

**FOSTERING HEALTHCARE PROVIDERS' POSTTRAUMATIC GROWTH IN
DISASTER AREAS: PROPOSED ADDITIONAL CORE COMPETENCIES IN
TRAUMA-IMPACT MANAGEMENT**

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Abstract

Disaster planning has traditionally focused on the concrete needs of the impacted population. This paper looks at the impact of direct and indirect trauma exposure as it affects healthcare providers responding to a region-wide natural disaster and discusses trauma management via the incorporation of self-care techniques. It also explores posttraumatic growth as a potential benefit arising from trauma exposure. We propose that preventative and posttraumatic interventions be added to disaster planning. We further propose that those governing bodies that oversee the training of healthcare providers add training in posttraumatic interventions, including training in and support of self-care interventions to prevent and/or mitigate the effects of secondary traumatic stress (STS); we suggest they also training in Mind-Body Medicine Skills, a promising intervention that addresses symptoms of STS and also promotes posttraumatic growth.

Wounded Healers

“Long ago, in ancient Greece, the great hero god Heracles was invited to the cave of the centaur Pholos. Chiron, a wise and beneficent centaur and a great master of healing, was also present. As a token of appreciation and hospitality, Heracles brought a flask of heady wine to the gathering. The rich, fragrant liquid attracted other centaurs who, unaccustomed to wine, became drunk and then began to fight. In the ensuing melee Chiron was struck in the knee by an arrow shot by Heracles. ... [B]ecause the arrow had been tipped with poison from the Hydra—a many-headed monster nearly impossible to slay—the wound would never fully heal. Capable of healing others, the greatest of healers was unable to completely heal himself...”¹

Ultimately, physicians do not treat disaster victims based on clinical training alone; rather, they incorporate their humanity and personal experience in order to best treat their patients. As the myth of Chiron suggests, healthcare providers can, by the nature of their work, fall prey to the contagious effects of the trauma and suffering of those they treat. However, trauma harbors within it the opportunity for personal, professional, and organizational growth. This article will discuss several types of trauma to which healthcare providers are subject when a disaster impacts an entire community, as happened during Hurricanes Katrina and Rita. We will explore how direct and indirect trauma hinders healthcare providers’ ability to function at many levels while recognizing that it can also foster change, knowledge, wisdom, and growth. Finally, we will discuss current notions of posttraumatic growth, interventions to address direct and indirect trauma in healthcare providers, and the implementation of trauma-impact management as

a core competency in disaster response through the addition of evidence-based self-care models in healthcare, healthcare education, and policy.

Trauma Exposure and Healthcare

The ability to disrupt or simply threaten groups of individuals, entire populations, and institutions through war, conventional terrorism, bioterrorism, natural disasters, man-made technological disasters, or other large-scale traumatic events has transformed the fields of traumatology, public health, public and military policy, medical training, health administration, and disaster preparedness. Our tendency is to prioritize and address tangible deficiencies in structure, procedures, or preparation. For example, we stockpile vaccines, test our emergency response plans, or plan to provide for large numbers of medical casualties. However, preparations to address the psychological and emotional toll taken on healthcare providers responding during and after such events have not been prioritized in this way. While Hurricanes Katrina and Rita brought to the forefront the need to provide, rebuild, and plan for the mental-health needs of the population,^{2,3} much less attention has been paid to the wellbeing of healthcare providers involved in disaster response. Interest in the effects of indirect trauma exposure on professionals has grown in the last 50 years out of our own field's experience with terror, abuse, death, and suffering, including interpersonal traumas, such as sexual abuse,⁴ and manmade and natural disasters, such as the Oklahoma City bombing⁵ and Hurricanes Katrina and Rita.⁶

A traumatic event generally results from direct or indirect exposure to a situation that involves actual or threatened death or serious injury, or a threat to oneself or another's physical well-being, evoking intense fear, helplessness, or horror.⁷ The

emotional, cognitive, physical, and social consequences of exposing oneself indirectly to trauma through hearing about the trauma of others is traditionally referred in the literature as “vicarious traumatization,”⁴ “secondary traumatization,”⁵ “secondary traumatic stress,”⁸ “compassion fatigue,”⁸ or “burnout.”^{9, 10} While there has been some debate as to how these concepts differ, often they are used interchangeably. Secondary stress reactions have been reported in healthcare providers, journalists, attorneys, first responders, supportive services, military, volunteers, and media personnel.¹¹ In the current article, we will use the term secondary traumatic stress (STS) when referring to any of the above forms of secondary trauma.

