doctor decided that the rest of the team were “at high risk of getting the disease” and instructed to team members to go to his clinic to get vaccinated. The doctor defended his decision stating that, “doctors should be able to interpret the guidelines to decide who is eligible.” At the time, the vaccine was in short supply and only those on the priority list were eligible for the vaccine. The doctor in the case was spoken to but did not face punishment for his decision (GM497). The players of the Toronto Maple Leafs were also given access to the vaccine after two players from an opposing team



contracted the virus. The team insisted that they did not receive the vaccine outside of the “usual channels” and did not jump any lines at medical clinics, though it was unclear where they received the vaccination. Being at high risk of becoming ill due to close contact between players and heavy travel schedules was used as justification (GM498, GM511, NP318).

These cases are examples of the confusion regarding the meaning of “high risk.” While the term “high risk” was interpreted in the creation of the priority lists as “high risk of complications,” some interpreted it as “high risk of getting sick” which was used as justification for the sports teams to receive the vaccine. In response to the cases, Dr Butler-Jones stated that there is a difference between being “at high risk of getting the flu and of it causing serious illness and death...if this was the case, school-age children would be a priority” (GM488). Around this time, there was a debate about whether school aged children should be considered as the next priority group (GM528).

In addition to the sports teams, newspapers reported that private clinics in Toronto and Vancouver had access to the vaccine during the shortage with patients of the private clinics jumping the queue. In response to the reports about private clinics having access, Ontario stated that it would review Toronto Public Health’s decision to give a private clinic access to the vaccine during the supply shortage. The clinic in Toronto intended to offer the vaccine only to its patients but decided to provide the vaccine to non-members who are at risk of complications (GM432, GM476). The founder and CEO of the Vancouver clinic submitted a letter to the *Globe and Mail*, about the issue, stating that the clinic followed the guidelines for the vaccine and had an advantage over public clinics. According to the CEO, it was “well organized” and “there were no lineups.” The clinic only vaccinated members who were in the high-risk groups identified through their medical records, which was information not available to public clinics (GM500). Some used this as an example of why private health care is better than public, while others criticized the use of private health care as an unfair advantage of the wealthy (GM462, GM475, GM478, GM479, GM510, NP284, NP290, SP348).

Two other reported incidences included the vaccination of board members at a Toronto hospital and top donors at a Montreal hospital (GM516, NP326, SP352, SP363). Locally, there was a report about businesses in Saskatoon and Regina, “including a number of provincial Crown corporations” that hired a private company to vaccinate employees and families. The initial report stated that the private company would wait until the vaccine was available to the

general public (SP328). However, Saskatchewan deputy chief medical officer quickly refuted the story, stating that the vaccine was “not being provided to private companies” and was “only being provided to public health.” Once the vaccine was available for everyone, “there may be a role for organizations who give seasonal vaccinations to employees in large corporations” to help with the vaccine campaign. The deputy chief medical officer insisted that there was no queue jumping occurring in Saskatchewan (SP341).

The reporting on the vaccination activities of private clinics became part of the debate about the problems of a two tier health care system. The stories contributed to the outrage over wealthy individuals receiving quicker care through the use of private clinics. Dr. Butler-Jones emphasized that wealth should not determine who has access to health care in the Canadian health care system. He stated, “wealth nor celebrity should not buy...special access to life-saving care. Those who use their wealth or celebrity to jump the queue are thus attacking one the most fundamental values of Canadian society and are legitimately reviled” (GM488). Also, in contrast to the reported outrage over the queue jumping, one article suggested that:

The taint of scandal surrounding the program may be more media-generated than a reflection of widespread public unease...most people aren't jumping the line, most people aren't freaking out. That's the other side to the story. It's not that everything is becoming unhinged (NP348).

### 10.3.3 Open to general public

Opening the vaccine campaign to the general public was delayed due to the problems with vaccine production (NP293). On November 19, Ontario and Manitoba to opened their vaccine clinics to the general public. Alberta and Saskatchewan were expected to expand the campaign to the general public within a week. In Saskatchewan, the rollout to the general public was expected to vary across the province (GM564, NP357, NP361, SP397, SP400, SP406). The mass vaccination clinics for the general public in Saskatoon began on November 25, by which time over 20% of the population of the health region had been vaccinated. To avoid long lines, health officials asked people to “take their time” since the clinics would remain open until December (SP413, SP416). Ongoing local coverage of the vaccination campaign focused on how many people were vaccinated daily and what percentage of the population had been vaccinated (SP429, SP431, SP434, SP442, SP445).

By the time the vaccine was available to the general public, the second wave had passed its peak, however, health officials still urged everyone to get vaccinated. As one health official

stated, “the flu season lasts all season long. The flu virus does not take a holiday” (NP361, NP366, SP430). Some critics, in particular Ontario’s former chief medical officer, were vocal about the necessity of the vaccine the second wave had reached its peak (GM581).

During December, clinics around the country were wrapping up their vaccine campaigns (SP440). In early December, clinics in Ontario began to shut down as the demand for the vaccine decreased. Clinics in other provinces were running and planned to stay open until mid-December or longer depending on need (GM578). On December 17, mass clinics in the Saskatoon Health Region closed after a 5-week operation, though people were still encouraged to get vaccinated at public health offices and drop-in clinics (SP442, SP449, SP450). Quebec and British Columbia closed their mass vaccination centres in mid-December but still had vaccine doses at regular medical clinics (GM598).

#### 10.4 Assessment of Vaccine Campaign

As the vaccination campaigns ended around the country and the second wave came to an end, provincial and federal health officials shifted their focus to assessing the vaccine campaign. Newspaper articles beginning in December until early summer 2010 reported on the assessment lessons from the vaccination campaign. One of the identified lessons from the campaign was the need to have more than one vaccine supplier in Canada (GM607, GM658). In March 2010, the federal government was reviewing contract options since the 10-year contract with GlaxoSmithKline was set to expire in a year. One potential option was to include a backup supplier for pandemic flu vaccines (GM658, NP420, SP489).

The main focus of the vaccine assessment was the vaccination rates. During May and June 2010, articles reported on the regional vaccination rates. While the national average was 40%, the vaccination rates varied regionally (NP406). Alberta immunized about 33% of the population, about 40% population were vaccinated in British Columbia, nearly 60% in Quebec, more than 50% in Saskatchewan, the Atlantic provinces and territories vaccinated more than half of their populations, and Newfoundland vaccinated 70% of the population (GM674, GM675, SP514). Some reports claimed that the vaccine campaigns “failed dramatically” in parts of Ontario, Manitoba, and Alberta. For example, in Toronto, the overall rate was less than 29% and fewer than 60% of health care workers were vaccinated (NP433). These rates mirrored a poll from January 2010 in which 30% said that they would get vaccinated (GM673). The rate in Toronto was below the national average and lower than the 40% that are typically immunized

against seasonal flu (GM674). In response to the criticism surrounding the vaccination rates, the Health Minister said that vaccination was a provincial matter, however the delivery of the vaccine was a joint responsibility of Ottawa and the provinces and territories (GM676).

There were many reasons given for the lower vaccination rates, including inconsistent and confusing communication about vaccine availability, priority lists, safety of the adjuvant, problems with vaccine supplies, anti-vaccine advocates, public perception of the risk from H1N1 and the vaccine, and news reports that “the worst was over” by the time that vaccine was available. Also, not all provinces followed the federal guidelines, which caused confusion among the public (GM670, GM673, GM674, GM678, GM694, GM670). One challenge that was not frequently mentioned was the media’s role in creating confusion. For example, in a letter to the editor, a medical doctor said that “many patients were quoting TV, internet, and newspapers regarding the theoretical risks of the vaccine...The same weight was often given to the vaccine’s theoretical risks, frequently voiced by non-experts, and the real risk of infection.” According to the doctor, “most physicians I know supported the use of the vaccine, yet this message was overshadowed (GM677).

While several articles and critics claimed that the campaign was a failure based solely on the vaccination rates and the amount of money invested, others pointed to additional factors that should be considered when measuring campaign’s success (GM671, GM680, GM682, GM688). Some articles were less specific about these factors and made statements such as “it was impossible to estimate how far the disease would have spread without the immunization” (GM602) and “countless lives were saved by the mass vaccination programs in Canada” (NP430). Other articles gave more specific examples, such as two *Globe and Mail* articles that reported on a study of the Ontario program. Based on mathematical modeling to predict what would happen if no intervention was used, the study concluded that the campaign prevented nearly 1 million cases, as many as 50 deaths, an additional 420 hospitalizations, 28,000 ER visits, and 100,000 doctor visits. As one article pointed out, “suddenly the \$180 million cost is not an outrage to the public finances, but a very sensible expenditure.” The study ran counter to the criticism that Ontario’s and much of Canada’s vaccine program “failed dramatically, because of low vaccination rates” (GM693, GM694). The majority of the criticism focused too much on cost and not on the overall health benefits.

Another focus of the post campaign coverage was what to do with the leftover vaccine doses. At the time there was no national plan on what to do with leftover doses. Alberta sent their leftover doses to the federal government while most provinces, including Saskatchewan, waited for advice from the federal government (NP387, SP465). At the end of the vaccine campaign, Canada was one of several countries that donated extra vaccine doses to Ukraine, which was heavily affected by the pandemic and was unable to afford the vaccine (NP371, NP373). In January, Canada lent, rather than donated, extra doses to Mexico (GM616). Canada also donated 5 million doses to the WHO to distribute to developing countries that couldn't afford their own supplies (GM635, NP402, SP482). However, there was one issue that was not mentioned in the newspapers about the timing of the donations. There had been ongoing concerns that Canada would not have the vaccine in time for the second wave, but by the time the donations were made to developing countries, the second wave was well underway or coming to an end in many locations.

Several months later, in April 2010, there were reports that British Columbia would discard 2.5 million expired doses or "\$20 million worth down the toilet." British Columbia, like most provinces, had purchased enough for the entire population but only 40% of the population got vaccinated and the province was left with a stockpile. Due to the amount of leftover doses, British Columbia would ask Ottawa to reconsider the pandemic plan which requires provinces to purchase enough vaccine for every individual (GM666, NP431).

### 10.5 Summary

Vaccination had extensive media coverage and there were a range of perceptions about the measure. Early in the outbreak, there were some who questioned the necessity of the vaccine. The early critics questioned whether the time and money need to develop a vaccine was necessary. During the spring and summer months, the coverage focused on the production of a vaccine and the campaign planning stages. The newspapers provided updates on status of the vaccine production and planning activities such as the development of the priority list. Concerns during planning stages included the safety of the vaccine, whether the vaccine would be ready in time, and the necessity to make decision with incomplete and contradictory evidence. For example, a Canadian study that indicated a possible link between seasonal flu vaccine and an increased risk from H1N1 while similar studies found no linkage between the seasonal flu vaccine and immunity to H1N1. The study result led to inconsistent practices and

recommendations from different provinces. Criticism during this time included the speed in which the vaccine was developed and the length of time it took to develop and release the priority list. Prior to PHAC's release of the priority list, media coverage focused on who should be included and relied on various expert opinions and studies.

Once the vaccine was released, the media focused on how well the nationwide vaccine campaign was going. During this period, there were mixed messages and opinions about the effectiveness of the campaign. Inconsistent policies between provinces and problems with the rollout were highly publicized in the media. Stories about vaccination clinics with few problems were minimal. Stories about queue jumping were also highly publicized and illustrated confusion over the term "at risk." Medically, the term refers to those at greatest risk of complications, however, there was evidence in the newspapers that some interpreted the phrase as at risk of becoming sick.

At the end of the campaign, the media focused on the assessment of the vaccine campaign. Most reports focused on the cost and vaccination rates as the measure of success, rather than the health benefits of the campaign, which can be difficult to measure.

## CHAPTER 11 POST-PANDEMIC ASSESSMENT AND LESSONS LEARNED

### 11.1 Introduction

This final results chapter presents the media narrative from articles published when the public health responses and pandemic were nearing the end. At that time, the media focus was on the pandemic response assessment and lessons learned.

### 11.2 Lessons from the Pandemic

By December 2009, the overall newspaper coverage of the pandemic had decreased. Newspaper articles that were published focused on the lessons of the pandemic. Near the peak and the end of the second wave, a few references began to emerge in the newspapers to the potential lessons, or as some articles called it, the “post-mortems” (GM510, GM671, NP431), of the H1N1 pandemic for future pandemic preparedness. Articles on this topic increased by April 2010 and continued until August 2010, aligned with the period when the WHO committee met for their post pandemic assessment (NP425, SP495). Similarly, researchers and governments were examining various issues of the overall response during the spring and summer 2010. The results of these assessments were reported in the newspapers (GM688).

A column in the *Globe and Mail* regarding the lessons of H1N1 was critical of using too much judgment over the pandemic response since “hindsight is no way to judge a potential public health disaster” (GM682). *Globe and Mail* health reporter, Andre Picard suggested that the “real question” when assessing the pandemic response was “if the same situation were to arise today – what would we do?” Overall, the author praised the response and stated that, “unlike SARS, we don’t need public inquiries to expose the failures” (GM671).

#### 11.2.1 Identified lessons and criticisms

Some of the identified lessons mentioned in the newspaper articles included an improved definition of pandemic and severity, improved communications and collaboration with the public, and improved vaccination strategies (GM682, GM693, SP509, SP461).

