

Risk communication and the disclosure dilemma: The case of the Ottawa endoscopy infection 'scare'

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ABSTRACT

In 2011, Ottawa Public Health announced that a non-hospital medical clinic had failed to follow proper infection control measures over a period of 10 years, resulting in the potential exposure of several thousand patients to Hepatitis and HIV. This paper discusses the health department's risk communication strategy, in particular its decision to delay the disclosure of information to the public and the reactions this provoked. The case study provides an opportunity to revisit several key themes: the role news media play in framing public health risk events; the ethical obligations that health communicators have in times of health risk or crisis; the practical limitations that often impose themselves in these circumstances; and how changes in media technology are transforming the landscape for risk communication today and the implications of these changes in the future.

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On Saturday, October 15, 2011, the City of Ottawa's chief medical officer of health, Dr. Isra Levy, called a hastily organized media conference, where he announced that a local, non-hospital medical clinic had failed to follow proper infection control measures over a period of 10 years, resulting in the potential exposure of 6,800 patients to Hepatitis B, Hepatitis C, and Human Immunodeficiency Virus (HIV). The health department reported that there was no evidence of a single patient becoming infected as a result of contact with this clinic. It also confirmed that there was no ongoing risk to patients who may still be going to the clinic, as it had stopped performing the procedure when the control lapse had been identified three months earlier dur-

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ing an inspection by the Ontario College of Physicians and Surgeons (OCPS). Citing estimates by infectious disease experts, Dr. Levy stated that the likelihood of infection as a result of exposure was “very low.” The risk of contracting Hepatitis B was 1:1 million; there was a 1:50 million chance of contracting Hepatitis C; and a 1:3 billion chance of contracting HIV.

Despite these low levels of risk, the health department announced that all potentially exposed patients would be receiving letters informing them of what had occurred and recommending they follow-up with their physicians to see whether it was appropriate for them to be tested for infection. Dr. Levy concluded his prepared statement by explaining that he would not be providing further details about where the lapse had occurred, the nature of the procedure involved, or exactly who would be affected, until early the following week. He appealed to the media and public for patience and understanding, indicating that to respect patient privacy, those individuals who may be at risk of exposure should be given the opportunity to receive notification directly about what had occurred without having to read about it in the news, during a weekend when they would be unable to do anything significant about it.

As might be expected, the decision to communicate only part of the story led to a strong and immediate backlash. Journalists covering the health department’s media conference questioned the lack of full disclosure, and posted their concerns on Twitter and elsewhere online, where they were quickly reposted and shared by their followers and fans, including other reporters. A flurry of social media activity ensued, characterized by conjecture about what may have happened and criticism of the health department’s communications. Rumours circulated about where the breach may have occurred, and online news reports published within the first 24 hours focused primarily on the health department’s notification process, rather than the magnitude of the risk itself.

Normative approaches to risk communication would suggest that Ottawa’s public health authority should have fully disclosed all the information it had about what happened. Authorities are advised to be open in their communication about risk information to the public. Early and complete disclosure is considered the most ethical and strategic course of action; officials must be transparent in disclosing information and not mislead the public, or be perceived to be misleading (Nilsen, 1974). Transparency is crucial to effective risk communication because it is the bedrock on which public trust is based. According to all major public health organizations, from the U.S. Centers for Disease Control and Prevention (CDC) to the World Health Organization (WHO) and Public Health Agency of Canada (PHAC), the benefits of transparency

Canada (PHAC), the benefits of transparency outweigh the risks, even when faced with uncertainty and the possibility of error. Risk communication theorists also highlight the importance of providing citizens with free, unfettered access to all available information, arguing that the ability to exercise rational thought is “seriously undermined when information is withheld” (Sellnow, Ulmer, Seeger, & Littlefield, 2009, p. 155).

Ottawa Public Health’s decision to only partially release details of the infection breach in its first public statement was controversial. This paper discusses the health department’s reasons for doing so, the risks of this strategy, and the reactions it provoked. The endoscopy scare is a valuable case study for several reasons: it provides an opportunity to examine the role news media play in framing public health risk events; it allows us to revisit the importance of normative theories of risk communication and to consider the benefits and limitations of their ethical underpinnings; and it affords us an opportunity to think about how changes in media technology are potentially transforming the landscape for risk communication today and in the future.

