

# Applying the Lessons of SARS to Pandemic Influenza

An Evidence-based Approach to Mitigating the Stress Experienced by Healthcare Workers

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## ABSTRACT

We describe an evidence-based approach to enhancing the resilience of healthcare workers in preparation for an influenza pandemic, based on evidence about the stress associated with working in healthcare during the SARS outbreak. SARS was associated with significant long-term stress in healthcare workers, but not with increased mental illness. Reducing pandemic-related stress may best be accomplished through interventions designed to enhance resilience in psychologically healthy people. Applicable models to improve adaptation in individuals include Folkman and Greer's framework for stress appraisal and coping along with psychological first aid. Resilience is supported at an organizational level by effective training and support, development of material and relational reserves, effective leadership, the effects of the characteristics of "magnet hospitals," and a culture of organizational justice. Evidence supports the goal of developing and maintaining an organizational culture of resilience in order to reduce the expected stress of an influenza pandemic on healthcare workers. This recommendation goes well beyond the provision of adequate training and counseling. Although the severity of a pandemic is unpredictable, this effort is not likely to be wasted because it will also support the health of both patients and staff in normal times.

**Key words:** Health personnel; communicable diseases; stress, psychological; organizational culture; disaster planning

## RÉSUMÉ

À la lumière des données sur le stress associé au travail dans le domaine des soins de santé pendant la crise du SRAS, nous décrivons une approche fondée sur les preuves qui vise à améliorer la résilience des travailleurs de la santé en prévision d'une pandémie de grippe. Le SRAS a été associé à un niveau significatif de stress de longue durée chez les travailleurs de la santé, mais pas à une hausse des maladies mentales. Le meilleur moyen de réduire le stress en cas de pandémie serait de prendre des mesures pour améliorer la résilience des personnes saines sur le plan psychologique. Entre autres modèles intéressants pour améliorer la résilience, citons le cadre d'évaluation et d'adaptation au stress de Folkman et Greer, assorti de premiers soins psychologiques. À l'échelle organisationnelle, la résilience est assurée par une formation et un soutien efficaces, la constitution de réserves matérielles et relationnelles, un leadership efficace, les avantages attribuables aux « hôpitaux-aimants » et une culture de justice organisationnelle. Il est prouvé que la création et l'entretien d'une culture organisationnelle de résilience sont des objectifs valables si l'on veut réduire le stress attendu d'une pandémie de grippe sur les travailleurs de la santé. Cette recommandation va plus loin que la simple prestation d'une formation et d'un counseling adéquats. Il est impossible de prédire la gravité d'une pandémie, mais les efforts recommandés ne seront pas vains, car ils favoriseront aussi la santé des patients et du personnel en temps normal.

**Mots clés :** personnel médical et paramédical; maladies transmissibles; stress psychologique; culture organisationnelle; planification antisinistre

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The Severe Acute Respiratory Syndrome (SARS) outbreak demonstrated that an extraordinary infectious outbreak causes enduring stress in healthcare workers.<sup>1</sup> Currently, healthcare organizations are preparing for an influenza pandemic.<sup>2</sup> While the occurrence of pandemic influenza is considered inevitable, neither the timing nor the severity of the next pandemic can be predicted. A severe pandemic would cause high mortality, high healthcare demands, high absenteeism among healthcare workers, rationing of basic healthcare supplies and extraordinary stress.<sup>2,3</sup> Under such circumstances, the healthcare system could not afford a further loss of professionals due to the effects of stress. The purpose of this review is to provide an evidence-based approach to reducing healthcare workers' distress by building resilience prior to the pandemic.

## The stressful impact of SARS on healthcare workers

The SARS outbreak was associated with clinically significant distress in a third to half of healthcare workers.<sup>4-7</sup> Greater distress was associated with quarantine,<sup>8</sup> treating colleagues with SARS,<sup>9</sup> fear of contagion,<sup>7,10,11</sup> concern for family health,<sup>6,11,12</sup> job stress,<sup>7,11</sup> interpersonal isolation,<sup>7,11</sup> and perceived stigma.<sup>7,8,13</sup> Two aspects of these healthcare workers' experience distinguish the stress of an infectious disease from other disasters. First, SARS experience contributed to social isolation for several reasons: infection control procedures increased interpersonal distance; stigma and interpersonal avoidance diminished social and community interaction; and being assigned to unfamiliar work groups reduced collegial interaction.<sup>7,12</sup> Second, while family support usually buffers stress, healthcare workers with children experienced higher levels of distress during SARS,<sup>12</sup> presumably due to the perceived risk of infecting loved ones and concerns about caring for children if the parent is ill.

