

# No Shelter from the Storm: Wildfires, Winds, and Homelessness in Los Angeles

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## Background

- Jan 2025 Los Angeles County (LAC) firestorm destroyed ~18,000 structures, displaced >200,000 residents, killed at least 30 people, caused ~\$65 billion in damages
- People experiencing homelessness (PEH) face disproportionate vulnerability to natural disasters
- Impact of LAC firestorm on LAC PEH unknown

## Objectives

- Levels of self-reported exposure and geographic distribution among PEH
- Relationship between self-reported and remotely-sensed measures of wildfire and wind exposure
- Association of firestorm exposure with longitudinal changes in self-reported physical and mental health

## Methods

- Used Periodic Assessment of Trajectories of Housing, Homelessness and Health Study (PATHS), longitudinal monthly survey of LAC PEH
- Included survey on firestorm exposure 2 weeks (respiratory symptoms 1 month) after firestorm
- Linked patient location data with remotely-sensed wind and air quality data
- Descriptive analyses, comparing sheltered status, and correlation analyses
- Difference-in-differences analyses using mixed-effects logistic regression models to determine associations between firestorm exposure variables and self-reported health, controlling for sociodemographic variables

**Figure 1.** Levels of Self-Reported Impacts to Wildfire and/or Extreme Winds, by Neighborhood

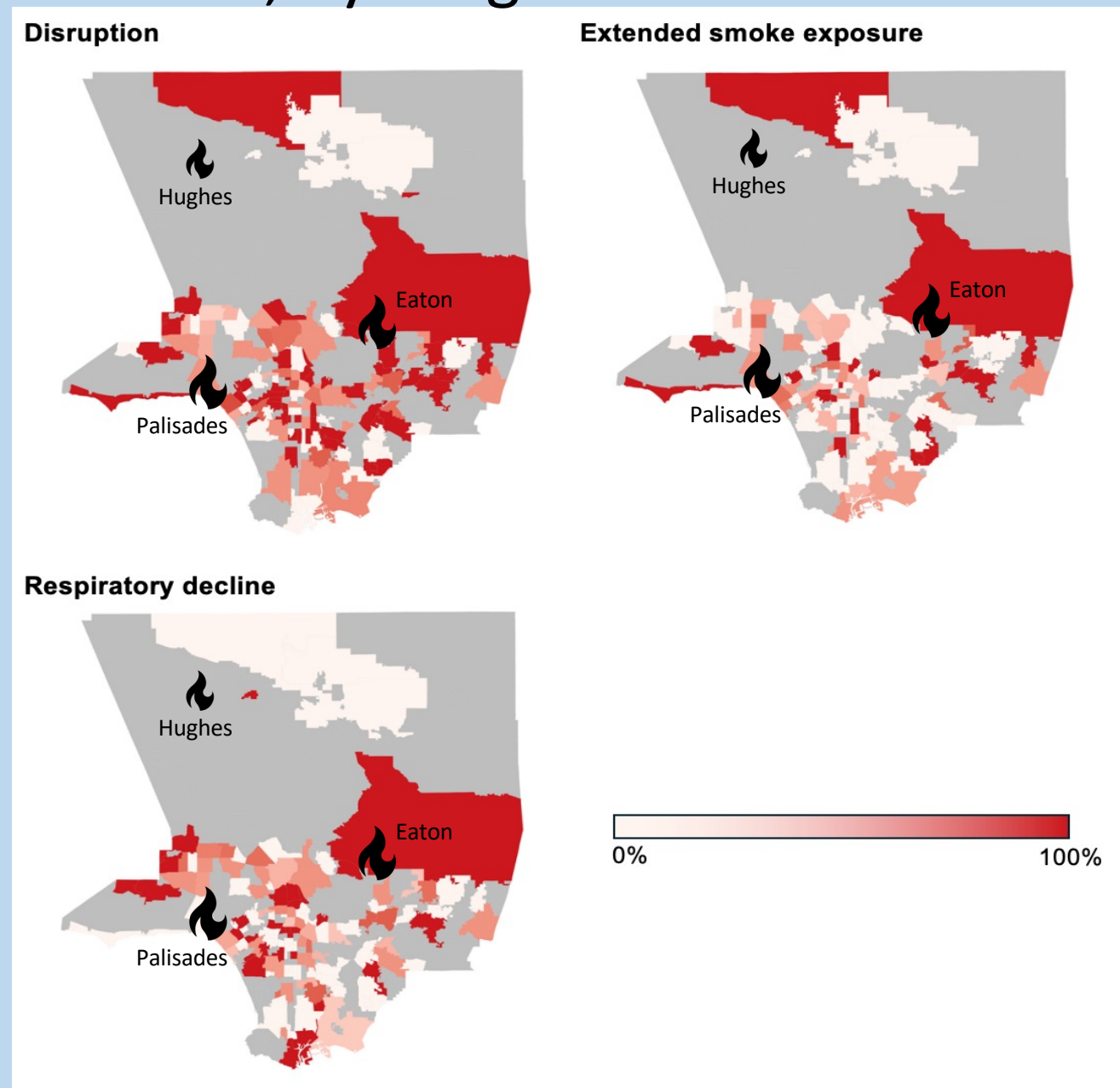


**Figure 2.** Environmental Exposure to Wildfire and/or Extreme Winds Using Remote-Sensing and Administrative Data, by Neighborhood