Risk communication and public health

Risks that kill people and the risks that upset them are rarely the same (Sandman, 2007). Sandman argues that risk communicators tend to face two dilemmas: first, figuring out how you get people more upset when their perception of risk is low but the dangers they face are significant. The H1N1 pandemic in 2009 is a good example – public health experts around the world mostly agreed that the scientifically determined level of risk was high. However, public apathy was higher, as many citizens failed to see the urgency of the pandemic and did not engage in the kinds of behaviours experts deemed necessary to reduce the risk of transmission, serious illness or death. This put public health departments in the difficult position of having to amplify concern that people would take protective action, without causing widespread anxiety or panic (see Greenberg and Fox, 2009). The second dilemma is the opposite: how do you calm the public when they have a high level of risk perception in a relatively low risk situation? Fear and anxiety about the danger of childhood vaccines, the presence of WiFi in schools, or the infection risks associated with the case discussed in this paper, would all fit this category.

Risk communication came of age during the 1970s and 80s in the context of public health debates relating to the risks associated with nuclear power and the siting controversies relating to nuclear waste disposal. Originally con-

ceived, risk communication” was defined as “the unilateral sending of a message to the public” and the message “emanated in scientific and government circles and was designed to persuade” the public to accept it as accurate, and to cause people to act on expert recommendations (Valenti and Wilkins, 1995, p. 178-79). It was widely believed that if only people had accurate, scientific information from trusted sources, they would respond accordingly, aligning their actions with the advice of the authorities in charge.

Risk communication focuses on ensuring individuals and communities are aware of the possibility of undesirable events and how to prepare for, adapt or respond should those events occur. Risk communication is used in many contexts today. Medical practitioners seek to support people in making decisions about whether to undergo radiation or chemotherapy as treatment for cancer, or to outline the benefits and risks of participating in new drug trials. Public health authorities apply risk communication to explain why parents should vaccinate their children against seasonal influenza as well as communicable diseases like mumps, measles and rubella. Risk communication is also used to help people come to terms with the knowledge that an adverse event has already occurred, such as exposure to food products tainted with harmful or deadly bacterium. The current and increasingly heated debate over hydraulic fracturing (fracking) in parts of North America provides a fascinating laboratory for examining how risk communication can help rural landowners balance the benefits of healthy economic returns (e.g., jobs, land leasing agreements) against environmentally risky and potentially catastrophic consequences (e.g. release of poison in the groundwater or gas explosions). In its ideal form, risk communication is dialogical because it entails the open sharing of information and the acknowledgement of worries and concerns between authorities and the publics they serve (Ulmer, Sellnow & Seeger, 2007). In contrast with traditional, “technocratic risk communication”, in which decision-making focuses on the assessments of experts, and where scientific facts trump public misperceptions of risk, “dialogic risk communication” acknowledges diverse opinions and perspectives and seeks to incorporate these into decision-making.¹ Ulmer, Sellnow and Seeger (2007) note how technocratic and dialogical approaches to risk communication are based on competing philosophical premises. In the former, “experts are called upon to make recommendations based on their sophisticated knowledge of the subject and situation” (Ulmer, Sellnow & Seeger, 2007, p. 160), whereas the latter

¹ This can be tricky. As cases like the Pertussis and MMR vaccine controversy illustrate, the opinions of people whose perspectives may be dangerous to public health can be difficult for public health communicators to accommodate, respect, and legitimize (e.g. Burgess, Burgess and Leask, 2006).

seeks to provide all stakeholders with a say in decision-making. Dialogical approaches to risk communication are desirable from the perspective of empowering decision-making and contribute in the longer-term to building relations of trust and cooperation. Technocratic approaches are desirable from the perspective of efficiency because they are more nimble and require less administrative effort in soliciting public participation. In times of health crisis or emergency, the ability to act quickly can be critical for saving lives.

Risk communication efforts do not always succeed. They can fail when communicators are incapable of appreciating or understanding how and why people respond to risks in the ways they do. Reactions that are out of step with scientific assessments are often dismissed as irrational or inappropriately emotional, often leading to communication strategies that appear paternalistic in the way they try to 'set people straight'. Risk communication can also fail when decisions about what to communicate, to whom, and when are made only after a problem has arisen and once public opinion has begun to take shape about what occurred and who is to blame. Finally, risk communication can fail or fall short when broader institutional resources are not in place, such as adequate staffing and appropriate strategies to administer the process of patient and public notification.² Public health communication is thus not just about the exchange of words and images and the alignment of mutual goals and concerns. It is also a management issue that challenges institutional capacity.

