



Pandemic Plan for the Church

Ministering to the Community in a Time of Crisis

Lessons Learned from SARS & Ebola

What We Have Learned from SARS & Ebola

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Lessons from SARS

In 2003 there was an outbreak of a respiratory disease that first appeared in Asia, then secondary cases around the world. The WHO issued a press release stating that a corona virus was identified as the official cause of severe acute respiratory syndrome (SARS). The method of transmission and the severity of the disease are similar to that of what is expected from an influenza pandemic.

Healthcare workers were at the frontlines during the battle against the Severe Acute Respiratory Syndrome (SARS) epidemic in 2003. Understanding their fears and anxieties may hold lessons for handling future outbreaks, including acts of bioterrorism.

During the 3-year period following Beijing's SARS outbreak, relatively high levels of post-traumatic stress disorder (PTSD) symptoms were experienced by hospital employees who had been at high risk of contracting SARS. Altruistic acceptance of job-related risk may have protected some hospital employees against negative psychological outcomes following the SARS outbreak. A person's subjective perceptions regarding a situation of actual danger may affect their chances of developing PTS symptoms related to that situation.ⁱ Thus by assuaging the person's perception of danger by providing training and proper precautions may affect their stress levels.

Another study was performed in 2011 with a series of trainings being delivered to more than 1250 hospital staff representing more than 22 departments within the hospital. The trainings were based on an expected influenza pandemic. The goal was to build resilience to maintain the health of individuals within the organization and to protect the capacity of the organization to respond to extraordinary demands. The proportion of participants who felt better able to cope after the session (76%) was significantly higher than the proportion who felt prepared to deal confidently with the pandemic before the session (35%).ⁱⁱ

The risk perception and impact on personal and work life of 15,025 healthcare workers from nine major healthcare institutions was measured during the SARS epidemic in Singapore using a self-administered questionnaire. It was determined that although the majority (76%) perceived a great personal risk of falling ill with SARS, they (69.5%) also accepted the risk as part of their job. Clinical staff (doctors and nurses), staff in daily contact with SARS patients, and staff from SARS-affected institutions expressed significantly higher levels of anxiety. More than half reported increased work stress (56%) and workload (53%). Many experienced social stigmatization (49%) and ostracism by family members (31%), but most

(77%) felt appreciated by society. Most felt that the personal protective measures implemented were effective (96%) and that the institutional policies and protocols were clear (93%) and timely (90%). The conclusion of this study was during epidemics, healthcare institutions have a duty to protect healthcare workers and help them cope with their personal fears and the very stressful work situation. Singapore's experience shows that simple protective measures based on sound epidemiological principles, when implemented in a timely manner, go a long way to reassure healthcare workers.ⁱⁱⁱ

Many lessons can be learned from the outbreak and response to SARS. One component with particular relevance to this section is the education and training of healthcare workers on infection control measures. Observations of healthcare workers caring for SARS patients during the 2003 epidemic identified numerous breaches in infection control, especially in the use of personal protective equipment (PPE). These can be corrected through complete and comprehensive training, provision of properly selected PPE, and monitoring of PPE use. Most important, all healthcare settings need to re-emphasize the importance of basic infection control measures, including hand hygiene, for the control of SARS Coronavirus (CoV) and other respiratory pathogens

The following are some lessons from the global experience with SARS-CoV in healthcare settings to be:

- Strict adherence to contact and droplet precautions, along with eye protection, seems to prevent SARS-CoV transmission in most instances. Airborne precautions may provide additional protection in some instances.
- Undetected cases of SARS-CoV disease in staff, patients, and visitors contribute to rapid spread of the virus.
- Optimal control efforts require continuous analysis of the dynamics of SARS-CoV transmission in the facility and the community.
- A response to SARS can strain the resources and capacity of a healthcare facility.
- The social and psychological impact of SARS can be substantial, both during and after an outbreak.
- The most effective systems for controlling a nosocomial outbreak are those that are developed and tested before an outbreak occurs.
- Communication needs can overwhelm and paralyze response capacity; good information management strategies are essential to an efficient and effective response^{iv}