Common manifestations of STS reactions are varied and include feelings of shock, sadness, depression, grief, fear, fatigue, burnout, flashbacks, rage, shame, sleep disturbances, numbness, avoidance, nightmares, increased alcohol use, and reminders of past traumas.^{5, 11} A hallmark of STS is its ability to produce cognitive shifts that affect how individuals view the world and themselves; for example, the world may no longer be seen as a safe place, people may no longer be viewed as innately good, and individuals may no longer see themselves as competent.¹² The effects of STS may also include increased suspiciousness, helplessness, cynicism, low self-esteem, and survivor’s guilt. High mortality rates from all causes, including suicide and worsening of medical conditions, have been reported among healthcare professionals when compared to controls.¹¹ A number of individual and contextual factors have been associated with increased rates of STS in healthcare providers and responders, including:

- Pre-event psychological and substance use problems;¹³

- Insufficient or inadequate training;¹⁴
- Identification with the victims;¹⁵
- Real or perceived insufficient support in the workplace;¹⁶
- Ambiguous policies regarding traumatic stress and confidential supportive services;¹⁶
- Invalidation of the employee's losses and injuries by the organization;¹⁶
- Perception of one's role as "poor," inability to achieve goals, and failed expectations.¹¹

While many healthcare providers in the New Orleans metropolitan area may share common factors associated with increased risk for STS reactions, this group of professionals has also demonstrated several unique qualities. For example, the healthcare providers were not only exposed to the indirect effects of working with a traumatized population that experienced symptoms at above the national average,¹⁷ but like the population they served, they were also rescued and displaced; furthermore, they continue to be exposed to the economic hardships of recovery and the increased violence in the city, and they may experience low perceived professional and personal support.^{3, 18} Thus, anecdotally, healthcare providers in New Orleans may uniquely suffer from both direct and indirect trauma exposure.

Vicarious Traumatization Following Hurricane Katrina

During and after Hurricanes Katrina and Rita, medical personnel across the Gulf Coast region in general, and New Orleans especially, struggled to provide healthcare to a

frightened population while adapting to critical shortages in staff and medicines as well as basic supplies, including food and water. Healthcare workers who sought counseling services following Hurricanes Katrina and Rita struggled with a confluence of emotions. They expressed deep anger at the failures of many systems upon which they relied. Grief for their own personal losses of homes, neighborhoods, and sometimes loved ones was, for some, intensified by the many patients lost in the aftermath of the storm. Healthcare workers experienced shock at the scope of the disaster and the depth of its impact on their practices; loneliness for their loved ones, many of whom were evacuated to distant cities for indefinite periods; feelings of betrayal by the suspicions of the public and investigative bodies regarding the deaths that occurred in local hospitals during and after the storm; and helplessness when faced with overwhelming challenges and shortages caused by the disruptions in infrastructure. Over time, despair set in while, despite their best efforts, providers continued to face burgeoning numbers of patients with increasing acuity and severity of complaints seeking services.¹⁸

Most healthcare providers rose to the occasion, providing outstanding care while also coordinating the evacuation of patients, family members, and support personnel, waiting until the last themselves to evacuate. While much attention was paid nationally to the heroic efforts of medical providers under extreme duress in the immediate aftermath of the disaster, less has been paid to the short- and long-term effects of attrition among healthcare providers continuing to provide healthcare while confronting ongoing shortages, and the remaining providers' own struggles with loss, rebuilding, and recovery.

Anecdotally and consequently, healthcare providers attending stress-reduction workshops in New Orleans have consistently reported problems with attention, memory, irritability, anxiety, depression, mood fluctuations, and worsening of health habits since Hurricane Katrina; however, empirical research on the prevalence and types of mental and physical health consequences in this population is lacking. In a recent Web-based survey, 40 percent of mental-health providers practicing in the New Orleans area complained of being “burned out”⁶; the term itself, however, fails to capture the entirety of the STS experience. At an organizational level, the indirect consequences of burnout and STS have significantly impacted staffing patterns, programming, and the expansion of services. Hospital personnel have shown up to 300 percent increases in absenteeism due to personal or family medical leave and sick days after Hurricane Katrina.³ To compound these preliminary findings, family members of traumatized providers have shown, not uncommonly, higher rates of stress-related conditions.¹⁹

