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The COVID-19 Pandemic and the Five Essential Elements in Mass Trauma Intervention: Perspectives from World Trade Center Health Program Mental Health Clinicians

Sandra M. Lowe, Peter T. Haugen, Kathryn Marrone, Rebecca Rosen, and Dori B. Reissman

In 2007, Hobfoll and coauthors described “Five Essential Elements of Immediate and Mid-Term Mass Trauma Intervention: Empirical Evidence,” a framework to guide intervention and prevention efforts in the aftermath of mass trauma. Briefly, these include promoting safety, calm, self- and community efficacy, connectedness, and hope for the future. These evidence-informed elements have been used in early disaster interventions, such as Psychological First Aid (Brymer et al., 2006), and have widely influenced international public health policy. This commentary will address whether these elements have

provided guidance when applied to the setting of the COVID-19 pandemic.

As of this writing (July 11, 2021), there have been more than 185 million confirmed cases of COVID-19 world-wide, resulting in over 4 million reported deaths (Johns Hopkins Coronavirus Resource Center). This international public health disaster, tremendous in scope and scale, has unfolded in unyielding and uneven waves, affecting different regions of the world with varied intensity over the past 18 months. Global mortality, societal and economic disruption, and the protracted nature of the crisis have overwhelmed medical facilities,

Commentary on “Five Essential Elements of Immediate and Mid-Term Mass Trauma Intervention: Empirical Evidence” by Hobfoll et al.

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health care systems, and communities. Inconsistent messaging about the transmissibility of the virus and seriousness of COVID-19 magnified uncertainty and fear. Early efforts focused on containing the spread of infection and managing serious respiratory illness. This quickly grew to include concern about the psychological trauma surrounding both the seriousness of the disease and the psychosocial and economic effect of its containment efforts. A large body of evidence reveals that during the initial phase of the pandemic, there was an increase in levels of anxiety, depression, substance misuse, and suicidal ideation in the U.S. (e.g., Czeisler et al., 2020; Ettman et al., 2020). Notably, youth, women, and those caring for young children – groups not previously identified as high risk for psychiatric disorders – experienced disproportionate psychological distress and possible increases in self-harm (Aknin et al., 2021).

The perspective of this commentary is that of mental health clinicians at the World Trade Center Health Program (the “Program”), which monitors and treats persons affected by a prior mass disaster, the 9/11 terror attacks. Once again, we were called upon to provide care while facing an unfolding public health disaster in parallel with our patients and our colleagues when rates of COVID-19 were soaring in the greater New York City area early in 2020. Thus, the focus is on pragmatic aspects of clinical management and “hands-on” delivery of care. Key features of the Program’s response to the pandemic are discussed, using a time-phased framework for interventions as described by (Rauch et al., 2020). Attention is drawn to elements as they manifested over time, or phases, of the pandemic. The authors reflect on how their approach and practices aligned with the five elements identified by Hobfoll et al. Program responses that reflected connectedness are highlighted as they proved to be most salient in our clinical experience during the COVID-19 pandemic. It is hoped that this perspective will enrich the understanding of how the five essential elements interface with clinical interventions and disaster-related public health practices.

WORLD TRADE CENTER HEALTH PROGRAM OVERVIEW

The World Trade Center Health Program was legislatively established as a federal health care, health surveillance and research program to address medical and psychological needs of responders and community members adversely affected by the 9/11 terror attacks. The Program serves a diverse membership of over 110,000 individuals who are dispersed nationwide, with the largest population residing in the greater New York metropolitan area. Program goals include diagnosis and treatment of health conditions stemming from 9/11 exposure(s). The Program comprises seven Clinical Centers of Excellence (CCEs) and a Nationwide Provider Network (NPN). The Program requires participation in several regularly convening groups for discussions on emerging concerns, operational challenges, research findings and best practices. These include medical, mental health, science and case management forums, and stakeholder steering committees. While the CCEs and the NPN share the Program mission, they have distinct member populations with varying needs related to characteristics of their 9/11 exposures, such as: firefighters, other first responders and recovery workers, or community members (e.g., residents or students). Hereafter, individuals enrolled in this program will be referred to as “members.”

THE COVID-19 PANDEMIC THROUGH THE LENS OF THOSE IMPACTED BY 9/11

Although the relationship between mental health and the COVID-19 pandemic is complex, several meta-analyses revealed significant psychological distress in key populations (Aknin et al., 2021). These include healthcare workers, individuals infected by the virus, and those who suffered significant personal or

financial loss. (Wathelet et al., 2020). Research regarding the pandemic's impact on the 9/11-affected population is in its infancy, yet prior work (Solomon et al., 2021) has shown that populations with a history of trauma may be more vulnerable to adverse psychological consequences, especially if subsequent exposures reactivate prior trauma experiences (Christenson et al., 1981). Many Program members, whose perception of risk remained consistently elevated since 2001, spoke of parallels between characteristics of the COVID-19 pandemic and events surrounding 9/11. These included concerns about air quality, shortage of personal protective equipment, and unreliable messaging by government entities. Images of body bags, refrigerated trucks, and the relentless sounds of emergency vehicle sirens often triggered reexperiencing symptoms in our program members.

