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The H1N1 crisis: Roles played by government communicators, the public and the media

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ABSTRACT

The paper examines the communications that occurred between the news media, the general public and the government during the 2009 outbreak of the H1N1 influenza virus from a crisis communications perspective, focusing on events in Ontario, Canada. In crisis communications theory and practice, the analysis borrows from second-level agenda-setting literature, which suggests that an issue's attributes can affect the perceived level of salience among both the media and the public. The analysis combined a review of government crisis communications planning, a content analysis of radio, television and print news coverage of H1N1, and opinion polling and other data indicating the public's level of awareness and concern over H1N1.

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"What we've got here is (a) failure to communicate."
From the 1967 film *Cool Hand Luke*

When a health care crisis occurs, as it did in 2009 with the outbreak of the H1N1 or "swine flu" virus, it puts immediate and enormous pressure on the professional communicator. A successful public health campaign involves many important logistical functions such as coordinating health care workers and resources to vaccinate the public. Equally as important is the communications function. The communications function, defined within the narrow context of the challenge of addressing a public health care crisis, is to inform the public and health care practitioners and stakeholders on ways of mitigating the crisis, by reassuring and educating the public.

The verdicts on how well Canadian public health officials handled the H1N1 crisis are in, and few of them were kind. By suggesting that the government's

response was a failure, critics have pointed to statistics suggesting that not enough Canadians were vaccinated to reach the desired level of 70% to achieve the stated goal of “herd immunity;”¹ that too much was spent on advertising, operations and vaccine supplies (Blackwell, 2010); and that the threat was “overblown,” given how few Canadians died or became seriously ill (Hall, 2009).

Part of the blame was laid at the doorstep of communicators. As André Picard (2010) of the *Globe and Mail* intoned, government health officials were wrong when they opted for a “big, centralized, vaccine campaign with dour messaging from wooden public officials” (p. L1). According to Ron Upshur at the University of Toronto Joint Centre for the Study of Bioethics, the flaw was that government messaging “was confusing, and the natural thing to do in a state of confusion is to go for the conservative option” (Alphonso, 2010). Epidemiologist Alison McGeer, who was on the health care and media frontlines throughout H1N1, conceded that the system failed to effectively communicate the “uncertainty” that goes into pandemic planning and preparation, particularly around vaccine supply — a system communication failure which may have contributed to the problem (Fitzpatrick, 2010).

Some government public health officials countered that, in fact, the communications function worked. According to federal health minister Leona Aglukkaq, the goal was to communicate with Canadians so that they could make informed choices about H1N1, and that because many Canadians heeded the message, thousands of deaths and illnesses were prevented (Fitzpatrick, 2010). However, Arlene King, Ontario’s Chief Medical Officer of Health conceded that she “certainly would acknowledge that there was public confusion during the immunization. That probably led to reduced public confidence in the province’s response.” (Howlett & Alphonso, 2010).

If the response to H1N1 was indeed a failure, what role did communications play, and what can be learned from a crisis communications perspective? While many actors in a crisis such as H1N1 were involved in communications, three in particular were critical given the failures identified above: health officials, media, and the general public.

The first group of actors was comprised of health officials and frontline workers who were tasked with designing and implementing a campaign to fend off the threat. The second group consisted broadly of the media (mainstream and social, paid and unpaid, domestic and international) who filtered, framed, assessed and relayed information about the crisis to the public and

¹ While some debate exists, the threshold of “herd immunity” — that achieving a sufficient level of vaccination within a community can block the further spread of a virus — has ranged between 50% and 70% of the population (Bouzane, 2010). In Canada, the vaccination rate was 41%, with Ontario posting among the lowest at 32%.

other stakeholders. Finally, there was the general public whose role in a crisis is generally two-fold: (i) serve as the target of public health communications and immunization programs, and (ii) have a response to those programs, the nature of which, ultimately dictates whether these programs are considered a success. As a result, all three groups bear some responsibility for the success or failure of responding to a public health care crisis. It is hardly credible for media opinion leaders to blame public health officials while ignoring their own role, or for public health officials to simply blame media “hype” for the failure of the public to respond appropriately.

This paper offers a critique of the crisis communications response of professional health care communicators during the H1N1 episode by critically following the flow of communications between these three groups during the main crisis period between September and late December 2009. In particular, the paper attempts to provide a unique and meaningful contribution to crisis communications strategy by drawing on agenda-setting — a specific area of communications research.

In the context of a public health care crisis such as H1N1, the failure to appreciate and react to second-level agenda-setting dynamics set in motion by the mainstream news media was among the most important lessons to be drawn from the H1N1 episode from the perspective of crisis communications and professional communications. Focusing on Ontario as a test case, the analysis examines the communications strategy of the Ontario Ministry of Health as it was implemented during the crisis, while at the same time following how the media framed and narrated both the pandemic and the government’s response.

It will be shown that as the issue attributes changed, both the nature and, in particular, the intensity of media coverage changed. This change in media coverage had an immediate and observable effect on public awareness and concern over H1N1. The crisis communications strategy implemented by the government was not sufficiently flexible to take into consideration both the effect that such coverage would have on the public or the reaction to the government’s messaging. In the end, Ontarians were fortunate since H1N1 proved to be less virulent and damaging than estimated. It is possible that the degree of vaccination reached and the level of public response to preventative measures may have contributed to that outcome. Canadians, however, may not always be that lucky. The next time a public health crisis such as H1N1 occurs, a similar breakdown in communications could be disastrous.

Crisis communication theory, media effects and agenda-setting

There has been notable progress made in the development of the field of crisis communications within public relations research over the last several decades (Marra, 1992; Fearn-Banks, 1996; Marra, 1997; An & Cheng, 2010). This progress has been propelled by liberal theoretical borrowing from many areas of research outside of public relations, including mass communications theory and fields focused on various empirically-measurable media effects, such as theories of agenda-setting, framing, and priming. Among these, framing theory has been especially fruitful in the development of crisis communication theory (Zoch & Molleda, 2006; Coombs & Holladay, 2010). As Coombs (2007, p. 165) acknowledges, "framing research in mass communication serves to illuminate the rationale behind crisis types as crisis frames."