Posttraumatic Growth

From a resilience-model perspective, what are often neglected, if not unrecognized, are the many potentially positive factors that can arise within the individual after surviving a disaster. The scientific concept of resilience within trauma dates back to the sixties. Caplan (1964) stated that a fundamental assumption in crisis theory is the potential for growth from a negative life experience.²⁰ Since the publication of Caplan’s work, a growing number of contemporary theorists and clinicians have made stress and trauma-related growth a major component of their models.^{21,22} Research and clinical experience have supported theoreticians’ observations that people exposed to

even the most traumatic events may perceive at least some good emerging from their struggle with tragedies such as bereavement, cancer, rape, incest, divorce, HIV infection, heart attacks, disasters, combat, and the Holocaust.^{21, 23}

Similarly, post-Katrina New Orleans has shown that success, opportunity, and growth are not uncommon and are to be found where struggle and despair lie. In this devastated area, many healthcare providers have maintained their commitments to stay and rebuild. Those who endure disasters may carry within them the seeds of growth. Disaster-stricken areas offer challenges, the need for commitment, and opportunities to create that can cultivate an increased sense of mastery, self-efficacy, and control, with the added satisfaction that one's actions can truly make a difference. These three aspects—challenge, commitment, and control—have been traditionally associated with Susan Kobasa's notion of stress hardiness, defined as elements present in people who tend to be more resistant to stress and more resilient.²⁴

Posttraumatic benefits tend to cluster into three broad categories: those related to changes in self perception, to changes in interpersonal relationships, and to changes in philosophy of life.²¹ For example, a sense of personal growth, an improved sense of direction, increased wisdom, humbleness, more mindful living, reappraisal of personal and professional values, the cultivation of closer relationships, increased bonding with others, a renewed commitment to life, a reawakened spiritual life, and a sense of belonging to something greater than oneself have all been reported since Katrina in survivors during counseling sessions.

The same can perhaps be said of resilient organizations. The Louisiana State University Health Sciences Center (LSUHSC) Department of Psychiatry, for example,

has provided clinical leadership for Louisiana Spirit, the state's Stafford Act crisis counseling and specialized services program; provided first-responder trauma services; is working with school children in Orleans, Plaquemines, and St. Bernard Parishes; and has spearheaded and supported the reopening of inpatient, outpatient, and emergency public mental-health services. The department consults to major stakeholders in post-Katrina mental health, helping to create a more comprehensive, egalitarian, and humane mental-health policy in the region, and has stayed true to its mission of service, training, and research.

Looking Ahead: Mitigation and Preparedness

Successful strategies that foster and support posttraumatic growth and resiliency among healthcare providers consider STS as an unavoidable side effect of working with trauma.²⁵ Primary, secondary, and tertiary strategies for reducing STS can fall under three categories:

- Those aimed at the individual practitioner, both personally and professionally;
- Those aimed at the organization;
- Those aimed at the systems of care and policy.

For trauma-impact management to be effective, it must be recognized and practiced on all three levels.

I. Strategies aimed at the individual

Personal stress-management regimens are tailored to the individual and are optimally formed from both an awareness of personal strengths and challenges and the

development of supportive routines and social networks identified by the individual. Professional stress management is best implemented with the support of supervisors, administrators, and colleagues. Yet the reality is, though many healthcare professionals encourage their patients to engage in healthy practices, the same professionals are not always likely to heed their own advice. Gross (2000) examined the use of preventive healthcare practices among physicians and found that 35 percent of physicians reported not having a regular primary-care physician.²⁶ The receipt of mental-health services and the use of self-care may be even less likely among physicians and is of great concern especially in times of crisis, as reported by Madrid and Schacher (2006), noting the suicide of a pediatrician following Hurricane Katrina.²⁷ Contributing factors to healthcare providers' self-neglect can be numerous and complex. After Hurricane Katrina, for example, there were few physicians working in the New Orleans metropolitan area though the need for medical care was great.² Thus, physicians who were present in the city took on more patients, worked longer hours, and worked under increasingly stressful conditions, lacking appropriate facilities and support staff.¹⁸

Work can be a powerful organizing and rewarding factor for individuals recovering from a disaster. It can fulfill personal wishes to be helpful, enhance the experience of comradeship and bonding, and provide a reassuring structure and sense of purpose in a landscape of uncertainties and disruption of social ties. For physicians, caring for others at a time of great distress can also increase a sense of mastery and control. Work may allow a retreat from danger and loss and act as a buffer against or escape from personal difficulties related to the crisis. The experience of survivor's guilt in providers is also a powerful motivator, particularly among those providers who

suffered fewer personal losses, fared better than others, or simply were not present during the crisis or immediate aftermath, having evacuated but returned later to relieve peers. For them, overextending working hours and workloads may be an attempt to alleviate this guilt.