Poor compliance with standard precautions among healthcare workers has been well described in the scientific literature. Additionally, it has not been the routine practice of healthcare workers in many healthcare facilities to wear facial protection or to encourage respiratory hygiene among patients. Implementation and enforcement of all standard precautions, including appropriate use of facial (eyes, nose, and mouth) protection when caring for respiratory patients, should be prioritized in all healthcare facilities in order to mitigate pandemic influenza transmission.^v

It is incumbent upon healthcare employers to educate employees about the hazards to which they are exposed and to provide reasonable means by which to abate those hazards. The independent SARS Commission established by the government of Ontario noted that many healthcare staff were not

adequately trained in protecting themselves against infectious agents. The Commission noted deficiencies in safety training and the proper use of personal protective equipment.^{vi}

Although healthcare providers should have received training in all modes of transmission and precautions during their education, due to these studies that show lapses in infection control practices and non-compliance with regular hand hygiene, it is recommended that further training and remediation be done periodically.^{vii}

Lessons from Ebola

It started when Thomas Eric Duncan, a Liberian citizen planning to settle in the United States, became sick and was at first mistakenly sent home from Texas Health Presbyterian Hospital in Dallas. He returned two days later by ambulance and was diagnosed with Ebola.

Officials had to track as many as 50 people who may have been in contact with Duncan. But the real scare came when two nurses, Nina Pham and Amber Vinson, became infected while caring for him. Vinson had traveled to Ohio to make wedding plans and, even though she wasn't diagnosed until she came back to Dallas, her travels set off waves of anxiety.^{viii}

On March 4, 2015 it was reported that Nina Pham, the first nurse to acquire Ebola from Thomas Eric Duncan. Pham, the suit alleges, was "a symbol of corporate neglect — a casualty of a hospital system's failure to prepare for a known and impending medical crisis."

From the suit: Nina was shocked. She had never been trained to handle infectious diseases, never been told anything about Ebola, how to treat Ebola, or how to protect herself as a nurse treating an Ebola patient. The hospital had never given her any ... training or guidance about Ebola. All Nina knew about Ebola is what she had heard on television.^{ix}

While Pham was scared, she believed — the petition to the court alleges — that her employer "would not put her in any situation that was as dangerous as she feared."^x

Amber Vinson, a Dallas nurse who also treated Duncan and got Ebola soon after Pham, told CNN that she "followed the CDC protocol" and "never strayed." Still, she added, "We weren't the best prepared ... We did not have extensive training. We did not have a level of feeling comfortable with putting on and taking off the protective equipment. We didn't have the time to practice it."^{xi}

The handling of the first U.S. Ebola case has been one embarrassment after another for the U.S. health care system. Even as Centers for Disease Control and Prevention director Dr. Thomas Frieden has reassured the U.S. public that any hospital should be able to handle an Ebola patient, the Dallas case has contradicted him at every turn.^{xii}

At a news conference, Dr. Tom Frieden reported that the CDC investigated the events that took place at Texas Presbyterian during the care of Thomas Eric Duncan. Nurses who have asked to remain anonymous have said they were not sure what to do to protect themselves. Frieden says the records support this.

"When we reviewed the records for the first several days of the patients stay before he was diagnosed, we see a lot of variability in the use of personal protective equipment and when our team arrived the

same day the patient was diagnosed, we noted for example that some health care workers were putting on three or four layers of protective equipment in the belief that this would be more protective,” Frieden said.^{xiii}

The handling of the first U.S. Ebola case was certainly an embarrassment not only to the hospital but also for the Centers for Disease Control and Prevention. Soon after this outbreak, the CDC quickly reevaluated and updated their documents for guidance for managing and preparing for Ebola. However, the hospital is also culpable in that they were not prepared by utilizing what was available as well as training their employees on how to use their equipment properly.

ⁱ Wu P, Fang Y, Guan Z, Fan B, Kong J, Yao Z, Liu X, Fuller CJ, Susser E, Lu J, Hoven CW. The Psychological Impact of the SARS Epidemic on Hospital Employees in China: Exposure, Risk Perception, and Altruistic Acceptance of Risk. *Departments of Psychiatry and Epidemiology. Canadian Journal of Psychiatry.* May 2009. 54(5): p302-311. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3780353/>. Accessed February 13, 2013.