Ottawa's endoscopy infection scare: Setting the context

Ottawa public health became aware of the breach in infection control in July 2011 following an inspection by the College of Physicians and Surgeons of Ontario, which revealed that infection prevention and sanitation protocols had not always been followed. Upon notification of the inspection by the Ontario Ministry of Health and Long Term Care, Ottawa's health department began its

² During the H1N1 pandemic in Canada, risk communication efforts in many jurisdictions succeeded in driving a short-term surge in public demand for vaccination. However, with inadequate resources to staff vaccination clinics, many people (including those with vulnerable health situations) were turned away or didn't follow through due to the inconvenience of having to wait for hours in the cold and rain, or come back to the clinic on another day (Greenberg and Fox, 2009).

own investigation to assess the risk to public health and identify all patients who might be affected. This involved a very lengthy process of tracing several thousand patient records over a period of 10 years. This volume of patient records, combined with the logistical challenges of identifying where patients may now be living and professional norms regarding protection of patient confidentiality, made the task of informing those affected extremely difficult.

The final list of patients who may have been exposed to infection was confirmed on Thursday, October 13. On Friday, October 14, the health department put its risk communication plan into effect. Its plan had several components:

1. Finalizing the preparation of registered letters that would be immediately sent to all potentially affected patients. This included coordinating with the physician at the centre of the case. It was intended that patients would receive their letters between October 17th and 18th.
2. Notifying local physicians, walk-in clinics and hospital emergency rooms, to ensure they would be able to address public demand for information and requests for blood testing. Ottawa Public Health anticipated that even though the numerical risk was very low, people would be afraid and they would want to know right away whether they had been infected.
3. Training as many as 50 public health nurses who would be redeployed from other units to staff a call response hotline. This meant a temporary disruption to Ottawa Public Health's in-school sexual health programs, its visits to new mothers and their babies, and other regular public health programming.
4. Preparing a media conference to coincide with the date when patients would receive their registered letters, at which time all information about what occurred would be made public.

The risk communication plan was developed over the course of the health department's three-month investigation. Given the potentially explosive nature of the event and the possibility of an information leak, only a small number of key individuals were involved in the investigation and risk communication planning process. They were instructed to maintain confidentiality about the investigation to ensure the health department would remain in control of the

situation and its communication to the public and media when the time was right.

On Tuesday, October 11th, Dr. Levy's office was contacted by *Ottawa Sun* reporter Jon Willing, who indicated he had learned about the health department's investigation. Willing did not know the details about what occurred or who was involved, only that a public health risk had been identified and that it was potentially serious. Dr. Levy confirmed that his department was in the process of completing a "complex investigation," he stated that there was "no unusual illness" for the public to be concerned about, and he informed Willing that details about what had occurred would not be disclosed until the investigation had concluded. Willing published details of this interview to his *Sun & the City* blog the morning of Thursday, October 13 (Willing, 2011).

Within hours of Willing's post, Dr. Levy's office began to come under intense pressure by a national television news organization to reveal details of its investigation. Then, on the morning of Saturday, October 15, the same media outlet contacted the City of Ottawa's Department of Corporate Communications, indicating that it was preparing to break a story that afternoon citing several possible sources for the infection control lapse, including a flu vaccine clinic, tattoo parlour, dentist's office, and a facility providing abortion services, in addition to rumours about an "outbreak" of infectious disease. The news organization indicated that it would go to air with or without comment from Dr. Levy.

This placed the public health department in a difficult situation. The risk that a news report containing misinformation was real, it was not unprecedented, and it had the potential of creating more harm than good. Ultimately, OPH faced several options:

1. It could nothing and respond to the report and the fallout that would ensue after the fact. While the willful reporting of erroneous information would potentially damage the reputation of the news organization, Ottawa Public Health concluded that this would be unwise due to the resources that would be required to battle and correct this misinformation.
2. It could have implored the news organization to not run the story, confirming only that public health was not considered to be at imminent risk. While this might have worked, there is no guarantee that the news organization would not have aired the story anyway, with or without accurate information or comment.

3. It could provide full disclosure about the situation, including identifying the name and address of the clinic and physician, the types of procedures in question, and the numbers of patients who now faced a very remote risk of infection.

4. It could provide a partial disclosure of information to balance its obligations to the public interest against other factors, notably patient privacy, physician-patient confidentiality and the capacity of the local health system to absorb increased demand for information, testing or treatment. It would then follow up with a full disclosure of what transpired a few days later.

Ottawa Public Health opted for the course of partial and delayed disclosure. As noted above, it announced only very general information in its first media conference and delayed the release of fuller, more detailed information until a second media conference on Monday, October 17th, at which time all information was released: the name of the physician (Dr. Christiane Farazli); the address of the clinic (1080 Carling Avenue, Suite 606); and the type of procedure that was involved (endoscopy). While this approach was reasonable given the circumstances, it was also risky for two reasons: first, because it put the health department on a collision course with the media over competing institutional values. Where the health department values only pertinent information in the interest of protecting public health, journalists value full disclosure, immediacy, and thrive on controversy and outrage. Second, the decision to provide only partial information risked intensifying existing feelings of ambiguity and uncertainty by the public, where the main objective of risk communication is to reduce it.