Two years after the outbreak's resolution, healthcare workers in hospitals that treated SARS patients had significantly elevated rates of signs of chronic stress compared to workers in other similar hospitals.<sup>14</sup> These included professional burnout (30 vs. 19%), depressive and anxiety symptoms (45 vs. 30%), increased

smoking, drinking or problem behaviour (21 vs. 8%) and missing 4 or more work shifts over 4 months due to stress or illness (22 vs. 13%). Importantly, healthcare workers in affected hospitals were more likely to have decreased face-to-face contact with patients (17 vs. 8%) and decreased work hours (9 vs. 2%) following SARS. However, rates of depression, post-traumatic stress disorder or other mental illness were not elevated.<sup>15</sup> Thus, long-term effects of SARS were common but were predominantly in the range of subsyndromal stress response syndromes. This should shift thinking about reducing pandemic-related stress away from models of clinical intervention for mental health problems and towards models of adaptation and resilience in psychologically healthy people.

Mediators of long-term SARS stress could become targets for interventions. Chronic stress was lower in workers with longer healthcare experience and in those who felt effectively trained and supported by their hospital. Greater chronic stress was reported by workers who coped using strategies of avoidance and self-blame.<sup>14</sup>

#### Key differences between SARS and pandemic influenza

The stress of pandemic influenza will differ from SARS because of the inability to contain pandemic influenza through infection control procedures, the potential difference in scale and severity, and the opportunity to prepare for a pandemic. SARS was a nosocomial infection with minimal community transmission and minimal infectious transmission prior to the onset of symptoms.<sup>16</sup> Infection control procedures were key aspects of containing the outbreak.<sup>17</sup> Influenza, on the other hand, is readily transmitted before the onset of clinical illness and is prone to mutations that favour the virus's survival. Thus, pandemic influenza will be a community-acquired disease.<sup>18</sup> This difference may reduce some of the isolation that was experienced by healthcare workers in SARS due to quarantine, reduced social contact within the hospital and stigma. In a severe pandemic, however, the benefit of reduced isolation will be outweighed by the burden of the scale of disease. Thus, it is important to fully exploit our opportunity to plan effectively and implement resilience-enhancing measures before the pandemic occurs.

#### Fostering individual resilience

Resilience is the ability to reduce the effect of a distressing event by anticipation and preparation or to "bounce back" once it has occurred. Two evidence-based approaches to individual resilience are particularly apt for pandemic preparation. Folkman and Greer's framework for maintaining psychological well-being during serious illness describes a sequence of appraisal and coping processes that are designed to recover positive emotions and effective adaptation.<sup>19</sup> They describe a sequential approach to coping that is experience-near for many healthcare workers: problem solving for events that are appraised to be within one's control, emotion-based coping to enhance support and reduce isolation, and meaning-based coping for events that are unresolved and cause persistent distress after problem-focused efforts. This framework facilitates flexibility, acknowledging that distress and coping are highly individual and depend on experience, values and expectations. It also facilitates discussion of the strengths and weaknesses of various approaches to coping, and the evidence that coping through escape-avoidance and self-blame are maladaptive in healthcare workers responding to infectious disease.<sup>14</sup>

The second approach that we advocate is psychological first aid,<sup>20</sup> an evidence-based approach to facilitating resilience immediately after trauma. Healthcare workers can learn psychological first aid without any prior mental health education. Furthermore, learning to support others may also enhance the resilience of the provider. As with Folkman and Greer's model, psychological first aid does not pathologize people who are stressed by extraordinary events. Rather, it assumes that those who are stressed are competent and are able to determine whether or not they wish or need assistance. It teaches a respectful approach to reducing distress through enhancing safety and comfort, helping survivors of trauma to identify their needs, providing information and facilitating social connection.<sup>20</sup>

#### Fostering organizational resilience

The resilience of healthcare organizations is influenced by factors beyond the resilience of people within the organization. Organizational resilience may con-

tribute to individual resilience, however, by buffering workplace stressors during and after a crisis. It is a key task of pre-pandemic preparation.

