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Rising from the ashes by expanding access to community care after disaster: An origin story of the Wildfire Mental Health Collaborative and preliminary findings

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Abstract

In October of 2017 and 2019, Sonoma County California endured historic wildfires and subsequent community trauma. The Sonoma Wildfire Mental Health Collaborative was created to (1) democratize access to evidence-based mental health resources and services for personal recovery and long-term community resilience building, and to (2) measure reach and efficacy of the strategies employed in order to create a knowledge base to inform disaster response in other communities. Offerings included a mind-body yoga program and training in Skills for Psychological Recovery (SPR) for counselors who wished to provide services to individuals impacted by the wildfires. An evaluation of the mental health strategies employed revealed that (1) the mind-body program was well-received, with a high degree of satisfaction and self-reported benefit among individuals who attended trauma-informed yoga classes, and (2) counselors found SPR to be a practical, flexible short-term intervention for individuals in the aftermath of the wildfires and expressed moderate to high levels of intent to use it in practice. Importantly, the evaluation of the 2017 wildfire mental health response was compromised by the Kincade Fire in 2019, in which prolonged mandatory evacuations and power outages impacted response rates. The origin story is shared for how a community collaborative was built. Lessons learned are discussed and recommendations summarized so as to contribute to the science and practice of disaster mental health outreach.

Keywords: Disaster, PTSD, Yoga, Wildfire, Skills for Psychological Recovery

Impact Statement

In October of 2017 and 2019, Sonoma County, California experienced devastating and historic wildfires and subsequent community trauma. This manuscript describes the origin story of the Wildfire Mental Health Collaborative and preliminary findings from two mental health interventions employed with wildfire survivors (trauma-informed yoga, Skills for Psychological Recovery). Lessons learned and recommendations are offered to guide future work in the science and practice of disaster mental health.

Natural disasters are very disruptive to people's lives yet the majority of those exposed will demonstrate resilience (National Center for PTSD, 2020). Importantly though, Posttraumatic Stress Disorder (PTSD) and related problems are more likely to develop in the absence of adequate resources for those in distress. In the 2003 Southern California wildfires, Marshall and colleagues (2007) sampled disaster relief facilities during evacuation and three months later. Two-thirds of survivors had imminently feared for their lives or those of loved ones and at follow-up, one-third of survivors screened positive for depression and one quarter for PTSD. Another large study of over 1,500 survivors of Australian bushfires found that one year later, stress-related health problems, including mental illness, had significantly increased compared to health conditions not related to stress (Clayer et al., 1985).

A disaster mental health study conducted by the Kaiser Family Foundation (Singh, 2018) sampled 1,651 individuals living in twenty-four Texas counties that suffered large amounts of property damage from Hurricane Harvey according to FEMA reports. One year later, three in ten reported declines in mental health, nineteen percent had a harder time controlling temper, ten percent had started new drug prescriptions for a mental health condition, and six percent increased their alcohol use. In terms of service utilization, eight percent reported receiving counseling since the storm while eighteen percent reported needing help accessing mental health care for themselves or family members.

Together, these data indicate that individuals impacted by disaster require access to mental health support and treatment to decrease risk of enduring emotional distress and social and functional impairment. The current disaster mental health infrastructure offered by the Federal Emergency Management Agency does not adequately address the enduring effects of disaster on well-being (Center for Public Integrity, 2020). In the wake of climate change and global increases in frequency and severity of natural and man-made disasters (Statista, 2020), communities and governments must partner to fill the gaps, offer a spectrum of stepped-care, and develop and implement sustainable practices that reach survivors where they are, both emotionally and physically.

Origin Story

In October of 2017, Northern California endured the second most deadly and destructive fire storm in California history. Twenty-two people were killed, over 5,600 structures were lost (5% of the area's housing stock), and tens of thousands of residents were evacuated and displaced. Psychologists and local health champions, many directly impacted themselves, were compelled to address the growing fire-related mental health needs in the community that were spurred by this historical trauma. Subsequently, the Sonoma Wildfire Mental Health Collaborative was created to (1) democratize access to evidence-based mental health resources and services for personal recovery and long-term community resilience building, and (2) measure reach and efficacy of the strategies employed in order to create a knowledge base to inform disaster response in other communities.