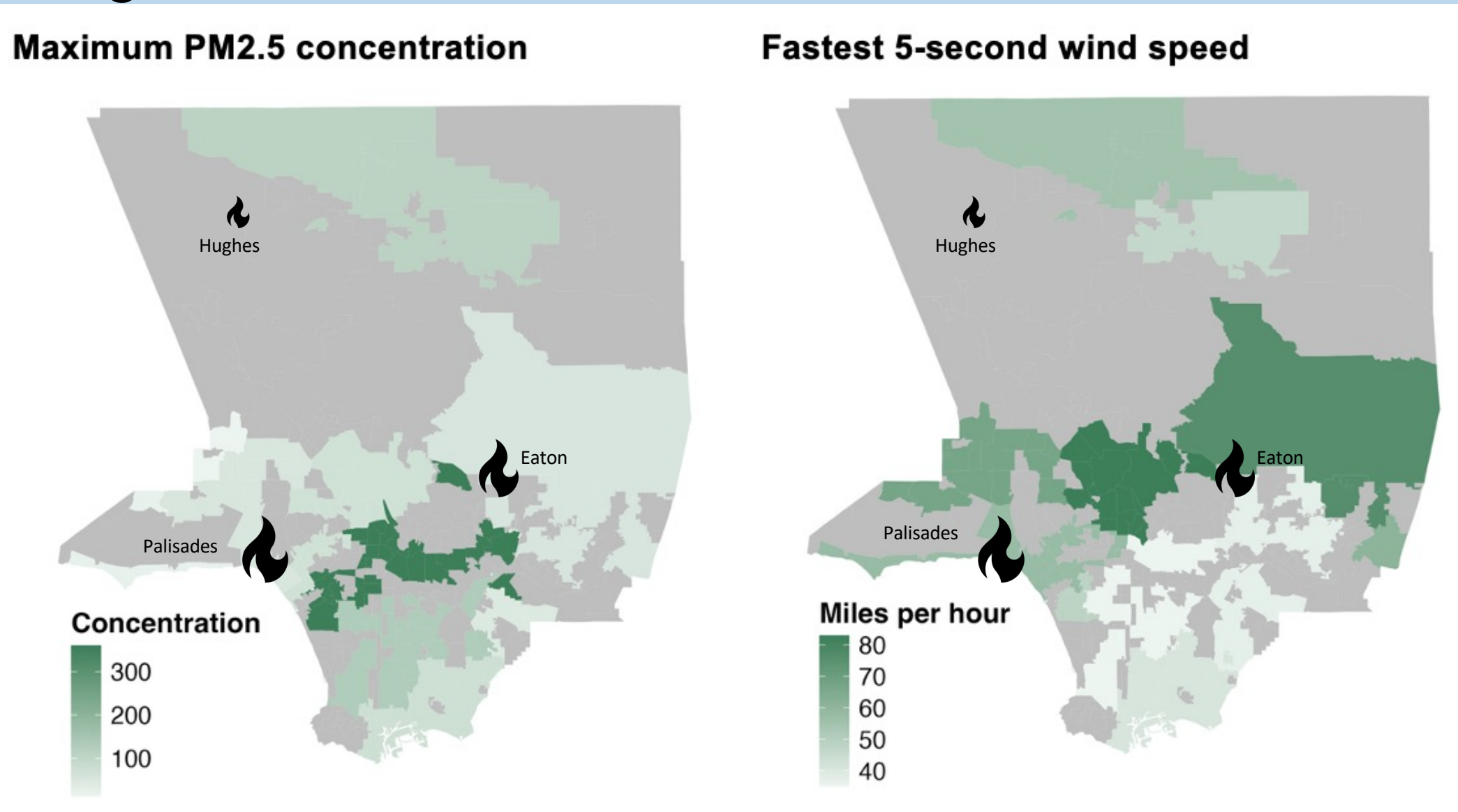
