



NY DMH Responder

Winter 2017

Volume 22 Issue 1

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The DMH Responder is a quarterly production of...

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Welcome

Welcome to the Winter 2017 issue of the **New York DMH Responder**, our quarterly newsletter for the Disaster Mental Health community. This issue focuses on the mental health consequences of infectious disease outbreaks. That was the topic of the recent DOH- and OMH-sponsored training webcast in January 2017, described here in detail. It will also be the focus of the upcoming Institute for Disaster Mental Health conference on April 7, 2017. That speaker lineup is described below with information about how OHM and DOH personnel can attend at no cost thanks to sponsorship by the NYS Division of Homeland Security and Emergency Services.

As always, your feedback and suggestions for topics to cover in future issues are welcome; please email any comments to Judith LeComb at DOH or Steve Moskowitz at OMH.

Wise and humane management of the patient is the best safeguard against infection.

– Florence Nightingale



Training Summary: Mental Health Consequences of Infectious Disease

This year's training, which was organized by the SUNY New Paltz Institute for Disaster Mental Health and broadcast from the Office of General Services Media Services Center, was delivered by a major expert in the field. Dr. James M. Shultz is the Director of the Center for Disaster and Extreme Event Preparedness (DEEP Center) at the University of Miami Miller School of Medicine. He holds a Bachelor's degree in Psychology, a Masters in Health Behavior Research, and a Doctorate in Behavioral Epidemiology. Dr. Shultz has published dozens of articles and book chapters and has extensive experience as a teacher and trainer. He delivered a remarkably information-packed and engaging training on how responders can address fear-related behaviors and other mental health aspects that are specific to disease outbreaks, using pandemic flu and Ebola as sources of lessons that could be applied to and other disease outbreaks. The following are some of his main observations, focusing on pandemic influenza. See this issue's Research Brief for more of Dr. Shultz's observations about fear-related behaviors related to Ebola Virus Disease.

Dr. Shultz began his presentation with an acknowledgment of how much progress has been made since 1900 in the control of infectious diseases – with the major exception of the 1918-19 influenza outbreak. According to the Centers for Disease Control (CDC), this progress resulted from technological developments including the introduction of chlorine into municipal water systems in the early 1900s, and the first uses of penicillin and the Salk polio vaccine in the mid-20th century. However, infectious diseases including lower respiratory infections (primarily pneumonia and flu), HIV/AIDS, diarrheal diseases, malaria, and tuberculosis still make up half of the top 10 causes of death in low-income countries and given increased global travel there is a growing risk of exposure regardless of where an outbreak begins.

Dr. Shultz then described four key psychological consequences of these outbreaks.

1. They can be **widespread and pervasive** and the size of the psychological “footprint” greatly exceeds the size of the medical “footprint.” What this means, Dr. Shultz explained, is

that far more people may be impacted by fear and distress than the number who are actually ill.

2. There is a **spectrum of severity** in these reactions related to the degree and intensity of exposure to an outbreak. Many people who are concerned about exposure will experience a fear and distress response, though this tends to be transient and they rebound quickly as natural resilience returns. However, a smaller group demonstrates detrimental behavioral changes, often resulting in a surge at hospitals of those who fear they've been exposed; this was certainly observed during the H1N1 outbreak in 2009. Ironically, this behavior may actually increase the risk of exposure as people wait to be seen, possibly amid those who actually are ill. An even smaller group experience psychiatric illness, such as depression or PTSD, as a result of their fear of exposure.
3. There is a **range of duration**. This is also seen in more traditional disasters that can last from seconds to hours

to days, but it's even more extreme in disease outbreaks that can extend over periods of weeks or longer, keeping people in that unsettled state of fear and distress about exposure. And effects last even beyond the course of the outbreak for those who are directly impacted, including the mourning of losses due to the disease and the longer-term life changes that follow a death.

4. The **type of disaster** also influences reactions. Disease outbreaks are usually natural in source but they can also be anthropogenic (human-caused), including acts of bioterrorism, which can increase uncertainty and distress.

