

The Failure of Public Relations During a Pandemic Outbreak: Using Actor-Network Theory to Highlight the News Media as a Complex Mediator

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Abstract

This study explores the construction of public information among public relations practitioners, public health leaders and members of the media during a public health crisis. Sixteen public relations practitioners in the Canadian public health system, medical leaders and journalists were interviewed directly after the first wave of the 2009 influenza pandemic outbreak of the H1N1 virus, more commonly known as “swine flu.” Interview results and news stories from the outbreak period highlight uncommon challenges faced by public relations professionals during a public health crisis owing to hidden associations between the multiple human and, perhaps unusually, nonhuman actors involved in an outbreak narrative. The main finding of this study is that public relations practitioners chose the media as a vehicle to compel specific public actions—immunization and other self-care measures—yet failed to recognize the media as a complex mediator with specific interests and motivations. This finding is illustrated through Actor-Network Theory (ANT), a social theory that treats all actors—people, objects and organizations—in networks as equals because to understand outcomes, actors are less important than their actions. ANT is a useful methodological concept because it draws analytical attention to public relations and media practices and behaviors normally viewed as commonplace and thus taken for granted. Given the trends in pandemics and other serious public health outbreaks such as Ebola and Zika, public relations practitioners can consider using this theory to examine their crisis communications plans and related activities.

Introduction

News reporters crave problems with conflicting solutions or compounding issues. Public health outbreaks are almost perfect in this regard. Unlike public health scientists and leaders, journalists thrive in uncertain times. From a societal perspective, it might be ideal if actions that solve public health problems were swift and certain; but science is not that straightforward, nor apolitical. Epidemiology is inherently political and complex because it implicates entire groups, deals with sweeping contagion, and endlessly monitors for disease.

Back in 2009, it appeared that the world was facing serious contagion. A new influenza strain detected in Mexico immediately concerned officials. “Swine flu,” initially named because of its apparent movement from pigs to human, was renamed H1N1 as it moved through North America with speed and efficiency. The virus was quickly declared by the World Health Organization (WHO) as an influenza pandemic.

As described by the media in North America, H1N1 looked as though it might become an enormous public health crisis. Media coverage became unrelenting and endless, ranging from highlighting the vaccine shortage and criticizing government handling of the

mass immunization program and its assurances, to warnings by officials of the dire consequences should people refuse immunization and confusion about which demographics should get immunized first. Media stories were set against a backdrop of articles about the worldwide pandemic response.

In the end, the H1N1 pandemic spread far exceeded the effects of normal flu seasons in Canada and the United States. From today's perspective, the threat of H1N1 was real but the mortality rate was not even close the level imagined (WHO, 2011).

Unquestionably, public relations during these crises can shake or enhance the public's faith in the abilities of governments and public health organizations to manage health danger. Such outcomes require greater understanding about news construction during the exceptional times of health outbreak or disease prevalence.

Understanding such complexity means exploring interconnections of science and the news, and actors' interests as pieces of a pandemic story. This study uses Actor-Network Theory (ANT) to examine these interconnections, between the multiple human and, perhaps unusually, nonhuman actors involved in the 2009 pandemic narrative: the media, the WHO, public health and government leaders, the virus and vaccine.

Officials chose media communications as the vehicle to translate the extraordinary circumstance of H1N1 and compel specific public actions. Such decisions—to invest in the media for public communications—are risky but often necessary ventures. However, as the application of ANT uncovers, because they did not recognize the news media as a complex mediator, public health officials faced critical limitations in using them to manage the 2009 pandemic. As the virus emerged, public health officials immediately took on the enormous task of shaping the media response. In so doing, they signaled a belief in the news media as the most effective tool to trigger public action based on scientific knowledge. They counted on the media being invested in official population management solutions to the pandemic. However, the media was also a key actor in this story, and it had inventive ideas about how to treat information.

This study traces media interests and those of other heterogeneous actors as information was produced for the public. Interviews were conducted with Canadian journalists, public relations professionals working in public health and their medical leaders. The interview data, along with analysis of the media coverage, paints a picture of alliances assembled, fragmented and reassigned. News stories highlight the intensity of associations. As told through these articles, this was a chaotic time that included hunting for enough H1N1 vaccine and laying blame for a crumbling immunization strategy. The chaos of media attention swirling around the H1N1 vaccine seemed at odds with the scientific triumph of the vaccine solution and the organizational triumph of a mass immunization program.

Public health officials' thinking that journalists and their work could be controlled, yet actually having few tools to constrain them, led to a breakdown in management of the crisis. This case provides clues as to how we can use social theory to view the media during crises: alliances imagined with the mass media face barriers and often fail, because of media tendencies to sharpen tensions.

Literature Review: Media Attention on Outbreaks

A useful comparison to the media attention paid to the H1N1 pandemic can be made with key debates and research about the Severe Acute Respiratory Syndrome (SARS) outbreak of 2003.