#### Improved definition of pandemic

During the pandemic, one of the main criticisms in the newspapers was that public health officials overreacted to the threat of H1N1. There was criticism in the newspapers that H1N1 was not a pandemic based on the common understanding of the term (see section 6.2). The main

argument was that H1N1 did not kill many people which was based on the assumption that pandemic flu would be far deadlier than seasonal flu. This assumption was based on the anchoring to seasonal influenza and the 1918 Spanish flu (see section 6.2.3). However, one editorial pointed out, “when the most persistent complaint in the wake of a potential disaster is...there was hardly any death and destruction, then public health officials should feel good at the end of the day” (GM671). Along with the criticism, a lesson that was pointed out throughout the pandemic and afterwards was the need to “rethink...the assumption that a pandemic strain of influenza would be far more deadly than a seasonal flu strain” and develop a “better definition of ‘pandemic’ – not the bureaucratic one that exists now” (GM671).

There was also the suggestion from a roundtable discussion with “key leaders representing doctors, nurses, hospitals and first-responders” that a severity index is needed “to put future outbreaks into context” (SP509). Additionally, there is a need for flexibility in the pandemic planning and response to deal with different and changing situations (GM631, GM671, GM697, GM698, SP514). A suggestion that was put forward by Dr. Margaret Chan, director general of the WHO, was to plan with best-case, intermediate, and worst case in mind and provide “flexibility to move up and down the scale” (GM697).

#### Improved communication and collaboration with public

There were mixed opinions about how well health officials communicated with the public. According to the federal health minister, communication during the pandemic went well. Others disagreed and suggested that communication could be improved. A challenge during the pandemic was that little was known about H1N1 and health officials were uncertain about how the pandemic would unfold and there was uncertainty and confusion regarding the vaccine (SP498). Many of the so-called “scandals” during the pandemic were actually communication failures (GM671). Much of the “conflusion<sup>1</sup>,” according to one *Globe and Mail* editorial, was

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<sup>1</sup> Andre Picard, the *Globe and Mail* public health reporter, first used the term “conflusion” in an October 9, 2009 article. He described “conflusion” as “what the public is feeling in response to the seemingly endless stream of contradictory news about H1N1 influenza. He borrowed the term from Urban Dictionary which defines it as “the aggregation or streaming together of multiple confusing items, as in a confluence of confusion” (GM338)



due to the “reluctance on the part of public health officials to utter the words: We don’t know” (GM682). However, the newspapers also played a role in the “conflusion” by insisting on answers when health officials didn’t have them. During an uncertain and changing situation, it can be difficult to provide answers without appearing incompetent or inconsistent. Another editorial pointed out that the “biggest challenge for public health in the 21<sup>st</sup> century is communication.” With the internet age and 24-hour news cycle, public perceptions of risk are changed and expectations for information are increased (GM671). To improve communication, the *Globe and Mail* public health reporter suggested that “the traditional once-a-day press conference featuring talking heads” needs to be changed due to the 24-hour news cycle. Social media such as Twitter, YouTube should supplement the press releases and conferences. The writer also suggests that the “public needs to be engaged in conversations and debates about issues of public health, they don’t need to be lectured to” (GM682). Appreciation of the multiple sources with which to communicate and the increased demand for information, does not, however, change how quickly information and evidence can be gathered and analyzed in order to make an informed decision.

#### Improved vaccination strategies

Some articles focused on the lessons from the vaccination campaign (see Chapter 10 for the media coverage of the vaccination campaign). One editorial suggested the “mass campaigns don’t really work in the 21<sup>st</sup> century.” Mass clinics should have supplemented rather than supplanted normal health care operations. The *Globe and Mail* public health reporter also suggested that public health officials need to “stop behaving like vaccination is an opiate for the masses” (GM682). Another *Global and Mail* editorial focused on improvements to the approval process, roll-out of the vaccine, and the prioritized high-risk groups, referring to the “mysterious decision to keep older children off the list of high-risk groups” in many jurisdictions (GM693). Despite the criticism of the vaccine campaign, one column suggested that “the unprecedented pandemic response worked so well that Canadians will become complacent about immunizations when the next outbreak strikes” (NP431).

An additional criticism related to the vaccine was the accusation that the WHO “allegedly colluded with pharmaceutical companies and overstated the threat of the H1N1 virus” (GM626). Some “in Europe” believed that the WHO was influenced by the pharmaceutical industry into declaring a pandemic so that they could make money from the vaccine (GM626). Two reports

released in Europe claimed that the WHO failed “to disclose possible ties with the pharmaceutical industry” and of “pushing countries to waste millions of dollars by overstating the threat” (GM680). These accusations were brushed off as “conspiracy theories” and that “in the grand scheme of things, it was a trifling amount” of money that was made from the vaccines (GM671). Additionally, the WHO had systems in place to prevent any attempts of undue influence from the pharmaceutical industry (GM681).

### 11.2.2 Lessons for the next pandemic

Just as lessons from SARS were used in pandemic planning prior to the H1N1 pandemic, the lessons from H1N1 will be used for future pandemics. A common message in the media was that H1N1 was a test or trial run for the inevitable next pandemic; some even suggested the inevitable “big one.” However, referring to H1N1 as a test or trial run ignores that fact that it was a pandemic and contributes the assumption that pandemics have high mortality rates. For example, a *Globe and Mail* article published in December, as the second wave was ending, suggested that H1N1 was a “test run” that will help health officials and governments prepare for “the pandemic that does turn out to be ‘the big one’” (GM602). Similarly, an article in the *StarPhoenix* focused on the response in Saskatchewan, suggested that the lessons from H1N1 could be applied to future influenza and other types of disease outbreaks. In the article, Dr. McKinnon, Saskatchewan’s chief medical health officer, described H1N1 as “a very valuable event to go through because we’re going to have another one like it. There’s no doubt.” She also suggested that some of the lessons from H1N1 could be used to address the HIV crisis in Saskatchewan<sup>2</sup> (SP461). In April, an article in the *National Post* stated, “pandemic post-mortems are being carried out because, inevitably, there will be another” pandemic and suggested that health officials would “use this pandemic’s finish line as the starting gate for coping with the next one” (NP431).

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<sup>2</sup> Saskatchewan has the highest rates of HIV in Canada, which is twice the national average (20.8 vs. 9.3 per 100,000). In 2009, 75% of new cases were associated with injection drug use which differs from the rest of Canada. A disproportionate number of cases occur among the Aboriginal population and the majority of new cases occur in Saskatoon, Regina, and Prince Albert (Saskatchewan Ministry of Health, 2010)

### 11.3 Summary

To summarize, the focus of the newspaper coverage after the second wave was on the pandemic response assessment and lessons learned from the pandemic. The main lessons included the need to improve communication and public health strategies, the need to actively communicate (i.e. two-way) with the public during the pandemic planning and response phases, and the need to improve the definition of the term pandemic. There were mixed opinions about the success of the pandemic response. The primary criticism of the response was a perceived overreaction to a minor threat. This was due to confusion regarding the term pandemic and highlights the need to reassess public and media expectations of a pandemic. Two other concerns were with communication and the vaccination campaign. According to federal officials, communication went well, however, others disagreed and suggested that communication could be improved. Factors that contributed to poor communication included mixed messages from health officials due to jurisdictional differences and the fact that health officials have to respond to a changing and uncertain situation. There were also mixed opinions about the success of the vaccination campaign. Several articles criticized the use of mass vaccination and were critical of the intense focus on the vaccine. On the other hand, at least one article complimented the public health response and pointed out that it worked so well that Canadians may become complacent about immunizations in the next outbreak. As the response to the 2009 pandemic wrapped up, the media focus also shifted to the inevitable next pandemic and how the lessons from this pandemic can be applied to the next one.

## CHAPTER 12 SUMMARY OF RESULTS AND RESEARCH QUESTIONS

### 12.1 Introduction

The main purpose of this study was to reveal the overall 2009 H1N1 pandemic narrative in the local and national newspapers distributed within Saskatoon, Saskatchewan. An epidemic narrative follows a common pattern, however, the details vary depending on the disease and the broader socio-cultural context. To examine the epidemic narrative for the 2009 H1N1 pandemic, this study was guided by the following research questions:

1. What are the main themes that are discussed in the newspapers in relation to the H1N1 pandemic? How are they discussed?
2. How do the themes and discourse change over time, and how do these changes relate to the timeline of the pandemic?
3. How do the themes and discourse compare between the local and national newspapers?

This chapter summarizes the 2009 H1N1 pandemic narrative produced in the newspaper coverage by addressing the research questions in the order they are presented above. The main points that are based on the findings include 1) the importance of meaning and how meanings are constructed within the narrative; 2) understanding the narrative within the broader socio-cultural context; and 3) communication challenges that occurred during the 2009 pandemic. These points are being raised now for the reader to keep in mind while reading this summary chapter. They are addressed in the discussion chapter that follows.

### 12.2 Main Themes and Discourse of the 2009 H1N1 Pandemic Narrative

Construction of the print media epidemic narrative of 2009 H1N1 was guided by three conceptual frameworks: epidemic narrative, anchoring, and framing. In turn, the epidemic narrative was found to be comprised of a number of the common elements which include: identifying and defining the disease; the impact of the disease; beliefs about causes and responsibility; the public health responses; and lessons learned. These aspects are interrelated and influence one another. Anchoring refers to pre-existing ideas about, and experiences with, other diseases and epidemics that influence the perception and response to the current crisis. Framing refers to how information is presented, in the case of this research, by the newspapers.

This is important because what is emphasized or omitted can influence the common narrative that is constructed and emerges from a situation such as the 2009 H1N1 pandemic.

Figure 12-1 highlights key aspects of the H1N1 pandemic narrative that emerged in this study as well as illustrates the connections (arrows) between them. In the figure, the components include influenza (brown bold text), societal factors (blue underlined text), the public health response (red italicized text), anchoring (green text in clouds) and responsibility and blaming (text in circles). The brown text captures themes such as naming of the disease, sickness and death, and the spread of illness. Blue text captures the cultural, social, economic, political, and emotional influences and impacts.

The diagram illustrates the complex relationships between the multiple themes of the pandemic narrative. To explain the overall diagram, I will highlight a few of the connections. The affected population, represented by “sickness and deaths” in the diagram, is linked to “absentee rates in schools and work,” “schools & work policies,” and “fear of contagion.” During the pandemic, the high number of sick individuals and fear of becoming ill led to an increase in absentee rates in schools and work places. School and workplace policies on absenteeism were also related to absentee rates and an increase in illness. In some cases, workplace policies discouraged individuals from staying home when sick and as a result, may have contributed to the spread of the disease. However, there were reports of schools and workplaces that changed their policies to encourage people to stay home when ill. The summary of the newspaper coverage regarding this relationship is in section 7.2.2. In the diagram, “sickness and deaths” is also linked the “public perception of pandemic.” The number of confirmed deaths that was reported in the newspapers was less than the estimated number of from seasonal flu and past pandemic. Seasonal flu and past pandemics were anchors used by the newspapers to define the term pandemic (see section 6.2.3). Since the confirmed number of cases and deaths of H1N1 was less than what was reported for seasonal flu and other pandemics, H1N1 was considered not to be a real pandemic. In turn, this contributed to criticism of the overall public health response.

The sections that follow draw on this illustration, and are organized by four broad themes used to organize the results chapters (Chapters 6 to 11): 1) naming the disease; 2) the affected population; 3) efforts to contain the outbreak; and 4) lessons learned. Naming the disease corresponds with top section of Figure 12-1, which includes “Names of the Disease” and

“Defining a Pandemic.” The affected population is represented by “Sickness and Deaths” on the right hand side. Efforts to contain the outbreak are shown in the middle of the diagram (red text). The section regarding lessons learned is represented by “Lessons for the Next Pandemic” at the bottom of Figure 12-1. As the diagram illustrates, themes regarding societal factors (blue underlined text), anchoring (green text in clouds), and responsibility and blaming (text in circles) are interwoven with these four broad themes.