PHASED RESPONSE APPROACH TO OUTREACH, ASSESSMENT, AND INTERVENTION

A vital element to disaster mental health response is a plan to prioritize and coordinate outreach efforts, clinical assessment and triage, and therapeutic interventions. Rauch et al. (2020) presented a "phased approach" framework for guiding and disseminating mental health resources after a large-scale trauma. One axis of that framework attends to the time course of the traumatic event. Per this approach, the first, or *initial phase*, is the period in which the traumatic stressor is ongoing. Once the traumatic stressor has passed, the next three months is considered the *post-phase*, which is followed by the *long-term phase*. We found a phase-based approach useful in describing our experience because the pandemic's fluctuations in disease transmission, containment measures and social dynamics were critical in organizing our responses. Our phase conceptualization correlates with the pandemic timeline occurring in the greater New York metropolitan area, where most of our Program members reside.

Initial Phase (March-June 2020)

The initial phase of the pandemic was the most traumatic for the Program cohort due to uncontrolled waves of illness, hospitalizations, and deaths during this period. Shock, fear, and grief were widespread. To reduce viral transmission, public health mandates were implemented including masking, social distancing, and "sheltering in place," but efforts to reduce viral transmission conveyed a disturbing and confusing message about avoiding people, which contributed to perceptions of isolation and loneliness. From an international perspective, Hwang et al. (2020) described mental and physical health effects stemming from isolation and loneliness due to pandemic control measures, especially in older persons and people with preexisting mental illness. The added trauma of racial violence and civil unrest further led to high levels of societal discord and strained perceptions about personal safety.

Program clinicians quickly recognized the importance of outreach and communication with members to assess needs, triage concerns, manage chronic conditions, and deal with food and housing insecurity. These were critical avenues to promote safety, calm, and connectedness with Program members. It became readily apparent that remote service delivery methods were needed, yet telehealth was not widely available at that point in time. Transition to remote service delivery was challenging for both provider organizations and patients (members) stemming in part from insufficient technical literacy, lack of resources (e.g., smartphones or computers), professional liability, licensure, and reimbursement concerns. Despite the obstacles, the CCEs moved to providing most services remotely using various forms of technology. Some CCEs rapidly pivoted to video telehealth because of existing infrastructure; others relied on the telephone as the primary mode of communication and service delivery.

As the need for a broad programmatic response (including remote delivery of care)

became more urgent, the Program mobilized federal assets to support the CCEs by providing near-real-time regulatory and technical guidance reflecting rapid changes in federal and state requirements impacting telehealth, including virtual delivery of monitoring exams, standardized needs assessments, and clinical and supportive interventions. There were frequent meetings of the Program's Mental Health Forum ("Forum"), a peer mental health leadership committee that routinely collaborated on Program-wide mental health initiatives, to discuss how to address the heightened psychological needs of Program members, professional colleagues, and staff and to share information on best practices for intervention and support using telehealth.

Program clinics prioritized connecting with members and rapidly began outreach efforts; each utilizing an approach that seemed to best serve their members' needs. Some CCEs prioritized those traditionally at heightened risk for psychological morbidity (e.g., active first responders and those with preexisting medical and psychiatric illness); others made efforts to contact all members, not knowing who would be at heightened risk during this initial phase.

Although it has been 20 years since 9/11, a significant contingent of the Program's members continued to function in frontline roles during the pandemic, and as such were recognized as a higher risk group for negative mental health outcomes (Inchausti et al., 2020). One CCE developed a specialized psychological intervention termed, "wellness checks," designed to quickly identify those at-risk members. These wellness checks were designed to provide frontline workers a space to discuss their concerns, fears, and challenges, and help those members build resiliency to continue responding to the crisis. Those who reported greater distress were provided with brief, supportive interventions.

All CCEs established protocols for outreach to other members, using various methods for assessing needs, including screening instruments, such as the Distress Thermometer (Ma et al., 2014). Crisis response calls

were instituted at all clinics to conduct risk assessments, provide brief Psychological First Aid (PFA), and develop plans for follow-up or linkage to community social services. Assessments focused on overall medical stability, active COVID-19 symptoms, suicide risk, domestic violence, as well as economic and food insecurity. When members needed more extensive support, follow-up calls were scheduled and repeated, as needed.

Mental health leadership was also needed to address the needs of administrative and medical staff. Many staff members struggled to adapt to new workflow and technology while working from home, often coping with childcare and other pandemic related stressors. Creative interventions were quickly put in place to support staff members and enhance psychological resilience (Duan and Zhu, 2020). For example, daily "all-staff" huddles were implemented at most clinics to disseminate updated pandemic information and address workflow issues. These huddles were also used for mental health staff to lead mindfulness exercises and other wellness interventions. More formal seminars on resilience and coping skills were also added to support colleagues.