The inception of the Wildfire Mental Health Collaborative was fueled by strong, philanthropic community-based relationships within Sonoma County, California and a shared goal to disrupt the lasting impact of community trauma and proactively "move the needle" towards resilience. The collaborative was spearheaded and coordinated by the Healthcare Foundation Northern Sonoma County, a 501c3 non-profit that raises public and private funds to help eliminate healthcare disparities with a specific tripartite focus on increasing healthcare access, mental health, and early childhood development. Although the Healthcare Foundation Northern Sonoma County hosted, funded, and oversaw this work, the Wildfire Mental Health Collaborative was considered a community entity of stakeholders across organizations (including the foundation).

Given that development of such extensive partnerships can prove daunting, context is shared here about the initial formation of the Wildfire Mental Health Collaborative. The CEO of the Healthcare Foundation Northern Sonoma County, Mason, and the first author [Heinz], had met one month before the wildfires to discuss potential for collaboration with the local Redwood Psychological Association (RPA; a chapter of the California Psychological Association), of which Heinz was a member. Shortly after returning from evacuation, Mason, having extensive experience in Florida with hurricanes and other disaster response, recognized the need for building a long-term programmatic mental health response to complement and expand upon Federal Emergency Management Agency (FEMA) efforts.

Mason reached out to Heinz and the Redwood Psychological Association to discuss potential next steps, the collaborative was born, and a steering committee was recruited that included members from the VA National Center for PTSD, Stanford University School of Medicine, RPA, Redwood Empire California Association of Marriage and Family Therapists, the National Alliance on Mental Illness Sonoma County chapter, leadership at local hospitals, Sonoma County Board of Education, Sonoma County Departments of Public Health and Behavioral Health, FEMA via Project HOPE, the Red Cross of Sonoma County, and local nonprofits serving the in the mental health care sectors. The collaborative met at large for approximately six meetings to generate ideas, strengthen relationships, and strategize to maximize reach and impact of the mission.

The collaborative appointed a subcommittee of three psychologists from the Redwood Psychological Association, (Heinz, the RPA president, and an RPA member who lost their home in the wildfire) to study available options and determine an optimal approach for addressing disaster mental health at scale. The subcommittee convened frequently to conduct literature reviews on disaster mental health interventions, consult with disaster experts, and share discussions and clinical anecdotes from community stakeholders. This subcommittee conceptually developed an evidence-informed strategic plan that eventually included training and dissemination of Skills for Psychological Recovery (SPR) and trauma-informed yoga as well as digital mental health interventions.

In the year following the wildfires, and as the collaboration was still in the planning phase, the foundation raised over 1.4 million dollars to fund and support a comprehensive mental health response to support all Sonoma County residents who felt impacted by the wildfires. The foundation also funded a Wildfire Warm Line within the Sonoma National Alliance on Mental Illness chapter and conducted systematic outreach at community events (e.g., neighborfest, health fairs, high-schools, community concerts, FEMA block captain meetings). After the strategies were adopted by the greater Wildfire Mental Health Collaborative, the foundation assumed fiduciary and operational responsibly for the work of the collaborative.

In addition to direct interventions, collaborative resources also were used to launch a marketing and public relations campaign in a social-good collaboration with creative firm, The Engine is Red, and North California Bay Area media (local newspapers, TV, print, social media, billboards, radio). The campaign aimed to raise mental health awareness following disaster, destigmatize help-seeking, and advertise resources offered by the collaborative. The overwhelming majority of ad spots were donated and creative services were heavily discounted. All campaign materials and scripts were disseminated in both English and Spanish (e.g., https://healthcarefoundation.net/fire_recovery/; https://healthcarefoundation.net/category/wildfire-mental-health-collaborative/).

Several media articles in global news outlets resulted from the Collaborative's work (e.g., Wired Magazine, 2018; The Guardian, 2019) and this press coverage yielded opportunities to host and advise disaster emergency delegations from South Korea and the Philippines. Collaborative members also presented at the state level to the California Department of Emergency Services in Sacramento, CA and to the California Psychological Association so that psychologists could obtain CEU credit learning the origin story and findings of the collaborative.