Relevant literature outlines how members of the media are capable of manufacturing fear and shaping discourse about health crises. Some studies argue that language in media stories sensationalized SARS and that this overblown coverage had direct effects on the

economy and public confidence in public health leaders to manage outbreaks. SARS is pertinent because it attracted enormous media attention in Canada, some of which several authors note was responsible for systemic changes in the country's public health system. For instance, the lack of information coordination for the public during SARS prompted the Government of Canada to restructure parts of its public health systems and led to the establishment of a Public Health Agency, a minister of state for Public Health and a chief public health officer (Naylor, 2003).

More importantly for this study, SARS transformed the ways in which the Canadian media write and think about infections. Journalists set a pattern when they reported on SARS by emphasizing only certain stories and episodes from the 20th century "conquest" of contagions (Feldberg, 2006). Members of the media invoked history and relied on historians as experts to an unprecedented degree during the SARS outbreak. Media articles and opinion essays relied heavily on histories of the plague, and the 1918 Spanish Flu, thus "history" was partial and largely told through stories and broadcasts. Post-SARS, many journalists began invoking versions of the past to talk about and explain SARS, illustrating the important yet problematic role that history, as told through the news media, played in the description of shifting Canadian health issues and policy (Feldberg, 2006).

Muzzatti (2005) asserts that threats to public health are manufactured by the mass media, that these threats draw upon past and present cultural myths of dangerous "others," and in so doing contribute to unwarranted public fear, intolerance, and distrust. Similarly, Lewison (2008) finds that uncertainty in the information provided by officials generated more sensational coverage in the early days of the SARS outbreak. He analyzes coverage of the risks from SARS in news media outlets in seven countries, including Canada, to find that the tone of articles was "scary" in the early weeks of the outbreak. As more information circulated about the disease, articles became less numerous and more moderate in tone (Lewison, 2008).

The idea that the media amplified public concern by their coverage of SARS is taken up by Tyshenko and Paterson (2010) in their study about risk communications. To analyze the SARS outbreak, they use the social amplification of risk framework. This framework was developed in the late 1980s to describe the various processes by which some hazards and events become the focus of intense social and political concerns and activity, or amplification. They argue that the media captured, framed and formed SARS as a risk issue by using metaphors, symbols and comparisons. The authors describe how SARS set up several media "triggers," and received coverage due to its high potential for catastrophe (Tyshenkso and Paterson, 2010).

Similarly, a study by Berry et al. finds that the use of authoritative sources in media stories increased the representation of risks associated with SARS (Berry, Wharf-Higgins and Naylor, 2007). These authors examine the quantity and construction of health information in the news media, and review media articles about SARS, to find that health topics were more often discussed in terms of risk by credible sources using strong language. They note that this finding correlates with a heightened perception of risk when health topics such as SARS receive a great deal of media attention.

Several other authors find that public perceptions of risk can have effects on the economy and beliefs among the public in government officials to manage public health. For example, Smith (2006) finds that the role of risk perception, its communication and management drove the economic impact of the SARS outbreak. The author argues that the loss to the economy was the most serious effect of overblown media coverage and an inadequate public health system response. Smith makes the argument by noting that a risk contains both materially measurable elements of probability and a socially constructed

element of how that probability or event is perceived by the individual and society. Therefore, Smith concludes, the management of risk communications requires serious attention because of the potential economic consequences of exaggerated risk.

This study shares the finding that the media tends to sensationalize coverage of health outbreaks, but with notable differences. H1N1, much like SARS, was framed as a risk issue with potentially grave effects on the general population. However, this study highlights that the media framed the outbreak as an issue about public health management of a pandemic. Coverage over the sustained period of H1N1 started with a focus on the dangers of people contracting the virus, but the waves of sensational media stories throughout the outbreak period centered on the shortcomings of the vaccine program.

Relationships among key actors and their actions unlock our understanding of what happened from a public communications perspective during the 2009 H1N1 outbreak in Canada. The purpose of this study is to uncover key features in the interconnected approaches of all actors: journalists and public health officials, including their public relations practitioners, the virus and vaccine. Two research questions were posed:

RQ1: What actions characterize the relationship between actors during a public health crisis?

RQ2: How is this relationship shaped by their recognition of each other's interests and motivations?

Research Methods

This study is built on the view that members of the media and public health leaders did not merely describe events but are themselves constitutive of wider discourses and conflicts. News stories are products of social interactions and the ways that the actors involved think and react to each other. It becomes clear, therefore, that medical officers of health, their public relations practitioners and journalists imposed meaning on the situation, as evidenced by how they were involved in communicating with the public.

This study uses two sets of data to address its research questions: interviews with 16 journalists who reported on the outbreak, public relations professionals and public health leaders from each region in Canada; and articles about the H1N1 virus appearing in major Canadian newspapers from April 1, 2009 to December 31, 2009. This coverage involved 7,130 articles in daily national newspapers and during this analysis, particular attention was paid to 587 front-page news stories.

