

INSIGHTS IN PUBLIC HEALTH

The Health and Social Impacts of the Maui Wildfires: Post-Disaster Care from a Sociocultural Lens

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Insights in Public Health is a recurring column from the public health community and is coordinated by HJH&SW Contributing Editor Mapuana Antonio DrPH from the Office of Public Health Studies in the Thompson School of Social Work & Public Health at the at the University of Hawai'i at Mānoa and Contributing Editor Nichole J. Fukuda MS from the Hawai'i Department of Health.

Background

The wildfires on the island of Maui resulted in over 100 deaths, rendering it among the deadliest wildfires in US history.¹ The potential impacts of the Maui wildfires on those residing on the island encompass loss of housing and employment in the context of financial difficulties; exacerbated mental health symptoms and suicide risk; and permanent loss of important cultural sites. Existing health and social service disparities may further exacerbate the wildfires' impact and recovery. Each of these domains is discussed further below.

Impacts

Housing, Employment, and Finances

Maui's infrastructure has been devastated by the destruction of local housing and businesses, raising concerns about homelessness and unemployment; specifically, 6000 individuals were estimated to be homeless because of the wildfires.² Concerningly, rates of homelessness were already high in Maui, an island which lacks the infrastructure to house thousands of displaced residents.³

Further, the costs of the wildfires are estimated to be in the billions of dollars, largely based on property damage, lost output, and decreased tourism.⁴ Tourism is the largest sector of Maui's economy, accounting for approximately 40% of the island's gross domestic product. This has adversely impacted the island's economy, as well as access to employment among residents, for whom tourism accounts for 51% of jobs.⁵ Finally, the State of Hawai'i, including Maui, has the highest cost of living in the US, coupled with wages far below the national average; consequently, these losses in Maui are likely to result in significant economic repercussions among residents for years to come.⁶

Mental Health

Countless individuals may also experience lasting psychological injuries from the Maui wildfires. The mental health sequelae of widespread disasters, including wildfires, upon individuals residing in impacted communities has been well-documented.⁷ Survivors commonly report experiencing post-disaster symptoms of posttraumatic stress disorder (PTSD), depression, and anxiety.⁸ Beyond the initial impact, the wildfires may necessitate longer-term health care needs for survivors. Those who subsequently develop PTSD or depression may require access to evidence-based psychotherapy and pharmacotherapy. Yet barriers to health care access and engagement, including inter-island distance, rurality, and a lower availability of providers relative to demand in Hawai'i, pre-dated the wildfires.⁹ For example, approximately 20% of Hawai'i residents with a psychiatric condition report unmet treatment needs.¹⁰ Concerningly, mental health practitioners are limited, with a 22% shortage in psychiatrists across the Hawaiian islands, as indicated by an estimated shortage of 43.4 full-time psychiatrists in 2020.¹⁰

Although these aforementioned factors were likely exacerbated by the wildfires, additional barriers have arisen which may impact health care access and engagement. For example, the number of individuals likely to need counseling to process this traumatic event is anticipated to burden an already overtaxed behavioral health care system.¹¹ Moreover, contextual factors, such as loss of transportation following the wildfires, may further hamper use of mental health services.¹²

Suicide Risk

Readiness to address the potential for increased suicide risk among those affected by the Maui wildfires is also essential. In Hawai'i, suicide is one of the leading causes of preventable death: 979 Hawai'i residents died by suicide from 2017 to 2021.¹³

Though post-disaster suicide risk may not increase immediately, risk appears to increase long-term.¹⁴ One study found that the largest increase in county-level suicide rates following natural disasters occurred 2 years later.¹⁵ Therefore, it is essential to not only address the potential for increased suicide risk in the immediate aftermath of the wildfires, but also elevated risk over a longer period. This may be facilitated by considering specific groups that may be at particularly elevated risk for suicide following natural disasters, such as those bereaved, injured, or whose family have been injured; those with pre-existing or newly onset mental health conditions (eg, PTSD, depression); and those experiencing economic instability and loss of social support.¹⁶ Supporting survivors in coping with loss and injury, accessing evidence-based mental health care, and obtaining economic and social support are therefore likely integral to post-disaster suicide prevention. Addressing mental health and psychosocial sequelae which drive both short-term and longer-term suicide risk is also essential.

Culture

In addition to economic and mental health consequences, collectively understanding and acknowledging the full extent of cultural losses in the wake of the wildfires is also essential. In particular, the sociocultural and community impacts, particularly for Native Hawaiians, should be considered. The town of Lahaina suffered immense damage to its historic sites and irreplaceable cultural artifacts. Many of these structures dated back over a century and represented histories pre-dating statehood. Lahaina is a symbol of King Kamehameha's unification of the Hawaiian Islands, serving as the inaugural capital of the Hawaiian Kingdom and historically housing Hawaiian royalty.¹⁷ Lahaina is also considered sacred to Native Hawaiians due to its deep-rooted connection to the land (*'āina*) – encompassing physical land, sustenance, and spiritual ties to ancestral land.¹⁸ The enduring history of land and culture loss experienced by Native Hawaiians, including annexation and colonialization, may further compound grief in the wake of the wildfires.