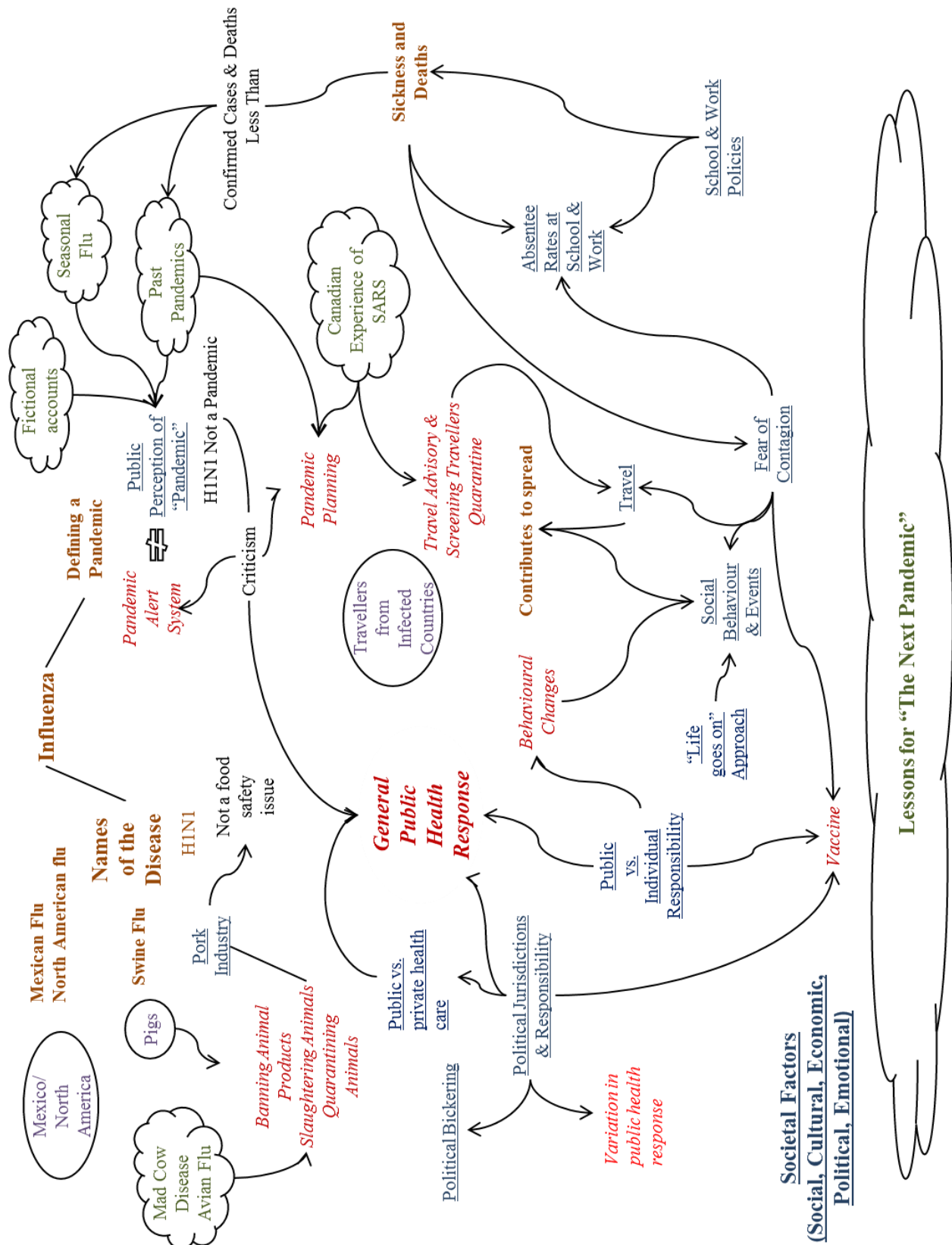


Figure 12-1: Diagram of the 2009 H1N1 Pandemic Narrative

### 12.2.1 Naming the disease

In the media coverage of the 2009 H1N1 pandemic, there were two naming issues: 1) defining the outbreak as a pandemic, and 2) defining the disease as H1N1 or swine flu (refer to the top section of Figure 12-1). In both cases, anchoring was influential in creating a representation of the name. The common anchors for the term pandemic included past pandemics and seasonal influenza (illustrated by arrows from “past pandemics” and “seasonal influenza” to “public perception of pandemic”). The anchoring influenced the perception about the severity of a pandemic. The term swine flu was anchored to pigs and incorrectly assigned blame to the animals (illustrated by the term “pigs” next to the term “swine flu” and arrow from “pigs” to measures against pigs). The names, and their associated anchors, created certain expectations about the outbreak and influenced how people responded to the disease. Some may call the naming issues a semantic debate, however, this dismisses the importance of the implicit meaning of the names applied to a disease.

### Defining a pandemic

Whether or not H1N1 was a pandemic was a common debate in the newspaper coverage. Within the newspaper coverage, there were two conflicting definitions of the term pandemic: the official definition and the common understanding of the term. Despite meeting the official criteria set by the WHO, there was widespread criticism that H1N1 was not a pandemic based on the common understanding of the term. The common understanding of the term pandemic was anchored to past pandemics and seasonal influenza. Based on the anchoring, there were two main assumptions about the severity of a pandemic. The WHO’s official definition made no reference to severity, however, the anchoring focused on severity of the past pandemics and seasonal influenza compared to H1N1. Before discussing the two assumptions, it is important to point out that severity can be defined in different ways. Severity can be based on the number of serious cases (e.g. hospitalizations), the mortality rate, or by the demographics of those most affected (e.g. vulnerable populations). The different ways in which severity can be defined only complicates the matter.

The first assumption was that pandemics result in high mortality. This was based on anchoring to the 1918 Spanish flu pandemic, which was presented as a worst-case scenario. In the newspaper coverage, there was considerable focus on the potential health impact of a pandemic. While health officials did mention that a flu virus was unpredictable, predicting the



possible severity of a flu pandemic became a central focus in the newspaper coverage. Possible scenarios based on previous pandemics were discussed with 1918 as the most commonly mentioned scenario. There was also confusion about the difference between a scenario and a prediction since the two terms were often used interchangeably in the newspapers. Instead of 1918 being seen as a possible scenario, it was seen as a prediction for what should happen. Early on in the media coverage, there was also speculation about whether the H1N1 would be “the big one” which was commonly viewed as a repeat of the 1918 pandemic. Emphasis on the worst-case scenario produced a particular set of expectations about what a pandemic looks like that proved confusing and problematic for interpreting the 2009 H1N1 experience as it was unfolding.

It is important to note that anchoring to 1918 was not unique for H1N1. Previous pandemics and the fear of an avian influenza pandemic in recent years were commonly anchored in the 1918 Spanish influenza pandemic (Blakely, 2001; Herring, 2008). Certain features of the 1918 pandemic have been stressed, such as the death of 50 to 100 million people, while other features, such as the considerable variability in death rates, have received less attention (Herring, 2008). Emphasizing the high number of deaths of one specific pandemic gives the false impression that pandemics always result in high mortality rates. There are other pandemics that could be used as comparisons, such as the 1957 Asian flu pandemic and the 1968 Hong Kong flu pandemic, but these are not commonly referred to in media and scholarly discussions. Instead, the 1918 Spanish influenza pandemic is seen as "the gold standard" for pandemics (Herring, 2008). This type of comparison can overestimate and exaggerate the potential impact of a pandemic leading to undue alarm. If the impact is significantly less, as was the case in the 2009 H1N1 pandemic, then people may be left underestimating the potential risk of an influenza pandemic.

The second, and related, assumption was that pandemic flu would be worse than seasonal flu. H1N1 was compared and contrasted to seasonal influenza, which caused confusion over the differences between the two. There are potential issues with the public’s perception of seasonal flu. Seasonal flu is commonly lumped together with the term cold and flu, which is a group of illnesses that people have yearly experience with and frequently underestimate their potential risk. Comparing a pandemic to seasonal flu can underestimate the risk that a pandemic poses.

In addition, the official definition of a pandemic was interpreted differently among the experts, which also added to the confusion. There are multiple factors that influenced the

identification of the start or the end of an epidemic. For example, Mexican officials initially claimed that the outbreak was an extended flu season rather than an epidemic. When the outbreak was first recognized, health officials in Mexico released a media statement blaming “the surge in illnesses...on an extended flu season” (GM87). There are different perceptions regarding the two, and they can have different economic and social consequences for affected population or region. Within the literature on risk perception, it is known that there is a lower perception of risk for endemic disease and for risks that are familiar, such as seasonal influenza (CDC, 2007; Slovic, 2000). An epidemic of a new strain of influenza, which is unfamiliar, would appear more threatening than the seasonal influenza, which people experience every year.

Additionally, influenza scientists and public health experts argued that the criteria for a pandemic had been met several weeks earlier and that the WHO postponed the decision unnecessarily. Many epidemiologists believed that the UK, Spain and Japan were experiencing community-based outbreak by mid-May which would have met the criterion for community-bases spread in one country in a second WHO region (Cohen & Enserink, 2009). The WHO claimed that they waited to ensure that countries were well prepared in order to prevent an overreaction (Cohen & Enserink, 2009). Prior to H1N1, there were years of build-up and preparation for an anticipated pandemic. Many pandemic plans were developed with a much deadlier strain (i.e. avian influenza) in mind. Declaring an epidemic or pandemic has broader social, political and economic implications, which are linked to the expectations about what an epidemic or pandemic should look like. It is important to examine these expectations since they influence considerably our reaction and response.

#### Naming the disease: H1N1 or swine flu

The second naming issue dealt with the name of the disease: swine flu or H1N1. Since the disease was originally referred to as swine flu, due to its structural similarity to the virus that usually infects pigs, pigs became a symbol for the disease. Symbols can be an important way to define the cause of a disease and, directly or indirectly, assign blame. Defining a cause of the disease also directs the response (Davis, 1992). With the name swine flu, the disease was seen as a food safety issue, and pigs were incorrectly blamed for the disease. There was a false impression among the public that the disease could spread through contact with pigs or pork products despite evidence that showed otherwise. As a result, the pork industry was negatively affected.

The reaction is similar to other diseases with real or perceived connection to animals. “Mad cow disease” (Bovine spongiform encephalopathy) was used as an example in the Canadian newspaper coverage due to its impact on the Canadian beef industry in 2003. Surprisingly, avian influenza was not referred to in the same context. This is likely due to the fact that the economic impact due to a possible avian flu pandemic has not noticeably impacted Canada. The economic impact from the massive slaughter of chickens due to fears of avian influenza often occurs in Southeast Asia (Lockerbie & Herring, 2009). It would be interesting to note whether or not the H1N1 pandemic was compared to avian influenza in those locations.

Referring to the disease as H1N1 on the part of government officials was due to economic and political pressures from the pork industry. Other names that were suggested included Mexican flu or North American flu. These names were dismissed due to the potential economic fallout of blaming a geographical area. This was a break from the pattern for the past three pandemics, which were named after a geographical area. The impact on the pork industry due to the common use of the name swine flu illustrates how important a name is in influencing perceptions about an illness. The labeling that people use for a disease is just as important as scientific evidence.

#### 12.2.2 Affected population

Media stories about the impact of a disease tend to focus on how many people are affected and who they are. Reporting the numbers and personalized stories are common ways to illustrate the impact. The numbers are used to create a perception of the risk posed by the disease while personalization provides examples of real life victims (Davis, 1992). The newspaper coverage of the H1N1 pandemic included the numbers and personalized stories of H1N1 victims. However, overemphasis of specific features or characteristics of the victims and numbers without context can misrepresent the risk.

#### Reporting the numbers

There were numerous media reports about the global and national spread of the disease. In the initial months, the newspaper coverage reported the number of confirmed cases and deaths as the disease spread to multiple countries and within Canada. The primary focus was on the global and national spread of H1N1, and whether or not the outbreak would be declared a pandemic. During the summer months, the testing policies and methods of surveillance changed from

counting individual cases to other methods of influenza surveillance, such as tracking absentee rates. The media coverage reflected the change. By the second wave, reports about the number of cases were noticeably absent despite the higher levels of flu activity. There were reports about the number of hospitalizations and deaths but not to the same extent as during the first wave. The primary indicator of flu activity was absentee rates in schools, which were reported to health officials when the rate was high (greater than 10%).

The indicators for flu activity that were reported in the media are useful from a public health perspective when tracking a flu outbreak, however, the interpretation can be problematic in newspaper reporting. Often the limitations and methods used gather the indicators are missing in the newspaper reports, which are important for accurate interpretation of flu activity and perceived severity. There are many ways to measure the severity of a disease, such as the number of serious cases, number of hospitalizations, the morbidity rates, the number of deaths, mortality rates, and demographics of those affected. The numbers could be estimations or limited to confirmed cases and deaths. These numbers (i.e. cases and deaths) can be further stratified by age or other factors for susceptibility. There are many factors that can influence the severity and its variability. The WHO (2009b) has additional guidelines that outline this dimension of an outbreak of disease.

Throughout the coverage, there were examples of cases where the numbers were misinterpreted and used to question the severity of H1N1. The newspaper coverage of the number of confirmed cases and deaths did not give a clear picture of the overall impact of the outbreak. For example, the total number of deaths was used as evidence that H1N1 was not a pandemic based on the estimated number of deaths from previous pandemics and from seasonal influenza (illustrated by arrows from “sickness and deaths” to “seasonal flu” and “past pandemics” in Figure 12-1).

There were several problems with this type of comparison. For one, the World Health Organization stated that the comparison of confirmed deaths of H1N1 to estimated deaths from seasonal flu was both unreliable and misleading. Confirming a death required specific testing for the virus. Testing may not be done for a number of reasons, such as a death where influenza is not suspected (WHO, 2009d). For example, one of the first deaths in Canada was not originally attributed to H1N1. The Alberta woman had a mild case of H1N1 with chronic underlying medical conditions. Due to the mild flu symptoms and pre-existing health conditions, her

doctors did not consider influenza as a contributing to her death. The connection between H1N1 and her death was made after the woman's mother tested positive with H1N1 and health authorities tracked down people she was in contact with (GM103, NP83, SP47). The estimated number of deaths from seasonal flu is based on statistical models to calculate the excess mortality that occurs during a flu season. It is assumed that the majority of seasonal influenza-related deaths is not tested and instead is usually attributed to an underlying medical condition (WHO, 2009d). Comparing the confirmed number of deaths and cases to the estimated values ignores the fact that some deaths and cases would be missed in the testing. It does not take into account that not every case of H1N1 was tested and there were changes in testing policies over the course of the pandemic. The numbers were used without proper context.

Another problem with the comparison was that the total number of deaths, rather than demographics of those affected, was the common focus in the newspapers. There were frequent reports about the total number of cases and total number of deaths. The total numbers do not give an accurate appraisal of the situation. There is a need for additional details and context to give an accurate picture of the impact. The demographic characteristics of the cases and deaths (i.e. age, underlying health conditions versus healthy) were mentioned in the newspaper coverage, however, this information was frequently overshadowed by the total numbers.

Even when demographic information was present, there can be potential problems in the interpretation. For example, severe cases and deaths among healthy youth and young adults stand out more in the media and the public's mind while cases and deaths among the very young and old may be attributed to other causes (e.g. underlying health conditions). In Mexico, for example, it was likely that mild cases went unnoticed which did not give an accurate picture of the outbreak. As a result, the initial rate of severe cases and deaths was overestimated and the outbreak was perceived to be more severe than it was.

Regional differences in testing policies can also lead to incorrect interpretation of the surveillance data (i.e. number of cases and deaths). For example, the *StarPhoenix* deemed Saskatoon a "hotspot" for H1N1 based on the number of confirmed cases compared to the rest of the province. The Saskatoon Health Region had two thirds of the confirmed cases in Saskatchewan. The newspaper did note that data might be skewed due to regional differences in testing, however, Saskatoon continued to be referred to as a "hotspot." The language used can

give the wrong impression that certain areas were more heavily affected despite the fact that at least part of this differential could be attributed to differences in testing methodologies.