Grounded theory was used to analyze the transcribed interview data and media coverage. Interview data and news coverage were coded to build categories which were then developed as memoranda. This iterative process resulted in 26 different memoranda ranging in length from one to five pages. Emerging from these memos were key findings about the networked relationships among actors and their individual decisions and influence on the type and volume of news articles.

Grounded theory is a qualitative, systematic, inductive and comparative approach to conducting inquiry of data (Bryant and Charmaz, 2007). This approach provides a useful analytic structure for this study because it allows for greater objectivity by beginning the analysis with no preconceived hypothesis (Glaser 1992). In addition, grounded theory works well when used with Actor-Network Theory because both theories value multiple realities and treat the social and technical as indivisible. And, both theories share the importance of analysing the actions of actors, particularly those resulting from their relationships.

Defining Actor-Network Theory

ANT explains how networks form among heterogeneous actors—both human and nonhuman—sometimes working together in smooth functioning systems (Latour, 1987). ANT can be used to explore the 2009 outbreak story by highlighting associations between humans, technologies and objects. Here, all actors are viewed as tied into networks built and maintained to achieve certain interests. Most importantly, ANT finds a methodological home in public relations and media studies because it draws analytical attention to media practices and behaviors normally viewed as commonplace and thus taken for granted.

When ANT is used to explore what went wrong and what ended up working during the exceptional events of the 2009 outbreak, it becomes clear that actors constantly redefined each other through their interdependence. Multiple actors formed alliances in these actor networks, causing us to rethink who, how and why entities related to each other. As such, ANT can help reveal how a phenomenon is experienced among actors in different ways when multiple meanings are generated and suspended within the effects of a particular network.

For ANT, the social and technical are treated as inseparable. All actors—people, objects and organizations—become indistinguishable in the network, known simply as "entities that do things" (Latour, 1992:241). ANT turns our exclusive attention away from humans to look at nonhumans, and thus, balances our accounts of society (Latour, 1992). These entities are treated equally because for understanding outcomes actors are less important than their actions, so "the distinction between humans and non-humans, embodied or disembodied skills, impersonation or 'machination' are less interesting than the complete chain along which competences and actions are distributed" (Latour, 1992:243). Latour uses the example of a door hinge to emphasize how a "mundane" nonhuman actor has an important role when you think of what human actors would have to do in its absence—such as the continuous construction and demolition of walls to keep spaces contained. The hinged door is thus an actor because it mobilizes others, the humans who open and close the door, to do things.

We can thus imagine how science and technology bring non-humans into the human world; ANT promotes rich descriptions of how these connections lead to the formation of new entities. A computer and its human operator, for example, combine social and technological elements to achieve their newly shared "interests" of a working technology. Thinking of ANT with respect to a scientific concept such as germ theory focuses on the connections that bring some microorganisms and the body together to create certain diseases. Germ theory revolutionized the practice of medicine and the understanding of disease by reducing diseases to simple interactions between microorganism and host, without the need for the elaborate attention to environmental influences such as diet, climate and ventilation that were essential to earlier understandings of health and disease (Harvard, 2014). The nonhuman microorganism and human hosts connect to build scientific understanding as the basis to treat disease. This relationship highlights that an actor is "any element which bends space around itself, makes other elements dependent upon itself and translates their will into a language of its own" (Callon and Latour, 1981:286).

Findings: Following the Actors

The H1N1 virus

The significance of the media should not overshadow the actor who started the whole story: the tiny virus named H1N1. Quite simply, the pandemic would not have existed had the virus not been interpreted in certain social and scientific ways: as dangerous, spreading and demanding attention. Initially dubbed "swine flu," the name of the novel influenza virus

was changed by public health officials to a more scientific-sounding H1N1 when it passed through the laboratory and gathered allies.

However, H1N1 shaped this societal event, as other actors responded to its presence and capabilities, often with swift and profound action. Viruses take on social meaning—and survive and thrive socially—only through human definition, such as being named the cause of a pandemic outbreak.

The virus itself is not tangible, capable of being seen or felt, and anyone infected becomes ill in different ways and to different degrees. Thus the scientific invocation of a virus is thus much like the mystical invocation of a spirit: scientists fetishized H1N1 from its discovery in 2009 as a novel external agent. From that point forward, actors suspended a commonsense reality that human voices and actions give the virus social life. Laboratories confirmed H1N1's identity and then constructed and summoned its imagined movement through populations. This visualization of entities, and their place in the world, is often associated with the need for social order (Vertesi, 2012). In this case, members of the media and public health community used the identity of the virus as a looming threat to imagine its effects. Its potential and capacity to become remarkable became a lens through which these actors experienced the tiny virus to trace or prevent its movement.