Dr. Shultz then used pandemic influenza as an example of these issues. He defined this as “a global outbreak of influenza, [that] occurs when a novel influenza strain emerges that has the following features:

- Highly pathogenic for humans
- Easily transmitted person-to-person
- Genetically unique (no preexisting immunity in the human population)”

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There have been 10 of these pandemics from 1700 to 2000, and another in 2009. Many factors of modern life should increase concerns about pandemic influenza including the growing global population (currently five times larger than during the 1918-19 outbreak), the increase in international travel, and urbanization and crowding. This means there are more people overall who are more densely crowded and who have the ability to cross borders and continents, supporting the rapid spread of disease. In fact, Dr. Shultz noted, “while pandemics of the previous century encircled the globe in 6 to 9 months, given increasing urbanization and the speed and volume of international air travel today the virus can reach all continents in 1 to 3 months.”

Mortality rates vary among specific flu strains with death rates determined by the number of people who become infected, the virulence of the pandemic strain, the vulnerability of the affected populations and the effectiveness of preventive measures. This last point is particularly relevant for

healthcare and public health professionals who will need to be prepared for an overwhelming healthcare surge of ill patients requiring medical care in an environment of inadequate supplies of vaccines, antiviral drugs, hospital beds, ventilators, and personal protective equipment for providers. Rationing of these supplies will be needed creating difficult decisions. Healthcare facilities will also face high rates of absenteeism as staff members miss work because they’re ill, they’re caring for sick family members, or they’re afraid of their own exposure. Member of the public will face economic and social disruption due to travel bans and closings of school and businesses. There may even be food shortages as the global supply chain is disrupted.

Stressors for Citizens

Dr. Shultz then examined the stressors faced by citizens throughout the phases of an outbreak. First, during the “recognition” phase as a new strain of influenza is initially recognized, there will a great deal of uncertainty regarding both the virulence of the new strain and

the available treatments. Public fears will be stoked by media reports leading to concerns about vulnerability to infection and death and about the survival of family members. As was seen in the H1N1 outbreak there is also likely to be suspicion and fear regarding access to vaccines and medications.

Then as the outbreak spreads during the “acceleration” phase there may be stockpiling of food and other essentials leading to shortages, possibly followed by violence and civil disturbance. Those with family members with special needs will have particular concerns as will pet owners. Some residents of an area where the disease present is may self-evacuate to locales they perceive as safer – perhaps inadvertently spreading it to new areas. Information needs are intense during this period as citizens seek credible information about what to do but ominous media coverage and rumors and conspiracy theories may lead to unproductive behaviors. There will also be stress related to limits on normal behaviors like closures, quarantines and rationing.

Once the pandemic arrives in an area citizen will be exposed to extreme stressors including caring for ailing loved ones and perhaps witnessing their deaths, separation from support systems due to quarantine and social distancing and confronting the unavailability of medical care for self or family members. Some may experience income loss, and shortages of essential needs

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including food. Psychologically, citizens may encounter:

- Fear of contagion
- Fear of death of self or loved ones
- Fear of contracting illness while caring for sick loved ones
- Fear of infecting a loved one
- Guilt regarding being the source of illness for a loved one
- Inability to intervene to prevent illness or death of loved ones
- Witnessing extreme or grotesque disease symptoms
- Bereavement and grief from loss of loved ones

This can result in a range of reactions including shock, numbness, confusion, disbelief, extreme sadness, grief, anger, guilt, exhaustion, frustration, and a sense of ineffectiveness and powerlessness. The core practices of Psychological First Aid can be helpful in trying to address these reactions.

As the outbreak begins to slow in the “deceleration” phase community members may be coping with multiple losses so there will be both personal and population-wide bereavement – compounded by continued scarcity of basic necessities and by a fear of a further wave of disease. Those who were ill and survived may have long-term medical complications as they recuperate. Family structures will need to adapt to the loss of caretakers or providers and there may be orphaned children in need of homes. Stress on the health care infrastructure will continue for some time. As diverse as those challenges are for civilians the picture is even more complex for healthcare and public health professionals, as outlined in the box.