### Personalized stories

In addition to the numbers of cases and deaths, newspaper coverage included profiles of H1N1 victims. Stories about individuals provide a way to “grab the audience” (Davis, 1992, p. 28) Personalized stories make the event more relevant to the audience and show how people, who could be their family and friends, are being affected and reacting to the illness. The literature on risk perception points out that identifiable victims increase the perception of risk more than statistical abstractions (Slovic, 2000). It is not unusual for individuals to become the human face of a disease. A personalized story can be easier to relate to than numbers. However, the impact on the public perception of risk of identifying specific cases is not consistent with all individual victims. Slovic (2000), a psychologist who studies the perception of risk, further points out that when children are affected by disease, the perception of risk increases. Adults worry about children’s safety and go to great efforts to ensure that the environment is safe for them. There were two individuals that were referred to by the media as the human face of H1N1, both of whom were children. The first case was a five-year-old boy in Mexico who was initially identified as patient zero. A few newspaper articles criticized the identification of the boy as patient zero, claiming that it indirectly blamed the child for the disease (GM27, GM56). The second case was the highly publicized death of a 13-year-old boy in Ontario who was described as “otherwise healthy.” The death of the Canadian teenager was used as an example of the risk posed by H1N1 and the importance of vaccination within the media. The death occurred just prior to the vaccination campaign and was used as example of why everyone, including healthy individuals, should be vaccinated. Many of the personalized stories were used to provide lessons about the illness by showing the risk posed by H1N1 and the importance of prevention methods. Other deaths were used as a way to question the readiness of the medical system, which included stories of individuals who were turned away at a hospital and later died from the illness. Overemphasizing specific deaths can distort the perception of risk. There were a few articles that cautioned against the extensive coverage of the deaths of healthy and young individuals such as a column in the *Globe and Mail* (GM391) and an editorial in the *National Post* (NP302). However, healthy and young individuals are cases that gained the most media attention because they were seen as unique and unusual for influenza.

### 12.2.3 Efforts to contain the outbreak

#### Pandemic preparedness

Efforts to contain the 2009 H1N1 pandemic began prior to the event, with pandemic planning and preparedness due to fears of avian influenza (refer to “pandemic planning” in Figure 12-1). Despite the fact that officials utilized existing programs designed for an anticipated avian influenza pandemic, little mention of this disease was made in the newspaper coverage. Instead the 2003 SARS outbreak was commonly referenced (illustrated by connection between SARS and “pandemic planning” in Figure 12-1). This is likely due to the fact that, unlike avian influenza, SARS was an outbreak that Canada had recently experienced. The SARS outbreak was considered the closest to a pandemic Canada had experienced in recent years. It had revealed critical problems with the Canadian public health system that were responded to with intensified pandemic planning efforts and the creation of a public health agency at the national level.

As the pandemic progressed, the newspaper’s portrayal of Canada’s preparedness shifted from well-prepared to unprepared. In the initial months, newspaper reports described Canada as well-prepared (reflecting a message from Canadian public health officials) and the years of planning were emphasized. Canada’s response to the SARS outbreak was compared to the initial response to H1N1, highlighting how well Canada was reacting to H1N1 and how the public health system had improved since SARS. During the summer months, newspaper reports focused on the efforts to prepare for the second wave, most notably the preparation for the vaccination campaign. As time progressed, coverage became more critical and there were questions and criticism about whether or not Canada was actually prepared. The efforts were seen as taking too long. It is not unusual for criticism to occur during an epidemic if control efforts fail or an immediate solution is not discovered. This behavior has been noted in other epidemic narratives (Rosenberg, 1989).

Although such media criticism is not uncommon, it is not necessarily fair, or was not fairly presented, as health officials are required to operate in an environment of uncertainty during a pandemic. It is difficult to prepare for hypothetical situations with a consistent and all-encompassing program. As the outbreak progresses and changes, so does the knowledge and public health response. The uncertainty of a public health emergency can heighten fear and anxiety. Communication advice suggests that the resulting fear and anxiety can be mitigated by acknowledging the uncertainty and highlighting what is known and unknown (CDC, 2007).

However, the journalists' responses may vary to health officials' admission of uncertainty. Some journalist may perceive it as an indicator of trustworthiness on the part of the health officials. Others may view it negatively and seek out other sources who are willing to provide greater certainty regardless of the evidence (WHO, 2005).

### Public health measures

Specific public health measures were identified and critiqued in the newspaper coverage, with different perceptions presented in the media about each measure. Some measures were viewed negatively while others were viewed more favorably. Broader social, economic, and emotional factors influenced the opinion of the measures in addition to their effectiveness (refer to Figure 12-1 for examples). Measures that were viewed positively were ones that were not forced or mandatory and did not target specific groups. People are more willing to accept something when they have a choice rather than something that is imposed upon them (Slovic, 2000).

Conversely, interventions that were deemed arbitrary or invasive, such as travel advisories, quarantines were often portrayed in an unpopular light and were portrayed as ineffective, unnecessary, and an overreaction. Travel related measures and quarantine were frequently mentioned in the initial weeks of the outbreaks and viewed negatively, and for inconsistent reasons. There were mixed opinions about travel advisories. Some criticized Canada's delay in issuing the travel advisories while others criticized the necessity of the advisories. In Canada, criticism of the travel advisory was anchored to SARS and the economic impact that SARS had on Canada. There were also mixed opinions about quarantine and isolation depending on whether it was forced or voluntary. Forced quarantine was described in the media as totalitarian and draconian while voluntary efforts, described as medical isolation or self-imposed seclusion, were portrayed more favorably by the media. Uses of quarantine that targeted specific groups, such as the case of Canadian students quarantined in China, and countries that quarantined Mexican travelers were viewed negatively.

Changes in social behaviors and cancellations or closures were seen as effective but there was debate about whether the health benefit justified the social and economic impact. Changes in social behaviors, such as social greetings (i.e. hand shaking, kissing on cheek), religious practices (i.e. communion) and sharing of sports equipment (e.g. water bottles, towels), were encouraged in order to prevent the spread of the flu. However, there were mixed opinions due to



the perceived potential impact on social relationships. There were concerns that changes would impact how people socialize within their community and the changes would interfere with traditions. For example, two *Global and Mail* articles highlighted the importance of social greetings in creating and maintaining relationships (GM89; GM431). Another article in the *Globe and Mail* and one in the *StarPhoenix* noted the potential breakdown of the community due to fears of contagion (GM305, SP184). The *StarPhoenix* article, which focused on the psychological impact of an epidemic, noted that during a crisis, people:

...count on community cohesion...when you have something that's invisible, when you have something that's contagious, it raises a different sort of fear – a fear that very often divides people instead of bringing them together (SP184).

Cancellations and closures of schools and other social events were suggested as another way to prevent the spread of influenza. These measures were common in Mexico during the initial outbreak and were a primary focus in the initial newspaper coverage. Cancellations and closures did happen in Canada but there were discussions about whether the measures were really necessary. Criticisms of the measure emphasized the social and economic impacts, which were viewed as equally important as the potential health benefits. These measures were also seen as a fearful reaction to the disease. A common justification in the newspapers against their use was that people should not fear the flu but instead should continue to live their lives.

In contrast, measures that required individual actions, such as hand washing, respiratory etiquette and staying home when sick, were portrayed positively in the papers. These measures were promoted as easy personal actions and common sense. The positively viewed measures were seen as effective and had the least social and economic impact. They also provided a sense of individual control over the disease.

Vaccination had extensive coverage and there were a wide range of perceptions about the measure. Early in the outbreak, there were some who questioned the necessity of a vaccine. The early critics questioned whether the time and money needed to develop vaccine was worth it. However, given the uncertain situation of a developing pandemic, the WHO thought it would be better to be cautious and go ahead with one. During the vaccine production stages, the common focus in the newspapers was on when the vaccine would be ready and whether it would be ready in time. Vaccination was viewed as the most effective measure and the other measures were in place to buy time for the vaccine. However, impatience was expressed about the time needed to develop a vaccine. It is common for people to become critical in an epidemic when efforts are

viewed as too slow (Rosenberg, 1989). It is important to communicate and create realistic expectations about the time needed to develop a vaccine. Despite repeated communications about the length of time needed to develop a vaccine, there were criticisms about it being too slow. These criticisms were tied to the progress of other countries (e.g. U.S.) and concerns about whether the vaccine would be ready in time.

Another concern during the production stage was regarding the safety of the vaccine, such as whether or not the vaccine would be properly tested. The concerns were also influenced by a general distrust of vaccines and of the pharmaceutical companies. As an example, the WHO faced accusations in January 2010 that they conspired with pharmaceutical companies and overstated the threat of the H1N1 virus for financial gain. International differences in the production stages were also noted in the newspaper coverage. Canada was criticized for being slower with the release of the priority list and the vaccine rollout than other countries. This was in contrast to the initial month of the outbreak, when Canada was described as being better prepared in terms of their pandemic planning than other countries by health officials and by the media.

Once the vaccine was released, the newspapers focused on how well the nationwide campaign was running. Mixed public health messages about vaccine availability, inconsistent policies between provinces, and problems with the rollout were highly publicized in the newspapers. Clinics that experienced problems were emphasized more than locations that ran smoothly. Saskatchewan was cited as a province that had few problems, however, the problems in other provinces such as Ontario and Alberta were highly publicized. The overall coverage would suggest that the rollout was problematic and ineffective. Another noted issue was the mixed interpretation of the term “at risk.” Medically, the term refers to those at greatest risk of complications, however, there was evidence in the media coverage that some interpreted the phrase as at risk of becoming sick. This was evident in the coverage regarding the queue jumping. Once the vaccination campaign was over, the newspapers focused on whether or not the campaign was successful. Success was commonly measured by the vaccination rate and money spent. The media largely defined the campaign as unsuccessful, citing inconsistent and confusing communication about vaccine availability, priority lists, and safety of the adjuvant, problems with vaccine supplies, anti-vaccine advocates, public perception of the risk from H1N1 and the vaccine, and that “the worst was over” by the time that vaccine was available. The

majority of the criticism of the vaccination campaign focused too much on cost and not on the overall health benefits.

#### 12.2.4 Lessons learned

As the second wave ended, the newspapers' attention shifted to the assessments of the public health response and on lessons that could be learned from the pandemic. To summarize, the main lessons included the need to improve communication about public health strategies (e.g. vaccination, isolation/quarantine, travel advisories), the need for two-way communication with the public during the pandemic planning and response phases, and the need to improve the definition of the term pandemic. The assessment and lessons from the 2009 pandemic will shape the response to and perceptions of the next outbreak. It is interesting to note the continuation of the discourse regarding the inevitable next pandemic. Prior to the 2009 H1N1 pandemic, there had been years of pandemic planning due the fear that avian influenza could trigger a pandemic. When H1N1 was first acknowledged in April 2009, the discourse focused on whether it would become the next feared pandemic. As the pandemic neared its end, the focus shifted again to the inevitable next pandemic. The 2009 H1N1 pandemic is a potential anchor for the next epidemic or pandemic but to what extent and in what context is unknown at this time. For example, the 2009 H1N1 pandemic could be used as example of a non-pandemic by those who would question the definition of the term, or it could be used to emphasize the variation in a pandemic. It will be important to reexamine the assumptions of a pandemic and the strategies used to address one in light of the lessons from the H1N1 pandemic.

#### 12.3 Temporal and Geographical Differences

This section discusses the finding in relation to the last two research questions regarding changes over time and geographical differences. There were two factors that influenced the temporal and geographical differences in the newspaper coverage available to Saskatchewan residents: the spread and impact of the disease, and changes in public health measures as the disease progressed. The geographical focus of the newspaper coverage changed as the disease spread from the initial outbreak in Mexico to the rest of the world. Once H1N1 was established within Canada, the primary geographical focus was on the impact within Canada. The main temporal changes corresponded with changes in the public health measures. The following sections highlight the primary focus of the newspapers during the three periods: 1) Pre-

Pandemic/First Wave, 2) Second Wave/Vaccination Campaign and 3) Post- Second Wave. The fourth section includes the timeline of key events organized by geographical location. The Pre-Pandemic/First Wave period began in April 2009 and lasted until the end of August 2009. The Second Wave/Vaccination Campaign period started at the end of August 2009 lasted until late January 2010. The Post-Second Wave started in late January 2010 and lasted until the end of the pandemic in August 2010.

#### 12.3.1 Period 1: Pre-Pandemic/First Wave

The first period began with the initial coverage of the Mexican outbreak and lasted until the end of August 29, 2009. Table 12- details the timeline of key events of the first wave. During the first period, the geographical focus was split between the international and national spread of the disease and the public health response. In the initial months, the coverage included the outbreak and response in Mexico, travel-related measures and quarantine as the disease spread, naming the disease and defining the outbreak as a pandemic. The newspaper articles documented the global spread of the virus as well as the spread within Canada. The focus eventually shifted to the Canadian preparation efforts and measures to contain community-based outbreaks within the country. As time passed and the disease continued to spread, there was a perception that the control efforts were too slow.

#### 12.3.2 Period 2: Second Wave/Vaccination Campaign

The second period consisted of the second wave of flu activity and the vaccination campaign in Canada. The period began on August 30, 2009 and ended on January 27, 2010. Table 12-2 details the timeline and events of the second wave. During this period, the geographical focus of the newspaper coverage was primarily in Canada. The primary focus of the coverage during this period was on Canada's vaccination campaign. In the first two months of the period, the focus was on the status of the vaccination production, the initial set-up of the clinics and the eventual vaccine rollout. Once the vaccination campaign began, the newspapers provided extensive coverage of status of the campaign in various Canadian locations. As the campaign neared the end, the coverage decreased.