Organizational resilience depends on establishing reserves prior to crises. Pandemic plans note the need for material reserves (e.g., stockpiles of supplies).<sup>3,21,22</sup> Additionally, business models of resilience emphasize the value of back-up plans and succession plans, a culture of flexibility and the central role of effective leadership.<sup>23,24</sup> Evidence from the SARS outbreak reinforces the importance of effective training.<sup>14</sup> This may include training in skills that will be required when adaptation to the pandemic requires staff to work outside of their usual area of familiarity, and may also include training in psychological first aid and coping. In SARS, psychosocial support was far more effective when provided in the context of trusted pre-existing relationships.<sup>1</sup> We advocate building relational reserves prior to the pandemic, by which we refer to supportive, collaborative, interdisciplinary relationships which can provide the basis for formal and informal support during a crisis. Healthcare organizations may also benefit from the recovery-enhancing power that flows from a shared sense of moral purpose,<sup>24</sup> such as a shared dedication to caring for the sick.

Two evidence-supported constructs are particularly applicable to building a culture of organizational resilience. First, magnet hospitals, originally identified by their ability to recruit and retain nursing staff more effectively than neighbouring hospitals, are characterized by decentralized decision-making by caregivers, a nurse among the hospital executive, flexible scheduling, investment in continuing education and unit-level self-government.<sup>25</sup> Magnet hospitals tend to have lower patient mortality,<sup>26</sup> and also have lower rates of burnout among staff.<sup>27</sup> The characteristics of magnet hospitals echo the findings that health is negatively affected by high demand/low control occupations and effort-reward imbalance.<sup>28,29</sup> While SARS experience teaches that decentralized decision-making may need to give way to hierarchical structures during a crisis,<sup>1</sup> we expect that the resilience associated with the culture of magnet hospitals will aid staff in their recovery from the strain of such adjustments after the pandemic has passed.

Second, organizational justice describes two further characteristics of large organizations that are associated with greater physical well-being among employees.<sup>30</sup> Organizational justice includes the degree to which supervisors take their employees' viewpoints into account, suppress their own biases and deal with subordinates in a fair and truthful manner (relational justice), and fairness in formal decision-making procedures (decisional justice). Thus, organizational goals that serve the interests of both patients and staff during normal functioning may also build relational reserves which bolster resilience in the face of a severe pandemic.

## CONCLUSION

Preparing for pandemic influenza requires attention to hospital processes at both a macro- and a micro-level, and attention to both individual and organizational characteristics. The evidence supports planning that goes well beyond the provision of adequate training and counseling. Indeed, the evidence supports the much broader goal of maintaining an organizational culture of resilience. This effort will not be wasted, regardless of the timing and severity of the next pandemic, because both patients and staff will be healthier in a resilient hospital even during times of normal function.

The complexity of preparing for a pandemic and the inherent value of building and maintaining inter-professional relationships argue for pandemic planning through organization-wide collaboration. Planning to reduce psychosocial stress should involve representatives from psychiatry, psychology, nursing, social work, chaplaincy, employee health, communications and hospital administration.<sup>21</sup> The important links between psychosocial resilience and other aspects of pandemic planning (e.g., infection control, human resources, and risk communication) also benefit from a broad-based planning process. Experience with SARS has provided valuable insight into what to expect from pandemic influenza and how we can best prepare healthcare workers.