Dr. Shultz’s Stressors for Health Professionals

- Elevated to extreme risk for infection, illness and death
- Enforced separation from family and loved ones
- Ongoing and seemingly unending duration of work shifts
- Inability to be home to support ailing, dying or bereaved loved ones
- Fear of spreading infection from exposure at work to loved ones at home
- Witnessing illness on a mass scale
- Witnessing persons suffering with extreme and grotesque symptoms
- Dealing with overwhelming surge of patients
- Inability to save lives despite maximal effort
- Experience of death on a mass scale
- Observing population-wide bereavement
- Dealing with chronic shortages of supplies, vaccines, treatments, facilities
- Overwork and fatigue
- Witnessing illness and death of colleagues
- Working in personal protective equipment
- Working under conditions of workforce quarantine
- Dealing with extreme reactions and possible panic
- Threats of violence from persons seeking scarce or limited services
- Lack of communications
- Ongoing, unabated risks of exposure
- Long hours over long weeks of the pandemic
- Dealing with human remains of the deceased
- Inability to take care of personal business and support family members
- Grief and bereavement from loss of family members, colleagues, friends
- Dealing with distressed family members
- Witnessing illness and death of children
- Dealing with orphaned children
- Lack of reinforcements and replacements due to impact everywhere
- No safe haven or respite where responders can be free from threat

Behavioral Support During Infectious Disease Outbreaks

Turning to how to support citizens and responders in these events Dr. Shultz emphasized the critical importance of planning and preparing in advance, including training as many people as possible in Psychological First Aid and self-care. Personnel should also be encouraged to develop family plans and communication plans to address their own needs during pandemics or other disasters so they can continue to attend to professional responsibilities because they know their families' needs are taken care of. He also encouraged the advance development of psychoeducational materials outlining common reactions and providing advice about productive coping mechanisms.

At the institutional level workforce resilience programs can and should also be developed and implemented before an outbreak occurs. This includes augmenting employee assistance programs, training staff in how to use personal protective equipment, providing psychological and social support services for employees and families and addressing stigmatization that might occur for those whose work brings them into contact with influenza patients. This planning should extend to partners in the community who will be involved in a response including planning for sharing information across agencies such as schools, businesses and government agencies.

Dr. Shultz also pointed out that during an outbreak it's essential to monitor employee health and well-being, incorporating buddy



systems and teams who can keep an eye on each other for signs of stress. Opportunities for rest and recuperation should be not only available but required to prevent burnout. Access to information regarding the outbreak is essential as is facilitating communication with families throughout the response.

The post-pandemic period should incorporate hot-washes and interviews to determine what worked and what can be improved in the future. Dr. Shultz suggested conducting an ongoing

evaluation of the outbreak's after-effects on staff health, morale and productivity, including monitoring and screening personnel for signs of chronic or severe psychological distress, such as depression or PTSD.

Clearly the medical needs during an infectious disease outbreak are intense and complex but planning to meet those needs really must incorporate attention to behavioral reactions as well. Many thanks to Dr. James Shultz for providing insight in how to address those demands.

*Research Brief:***Fear-Related Behaviors in the 2015 Ebola Outbreak**

The 2013-2016 outbreak of Ebola in western Africa killed more than 11,000 of the 28,646 people infected – a mortality rate of almost 40%. But the impact went far beyond even that horrific number. It's not hyperbole to suggest that residents of the involved regions experienced universal fear. In many cases that fear not only increased psychological distress, but it led to behaviors that sometimes actually increased the risk of exposure. Dr. James Shultz and nine colleagues explore these “fear-related behaviors” in a recent article in the *Bulletin of the Atomic Scientists*, and many of their conclusions can be applied to other types of infectious disease outbreaks that are more likely than Ebola to occur in New York State.

Some of the fear-related behaviors they discuss are based on known threats. For example, some infected people avoided going to hospitals or clinics because they understood the likely result: “Those who did make it to proper care facilities experienced suffering and death in close proximity, isolated from supportive family members, their only human contact coming in the form of healthcare workers covered in special protective gear” (p. 305). To avoid this fate many ill people chose to stay at home where they frequently infected multiple family members who tried to provide care or who handled bodies after death for traditional cleansing and burial rituals.