Regional Factors: Social Isolation, Rurality, and Service Limitations

Importantly, factors in the Pacific Island region (eg, rurality, difficulty accessing care on other islands) may further exacerbate the psychosocial impacts of the wildfires and accompanying devastation. Unlike some regions of the continental United States (CONUS), some areas within Pacific Island regions lack access to specialty health care and social services, which are necessary following large-scale disasters. Hawai'i has 6 verified trauma centers, none of which are located on Maui.¹⁹ Despite federal (eg, Department of Defense, Federal Emergency Management Agency) and State of Hawai'i Department of Health on-site crisis response efforts, the devastation in Maui resulted in severe injuries (eg, third-degree burns, severe traumatic brain injuries) requiring transportation of those injured to the island

of O'ahu.²⁰ Temporary relocation or separation from family or communities may disrupt individuals' ability to obtain essential social support during acute distress. Notably, social isolation following natural disasters and traumatic events is associated with more pernicious mental health outcomes, whereas social support is critical to coping with the immediate aftermath of natural disasters and in preventing post-disaster mental health sequelae.²¹

Addressing These Multi-Faceted Impacts

Advancements in technology and telehealth offer modern opportunities to aid Maui residents in the wake of this disaster. Remote or virtual care may be pragmatic and beneficial as infrastructure is rebuilt. However, programs aimed at enhancing digital literacy and access to reliable internet may need to precede virtual care. High-quality telehealth psychotherapy services are also offered across Hawai'i and CONUS. A seminal study initially conducted in Hawai'i demonstrated non-inferiority for telehealth in treating PTSD, relative to in-person therapy.²² Telehealth approaches may increase access to empirically-supported care and follow-up appointments, and thus may aid those impacted by access issues (eg, rurality; transportation and employment challenges) post-disaster. Telehealth can also promote access to health care for displaced individuals who are seeking housing in the wake of this natural disaster. Survivors experiencing distress can additionally contact crisis hotlines, such as the 988 Suicide and Crisis Lifeline, which offer risk assessment and can provide brief empirically-supported interventions (eg, Safety Planning for suicide prevention). Additionally, crisis hotlines can connect callers to local services (eg, emergency services, hospitalization) in real time, as appropriate.

Others outside of Maui can also consider ways to help, including recognition of the vital cultural knowledge needed to maximize the effectiveness of relief and recovery efforts. As culturally-sensitive interventions are optimal to increase the effectiveness of interventions, consideration of cultural factors is essential when addressing the potential impacts previously discussed.²³ The demographics of Lahaina include individuals identifying as Asian, Native Hawaiian, Pacific Islander, multi-racial, and White.²⁴ Given the under-inclusion of Native Hawaiians and Pacific Islanders in health research, those impacted by the disaster may be underrepresented in existing literature.^{25,26} Services focused on solely increasing resources, without cultural context (historical and current), are not likely to meet true needs. Providers are encouraged to use a framework of cultural humility, enabling treatment that strengthens individual residents of Maui and meets the needs of the community.²⁷ This also helps to ensure true investment in the Maui community, rather than a more temporary, fleeting approach to community mental health. In addition, to optimize patient-centered, culturally-sensitive care, tailoring care for individuals in this community may include integrating family and spiritual leaders into treatment, as well as community-based initiatives to de-stigmatize access

and engagement in mental health services. Social services must also consider contextual and cultural factors. In a region where extended families often live together, housing models should consider broader family configurations for transitional housing and emergency shelters.²⁸ Vocational rehabilitation approaches should address job loss, with childcare and transportation concerns in mind; remote work opportunities and flexible schedules may also be valuable.

Summary

While the immediate effects of the Maui wildfires are well-documented, the impact on individuals, families, communities, and all of Hawai'i is likely to endure. Though complete understanding of the long-term impacts of these wildfires will take time, existing health and social service infrastructure, particularly beyond Maui, can be used to aid survivors and community members. Further, additional health, social, and research endeavors are necessary to fully understand and adapt care for impacted Maui residents. In particular, empirical examination to understand the extent of traumatic sequelae among survivors, including impact on mental health, suicide risk, and psychosocial functioning (eg, ability to maintain employment in the context of psychiatric symptoms), is critical. Development and evaluation of programming to increase health and social services to displaced residents, as well as to prevent long-term adverse outcomes (eg, trauma symptomology, heightened suicide risk), is likely also a necessary and important next step.

Conflict of Interest

None of the authors identify a conflict of interest.

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