Safety Is Not Negotiable: The Importance of Occupational Health and Safety to Pandemic Planning

INVITED ESSAY

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ABSTRACT

The 2003 outbreak of severe acute respiratory syndrome, or SARS, generated a great deal of attention around the ability of Canada's health system to respond to a health crisis. This event underscored a very serious reality – on the whole, Canada's health system was not prepared to quickly and efficiently deal with a health emergency. This reality was particularly clear in Canada's largest city, Toronto, as the hospital system was not able to contain the outbreak. Armed with little knowledge of the nature of the threat or epidemiology of the disease, the health system was overwhelmed with how to deal with this crisis. Perhaps of greatest concern, however, was the inability to provide accurate and timely information to health institutions, healthcare workers and the public regarding the appropriate procedures and precautions to ensure optimal safety for all persons and control the spread of disease. This paper makes the case that the integration of occupational health and safety into pandemic planning is key to its success.

In early March 2003, two middle-aged men were admitted to hospital within a three-hour period, one in Vancouver and one in Toronto. Both men, it turns out, had severe acute respiratory syndrome, or SARS. In the following six months, 251 probable cases of SARS were diagnosed in Canada – four in Vancouver and 247 in Toronto. Of the 247 probable cases in Toronto, 77% of the patients were exposed at a healthcare setting. Nurses, physicians, respiratory therapists, cleaners and other healthcare workers made up over half of these patients. Forty-four people died in Toronto's outbreak, including two nurses and a doctor (Campbell 2006).

According to the Commission to Investigate the Introduction and Spread of SARS in Ontario, it was not just good fortune that spared Vancouver. British Columbia succeeded in bringing occupational health and safety and infection control to the same table. Worker safety experts were given a prominent role, and their expertise was valued (Campbell 2006).

Occupational health and safety in a healthcare setting does double duty. It protects workers and, by doing so, also protects patients and the public. As noted in *The SARS Commission Final Report*, without improvements such as the bridging of infection control and occupational health and safety, the involvement of occupational health and safety experts, employers and unions; and the reliance on Joint Health and Safety Committees, we can expect further disaster when the next disease outbreak occurs (Campbell 2006).

One of the key benefits of better integration of occupational health and safety into pandemic planning is the priority it places on the use of the precautionary principle. "If the [SARS] Commission has one single take-home message it is the precautionary principle that safety comes first, that reasonable efforts to reduce risk need not await scientific proof" (Campbell 2006: 14).

Since the SARS experience, there have been great strides to prepare the system to respond quickly and efficiently to ensure that the next health emergency is not a potential disaster but a well-managed incident. The Public Health Agency of Canada (PHAC) was created to help federal, provincial and territorial governments work together and develop a more integrated and coordinated response to health management. It is the case of this paper that a great deal of work remains ahead to learn and apply basic occupational health and safety law and principles in pandemic planning.

The October 2006 PHAC Scientific Working Meeting on Occupational Influenza Prevention and Control in Health Care Settings exposed just how much work lies ahead. At that meeting, PHAC officials admitted they had not yet consulted occupational health and safety experts in their pandemic planning; but given the value of their input at the meeting, PHAC announced their intention to invite occupational health and safety input in the future. As the SARS Commission comprehensive investigation revealed, health and safety is at risk when occupational health and safety law and principles are only an afterthought in outbreak planning and response.

This paper takes a critical look at the current planning around what is believed to be the most serious threat of a pandemic – an outbreak of H5N1 influenza virus. In examining the threat of this highly pathogenic strain of the influenza virus, this essay identifies the scientific and policy debates currently facing decision-makers and responds with key recommendations to ensure successful pandemic planning based on the precautionary principle.

The Canadian Federation of Nurses Unions (CFNU) represents 135,000 nurses in

nine provinces and is an expert in healthcare workplace issues. For this reason, CFNU is leading the fight for practical policy change that will ensure the health and safety of all healthcare workers and the public in the event of a health emergency, such as a pandemic.