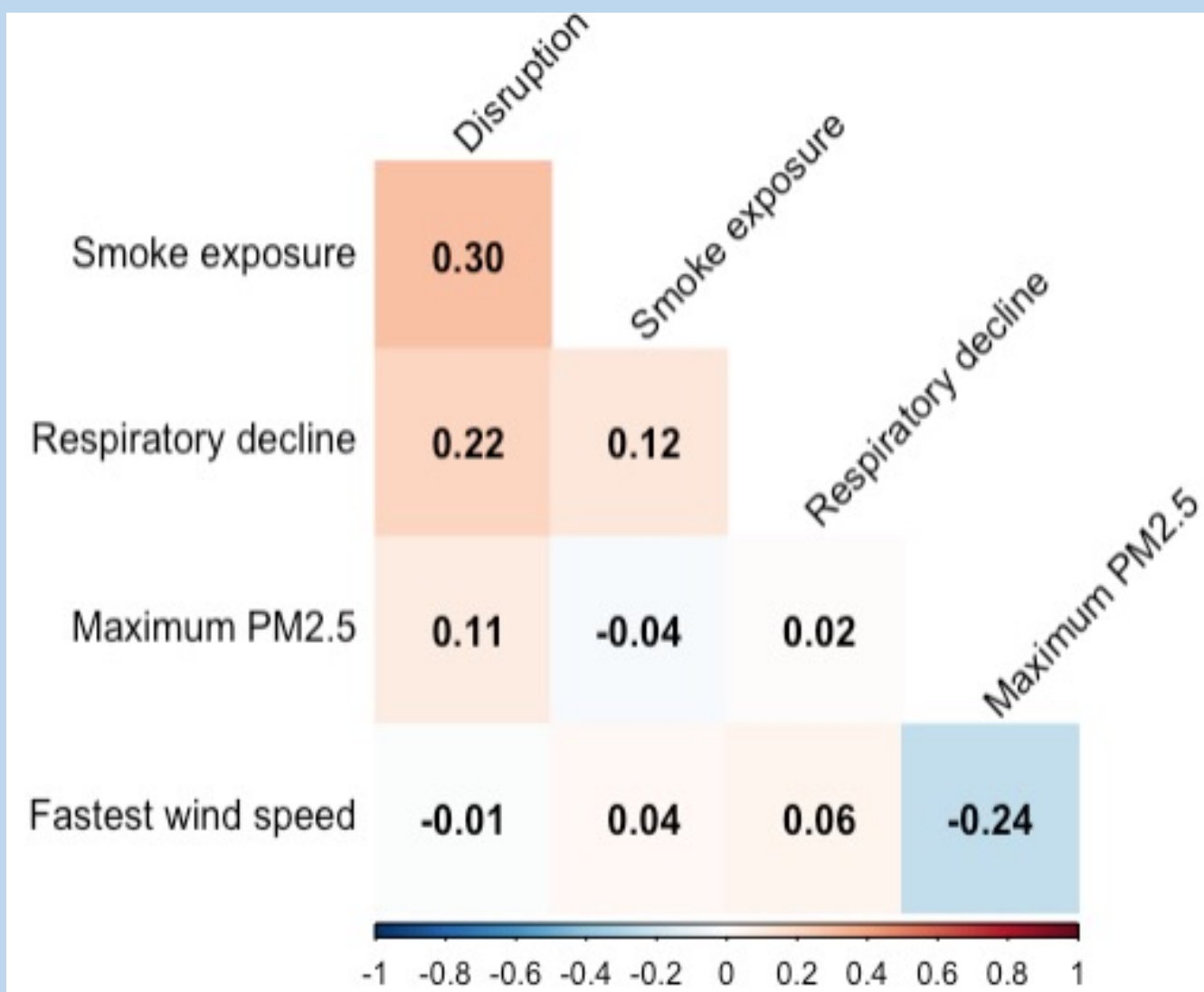