The Healthcare Foundation Northern Sonoma County, committed to advancing the science, awarded a grant to Stanford University one year after the fires to evaluate the mental health strategies employed. The overarching goal was to inform the science and practice of disaster mental health outreach for other communities. Notably, a constellation of challenges and barriers render the conduct of methodologically rigorous disaster mental health research extremely difficult (Grolnick et al., 2018). In the wake of a disaster, there are conflicting priorities of providing support to survivors over advancing the knowledge base by conducting research. Furthermore, disaster response involves multiple stakeholders and agencies, but coordination and collaboration across these groups is challenging. Finally, the time needed to plan a study, to secure funding, to obtain approvals, and to secure partnerships for recruitment tends to lag well behind the rapid disaster response. The Wildfire Mental Health Collaborative and the rich fabric of partnerships that comprised the initiative uniquely positioned the research team to successfully address these challenges.

Description of two community care interventions and preliminary findings are offered to in hopes of advancing the emotional well-being of disaster survivors in the future. The evaluation strategies employed were identified by the Stanford Institutional Review Board (IRB) to be for the purposes of Quality Improvement, and thus it was deemed exempt from IRB oversight. To learn more about the Wildfire Mental Health Collaborative, please visit the website (https://healthcarefoundation.net/fire_recovery/) and view the informational video (https://www.youtube.com/watch?v=ulC9wVJcYXM).

A multi-pronged approach to community-based mental health was employed and two interventions were customized and implemented based on community input, existing research literature, anticipated scalability, accessibility, and level of care needed: (1) trauma-informed mind-body program, (2) training counselors in the delivery of Skills for Psychological Recovery (SPR). A mobile mental health app, Sonoma Rises, was also developed and evaluated with teenage wildfire survivors and this work is described in Heinz, Wiltsey-Stirman, Jaworski, Sharin, Rhodes, Steinmetz, Taylor, Gorman, & McGovern, 2021. The two programs are described next and preliminary findings are presented.

(1) Mind-Body Yoga Program

As part of a broader program to support recovery and based on stakeholder interest, the Wildfire Mental Health Collaborative offered free trauma-informed yoga and meditation classes to the community. Members of the collaborative, over the course of several discussions, agreed that a mind-body option could feel less stigmatizing to wildfire survivors and was an operationally viable and sustainable offering. The Healthcare Foundation paid for more than 60 yoga instructors to complete training in the iRest™ recuperative and mediative yoga approach and local yoga studios donated studio space time for the purposes of training and conducting classes.

Stress and trauma exert a physiologic impact on the body (Thordardottir, Gudmundsdottir, Zoëga, Valdimarsdottir, & Gudmundsdottir, 2014; Van der Kolk, 1994), with trauma survivors being more likely to experience functional somatic syndromes compared to those with no trauma exposures (Afari et al, 2014). The practice of yoga can involve physical postures (i.e., asanas), breath-work, mediation, and chanting (Cramer, Lauche, Langhorst, & Dobos, 2013). Yoga, which draws upon the mind-body connection, has been increasingly applied as an intervention for the aftermath of trauma but has yielded mixed evidence regarding its effectiveness in reducing mental health symptoms (Nguyen-Fang, Clark, & Butler, 2019).

Yoga has been shown to reduce general emotional distress and improve well-being outcomes and has more recently been adapted for trauma survivors (Emerson, Sharma, Chaudhry, & Turner, 2009). Trauma-informed yoga offers a physically and psychologically safe and tailored practice to learn how to respond, versus react, to trauma symptoms (Justice, Brems, & Ehlers, 2018). It emphasizes diaphragmatic breathing, iRest™ meditation, vagus nerve release, and restorative postures that engage the parasympathetic nervous system to reduce hyperarousal and dissociation (to shift from fight or flight to rest and digest response; Miller, 2015). This modality of yoga can be adapted to meet the needs and limitations of individuals and can be employed flexibly in nontraditional settings outside of studios (e.g., prisons, VA hospitals, schools).

Method and Preliminary Findings

In the current community intervention, 60 yoga instructors were trained and certified in trauma-informed yoga. Classes served more than 2,000 people who were impacted by the wildfires. Instructors were paid for each class they taught. Program evaluation was conducted for one year and surveys were administered to yoga instructors and individuals who attended the classes.

Class report. Instructors completed a survey after each class (n = 160). The survey included questions about the number of attendees and the trauma-informed yoga strategies that were used in the class (survey is available upon request from authors). Instructors reported using the following trauma-informed strategies: breathing to reduce hyperarousal, repetition and slow pacing, space that encouraged personal boundaries, modified practice for individual needs and sense of safety, requesting permission before touching/making adjustments, using invitational language, using restorative poses, chronic pain management, guided meditation, and prolonged silence. Yoga instructors reported that some individuals who attended the class believed that the class was only for people who had been directly affected by the fires, or only for people who had been affected by the most recent fire. "*Many don't want to attend who qualify, because they think they are 'taking' a spot away from a victim by doing so*." The yoga instructors requested help with marketing to get the word out that classes were open to the community.