H5N1 Influenza: The Next Pandemic?

In recent years, the H5N1 virus, also known as avian influenza, has become a worldwide cause of concern. Avian influenza is believed to be the most probable public health threat of pandemic influenza to Canadians and citizens across the globe. The first human case of the H5N1 influenza was reported in 1997 in Hong Kong (World Health Organization [WHO] 2005). The disease is characterized by a sudden onset of severe illness and rapid death, with a mortality that can approach 100% (WHO 2005). Increasing reports of human infection present mounting fears that if the disease were to develop the ability for human-to-human transmission, it would cause a devastating health emergency. The evolution of the threat cannot be predicted, nor can the nature or the severity of the outbreak.

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Control of the disease in animals is one of the most effective ways to prevent a human infection and reduce the risk of a pandemic generated by the H5N1 virus. However, the virus persists despite aggressive efforts to control it, including culling more than 140 million poultry in parts of Asia (WHO 2005). Despite extensive research and attention to the pandemic in animals, WHO identifies that the factors responsible for the persistence of the virus are still not fully understood. For this reason, preventing human exposure to the virus is considered to be a necessary way to control risk.

At present, it is believed that the H5N1 virus will arrive in Canada within three months of its appearance anywhere else in the world, with a rapid onset of disease infecting up to 70% of the population (King 2007). Similar to other illnesses and infections, not everyone in the population will present with the same symptoms. While 70% of the population will likely be infected by the disease, it is predicted that 35% of the population will be clinically ill, approximately 30% will require some form of outpatient care, 3% will be hospitalized due to the illness and less than 1% of the population will die (King 2007).

Based on estimations by the PHAC, outbreaks of the virus will occur at the same time, in multiple locations and in any given community, with each pandemic wave generally lasting six to eight weeks (King 2007). On the whole, a pandemic in Canada may last 12–18 months, with the possibility that more than one wave may occur within one 12-month period.

The best-case scenario in the outbreak of pandemic influenza is that the impact will be inconvenient for the health system. No doubt, large numbers of people will be off work due to illness or at home taking care of others. This will impact all sectors of the community, from businesses to schools; but it is suggested that in this best-case scenario, the percentage of absenteeism will be no greater than at peak holiday periods, such as summer vacation or Christmas. As mentioned, the physical health threat itself is manageable as many will

likely be infected but not all will fall seriously ill. The real threat of the disease is for young children, the elderly and those with weakened immune systems (King 2007).

Governments and all healthcare stakeholders, however, must be prepared for the worst-case scenario. Based on the experience of SARS in Ontario, one could expect a higher-than-average absenteeism of all healthcare workers. Given the current shortage of health workers and concerns over timely access to care, this would have a devastating effect on the ability of the system to meet the needs of all patients as health workers would need to maintain services for patients who do not have influenza as well as work to contain the spread of the virus in institutions where most patients are susceptible to foreign pathogens. There is no doubt that governments need to act quickly to develop an effective pandemic plan that actively involves the knowledge and experiences of unions, employers and other healthcare stakeholders.

Pandemic Planning to Date

Canada is actively engaged in plans to prepare for a pandemic, whether it be the avian influenza or some other population health emergency. PHAC was created after the outbreak of SARS as it was clear that there was a serious lack of coordination and ability of the public health sector to respond to a crisis (Chatigny 2006). It is the lead governmental agency involved in planning for a pandemic and is responsible for health prevention, promotion, disease surveillance and emergency management response and planning.

At present, PHAC is working to develop a comprehensive and integrated pandemic preparedness plan. The updated *Canadian Pandemic Influenza Plan* was released in December 2006 (PHAC 2006). The key components recognized by the plan include surveillance and laboratory preparedness, stockpiling a pandemic vaccine and antivirals for treatment and prevention, planning public health measures such as public education, "social distancing" and isolation or quarantine, enabling the health system to respond to a crisis, developing an effective communications plans and coordinating emergency preparedness across jurisdictions. However, the release of Appendix F, "Infection Control and Occupational Health Guidelines during Pandemic Influenza in Traditional and Non-Traditional Health Care Settings," has been delayed, in no small part due to the debate between the two silos identified by Justice Campbell during the SARS inquiry – infection control and occupational health and safety – occurring within typical policy making constraints.