This is an outrage! Media response to OPH risk communication

A journalist without a nose for outrage would be severely occupationally disabled.

- Peter Sandman (2006)

Academic research on media coverage of public health scares helps frame part of the context for this event. News media, cinema, popular literature and other mass media are key institutional players in the framing of health risks

the framing of health risks and risk events (Hart, 2000; Ostherr, 2005). Previous research shows that mass media, especially news, operate as a nodal point in a broader struggle among different and competing actors in the health sector: public health departments, medical professionals, drug companies, experts without medical credentials but other kinds of specialized knowledge, other government departments/agencies with claims on health-related issues and of course the public. We also know that because mass media are a storytelling, not a science-telling, institution, there is greater priority placed on the reproduction of moral outrage than with 'scientific' notions of calculable risk (Brown, Chapman and Lupton, 1996). This tells us, finally, that media are more than just a neutral field of representation and definitional struggle. They are also active players and influencers in the framing of public health issues and events. As Tulloch and Zinn argue, "the media possesses the power to challenge the dominant relations of definition in the production, identification and management of manufactured risks, but they are at the same time part of, and expression of, a power struggle of different societal actors" (2011, p. 7; see also Beck, 1995, p. 140).

News media played a central and active role in this case in two respects. First, in threatening to report a story using information that OPH considered to be factually inaccurate, one news organization accelerated the timeline for public disclosure; and second, in subsequently reporting and then judging the actions of the public health department.⁺⁺

The media's response to the Health Department's partial disclosure was swift and negative. Ottawa Public Health, and Dr. Levy in particular, came under fire for its decision to disclose only part of the information about what happened in its first media conference. In a post to his blog published on October 17th, immediately following the health department's second news conference, *Ottawa Citizen* reporter David Reevely described the shift from partial to full disclosure as a "classic emergency communications error," and he mused about whether the public health unit might have been "sitting on something more shocking" (Reevely, 2011).³

The *Ottawa Sun* ran two stories the day after the first media conference. In a story headlined "Dirty Lab Scare" on October 16th, the *Sun* reported that, "thousands of Ottawa patients have been put at risk of hepatitis or HIV" (Cahute, 2011a). In a separate story, "Clinic Flooded With Infection Fears," it re-

⁺⁺ *Editor's note:* At the request of the author, this paragraph has been changed to correct ambiguous language in the original. The article history section has been amended to reflect this.

³ Reevely subsequently revised his position, stating in an update to his blog post later in the day that the health department's partial disclosure "makes a whole lot of sense when viewed from the inside".

ported the potentially fatal nature of Hepatitis and HIV and cited demands from patients for full disclosure. It quoted one patient as saying, “[y]ou can’t keep the public in the dark...We have the right to know...it’s not fair...Especially HIV, when there’s no treatment” (Cahute, 2011b). That this claim was factually untrue did not go mentioned. The *Sun* also reported that anxious patients had been “flooding clinics” with phone calls, although it provided no actual evidence to support this alleged fact, apart from comments by a single receptionist at a single clinic (ibid).

In an interview with CTV National News, public relations consultant Barry McLoughlin characterized Dr. Levy’s decision to not release all the information at once as a mistake that intensified public anxiety. In a Canadian Press headline dated October 17th, Dr. Levy was put on the defensive, forced into justifying his role in “spawning [a] health scare” (Canadian Press, 2011). In an October 18th editorial, the *Ottawa Citizen* blamed the health department for making a “big deal out of a health risk that is so close to nothing that it would take a microscope to tell the difference” and singled out Dr. Levy, in particular, for causing “undue public concern by mismanaging the release of the information” (Ottawa Citizen, 2011). Finally, in a follow-up story on October 19th, the *Ottawa Citizen’s* Pauline Tam reported widespread public anger, fear, and helplessness, and claimed the event itself, as well as the health department’s public communication, had led to a “profound loss of confidence in the health care system” (Tam, 2011).⁴

Thus, with very few exceptions, news coverage during the immediate days following the City’s public health department announcement was intense. In the case of local and national media, the coverage was almost entirely negative, and, in some instances, creative in its interpretation of evidence. Reports of the event reached beyond Canada’s border, generating media coverage as far away as France, India, Australia, The Philippines, and China. By the end of the first week, Ottawa’s infection ‘scare’ began to fade from news headlines, until approximately four weeks later when results of blood testing started to report cases of hepatitis infection⁵, and news of a possible class-

⁴ While the report cited anecdotal concerns by individual patients, there is absolutely no evidence that the broader public response could be accurately characterized as angry, fearful, or helpless, nor that it had any long-term effect on public confidence in the health care system.