Agenda-setting has also served to inform crisis communications theory, but mostly at the primary level or at a pre-agenda setting stage described as "agenda-building" (Curtin & Rhodenbaugh, 2001; Zoch & Molleda, 2006; Sweetser & Brown, 2008). At this primary level, agenda-setting theory asserts that a relationship is observable among the rank-order of importance of a group of issues selected by the public and those issues garnering coverage by the media, based on a transfer of salience (McCombs & Shaw, 1972; McCombs, 2004). Most of the research into agenda-setting has focused on the primary level (Rogers, Hart & Dearing, 1997; Bryant & Miron, 2004). Key trajectories in agenda-setting research that would be particularly relevant to crisis communications strategy would include: (i) the media's ability to ramp up public awareness and relative importance of an issue very, very quickly (Iyengar & Simon, 1993); (ii) the potential for sparking intermedia agenda-setting effects (McCombs & Shaw, 1976; Ploughman, 1984; Mazur, 1987; Reese & Danielian, 1989); (iii) recognizing how interpersonal communications can influence rank-order of importance (Wanta & Wu, 1992); and (iv) the implications for changing the longer-term policy agenda (Wood & Peake, 1998; Soroka, 2002).

However, it is the area of *second-level agenda-setting effects* that may be both most germane to the H1N1 crisis and provide a constructive component for crisis communication planning. Second-level agenda-setting theory suggests that changes in media emphasis on certain *attributes* of an issue relative to other attributes affect the relative importance of that issue as perceived by the public (Ghanem, 1996; Ghanem, 1997; Hester & Gibson, 2003). In this regard, second-level agenda-setting is similar, to varying degrees from author to author, to frame analysis and framing effects (McCombs & Ghanem, 2001; Coleman & Banning, 2006; Aday, 2006; Entman, 2007; Weaver, 2007), in that both frame analysis and second-level agenda-setting recognize that the attributes of an

issue affect public cognition.

An important distinction, according to McCombs (2004, p. 88), is derived from understanding that media frames can operate at a “macro” or more complex level that organizes and excludes a story’s various “micro-level” issue attributes in presenting a story to its audiences. It is these issue attributes that can, in turn, affect the level of media coverage and, consequently, the public’s level of awareness of that issue. Ghanem’s research (1996, 1997) underscored how particular attributes of an issue such as crime (*e.g.*, level of violence) had an observable effect on the level of public’s perception of issue importance.

In this regard, second-level agenda-setting offers a unique variation on the use of frame analysis in crisis communication by focusing on how issue attributes affect the level of media attention and public awareness/concern, rather than the more empirically-challenging idea that public behaviour can be attributed to media frames.

Second-level agenda-setting offers a useful, empirically-testable means of understanding the role played by the media in covering a public health care crisis. Did the evolving issue attributes of the H1N1 outbreak affect the course of the story as communicated by the media, and to what extent, if any, did these attributes potentially affect public awareness and concern? More importantly, if an effect was observed, to what degree did the crisis communications planning and tactics undertaken by government officials take it into account?

Examining the communications function — research questions and design

The following empirical evaluation of the communications function and the roles played by professional public health communicators, media, and the public eschews a formal structure of hypothesis testing. Rather, the evaluation poses six broad research questions intended to highlight how effectively each player performed in conjunction with one another against a common goal: namely, minimizing the impact of a disease (H1N1, in this case) on the populace.

Concerning the role played by the public health professional communicator:

RQ1: Was there a crisis communications strategy in place a priori to deal with H1N1?

Concerning the role of the public health professional communicator in relation to the media:

RQ2: What were the elements of the media relations component of the crisis communications plan concerning H1N1? How were these elements designed to mitigate the crisis?

Concerning the role played by the media in relation to the role of the professional communicator:

RQ3: How did the media help or hinder the ability of the public health professional communicator in implementing the communications strategy?

Concerning the role played by the media in relation to the public:

RQ4: Did the media provide sufficient coverage to make citizens appropriately aware of the threat, and portray the threat as credible? Did the media present any barriers to action?

Concerning the role played by the public in relation to the media:

RQ5: If presented with sufficient, credible media coverage, how did the public respond?

Concerning the role of the public in relation to the public health professional communicator:

RQ6: Did the public take steps to mitigate the effects of the disease?

Methodology

The sample period chosen included data from the initial “first-wave” of the outbreak between late April and mid-September, but focused primarily on the more important “second-wave” that began in mid-September and ended late December 2009 that drew the bulk of media attention and on which communications and immunization strategies were focused.

The assessment of the public communications component from the Ministry was based on news media reports, publicly available material from the Ministry’s communications website, the Ministry’s 2008 influenza crisis communications strategy, and other reports made available by the Ministry.

The media component of the study was comprised of a content analysis using the item as the unit of analysis. The corpus included newspaper, radio and television news coverage mentioning H1N1 between 21 September 2009 and 31 January 2010.² The sample included 39 daily newspapers (all daily newspapers located in Ontario) and 47 Ontario community weeklies, as well as news broadcasts on 109 radio stations and 31 television stations in the province.³

² The sample, while very comprehensive involving mainstream traditional media that Ontarians would be exposed to, does not extend to social or digital media. Increasing media fragmentation raises concerns about sample validation within studies examining media effects such as agenda-setting, but to date, the evidence does not support the view influence of social and digital media is not viewed to be

³ Analysis of broadcast coverage was based on a summary of each newscast provided by Cision Canada, and included hourly broadcasts on radio and 24-hour news channels such as CBC-News Now, CP24 and CTV News Channel. The summary of the news item allowed for the identification that the story was about H1N1, but was insufficient for messages. Coverage of tone and

The sample had two notable limits: it did not include foreign news outlets such as CBS News or CNN covering H1N1 (but did include domestic media covering international events), nor did it include mainstream digital news sources (e.g., globeandmail.com, cbc.ca) or social media such as blogs, Twitter or discussion forums. While these sources are important, the domestic news media remain the most important sources of news and information during a domestic crisis and for crisis planning. In a recent study comparing the agenda-setting influences of social media, mainstream traditional media (newspapers, radio, television) and mainstream digital, the mainstream traditional media remained by far the most influential (Laing, 2009) – a conclusion supported by broader Canadian internet usage results (Zamaria & Fletcher, 2008).

The content analysis measured the presence of stakeholders commenting on H1N1, the prominence of mention, the type of news item (i.e., column, editorial, letter, etc.), the presence of preventative public health messages aimed at curbing the spread of H1N1 (i.e., wash hands, sneeze into sleeve, stay home if sick, etc.), and tone towards public health officials. For the purposes of analysis, “tone” was defined as whether the item portrayed the Ontario government and its agents as either favourable by virtue of being prepared for and/or responsive to the H1N1 outbreak, or unfavourable by being unprepared or unresponsive to H1N1. Examples of favourable messages included: reports of adequate vaccine supplies; the public receiving vaccines in a timely and orderly manner; the Ministry of Health undertaking initiatives to inform the public about the virus and measures to prevent it; and praise for the government’s response. Unfavourable messaging included items that highlighted vaccine shortages; problems obtaining the vaccine; improper procedures; and explicit criticism of the government’s handling of the crisis.