H1N1 emerged not as a “thing” but an actor with certain abilities attached. These abilities included generating interests and actions among other actors. This diminutive actor became categorized as powerful just as forces were marshaled that produced a vaccine solution and a human imperative for its use. Meanwhile, the strength of H1N1 only grew as others who appointed themselves as its spokespeople weakened.

The influential role and agency of something like an invoked virus is not without precedent. Science has long been known to make visible nonhuman actors (Latour, 1988). French chemist and microbiologist Louis Pasteur is one of the most important founders of medical microbiology who, among other achievements, discovered that microorganisms cause fermentation and disease; he also originated the process of pasteurization and developed vaccines against anthrax and rabies. The tiny bacillus thus was allowed to play a large role in these 19th century biomedical breakthroughs.

How can we attribute purpose to things? In ANT, agency is “decoupled” from intentionality, subjectivity and free will among both humans and nonhumans and is generalized to include every entity that makes or promotes a difference in another entity or in a network (Latour, 2005). For instance, the actions of microbes reorganized Pasteur's France when human associations moved science beyond the walls of the laboratory. The bacillus was among the constituents who made Pasteur possible, as it enlisted a long list of allies to include hygienists, farmers, army doctors, the Imperial regime, and statisticians (Latour, 1988). The microbe became known as the cause of puzzling problems for other actors. Hygienists, for example, were quick to take up Pasteur's work because the bacteria matched patterns of disease outbreak that they could address using their methods. Similarly, military doctors adopted Pasteur's work because of their interests in isolated measures to prevent disease.

Just as microbes in general made an enormous difference among 19th century hygienists and military doctors as they furthered their own cause, the H1N1 virus transformed a number of 21st century actors as it became categorized as widespread and powerful. Such an actor proves its power by making those in whose name it speaks act so that each force says the same thing (Latour, 1988). The durability of H1N1 came from this growing power to connect with various actors. Instead of simply acting as a substitute for human actors, the microorganism was a mediator, an essential link in the chain connecting scientists, government, public health decision-makers, the media and the public. However,

like all mediators who “transform, translate, distort and modify” other actors, (Latour, 2005:39) the virus had effects on those other entities.

One profound effect was the power of the virus afforded by its imagined invisible and borderless movement, a power that preoccupied other entities and shaped their actions. The crowning achievement was its pandemic categorization. This act placed the virus into a specific danger zone as a new contagion capable of attacking vulnerable hosts lacking immunity. A pandemic virus is frightening because it is ordained and labeled, in high profile ways, as the scientific cause of widespread illness. But it is also surrounded by uncertainty, in that other actors do not know how far it will spread and how sick its victims will become.

Various strains of the influenza virus have long been identified by scientists, provoking yearly variations in vaccination formulas. Yet the H1N1 influenza was different in being declared a “pandemic”. The declaration was part of a WHO classificatory scheme crucial to identifying and then communicating public health danger. Central to this scheme are numbered pandemic alert levels used by nations to trigger certain actions, such as purchasing vaccine or imposing travel restrictions, as a disease outbreak progresses in scope or severity. The pandemic alert levels for the 2009 H1N1 outbreak face criticism because they simply reaffirmed the WHO’s description of past disease episodes, and thus this outdated categorization failed to address issues at hand (Abeyasinghe, 2013).

This categorization and profile originated from two activities: first, laboratories worldwide designed their work around deciphering the virus type, and second, scientists raced to create the vaccine that would prevent its spread. Both laboratory pursuits, and their outcomes, helped propel and shape media interest and public outreach.

For example, one medical officer of health interviewed for this study, who was on holiday in Mexico in April 2009 when the new virus strain emerged in California and Mexico, along with serious respiratory illness, said it “rang all the alarm bells.” He knew within three days that “it was a significant occurrence. Whether it was going to become a significant illness occurrence was irrelevant.” The virus’ absence of shared traits with other viruses ignited enormous attention and excitement among public health officials, and members of the media, worldwide.

The public relations machines attached to public health organizations include emergency communications plans that sit on a hair-trigger of anticipation. The existence of such plans keep officials poised and ready to breathe promotional life into the identification of a pandemic virus. One public relations official working for a public health organization spoke during an interview of the orderly nature in which these plans were invoked: “Almost immediately when we started seeing the first cases...we decided we needed to invoke the crisis communications plan...because of the media attention that typically follows these kinds of events.” Even before the virus was typed in a laboratory, H1N1 was a force that conjured urgent information sharing prescribed in a crisis communications plan. The media attention activated through these plans further inspired a sense of mystery, awe and fascination swirling around this microscopic actor.

In its representation in the media, the virus became a dangerous and unpredictable actor. Insecurity was amplified when the virus’ health effects were inconsistently described in news stories, furthering the mystery of the virus. There was an impression of it being in everyone’s interests to pay attention to each piece of available information.