Other fear-related behaviors were driven by myths and misconceptions. These included inaccurate beliefs about how the disease was spread and how to treat it resulting in unnecessary exposure and in avoidance of potentially beneficial treatments. Dr. Shultz and colleagues also attribute avoidance of treatment centers to a failure of administrators to communicate with family members about how the clinics operated so they were sometimes perceived as harming rather than treating patients.

The authors also address the impact of fear on healthcare workers noting that many provided care even in the absence of effective personal protective equipment, resulting in a death rate of 58% of those health professionals who became infected. They point out that “this altruistic behavior was a display of heroism in the face of extreme risk and emphatically not an illustration of a fear-based reaction to the outbreak” (p. 306). These professionals were

sometimes blamed (inaccurately) for bringing the disease to the region and in some cases were even violently attacked. They and their families were stigmatized and shunned. However, healthcare workers were not immune to fear and some refused to work rather than risk infection.

Fear of Ebola also had a ripple effect on the broader healthcare system as people who were ill with other diseases avoided seeking care; one study estimated that almost as many people died during this time from untreated malaria, tuberculosis, and HIV as from Ebola. Infant and maternal mortality also increased as women avoided hospital deliveries.

Those who contracted the disease and survived faced a unique combination of stressors. The misbelief that survivors remained infectious (when in fact they generally become immune from a recurrence of Ebola) meant that these survivors were stigmatized, barred from returning to work and sometimes physically assaulted, and this stigmatization often extended to their family members.

While all of these fear-related behaviors are understandable in communities where people witnessed first-hand the distressing effects of this disease, Dr. Shultz and colleagues also point out the powerful effect of fear in the US where only four cases of Ebola actually occurred (one in a Liberian man who developed symptoms after returning to the US, two in healthcare workers who treated the first patient, and one in an American doctor who became symptomatic after returning from treating patients in western Africa). As the authors note, “despite the microscopic scale of the US outbreak, the fear response throughout the country was extraordinary in its breadth and magnitude” (p. 307). Fingers pointed in all directions regarding responsibility for the two healthcare workers' exposure and the story dominated news coverage and social media – thereby spreading fear and anxiety among US residents who had absolutely no risk of exposure.

As the authors conclude, “during an outbreak, fear-related behaviors have the potential to accelerate the spread of a disease, diminish access to life-saving interventions, intensify psychological distress, and compound psychosocial consequences” (p. 308). Based on lessons from Ebola, healthcare and public

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Research Brief: Fear-Related Behaviors in the 2015 Ebola Outbreak, continued

health authorities must work with the media and with the impacted populations to build trust and combat this power of fear in any future infectious disease outbreak.

Source: Shultz, J.M. et al. (2016). Fear factor: The unseen perils of the Ebola outbreak. *Bulletin of the Atomic Scientists*, 72, 304-310.

For more of Dr. Shultz's insights into the mental health consequences of the Ebola outbreak view the second half of the archived webcast at www.nylearnsph.com. Search Course Catalog for OHEP-DMHRec-2017

Voices from the Field: Dr. Laura Evans

The infectious disease training included two video vignettes with members of the New York State healthcare community who were involved in the Ebola outbreak in 2015. **Laura Evans, M.D., Associate Chief of Medicine and Chief of Critical Care, NYC Health + Hospitals/Bellevue**, shared her experiences overseeing the response within New York City, including one confirmed case and about 20 suspected cases. Some highlights from her experiences:

Challenges of Providing Care in Isolation: Caring for patients with Ebola is complicated psychologically as well as medically. The high isolation environment and need for healthcare providers to wear bulky personal protective equipment create barriers that make it hard to establish a normal care provider-patient relationship. This is stressful on both sides – and compounds the stress that's naturally experienced by patients who fear they've been exposed to the disease. That effect was particularly strong among children who generally don't like doctors and nurses to begin with and among people with limited English proficiency. In some cases, communication occurred through a medical interpreter via telephone, adding yet another layer between doctor and patient.

Resource Disparities: While the one confirmed case in New York City was treated in a setting with ample resources, Dr. Evans believes the same psychological factors apply in less well-resourced regions: isolation, fear and stigma. In areas with fewer resources and/or many more cases, those effects are clearly magnified. They can even prevent people from seeking care if they fear they'll be stigmatized for having the disease or they don't want to be isolated from their sources of social support during treatment.