In addition, each item was weighted based on its estimated audience reach, using a combination of the placement and prominence of the mention of H1N1 in the news item, and the news outlet’s average audience size during the time the item appeared. Print audience exposure was based on data obtained from NADBank and the Audit Bureau of Circulation (for community weeklies), while broadcast audience exposure was based on Nielsen Media Research data. The use of audience exposure as a weighting instrument has been established as a metric in previous content analysis research (Gösta, Dahlberg & Rosengren, 1981; Chan, 1999; Laing, 2009, pp. 114-117) and can be viewed as a more valid measuring instrument relative to simple mentions in assessing the impact of news coverage over time in relation to public opinion data.

Three sources of data were used to determine public awareness of H1N1:

1. Changes in web traffic to the Ontario Ministry of Health and Long-term Care website devoted to H1N1 were measured, on the assumption that

messages excludes broadcast coverage.

increases in traffic is a valid measure of demand for information and, consequently, a valid measure of awareness and concern about the threat posed by H1N1.

2. Similarly, Telehealth Ontario call volume on H1N1-related inquiries was evaluated.
3. A weekly tracking poll conducted by Ipsos-Canada of approximately 800 Ontarians that included responses on levels of concern about H1N1 was evaluated.

Public health communications staff response to H1N1

Answering the first research question, communications staff at the Ministry of Health and Long-term Care (MOHLTC) had in place a priori a detailed crisis communications plan to deal with H1N1. Drawing on lessons learned from three sources: (i) the 2003 SARS outbreak; (ii) the experience from previous annual influenza immunization campaigns; and (iii) other strategies developed to meet a public health crisis, the Ontario Ministry of Health developed the Ontario Health Plan for an Influenza Pandemic in October 2004 and revised it annually.⁴ This document was a comprehensive plan designed for the entire Ministry, but did contain a specific chapter concerning the role of communications.

The plan recognized that “during a pandemic, media attention will be intense, and information demands will continue over several months. Sustaining public and workplace confidence over that time will be a challenge.” (“Ontario Health Plan... in Brief,” p. 31). The plan intended communications to focus on four main groups: (i) the public, (ii) health care workers, (iii) health “stakeholders” (defined as employers, regulatory colleges, unions and others involved directly with health care workers), and (iv) “internal audiences” (e.g., MOHLTC staff).

There were two primary objectives of the communications plan: (i) *education* to ensure Ontarians were aware of the plan, took the virus seriously, understood measures to prevent contracting H1N1, and had knowledge about symptoms; and (ii) *reassurance* that government was prepared, working with other governments, and providing timely information.

The role of the media within this plan was to provide a means of transferring information about the virus as well as the response from the Ministry to the public and to health care workers. The plan did lay out specific guidelines

⁴ MOHLTC developed a report entitled the Ontario Health Plan for an Influenza Pandemic in October 2004 that served as the major guidelines for planning and communications during the crisis that had been continually updated prior to the 2009 h1n1 outbreak (Ministry of Health, 2008).

and timetables to ensure that there were regular briefings made to the media about the government's preparations, media monitoring, the importance of key messages and other elements outlined in a communications "toolkit" (cf. Health Plan, Section 12a). The intention of the plan was that by providing regular, open, consistent messaging about the government's steps to address H1N1, the twin objectives of education and reassurance would be achieved.

The period between late April and mid-summer 2009 marked a preliminary "first wave" of H1N1, and triggered the crisis communication plan. MOHLTC communications staff immediately engaged in a paid and earned media strategy. Reacting to information that H1N1 would re-emerge in the fall in a "second wave," predicted to be much more widespread and acute than the first, public health officials and professional communicators directed most of their efforts to prepare for this second wave.

The communications strategy put in place by MOHLTC to tackle H1N1's second wave was designed to operate in two stages. The first stage was to mitigate the spread of the disease in the early and late fall period by promoting preventative measures to the general public; the second stage would focus on promoting the vaccine. While the promotion of preventative measures was continuous from the time the virus first appeared, efforts were stepped up beginning in mid-September. Advertising spots appeared across all media types. Posters and brochures were developed and distributed to schools and public health offices. Medical subject matter experts such as Dr. Michael Gardam, Dr. Vivek Goel and Dr. Donald Low were made available to the media to discuss H1N1 and to correct misinformation about the virus and the vaccine. Paid advertisements and other materials directed Ontarians to seek further information by calling a 1-800 number for Telehealth Ontario, going to a special page on the MOHLTC website devoted to H1N1, or asking their family physician. These communications efforts were executed in concert with the federal Public Health Agency of Canada, which also purchased media advertisement and provided information through earned media strategies.

It was anticipated that the focus of communications would shift from the first stage of promoting preventative measures to the second stage of promoting vaccination during the first week of November.⁵ This timing would make certain that the communications campaign ran in conjunction with the opening of the flu vaccination clinics. The process of manufacturing a flu vaccine in quantity takes six months, and was thus initiated almost immediately following the initial outbreak in early May. For public health communicators at this second stage, the key messages were three: (i) that the vaccine would be avail-

⁵ It is important to note in this type of assessment that it was not possible to begin vaccination any earlier than late October. Development of an influenza vaccine takes six months, and the release of first shipments of vaccine to Ontario health authorities occurred almost to the day that h1n1 first appeared in North America in late April 2009.

able after the first week of November, (ii) that Canada was using an adjuvanted version of the vaccine that would be safe for all Canadians, and (iii) there would be no shortages: anyone who wanted a flu shot could get one.