The Scientific Debate

Influenza ("the flu") is generally known as "an acute respiratory infection with the influenza virus causing fever, a runny nose and sore throat, cough, headache, aching muscles and joints" (International Council of Nurses [ICN] 2006). Science has traditionally regarded the spread of the virus as being through droplets, meaning that one would have to come into direct contact with the virus through bodily fluids, such as mucus or saliva, in order to contract the infection. For this reason, precautions to limit transmission generally involve handwashing and covering the mouth and nose when coughing or sneezing.

More recently, evidence has emerged to show that our understanding of the nature of the influenza virus may be incomplete. New studies and re-examinations of past research have found that the influenza virus can also be airborne. The ICN describes the epidemiology of the influenza virus as "highly contagious and easily passed on by breathing in the tiny droplets from the breath of infected

people" (ICN 2006). Dr. Raymond Tellier, a leading microbiologist at the Hospital for Sick Children in Toronto, has also recently published information confirming that influenza is spread by droplets from coughs and sneezes, surface contact and from aerosolized

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vapour (that results from coughs or sneezes), which is then breathed deep into the lungs "where the flu likes to live best" (Lamey 2006). His research and expertise is leading the way in Canada to identify the need for the N95 respirator as a minimum standard of respiratory protection to protect healthcare and other emergency workers during a pandemic.

The N95 respirator will help protect against exposure to very small particles or fine aerosolized droplets such as those produced by coughing (US Department of Health and Human Services 2004). In the words of Dr. Tellier when interviewed by the Montreal newspaper *The Gazette* regarding protection from avian influenza, "Sending health-care workers to work with surgical masks is akin to sending soldiers into Iraq with BB guns. It isn't good enough" (Lamey 2006).

The Policy Debate

During the SARS crisis, the debate on the most likely form of transmission resulted in a great discussion surrounding standards for the most appropriate personal protective equipment (PPE), and the discussion continues to rage in pandemic planning. At present, in all provinces except British Columbia, the surgical mask has been deemed the minimal healthy and safety requirement to prevent the spread of infection. However, health and safety advocates across Canada are adamantly fighting for greater standards for protection based on the precautionary principle. As noted earlier, the primary recommendation arising from the comprehensive three-year judicial SARS inquiry is that governments adopt the "precautionary principle that reasonable action to reduce risk, like the use of a fitted N95 respirator, need not await scientific certainty" (Campbell 2006: 10).

The Precautionary Principle

CFNU firmly believes that during a pandemic the N95 respirator should be the minimum standard of respiratory protection for nurses and other healthcare workers. This is based on the precautionary principle, which states that when an activity raises threats of harm to human health or the environment, precautionary measures should be taken even in the absence of full scientific certainty. In other words, in the event of a health emergency such as a pandemic, healthcare workers must be assured that all reasonable health and safety precautions are being taken to protect them from exposure to the threat in any form.

In the final report of the SARS Commission, it was noted that the adoption of the precautionary principle leads to better occupational health and safety standards and a greater consciousness around risk. An expert from Vancouver General Hospital reported to the commission: "We always start with the highest level of precaution … We don't use droplet precautions in our hospital, never have, because we've always believed that droplets have been aerosolized; so we have only one category, that's airborne, and you always

start with the highest level of precaution and then as the clinical situation becomes clearer, you step back on your precautions" (Campbell 2006: 254). Given the competing ideas about the nature and spread of influenza, precautions to limit the risk and impact of a pandemic of avian influenza, or any other pandemic, must be based on the precautionary principle.