#### 12.3.3 Period 3: Post Second Wave

The third and final period began at the end of the second wave in Canada and lasted until the end of the pandemic in August 2010. The WHO declared the end of the pandemic (i.e. post-

pandemic period) on August 10, 2010 (see Table 12-2). By this time, the newspaper coverage had significantly decreased. This corresponded with the end of vaccination campaign and the drop in flu activity in Canada. There was still evidence of flu activity in other locations around the world (WHO, 2010), however, there was no coverage of this in the print media available in Saskatchewan. By this time the pandemic was considered over in Canada (PHAC, 2010). The primary focus in the newspapers was on the assessment of the Canadian public health response and lessons that could be learned from the pandemic.

### 12.3.4 Timeline of key events for each period

| Week of   | International  | National  | Saskatchewan   |
|-----------|--|---|--|
| 01-Mar-09 | Detection of severe respiratory infections in Mexico                         |   |  |
| 08-Mar-09 |  |   |  |
| 15-Mar-09 |  |   |  |
| 22-Mar-09 | Mar 17 - First known Mexican case  |   |  |
| 29-Mar-09 | Mar 28 - First known US case   |   |  |
| 05-Apr-09 |  |   |  |
| 12-Apr-09 |  |   |  |
| 19-Apr-09 | Apr 23 - WHO announces outbreak  |   |  |
| 26-Apr-09 | Apr 25 - Public Health Emergency of International Concern                    | Apr 26 - First Canadian cases in NS & BC  |  |
|           | Apr 27 - WHO raises Alert to 4   | Apr 27 - PHAC issues travel advisory  |  |
|           | Apr 29 - WHO raises Alert to 5   | Apr 28 - Cases confirmed in AB and ON   |  |
|           | Apr 29 - First death outside of Mexico in US                                 | Apr 30 - Case confirmed in QB   |  |
| 03-May-09 | May 1 - WHO drops name "swine flu" & negotiations with vaccine manufacturers | May 2 - Virus found at Alberta hog farm   | May 7 - First SK cases in Saskatoon and Regina areas |
|           | May 3 - China quarantines Canadian & Mexican students                        | May 4 - First severe case in Canada reported; Case in PEI                           |  |
|           |  | May 7 - First Canadian death confirmed in AB  |  |
|           |  | May 8 - Community outbreaks confirmed in Canada                                     |  |
|           |  | May 9 - Case confirmed in MB  |  |
| 10-May-09 |  | May 12 - Case confirmed in YT   |  |
| 17-May-09 |  | May 18 - PHAC lifted Mexican travel advisory  |  |
|           | May 22 - Mexico relaxes restrictions   |   |  |
| 24-May-09 |  | First Wave Peaks in June  |  |
| 31-May-09 |  | June 1 - Case confirmed in NT; Severe outbreaks in northern Manitoba FN communities |  |
|           |  | June 6 - Hand sanitizer shipment to FN debate                                       |  |
| 07-Jun-09 |  | June 11 - WHO declares pandemic, raises alert to 6                                  |  |
| 14-Jun-09 |  | June 13 - Case confirmed in NL  |  |
| 21-Jun-09 |  |   | June 27 - First death reported in SK                 |
| 28-Jun-09 | June 29 - First known Tamiflu-resistant case                                 |   |  |
| 05-Jul-09 |  |   |  |
| 12-Jul-09 | July 16 - WHO changes reporting requirements                                 |   |  |
| 19-Jul-09 |  | July 21 - First Canadian case of Tamiflu-resistance                                 | July 23 - SK stops counting individual cases         |
| 26-Jul-09 |  |   |  |
| 02-Aug-09 |  | Aug 6 - Report that Canada orders 50.4 million vaccine doses (Ordered in late July) |  |
| 09-Aug-09 |  |   |  |
| 16-Aug-09 |  |   |  |
| 23-Aug-09 |  | Aug 29 - First wave officially ends in Canada                                       |  |

Table 12-1: Period 1 Timeline of Key Events

| Week of  | International   | National   | Saskatchewan  |
|--|---|--|---|
| 30-Aug-09<br>06-Sep-09<br>13-Sep-09                            |   | Aug 30 - Second wave officially begins<br><br>Sept 16 - Vaccine priority list released<br>Sept 17 - Body bag shipment to FN reserves       |   |
| 20-Sep-09<br>27-Sep-09<br>04-Oct-09                            |   |  |   |
| 11-Oct-09<br>18-Oct-09   |   | Oct 19 - Shipment of vaccines to P/T<br>Oct 21 - Health Canada authorizes adjuvanted vaccine<br>Oct 22 - Canada's vaccine campaigns begins |   |
| 25-Oct-09  |   | Oct 26 - Highly publicized death of 13-year-old boy  | Oct 26 - Saskatoon begins vaccination campaign        |
| 01-Nov-09  |   | Second Wave Peaks in November  |   |
| 08-Nov-09  |   | Nov 12 - Health Canada authorizes unadjuvanted vaccine   |   |
| 15-Nov-09<br>22-Nov-09   |   | Mid Nov - Vaccine campaigns expand to general public   | Nov 25 - Mass vaccination in Saskatoon                |
| 29-Nov-09<br>06-Dec-09   |   | Early to Mid Dec - Mass clinics close down   |   |
| 13-Dec-09  |   |  | Dec 17 - Mass vaccination clinics closed in Saskatoon |
| 20-Dec-09<br>27-Dec-09   |   | Jan 1 - PHAC and Health Canada scale back response   |   |
| 03-Jan-10<br>10-Jan-10<br>17-Jan-10<br>24-Jan-10               | WHO addresses allegations of improper influence by pharmaceutical companies | Jan 27 - Second Wave declared over by PHAC   |   |
| 31-Jan-10<br>Feb<br>Mar<br>April<br>May<br>June<br>July<br>Aug | Aug 10 - WHO declares "Post-Pandemic Phase"                                 |  |   |

Table 12-2: Period 2 and 3 Timeline of Key Events

### 12.4 Summary

In summary, this chapter pulls together the main points from the results chapters and relates the findings to the research questions. This chapter outlines the overall 2009 H1N1 pandemic narrative produced in the newspaper coverage. The summary of the narrative was organized by key narrative themes that included naming issues, the reported impact of the outbreak, efforts to contain the outbreak and the lessons learned from the pandemic. Temporal and geographical

changes in the newspaper coverage were based on two factors: the spread and impact of the disease, and changes in public health measures as the disease progressed.

Naming the disease and defining the outbreak as a pandemic were important because they shaped the perception of the outbreak and response. In both cases, anchoring was influential in shaping the perception. The names, and their associated anchors, created certain expectations about the outbreak and influenced how people responded to the disease. The newspaper coverage of the impact (i.e. reports on the confirmed cases and deaths, personalized stories) also shaped the pandemic narrative of the severity of the pandemic. The number of confirmed cases and deaths were used to create a perception of the risk posed by the disease while personalization provided examples of real life victims. However, overemphasis of specific features or characteristics of the victims (i.e. healthy versus underlying health conditions) and emphasis on the number of deaths without proper context misrepresented the risk. Efforts to contain the outbreak were also included in the newspaper coverage. Social, economic, and emotional considerations influenced media perspectives on the measures and their effectiveness. Finally, lessons learned from outbreak rounded out the narrative of 2009 H1N1 pandemic in the Canadian newspapers. The overall narrative of the 2009 H1N1 pandemic closely followed the common epidemic narrative described by Rosenberg (1989), though the specifics of the narrative were shaped by the nature of the disease and socio-cultural context. Meaning within the pandemic narrative was also shaped by anchoring and framing. This will be discussed in the next chapter.



## CHAPTER 13 DISCUSSION AND CONCLUSIONS

### 13.1 Introduction

This chapter discusses issues that emerged from the pandemic narrative, outlined in the previous chapter, and connects them to the broader socio-cultural context. The discussion will focus on three interrelated points that emerged from the findings: 1) the importance of meaning and how it is constructed and reflected in the narrative; 2) understanding how the broader socio-cultural context influences the narrative; and 3) communication challenges that occurred during the 2009 H1N1 pandemic. The first point relates to the role of framing and anchoring within a narrative. Framing creates meaning through the presentation of the information. Anchoring creates meaning through linkages to pre-existing beliefs and values. The second point is based on the idea that epidemic narratives are shaped by the broader context. The communication challenges highlight potential opportunities for further research and lessons for health communicators. The chapter also discusses the theoretical and methodological contributions and the limitations of this study. It concludes with recommendations for future research and communications.

### 13.2 Discussion of Results

The theoretical perspective of this study maintains that representations of health and illness are socially constructed and based on the broader socio-cultural context. The following discussion highlights the importance of meaning and how it is constructed and conveyed within a narrative. A narrative, and the meanings that are conveyed in a narrative, reflect the broader context. These meanings cannot be separated from the broader socio-cultural context. Meaning is conveyed in a narrative by the way it is presented or framed and by linking a new narrative to old narratives. Narratives are important ways in which people understand health concerns and can often be problematic for health research, policy and communication (Panter-Brick & Fuentes, 2008). This is because of the tendency to focus on a “strictly biomedical and epidemiological approach while epidemics play out...with a host of social cultural, economic, political and religious concerns (Atlanti-Duault & Kendal, 2009, p. 208).

To illustrate the importance of meaning and the influence of the broader context, four points will be highlighted with examples drawn from the findings. The first point is the importance of

implicit meanings within a narrative. Underlying assumptions are conveyed in a narrative through, for example, language, or emphasis on or absence of topics, which shape the nature of a disease narrative. Second, further complexity is introduced with the recognition that the same message may be interpreted and reflected differently in a narrative by different individuals. Multiple or conflicting meanings drawn from a common word or phrase lead to communication challenges. The first two points relate to framing of the narrative. A frame is the perspective of a story which influences how the information is presented and how it is interpreted (Altheide 1996; Goffman 1974). Third, the important role of anchoring in creating meaning within a narrative will be discussed. Finally, societal values shape narrative details, such as the perception and acceptance of public health measures for H1N1 reflected in the media narrative. The discussion concludes by highlighting characteristics of media that influence the nature of the narrative being produced by them. These characteristics may challenge the efforts of public health officials to convey a particular health message.

### 13.2.1 Implicit meaning

Meaning is seldom straightforward. There are often underlying assumptions that are conveyed in a word or phrase that accompanies the explicit and more intentional message. The naming issue that surrounded the disease is an example of implicit meanings. The name that is used invokes different messages about a disease (Visgo, 2010). Naming the disease is one way in which outbreak was framed. A name defines the problem, points to potential causes and as a result, suggests solutions. These messages have been illustrated by this study's findings. For example, naming the 2009 flu pandemic "swine flu" was based on explicit scientific knowledge about the structure of the particular influenza virus but implicitly invokes the message that "animals may carry disease" (Visgo, 2010, p. 236). In this case the pork industry was negatively and erroneously affected. This underlying message was also evident with the comparison to Mad Cow Disease within the Canadian media. Swedish researcher Orla Vigso (2010) also highlighted a cultural and religious controversy that was based on the name swine flu. Pigs are considered unclean animals by Jews and Muslims. Israeli vice minister of health, Yakov Litzman, claimed that the term was degrading to Jews and Muslims and discouraged its use. Vigso (2010) also linked the slaughter of pigs in Egypt to cultural and religious concerns. Vigso argued that Egypt, a primarily Muslim country, used the naming of the disease to further persecute its Christian minority, who were the ones that raised pigs in the country.

With the name H1N1, the disease is implicitly reframed as a “variant of a scientifically established disease” which is spread by human behavior. The popular message that is involved by this name is “science has analyzed and identified the disease, allowing treatment and diminishing [the] threat” (Visgo, 2010, p. 236). An alternative name, Mexican flu, was suggested as an explicit reference to the geographic origin of the disease. The implicit meaning here is that avoiding contact with Mexicans or travelers from Mexico can be interpreted as a way to prevent the spread. The popular message that is invoked by the name Mexican flu is that “some areas of the world are dangerous” and “contact with strangers can be dangerous” (Visgo, 2010, p. 236).

When it comes to naming a disease, there is a need to find a name that is user friendly, easy to remember and say, and “less loaded” (Visgo, 2010). Naming an outbreak is important from the very beginning. Health officials need to quickly and carefully consider the implicit meanings conveyed in the name that is assigned. Changing a name mid-way through an outbreak is problematic as was evident by the continued use of the term swine flu by the media and general public throughout the 2009 pandemic.

### 13.2.2 Multiple meanings

A standard piece of advice for communications strategies is to avoid jargon and use plain, everyday language (CDC, 2007; WHO, 2005), however, common words may have multiple meanings and interpretations depending on the context. When new information is presented, it is interpreted based on what is already known. A common approach in risk communication involves translating scientific knowledge into understandable concepts for a lay audience, however, people may misunderstand or misinterpret scientific information due to their pre-existing beliefs (CDC, 2007; Glik, 2007). It is important to understand the variation in interpretation due to deferent perspectives. If common interpretations are understood, communication can adapt the messages and address potential misinterpretation.