Media Response to H1N1

It is difficult to exaggerate the degree of media coverage devoted to H1N1 in 2009. Tracking of health care issues in the province of Ontario over the last four years, as illustrated in Figure 1 below, suggested that the H1N1 outbreak attracted almost as much aggregate media coverage as all other health care issues that year combined. While initial coverage of SARS in spring 2003 drew equally strong media attention, the H1N1 crisis was a more provincial (indeed, national and international) issue than SARS, which in Ontario was concentrated in the Toronto area. Moreover, H1N1 had a far longer news cycle than SARS, effectively running from late April to mid-December 2009, with two pronounced peaks in coverage. Consequently, H1N1 generated roughly double the level of media volume as the 2003 SARS crisis.⁶

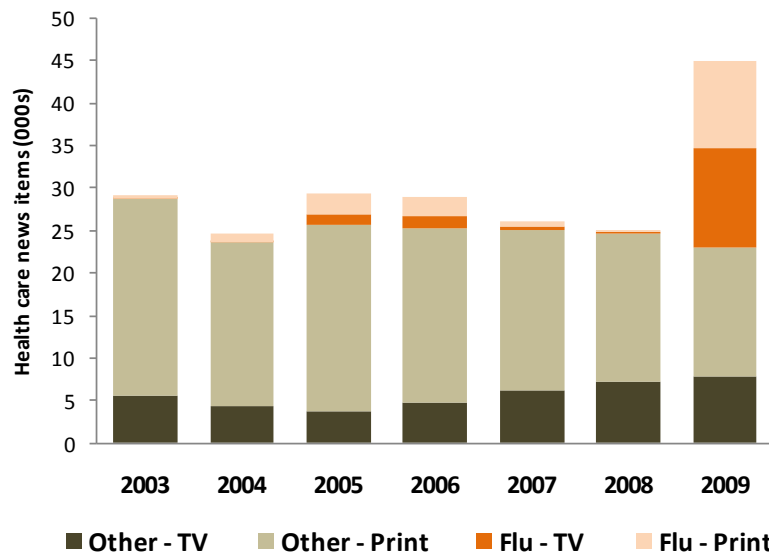


Figure 1: Comparing coverage of influenza against other health care issues covered by Ontario-based television and print media sources. Source: Cormex Research.

⁶ A survey conducted by Cormex Research for the Ontario Ministry of Health of the same range of newspaper and television outlets in Ontario indicated that there were 12,076 news items about sars between March and December 2003, compared to 21,603 items for h1n1 between April and December 2009.

There were two major periods of media coverage surrounding H1N1, as illustrated in Figure 2 below. The first major period of media attention occurred over a four-day period between April 27 and May 1, 2009 when cases of H1N1 first occurred in Mexico and the United States and, soon after, in Canada and Ontario. The estimated average daily audience exposure of news concerning H1N1 in the province during the first four days of the outbreak was 39.3-million impressions,⁷ followed by a five-day period in which media exposure fell by roughly half to 21.7-million impressions between May 2-6, 2009.⁷ After this initial ten-day period of intense coverage, media interest in H1N1 continued through to September 2009 at a much lower but steady level.

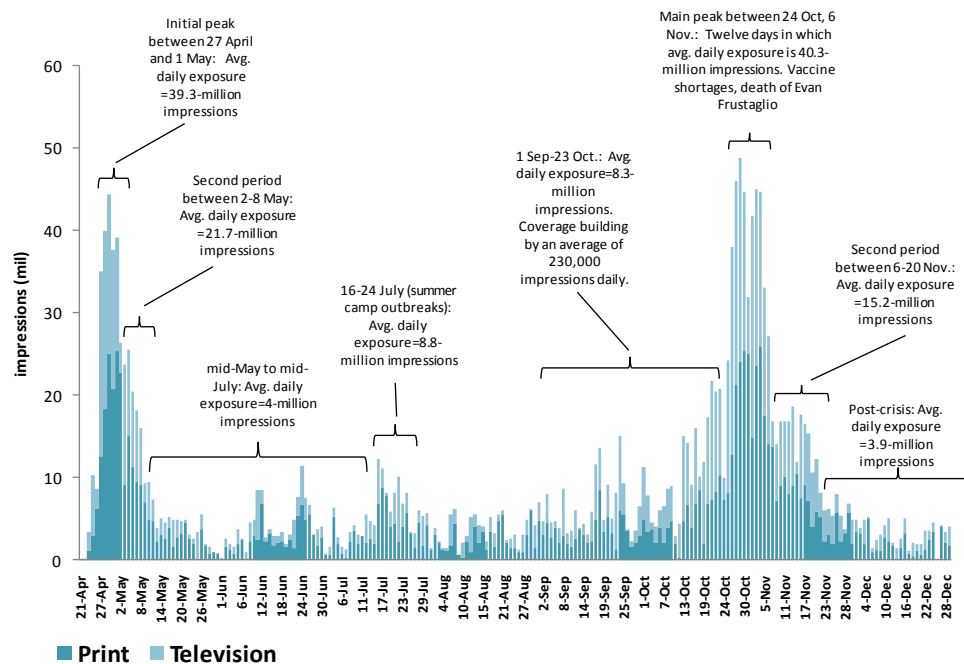


Figure 2: Print and TV coverage of H1N1 by day, expressed in millions of impressions, in Ontario-based news media.

By mid-September, media attention to H1N1 began to trend upwards once again, led partly by stepped-up communications efforts from federal and provincial public health authorities addressing H1N1, and increased media interest in various facets of the story in anticipation of the second wave expected in the

⁷ The paper uses a unit of measurement of aggregate audience exposure commonly referred to in public relations measurement as “impressions.” Using data from audience demographic databases such as NADBank, Nielsens Media Research and BBM, each news item is weighted based on the size of the audience estimated to be reached by that news item from that particular outlet. Time of broadcast as well as placement and prominence is factored into the calculation of audience reach, and is reported as “impressions.”

fall. Coverage of preventative measures to combat the spread of H1N1 was prevalent in the media throughout the summer months and into September. While media occasionally reported that hand-washing was ineffective (Thompson, 2009b), most media reports supported preventative practices rather than cast doubt on them. As shown in Figure 3, reports containing messages about how to prevent the spread of the disease comprised 10% of total media coverage of H1N1 between 15 September and 25 October: in short, one-in-ten exposed to a print news report on H1N1 saw messages on how to help stop the spread of the virus. After that, while volume of media exposure was high during the last week of October, reports containing messages about stopping the spread of the disease comprised a declining share of total media coverage devoted to the topic as the media (and public health officers) turned to other issues, particularly around vaccination.

