We would like to start by thanking Longwoods Publishing for encouraging this important discussion. All the authors offer some challenging criticisms and important additions, and we can see how it is crucial for them to participate. Their contributions prompted us to reflect on some broader issues and to refine our own position. Nurses thank you!

All authors agree, of course, that we need a plan to confront future pandemics. But how do we best achieve this? The Public Health Agency of Canada (PHAC) has succeeded in recent years in developing a pan-Canadian pandemic plan, but even now it remains incomplete. As we argued in our opening paper, the integration of occupational health and safety into pandemic planning, particularly with respect to healthcare institutions, is critical to success. Though PHAC is now reviewing and revising its Annex F, “Infection Control and Occupational Health Guidelines,” we believe that, in the past, PHAC did not pay enough attention to occupational health and safety expertise in plan development, and we are hoping that the new Annex F will reflect a real improvement on this front.

Kerr points out that “leading organizations recognize that occupational health and safety … needs to be an integral component of their organization’s core culture.” We feel that this principle can be extended to PHAC as Canada’s leader in pandemic planning. To be a successful leader in this area, PHAC needs to guide provincial authorities and healthcare organizations and employers to recognize occupational health and safety as a key component of any pandemic plan. That leadership should extend to acknowledging and embracing the valuable lessons from Ontario’s extensive SARS Commission investigation.
Devlin et al. resist applying the lessons of the outbreak of severe acute respiratory syndrome (SARS) to pandemic planning. But, as Possamai explains, “It is precisely the fact that SARS was a nosocomial disease whose greatest burden fell on health workers that makes the lessons from SARS valuable to those planning for, and responding to, a (quite dissimilar) community-centred public health emergency such as a flu pandemic.” The extensive evidence from the SARS Commission investigation led Justice Campbell to warn that risk reduction efforts should precede scientific certainty (Campbell 2006). Not only have PHAC and the infection control community not adequately considered the valuable input of occupational health and safety hygiene experts, they have sought scientific certainty before acting. Ontario’s handling of SARS illustrated the folly of such an approach.

In his substantial report, Justice Campbell offered specific advice for pandemic planning; Possamai reminds us of his three most valuable lessons:

1. The adoption of the precautionary principle
2. The application of the “occupational hygiene concept of a hierarchy of controls … a holistic approach to worker safety”
3. “The importance of having a robust safety culture in the workplace in which workers play an integral role in promoting a safe workplace”

Kerr questions, “In a healthcare environment that is increasingly focused on the need for evidence upon which to base change in practice, are we possibly dragging our heels in raising our preparedness for a future pandemic?” With PHAC’s slow attention to occupational health and safety expertise and its failure to adopt the precautionary principle, we think so. This heel-dragging is what prompted us to participate in this discussion.

**Avian Influenza and the SARS Crisis**

As Waters points out, a pandemic is an atypical scenario – not exactly something that runs seamless with our past experiences. The next pandemic could last 18 months or longer and result in as much as 40% employee absenteeism. Considerations such as these underscore the importance of pandemic planning – we must do everything in our power to get ready.

Devlin et al. are right to point out that, unlike SARS, we have much more familiarity with the influenza virus and will be able to develop vaccines. We must consider, though, that a vaccine cannot be developed until the particular strain of the H5N1 virus (or whichever virus begins a pandemic) is identified. A functional vaccine will not likely be ready for the population until months after the onset of a pandemic (PHAC 2006b). To reiterate Possamai’s earlier point, “Despite the many differences between the SARS outbreak in 2003 and an influenza pandemic, the experience with SARS nevertheless provides valuable lessons for protecting health workers during an influenza pandemic or other public health crisis. These include the importance of the precautionary principle, the occupational hygiene concept of hierarchy of controls and a robust safety culture.”

**A Lack of Consensus**

Devlin et al., citing Lemieux et al. (2007), argue that the relevant literature on the influenza virus suggests that it is spread only via droplets and not through airborne transmission. However, Tellier (2007) has argued against Lemieux et al.’s analysis, claiming the literature “make[s] a compelling case for the importance of aerosol transmission. In contrast, no convincing data rule it out.” And he is not alone. Couch et al. (1970),
Tsukamoto et al. (2007) and Nicas and Hubbard (2002), among others, also argue that the influenza virus, including the highly pathogenic H5N1, may be capable of airborne transmission.