The H1N1 vaccine

The virus was quickly strong enough to affirm the need for public health measures. With a vaccine, the virus had a perfect partner to substantiate its risks. And the two together were the perfect allies for public health agencies. Inoculation and its administration to the

population spoke volumes about the virus' dangerous abilities and drove a moral imperative of immunization. Without the virus, the vaccine and the doctrine of contagion and variable virulence, no foundation would exist for public health systems. When interviewed, one Medical Officer of Health described the virus as though it was neatly packaged as a public health case study: "Everybody was primed for something that was about to happen; we'd been talking a lot about pandemic so all of the sudden there is a new virus ...so it was the perfect recipe...right from the get-go."

Almost each time the pandemic captured media attention, the virus shared the stage with the vaccine—its demands, management and distribution. In the media, vaccine and virus thus became mutually dependent, sustaining each other as viable actors during a risky and uncertain time. Both required the other to establish and then further their strength and roles as central to the pandemic story. Such dependence deepened when media attention grew and attached onto the vaccine-virus pair the human emotion of people waiting their turn to receive immunization.

Mutual dependence was animated through a media story line that married the risk of flu and the anxiety of vaccine scarcity. This was a time when "Canada faces twin threats...of a dramatic vaccine shortfall and increases in flu activity" with "more long lineups for unexpectedly scarce shots, more stress on emergency rooms and intensive-care units, and more health-care workers and schoolchildren falling sick" (Kirkey, Nov 2, 2009). The dramatic news presentation was of widespread illness with a visible yet inaccessible cure.

When nonhumans become socialized, they often borrow properties from the social world (Latour, 1994); they become meaningful, making a difference in society. For example, what counts as "dirt" in a given society is something disdained because it offends against order, while hygiene is a positive effort that conforms to the idea of an organized environment (Douglas, 1966). In much the same way, the virus and its vaccine became socialized through a very powerful profile, one that linked both as an airtight problem-resolution archetype. This pattern of a human health danger and a human-manufactured cure rested on the relationship between H1N1 and its vaccine.

The interdependence among these nonhuman actors meant that they effortlessly swapped the spotlight in a frenzied media environment. In some cases, the focus of news stories on the vaccine eclipsed the virus. Ample news featured problems with the management of the vaccine program even as public health leaders promoted immunization. Through it all, the context and reason for immunization got lost in the shuffle. For example, Alberta Health Minister Rob Liepert told the editorial board of the *Calgary Herald* that "the biggest risk we run is the fear of running out of supply" (Fekete, 2009), though one might think that the biggest risk and greatest fear would be many Canadians dying or getting ill from the virus.

The portrayal of H1N1 gave presence and relevance to these nonhumans in the social world, as a source of media and audience fascination. The distinctive relationship between the virus and its vaccine propelled a set of behaviors and beliefs among those who followed media stories: they waited for people to get sick to know the extent of the danger, felt somewhat secure that scientific knowledge had produced a working antidote, and worried about their access to the vaccine.

The strength of associations matters, as do the perceptions of these connections. In many ways, effective spokespeople are those who park some of their individual interests at the door for the possibility of greater rewards when they join forces with others. Such spokespersons take strength from what they represent (Latour, 1987). They are aware of how they affect other spokespeople; actors express in their own language what others say and want in these moments of translation (Callon, 1987).

However, when multiple public health leaders appointed themselves as spokespeople for the virus, they created their own difficulties. These problems call into question why these leaders decided to speak on behalf of an uncertain virus. For example, in an article critical of the Saskatchewan government for failing to secure enough vaccine, the province's Chief Medical Officer of Health highlighted H1N1's changing "tendencies and patterns" (Leader-Post, 2009).

In other cases, public health officials connected themselves with the virus by predicting the path of the virus and vaccine availability, and by promoting certain health practices for the general population. Even during the height of media attention, these public health leaders substantiated the uncertain behavior of the virus. For one public health official interviewed for this study, for example, the virus' path through the southern hemisphere made clear that Canada was "not going to have a terrible pandemic in the fall, (but) it was still a lot of...hedging because we don't really know what's going to happen. It could be really bad and we have to be prepared." In their invocations of the virus, public health leaders handed the virus greater power as an actor living among us, present on doorknobs and in the airborne droplets of a neighbor's sneeze, and unpredictably able to cause a serious or mild pandemic.

The News Media

Understanding the pandemic story as told in the news media requires uncovering key assumptions about the power and role of media communications to shape public behavior. Public health and government officials took media compliance with messaging for granted, even as they were trying to carefully control population response. Little regard was paid to the deftness required to build such a sophisticated cultural narrative.