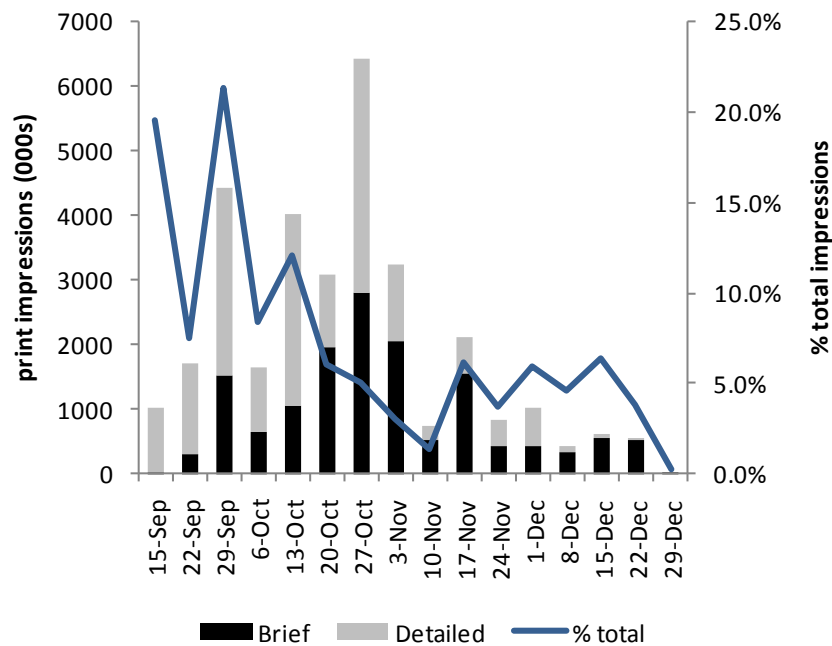


Figure 3: Public health messaging by volume and percentage of total.⁸

Ontario news media also covered topics related to vaccination plans during the first phase, but unlike coverage of preventative measure, many of the more

⁸ Public health messaging was defined as the presence of a message by public health officials aimed at curbing the spread of h1n1, such as frequent hand washing. Items categorized whether the message was only briefly noted, or whether messaging was a main element in the item. “% total” is the percentage of total coverage devoted to h1n1, measured in impressions, comprised of coverage concerning a public health message.

prominent storylines were not conducive to encouraging people to get the vaccine. On September 24 — the same day Ontario Chief Medical Officer Dr. Arlene King outlined the province's vaccination plan to the media — several news outlets (CBC, CTV, *Toronto Star*, *Toronto Sun* and other smaller media outlets) carried a report of an unpublished scientific research from two Canadian researchers (the UBC/Laval Study) that had yet to be peer-reviewed suggesting a link between seasonal flu vaccine and a higher susceptibility to the H1N1 virus. News reports linked this study in framing the province's plan to roll out seasonal flu vaccine to high-risk groups such as seniors in October (to be followed by the H1N1 vaccination program in November and then seasonal flu vaccination for the general population in December) as "rethinking its vaccination program". Despite the Public Health Agency of Canada (PHAC) refuting this study several days later, the UBC/Laval study remained topical with the media. By October 1, the *Globe and Mail* headlined on its front page that an "epidemic of confusion" reigned over provincial vaccination programs, suggesting that the provinces were creating a "hodge-podge" of vaccination programs and that "abrupt" changes by the provinces could put the entire process into "disarray" (Alphonso, 2009).⁹ By Sunday, October 4, the *Toronto Star*, *Ottawa Citizen* and *Toronto Sun* were publishing columns criticizing the decision to roll out seasonal flu vaccinations in October and H1N1 in November as "confusing" to the public (Mandel, 2009; Mason, 2009; Javed, 2009). Contributing to this message was the emergence of former Ontario chief medical officer Dr. Richard Schabas as an expert critic of the strategy to combat H1N1 (Fitzpatrick, 2009). Items continued to appear in the media on the theme of what André Picard of the *Globe and Mail* labeled the "conflusion" around messaging. These items laid the blame squarely with federal and provincial health authorities (Picard, 2009; Alphonso, 2009).

Coinciding with the theme of confusion emphasized by the media around the provincial vaccination programs were two high-profile stories concerning the federal government's handling of the crisis: (i) the shipment of body bags to a remote Northern Manitoba reserve, and (ii) news that the U.S. would be rolling out their vaccine program by mid-October — two to three weeks ahead of Canada. The latter drew negative editorials about Canada's vaccination program (Sweester, 2009). The two stories resulted in additional significant negative media coverage — compounded by statements by federal opposition MPs (Thompson, 2009) — directed at federal public health authorities that questioned their management of the H1N1 crisis.

Nonetheless, despite these negative reports around vaccination in early and

⁹ The headline of the article misapplies a quote from Ross Upshur, director of the University of Toronto's Joint Centre for Bioethics, who was commenting more on the research than on provincial vaccination programs in stating that: "What we assuredly have is an outbreak of unpublished research, which is causing an epidemic of confusion." (Alphonso, 2009)

mid-October and the pressure from various sources for changes to the vaccination timetable, there was also substantial reporting by the media featuring federal and provincial public health officials describing how vaccination preparations were underway. By the third week of October (October 20-26, 2009), 79% of coverage tended to portray public health officials as prepared and responsive to the H1N1 crisis. As illustrated in Figure 2 above, Ontarians were also experiencing more media coverage about H1N1 by this point. There was steady, linear growth in media exposure in October: during the first two weeks of October media exposure had been below 4.5-million impressions, but climbed to 8.7-million impressions by the week beginning October 13, and again to 13.2-million by the week beginning October 20.

This build-up, raising public awareness about the virus and focusing on the preparations for vaccination, can arguably be considered in line with what public health communicators intended in the lead-up to the vaccination roll-out in early November: raising public education and awareness about the virus, providing reassurance, and keeping a fairly tight control over the messaging. Media were reporting that public health clinics would be opened in most areas on November 2, with high-priority groups (pregnant women, health workers, toddlers and adults with chronic conditions) identified for the first round of vaccination. As a result, in the couple of weeks immediately prior to the roll out of the vaccination campaign in Ontario, the messaging from professional communicators, and the media coverage around it, was relatively conducive to encouraging an orderly vaccination of the general public in November. Three events in quick succession, however, put the campaign off the rails.

First, on Sunday, October 26, 2009, ten-year-old Vanetia Warner from Cornwall died in Ottawa, while 13-year-old Evan Frustaglio died in Toronto the following day. While fatalities had been reported up to that point, and were reported subsequently in November, other deaths attracted low media volume: the fatalities happened in remote communities, the children who died had underlying health conditions, and reports tended to frame the fatalities as statistics. With the deaths of Vanetia Warner and, in particular, Evan Frustaglio, whose death was coupled with terrible images of his grieving parents, the media had a more readily-accessible, human face for the potential harm of H1N1, one that resonated powerfully with audiences. Supplied with this means of framing H1N1 with such poignancy, coverage of the virus from the largely Toronto-based media soared.