Post Phase (July 2020-January 2021)

The post phase of the initial NYC pandemic surge was filled with varying levels of emotional reactions and responses. This period can be marked by recorded reductions in the incidence of COVID-19 cases and the significant drop in hospitalizations. As local governments relaxed pandemic restrictions and communities began to reopen, there was a marked decline in levels of distress for most individuals. For some though, there was an oscillation between the emotional reactions experienced in the initial phase (panic, fear), and growing distress due to job loss, financial instability, chronic health issues, and pandemic fatigue. Members who had been coping well during the first few months later presented in need of mental health services due to persistent isolation, new losses, or worsening medical and

psychiatric symptoms. Psychosocial interventions introduced during the initial phase were expanded, such as hybrid care management and coordination, supportive psychotherapy, and assessment for suicide risk, domestic violence, as well as economic and food insecurity for Program members, and practical and psychoeducational support for adversely affected staff.

As clinics started to re-open, patients slowly began attending in-person appointments, primarily to resume treatment for active medical conditions. Otherwise, remote services were continued, and CCEs increased telehealth training for both staff and members. As comfort with the technology and remote care grew, clinics were able to provide mental health treatment to more patients to meet the rising rate of referrals during this period. The “mainstreaming” of telehealth also allowed for group therapeutic interventions to address acute concerns related to the pandemic, as well as chronic conditions such as PTSD, depression, and substance misuse. Initiatives such as wellness seminars focusing on topics like sleep hygiene, mindfulness, and resilience could now be offered to all members via conferencing platforms such as Zoom.

During this post phase period, there was an increased awareness of the collective experience of shared trauma (e.g., Tosone et al., 2011), also present during the 9/11 response and familiar to some Program clinicians. Mental health professionals had to cope with personal pandemic trauma alongside members and staff. The Mental Health Forum assumed a critical role in promoting connectedness for its participants. Meetings provided a space for therapists and psychiatrists to process emotions and to construct our trauma narrative – that of being both “the healer” and the one in need of “healing.”

Long-Term Phase (February 2021 onward)

The long-term phase coincided with the beginning of COVID-19 vaccine rollout.

While other parts of the U.S and the world continue to struggle with pandemic waves, New York has lifted many restrictions, social interaction has grown, and most schools plan to open fully in-person by the fall.

Many of the interventions noted in the “post phase” were optimized and refined during the long-term phase, some became less relevant (broad outreach to identify members ill with COVID-19). Enhanced communication processes benefiting both members and staff continue to be incorporated into clinic operations. Telehealth, for example, continues to play a critical role in facilitating access to healthcare, especially for members who have barriers to presenting for in-person services due to geographic, mobility, medical or scheduling limitations. Use of videoconferencing by staff has become routine, allowing for more consistent interdisciplinary coordination of care. The ability to connect from remote locations allows for more flexible work schedules and promises to benefit overall worker well-being and resilience. Hybrid models of health care, consisting of a combination of in-person and telehealth visits, have received much support from members and staff alike and could be a valuable enhancement to the Program well into the “post COVID” future.

CONCLUDING THOUGHTS

Over the past 18 months, the Program responded to the mental health needs of a large population of members and providers. Response efforts had to be flexible and quickly adaptable not only to the characteristics of the COVID-19 disaster, but also to the unique characteristics of our membership. Communication was paramount. All CCEs prioritized member outreach, assessment, and rapid intervention, all of which relied on technology via phone or video. Mental health clinicians at every clinical center recognized the importance of focusing on the needs of staff, and provided interventions to enhance staff resilience; this, too, was facilitated by remote technology.

As we reviewed our response to the pandemic using a time phased approach, we considered how our interventions related to the elements identified by Hobfoll et al. We found that principles overlapped and could be found in many response interventions. In fact, interventions often invoked several principles simultaneously. Communication, for example, allowed for cohesive early messaging to foster safety and calm. It also facilitated broad outreach to reestablish connectedness and provided concrete assistance and psychological interventions to support self-efficacy and hope.

Thus, we found that our effectiveness relied heavily on the principle of connectedness raised by Hobfoll and colleagues and emerged as the most salient element underpinning our Program response efforts during the COVID-19 public health disaster. Connectedness transcended time phases and was central to guiding operations and prioritizing patient and staff interventions. It fostered collaboration across disciplines and played a prominent role in sustaining cohesiveness and resilience, essential during this prolonged crisis. Indeed, this element may have served as a natural antidote to the isolation that came to be associated with social distancing and proved invaluable as we navigated the course of the COVID-19 pandemic.

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DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author(s).

DISCLAIMER

The findings and conclusions in this report are those of the author(s) and do not necessarily represent the official position of the National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention.

HUMAN SUBJECTS

This activity was reviewed by CDC and was conducted consistent with applicable federal law and CDC policy (See e.g., 45 C.F.R. part 46, 21 C.F.R. part 56; 42 U.S.C. §241(d); 5 U.S.C. §552a; 44 U.S.C. §3501 et seq.).

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