Safety Perceptions: Fear of the disease is obviously not limited to the patients; if healthcare providers don't feel safe that may impact their willingness to perform their jobs and help the community recover from a disease outbreak. Dr. Evans said that everyone at Bellevue fulfilled their commitments but some did experience fear among family members who were concerned for their safety.

Stigma: While Dr. Evans herself didn't experience any stigma related to her work on Ebola many hospital staff members did – even those who had nothing to do with the actual response. That included nurses whose children's playdates were cancelled and neighborhood restaurants that refused to serve people wearing Bellevue ID tag, reflecting the public's extreme fear about the disease.

Mental Health Support: Because it was unclear how extensive the impact might be in New York City, Bellevue administrators developed structures to help the staff throughout the response – including ongoing mental health support provided by hospital psychology and psychiatry teams, social workers, and chaplains who checked in on the unit and other staff members regularly and provided opportunities to talk individually or as a group. Given how stressful the event was Dr. Evans felt that this attention to mental health needs was instrumental in maintaining staff resilience.

Note: Dr. Evans will discuss her experience further at the IDMH conference on April 7, 2017, accompanied by Dr. Craig Spencer, the Doctors Without Borders physician who developed Ebola and was treated by Dr. Evans' team at Bellevue.

Voices from the Field: Lou Ann Lance, M.S.N., R.N.

Our second video featured Lou Ann Lance, a public health program nurse with the NYSDOH Bureau of Communicable Disease Control. In 2015 she provided support to two physicians who spent three weeks in voluntary confinement in their homes in New York after returning from the Ebola response in Western Africa. Fortunately, neither of them developed the disease but the experience still required practical and mental health support, which Ms. Lance helped to provide.

Coming Home: The two physicians went through multiple levels of screening upon arrival at the airport so it took hours before they were allowed to even leave for home. One was accompanied by National Guard members, raising concerns about generating fear among neighbors. Once they were back, Ms. Lance's main goal was to make the confinement period as comfortable as possible for the two physicians. That included collecting groceries and other needs, acquiring exercise equipment and generally trying to reduce frustration at being housebound for an extended period.

The Power of Knowledge: As healthcare professionals both Ms. Lance and the two physicians experienced little anxiety about developing Ebola. All understood the disease process and were aware of their own level of exposure which reduced the fear experienced by many in the general population who overestimated the actual risk level.

An Unexpected Hiatus: The main stressors the physicians experienced came from the fact that this confinement period was unexpected. They didn't know when they deployed to Western Africa that their time there providing care to Ebola patients would be followed by this three week period when they would not be able to return to work, or engage in normal activities like going out to dinner with friends or getting a haircut. Being unable to work was particularly stressful as they felt they were letting down their patients and co-workers.

Needs in Any Disease Outbreak: While the specific fears about Ebola are intense, Ms. Lance said the main need in any outbreak is for education. People need to understand how a disease is caught, contained, and treated and planning how to communicate that information is essential for public health and healthcare workers. It's also essential for responders to have their own personal plans – it's far easier to focus on work if you know your children and other responsibilities are taken care of. Infectious disease outbreaks often require more than a Monday to Friday, 9 to 5 response, so advance planning for personal needs is key. It's also important for supervisors to educate staff members, be on the watch for burnout, and generally be on guard for staff stress reactions.



IDMH's Conference

Psychosocial Response to Pandemic Disasters, Infectious Diseases and Bioterrorism

The 14th annual Institute for Disaster Mental Health conference "Psychosocial Response to Pandemic Disasters, Infectious Diseases and Bioterrorism" will be held on April 7, 2016 at SUNY New Paltz. Featuring presenters from Centers for Disease Control and Prevention, the Center for the Study of Traumatic Stress and Bellevue Medical Center the keynotes and workshops will provide attendees with ways to plan for and respond to these types of events. Due to generous sponsorship from the New York State Division of Homeland Security and Emergency Services registration will be provided at no cost. For more information and/or to register, please visit: <http://www.newpaltz.edu/idmh/>