Second, now stoked by the deaths, the news media focused intensely on the regional clinics as they began to open for high-priority patients. Initial coverage of the clinics was very prominent, appearing across all news platforms, and was largely negative in terms of their portrayal of the preparedness and responsiveness of public health officials. By Friday, October, 30, the *Toronto*

Star, *National Post* and the *Globe and Mail* all carried front-page images of long line-ups at Toronto vaccine clinics, emphasizing the “frenzy” and “panic” expressed by people awaiting their flu shot. The *Toronto Star*’s front-page report that Friday carried the headline “Overwhelmed”, while media reports in all three outlets noted that people were turned away from the North York Civic Centre clinic within an hour of its opening. Both the *Toronto Sun* and *Toronto Star* noted that even individuals in high-risk groups could not obtain the vaccine, and that police had to be called to a clinic in Vaughan when “some 200 angry people were turned away” (Boyle, 2009). Toronto’s CTV supper-hour news described the scene at vaccination clinics as “frenzied”, while CityTV characterized vaccination efforts as “off the rails.”

Third, at this time, federal public health officials conceded that due to an overestimation by the sole vaccine producer, GlaxoSmithKline, provincial governments would not be getting the amount of H1N1 vaccine they had planned at the start of the immunization campaign. This led to a lack of certainty around vaccine supply among all involved, including local and provincial public health officers, the media and the public, which, in turn, resulted in frequent media reporting during this peak period highlighting the message that there was a “vaccine shortage.” Public health officers kept to their messaging that only high-priority groups should go to the clinics, but media reports from the clinics, and front-line health care workers, were transmitting mixed messages to the public of individuals who did receive the vaccine and were not part of the priority groups. This was in addition to a number of high-profile cases of “queue-jumpers” — people in positions of power (hockey players, hospital board members, corporate elite) who were reportedly obtaining flu shots.

In short, it was a ten-day period of intense media coverage around H1N1 in which the public was exposed to two conflicting messages: (i) that H1N1 was a major issue of concern, but (ii) that getting the flu shot might be difficult due to: the priority given to high-risk groups, long line-ups and vaccine shortages. Media exposure during the ten-day period averaged over 40-million impressions, peaking at over 48-million on October 29 — the high-water mark of the crisis from a media standpoint — and only once falling below 30-million impressions.

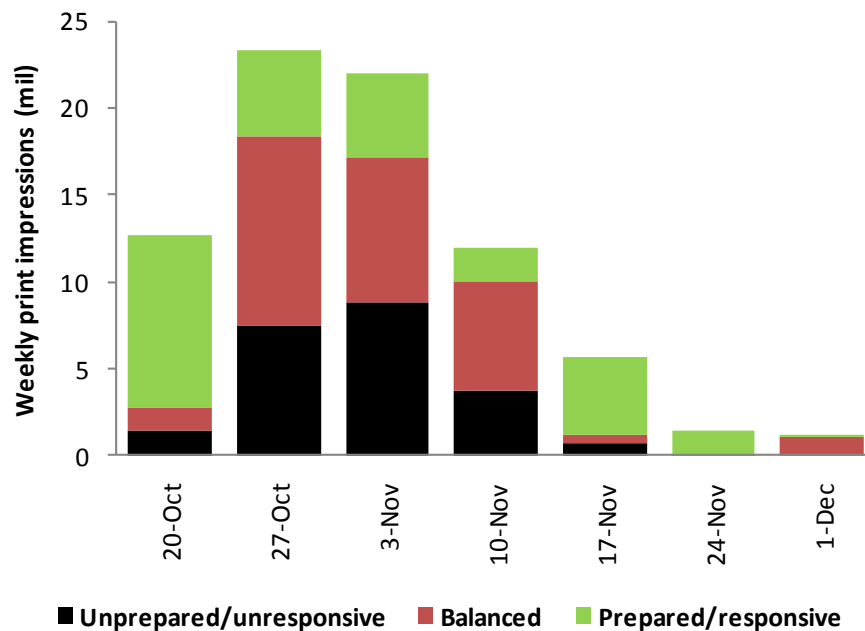


Figure 4: Volume of coverage, measured in millions of impressions, that portrayed public health officials as prepared and/or responsive to H1N1, unprepared or unresponsive to the crisis, or which was balanced.

During the next two weeks between November 7-20, media exposure remained strong but fell significantly from the peak period to an average of 15.4-million impressions, with a range of 11.9-million to 17.7-million. The message regarding problems in obtaining the vaccine remained prevalent, with media reports of clinic closures in parts of the province, rumours that more could close by mid-November, and that public health officials were issuing revised vaccination strategies. Other negative vaccination stories appeared, including reports that Canadian military personnel were vaccinating Taliban prisoners, and that some flu vaccine (less than 1%) had been discarded because it was past its expiration date. By the end of this stage, however, high-priority groups had not sought out the flu vaccine in numbers that public health officials had hoped, and vaccine supply became more stable. By November 18, Ontario public health officers opened vaccination to the general public, but by this point, media coverage had fallen considerably to 15.3-million impressions for the opening (roughly one-third of the peak volume), and then quickly fell to below 10-million impressions by November 20. Over the next two weeks, with clinics fully supplied, prepared and ready to vaccinate Ontarians, coverage of H1N1 improved in terms of tone (see Figure 4 above), but weekly volume fell to just 5-million impressions on average — roughly one-eighth of the level of coverage that occurred only three weeks earlier. By the beginning of December, vac-

cine clinics around the province closed due to a lack of public demand, coupled with reports that the second wave of H1N1 appeared to be in decline.

Public Response to H1N1

In the end, it is estimated that approximately 32% (Statistics Canada 2010) to 38% (CMOH, 2010) of Ontarians were vaccinated against H1N1 – a level considered disappointing by many public health experts (Picard, 2010) as it fell well short of the 60% to 70% level that would afford “herd immunity” protection within the general population. While lower than desired or targeted, Ontario’s immunization rate for H1N1 was, in several respects, not surprising. Before either the intense media coverage or the vaccination program in late October 2009, the majority of Ontarians had already expressed the opinion that H1N1 was of little or no concern, and only one-third responded they would get the H1N1 vaccine.¹⁰ A vaccination rate of between 30% and 40% of Ontarians was, in fact, typical of the annual seasonal influenza rates achieved by the province’s Universal Influenza Immunization Program (UIIP), which had been implemented in 2001 and had achieved one of the highest immunization rates for influenza among Canadian provinces (Statistics Canada, 2008).

Determining why members of the public did not get vaccinated is a behavioural question that is too complex to determine within the scope of analyzing only media and public health communications messages, since many other factors would enter into the decision-making process. Nonetheless, if the public *were* to respond, several pre-conditions would have to be manifest that are empirically observable.