Attendee survey: Individuals who attended a class were asked to complete a brief survey after each class. The survey was based on a survey used by Schulz-Heik and colleagues (2017) in a study of trauma-informed yoga. Six hundred twenty-one surveys were collected from class attendees. Sixty-three percent of the surveys were completed by individuals who attended more than one class, and fifty-nine percent of the attendees indicated that they attended weekly. Eighty-five percent of attendees reported feeling much better at the end of class. Repeat attendees reported that after the last class, they felt better for the rest of the week (32%), the rest of the day (28%), or several hours (9%).

Overall, satisfaction in the classes was very high: 87% of the surveys rated class quality excellent; 93% felt very comfortable during the class; 99% believed they were treated with respect and dignity; 97% believed the class was easy to understand; 95% would recommend the

trauma-informed yoga class to a friend, and 97% intended to attend another class. Written feedback was also provided and can be found in Table 1.

Conclusions

The mind-body program was well-received, with a high degree of satisfaction and self-reported benefit among individuals who attended classes. Although many people attended multiple classes, the instructors suggest that marketing strategies be used to encourage people to attend the class, and to address misperceptions about *who* could attend the classes. Some people reported some reluctance to attend out of concern that they would "take a spot" from someone who needed it more. This suggests that some may have been minimizing the trauma's impact on their own well-being or comparing their situation to that of others. This is not uncommon in the aftermath of a trauma where many individuals in a community share in the experience, and care must be taken to educate and support the community to encourage self-care and wellness for all. Some participants reported initial skepticism that yoga could really help them with their feelings of distress and experience of trauma, and then moved to feeling very positive about the peaceful impact yoga provided and its lasting effects at reducing heightened response to ongoing stressors and episodic triggers.

Limitations. Demographic information was not collected from the yoga class participants, and it is thus unclear whether satisfaction with the class may vary across gender, race, or ethnicity. Further information on participants in future evaluations will be necessary to understand whether refinement of offerings would help to ensure that the needs of all members of the community are met.

(2) Skills for Psychological Recovery

SPR is a brief, evidence-based intervention to promote recovery after disaster (Berkowitz et al., 2010; Peterson, 2018). The key skills that are emphasized in the treatment are: gathering information and prioritizing assistance, building problem-solving skills, promoting positive activities, managing reactions to trauma and stress, promoting helpful thinking, and rebuilding health social connections. The intervention is flexible to allow responsiveness to individual needs. SPR was developed by disaster mental health experts within the National Child Traumatic Stress Network (NCTSN) and is intended to be used in the months and years after a disaster. Specifically, it helps survivors identify their most pressing current needs and concerns, provides psychoeducation, and supports them as they develop skills to address those needs and challenges (Berkowitz et al., 2010). In a 2014 SPR training program evaluation, participating clinicians who provided pre-training and post-training data showed a significant increase in their confidence to use SPR, but there was a significant decrease in confidence to use SPR between post-training and six months later (Wade et al., 2014). Clinicians reported that the biggest barrier to using SPR was finding clients fit for the program.

SPR was selected as an appropriate intervention by the Wildfire Mental Health Collaborative because it offers concrete skills and easy to implement supportive steps, providers could be trained at scale, and it can also be delivered by non-licensed paraprofessionals. SPR has previously been implemented in Australia following the 2009 Victorian Bushfires. In a sample of 342 mental health practitioners, the vast majority expressed confidence they could readily implement SPR skills in their practice and that SPR was a useful post-disaster intervention (Forbes et al., 2010). Accordingly, the Healthcare Foundation Northern Sonoma County approached certified trainers in SPR, the director of the VA National Center for PTSD [Heinz's boss at the time] and his colleagues at University of Colorado, Colorado Springs and Dartmouth

University, who agreed to travel to Sonoma County to conduct a series of community trainings in SPR.

Method and Preliminary Findings

The Wildfire Mental Health Collaborative offered five, two-day SPR workshops to counselors and paraprofessionals in the community who wished to provide counseling to individuals who were impacted by the wildfires. The developers of SPR conducted the workshops and offered group telephone consultation and a moderated Facebook group.