⁵ Public health officials were quick to note, the likelihood of finding positive Hepatitis infections when testing large numbers of people given the prevalence of the disease in the population. Estimates provided by Ottawa Public Health are that 1% of the general population is infected with Hepatitis C and up to 2% are infected with Hepatitis B. In October 2012, Ottawa Public Health concluded that not a single case of HIV or Hepatitis B or C were directly linked to the clinic under investigation.

action lawsuit against the physician began to surface along with estimates of what the total cost of managing the response might be for taxpayers.⁶

Media criticisms of Ottawa's public health unit and the demands these criticisms represented regarding full and absolute disclosure are consistent with recommendations for responsible and effective risk communication. In times of emergency or crisis, such as during an outbreak of disease or food-borne illness, following an industrial accident, or in the context of a pandemic, the goals of public health communication are to raise awareness about the risks, to enable people to make responsible decisions that will protect their health, and to encourage appropriate public participation and action that will help control and end the outbreak.

In the past, and in some recent cases, authorities have not always promoted what's in the interest of public health, but have acted to advance the interest of a specific industry, organization, or government.⁶ These actions stem either from institutional self-interest or from a paternalistic understanding about the nature of public behaviour in times of emergency or uncertainty. As noted above, risk communication hinges on the recognition that citizens deserve to be treated honestly, respectfully and with a view toward enhancing their autonomy. The objective is to reduce uncertainty so that individuals will be capable of making informed decisions that affect their lives. Organizations achieve this objective, in part, by communicating openly about health risk.

Risk communication: Narrative, reason and affect

Notwithstanding the normative appeal of full disclosure, the ability of public health authorities to fully and openly report all information needs to be considered against a variety of situational factors, including the scientifically measured level of hazard, the institutional resources required to manage the response that full disclosure will produce, the conflict between patient rights to privacy and the public and media's right to know, and an understanding about how people actually respond to potentially frightening information.

⁶ At the time of publication, the class-action lawsuit remains unresolved but still in progress.

⁷ The case history here is depressingly long. See for example Brodeur's (1985) study of the Manville Corporation's cover-up of the public health consequences of asbestos exposure. The tobacco industry's subterfuge regarding the public health effects of cigarettes is another exemplar. The alleged cover-up of the public health consequences of the Fukushima nuclear disaster from 2011 is a more current example (McNeill, 2012).

To some extent, the media outrage was predictable.⁸ Human beings are generally lousy with numbers but are great with stories. Fulford (1999) argues that of all the ways we communicate, stories have established themselves as the most comfortable, versatile, and, he cautions, dangerous. Stories are potentially dangerous, Fulford suggests, because of how deeply they inform the ways we make sense of the world, and this 'sense-making' sometimes overrides more logical, rational and systematic modes of thought.

There is no question that the endoscopy case is a dramatic story. Relative to what journalists and communication scholars call "news value", the case hits several narrative high marks. It was a story about the abuse of power and the fragility of trust. Because it involved a doctor and her patients, it also drew strongly on centuries old myths about a sacred bond captured in the Hippocratic Oath to "do no harm". Thus, in some respect it didn't matter what the mathematical likelihood was of someone getting sick. The story was more gripping than the statistics and it provided grist for the media mill.

The narrative appeal of the case also provides an opportunity to think critically about how people make sense of risk and the implications their 'sense-making' activities have for developing risk communication strategy. Psychologists who focus on risk and decision-making distinguish experiential from analytic systems to understand what motivates people to act in certain ways when they are faced with uncertainty (see for example Slovic et al., 2004). In analytic systems, sometimes called rational systems, people encode reality in abstract symbols, words and numbers, they process information slowly, action is delayed but purposive and is justified by logic and evidence. When faced with risk events, the analytic system indicates that people bring logic, reason and scientific deliberation to bear on the situation and to make a decision about how to respond (Slovic, et al., 2004; see also Kahneman, 2011).

Theories of responsible risk communication draw from the premises of rational, analytic systems of thinking. Nilsen's classic theory of "significant choice" (1974) argues that human dignity lies in the capacity of individuals to exercise free thinking and to make decisions that are not influenced by physical or psychological coercion (see also Ulmer, Sellnow & Seeger, 2007). The notion that information will, in itself, enhance the quality of human decision-

⁸ I distinguish media outrage from any kind of public response because while media reports provide insight into an institutional assessment of the health department's action, we know very little about how the public actually responded to this event. Certainly, social media sites, online news forums and reader comments were active and there was a lot of criticism and hostility toward Dr. Levy and Ottawa Public Health. But this is only a highly selective and thus non-representative sample of public opinion.

making is rooted in the history of democratic philosophy from the ancient Greeks through to contemporary theories of the public sphere (Habermas, 1989) in which the force of the best argument, and not the compulsion of political or economic power, leads to rational public choice and sound policy.