To be clear, we are not committed to the claim that the influenza virus can propagate through airborne transmission. Indeed, that there is a lack of consensus seems to have been the only consensus among participants at PHAC’s Scientific Working Meeting on Occupational Influenza Prevention and Control in Health Care Settings (PHAC 2006a). What we contend, rather, judging from the available evidence, is that the science is not certain and consensus is likely to come later rather than sooner. We must plan, then, for the worst. If the scientific community were to agree that influenza is transmissible via aerosolization, there would be little to debate – governments would be foolish not to provide high-quality protective respirators. Barring this accord, however, we must consider what the appropriate measures are in the interim. We believe the precautionary principle speaks clearly on this: “Reasonable efforts to reduce risk need not await scientific proof” (Campbell 2006: 14).

**Protection in Perspective**

Devlin et al. are right to argue that policy decisions regarding personal protective equipment should not be driven by emotion. But the research of the reputed Dr. Tellier and others justifiably undermines our confidence in the status quo approach to healthcare worker protection, which, in most Canadian jurisdictions, has historically excluded occupational hygiene expertise. The eminent judicial authority, Justice Campbell, pored over volumes of evidence before reaching his conclusions and emphatically cautioning everyone to apply the precautionary principle in planning for an influenza pandemic or other public health crisis. His was a completely evidence-based conclusion, not hastily drawn. Nurses and other front-line healthcare workers need the appropriate equipment to fulfill their roles as well as for protection. Pandemic influenza is a serious issue, and, especially in light of the scientific uncertainty and the sound judicial counsel, we cannot and should not expect front-line health workers to battle it with anything less than the best protection.

Surgical masks go for pennies, while N95 respirators sell at about a dollar each. Governments could likely barter for much better prices as bulk buyers, but the difference is still great. Nevertheless, the concern for cost must be put into context. We do not balk at the costs of providing bulletproof vests for our police officers, fireproof suits for our firefighters or even properly fitted respirators for emergency responders ...
N95 Respirators Are Part of a Larger Plan

It was not our intention to limit Justice Campbell's report to a mere recommendation to use N95 particulate respirators – commentators are right to state that it goes beyond this. As Possamai states, “It is not simply a matter of appropriately safeguarding health workers, however. They must also feel safe and trust the measures being taken to protect them. Otherwise, they may be less willing to take on the heightened risks inherent in a public health crisis, even if authorities attempt to legally coerce them do so.”

We agree that personal protective equipment has a role only within a coordinated plan that includes adherence to “Routine Practices and Additional Precautions,” vaccination and antiviral prophylaxis (Devlin et al.) as well as a comprehensive occupational health and safety strategy within a core management system (Kerr) that includes sufficient occupational hygiene resources (Possamai). We could readily add to these measures the education and the reciprocal dialogue between workers and employers that is required under occupational health and safety legislation in most jurisdictions. Kerr reminds us, “Traditional lagging health and safety indicators in the health sector, such as injury rates and compensation claims, have not kept pace with the reductions seen elsewhere.” Cast against this bigger picture of widespread gaps in healthcare sector occupational health and safety, it is not so surprising then to find resistance to the call for respirators to protect healthcare workers against potential airborne hazards. As Kerr suggests, the real issue is the “need to better integrate [occupational health and safety] more directly into the core management system for the delivery of healthcare services in general.”

Justice Campbell carefully emphasized that it’s not about the mask because the challenges that prevented an efficacious response to the SARS crisis are more fundamental than ensuring that appropriate personal protective equipment is available. This, of course, does not weaken our plea for the adoption of this safety measure, but places it within the context of a comprehensive plan, toward which this is one step. In fact, when workers are potentially exposed to airborne hazards, the laws in Ontario and elsewhere require that employers establish full respiratory protection programs, complete with training in hazard identification, proper respiratory protection and fit testing. N95 respirators are a small part of the “bigger safety system” that includes the occupational hygiene concept of a hierarchy of controls described by Possamai. Occupational health and safety legislation across Canada reflects the need to adopt the measures he outlines, that is, engineering controls, administrative controls, work practices and personal protective equipment in a holistic approach to worker safety. In this hierarchy, respirators and other personal protective equipment are the last line of defense for workers who may be exposed to hazards. Nurses must receive the full protection of the complete hierarchy of controls. In the case of pandemic planning, and in the absence of scientific certainty, this certainly includes proper respiratory protection such as (at minimum) an N95 respirator.