At the workshop, Stanford researchers collected surveys that included basic demographics and information about counselors' backgrounds, training, level of burnout, and professional fulfillment. To assess burnout, a single item from the Maslach Burnout Inventory was administered (Maslach et al., 1981; Trockel et al., 2018). The *Theory of Planned Behavior* framework was employed to guide the evaluation because it has been shown to predict eventual implementation (Breslin, Tupker, & Sdao-Jarvie, 2001). At the end of the workshop, additional surveys were administered to evaluate satisfaction with the workshop, and intent to use SPR after training (Intention Scale for Providers, Mah et al., 2019).

At the beginning of each training, counselors were implored to participate as citizen scientists and collect patient data to advance the practice of disaster mental health. Several additional reminder emails were sent to this effect. The follow-up plan was to survey counselors after one year to learn more about how frequently they used SPR as well as their satisfaction, and to collect de-identified program evaluation information to evaluate the effectiveness of SPR with clients who received the intervention. Counselors were provided with session reports and assessments of symptoms and functioning to administer to their clients who were affected by the wildfires and with whom they used SPR strategies. These were one-page session reports that

summarized scores on these measures as well as presenting problems and issues and the strategies that were used in sessions. Counselors received instructions at the workshop about how to return these measures, and this information was also provided on a Stanford webpage that included instructions, survey/session report forms (and electronic versions), and a secure, HIPAA compliant portal that could be used to upload this information. Secure alternatives, including mailing and faxing these materials, were provided. These instructions were also emailed to participants from the Wildfire Mental Health Collaborative program. Periodic reminders and newsletters containing resources for counselors as well as reminders to submit program evaluation were sent by Stanford Program Evaluation staff.

Despite these efforts, no session-reports were returned. We believe that had compensation been tied to data collection, adherence would have been significantly higher. It also demonstrates that collection of clinical outcome data in the wake of disaster is especially challenging when providers are dispersed across different organizations and private practice as it may be deemed a lower priority, and thus less reinforcing.

Also, counselors were asked to complete a brief (10-15 minute response time) follow-up survey after one year to assess whether they had used SPR, their perceptions of its effectiveness, and what forms of support they believed would help them serve individuals in the community who had been impacted by the wildfires. An electronic survey was sent out three times between October and December 2019. The timeline for response was extended due to the Kincade fire and resulting evacuations. Due to a low response rate (only 30 surveys; 8%), we are unable to reliably report on changes in perceptions of SPR or how frequently counselors used SPR in their practice. We therefore report only on qualitative follow-up findings based on free responses to open-ended questions.

Participants

Three hundred and eighty-nine counselors and paraprofessionals who attended the training completed the baseline surveys. Disciplines and degrees represented were Marriage and Family Therapist (24%); PhD or PsyD in Clinical Psychology (15%); Master's level counselors (12%); Social Workers (8%); students and paraprofessionals (41%). Counselors reported an average of eighteen years of experience and provided therapy sixteen hours per week on average. Their average caseload size was thirty, but there was wide variation (*SD* = 64). Many counselors reported having experienced negative impacts from the fires. Thirty-six percent were evacuated during the fires, and 20% lost income due to the fires. Thirteen percent reported loss or damage of property.

At the beginning of the workshop, the counselors reported experiencing a relatively low level of burnout (*M* = 2.89 out of 7, *SD* = 1.37), meaning that on average, they felt burned out once a month or less. In terms of their levels of professional fulfillment as measured by the Professional Fulfillment Index, they reported a high degree of fulfillment (*M* = 3.08 out of 4; *SD* = .67), low levels of professional disengagement (*M* = 1.07 out of 4; *SD* = 72), and low levels of work exhaustion (*M* = .49 out of 4, *SD* = .55).

Post-workshop Satisfaction

Immediately after the workshop, counselors (*n* = 389) reported high levels of satisfaction with the workshop (means of 4.5-4.75 out of 5 for clarity, content, and organization). They found the workshop to be practical and well-organized. Qualitative data suggested that they believed the speakers were excellent and that they complemented each other well. Participants appreciated their knowledge, experience, flexibility, and responsiveness. They also believed that the video examples and detailed handouts were particularly helpful.