In contrast, experiential systems have an *affective* basis. Behaviour is mediated not by the conscious appraisal of events, but by “vibes” from direct experience, and, crucially, through the experiences that are narrated to us in media storytelling. Decision-making tends to be more rapidly processed and self-evidently valid as people draw quickly on the images and metaphors that have been encoded through cultural experience and exposure. The “risk as feelings” framework (Slovic et al., 2004) describes how people respond instinctively and intuitively to a hazard or perceived threat, such as the risk of contracting a life altering disease like Hepatitis or HIV (regardless of the very remote statistical likelihood). As Kahneman (2011) argues, affect, emotion and intuition are the “secret author” for the vast majority of choices, decisions, and judgments people make.

Rational and experiential systems should not be thought about in either/or terms for anything other than analytical reasons. Indeed, these modes of thinking are “continually active” and interactive: as Slovic et al. argue, “affect is essential to rational action” (2004, p.4). Rather, the distinction is intended to draw attention to the importance of thinking critically about how we theorize and practice risk communication. Normative, symmetrical theories of risk communication, which are based on rational, analytic systems of decision-making, need to be considered cautiously in a context in which human beings act on more than just careful balancing between competing options. Although case study evidence suggests that people respond calmly and with civility in the face of emergencies (Clarke, 2002), it may not be enough to explain to people that the hazards they face are low and that their outrage should be tempered. Indeed, if we think of risk as the calculus between hazard and outrage (Sandman, 1996) then this indicates the importance of recognizing and acknowledging that public perceptions of risk may be inconsistent with the science of risk assessment, and that these perceptions may themselves be grounded in deeply affective experiences (directly or mediated) that are difficult to override. Moreover, because effective risk communication “must account for both hazard and outrage” (Ulmer, Sellnow & Seeger, 2007, p. 163), this necessarily involves granting consideration to the importance of persuasion in shaping how people process and make sense of risk events.

Ethical risk communication: Unconditional and situational action

Beyond informing our understanding of how media frame and narrate public health events, and how people perceive and act on risk, this case also provides an opportunity to think about broader questions about the ethical underpinnings of risk communication.

The development of normative theories of risk communication, which take as their ethical focus the promotion of free and rational decision-making, emerged from an understanding about the need for clearly stated expectations about how scientists, government officials, corporate leaders, and other authorities should communicate with the public during times of emergency. It also stemmed from past failures and a culture of institutional paternalism. In this context, Valenti and Wilkins (1995) argue that risk communication ought to recognize and promote three fundamental individual rights: the right to knowledge or information; the right to participation; and the right to guarantees of informed consent. Normative models of risk communication signal the importance of ethical action by treating people as more than empty vessels to be filled with official directives; people should be seen as equal and active participants, free to decide what is in their own interests. For Valenti and Wilkins, the overriding moral obligation of risk communication is to develop a context and framework in which rational decision-making can take place. Communication here is as much about leadership as substantive content.

Yet, the ethics of risk communication are in some respects ambiguous. Normative theories of risk communication, which promote two-way, symmetrical communication and full disclosure as the ethically superior course of action, are based on notions of obligation and duty and judge the morality of decision-making according to an unconditional standard or code. Such reasoning corresponds to philosophical principles of universality, deriving from Immanuel Kant's notion of the "categorical imperative." This principle indicates that people ought to apply the same standards to their own actions and behaviours as they would expect from others, including treating human beings in a way that does not limit their capacity to exercise free will. *Because* risk communication is processual, and is thus subject to the contingencies of constantly evolving dynamics, this makes adherence to categorical principles absolutely crucial: regardless of what may be changing in the social world, open and full disclosure, transparency, and the promotion of free will ought to remain constant.

However, even in the context of ideal risk communication, the calculus of cost-benefit analysis also comes into play. Even if all stakeholders (patients, physicians, journalists, other levels of government, employers, hospitals and other health care centres) are invited to share their viewpoints and interests, decisions are ultimately made which have to balance competing interests by taking “the greatest good for the greatest number” into account (Ulmer, Sellnow and Seeger, 2007, p.160). To accomplish this, value has to be assigned to different interests and variables: is the resilience of the public health system more valuable or less valuable than the basic right of people to have access to all information when it’s available? Does the majority’s “right to know” outweigh the privacy rights of a minority? Who gets to be the arbiter that balances these competing rights and obligations? Who decides, in the end, which decision is the best or right one to make?