First, the public must be at least made aware of the threat to their health in order to respond – a responsibility held not only by public health communicators and the media when they provide information and raise awareness, but also by the citizen who needs to be engaged in some way in public discourse about such issues. Second, the public must perceive the threat as credible before they are likely to act. Distrust of the messengers, or conflicting information about the seriousness of the threat would undermine the perceived credibility of that threat. Finally – related to the issue of threat credibility – barriers to action may undermine the will to act on the threat. The public may be aware of the threat and view it as credible, but they act as independent agents that will weigh whether or not to act on a threat against two barriers: how difficult it is for members of the public to act; and what risks they might face by acting on the threat. Examples of such barriers to action are: long line-

¹⁰ Numerous media results published the poll results co-sponsored by Canadian Press, including CBC’s *The Hour*, and many Sun Media newspapers across Ontario.

ups to receive vaccination, or information suggesting that there may be unwanted side-effects in taking the vaccine.

While there is little question that the combination of earned and paid media devoted to H1N1 made the public *aware* of the threat posed by H1N1, less certain is whether the issue attributes surrounding the media's coverage of H1N1 produced a sufficiently credible threat to overcome any perceived barriers to action. Data determining the level of public concern about H1N1 over time shows a clear relationship between the rise and fall of concern with changing levels of media coverage. Polling data indicated that the level of concern over H1N1 showed a strong relationship with level of media attention devoted to the subject ($r=.88$, $p<.01$), as illustrated in Figure 5 below. The volume of traffic to the Ministry's flu information website (see Figure 6 below) also tracked very strongly with the level of media coverage ($r=0.86$, $p<.01$), and that relationship was evident even before the peak observed in late October/early November occurred. A similarly strong correlation was observed between media coverage and Telehealth Ontario call volume between October 20 and November 30, 2009 ($r=0.88$, $p<.01$).

It is possible that public concern over H1N1 reflected the actual level of H1N1 activity within the community, and indeed incidences of H1N1 reported by the Public Health Agency of Canada indicated that the spread of the disease may have peaked during the period between late October and early November (Government of Canada, 2010). Other sources of information not tracked as part of this study, such as social media or interpersonal information (not influenced by mainstream media) may also have played a role and influenced the findings. However, the strong relationship between media and public expressions of concern, and the degree of media coverage devoted to the topic overall relative to the actual number of cases of flu reported in Ontario, points to the strong possibility that the domestic news media was a leading indicator of public concern over H1N1.

If that were the case, the notable decline in media coverage experienced between the peak at the beginning of November and November 18, 2009, when vaccine clinics were opened to the general public, could have also affected the public's perception of the level of threat posed by H1N1 to their personal health – particularly when compared against the perceived barriers of obtaining the vaccine (shortages, long line-ups), even after those barriers had been removed by public health officials. In short, while other factors could and likely were at play in the public's decision not to seek out the vaccine, a strong case can be made that mixed messaging from the media undermined threat credibility and raised barriers to action. Moreover, this undermining was coupled with the media's declining level of attention to H1N1, which served as a proxy to the public about threat credibility in keeping with the agenda-setting hypothesis. Combined, these media-created factors may have been a factor explaining why

many Ontarians chose not to get vaccinated in late November.

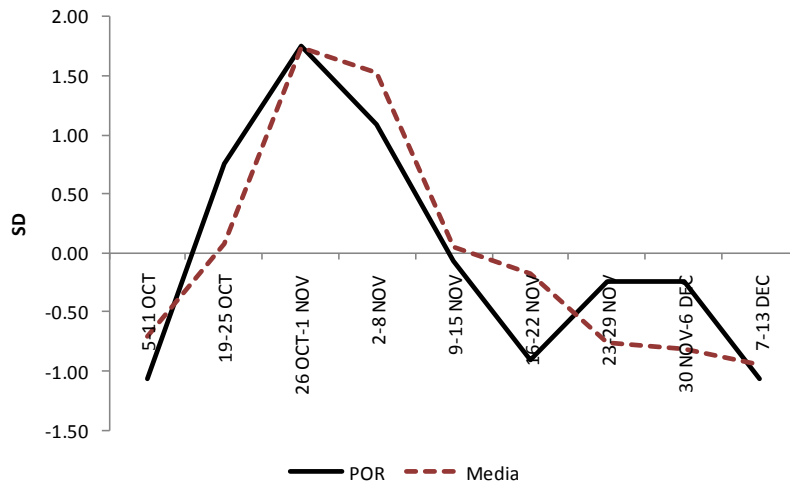


Figure 5: Level of public concern over H1N1 plotted against total level of media coverage, in standard deviations.¹¹

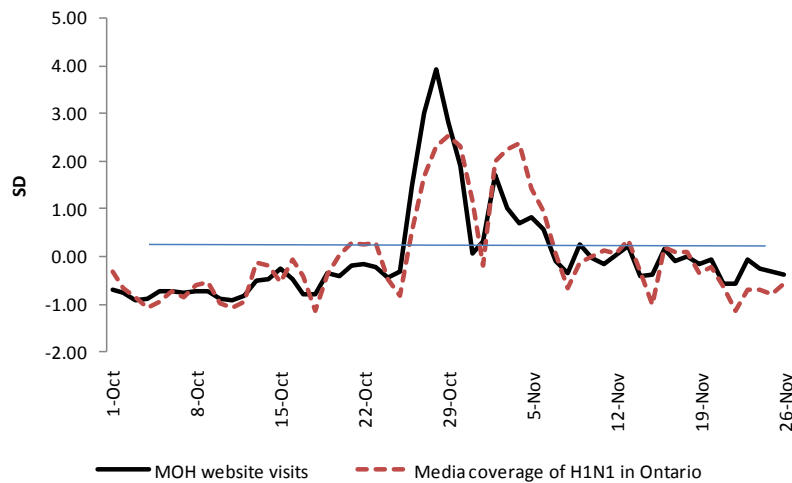


Figure 6: Web traffic to the Ontario Ministry of Health's site concerning H1N1 against media coverage, by day, in standard deviations.¹²

¹¹ Public concern (POR) based on percentage responses to weekly online tracking opinion poll in which respondents from Ontario indicated their level of concern about h1n1 on a 7-point scale. "Media" based on aggregate number of impressions generated by Ontario media coverage in the seven-day period prior to the poll.

¹² Web traffic compiled by Google tracking statistics based on number of unique visitors per day to main landing page. Media coverage based on total number of impressions in print, radio and television coverage in Ontario concerning h1n1.