Perceptions and Intent to Use SPR

See Table 2 for a summary of responses about perceptions and intent to use SPR. Counselors reported feeling fairly well-prepared to use SPR (3.52 out of 4) with their clients. Although intentions to use SPR and/or its elements varied widely, counselors did intend to use an adapted form of SPR with several of the specific elements on seven to eight out of ten hypothetical clients who were affected by the wildfires. Notably, they were more likely to use an adapted form of SPR than they were to use a supportive, non-skills-based therapy or another intervention. While an insufficient number of surveys were received back to report on whether the intent aligns with what was actually done in practice, the Theory of Planned Behavior suggests that higher levels of intent are associated with higher levels of the intended behavior, particularly in conjunction with positive attitudes or perceptions and perceived behavioral control (Mah et al., 2019).

Preferences for Follow-Up Support

Counselors expressed interest in consultation and support as they provided therapy in the aftermath of the fires. While the treatment developers offered to provide consultation, there was difficulty in getting a sufficiently sized group together and finding times that would work. Counselors expressed interest in monthly, in-person meetings for consultation and support. Some expressed interest in meetings at yoga or community centers, and some suggested combining yoga or meditation with the consultation. Others requested virtual meeting, listservs, or message board support. A substantial minority expressed interest in training in trauma-focused therapy, and thirty-seven percent were interested in webinars on topics that were relevant to working with a trauma-exposed population, including self-care for counselors. A subset of counselors joined the Wildfire Mental Health Collaborative SPR Facebook groups to share resources.

Feedback at Follow-up

At the twelve-month follow-up, the thirty counselors who completed the follow-up survey provided written feedback about the training, which is summarized in Table 1. Some counselors believed that the training was too long for the fairly basic nature of the intervention. Others stated that there was a need for training in longer term approaches to support their clients in dealing with the longer-term aftermath of the trauma, as well as ongoing life stressors that they encountered.

Two counselors provided additional constructive written feedback. One stated that counselors should not be relied upon to provide pro-bono counseling when substantial money was spent on recovery efforts and helping victims. Another counselor stated that the training was too basic, and the collection of program evaluation data appeared to raise a concern that the goal was to validate the treatment rather than to train counselors to provide a needed service.

Conclusions

Overall, SPR was well-received by counselors, and many reported finding it helpful as a practical and flexible short-term intervention for individuals in the aftermath of the wildfires. Due to limited responses, we are unable to report on the level of implementation after the workshops. However, clinicians expressed moderate to high levels of intent to use SPR, which has been shown in previous research with other interventions to be predictive of the intended behavior. The small sample of follow-up respondents indicated that they had used SPR to address the immediate aftermath of the fires, but that they needed other strategies to address longer-term issues. Some expressed interest in training in additional treatments such as trauma-focused therapies.

Unfortunately, inadequate evaluation data was received on sessions, symptoms, or functioning, and thus we are unable to report on which elements were used, and whether SPR was associated with improvements in symptoms or functioning. If this information is a priority, it is suggested that future evaluations should incentivize this aspect of evaluation by providing vouchers or reimbursement for completed session reports. Building and maintaining such an infrastructure will require resources and strong leadership support. Simplification of the process (e.g., by providing a one-page form to report on sessions and symptom and functioning scores; providing a mechanism to electronically complete and score measures) may also help. However, although we used these strategies, as well as periodic reminders to clinicians, we did not receive the data, perhaps due to the counselors' existing reporting requirements and limited time to complete such measures. Integrating measures into documentation and/or obtaining information from electronic health records when available may also facilitate availability to examine program effectiveness.

Limitations. Despite several strengths that characterize the current disaster mental health program evaluation, limitations should be noted. Due to power outages and wildfires at the time of SPR evaluation and follow-up, response rates and results for all evaluations were considerably lower than desired. Historical confounds should be taken into consideration when drawing conclusions from the data. The SPR program evaluation was voluntary, and response rates for the SPR follow-up were low and largely qualitative, making it difficult to generalize findings to other populations.

Discussion

In summary, several key findings were identified to help inform future community mental health initiatives following disaster. Trauma-informed yoga was appreciated by and beneficial

for class members. Both trauma-informed yoga and SPR providers believed there was a need to ensure that community members were aware of their services and asked for increased outreach and linkages to community members. SPR workshops were generally well-received by counselors and perceived as helpful for the aftermath of trauma. Counselors perceived a need for additional therapeutic approaches (e.g., long-term psychotherapy, couples work, trauma-focused treatment) to support longer-term recovery. Counselors suggested they themselves would benefit from additional support (e.g., yoga for counselors, self-care training) and consultation offerings such as monthly meetings. Approximately half of the counselors were open to additional webinars or workshops for further training and support, including other approaches to working with disaster survivors.

