In a study in *JAMA Network Open*, Orengo-Aguayo and associates report on a population-based survey completed by 42.4% of students (N = 96,108) attending grades 3 to 12 in Puerto Rico public schools that was conducted 5 to 9 months after Hurricane Maria. As would be expected, the children had experienced widespread, substantial disaster exposure (eg, nearly 30% perceived their lives to be at risk) and loss (6.6% experienced the death of a family member, friend, or neighbor and 57.8% had friends or family who permanently moved away from the island). Based on screening questions, the research team estimated that 7.2% of children had symptoms suggesting a likely diagnosis of posttraumatic stress disorder (PTSD).

In a similar study involving students in grades 4 to 12 in public schools in New York, New York, that was conducted 6 months after the September 11, 2001, terrorist attack on the World Trade Center, 1 or more of 6 probable anxiety or depressive disorders were identified in 28.6% of the students. The prevalence of probable PTSD in that study was 10.6%, which is not that dissimilar from the 7.2% reported by Orengo-Aguayo et al. Given that avoidance of talking or thinking about a traumatic event is a major characteristic of PTSD, it is likely that some of the most affected students in the Puerto Rico study may be among the majority of students who elected not to participate in the survey (approximately 90% of students present on the day of the survey after the September 11, 2001, terrorist attack participated in the survey, which is more than twice the 42.4% participation rate in Puerto Rico). Similarly, those who were most directly affected in the study after Hurricane Maria may be among the many people who permanently relocated prior to when the study was conducted there.

As the authors pointed out, it is also likely that the somewhat narrow focus on screening for PTSD and depression in the Puerto Rico study may have underestimated the effect of the hurricane. The most prevalent probable diagnoses in the study after the September 11, 2001, terrorist attack were agoraphobia (14.8%) and separation anxiety (12.3%), which were not assessed in the survey designed by Orengo-Aguayo et al, in part because the authors were conducting the survey to guide where to deploy trauma treatment services in Puerto Rico and understandably focused on PTSD.

Hurricane Maria caused massive damage on the island of Puerto Rico, estimated at $90 billion. In the study by Orengo-Aguayo et al, 32.3% of the students reported shortages of food or water and 16.7% still had no electricity at the time of the survey (5-9 months after the hurricane), which is a staggering rate of ongoing disruption of infrastructure. Too often, a natural disaster is viewed as a single isolated traumatic event. But these disasters generally cause a cascade of secondary stressors and losses that provide additional (and sometimes primary) challenges to children's adjustment. In the study by Orengo-Aguayo et al, 11.4% of the children reported that one or both parents had lost a job, 57.8% lost friends or family who permanently relocated from the island, and 6.6% experienced the death of a family member, friend, or neighbor. The effect of these major stressors is likely not captured fully in the assessments for PTSD provided within the survey. Children also should not be expected to have recovered fully from a disaster until the disaster has ended. The massive and persistent financial and infrastructure disruptions in Puerto Rico after Hurricane Maria are of a (fortunately) unprecedented nature. For all these reasons, we should expect that the findings from the study—which already demonstrate a significant and wide-spread effect—represent an underestimate of the current and longer-term effect. The findings should prompt all pediatricians
and other child health care professionals to become prepared to provide psychosocial support to children and families after a disaster—which can occur in any community.³

Puerto Rico was underresourced and undersupported by the United States well before Hurricane Maria; the data provided within this study, coupled with media and other reports, document that too little has been done to correct this level of support. The incremental effect on at-risk children in Puerto Rico from this massive natural disaster is only beginning to become evident. But as we saw after Hurricane Katrina, at-risk children have a preexisting vulnerability and experience negative mental health outcomes disproportionately.⁴ We should not need any further data to prompt us, as a country, to redouble our efforts to support the children and families in Puerto Rico (as well as those who remain displaced) after Hurricane Maria—but Orengo-Aguayo et al⁵ provide compelling data nonetheless. Hopefully, they will be able to continue to obtain data to track the recovery of these students and be able to demonstrate not only the significant morbidity attributable to the mental health effect of this disaster, but also some evidence that the United States stepped up to ensure that effective interventions and support were consistently provided to mitigate these effects. The former we likely all anticipated, but the latter will require our individual and collective advocacy.

ARTICLE INFORMATION

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