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The SARS Commission Final Report not only validated the claim that the precautionary principle should always be enacted, it also identified that concerns over cost for the N95 respirator were inconsequential when looking at the bigger picture. In a discussion of the use of the N95 respirator, Dr. Annalee Yassi, who heads the Occupational Health and Safety Agency in British Columbia, told the commission: "There really was no downside, other than some trivial cost factor. It is trivial in the bigger picture when you look at the billions and billions of dollars spent on an outbreak. The extra little cost of an N95 versus a surgical mask is more than made up for by the better degree of protection that it provides" (Campbell 2006: 1103).

While the N95 respirator issue is important, as Justice Campbell pointed out, "fit testing and the N95 became lightning rods for all the underlying problems of worker safety in health care … The real problem during SARS was not the N95 respirator or fit testing but deep structural contradictions in worker safety in the health care system" (Campbell 2006: 10). It is critical that these contradictions, including the approach to respiratory protection, be quickly resolved so that we may face future outbreaks with some confidence that governments and employers are taking all reasonable precautions to protect workers and, therefore, patients and their visitors.

CFNU is not alone in this call. International groups, such as the International Council of Nurses, WHO, the US Centers for Disease Control and Prevention and the US Association for Professionals in Infection Control and Epidemiology, all support the science that maintains that the transmission of the influenza virus is both via droplets and airborne. An N95 respirator, at minimum, has been recommended by WHO for avian influenza, and in the French, Australian and US plans for healthcare workers caring for patients with pandemic influenza; the British plan also recommends the use of N95 respirators for healthcare workers undertaking aerosolizing procedures (Tellier 2006).

The Precautionary Principle Will Help Ensure Adequate Staffing

Perhaps the greatest threat in a health emergency is the inability to provide adequate care. For this reason, emergency planning needs to identify that health human resources are the most important part of any plan. This becomes more challenging given the lack of surge capacity within the system, resulting from the current shortage of nurses and other healthcare professionals, the known practices of working part time in more than one location, and overtime and absenteeism due to illness within the health system – which certainly increase during a pandemic.

In the submission on Bill 56, Emergency Management Statute Law Amendment Act 2005, the Ontario Nurses' Association aptly describes the risk faced by Ontarians when there are not enough nurses to provide care. From their experiences with SARS, they

know first-hand how existing nursing shortages "were magnified when fewer nurses were available to work because of home/work quarantine, additional demands for infection control, and restrictions on employment in more than one health care facility" (Ontario Nurses' Association 2006).

In a national survey of over 18,000 nurses across Canada released by Statistics Canada in December 2006, just over half expressed concern about the ability of the organization they work for to control an outbreak. About 45% expressed concern over the effectiveness of existing PPE in an outbreak. As noted in the BC Workers' Compensation Board Guide issued within three weeks of the first SARS case, "A worker has the right to refuse any work which that person has 'reasonable cause to believe … would create an undue hazard to the health and safety of any person' … If an employer requires a worker to work with a known or suspected case of SARS, without providing the appropriate personal protective equipment (PPE) and safe work procedures, then this would clearly constitute a case where there is undue risk to that worker's health" (Campbell 2006: 277). Whereas work refusal regulations are provincial, the basis is the same – healthcare workers cannot refuse the work if adequately protected.

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Policy Recommendations: Integrating the Precautionary Principle

Personal Protective Equipment

With advancing international standards for protection, it is recommended that Canada's preparedness plan seek input from occupational health and safety experts, expressly adopt the precautionary principle and revisit the safety measures for healthcare workers. It is important that healthcare employers ensure that they first consult with Joint Health and Safety Committees and establish robust infection control programs wherein staff are trained and made knowledgeable about the principles and procedures of controlling the spread of infection to workers as well as patients. Where healthcare workers may be exposed to airborne diseases, risk assessments should be conducted, workers at risk of exposure should be identified and the employer should develop in consultation with the Joint Health and Safety Committee a respiratory protection program complete with training and fit testing of appropriate respirators, as per Canadian Standards Association requirements (Government of Ontario 2006).