Inasmuch as STS is an inevitable part of trauma work,²⁵ there are no truly preventive strategies for it. A number of strategies, however, can reduce the level of symptoms and disruption caused by STS.²⁸ On their most basic level, self-care and personal stress management include basic physical hygiene such as healthy eating, sleeping, and exercise habits. Other helpful recommendations include the following:

- Maintaining a balance between one's work and personal life;
- Making time for short breaks during the day;
- Monitoring and reducing one's trauma exposure when possible by maintaining a variety of clients or patients and scheduling them at different hours or in short blocks of time;
- Being cognizant of and maintaining boundaries and the end of work-shift hours;
- Setting realistic personal goals each day ahead of time and disengaging when they are achieved;
- Developing and maintaining a flexible approach to each day, including monitoring the tendency toward rigidity or destructive criticism of self or others;
- Practicing and teaching stress-management techniques;
- Using common items and situations as reminders to use personal and favored stress-reduction techniques such as deep breathing, chanting, praying, imagining, stretching, looking at pictures, reading a phrase, or the like;

- Taking time to engage in enjoyable activities;
- Seeking out the support of family, friends, and religious institutions if one's relationships with these are generally comforting;
- Seeking psychotherapeutic treatment for countertransference issues, trauma, or bereavement;
- Using peer-support groups or a "buddy system";
- Seeking out peer consultation or supervision;
- Pursuing additional training.

Some psychotherapeutic models for traumatized individuals, such as Dialectical Behavioral Therapy, have peer-support and peer-consultation elements embedded within them.²⁹ Other models, such as the Accelerated Recovery Program (ARP), have been specifically developed and tested to address STS.³⁰ There is also growing interest and scientific evidence supporting mind-body medicine-based programs to address STS, stress, trauma, and a variety of medical conditions in clinical and non-clinical settings, making them accessible, cost-effective, and non-stigmatizing. Relying heavily on self-care, awareness of and connection to others, skills acquisition, narrative, and expression, these models seem to increase participants' resilience, self-control, emotional modulation, symptom reduction, and mastery. Furthermore, mind-body medicine-based groups require that practitioners must practice what they teach in order to be effective educators.²² For the majority of providers, however, these groups and therapeutic interventions are not yet easily accessible and must be actively sought out both personally and at the organizational level.

II. Strategies aimed at the organization and system of care

Empirical data on the effectiveness of trauma management strategies are slowly emerging. As expected, there is a clear and direct correlation between STS and hours spent working with traumatized individuals; thus, it may be inferred that STS can be reduced by limiting work-related trauma encounters. With this in mind, some solutions will also involve and require interventions at the structural and organizational level.²⁵

As stress reduction at the workplace has shown encouraging results, the incorporation of these techniques by organizations delivering health to others is growing.³¹ Workforce stress reduction has been shown to positively impact job satisfaction and performance, retention and recruitment, productivity, healthcare outcomes, corporate health insurance premiums, and perhaps, job-related bullying and violence.^{31,32}

As already mentioned, staff exposure to trauma has negative implications for organizations. Anecdotally, staff members at a local hospital after Hurricane Katrina showed more difficulties remembering policies and procedures and complying with internal and national guidelines of care; they also had absenteeism rates up to 300 percent compared to the same period a year before Katrina, and many suffered from “*presenteeism*,” meaning that they were working while impaired.³ Thus, encouraging self-care among staff members is of utmost importance for the individual, and it may add the beneficial effect of decreasing medical errors, non-adherence with policies and procedures, and hindered patient care.

Although the primary focus of interventions used to prevent or treat STS has traditionally been on the individual, workplace interventions complement and enhance individual interventions. Institutions that adequately and nonjudgmentally support and meet the needs of their staff are likely to have employees who are better equipped to respond effectively to a disaster. Additionally, when institutions provide an environment that promotes self-care, healthcare professionals are more likely to engage in self-care practices.³²

In order to cultivate emotional wellbeing among staff, institutions need to take into consideration the needs of their workforce, as well as the strengths and weaknesses of individual staff members in order to best utilize them, thus lowering stress and enhancing efficiency and satisfaction. Encouraging teamwork, allowing for the open discussion of work-related stressors without patronizing but while safeguarding confidentiality, sharing information, and fostering decision-making at many levels are the foundations of a culture of self-care within an organization. Familiarity with evidence-based practices that lessen the impact of STS is important if an organization is to provide effective support for its staff. For example, in the 1990s, in an attempt to address organizational needs following traumatic events, many institutions adopted Critical Incident Stress Debriefing models. Soon, however, randomized controlled trials showed little consistent evidence supporting their effectiveness, even reporting that psychological debriefing was actually harmful to many.³³