The media and their channels were treated by public health officials as instruments instead of as powerful actors. They were, in fact, mediators that could introduce unexpected information and form their own influential associations. As many journalists said during interviews for this study, their identities depend on their autonomy, which includes asking any questions they want and finding their own news sources and angles for stories. These tendencies only intensify when other journalists are focused on the same issues. However, officials weakened themselves as actors when they inserted themselves into the news collection process and undervalued the media's free will. These leaders saw the media as a natural part of society at their disposal during a needy time. On the contrary, journalists begin from a place of power and expand their size by gathering experts. As the media allied with other actors, this expansion shaped and strengthened the pandemic narrative.

Mistaking the media for a mechanized tool points to how these officials perceive power relations in society. However, ANT is useful by warning us against believing that the everyday, mythical workings of the media merge seamlessly into the social (Couldry, 2008). ANT insists on examining relations among actors, and thus counters assumptions about media discourse. The media are constructed by human actors, often using technologies such as the internet, computers and broadcasting. Such technologies are simply tools, but they seem often to vanish as human constructions when the media is conceptualized as ubiquitous. Journalists write stories based on their perceptions of audience needs, and to focus interest on—and sometimes resolve—problems around them. When considered as a smooth functioning part of society, the media are handed huge and lasting resources because of the invisible, vast linkages of networks that constitute the media process.

While numerous actors were involved in the pandemic event, each with different concerns, the media held the keys to translate information. Journalists decided the information sources and had the final word on what appeared in their media products. *Figure*

One illustrates the field for actors and their interests, and how all relied on the media as a translation site. The chart illustrates the media’s unique position because their products were translation sites for all actors—they could pick and choose among other actors’ interests to meet their own needs to create, cultivate and sustain audience attention.

Translation model during the 2009 H1N1 pandemic		
Actors	Relevant interests	Translation site
WHO	Global population health	Media products (newspapers, television, radio, internet)
Virus	Survival by spreading in humans	
Media →	Creating and keeping audiences →	
Vaccine	Widespread deployment	
Government	Citizen support	
Public health	National population health	
Canadian public	Protection from illness and death	

Figure One: Translation during the 2009 H1N1 outbreak

Networks draw actors—both human and nonhuman—together in highly interconnected ways; change to one element in a network changes others (Callon, 1991). Because actors and networks are mutually constitutive, they both constantly redefine each other.

ANT shows us what went wrong in this network formation, particularly when certain media behavior was central to a population health management strategy. During the outbreak, actors were tied together to build and further the pandemic story. However, their interests were very different, driving them to act in opposing ways.

The result was that the network seemed broken or nonexistent. The network rested on a pandemic story simultaneously built on scientific facts filtered through the media. With the number of type of actors involved, and the media’s self-interests, many assumptions proved premature about public communications as functioning smoothly, or even at all.

Public health officials assumed that when a public health crisis is named, the uncertainty and severity of the situation means that the media should cooperate by helping to enforce a moral code, for example, about priority groups for vaccination, summoning the principles of public health as a common good for the preservation of the population. Such cooperation should, they believed, naturally reduce tension. These leaders believed that journalistic tendencies to question authority and uncover opposing viewpoints should have been overshadowed by a web of responsibility for social order. This web, they understood, stretches to include and guide the media.

Relations between the media and public health leaders are marked by a predictable yet fragile tension. This tension came from two actors needing each other to construct audiences and versions of their stories—just as all actors created audiences during the pandemic. Public health required a population ready for immunization just as the media required audiences for its stories. Such a crisis as the H1N1 pandemic triggered these needs and predictable

practices among actors. While the media response may have appeared uncertain and fickle, their need to create and sustain audiences was a durable feature motivating their behavior. The same could be said of public health leaders who exist to encourage the medical miracle of public immunization, as witnesses to the thrill of chasing epidemics as an unseen barrier of health consequence and tragedy.

Media commitment to their coverage of the pandemic deepened as relations with other actors intensified. Media articles were often dramatic and seemed to match the nature of the sudden and unexpected emergency of a pandemic. For instance, the media found drama to strengthen the pandemic narrative by associating not with public health leaders but the “technology” its scientists created—the vaccine. Reporters focused on what appeared as a dispute among scientists about the use of adjuvanted versus unadjuvanted vaccine. An adjuvant is a substance that is added to a vaccine to increase the body’s immune response to a vaccine (Centers for Disease Control and Prevention, 2010). Media doubt about which version of the vaccine was necessary weakened public health claims about immunization as a pandemic solution. The debate about vaccine solutions highlighted “science in the making” (Latour, 1988) and deepened the dangerous presence of a virus. Journalists used language that furthered the feeling of present danger. In an article about pregnant women and young children being able to “opt” for unadjuvanted doses, “confusion and uneasiness” threatened to undermine the federal government’s push to get as many people inoculated against swine flu as quickly as possible (Kirkey, Sept 26, 2009). In another story about a Canadian Medical Association Journal article, the government decision to use adjuvants was criticized because it would “mire the vaccine in a time-consuming regulatory process” (Alphonso, 2009).