Discussion of results

Certainly, the problems associated with H1N1 were not altogether associated with communications and the media. The virulence of H1N1 proved to be less-than-anticipated, and vaccine supply issues were not entirely addressed until after the virus peaked. Moreover, the promotion of preventative measures may have played a role in limiting the spread of H1N1 as well as other viral diseases (Picard, 2010). Explaining public behaviour in a crisis situation is complex and involves factors other than media coverage. But at the same time, given the degree of media coverage around H1N1 in October and November, to ignore its effects or suggest that it had no impact seems implausible.

These caveats notwithstanding, there was evidence of a breakdown in the communications function during the H1N1 outbreak in Fall 2009 between public health communicators, the media, and the public, and that breakdown may have been a factor behind a shortfall in Ontarians immunized against the virus. In the end, the analysis pointed to problems with all three parties.

For professional public health communicators, a critical flaw was that they did not appear to have in place a communications plan that was sufficiently flexible to react to the onslaught of media coverage they encountered when the first fatalities occurred.¹³ Up until October 27, public health officials followed a crisis communications plan that was building a case for vaccination through paid and earned media, and had largely handled the communications function relatively effectively despite scattered criticism appearing in the media and elsewhere. Up to that date, using the media as a passive conduit of information to the public and health care stakeholders worked more or less as planned. However, it was also apparent that the same officials had no effective response to the intense media scrutiny sparked by the first high-profile deaths of citizens without underlying health conditions, followed immediately by equally intense negative messaging around the supply and distribution issues involving the vaccine, even though they were in many respects blameless for those issues. Key messages developed during the lead-up to the campaign did not deal with changes in issue attributes and resultant frames. This led to a fundamental disconnect in messaging between the attributes of the issue that the media were emphasizing (and the public receiving), and the messages of education and reassurance offered by public health officials. By the time supply issues were

¹³ A limitation to this paper observed by a reviewer and conceded by the author is that interviews with public health communications staff at the Ontario Ministry of Health were not available at time of publication. The basis of the review of the communications strategy is based largely on published documents concerning the communications plan cited in the paper. It is possible that plans and tactics were created to deal directly with the new media landscape that unfolded after October 27, 2009, but the fact remains is that whatever plan was put in place, many later expressed the view that the communications effort had failed.

dealt with and vaccine clinics opened to the general public, the news media had, by virtue of reducing coverage to the story, signalled to Ontarians that the “crisis” was over.

The role of the commercial media in the communications function was to provide public messaging in the form of paid advertising of public health information directly to audiences. However, news media serve various masters, and are tasked with interpreting public health messaging and the larger story for its audiences often through a critical, “story-first” position reflective of the competitive environment in which journalists operate. How the media covered H1N1 highlighted how journalistic impulses frequently impede and conflict with whatever positive role they can play as an intermediary between the public and professional communicators in tackling a health care problem.

While early coverage of H1N1 in late September and into early October supported one aspect of the crisis communications strategy — promoting preventative measures — it also framed vaccination plans negatively. Even more unfortunate was the fact that this framing was based on little hard evidence, such as weak scientific research as exemplified by the UBC/Laval study; the focus on the Manitoba body bags story; criticism that Canadians would be getting the vaccine after Americans (when the U.S. in fact had encountered its own supply issues well into November and December); or labeling communications as “confusing” simply because different provinces chose to implement slightly different protocols around H1N1 and seasonal flu vaccination.

The impact of these initial flaws in media coverage, however, paled in comparison to what unfolded following the death of Evan Frustaglio on October 27. The level of media attention devoted to the boy’s death at the time, let alone in hindsight, was not justifiable based on any perceived level of threat of H1N1 to the general public. Rather, the intense coverage reflected how the unique issue attributes of the story appealed to journalists. With media attention stoked, and competition to own the H1N1 story peaking, the coverage of line-ups at certain clinics and portrayals of problems administering the very first batches of vaccine was arguably disproportionate to the actual problems encountered by public health officials during that period, or the seriousness of the threat to the public that the temporary shortage of vaccine caused. After two weeks, with no significant increase in fatalities and more vaccine reaching clinics, the issue attributes driving media interest in the story inevitably waned and, with it, the level of coverage reaching Ontarians. That change in media intensity combined with its resultant agenda-setting effects on the issue importance of H1N1 vaccination may have constituted a key factor in observed decline in public concern about the issue among Ontarians. That drop in concern may have consequently led to the low demand for flu shots when they were finally made available to the general public in mid-November.

Finally, if the desired outcome was to protect the public from a serious

health threat, the public itself was not entirely blameless. Despite substantial information suggesting that H1N1 was a serious threat, and equally substantial quality information available for members of the public to make an informed decision, two-thirds of Ontarians decided to ignore the warnings of public health experts and not get vaccinated. Analysis indicated that awareness of the topic was high. Whether their own experiences and biases, or some form of media-influencing effects, or both, were the cause, the result was that too few Ontarians did not think the threat was sufficiently credible to change their behaviour.

Conclusion

Calling the public health campaign around H1N1 a failure may be partly justified, but if it was a failure, what are the lessons to be learned?

The analysis presented in this paper emphasized that the failure did not belong solely to one group and that, arguably, it would be counterproductive to blame only the government or the media in this case. Rather, a more constructive approach would be to view the failure as a breakdown in the communications function in which all three groups bear some responsibility. Overlooked in blame was the public, which received information but chose not to act on it. Less overlooked but still an area for further study and critique, was the role of the media during a health-care crisis. Further research should be conducted into examining the interrelationship between second-level agenda-setting effects between the media and the public during a time of crisis, and how this would better inform crisis communications strategy and theory.

In this regard, the biggest lessons about H1N1 need to be learned by professional communicators working in public health, who should fundamentally rethink crisis communications strategies to take into account both the media and public roles within the communications function. The view of the media as a passive conduit of information, rather than an active, dynamic, volatile source of competing information, was a flaw in the communications plan for the Ontario government. Many public health campaigns start and end with a pre-set *a priori* list of key messages deemed critical for public understanding of the issue at hand, and “sticking to the message” is often viewed as a critical component for media relations during a time of crisis. While such strategies may work with topics like obesity or tobacco dependence, or even seasonal flu immunization campaigns, they may be much less effective with dynamic, quickly-changing issues such as H1N1 or SARS. With these types of crises, news media can — and will — set the terms and timing by which a health care threat is presented to the public, and communications officials need to work with it rather than against it. Professional communicators with political campaigns

understand this dynamic all-too-well and have, over time, developed tactics and strategies that respond more flexibly to issues when and where they are raised by the media. For communications researchers and professional communications strategists, more attention should be paid to studying how to build into the communications plan a degree of flexibility specifically designed to address news media agenda-setting and framing effects as they occur.

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