Organizations and their staff are best served when the institution allows for some flexibility in order to support its members' natural coping mechanisms; for example, individuals may be provided the opportunity to take time off, change shifts, and set aside

time to meet with their peers and supervisors. The stigma associated with admitting stress, anxiety, depression, or even fear is therefore decreased, and staff members are more likely to seek peer or professional support when needed. This in turn may reduce or suppress difficulties that can result in sickness or negatively impact job performance. One example of this staff-caring culture was seen after Katrina when, due to severe housing shortages, necessity drove many healthcare institutions to provide housing on their grounds for their staff in order to keep operations going. For staff members, having a place to live while remaining close to their peers and work in times of turmoil proved to be not just a reflection of the institution's utilitarian needs but a gesture of genuine care and support. Living in proximity to a ready support system may have also served as a protective factor, allowing the opportunity to share experiences and concerns with a familiar group.

Organizations, however, like individuals, may be reluctant to provide opportunities for self-care due to time burdens. It is difficult to set aside time for self-care promoting activities. However, despite the apparent reduction in work time, an institution that creates space for these activities creates a culture of mutual support and respect and may decrease the likelihood of STS among its employees. Commonly recommended interventions are meetings during which staff can socialize or discuss crises, difficult cases, or traumas; the implementation of stress-reduction and self-care sessions; and psychoeducational seminars about the impact of vicarious trauma.

In sum, there are organizational strategies that can mitigate vicarious trauma in healthcare providers who work with traumatized populations. The following elements are characteristic of organizations that seek to mitigate STS in their workers.²⁵

- ❖ The organization accepts STS as an inevitable part of trauma work. This alone helps to normalize the condition, providing individuals the openness to discuss STS, address it, and seek support.
- ❖ The organization uses evidence-based interventions to ameliorate STS. The Center for Mind-Body Medicine's model based on self-care through the use of evidence-based Mind-Body Skills Groups, including meditation, biofeedback, guided imagery, drawings, autogenic training, genograms, and movement and breathing techniques, has been successfully implemented with traumatized populations across cultures in Kosovo, Gaza, Israel, and New Orleans. In Kosovo, 139 high school students attended six-week Mind-Body Skills Groups, the percentage of students having symptoms indicating mild to severe levels of PTSD dropped from 88 percent before the program to 38 percent following the program. The reduction in PTSD scores was significant ($p < .001$).³⁴ Healthcare providers undergoing training in mind-body skills have reported a significant increase in personal and professional use of these skills and higher life satisfaction.³⁵ Moreover, their effectiveness with healthcare providers after disasters has now been tested with more than 80 practitioners who have undergone training in this modality over the past two years. Preliminary data from New Orleans suggest that healthcare providers who attended a five-day, intensive workshop in mind-body medicine skills using this model report an increased sense of purpose and meaning in life, mobilization of inner resources, strengthening of identity, and a greater sense of wholeness and empowerment, all of which may be positively associated with growth and resilience (Gordon J,

personal communication, 2005). Since models of self-care that can be applied at the individual and organizational level and that are cost-effective without medicalizing or stigmatizing participants are lacking, Gordon's model is promising.

- ❖ The organization actively seeks to vary the types of cases assigned to its employees in order to reduce trauma exposure. The level of each staff member's expertise and each staff member's strengths and weaknesses are also considered when distributing workloads. Additionally, the organization uses other supportive services from outside agencies to delegate the burden of work.
- ❖ The environment is safe, private, and comfortable so that providers are not further exposed to primary traumatization.
- ❖ The organization promotes self-care by encouraging stress-reducing activities and providing space for breaks and comfortable furniture. Workers may also be encouraged to decorate the working environment.
- ❖ The organization creates and sets aside time for peer-support systems, mentorships, and supervision and incorporates mentorship roles within job descriptions.
- ❖ The organization provides resources for therapy and counseling, often outside the institution as this will lessen employees' concerns about confidentiality.
- ❖ The agency chooses an insurance carrier that provides mental-health and addiction benefits.
- ❖ The agency promotes self-care by organizing physical activities and stress-reduction workshops and supporting meditation groups during lunch or after

hours. At one local hospital, experienced clinical staff began to meet weekly with direct-care staff to address their concerns, teach coping skills, and troubleshoot difficulties. Traditionally, direct-care staff members are often the least trained of the treatment team and yet are the ones who spend the most time with patients. Regular stress-reduction sessions and educational enhancement activities to promote recreation and/or knowledge were organized for staff. Although staff members have been receptive, supportive, and positive in response to these measures, their overall effect has not been empirically tested.