## REFERENCES

1. Maunder R, Hunter J, Vincent L, Bennett J, Peladeau N, Leszcz M, et al. The immediate psychological and occupational impact of the 2003 SARS outbreak in a teaching hospital. *CMAJ* 2003;168(10):1245-51.
2. World Health Organization. Pandemic Preparedness. Geneva, 2005. Available online at: <http://www.who.int/csr/disease/influenza/pandemic/en/index.html> (Accessed July 3, 2007).
3. Public Health Agency of Canada. Canadian Pandemic Influenza Plan, 2004. Available online at: <http://www.phac-aspc.gc.ca/cpip-pclcipi.html> (Accessed November 3, 2006).
4. Tam CW, Pang EP, Lam LC, Chiu HF. Severe acute respiratory syndrome (SARS) in Hong Kong in 2003: Stress and psychological impact among frontline healthcare workers. *Psychol Med* 2004;34(7):1197-204.
5. Chan AO, Huak CY. Psychological impact of the 2003 severe acute respiratory syndrome outbreak on health care workers in a medium size regional general hospital in Singapore. *Occup Med (Lond)* 2004;54(3):190-96.
6. Nickell LA, Crighton EJ, Tracy CS, Al Enazy H, Bolaji Y, Hanjrah S, et al. Psychosocial effects of SARS on hospital staff: Survey of a large tertiary care institution. *CMAJ* 2004;170(5):793-98.
7. Maunder RG, Lancee WJ, Rourke S, Hunter JJ, Goldbloom D, Balderson K, et al. Factors associated with the psychological impact of severe acute respiratory syndrome on nurses and other hospital workers in Toronto. *Psychosomatic Med* 2004;66(6):938-42.
8. Bai Y, Lin CC, Lin CY, Chen JY, Chue CM, Chou P. Survey of stress reactions among health care workers involved with the SARS outbreak. *Psychiatr Serv* 2004;55(9):1055-57.
9. Grace SL, Hershenfield K, Robertson E, Stewart DE. Factors affecting perceived risk of contracting severe acute respiratory syndrome among academic physicians. *Infect Control Hosp Epidemiol* 2004;125(12):1111-13.
10. Ho SM, Kwong-Lo RS, Mak CW, Wong JS. Fear of severe acute respiratory syndrome (SARS) among health care workers. *J Consult Clin Psychol* 2005;73(2):344-49.
11. Wong TW, Yau JK, Chan CL, Kwong RS, Ho SM, Lau CC, et al. The psychological impact of severe acute respiratory syndrome outbreak on healthcare workers in emergency departments and how they cope. *Eur J Emerg Med* 2005;12(1):13-18.
12. Maunder R, Lancee WJ, Rourke SB, Hunter J, Goldbloom DS, Petryshen PM, et al. The experience of the 2003 SARS outbreak as a traumatic stress among frontline healthcare workers in Toronto: Lessons learned. In: McLean AR, May RM, Pattison J, Weiss RA (Eds.), *SARS: A Case Study in Emerging Infections*. Oxford: Oxford University Press, 2005;96-106.
13. Verma S, Mythily S, Chan YH, Deslypere JP, Teo EK, Chong SA. Post-SARS psychological morbidity and stigma among general practitioners and traditional Chinese medicine practitioners in Singapore. *The Annals, Academy of Medicine, Singapore* 2004;33(6):743-48.
14. Maunder RG, Lancee WJ, Balderson KE, Bennett JP, Borgundvaag B, Evans S, et al. Long-term psychological and occupational effects of providing hospital healthcare during SARS outbreak. *Emerg Infect Dis* 2006;12:1924-32.
15. Lancee WJ, Maunder RG, Goldbloom DS. The co-authors of the Impact of SARS Study. The prevalence of mental disorders in Toronto hospital workers one to two years after SARS. *Psychiatric Services* 2008;59:91-95.
16. Low DE. Why SARS will not return: A polemic. *CMAJ* 2004;170(1):68-69.
17. National Advisory Committee on SARS and Public Health. Learning from SARS: Renewal of Public Health in Canada. Ottawa: Government of Canada, 2003.
18. U.S. Dept. of Homeland Security. Pandemic Influenza Preparedness, Response, and Recovery Guide for Critical Infrastructure and Key Resources. Government of the United States of America, 2006. Available online at: [www.pandemicflu.gov/plan/pdf/cikrpanemicinfluenzaguide.pdf](http://www.pandemicflu.gov/plan/pdf/cikrpanemicinfluenzaguide.pdf) (Accessed October 12, 2007).
19. Folkman S, Greer S. Promoting psychological well-being in the face of serious illness: When theory, research and practice inform each other. *Psychooncology* 2000;9:11-19.
20. Brymer M, Layne C, Pynoos R, Ruzek J, Steinberg A, Vernberg E, et al. *The Psychological First Aid Field Operations Guide*, Second ed. Terrorism and Disaster Branch, National Child Traumatic Stress Network, National Center for PTSD, 2006. Available online at: [www.ncptsd.va.gov/ncmain/ncdocs/manuals/PFA\\_2ndEditionwithappendices.pdf](http://www.ncptsd.va.gov/ncmain/ncdocs/manuals/PFA_2ndEditionwithappendices.pdf) (Accessed September 17, 2007).
21. Toronto Academic Health Sciences Network. Pandemic Influenza Planning Guidelines, 2006. Available online at: <http://portal.sw.ca/tahsn/default.aspx> (Accessed October 6, 2006).
22. National Strategy for Pandemic Influenza. Washington, DC: Homeland Security Council, Government of the United States, 2005.
23. Hamel G, Valikangas L. The quest for resilience. *Harv Bus Rev* 2003;81(9):52-63, 131.
24. Freeman SF, Hirschorn L, Maltz M. The power of moral purpose: Sandler O'Neill & Partners in the aftermath of September 11, 2001. *Organization Development J* 2004;22(4):69-79.
25. Aiken LH, Clarke SP, Sloane DM. Hospital staffing, organization, and quality of care: Cross-national findings. *Int J Quality Health Care* 2002;14(1):5-13.
26. Aiken LH, Smith HL, Lake ET. Lower Medicare mortality among a set of hospitals known for good nursing care. *Med Care* 1994;32(8):771-87.
27. Aiken LH, Clarke SP, Sloane DM, Sochalski J, Silber JH. Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction. *JAMA* 2002;288(16):1987-93.
28. Johnson JV, Hall EM. Job strain, work place social support, and cardiovascular disease: A cross-sectional study of a random sample of the Swedish working population. *Am J Public Health* 1988;78(10):1336-42.
29. Siegrist J. Adverse health effects of high-effort/low-reward conditions. *J Occup Health Psychol* 1996;1(1):27-41.
30. Kivimäki M, Ferrie JE, Head J, Shipley MJ, Vahtera J, Marmot MG. Organisational justice and change in justice as predictors of employee health: The Whitehall II study. *J Epidemiol Community Health* 2004;58(11):931-37.

