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EDITORIAL COMMENTARY

World disasters on the scale of the 2004 southeast Asia tsunami are, thankfully, rare, but sadly not uncommon. This disaster was the result of an earthquake beneath the ocean off the west coast of northern Sumatra. Worldwide, there are more than 20,000 earthquakes per year and more than 1300/year are magnitude ≥ 5 on the Richter scale. We are more accustomed to earthquakes on solid ground such as the 1990 earthquake in Iran (50,000 dead), the 1988 Armenian earthquake that killed more than 25,000, and the 1976 earthquake in Tangshan, China, that resulted in at least 255,000 deaths and perhaps as many as 655,000.¹ Earthquake disasters remind us that the distinction between natural and manmade disasters is relative. In an earthquake those buildings built with poor materials or built near the water, in the case of a tsunami, are at much greater risk. Worldwide, people of lower socioeconomic means are much more likely to become victims of disaster because their homes are often built in the same manner.

The burden of mental illness for families, communities, and nations in social, emotional, and economic terms is substantial.^{2,3} Mental illness affects behavior, cognition, and function and carries a greater burden of stigma than most, but not all, other medical disorders. The mental illness that follows extreme traumatic events is part of this global burden.⁴ Displaced disaster populations also carry with them the endemic risk of diseases and illnesses that were present before the disaster. Whether that is high rates of substance abuse, heart disease or hypertension, planning for disaster mental health care, and medical care in general, requires knowledge of these base rates of illness and needed medical care.

Drs Ranasinghe and Levy provide much-needed information on the effects of one of the strongest earthquakes of all time and the resulting tsunami and loss of life. Posttraumatic stress disorder is one of the mental health outcomes of exposure to traumatic, life-threatening events. However, it is not the only such outcome.⁵⁻⁷ Depression, grief, and altered health risk behaviors are also prominent and require care, treatment, public health education of populations, and community leadership. In fact, perhaps the best population-level screening for PTSD is screening for depression because of the high comorbidity of these 2 conditions, and even more so, the fact that the most serious PTSD often has high levels of depression. In this sample of tsunami survivors, in fact, those with depression were more than 7 times more likely to have probable PTSD.

Research on disasters and health are inherently difficult and their study has also had to struggle with the expected issues of research in communities that are disrupted, displaced, and without resources. Disaster populations may have extremes of exposure or limited variability of particular demographics, as in this case (eg, education), that make testing certain hypotheses not feasible or misleading. Not finding a relationship between PTSD and exposure in a group that is highly exposed, as is true here, is therefore not unusual. Convenience samples, particularly ones that may include multiple members of the same family or individuals collocated at the time of the disaster as in this study, cannot give a complete picture of the epidemiology of illness as a result of the disaster. For this reason, we must be cautious when generalizing conclusions from this sample to the entire population of the tsunami disaster. Nonetheless, we can estimate that the impact of this disaster was severe, affecting many, and, as this study shows, many developed PTSD and depression.

These data have implications for deployed health care teams and provision of health care and psychiatric care in camps of displaced people: What mental health resources should be part of each deployed medical team? How is suicide risk—an outcome of a high prevalence of depression—managed and mitigated in the disaster population? How is primary care included in the health care plan for mental health care? The risk of substance abuse is also high in those with PTSD. This raises both medical care issues and

questions about the management of substances with the potential for abuse in disaster zones.

The finding in Ranasinghe and Levy's study that women are at greater risk than men for PTSD, after adjusting for relevant variables, is in agreement with numerous other studies.⁸ Our knowledge of why this increased risk is present is still minimal. To what extent this reflects a tendency for women to more easily report psychological symptoms remains a possible contributor, but it is also not clear whether women actually develop PTSD more often or are more likely to have chronic PTSD once they develop the disorder. Other possible causes exist (eg, the obvious neurobiological differences), including the potential differences in the available recovery environments (eg, rest, respite, freedom from providing care vs receiving care). It is also true that women are significantly more likely than men to develop anxiety and mood disorders, even in the absence of a disaster. Thus, their elevated risk of PTSD may also be associated with their elevated prevalence of predisaster anxiety-mood disorder. Much remains to be learned.

As we address the much-needed care of tsunami victims, it is important to recall that there are many different types of disasters. Preparing for our last disaster may not best prepare us for the next. Concerns about a worldwide pandemic, perhaps related to severe acute respiratory syndrome or avian influenza, have grown greatly in the last few years. Such disasters require different behavioral responses for mitigation of risk (eg, social distancing, quarantine, work at home) and the geographical separation that these measures entail. As we study contemporary disasters, the questions of how this knowledge can inform a future disaster response, as well as aid in the care of disaster victims, can direct our studies and our plans.

There are cross-disaster care needs. To address the mental and behavioral health care needs of all disaster populations, health care providers and community leaders need accurate and real-time health surveillance information on the population rates of mental health and illness and the barriers to care that have been experienced. Such health surveillance can inform disaster care and provide the basis for disaster mental health research to address the effectiveness of new care models that include psychological first aid^{9,10} resource restoration, primary care models of mental health care, Web-based interventions, and the role of public education and information dissemination.

For disaster mental health care to reach those in need, the barriers to care must be addressed. Even when resources can be found and evidence-based treatment and care are available both individually and community-wide, stigma and the resulting reluctance to seek care can be great. Stigma and obstacles to care can be reduced by talking about the needs of people with mental illness, providing accurate information on the causes and course of illness, countering negative stereotypes, providing care and treatment as would be

done for any other illness, and addressing legal and legislative avenues to reduce barriers to care and health care discrimination.¹¹ Drs Ranasinghe and Levy have initiated these steps through their article. Others must follow to address the mental health needs of people who are exposed to traumatic events as well as other mental health needs around the globe. To foster resilience and recovery and limit illness and suffering takes a global vision of facing together the trauma of natural and manmade disasters and their mental and behavioral consequences.

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