Stripped of its essentials, utilitarianism is a principle which holds that the only morally right course of action in any situation is the one that produces the greatest balance of benefits over harms. Yet, its basic premises – that ethical action is grounded in conditional principles and that moral action is instrumental, not intrinsic--fits uncomfortably with the notion that risk communication must be based *absolutely* on the free flow of information, regardless of the discomforts this may cause for some institutions or groups. In developing a risk communication strategy that is mindful of ethical action, how much value should be assigned to the scientifically measured level of risk compared to subjectively determined levels of risk perception? Is it desirable or even possible to rank the importance of free and full disclosure for individuals against the readiness of healthcare institutions to absorb demand for testing?

Social media and the changing landscape of risk communication

Before the first news conference on October 15th there was a very limited amount of social media activity relating to the case. *Ottawa Sun* reporter Jon Willing tweeted the following: “‘Complex’ investigation going on at public health,” which he linked to his blog post and to which he appended the #OTTCity and #OTTnews hashtags. This post received very little attention, having been shared only 6 times by other Twitter users. Social media activity began to pick up on the morning of October 15, shortly after Ottawa Public Health’s media advisory had been sent to local journalists and posted to its

website. However, during and following the first media conference, social media activity increased substantially. In the span of only a few days, 174 unique social media accounts posted comments, blogged, tweeted and re-tweeted their opinions, shared news reports, circulated rumours, and passed judgement about what may or may not have happened and who should take the blame.

With no confirmed information about where the breach had occurred or what kind of procedure was involved, the social media discussion during the first 48 hours involved mostly modest speculation about what had taken place and where: unsubstantiated claims were made which attributed the infection lapse to tattoo parlours, dentist offices, and flu clinics, among other locations.

Notably, the physician's identity and the clinic location spread very quickly via Twitter, blogs and other social media channels during and following the second media conference on Tuesday October 17th, which confirmed these details.

In the most current edition of his book *Ongoing Crisis Communication*, W. Timothy Coombs accounts for the increasingly important role of social media for issues and crisis management, as a channel for responding to public questions, and for sharing information. "It is important to realize that social media is dominated by user-created content. This means stakeholders are accustomed to being in control...the primary values of social media are *listening* to what stakeholders are saying, not in sending them information, and providing *access* to information when stakeholders might need it" (Coombs, 2012, p. 25; emphasis in original). The key insight here is threefold: first, message control, even if desired, is difficult if not impossible to achieve in an increasingly networked media environment; second, while social media increases opportunities for organizations to listen to their stakeholders and solicit input, it also creates new challenges for evaluating the quality of that input to inform decision-making; and third, social media can be useful for environmental scanning (what are people talking about, and what information are they using to make decisions) and the timely release of information. All of this is to say that insofar as public health scares have always been media events, they are also "social media events" that involve not only the authorities and establishment news organizations but also ordinary citizens with social media access.

At the time of the endoscopy scare, Ottawa Public Health was not actively scanning or monitoring social media sites, or using that intelligence to inform decision-making. It was relying on these platforms mostly for message dissemination, to push risk communication content about a variety of other initiatives: smoking cessation, the importance of wearing bicycle helmets,

sexual health protection, and other public health services. While active during the time of the endoscopy infection scare, the health department's Tumblr account did not contain a single update about what had occurred. Finally, while the public health department's Facebook page and Twitter account posted synced updates, the fact that both platforms were dormant in the 36-48 hours following the initial media conference suggests that social media outreach was a low priority within the health department's risk communication plan at this time.

Given that the period immediately following a public announcement is a critical time when reporters and the public are discussing an event and forming their initial impressions, social media sites present an important space not only for assessing the tone of the public conversation, but for also correcting misinformation when it occurs. Social media have already proven to be highly valuable in crisis and emergency-risk communication, such as during natural disasters (e.g. Lang and Benbunan-Fich, 2010). Internet platforms are more robust than traditional communications infrastructure, such as phone networks, because they are less likely to become overloaded and are more easily monitored.⁹ Although data networks do experience surges in traffic during periods of emergency, the content that most people share (links to web pages, tweets, photos) use smaller portions of bandwidth than voice data (Boudreau, 2012). Because of this, during Hurricane Sandy in October 2012, the U.S. Federal Emergency Management Agency (FEMA) advised citizens to use Twitter as a way of remaining connected with family and friends, reporting injuries or accidents and assisting emergency responders in identifying areas most hard hit. Social media platforms encourage participation, openness, conversation, community-building and connectedness (Mazmanian, 2012), thus providing a fruitful avenue for risk communication research and practice. At the same time, they are also a site for rumour, misinformation and active efforts to disrupt emergency response. Social media use for emergency-risk communication must thus be treated with a healthy combination of strategy, skepticism and adequate resourcing.

