Abstract

Background. With nearly 30 trillion tons of raining water, Hurricane Harvey wreaked havoc on the Texas Coast, with two-thirds of its flooded residential buildings clustered in Houston-Galveston area alone. Victims of housing loss after disasters are usually in immediate need of emergency shelters (Quarantelli, 1995); and low-income urban residents are at risk of becoming chronically homeless if they lack access to assistance with relocating into conventional housing (Culhane, Metraux, and Byrne, 2014). In response, the Federal Emergency Management Agency (FEMA) provides Transitional Sheltering Assistance (TSA), which for Hurricane Harvey came at a cost of $441 million. However, to what extent the shelter and housing needs were met by TSA, especially among those in low-income households, has not been investigated. Focusing on Harvey-damaged primary housing units in Harris and Galveston counties, our study interrogates two research questions:

1. What was the extent of sheltering need among housing loss victims by different income levels?
2. To what extent did the TSA program address the sheltering needs of housing loss victims with different income levels?

Methods. Using the administrative data collected by FEMA after Hurricane Harvey (N=283,085), we first used two-way cross tabulations with Pearson X^2 to analyze the prevalence rates of i). sheltering needs and ii). obtaining TSA, with contingencies for low-income and a series of other housing and damage characteristics (covariates). Then we employed a logistic regression analysis to estimate the main effect of low-income on sheltering need while controlling for other covariates. Finally, we adopted two logistic regression models to test both the main effects and the possible interaction effect of low-income and sheltering need, on obtaining TSA, respectively.

Results. Low-income housing loss victims had a much higher prevalence of sheltering need than their counterparts who were not low-income (34% vs. 29%; $p < 0.01$). Less than 42% of the low-income housing loss victims were granted TSA, which is significantly lower than that of their counterparts at 57% ($p < 0.01$). Our main effect logistic regression models suggest that low-income housing loss victims not only had greater sheltering needs (Odds Ratio [OR] = 1.039; $p < 0.01$) but also were less likely to access TSA (OR = 0.649; $p < 0.01$) than their counterparts. Our interaction effect model suggests that when both groups were in need

of shelters, the chance of obtaining TSA for the low-income housing victims were even lower than that of their counterparts (OR = 0.516; $p < 0.01$).

Conclusions. In addition to the previous findings that low-income households were extremely vulnerable to housing damage (Ma and Smith, 2020), our study provides evidence that they were also in greater needs of emergency shelters after the disaster. However, as also found in this study, the provision of TSA could not meet the needs of this particular vulnerable group. In addition to enlarging employment opportunities in disaster prone areas to help increase incomes, policymakers might consider expanding TSA and related emergency cash assistance programs to cover gaps in coverage for households affected by housing loss, especially among low-income households.

Recording Link:

https://appam-org.zoom.us/rec/play/lgkN_c3yjNfbnIgtBWMGaLqNGGz3T8eMZ5Z_hGulN7hvdcc8nEbZdSu2nCmZT3iurRMFPY2XOOm1isMg.Ecb379FOihFCqe1L?accessLevel=meeting&canPlayFromShare=true&from=share_recording_detail&continueMode=true&componentName=rec-play&originRequestUrl=https%3A%2F%2Fappam-org.zoom.us%2Frec%2Fshare%2F19wxw-vpFCS30Tz5wYw68iweGXtWa5_Bncc-NMCTjxbo2kqLQNIJD-dRIhwzSBM5.2RQhmvmwUcDZaw1W