Recommendations. Based on findings and learned lessons from the current evaluation, we offer several recommendations. First, specific mental health and wellness offerings should be marketed intensively to ensure public awareness and engagement. To address collective stress and trauma, "out-of-the-box" non-clinical and holistic health approaches (e.g., yoga, mindfulness training, faith-based fellowship groups, peer support programs) should be offered to community members, marketed as open to all, not just self-identified "survivors." This requires community members, leaders, and officials to speak openly about wellbeing and encourage individuals to take time to emotionally heal and address mental health following disaster.

Second, SPR training intensity and length should be matched to counselor experience and expertise such that experienced counselors and therapists receive shorter training. Ideally, SPR could be delivered in a 4 to 6-hour training with monthly implementation support and consultation to help counselors apply SPR skills with disaster survivors into their clinical

practice. The two-day training requirement was a barrier and implementation of SPR in the field requires more support and follow-up.

Third, communities should consider offering or linking SPR within primary care and having it delivered by paraprofessionals if capacity for individual sessions with professional therapists and counselors is low. This might also allow it to be offered outside of traditional mental health settings, which may make it more attractive, less stigmatizing, and accessible to some community members. On the other end of the spectrum, infrastructure should be created to offer additional training and support for longer-term therapy for individuals requiring more intensive trauma-focused care following disaster (e.g., Cognitive Processing Therapy, Prolonged Exposure).

Fourth, counselors need to be provided with support to enhance their own well-being through consultation, peer support groups, and yoga/mindfulness, particularly when they are members of the same community and experiencing their own hardships and reactions in the aftermath the disaster. Fifth, a system for referrals and linkages to SPR-trained counselors should be developed that allows individuals who seek help to easily find and begin treatment with a counselor who has availability on their caseloads to provide immediate care. Fifth, if outcomes such as changes in symptoms and functioning/quality of life are desired, it will be important to provide increased support and incentives for counselors to take the time to provide program evaluation data.

Finally, and perhaps most importantly, the acute stages of disaster are brief whereas the recovery process can take years and even decades. Accordingly, governments and organizations should identify strategies to sustain the implementation of public mental health programs in the years following disaster. Examples of such challenges from the current study include finding

funding to continue (1) offering of disaster-related continuing education activities, (2) trauma-informed yoga classes, and (3) employment of staff for database management and ongoing linkages of SPR-trained counselors to community members in need. Anticipation of the "long game" is critical in order for these programs to remain viable. In-kind donations, sponsorship by corporations or non-profits, ongoing fundraising, and federal and private grants may all be potential sources of funding.

Future Directions. In moving forward with improving the field of disaster mental health, future directions are offered for community-based approaches to helping vulnerable populations in the wake of collective trauma. First, given the well-documented challenges with conducting disaster mental health research (Grolnick et al., 2018), organizations should determine how to fundraise and build infrastructures to conduct baseline measures for program evaluation and research *before* disaster occurs. Creation of state-level and federally-funded disaster mental health clinical research centers may be useful in this regard to help reduce redundancies and allow communities to take a proactive versus a reactive approach to understanding what works. Forming a collective of public and private partnerships to focus on disaster mental health is an emerging solution that offers great potential (e.g., Colorado Crisis Education and Response Network).

The Wildfire Mental Health Collaborative has since served individuals and organizations impacted by the October, 2019 Kincade fire which spurred the largest mandated evacuation in Sonoma county history (180,000 residents) and caused enduring economic hardship for families and businesses. Funding for the Wildfire Mental Health Collaborative ended in June of 2020 yet services continued to indirectly inform response to the August – October, 2020 "gigafires." In the 2020 fire season, over 4 million acres in California burned, the most ever recorded in state

history (Washington Post, 2020). Relentless hazardous air quality and orange skies plagued the entire San Francisco Bay Area for weeks (Wired Magazine, 2020) and smoke taint forced hundreds of wineries to forgo harvesting grapes compounding an already challenging time for tourism and hospitality industries (Northbay Business Journal, 2020). Given the repeated wildfire-related hardships and traumatization, the local community now grapples with climate grief, a new normal, and some residents have started to consider relocation (i.e., climate migration). Sonoma County, California has now become a microcosm for studying the intersection of climate change and mental health difficulties.