One example of this issue was the term pandemic. There was an official definition and a common definition of the term. Severity was the defining feature of the common understanding but was not present in the official definition. As was presented in Chapter 6, the common definition was shaped through the use of anchors. The two definitions of the term pandemic is also an example of role of framing. Depending on perceptive, the term was interpreted in different ways and discussed in different ways. The difference in meanings led to confusion and

criticism. A lesson that was pointed out during the pandemic and afterwards with the newspaper coverage was the need for a better definition of pandemic. One suggestion was the use of a severity index “to put future outbreaks into context” (SP509). An issue not raised in the media coverage is how severity should be used to determine if a pandemic exists. If mortality becomes a defining factor, at what point would one declare a pandemic? Also, severity can be difficult to determine while an outbreak is in progress and ideally the public health response would lessen the impact. Challenges with a severity-based pandemic definition include the global variation in public health infrastructure, variation with population vulnerability and variation in severity over time and place (Barnett, 2011). Additionally, the identification of cases during an epidemic or pandemic may be delayed by inadequacies in a disease surveillance system such as the lack of a public health infrastructure, delays due to methodology, lack of resources, and health policies such as reporting requirements (Hitchcock, et al., 2007). This issue needs to be addressed by stressing the range of variability that can occur during a pandemic. Even during the iconic 1918 Spanish flu, there was regional and temporal variation in morbidity and mortality. In a global review of morbidity and mortality rates, Johnson and Mueller (2002) reported that some regions experienced mortality rates as high as 5 - 10% while others regions reported very low morbidity and mortality.

Another example was the term “at risk” which was used to determine who should be vaccinated first. Medically, the term refers to those at greatest risk of complications, however, there was evidence in the newspapers that some interpreted the phrase as at risk of becoming sick. This was shown in the coverage regarding the queue jumping with sport teams. In the absence of clarification for this term, alternative and conflicting interpretations emerged as part of the media narrative of 2009 H1N1.

### 13.2.3 Anchoring of narratives

Anchoring is an important way that representations develop, and occurs when a new experience is linked to known historical events, metaphors, or symbols in order to make the new, unfamiliar event understandable. The new experience takes on the characteristics and opinions of the anchors to which it appears similar. While anchors are useful for making a new epidemic understandable and seem less threatening, it can also remove what is specific and different about the event (Joffe, 2002).

During the 2009 pandemic, some anchors provided a positive perspective on the public health response while others led to criticism. For example, the SARS outbreak was used as an anchor for the pandemic planning. In the initial months of the pandemic, it was used as an example of the improvements in the public health system. However, the main anchor for defining the 2009 pandemic was the 1918 Spanish flu. As stated previously, the use of the 1918 Spanish flu is not unique for this pandemic. Previous pandemics, SARS, and the ongoing fear of an avian flu pandemic have been anchored to the 1918 Spanish flu (Blakely, 2001; Herring, 2008; Washer, 2004). The use of a deadly pandemic as an anchor heightens “the climate of viral panic” (Herring, 2008, p. 81). Nancy Tomes (2000) describes viral panic as an obsession with killer germs.

This type of comparison can overestimate and exaggerate the potential impact of a pandemic leading to undue alarm and increased anxiety. It will be important for health officials to evaluate the references, or anchors, that they use in their official documents, such pandemic plans and in communication with the public and media. The anchors that are used can be influential in shaping the public’s perception.

#### 13.2.4 Influence of broader context

According to Rosenberg (1989), the specifics of an epidemic narrative are shaped by the broader context. Wide-spread societal beliefs and values can also influence the public’s response and acceptance of public health measures. How people respond to health communication messages depends on their broader belief system (Abrahma, 2009). For public health officials, it is important to understand the role that cultural beliefs and values play in the perception and acceptance of public health communication and measures.

An example from this study of the influence of societal values is regarding the acceptance of and reluctance towards various public health measures. Measures that were viewed positively tended to be individual actions such as hand washing, respiratory etiquette and staying home when sick. Research on the perception of risk has recognized that people are more tolerant of measures that are personally controlled and voluntary (CDC, 2007; Slovic, 2000). This perception may be linked to the prevalence of individualism and the preference for individual responsibility as opposed to communal responsibility. A common narrative that seemed to emerge was that individual responsibility was good while efforts that required collective action were viewed negatively. Individualism tends to view health problems as individual problems

rather than social problems and places the cause and prevention of health problems under the individual's control (Raphael, Curry-Stevens, & Bryant, 2008). This idea was also evident in reasons why people did not want to be vaccinated that were reported in the newspapers. Those reluctant to be vaccinated focused their rationale on the personal benefit rather than the social benefit. Individualism has been identified as a potential factor contributing to the increasing reluctance towards vaccination (Calandrillo, 2004; Reich, 2010). Raphael and colleagues (2008) have also identified this individualist ideology as a barrier to addressing the broader social determinants of health in Canada, despite the growing knowledge of their importance. Related to the prevalence of individualism is the growing influence of a market orientation in Canadian society (Raphael, et al., 2008). A market orientation toward health care was evident in the public versus private health care debate that emerged from the queue jumping by sports teams and private clinics. The Canadian health care system is a publically funded system, however, there also exists a market and materialist perspective that prefers policies that serve the economic elites (Raphael, et al., 2008). During the 2009 H1N1 pandemic, the conflicting point of views were evident in the promotion and criticism of sports teams and private clinics gaining early access to the vaccine based on their economic status.

For health officials, it is important to understand the broader social and cultural factors that influence perception and acceptance of health care measures and policies. There is a need to anticipate the response based on the broader context when communicating about pandemic preparedness and response. This requires an examination of the socio-cultural dimensions that influence the perception of health (Atlanti-Duault & Kendal, 2009; Singer, 2009; Strong, 1990). Understanding how people can react based on the society in which they live is important when addressing and communicating about a crisis.

#### 13.2.5 Other communication challenges

There are characteristics of the media that can contribute to communication problems during a public health emergency. Specifically, the agenda and needs of the media can often conflict with the agenda of public health officials and it can be “difficult to convey complicated and contingent information to journalists who need to be direct and succinct – and also dramatic” (Kline, 2006, p. 51). The news media need to tell a story that is simple, straightforward and interesting to a general audience (Davis, 1992). Stories need to be brief and simple due to limited amount of space and time, however, limited space contributes to “disembodied facts

devoid of context often result[ing] in a misleading oversimplification of reality” (Davis, 1992, p. 37). There is also a preference for confirmed or conclusive answers that can be lacking in scientific understandings (Hu, 2010). As a health issue becomes more complex, there is less likelihood that answers will be conclusive. Additionally, journalists may lack an adequate background in science to understand complex and contradictory scientific information (Glik, 2007; Hu, 2010). News media are not reviewed in the same way as scientific literature (Glik, 2007). In an attempt to appear balanced, media may inappropriately present opposing points of view as equal when they are not, or without a critical analysis of the positions (Hilton & Hunt, 2011).

In addition, news sources are not geographically limited. For example, the *StarPhoenix* and *National Post* are part of the same news chain. Articles may be republished from one to the other as well as from other localized newspapers that are part of the same news network. The lack of geographical limits in news reports compounded the confusion when health messages or the severity of the outbreak differed across jurisdictions. During the 2009 H1N1 pandemic, there were contradictory or slightly different messages that were communicated based on federal, provincial or territorial policy decisions and the media reported on the discrepancies between messages (PHAC, 2010).

The characteristics of the media can make it difficult to effectively communicate a health risk that is not simple. Health risks are complex and situated within a broader socio-cultural context. Due to these challenges, it is important for health communicators to work closely with and educate reporters on the issues to ensure that the information is clear, concise and presented with the proper context. Also, given that communication is a two-way process, it is also important to examine the epidemic narrative that arises within the health field and consider the underlying assumptions that are within it. The assumptions that shape meanings within the health field may not be present within the public and media and thus lead to miscommunication.

One suggestion presented in the newspaper coverage was that health officials should adjust their communication strategies to suit the 24-hour news cycle, and use social media to supplement the traditional media channels. While this is a useful suggestion to increase the amount of communication with the public, it does not change how quickly information and evidence can be gathered and analyzed in order to make informed decisions and provide effective communication during a public health emergency. A public health emergency, such as

the 2009 pandemic, is a changing and uncertain situation. This can be problematic since uncertainty can make a situation scarier (Slovic, 2000). As the situation changes, the messages change. The change may be perceived as inconsistent and confusing. Health officials need to be able to admit when they do not know something without appearing incompetent. This will be challenging to address due to the nature of the media and the public's perception of what science is capable of answering. There must be a balance between the media and public's need for assurances with the time needed to gather those answers and put measures in place.

### 13.3 Contributions and Limitations

The following sections highlight the contributions of the results, of the theoretical perspective and conceptual frameworks, and of the methodology. This section concludes with the limitations of this study.

#### 13.3.1 Contributions of Results

The study provides an overview of the evolving newspaper coverage of the 2009 H1N1 pandemic in newspapers distributed within Saskatoon, Saskatchewan. The study highlights the common themes and messages that were present in the newspaper coverage and how they shaped the overall media narrative of the pandemic. The results highlight the importance of meaning and how meanings are reflected within a narrative. It is important to understand the multiple meanings that words may have and how they may influence the interpretation of health messages. The perception and reaction to an epidemic are shaped by the broader socio-cultural which is also shown by the results. The results also illustrate the difficulties with communication during a fluid and uncertain situation such as a public health emergency. Additionally, the work highlights potential areas for miscommunication such as various interpretation of the same term such as the term pandemic or at risk. These findings can provide a basis for communication advice for future disease outbreaks.

#### 13.3.2 Theoretical contribution

The study provides a theoretical contribution for understanding how people discuss and react to epidemics. It draws together theoretical understandings from anthropology, sociology, psychology, and history. The work builds upon the concept of an epidemic narrative (Rosenberg, 1989) and adds two more components: anchoring and framing. These concepts address three aspects of narratives which were highlighted in Chapter 3, which are: 1) common



stories for common experiences, 2) new stories relate to old stories, and 3) differing perspectives and interpretations for the same experience. The concepts of an epidemic narratives, anchoring, and framing have been used individually or in pairs to examine the media coverage of disease outbreaks. This study draws the concepts together into a combined framework. The combined framework recognizes the broader context in which an epidemic narrative emerges and provides a way to understand the subtle differences and distinctions in meaning and response.

An epidemic narrative is similar to an illness narrative but is at the societal level rather than the individual level. An illness narrative, according to Kleinman (1988), includes the personal and social meanings attached to a disease. It reflects an individual's understandings of the illness, their lived experiences, and places the illness within the context of their daily life. An epidemic narrative represents the collective experience. In the same way that illness narratives have been applied to clinical practice and teaching to improve communication between patients and clinicians (Kleinman, 1988; Kleinman, Eisenberg, & Good, 1978), an epidemic narrative can improve communication within the public health and health communication fields. The epidemic narrative provides an understanding of the common ways in which people react to an outbreak and it highlights the importance of the broader socio-cultural context. The broader context and social representations influence how people would accept and interpret health messages.

Anchoring provides a way to understand how multiple epidemic narratives relate to one another. Anchoring occurs when a new experience is linked to known historical events, metaphors, or symbols in order to make the new, unfamiliar event understandable. The new experience takes on the characteristics and opinions of the anchors to which it appears similar. In terms of an epidemic narrative, previous epidemics or diseases may be referenced in order to makes sense of the new epidemic. Previous epidemic narratives shape the current epidemic narrative and vice versa. While anchors are useful for making a new epidemic understandable and seem less threatening, it can also remove what is specific and different about the event.

Since an epidemic narrative is a collective experience, there will be a range of perspectives. Narratives are not told from a single perspective, especially in the news media in which numerous voices are represented. Framing addresses this issue and highlights how meanings are conveyed based on what is emphasized or omitted in the presentation. A narrative may also be interpreted differently depending on the individual. The perspective of the storyteller, as well as

the audience, can influence the meanings that are conveyed and understood within an epidemic narrative.

These conceptual frameworks have largely been applied elsewhere independent of each other. However, this study combines the three to examine the construction, emphasis, and meaning conveyed in the news coverage of the 2009 H1N1 pandemic. These combined frameworks provide a nuanced epidemic narrative.

### 13.3.3 Methodological contribution

In terms of methodology, a detailed description the protocol and its development is presented in chapter 4 (see Table 4-1, Table 4-2, Table 4-3, and Table 4-4). This protocol can be used and adapted by other researchers for similar studies. A complete list of data sources is also provided (Appendix A) if other researchers wish to conduct a secondary analysis of the work. In terms of organizing and analyzing the data, a Microsoft Access database was constructed. While the database was useful for keeping track of individual articles and their associated data, it became cumbersome as the work progressed. Ultimately information was selectively extracted from the database via querying and subjected to further analysis (cut & paste, regrouping, and relabeling) in standard word processing software. The database was too rigid to expand, combine, and revise the pre-defined categories. Other more flexible software or databases may be available and more adaptable to the iterative analytical approach that is required in this methodology.

### 13.3.4 Limitations

This study was limited to newspapers and did not include other sources of traditional or social media. During the 2009 H1N1 pandemic, there was a wide range of media sources that the general public could access to learn about the pandemic. These included traditional media sources, such as newspapers, television, radio, as well as online through social media. The examination of a single media source offers one, but still important and influential, media narrative of 2009 H1N1.

A second limitation is the limited geographical focus of work. The study examines the newspaper coverage within the Saskatoon context. The study cannot be considered a comprehensive study of the Canadian narrative. The inclusion of the two national newspapers reveals a common national narrative, but the narrative details would be expected to vary as local coverage varies. This work can serve as a model for further examination of the 2009 H1N1

pandemic when using additional sources and locations. It would be interesting to compare details of a similar study of 2009 H1N1 in other Canadian communities.

Additionally, it cannot be assumed that the perceptions presented in the media are equally shared among the general public in Saskatoon. Additional work would be needed to examine the perceptions among the general public. This work could be done through the traditional approach of interviews or survey, however, recent work has highlighted the potential use of social media sites, such as Twitter, forums, and users comments as a way to gauge public opinion (Chew & Eysenbach, 2010; Smith, 2011; Szomszor, Kostkova, & St Louis, 2011; Tauscizk, Faasse, Pennebaker, & Petrie, 2012). Online data can provide a dynamic picture of the changes in public opinion compared to single or longitudinal surveys (Tauscizk, Faasse, Pennebaker, & Petrie, 2012).