As Waters urges, we must take responsibility and not merely let governments come up with the plan, just as some provincial governments have taken leadership in preparing within their own jurisdictions instead of waiting for a comprehensive federal plan. We therefore applaud measures such as those adopted by the Toronto Academic Health Science Network for stockpiling antiviral...
medication for its staff (Devlin et al.). Also noteworthy, in the latest round of collective bargaining, the Ontario Nurses’ Association won language on supplying hospital nurses with N95 respirators in a pandemic, and the Ontario government recently announced funding for the purchase of N95 respirators as part of its provincial pandemic planning. We must make our voices heard during pandemic planning so that the valued experience and learning of nurses and other healthcare professionals and stakeholders are not lost.

**The Need for a Comprehensive Plan**

As we have already seen, many commentators have pointed out the need for a truly comprehensive plan if we are to effectively combat a pandemic. Possamai reminds us of Justice Campbell’s sage advice for employers to build strong safety cultures (echoed by Kerr’s research), the key elements of which “include close co-operation between infection control and occupational hygienists, listening to workers’ concerns and ensuring workers have a dynamic role to play in their workplaces through effective internal responsibility systems.” Indeed most Canadian jurisdictions require employers to engage workers through health and safety committees in developing such workplace health and safety strategies as pandemic influenza plans.

Shamian et al. and Waters point out that pandemics know no boundaries; once a pandemic hits, it will rapidly escape the health sector. This suggests that the need for planning goes beyond the walls of the hospital – we need a comprehensive gaze. We must broaden our perspective to consider also care that does not take place within the traditional institutions. As Shamian et al. point out, “Those most at risk from pandemic infection are often immunocompromised, the same population often receiving home and community care.” Moreover, they are wise to suggest that pandemic planning should also consider the needs of unpaid caregivers and volunteers, who form a crucial part of our healthcare system and are worthy of our best efforts of protection. During a pandemic, untrained care providers will become progressively more necessary and the support they receive from professionals will likely diminish. Shamian et al. state, “Silas, Johnson and Rexe are quite right that occupational health and safety must be a key part of pandemic planning, but this concern should extend not only to paid caregivers but also to volunteers, family/friend caregivers and unregulated workers who are vital in the delivery of home care.”

A comprehensive pandemic plan will have to consider the special needs presented by isolated and diverse communities such as Aboriginal communities. These communities are often far removed from the large health service centres that would play lead roles in managing a pandemic. Planning for on-reserve First Nations communities is still largely unresolved within the federal pandemic plan (PHAC 2006b).

Shamian et al. raise an interesting and important issue within their article, one that bears thoughtful consideration: how to deal...
with funding for N95 respirators and other pandemic expenses within the unfunded portions of our healthcare system, such as home care. Unlike the nosocomial disease SARS, influenza is a community-based illness; it thus represents a high potential for stress on the home and community care system. The Canadian Home Care Association (2007) estimates that presently one million Canadians are receiving home care – a 100% increase since 1995. During a pandemic, this number will increase. It seems this topic is excellent fodder for future discussion.

**Conclusion**

The debate of how to best prepare for a pandemic is occurring in the midst of a global shortage of nurses and doctors. Any additional stress to the healthcare system (such as a pandemic or even early signs of one) will no doubt lead to increased levels of absenteeism and overtime. We must create prudent plans to protect and preserve our healthcare human resources or risk facing a pandemic with even greater shortages.

We agree that patient care is the primary goal in healthcare, and that goal is dependent on having workers able and willing to provide care. Many jurisdictions have laws requiring employers to take every reasonable precaution to protect the health and safety of workers, and nurses across Canada are right to expect that their employers do so. SARS provided valuable lessons about just what those reasonable precautions should be. As we move forward, we must embrace occupational health and safety principles, advice and law as key elements of our pandemic planning. By working together, we can face any storm, and both goals – patient care and worker protection – can be achieved.

### References