In conclusion, a great deal of consideration should be given to how to address mental health needs following disaster in communities simultaneously impacted by intersecting forms of adversity (e.g., racial inequality, COVID-19) and chronically repeated disasters. Northern California has now experienced a series of devastating fire seasons which may be a risk factor for complex trauma reactions, and especially [at the time of this writing], in the context of the current global pandemic. It is strikingly clear that the number and severity of natural disasters is increasing due to climate change (Statista, 2020). Accordingly, providers and researchers need flexible contingency plans and pre-allocated resources to accommodate the possibility of unforeseen, new disasters occurring while recovering from previous disasters. Leaders and policy makers should seek to understand how to harness the intrinsic resilience of their communities by taking a *holistic* recovery approach to rise in the face of adversity. Mental health must be prioritized as climate change is now evidenced to dramatically and significantly threaten the health and well-being of communities, nations, and the globe (American Psychological Association, 2017).

Table 1

Quotes Gathered from Participants

Study	Prompt	Participant Open-ended Responses
Mind-body Yoga Program	Feedback regarding participant satisfaction with the yoga class(es)	*"This class is essential for the well-being of our community which was devastated by fires. We are deeply grateful it is available."* *"Since I have been in yoga my PTSD is at a level that I am able to work & live a relatively normal life again."* *"Totally appreciate the restorative & healing aspect of this class…!!!"* *"Yoga has been so healing to my recovery, issues of grief, loss, PTSD"* *"So helpful/smoke in air PTSD reminders/very calm afterward"* *"I was in such a dark space and throughout this year after the fire …it was hard to keep my spirits up, and this yoga class is the best to counteract that!!! I feel that this is truly a life saver... so grateful to have this gift!"*
Skills for Psychological Recovery	Feedback from the 30 counselors who completed the 12-month follow-up survey	*"I very much like the simple and helpful approach of the SPR training and will surely use it for early stages of crisis"* *"SPR is invaluable for all counselors in Sonoma County, as the need for disaster relief is strong. Please keep offering this to other counselors. With today's Geyserville fire, it is a reminder that this threat is still present."* *"SPR material has indeed been valuable when used flexibly"* *"Really appreciate the SPR training. It gave me a bag of tools to help clients."* *"The 12-hour training was w-a-y too long for licensed mental health clinicians, and too simplistic. We could have done the training as a single day, maximum."* *"Requirements for clinicians in terms of the training (2 full days? really!) to get the free cases were ridiculous."* *"The skills taught are at the paraprofessional level"* *"This is great training for primary care providers, first responders, and disaster aid volunteers"* *"Immediate therapy aid is important but people need to understand that long term effects may remain and further treatment is recommended"* *"I used SPR with existing clients [affected by the fires]. It was more of a quick intervention with some skill building before returning to more prolonged therapeutic work"*

	"A critical need of clients in the aftermath of the wildfires was and is a source of funding for an adequate duration of psychotherapy" *"Many are in serious need of a longer-term psychotherapy that provides the deeper work that is necessary for a return to adequate functioning"* *"Mostly, it was about relationships and stressors that arose while struggling with rebuilding…so this is stuff beyond the SPR training"* *"The SPR program mostly addresses crisis and after crisis care which alone was not sufficient for this couple."*

Table 2

Perceptions of and Intent to Use SPR

Intentions to Use SPR Elements	Mean (1-10 scale)	SD
Gathering information and prioritize assistance	8.33	2.27
Promoting helpful thinking	8.31	2.11
Promoting positive activities	8.29	2.22
Rebuilding healthy social connections	8.29	2.05
Building problem-solving skills	8.28	2.18
Managing reactions to triggers	8.24	2.14
Breathing retraining	7.92	2.37
SPR handouts or worksheets	7.64	2.56
SPR, in an adapted form	7.23	2.63
The writing exercise	6.84	2.5
Other approach	6.73	3.15
The “My Sonoma Strong” website	6.72	3
Mental health mobile apps	6.61	2.79
SPR, in its entirety	5.93	3.12
Supportive counselling without emphasis on skills/SPR	5.68	3.14

*N = 389

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