#### 13.4 Recommendations for Future Research

As previously stated, this work can serve as a model for further examination of the 2009 H1N1 pandemic when examining additional sources and locations, or to examine the epidemic narrative of other diseases. The conceptual and methodological model can be adapted and applied to other forms of traditional media such as the radio, television, and to social media (e.g. Twitter, blogs, and forums). Since the 2009 pandemic, there have been an increasing number of studies that have examined the coverage in various media sources including newspapers (Hilton & Hunt, 2011; Hu, 2010; Huynh, 2011; Rachul, Ries, & Caulfield, 2011; Tauscizk, Faasse, Pennebaker, & Petrie, 2012), television (Fogarty, et al., 2011), on-line blogs (Tauscizk, Faasse, Pennebaker, & Petrie, 2012), user comments on news sites (Henrich & Holmes, 2011), and Twitter (Chew & Eysenbach, 2010; Smith, 2011; Szomszor, Kostkova, & St Louis, 2011). These studies, in addition to this work, add to what is known about the media representation of the 2009 pandemic. Additional studies will further contribute to this knowledge base.

The epidemic narrative could also be examined in other sources such as documentation from health organizations or from the perspective of the general public. Each of these sources provides a unique perspective on the overall epidemic narrative and is relevant for shaping public perception.

In addition, there is room for further examination of the pandemic narrative within the Saskatoon newspapers. The study provides a broad overview of the pandemic narrative, however, specific aspects could be re-examined in greater detail. As an example, this study

focused on the changes in themes over time. Additional research could focus on a specific theme and closely track the choice of language used over time. Also, there were aspects of the newspaper coverage that were not considered, such as the story placement, length of the stories, and visuals. Davis (1992) points out that the importance of a problem can be implied by the story placement, visual, and length. These elements could also be examined to further understand the pandemic narrative within the media.

Other potential research could compare the pandemic narrative between two or more localized areas such as cities, provinces, or countries. The media coverage could be examined in relation to the differences in public health response and communication strategies and to differences in the impact of the pandemic. These studies could point to differences in the pandemic narrative based on the broader social context. The H1N1 pandemic narrative could also be compared to the media coverage of past outbreaks (e.g. SARS, seasonal influenza, past pandemics) in the same location. This area of research could further explore the use of anchoring between individual narratives. For example, it could highlight themes that carry over from one epidemic narrative to another.

The increasing use of social media is changing how Canadians and the rest of the world receive their news, and represents another area of research. According to the Canadian Media Research Consortium (2011), one in three Canadians, and one in two for young adults, value social networking sites as a valuable source for news. However, there is a need to further understand how Canadians use social media to obtain their news before making recommendations for health officials to use it to their advantage. Since the 2009 pandemic, there have been studies that examine this issue. Chew and Eysenbach (2010), for example, conducted a content analysis of “tweets” as a way to provide snapshots of the public’s opinions and behavioral response over the course of the pandemic. The researchers used an open-source infoveillance system, which Eysenbach (2009) developed to gather textual information from Twitter. Szomszor and colleagues (2011) also examined how the pandemic was discussed on Twitter and analyzed the popularity of trusted sources, such as news outlets and official health agencies. They found that reputable sources were more popular than untrusted sources but there was still the potential for misinformation to spread through social media. In addition to analyzing the content of Twitter, Smith (2011) included a survey to examine how people determined the credibility of the information, and whether Twitter contributed to their decision to

be vaccinated. These studies highlight the potential use of social media for communication. However, additional research is needed before recommending how health officials should use social media for their communication strategy.

### 13.5 Implications for Communication

Communication can be difficult given the complexity of meaning. The findings of this study highlight several challenges and issues that need to be considered when developing communication strategies. There is a body of literature that provides guidelines for risk communication such as Covello and Allen's (1988) seven cardinal rules for risk communication.<sup>1</sup> Similar lists can be found in documents on communication advice for public health emergencies and pandemic planning (e.g. WHO, 2004; 2005). Despite the existence of these guidelines, there are still challenges with communication. The findings of this study reinforce the importance of these guidelines but also highlight challenges and areas for future work.

According to communication advice, communication strategies need to be carefully planned and evaluated. Since the pandemic, the Public Health Agency of Canada and Health Canada have released a report which contains an evaluation of their communication efforts (PHAC, 2010). According to the report, there are two communication areas that need improvement: 1) the need for consistency in communication across jurisdictions, and 2) improved strategies to communicate uncertainty, risk and shifts in scientific knowledge (PHAC, 2010). The results of this study highlight specific communication challenges and point to areas for further study that are relevant for these two issues.

The first area for improvement is the need for jurisdictional consistency in communication. One noted challenge in this study is the lack of geographical limits of news sources. The study examined newspapers that were available within Saskatoon; however, the geographical focus and sources of information in the coverage were not limited to the Saskatoon area. This compounds

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<sup>1</sup> The seven cardinal rules for risk communication include 1) accept and involve the public as a legitimate partner; 2) plan carefully and evaluate efforts; 3) listen to the public's specific concerns; 4) be honest, frank, and open; 5) coordinate and collaborate with other credible sources; 6) meet the needs of the media; and 7) speak clearly and with compassion (Covello & Allen, 1988)

the confusion when health messages vary across jurisdictions as was illustrated by differences in the vaccination campaigns. For example, several provinces had variation in the order of their priority groups. This contributed to confusion about which groups were next in line. Due to the nature of the news media, health messages can spread to unintended audiences. Understanding how media information spreads is an important consideration when developing communication strategies for disseminating health messages that are location-specific and ones that are relevant for a broader audience.

The second area for improvement is the development of strategies to communicate uncertainty, risk and shifts in scientific knowledge. The report from PHAC and Health Canada recommends the development of “plain-language approaches to convey complex scientific findings, processes, uncertainties, risks and shifts for various audiences/purpose” (PHAC, 2010, p. 8). However, developing a “plain-language approach” can be challenging when considering the complexity of meaning that is conveyed in language. This study highlights the importance of implicit and multiple meanings in communication. There are often underlying assumptions that are conveyed in common words or phrases, in addition to the explicit and more intentional meaning. Common words or phrases can carry multiple, and sometimes conflicting meanings, depending on the audience’s perspective. For example, the term pandemic had an official definition and a common understanding. Severity was part of the common understanding of the term but not part of the official definition. The difference in definition contributed to confusion and criticism. Another example is the term “at risk.” Medically, the term meant those at greatest risk for complications, however, there was evidence in the newspaper coverage that some interpreted the phrase as at risk for becoming sick. The second interpretation was evident in coverage regarding queue jumping by sports teams and in debates about which groups should be included on the priority list. When using common words or phrases, it is important for health communicators to emphasize the meaning that they wish to convey. In addition, it would be important to avoid short hand versions of terms (e.g. “at risk”) that may be open to interpretation.

Another communication challenge is the how pre-existing beliefs and values can influence the perception of a disease and the health care system. For example, naming and references to previous events (i.e. anchoring) can influence the public’s perception and response. Names and references can have underlying meanings and have broader implications. An example that illustrates this point is the name swine flu. Due to the name, pigs became a symbol for the

disease and were seen as responsible for the disease. As a result, there was a negative economic impact on the pork industry.

To develop communication strategies, it will be important to carefully evaluate and consider the explicit and implicit meanings in health messages, and how they may be interpreted from various perspectives. These factors should be considered when evaluating the communication strategies for the various audiences. It will be important to survey members of the various audiences to identify messages that cause confusion.

### 13.6 Conclusions

In conclusion, this research constructed a narrative of the 2009 H1N1 pandemic reflected in newspapers distributed within Saskatoon, Saskatchewan from April 2009 to August 2010. The results illustrate the importance of meaning and how meanings are constructed within a narrative. They also illustrate how an epidemic narrative is shaped by the broader context in which it occurs. The difficulties with communication during a fluid and uncertain situation such as a public health emergency are also illustrated. The study also contributes to the theoretical understanding of how people discuss and react to epidemics and pandemics. The work combines three frameworks: an epidemic narrative, anchoring and framing, to examine the construction, emphasis, and meaning conveyed in the newspaper coverage of the 2009 H1N1 pandemic. These combined frameworks provide a nuanced understanding and analysis of an epidemic narrative. This study can serve a theoretical and methodological model for additional research.

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APPENDIX A  
LIST OF NEWSPAPER ARTICLES

The following is a list of all of the identified newspapers articles based on the selection criteria previously outlined in the data collection section (see section 4.5 on page 58). The articles are listed alphabetically by newspaper, followed by chronological order and page number. For citation purposes in the results chapters, each article was assigned an ID# which includes an abbreviation of the newspaper and a number based on its order chronologically and by page number. The abbreviation for the newspapers are the following: GM for the *Globe and Mail*, NP for the *National Post*, PS for the *Planet S*, SS for the *Saskatoon Sun*, SP for the *StarPhoenix*, and TS for *The Sheaf*.

| ID#  | Date      | Title   | Page | Section              |
|------|-----------|---|------|----------------------|
| GM1  | 24-Apr-09 | Back from Mexico? Watch for flu-like illness      | A.3  | National             |
| GM2  | 24-Apr-09 | Swine flu outbreak                                | A.3  | International        |
| GM3  | 25-Apr-09 | Pandemic in the making                            | A.1  | National             |
| GM4  | 27-Apr-09 | Flu fear spreads as six cases confirmed in Canada | A.1  | National             |
| GM5  | 27-Apr-09 | Never seen before                                 | A.6  | National             |
| GM6  | 27-Apr-09 | Public health still vulnerable after SARS         | A.6  | National             |
| GM7  | 27-Apr-09 | Flu outbreak leaves Mexican workers in limbo      | A.7  | National             |
| GM8  | 27-Apr-09 | Politicians confident in health officials         | S.1  | B.C. News            |
| GM9  | 28-Apr-09 | WHO raises alert level as virus spreads its reach | A.1  | National             |
| GM10 | 28-Apr-09 | Mexican screened                                  | A.11 | National             |
| GM11 | 28-Apr-09 | This really has nothing to do with pigs any more  | A.11 | National             |
| GM12 | 28-Apr-09 | Rookie minister praised for quick, open response  | A.11 | National             |
| GM13 | 28-Apr-09 | Flown back from Cancun, 29-year-old woman dies    | A.13 | National             |
| GM14 | 28-Apr-09 | Keeping swine flu in perspective                  | A.14 | Letter to the Editor |
| GM15 | 28-Apr-09 | Few signs of the lessons of SARS                  | A.14 | Editorial            |
| GM16 | 28-Apr-09 | Lessons from the last outbreak                    | A.15 | Comment              |
| GM17 | 28-Apr-09 | Don't sell. Market's sniffles are temporary       | B.13 | Business             |
| GM18 | 28-Apr-09 | Markets take flu scare in stride                  | B.13 | Business             |
| GM19 | 28-Apr-09 | Confidence in spotlight                           | B.14 | Business             |
| GM20 | 28-Apr-09 | Tuesday's markets: What happened                  | B.15 | Business             |
| GM21 | 28-Apr-09 | Bonds   | B.16 | Business             |
| GM22 | 28-Apr-09 | Commodities                                       | B.16 | Business             |
| GM23 | 28-Apr-09 | Foreign exchange cross rates                      | B.16 | Business             |
| GM24 | 28-Apr-09 | Tending those 'green shoots of recovery'          | B.6  | Business             |

| ID#  | Date      | Title   | Page | Section              |
|------|-----------|---|------|----------------------|
| GM25 | 28-Apr-09 | How to prepare for a pandemic   | L.1  | Globe Life           |
| GM26 | 28-Apr-09 | Pan Am bids delayed   | S.3  | Sports               |
| GM27 | 29-Apr-09 | The boy at swine flu's ground zero                                    | A.1  | International        |
| GM28 | 29-Apr-09 | Keep fear-o-meter on low for now                                      | A.11 | National             |
| GM29 | 29-Apr-09 | If use of masks is urged, get one that fits well                      | A.11 | Column               |
| GM30 | 29-Apr-09 | Divers take plunge  | A.12 | National             |
| GM31 | 29-Apr-09 | Farmers complain  | A.12 | International        |
| GM32 | 29-Apr-09 | Canadian cases double as tourist come home                            | A.12 | National             |
| GM33 | 29-Apr-09 | Shamed by SARS, China vows transparency                               | A.13 | International        |
| GM34 | 29-Apr-09 | Tuesday's markets   | B.17 | Business             |
| GM35 | 29-Apr-09 | Commodities   | B.18 | Business             |
| GM36 | 29-Apr-09 | Dividend growth provides comfort amid turmoil                         | B.18 | Business             |
| GM37 | 29-Apr-09 | The weekly web poll   | B.20 | Business             |
| GM38 | 29-Apr-09 | Rating a worst-case scenario for swine flu                            | B.7  | Business             |
| GM39 | 29-Apr-09 | Pandemic puzzle: what to expect next                                  | L.1  | Globe Life           |
| GM40 | 29-Apr-09 | Flu outbreak diverts Wolverine from Mexico                            | R.2  | Globe Review         |
| GM41 | 29-Apr-09 | Cancelling due to flu? Look to insurance                              | R.8  | Travel               |
| GM42 | 29-Apr-09 | Cantour events postponed in Mexico                                    | S.5  | Sports               |
| GM43 | 30-Apr-09 | 'All humanity' urged to fight swine flu pandemic                      | A.1  | International        |
| GM44 | 30-Apr-09 | What the new swine flu might do                                       | A.12 | International        |
| GM45 | 30-Apr-09 | Canadian tourists scuttle Mexican vacation plans                      | A.12 | National             |
| GM46 | 30-Apr-09 | Who flu hits hardest difficult to assess                              | A.13 | Health               |
| GM47 | 30-Apr-09 | What ails flu reporting   | A.14 | Letter to the Editor |
| GM48 | 30-Apr-09 | What ails flu reporting; (1)  | A.14 | Letter to the Editor |
| GM49 | 30-Apr-09 | What ails flu reporting; (2)  | A.14 | Letter to the Editor |
| GM50 | 30-Apr-09 | Pandemic panic attack   | A.15 | Column               |
| GM51 | 30-Apr-09 | The Berlusconi comic opera  | A.2  | Business             |
| GM52 | 30-Apr-09 | Seasonal factors will blunt Mexico economic effects                   | B.10 | Business             |
| GM53 | 30-Apr-09 | Flu pokes hole in golf schedule                                       | S.4  | Sports               |
| GM54 | 01-May-09 | WHO's afraid of the big, bad pig? Agency declares new name for strain | A.1  | International        |
| GM55 | 01-May-09 | Provinces release flu drugs as Canada ramps up response               | A.1  | National             |
| GM56 | 01-May-09 | 'All humanity and the flu; (1)  | A.16 | Letter to the Editor |