- ❖ The organization provides a clear definition of roles to decrease confusion and subsequent stress.
- ❖ The organization shares information and data with its members and proactively addresses rumors.
- ❖ The organization has effective, available leadership.
- ❖ The organization makes arrangements for employees to maintain communication with their loved ones, particularly during disasters. When organizations provide ways for relatives to inquire about their loved ones who are part of disaster teams, the stress levels of employees and their families are decreased.
- ❖ Educational institutions that train future healthcare providers should include trauma-impact management in their curricula. Self-care as an integral, systemic body of behaviors that promote and cultivate wellness and health is most seamlessly adopted if championed early and consistently. It seems logical that self-care skills should be taught to healthcare providers during training as part of their curriculum, given that these are individuals at high risk for developing STS.

However, in a brief telephone survey of 24 medical schools in the US, including four Ivy League schools, only six (25 percent) had self-care or stress-reduction groups for their students, three as part of the regular curriculum and the remaining three as an elective rotation. Since Hurricane Katrina, the LSU School of Medicine has conducted a series of self-care wellness groups for its medical students as part of its Introduction to Mind-Body Medicine course. So far, more than 90 students in three different classes have undergone training with very positive feedback. We are currently seeking to incorporate these seminars into the regular curriculum at the medical school and the nursing school.

III. Strategies aimed at the system of care and policy – Trauma Impact

Management: A new core competency

Universal standards of care during disaster planning and its execution have become increasingly studied, developed, and implemented in healthcare delivery systems and in education. We propose the adoption of self-care practices for providers as part of core competencies and accreditation standards of national, state, and local regulatory agencies. These include the Joint Commission for Healthcare Accreditation (JC), the Commission on Accreditation of Rehabilitation Facilities (CARF), the Accreditation Council for Graduate Medical Education (ACGME), the Center for Medicare Services (CMS), and state and local Departments of Health. We further propose the incorporation of mandatory self-care competencies as part of ongoing medical education hours for professional credentialing.

The Accreditation Council for Graduate Medical Education (ACGME) stipulates six areas in which medical students must demonstrate proficiency in order to graduate their programs: patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice.³⁶ We propose that, given the high incidence of trauma exposure in this professional group, self-care be incorporated as a core proficiency area. Doctors who know how to care for themselves are better equipped to teach and model for their patients ways to do so. In contrast with our current models, which are focused on costly treatment and strong dependency on high technology, surgery, and medications, self-care is at the center of newer and more humane, compassionate, efficient, and economic models of care and is thus an important premise for preventive and participatory medicine.²²

Self-care as a core function of disaster planning and training is mostly overlooked or briefly mentioned; however, staff of Johns Hopkins Department of Emergency Medicine (2006) have suggested seven core competencies for disaster preparedness: 1) recognize a potential critical event and implement initial actions, 2) apply the principles of critical-event management, 3) demonstrate critical-event safety principles, 4) understand the institutional emergency-operations plan, 5) demonstrate effective critical-event communications, 6) understand the incident command system and one's own role in it, and 7) demonstrate the knowledge and skills needed to fulfill that role during a critical event.³⁷ More encouraging, the American Medical Association's (AMA) Center for Public Health Preparedness and Disaster Response (CPHPDR) offers education and resources for physicians, civilians, and military personnel to prepare for and respond to disasters. An online guide entitled "Management of Public Health Emergencies – A

Resource Guide for Physicians and Other Community Responders” serves as a reference source regarding disasters. This guide has a section on the mental-health needs of emergency responders.³⁸ Additionally, the AMA offers the National Disaster Life Support (NDLS) Program. This program was created to teach physicians, medical students, and other health professionals about their integrated roles and responsibilities in community, state, or regional disaster response.³⁹ Other institutions make self-care a core competency for employees working with high-risk populations, such as suicidal clients. The Canadian Centre for Applied Research in Mental Health and Addiction for the Ministry of Health (CARMHA), in its elegant clinical tool for providers working with suicidal clients, strongly advocates for and recommends self-care strategies to reduce STS for healthcare providers.⁴⁰

This slow but growing advocacy of self-care and awareness of STS is encouraging. However, realizing self-care and the potential it creates for posttraumatic growth requires more than general descriptions, suggestions, and theory. Behavioral medicine shows that active experiential interventions like mentoring, modeling, buddy systems, hands-on workshops, and the widespread adoption of such techniques into work routines are needed in order to foster and sustain positive behavioral changes in people.