We can see the strength of these alliances and why the media would want such freedom of choice. It is not important to decide on the nature of the alliances as human or nonhuman, technical or scientific, objective or subjective, because it only matters that any new association is weaker or stronger (Latour, 1987). The Canadian media began from a place of inherent power and expanded by gathering experts and others to quote and broadcast in their news stories. Importantly, public health officials improperly and incompletely viewed the strength of the media to flex these associations.

Discussion Of Problems Highlighted By Ant

Reliance on the Mass Media

All actors relied upon the media to translate their interests without understanding the tenuous and dysfunctional networked relationships in which they were engaging. Public health and government leaders and the WHO, for example, reached out to the media early in the outbreak to inform the public of progress and plans. During the outbreak, officials pulled an alarm signaling widespread risk, and they sought to move facts smoothly through an imagined public communications pipeline. They assumed that the media would form an essential part of a network during a perceived crisis.

We can explore the core failures when networked relations revolved around the media but were never realized. Media conventions and standards tend to transmute information. At their core, the media realm popularizes interests, using their authority and position in society to structure facts and ideas in accessible, local and immediately meaningful ways. The H1N1 case exemplifies these traits. The media did not believe they were part of the solution about how to get the Canadian population vaccinated. Instead, journalists cast doubt and found opposition and dissenters among public health officials and states. Furthermore, and surprisingly, even public health leaders themselves contributed to the failed network when they used public relations and marketing strategies to produce popular accounts.

The media did not share an understanding with public health officials about the societal problem at hand. Public health leaders wanted to restore stability through one overarching approach: to vaccinate all or most of the Canadian population, starting with those at greatest risk. However, contributing to this goal was not the media's only or even central concern. Instead, journalists wrote stories questioning the severity of the virus threat by presenting various and sometimes opposing opinions. Other human actors assigned authorship of proposed solutions to this societal crisis to the media. Public health and government leaders continuously aimed information at the general public through journalists. Uncertainty reigned in news stories, as the media did not limit their tendencies despite other actors believing they would or should.

Mobilization in networked relations, as described in ANT, happens when issues link so firmly that threatening one networked actor means threatening others (Latour, 1987). Additionally, actors linked in network relations can share types of social contracts that represent, in some sense, "the sum of the multitude's wishes" (Callon and Latour, 1981:278). However, as the H1N1 outbreak shows, these networks require constant care and maintenance because interests can quickly fall out of step, sometimes insidiously.

Moreover, we can characterize the pandemic as a time when actors seemed to operate in parallel. A media network operated among journalists as they tapped into any information sources they chose to generate fresh stories. Non-media actors only entered as invited guests of the media, and for limited times. Other actors attempted to join the media network, to influence public information. Scientists, government, the vaccine and the virus could only truly realize management of the outbreak in concert with the media network. Despite the large number of interests knocking on the door of the media network, as this case demonstrates, what mattered most to entry was contingent and determined by journalists themselves.

Anxiety, doubt and opposition make for exciting news. Just as such juicy information drew news audiences, coverage of the controversy also set up substantial barriers to network relations. One key to such contentious news was the appearance of authoritative voices sounding in opposition. Dissent abounded as researchers took different sides of the H1N1 issue; scientists disputed each other's research studies and government forces blamed drug manufacturers for vaccine delays. The media constantly found specialists and experts willing to speak against the claims of government and public health leaders. Topics ranged from the need for mass vaccination and its management to how sick virus victims could get. All these claims effectively diminished the other.

In the media world, conflict about scientific claims faces unique circumstances. The entry point to ally with the media is low. While scientists refute scientific claims by preparing research, writing papers and speaking at conferences, participation in the media world often involves just one media interview. And, for a public health related story like a pandemic outbreak, media spend enormous time to find accessible spokespeople because they lend credibility to their stories.

Consequently, notwithstanding their size and societal reach, it became clear during the most intense media scrutiny of the outbreak that public health leaders and the WHO had a formidable public relations and communications problem. It was a problem that struck the very core of these institutions being able to realize their interests as the media blared local, regional and national stories opposing their ideas and plans.

News stories easily stirred controversy by challenging years of vaccine promotion. Journalists had written articles for decades about the march of universal influenza vaccine programs across provinces. Therefore, it seemed like ripe territory for controversy when the media had the chance to question such an accepted public health practice. At least one public

health public relations official interviewed for this study understood what was at stake when the media used this outbreak to stir up opposition to a historic public buy-in for immunization:

An issue (we found) in our public opinion polling...is vaccine safety. I don't mean vaccine safety just about H1N1 but vaccine safety writ-large. I think it's something that we collectively as governments need to pay much more attention to...People have forgotten what it's like to have smallpox or polio and when measles were in the thousands and now when we have one, we panic.

This official believed journalists risked damaging the armor of public vaccination as represented by their coverage of the H1N1 immunization program. In this case, public opinion polling by government measured support for how it was handling this crisis and, presumably, would provide a platform for new strategies that re-shaped those attitudes.