| ID#  | Date      | Title  | Page | Section              |
|------|-----------|--|------|----------------------|
| GM57 | 01-May-09 | 'All humanity' and the flu   | A.16 | Letter to the Editor |
| GM58 | 01-May-09 | Schools of incubation  | A.16 | Editorial            |
| GM59 | 01-May-09 | The real pandemic is economic, with no vaccine                                     | A.17 | Column               |
| GM60 | 01-May-09 | A case for the three amigos  | A.17 | Comment              |
| GM61 | 01-May-09 | Baghdad boars must die, Iraqi government decrees                                   | A.8  | International        |
| GM62 | 01-May-09 | Biden goes off-message with plane, subway remark                                   | A.8  | International        |
| GM63 | 01-May-09 | Obama aid caught flu, but President not exposed                                    | A.8  | International        |
| GM64 | 01-May-09 | Religious leaders guard against spreading disease                                  | A.8  | International        |
| GM65 | 01-May-09 | From sunshine to sickness in three short days                                      | A.8  | National             |
| GM66 | 01-May-09 | Google searches were first indication of outbreak                                  | A.9  | International        |
| GM67 | 01-May-09 | How bad could the flu get?   | A.9  | National             |
| GM68 | 01-May-09 | Markets deciding flu too scary to think about                                      | B.13 | Business             |
| GM69 | 01-May-09 | 30 second spot: Dispatches from the world of media and advertising                 | B.8  | Business             |
| GM70 | 01-May-09 | Lufthansa forecasts cuts as industry braces for flu                                | B.9  | Business             |
| GM71 | 01-May-09 | UAE says no ban on pork, but shops clear shelves                                   | B.9  | Business             |
| GM72 | 01-May-09 | Life under lockdown; no work, no school, no social visits, no end in sight         | L.1  | Globe Life           |
| GM73 | 01-May-09 | Sex, murder and the outbreak of moral panic  | R.21 | Column               |
| GM74 | 02-May-09 | Lessons of 1976: flu, fear, wasted millions  | A.1  | National             |
| GM75 | 02-May-09 | Wild pigs at Iraq zoo spared from flu cull   | A.20 | International        |
| GM76 | 02-May-09 | Too grave for clerical delay   | A.24 | Editorial            |
| GM77 | 02-May-09 | Health officials express cautious optimism   | A.8  | National             |
| GM78 | 02-May-09 | Getting the job done during a pandemic   | B.3  | Business             |
| GM79 | 02-May-09 | Flu level 4? Level 5? Well, just let me know when we get to the roof and I'll jump | F.3  | Column               |
| GM80 | 02-May-09 | Expect some swine-flu deaths, Campbell warns                                       | S.2  | B.C. News            |
| GM81 | 04-May-09 | Human-to-swine transmission escalates mutation risk                                | A.1  | National             |
| GM82 | 04-May-09 | Pork industry in panic as pigs catch flu   | A.1  | National             |
| GM83 | 04-May-09 | Life in four-star isolation 'getting to us'  | A.9  | International        |
| GM84 | 04-May-09 | The company: Infonaut Inc: Charting the right course through an outbreak           | B.5  | Business             |
| GM85 | 04-May-09 | Mexican stocks not immune to flu fallout   | B.8  | Business             |
| GM86 | 05-May-09 | Ottawa challenges China's ban on pork imports                                      | A.11 | National             |

| ID#   | Date      | Title  | Page | Section       |
|-------|-----------|--|------|---------------|
| GM87  | 05-May-09 | Canada's 'flu hunters' track a will new virus                                | A.11 | Health        |
| GM88  | 05-May-09 | The joke aporkalypse: tasteless or in good fun                               | L.1  | Globe Life    |
| GM89  | 05-May-09 | Thinking twice about turning the other cheek                                 | L.2  | Globe Life    |
| GM90  | 05-May-09 | Spike TV promises show on surviving swine flu                                | R.2  | Globe Review  |
| GM91  | 05-May-09 | Mexican player suspended for fake swine-flu cough                            | S.6  | Sports        |
| GM92  | 06-May-09 | China overreacts   | A.18 | Editorial     |
| GM93  | 06-May-09 | China pressed to justify quarantine of Canadians                             | A.7  | National      |
| GM94  | 06-May-09 | No, it's not all over. But the epidemic of fear of A/H1N1 virus is subsiding | A.7  | National      |
| GM95  | 06-May-09 | The loneliest pig  | A.7  | International |
| GM96  | 06-May-09 | Farmers find relief from 'perception issue' of swine flu virus               | B.12 | Business      |
| GM97  | 07-May-09 | Pork industry scrambles to prove meat is safe                                | A.6  | National      |
| GM98  | 08-May-09 | Obama's choice of burger topping sparks cries of condiment cover-up          | A.12 | International |
| GM99  | 08-May-09 | Worker at centre of pig-farm flu won't take blame                            | A.6  | National      |
| GM100 | 08-May-09 | In final stretch 'every vote is going to count.'                             | S.1  | B.C. News     |
| GM101 | 08-May-09 | Activity   | S.4  | Sports        |
| GM102 | 08-May-09 | Mask to join jerseys, scarves in fans' wardrobe                              | S.5  | Sports        |
| GM103 | 09-May-09 | Tests confirm first flu-related death in Canada                              | A.4  | National      |
| GM104 | 09-May-09 | Office designs   | B.16 | Business      |
| GM105 | 09-May-09 | Talking pictures   | F.3  | Focus         |
| GM106 | 11-May-09 | Pigs culled at quarantined Alberta farm                                      | A.5  | National      |
| GM107 | 12-May-09 | Four health workers test positive for swine flu                              | A.12 | Toronto News  |
| GM108 | 12-May-09 | Clorox, Visa gets boost from flu-panicked shoppers                           | B.12 | Business      |
| GM109 | 12-May-09 | National Gallery fears deficit, job cuts                                     | R.2  | Globe Review  |
| GM110 | 12-May-09 | Essential tracks   | R.3  | Globe Review  |
| GM111 | 13-May-09 | Canada to play U.S. After Japan pulls out                                    | S.7  | Sports        |
| GM112 | 15-May-09 | Pig farmers are victims of a swinish disregard for the truth                 | A.15 | Comment       |
| GM113 | 16-May-09 | Swine flu from Alta farm matches human virus                                 | A.12 | National      |
| GM114 | 16-May-09 | Love in another time of cholera  | F.11 | Book Review   |
| GM115 | 16-May-09 | Verbatim/What was said this week, in public and in print                     | F.2  | Focus         |
| GM116 | 16-May-09 | In brief: Cases of A H1N1 flu in province reach 100                          | S.4  | B.C. News     |
| GM117 | 18-May-09 | Flu not dwindling as fast as hoped, experts say                              | A.2  | International |
| GM118 | 19-May-09 | Worst of flu outbreak 'over' in Canada                                       | A.4  | National      |



| ID#   | Date      | Title   | Page | Section       |
|-------|-----------|---|------|---------------|
| GM119 | 20-May-09 | Face time is crucial to morale and productivity   | B.14 | Business      |
| GM120 | 20-May-09 | Mexico/A 'flu-free guarantee'   | R.8  | Travel        |
| GM121 | 21-May-09 | Canadians make a 'shift to thrift'  | B.4  | Business      |
| GM122 | 23-May-09 | WHO warns more deaths likely from H1N1 flu  | A.18 | International |
| GM123 | 23-May-09 | Verbatim/What was said this week, in public and in print  | F.2  | Focus         |
| GM124 | 23-May-09 | the gospel according to The Mark  | M.3  | Globe Toronto |
| GM125 | 23-May-09 | Deals   | T.2  | Travel        |
| GM126 | 26-May-09 | School board to vote on censuring trustee   | A.13 | Toronto News  |
| GM127 | 26-May-09 | So, let's beat up on goodness?  | R.1  | Globe Review  |
| GM128 | 28-May-09 | 2 performers, 4 first names, 1 Grand time   | R.1  | Globe Review  |
| GM129 | 29-May-09 | 30-second spot/ Dispatches from the world of media and advertising  | B.5  | Business      |
| GM130 | 02-Jun-09 | Preparing for a pandemic  | B.9  | Business      |
| GM131 | 05-Jun-09 | Swine flu a wake-up call, says Manitoba native chief  | A.7  | National      |
| GM132 | 06-Jun-09 | H1N1 spreading across Canada, doctors warn  | A.9  | National      |
| GM133 | 06-Jun-09 | Images of the World this week/ Getting perspective  | F.2  | Focus         |
| GM134 | 08-Jun-09 | Poor nations desperate for cash: World Bank   | A.1  | International |
| GM135 | 08-Jun-09 | Entire herd of 3,000 culled at farm where pigs tested positive for H1N1 virus                                   | A.6  | National      |
| GM136 | 09-Jun-09 | Manitoba probes spike in flu-like illnesses   | A.10 | National      |
| GM137 | 09-Jun-09 | Canadian rank health care higher concern than economy   | A.8  | National      |
| GM138 | 09-Jun-09 | Swine flu, recession erode Air Canada traffic   | B.8  | Business      |
| GM139 | 10-Jun-09 | Reserves hit hard by swine flu  | A.8  | National      |
| GM140 | 10-Jun-09 | Will swine flu mutation become vicious?   | L.8  | Globe Life    |
| GM141 | 11-Jun-09 | Severe flu prompts Manitoba to take emergency measures  | A.7  | National      |
| GM142 | 12-Jun-09 | A global pandemic, a local failure: flu outbreak sweeps reserves  | A.1  | National      |
| GM143 | 12-Jun-09 | Now it's a 'pandemic' What does it mean   | A.1  | International |
| GM144 | 12-Jun-09 | WHO's pandemic 'phases' send a confusing signal   | A.15 | International |
| GM145 | 12-Jun-09 | Swine-flu shots for Canadians ready 'in fall'   | A.15 | National      |
| GM146 | 12-Jun-09 | Remoteness allied to overcrowding   | A.18 | Editorial     |
| GM147 | 12-Jun-09 | Feeling sick? Booking off is better for your career   | B.15 | Business      |
| GM148 | 13-Jun-09 | I detest the fact that some vampire fiction has continued to perpetuate this shrine to eternal youth and beauty | R.1  | Globe Review  |
| GM149 | 15-Jun-09 | Flu hits all provinces as Nfld reports its first case   | A.1  | National      |

| ID#   | Date      | Title   | Page | Section       |
|-------|-----------|---|------|---------------|
| GM150 | 15-Jun-09 | The secrets of a hotelier's five-star success                                   | A.3  | International |
| GM151 | 15-Jun-09 | Swine flu? That's so two months ago   | L.1  | Globe Life    |
| GM152 | 17-Jun-09 | Four more die of swine flu  | A.6  | National      |
| GM153 | 18-Jun-09 | Sanofi Aventis to donate flu vaccine to WHO                                     | B.9  | Business      |
| GM154 | 19-Jun-09 | Cancer free - smoother skin too   | L.1  | Globe Life    |
| GM155 | 20-Jun-09 | Summer camps on lookout for signs of H1N1 virus                                 | A.12 | National      |
| GM156 | 23-Jun-09 | Six-year-old Ontario girl dies of H1N1  | A.9  | National      |
| GM157 | 23-Jun-09 | Flu virus to cost Delta \$250-million in revenue                                | B.12 | Business      |
| GM158 | 24-Jun-09 | Alcohol fears lead Ottawa to withhold hand sanitizers from flu-ravaged reserves | A.1  | National      |
| GM159 | 24-Jun-09 | Give Air Canada credit: It's become a much better airline                       | A.19 | Column        |
| GM160 | 24-Jun-09 | How to keep a lid on investing stress   | B.10 | Business      |
| GM161 | 25-Jun-09 | Swine flu outbreak closes ward at St. Michael's                                 | A.13 | Toronto News  |
| GM162 | 25-Jun-09 | The symptom of swine flu delay  | A.16 | Editorial     |
| GM163 | 25-Jun-09 | Clear your worries with a click of the mouse                                    | A.2  | Column        |
| GM164 | 26-Jun-09 | News of Jackson's death slows Internet traffic                                  | A.13 | International |
| GM165 | 26-Jun-09 | Hospital nursery closes after H1N1 exposure                                     | A.9  | Toronto News  |
| GM166 | 26-Jun-09 | In defence of sweaty armpits and clammy hands                                   | B.14 | Business      |
| GM167 | 29-Jun-09 | Olympic projects available for Canadians in Russia                              | S.1  | Sports        |
| GM168 | 30-Jun-09 | Swine flu shots to be available by October                                      | A.8  | National      |
| GM169 | 01-Jul-09 | Social studies  | L.6  | Globe Life    |
| GM170 | 02-Jul-09 | Swine flu hitting young, healthy adults hardest                                 | A.4  | National      |
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