Infection control and respiratory protection programs that integrate occupational health and safety are the solid blocks upon which pandemic plans should be built, recommending N95 respirators as the minimum respiratory protection for healthcare workers in a pandemic. This is particularly important as some healthcare and emergency workers have successfully lobbied for the use of N95 respirators as the minimum standard (Bell 2006), and laboratory workers are fitted with greater standards of PPE when exposed to the H5N1 virus.

Safe Staffing for a Pandemic

Unions should be involved in all staffing issues and discussions at the local, provincial

and federal levels regarding health human resource planning and staffing to ensure a safe supply of nurses and other healthcare workers to manage a health emergency. Occupational health and safety experts must be at the same tables as policy makers and infection control experts. CFNU urges all levels of governments to immediately direct employers and bargaining agents to negotiate specific collective agreement clauses on emergency, disaster and pandemic staff planning, training and PPE. Urgent discussions must also happen with provincial professional regulatory bodies for establishing and communicating fast-tracked regulations between provinces, professionals and retirees.

In any emergency or disaster, nurses will be required to perform their duties, with the understanding that their rights and protection granted under collective agreements will be respected. In the event of a major health alert such as a pandemic, it is understood that notification will be provided to the bargaining agent by the respective minister of health or labour. Collective agreements will remain in effect. Any other agreements must be subject to the Labour Relations and Occupational Health and Safety Acts in each province and will only be negotiated with bargaining agents.

Unions should also be part of discussions aimed at ensuring adequate staffing to provide care in the case of an outbreak in a rural or remote community. Many communities, particularly Aboriginal communities, do not have the infrastructure to deal with a health emergency. A worst-case scenario recognizes that entire communities may be put at risk that do not have the basic means to care for their residents, not to mention the lack of access to healthcare professionals able to provide care in the event of an emergency.

Collaboration and Communication

In the event of a pandemic, any health human resource plan will need to go beyond traditional professional silos to include competency-based plans, training and options for care providers, knowing in advance that shortages will likely create a crisis in health human resources and care. For this reason, we recognize and support staffing plans that encourage and integrate care providers. It is also understood that these plans must include proper training; orientation, protection (i.e., PPE) and quarantine; sick leave and health benefits before healthcare workers are requested to assist in the care of patients. These plans should be negotiated with the bargaining agent. We also advise that recommendations from the SARS Commission be implemented nationally, including better collaboration and communication between the Ministries of Labour and Health, the creation of mechanisms to hear from front-line health workers and unions and a greater involvement of Joint Health and Safety Committees (Campbell 2006).

Conclusion

In the event of a health emergency, all healthcare workers must be assured the health and safety precautions taken will protect them from exposure to the threat of disease, in any form. While the standards vary, the knowledge and understanding of the spread of disease or the possible outcomes from the use of chemical or biological weapons are raising the minimum standards for acceptable risk. Whereas at one point a surgical mask was deemed acceptable in the outbreak of pandemic influenza, emerging evidence shows that transmission can also be airborne, requiring a greater standard of protection – the N95 respirator at minimum.

In Canada, there is a need for an enhanced pandemic plan that follows the precautionary principle and meets the highest standards to ensure the health of citizens, including our health human resources. Without this, we

will not be able to effectively manage a health emergency, such as an avian flu pandemic. This pandemic plan needs to be a collaborative effort involving the whole health system and bridging policies at the workplace, provincial and federal government levels.

Building alliances between government, employers, unions and all healthcare stakeholders is key in preparedness planning. CFNU is working hard to keep emergency preparedness as a top priority of governments and employers because the risk of doing nothing is so great. It is imperative that all stakeholders continue to work together to seek more knowledge and evidence on the science behind the pandemic threat; but in the meantime, they must adopt a precautionary approach to ensure optimal preparedness within the health system. It is also vital that all stakeholders work together to build capacity within the local institutions, particularly those in rural and remote areas. Finally, policies and decision-making cannot be limited to one form of threat. At present, H5N1 influenza is the most likely threat for pandemic influenza; but some other threat might emerge in the coming years, and the system must be prepared. Thus, all policies need to be based on the precautionary principle.

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