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# STRESS AND RESILIENCE IN AN INFLUENZA PANDEMIC: Making it Work for Healthcare Providers



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## Abstract

AN EXPECTED INFLUENZA PANDEMIC MAY CAUSE extraordinary stress for hospital workers. Feeling adequately trained and supported are strong determinants of resilience in an infectious outbreak. A multidisciplinary team at Mount Sinai Hospital is providing pandemic resilience training for staff. The training describes sources of stress in a severe pandemic, approaches to coping and what can be done, both at an individual and organizational level, to build reserves and resilience.

The training is based on assessment of perceived and unperceived training needs, derived in part from research on the impact of SARS. The training involves not only knowledge transfer but knowledge exchange, with staff concerns being brought to the attention of the hospital's administration. The training also provides an opportunity for staff to actively participate in improving pandemic preparations. Participating staff provide both oral and written quantitative and qualitative evaluation of the training, its personal impact, suggestions and concerns.

Of 1020 evaluations, the majority of staff viewed the training as highly relevant to both their work (92%) and personal lives (86%), and found the training to be very useful (87%). Following the training, 76% of staff reported that they will be better able to cope in a pandemic, if they were before training. Qualitative feedback suggests that many staff view this as a valid opportunity for knowledge exchange.

As a result of the training, staff feel better prepared to deal confidently with situations that they might face in a pandemic. This finding supports the value of resilience training for hospital workers.

## The challenge

- An anticipated influenza pandemic may cause extraordinary stress for hospital workers
- Feeling adequately trained and supported are strong determinants of individual resilience in a pandemic

## The project:

Training hospital staff to enhance resilience

- Staff training is based on assessment of perceived and unrecognized learning needs
- Evidence-based, utilizing impact of SARS research, coping research and expert consensus
- Interactive, knowledge exchange format

## Objectives of training

- Improve organizational resilience and individual coping in anticipation of a pandemic or similar large scale event.
- Develop organizational reserves regarding communication & support strategies
- Develop a common language and meaning attribution
- Improve access to and familiarity with support resources

## Principles of training

- Impact the organization's culture
  - "culture eats strategy for lunch"
- Make the implicit more explicit and accessible
- Increase reflective capacity and diminish reactivity
- Mobilize responses- minimize challenge
- Increase collaborative spirit and reduce polarization