Conclusions

Healthcare providers, by the nature of their work, are called upon to assist traumatized victims. Secondary traumatic stress is an unavoidable consequence of trauma and disaster work. In addition to the indirect exposure to trauma characteristic of STS, providers assisting in mass disasters may be directly traumatized themselves.

However, disasters, like other traumas, harbor within themselves the seeds of growth and positive change. There is increasing interest in this potential for posttraumatic growth and the ways to foster it.

STS mitigation through self-care and addressing direct trauma via fostering posttraumatic growth can be implemented at three different levels that complement and support each other: the individual level, the organizational level, and the systems-policy and educational level. We strongly suggest incorporating self-care and trauma management as a core clinical competency for healthcare providers. At the systems, national, state, and local levels, the incorporation of self-care practices for healthcare providers by regulatory agencies as part of standards of care, elements of performance, and continuous education requirements can foster a positive cultural change in healthcare in general and in disaster preparedness and trauma specifically, ultimately benefiting patients, clients, and providers.

Author's Copy

References

1. Santorelli, S. *Heal Thy Self: Lessons of Mindfulness in Medicine*. New York: Random House, 1999.: 7-8.
2. Weisler RH, Barbee JG, Townsend MH. Mental Health and Recovery in the Gulf Coast after Hurricanes Katrina and Rita. *JAMA* 2006, 296: 585-588.
3. Calderon J. The Long Road Home: Rebuilding Public Inpatient Psychiatric Services in Post-Katrina New Orleans. *Psychiatr Serv* 2008, 59(3): 304-309.
4. McCann IL, Pearlman LA. Vicarious Traumatization: A Framework for Understanding the Psychological Effects of Working with Victims. *J Trauma Stress* 1990, 3: 131-149.
5. North CS, Tivis L, McMillen JC, et al. Coping, Functioning, and Adjustment of Rescue Workers after the Oklahoma City Bombing. *J Trauma Stress* 2002, 15(3): 171-175.
6. National Council for Community Behavioral Healthcare. Two Years after Katrina: A Survey of Mental Health and Addiction Providers in New Orleans and Baton Rouge. Louisiana: Executive Summary 2007.
7. American Psychiatric Association. The Diagnostic and Statistical Manual of Mental Disorders, 4th ed. Washington DC: American Psychiatric Association 2000.
8. Figley CR. *Helping Traumatized Families*. San Francisco: Joseey-Bass, 1989.

9. Palm KM, Polusny MA, Follette VM. Vicarious Traumatization: Potential Hazards and Interventions for Disaster and Trauma Workers. *Prehosp Disast Med* 2004, 19(1): 73-78.
10. Tippy RL, White-Kress VE, Wilcoxon SA. Preventing Vicarious Trauma: What Counselors Should Know When Working with Trauma Survivors. *J Couns Dev* 2004, 82: 31-37.
11. Figley CR. *Treating Compassion Fatigue*. New York: Brunner-Routledge, 2002.
12. Salston MD, Figley CR. Secondary Traumatic Stress Effects of Working with Survivors of Criminal Victimization. *J Trauma Stress* 2003, 16(2): 167-174.
13. Moyers F. Oklahoma City Bombing: Exacerbation of Symptoms in Veterans with PTSD. *Arch Psychiatr Nurs* 1996, 10: 55-59.
14. Shalev AY. Generic Dimensions of Trauma Response. International Consortium for Psychosocial Preparedness of Children and Families for Terrorism. New Orleans, Louisiana 2003.
15. Ursano RJ, Fullerton CS, Vance K, et al. Posttraumatic Stress Disorder and Identification in Disaster Workers. *Am J Psychiatry* 1999, 156: 353-9.
16. Dionne L. After the Fall. *JEMS* 2002: 37-59.
17. Kessler R, Galea S, Jones TR, et al. Mental Illness and Suicidality after Hurricane Katrina. *Bull World Health Organ* 2006, 84(12): 930-939.
18. Berggren, RE, Curiel, TJ. After the Storm: Health Care Infrastructure in Post-Katrina New Orleans. *N Engl J Med* 2006, 354(15): 1549-1552.
19. Fullerton CS, Ursano RJ. Post-traumatic Responses in Spouse/Significant Others of Disaster Workers. In: Fullerton CS, Ursano RJ, eds. *Posttraumatic Stress*