By assigning vast public relations and marketing resources to the issue, public health's actions elevated the relative importance of the outbreak. Public health agencies staged media conferences, issued news releases and media fact sheets and placed advertising as public relations techniques. Consequently, media coverage was an outcome of the public relations schemes by health regions and provinces. These tactics focused on simplifying public health science, at jumping to the punch line in the long, scientifically complicated story of influenza inoculation. Such public relations methods were rhetorical, designed to change the behavior and attitudes of average Canadians.

The public health community watched closely yet with some helplessness as media interest veered off in myriad directions. A provincial medical officer of health described how daily news conferences slowed, yet the media appetite remained. Close monitoring of media stories sometimes meant officials quickly adjusted their involvement with journalists. Strange stories started appearing, such as those "about the conspiracy to vaccinate people and to eliminate part of the population...there was a lowering interest in the population to receive the vaccine." The media started to get things wrong and

with my communications people in the ministry of health, I told them we have a major problem now; there is all this stupid information in the media. So I cancelled most of my activities, and I told our public relations people to look at all of the programs on radio and so on and try to book me on. Then we started press conferences and a lot of radio interviews at noon, news, television... I was there every day for many weeks in fact.

Officials believed that their public relations outreach created working relationships with the media as they partnered to overcome a societal crisis. They said they understood the dangers of dealing with the media but thought they just needed to get the language right. As one public relations practitioner said dealing with the media meant knowing how they work, and then filling in any blank spaces by driving the public to abundant pandemic information found on public health websites:

The nice thing is that we're really blessed to have a provincial health officer who can dumb it down. He knows what people are looking for. We made a real effort on the website we set up to almost have too much information because... I don't know if I could explain (the science) to people reading the news stories where it's filtered.

In general, the public relations apparatus of public health sputtered and lumbered

along. Despite planning for maximum publicity around H1N1, officials remained confused about why their information failed to launch during the intensity of the outbreak. Instead, even with their vast resources, the architects of these machines missed understanding that journalists were hungry for fresh information that gave estimates about how many people would get sick or die, and when immunization would be available for everyone.

Conclusion

Networks and associations that formed during the virus event remind us that science and public relations combine as a very social enterprise. This study used ANT as a tool to examine these intricate social layers and challenges when actors form networks, showing that networks face serious challenges during a crisis involving an entire population. Even when public communications is deemed essential, the media and those dealing with them may behave in ways that challenge some versions of the network. As ANT suggests, the commercial mass media can easily become full and complex actors, and if that is not recognized then problems and limitations will arise.

Interestingly, public relations and media studies have not made much use of ANT, even though it appears a tool for analysis. In the H1N1 case, interests came together and sometimes collided in a jumbled pandemic narrative. Seeing these associations as unstable actor-networks sheds light on what went wrong when a certain kind of mass media involvement was central to population health management. An ANT approach highlights how through the crisis many actors became weaker and their ability to achieve their interests diminished. In particular, fragmented relations reduced the credibility of government and public health, along with their vaccine program.

When public health needs to translate public interests to the general population, officials will always require a channel like the mass media. However, public communications was profoundly affected by the tenuous nature of network connections and the role played by all actors. The media became spokespeople for public health, but unreliable spokespeople. These findings are instructive for those who must communicate broadly during a public health crisis. An ANT approach emphasizes how a phenomenon can be experienced among actors in different ways when multiple meanings are generated and suspended within the effects of a particular network. However, as this article demonstrates, public relations can benefit greatly from ANT because the theory brings attention to the fault lines in network formation when journalistic practices and behaviors are assumed with little question.

One crucial assumption was made when public health leaders viewed the media as intermediaries and not as mediators. Essential problems formed when the media, the actors critical to the translation of information to the public, were not treated as action-oriented mediators capable of altering information at the point of public communications.

These huge barriers received scant attention by officials. Instead, other actors, including several key dissenters and the virus itself, succeeded better in allying with journalists. The popularization of the mass media allowed most actors except for public health leaders to decode their interests with ease just as they appealed to journalists' self-interests.

Involving the mass media as a method of public communications seems an impossible yet necessary solution. Further questions include: how can actors key to interpreting information for others become full partners with others' interests? What would it take to enrol actors such as the media, with their conventions and practices, to translate public health interests? And what would the costs be?

The case further suggests that how governments' use the media during times of crisis can risk loss of credibility with key publics. With so much at stake, these leaders could have

started to change their perspective on the mass media, by seeing media products as a singular communications space, a space that is largely uncontrollable and built on platform of tension and an ongoing appetite for controversy. To do so, public health officials would have to abandon their narrow reasoning and embrace the complexity of using science to change public behavior. Certainly, more direct channels designed to affect public actions can be imagined as supplemental to mass media stories. Such direct communications may have far greater and more durable impact on real-world outcomes than the verdict of mainstream media.

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