## Format of training

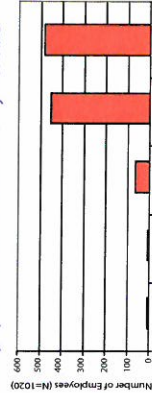
- Five month rollout of training program
- One hour training sessions presented by interdisciplinary pairs of presenters
- Presented to >1250 hospital staff since February 2008 in groups of 5-50
- Staff provide both oral and written quantitative and qualitative evaluation of the training, its impact, suggestions and concerns

## Content of training

- Preparing for pandemic influenza: What we learned from SARS
- Signs of stress and burnout
- Making it work: How an organization reduces distress and improves resilience in its members
- Stress and coping: Building individual resilience

## Quantitative Results

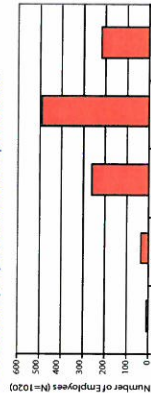
Today's presentation is relevant to my work life



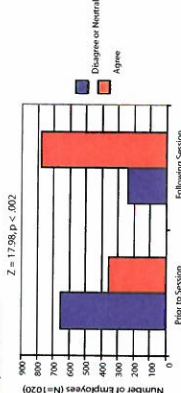
Today's presentation is relevant to my personal life



The session prepared me for a pandemic



I believe that I will be able to cope in the event of a pandemic



## Qualitative Results: Staff Pandemic Concerns

### 1. Family-work balance

- Concerns around caring for ill children, as well as concerns around potential daycare and school closings
- "...After all, when it comes down to choosing between my work as a nurse or my family's safety, I will choose my family."

### 2. Antiviral prophylaxis

- Many employees have questions about Tamiflu
- "Why would Tamiflu not be available to my immediate family? It is one! Supply? I believe you would have 100% backing and involvement during a pandemic if this were provided. Otherwise, I believe there will be resentment toward the hospital if, in a worst case scenario, family members become ill."

### 3. Need for reliable, consistent and timely information

- Many employees have strong memories of inconsistent and changing information during the SARS outbreak and want assurances that communication will be consistent and effective in a pandemic

### 4. Education and preparation of employees' families and the community

- "A lot of our families were isolating us, not wanting to catch SARS. I am afraid that the same will occur during a pandemic. What should we tell our families?"

### 5. Ethical concerns and fairness

- Concerns were raised about:
  - Fair distribution of exposure to risk and access to resources
  - Feeling pressure to come to work (e.g. when staff are sick but the hospital is short-staffed)

"When making decisions around patient assignments, I should not be thought of as expendable because I have no family or dependents at home."

### 6. Visibility and presence of leadership

- Positive comments about the value of leadership when it is visible
- Negative comments about the impact that a lack of visible leadership has on morale

### 7. Valuing the contributions of frontline staff

- Frontline staff have insights and observations that can improve the organization's functioning
- The contributions of staff need to be meaningfully recognized.
- Views of what type of recognition is meaningful vary widely

### 8. Stigma towards healthcare workers

- "I need more information about how to communicate with my family and the public when leaving the hospital. I had many people jokingly put their hands over their face when I said I was a nurse. How do I respond without anger and how do I deal with this?"
- "There will always be stigma from the misinformed public. Having some answers and responses prepared to address the stigmatizing feelings and attacks from the public would be helpful."

### 9. Need for more information about how staff may be redeployed to unusual duties or work areas

- "What happens if I refuse to be redeployed to another area? When I was hired, this isn't what I signed up for."

### 10. Need for ongoing resilience training

- Resilience to other types of stress
- Including conflict management training

## Conclusions

- As a result of the training, staff feel significantly better prepared to deal with situations that they might face in a pandemic.
- This finding supports the value of stress reduction/resilience training for hospital workers.
- As the training involves not only knowledge transfer but knowledge exchange, it also provides an opportunity for staff to actively participate with hospital administration in improving pandemic preparations.

## First thoughts on next steps

- Drawing on what we learned from SARS, we have a unique opportunity to make our organization better
- Staff engagement to generate creative solutions to organizational challenges
  - Innovative responses required to child/family care concerns
  - Innovative approaches to education of family of staff and our communities
  - Meaningful recognition of staff
- Importance of communications strategies
  - Clear, timely, transparent
- Ongoing support and continued training
  - Study of most effective models of delivery
- Broad access to hospital pandemic manual