**Figure 3.** Correlations Between Self-Reported and Remote-Sensing Indicators



## Implications

- Unsheltered PEH most vulnerable during urban wildfires, outreach efforts should devote equitable resources
- Poor correlation between air quality/wind data and self-reported exposure
- PEH poor baseline health, “floor effect”; homelessness represents persistent trauma such that large scale natural disaster does not worsen perceived health
- Limitations:** sample size near Palisades and Eaton fires, recall bias, PATH participation requires smartphone

**Figure 4.** Levels Of Self-Reported Impacts to Wildfires and/or Extreme Winds, by Housing Status

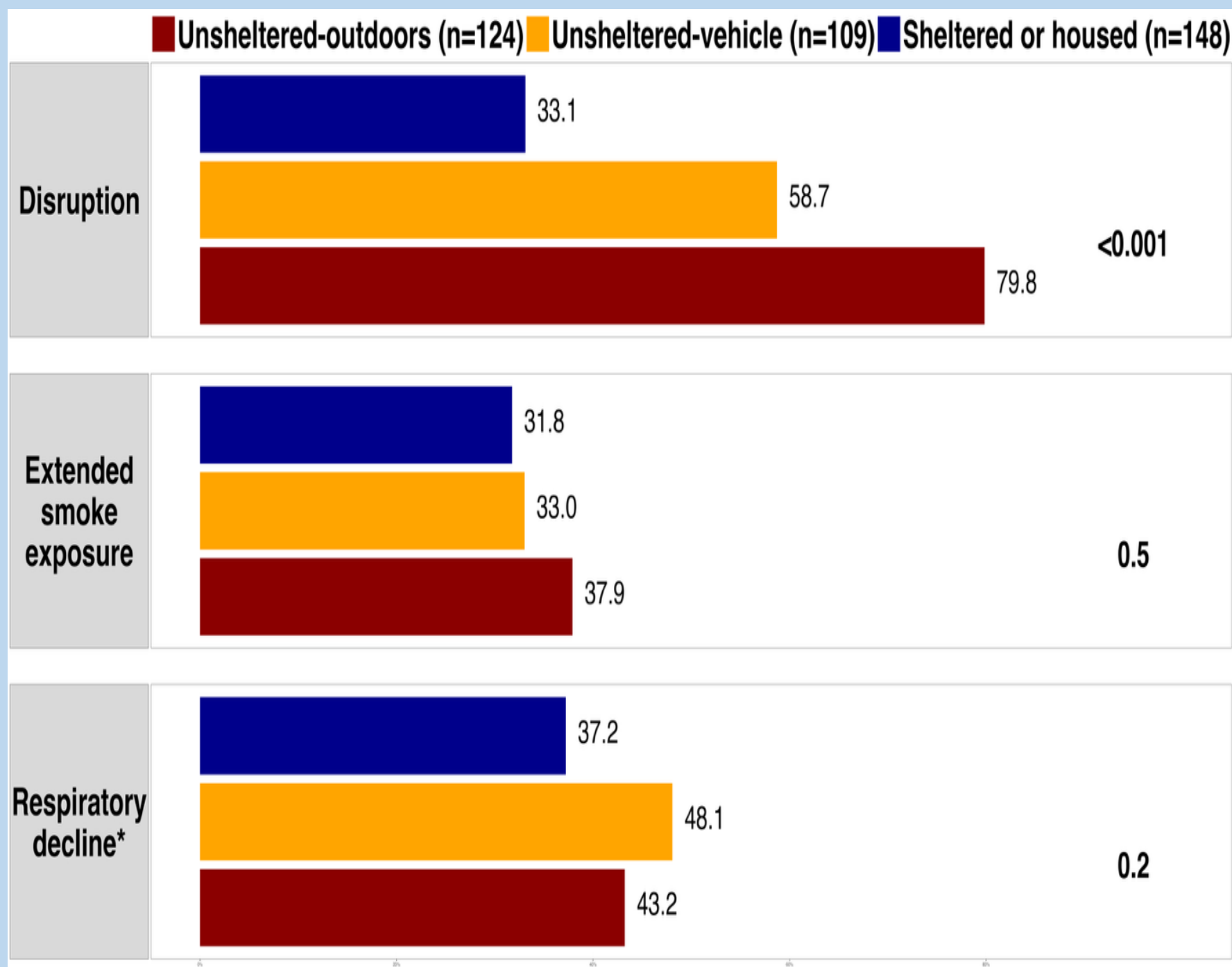


**Table 1.** Logistic Regression Models Examining the Associations Between Sociodemographic, Health, And Housing Characteristics and Self-Reported Disruption From Wildfires and/or Extreme Winds (N=392)

| Variable                                            | Unadjusted OR | Adjusted OR |
|-----------------------------------------------------|---------------|-------------|
| Age                                                 | 0.99          | 0.98        |
| Sex: Female or Other (RG=Male)                      | 0.91          | 0.82        |
| Sexual orientation: LGB+ (RG=Heterosexual)          | 1.16          | 1.02        |
| Race/ethnicity                                      |               |             |
| White, non-Hispanic (RG)                            | ----          | ----        |
| Black/African American, non-Hispanic                | 1.75*         | 2.31*       |
| Any Hispanic/Latinx                                 | 1.04          | 1.35        |
| Other/Multiracial                                   | 1.41          | 1.54        |
| Chronically homeless (>1 year)                      | 1.52          | 1.24        |
| History of criminal justice involvement history     | 1.25          | 1.53        |
| Past diagnosis of chronic physical health condition | 0.91          | 0.92        |
| History of substance use treatment                  | 1.28          | 1.38        |
| Unsheltered most often, past month*                 | 5.42***       | 4.53***     |
| Displaced, past month*                              | 3.85***       | 2.43***     |
| * p<0.05      ** p<0.01      ***p<0.001             |               |             |

**Table 2.** Comparisons of Health and Basic Needs Outcomes Before and After the January 2025 Firestorms, by Self-Reported Disruption Status (N=392)

| Outcome                                                                                                                                                           | Unexposed N=168 |        | Exposed N=224 |        | Δ at Pre |      | Double Δ | DD Estimate |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------|---------------|--------|----------|------|----------|-------------|