ⁱⁱ Aiello A, Khayeri MY, Raja S, Peladeau N, Romano D, Leszcz M, Maunder RG, Rose M, Adam MA, Pain C, Moore A, Savage D, Schulman RB. Resilience Training for Hospital Workers in Anticipation of an Influenza Pandemic.” *The Journal of Continuing Education for Healthcare Professionals.* Winter 2011. 31(1):15-20. doi: 10.1002/chp.20096. <http://www.ncbi.nlm.nih.gov/pubmed/21425355>. Accessed February 13, 2013.

ⁱⁱⁱ Koh D., Lim M.K., Chia, S.E., Ko S.M., Qian, F., Ng,V., Tan, B.H., Wong, K.S., Chew, W.M., Tang, H.K., Ng, W., Muttakin, Z., Emmanuel. S., Fong, N.P., Koh, G., Kwa, C.T., Tan, K.B., Fones, C. Risk Perception and Impact of Severe Acute Respiratory Syndrome (SARS) on Work and Personal Lives of Healthcare Workers in Singapore: What Can We Learn?. *Medical Care.* July 2005.43(7):676-82. <http://www.ncbi.nlm.nih.gov/pubmed/15970782>. Accessed February 12, 2013.

^{iv} Lessons Learned. Supplement C: Preparedness and Response In Healthcare Facilities Public Health Guidance for Community-Level Preparedness and Response to Severe Acute Respiratory Syndrome (SARS) Version 2/3, Centers for Disease Control and Prevention (CDC) Web site. <http://www.cdc.gov/sars/guidance/C-ealthcare/lessons.html>. Updated May 3 2005. Accessed February 12, 2013.

^v Pandemic Influenza Preparedness and Response Guidance for Healthcare Workers and Healthcare Employers Occupational Safety and Health Administration, U.S. Department of Labor, OSHA 3328-05R, 2009. Page 16.

^{vi} Cambell, A. The SARS Commission – Spring of Fear. SARS Commission Interim Report SARS and Public Health in Ontario, April 15, 2004. http://www.sarscommission.ca/report/Interim_Report.pdf. Accessed February 12, 2013.

^{vii} Infection Control Training Syllabus – 2010. New York State Department of Health and State Education Department. http://www.health.ny.gov/professionals/diseases/reporting/communicable/infection/outline_update. Accessed February 12, 2013.

^{viii} Fox, Maggie. It’s Over: Texas’ Ebola Outbreak Has Ended. *NBC News.* November 6, 2014. <http://www.nbcnews.com/storyline/ebola-virus-outbreak/its-over-texas-ebola-outbreak-has-ended-n242931>. Accessed March 9, 2015.

^{ix} Friedman, Lauren. The Real Story of How a Dallas Nurse got Ebola could be Worse than We Ever Imagined. *Business Insider.* <http://www.businessinsider.com/ebola-nurse-nina-pham-sues-texas-health-resources-2015-3>. Accessed March 9, 2015.

^x Friedman, Lauren. The Real Story of How a Dallas Nurse got Ebola could be Worse than We Ever Imagined. *Business Insider*. <http://www.businessinsider.com/ebola-nurse-nina-pham-sues-texas-health-resources-2015-3>. Accessed March 9, 2015.

^{xi} Friedman, Lauren. The Real Story of How a Dallas Nurse got Ebola could be Worse than We Ever Imagined. *Business Insider*. <http://www.businessinsider.com/ebola-nurse-nina-pham-sues-texas-health-resources-2015-3>. Accessed March 9, 2015.

^{xii} Fox, Maggie. Ebola Richness of Embarrassments: Were Lessons Learned? *NBC News*. October 16, 2014. <http://www.nbcnews.com/storyline/ebola-virus-outbreak/ebola-richness-embarrassments-were-lessons-learned-n226971>. Accessed March 9, 2015.

^{xiii} Fox, Maggie. Ebola Richness of Embarrassments: Were Lessons Learned? *NBC News*. October 16, 2014. <http://www.nbcnews.com/storyline/ebola-virus-outbreak/ebola-richness-embarrassments-were-lessons-learned-n226971>. Accessed March 9, 2015.