⁹ Since this time, Ottawa Public Health has significantly stepped up its social media presence with added resources and a commitment to more active monitoring of the issues environment.

Conclusion

The Ottawa endoscopy infection ‘scare’ was a classic low-hazard event. Given the remote probability of harm and the relatively weak state of system readiness, Ottawa Public Health acted cautiously in its first communication with the media and public, providing only a partial disclosure of the information it had about what occurred. Consistent with other low hazard/high outrage cases, the health department and media differed not only in their treatment of information, but also over their definitions of how to define what is in the public interest. The health department’s partial disclosure not only strained its relationship with the media; it also kept the public underinformed and in a state of uncertainty about where a lapse in infection control had occurred, the kinds of procedures that were involved, and the types of patients who were potentially affected.

The question of when to release risk information is an important one that’s not to be taken lightly. Public health authorities the world over advise early and accurate risk communication. The U.S. Centers for Disease Control and Prevention, World Health Organization, and the Public Health Agency of Canada, among other leading public health institutions, all argue the importance of being first, being right, and being credible, and to always treat the public with respect by providing as much information as possible in order to ensure people can make decisions about their own health and well-being, and of their families and loved ones.

Yet, while these recommendations are important in guiding decision-making about disclosure, such decisions cannot be made by unconditional standards alone. They need to be made in a context that acknowledges not only the science of hazard detection and measurement, but also the organizational resources that are available to handle a public response, the needs and demands of news media, the privacy rights of patients, and the cultural environment in which people make sense of their health and only the science of hazard detection and measurement, but also the organizational resources that are available to handle a public response, the needs and demands of news media, the privacy rights of patients, and the cultural environment in which people make sense of their health and the risks they face. In this case, it’s possible that a full disclosure of all available information in its first media conference would have created unnecessary pressure on local physicians, public health clinics and hospital emergency rooms. This isn’t to say that it would have induced people to panic and “flood” clinics and emergency rooms with demands for testing – it’s to say, rather, that the scenario of a strong response

was a reasonable possibility. Keeping in mind that risk is about both uncertainty and possibility, the scenario of a stressed healthcare system dealing with a non-critical event surely played out in the health department's decision making.¹⁰

The decision to provide only partial information about what happened was ultimately made based on the health department's interpretation of the scientific evidence relating to infection risk and its belief that there was inadequate system readiness to handle an expected surge in demand for information and testing. That this decision was in some sense forced by a national news organization threatening to go to air with a story containing factually inaccurate, and potentially damaging, information, is significant for assessing the health department's response.

Ottawa Public Health described the risk of infection as a result of exposure to the clinic as "very low". The framing of the health risks in numerical terms alone was intended to portray in the remote likelihood of an infection. Yet, numbers in themselves don't resonate with the affect heuristic of most people. Because risk is experienced in both cognitive and emotional terms, it's important for risk communicators to appeal to more than just logic and reason.¹¹

Ultimately, events such as the Ottawa endoscopy infection scare can be stressful because of the feelings of uncertainty, anxiety and fear they may produce, not only for the public but for health professionals as well. However, they provide valuable opportunities for risk communication researchers and professionals to reflect on how we talk about, study, and practice the art and science of risk communication.

¹⁰ According to Ottawa Public Health's interim report, tabled to the Ottawa Board of Health on January 12, 2012, approximately 4,900 individuals sought information from the health department's hotline. As of 30 December 2011, 4,334 patients were tested for Hepatitis B, of which 369 showed serological evidence of infection at some point in their lifetime, which is lower than what is expected given the infection rate in the general population. Among the 4,353 patients tested for Hepatitis C, 39 cases showed evidence of infection, a finding consistent with the prevalence of the disease in the general population. Finally, of the 4,348 patients who sought testing for HIV, no cases tested positive, a number that is lower than expected based on general population data.

¹¹ As recent research in health communication suggests, people process risk information more readily when both verbal qualifiers and visual formats are used (Neuner-Jehle et al., 2011). In practice, this means that beyond telling people whether they should or shouldn't be scared, and using statistics to model the level of risk, risk communicators might also fruitfully draw on visual formats (colour schemes, graphs, etc.) to show precisely how low the risk of infection level would be. Much insight can be gleaned from using multi-sensory communication to amplify or dampen risk perception (see for example Graffigna and Gambetti, 2011).

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