|                                                                                                                                                                   | Pre %           | Post % | Pre %         | Post % | %        | %    |          |             |
| Poor self-rated physical health                                                                                                                                   | 57.1            | 58.3   | 62.5          | 66.4   | 5.4      | 8.1  | 2.7      | 1.25        |
| Poor sleep quality                                                                                                                                                | 35.4            | 33.3   | 52.3          | 51.4   | 16.9     | 18.1 | 1.2      | 1.15        |
| Anxiety                                                                                                                                                           | 36.5            | 41.5   | 52.4          | 49.5   | 15.9     | 8.0  | -7.9     | 0.54        |
| Depression                                                                                                                                                        | 40.3            | 39.7   | 50.5          | 49.5   | 10.2     | 9.8  | -0.4     | 0.95        |
| Weekly drug use                                                                                                                                                   | 22.5            | 24.7   | 25.9          | 30.5   | 3.4      | 5.8  | 2.4      | 1.60        |
| Food insecurity                                                                                                                                                   | 46.2            | 43.8   | 74.5          | 73.7   | 28.3     | 29.9 | 1.6      | 1.07        |
| Unmet health care need                                                                                                                                            | 16.0            | 16.4   | 28.5          | 28.2   | 12.5     | 11.8 | -0.7     | 0.87        |
| Note: OR= Odds Ratio; SE= Standard Error; DD= Difference-in-difference. Models adjust for sociodemographic factors, baseline health, and housing characteristics. |                 |        |               |        |          |      |          |             |

## Report



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