- Disorder: Acute and Long Term Responses to Trauma and Disaster.* Washington DC: American Psychiatric Press, 1997.
20. Caplan G. *Principles of Preventive Psychiatry.* New York: Basic Books, 1964.
 21. Tedeschi RG, Calhoun LG. The Posttraumatic Growth Inventory: Measuring the Positive Legacy of Trauma. *J Trauma Stress* 1996, 9(3): 455-471.
 22. Gordon J. *Manifesto for a New Medicine: Your Guide to Healing Partnerships and the Wise Use of Alternative Medicine.* New York: Perseus Books, 1996.
 23. Park CL, Cohen LH, Murch RL. Assessment and Prediction of Stress-Related Growth. *J Pers* 1996, 64(1): 71-105.
 24. Kobasa SC. Stressful Life Events, Personality and Health: An Inquiry Into Hardiness. *J Personality Soc. Psychol* 1979, 37: 1-11.
 25. Bell H, Kulkarni SH, Dalton L. Organizational Prevention of Vicarious Trauma. *J Contemporary Human Services* 2003, 84(4): 463-470.
 26. Gross CP, Mead LA, Ford DE, et al. Physician, Heal Thyself? Regular Source of Care and Use of Preventive Health Services Among Physicians. *Archives Intern Med* 2000, 169(21): 3209-3214.
 27. Madrid PA, Schacher SJ. A Critical Concern: Pediatrician Self-Care After Disasters. *Pediatrics* 2006, 117: S454-S457.
 28. Hesse A. Secondary Trauma: How Working with Trauma Survivors Affects Therapists. *Clin Soc Work J* 2002, 30: 293-309.
 29. Linehan M. *Cognitive Behavioral Treatment of Borderline Personality Disorder.* New York: Guilford Press, 1993.

30. Gentry JE, Baranowsky AB, Dunning K. ARP: The Accelerated Recovery Program (ARP) for Compassion Fatigue. In: Figley CR, ed. *Treating Compassion Fatigue*. New York: Brunner-Routledge, 2002: 123-137.
31. Pelletier KR, Lutz RW. Healthy People – Healthy Business: A Critical Review of Stress Management in the Workplace. In: Weiss SM, Fielding JE, Baum A, eds. *Health at Work*. Hillsdale, NJ: Lawrence Earlbaum Associates. 1999: 189-204.
32. Treven S. Strategies and Programs for Managing Stress in Work Settings. *Management* 2005, 10(2): 45-59.
33. Bisson J, Jenkins P, Alexander J, et al. Randomized Controlled Trial of Psychological Debriefing for Victims of Acute Burn Trauma. *Br J Psychiatry* 1997, 171: 78-81.
34. Gordon JS, Staples JK, Blyta A, et al. Treatment of Posttraumatic Stress Disorder in Post-War Kosovo High School Students Using Mind-Body Skills Groups: A Pilot Study. *J Traumatic Stress* 2004, 17(2):143-147.
35. Staples JK, Gordon JS: Effectiveness of a Mind-Body Skills Training Program for Healthcare Professionals. *Alternative Therapies in Health and Med* 2005, 11(4): 36-41.
36. Accreditation Council for Graduate Medical Education. General Competencies. 2001. Available at http://www.acgme.org/acWebsite/RRC_280/280_coreComp.asp. Retrieved 3/18/08.

37. Hsu EB, Thomas TL, Bass EB, et al. Healthcare Worker Competencies for Disaster Training. *BMC Med Educ* 2006, 6: 19.
38. American Medical Association, Center for Public Health Preparedness and Disaster Response. Management of Public Health Emergencies – A Resource Guide for Physicians and Other Community Responders. 2005. Accessed 04/03/08 at <http://www.ama-assn.org/ama/pub/category/18200.html>.
39. American Medical Association, Center for Public Health Preparedness and Disaster Response. National Disaster Life Support Program. 2003. Accessed on 04/03/08 at <http://www.ama-assn.org/ama/pub/category/12606.html>.
40. Center for Applied Research in Mental Health and Addiction Services for the Ministry of Health, Canada. Working With The Client Who Is Suicidal: A Tool for Adult Mental Health and Addiction Services. 2007. Accessed 03/28/08 at <http://www.health.gov.bc.ca/mhd/suicide.html>: 65-70.