Weathering the Storm: Hurricane Harvey and Student Housing Instability

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Research Brief

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About HERC. Focusing on the most pressing challenges facing the region, the Houston Education Research Consortium (HERC) is a research-practice partnership between the Kinder Institute for Urban Research and 10 Houston-area school districts. HERC research is developed directly alongside district leaders with findings shared with decision-makers — culminating in long-term, equity-minded solutions, opportunities and growth for Houston and beyond.

Weathering the Storm: Hurricane Harvey and Student Housing Instability

In August 2017, the Houston area was ravaged by one of the costliest natural disasters in history—Hurricane Harvey. In this brief, the first in a two-part series, we examine the effects of Harvey on student homelessness in the Houston Independent School District (Houston ISD). We find that student homelessness in Houston ISD quadrupled due to Harvey, and most students experiencing homelessness lived, at least temporarily, in unsheltered contexts, such as sleeping in a car or on the street. Unlike other high-profile storms such as Hurricane Katrina, students who became homeless due to Harvey tended to be broadly representative of the district in terms of their demographic characteristics. However, they differed systematically from students who experienced homelessness for conventional, economic reasons such as job loss and medical debt, who were particularly likely to be Black. We conclude with implications of these findings for educational stakeholders in preparation for both generational and "everyday" homelessness crises.

Key Findings

- **Nearly 24,000 Houston ISD students became homeless due to Hurricane Harvey**. For many of these students, homelessness was temporary—however, homelessness remained 41.8% higher in the year after the storm.

- **More than 15,000 Houston ISD students lived, at least temporarily, in unsheltered contexts due to Harvey**. This means students lived in cars, encampments, abandoned buildings, substandard housing, or on the streets.

- **Students who became temporarily homeless due to Harvey differed significantly from students who experienced homelessness for conventional reasons**. Students who were homeless for conventional reasons were disproportionately likely to be Black (+60%), economically disadvantaged (+23%), and qualified for special education (+12%). However, students who became temporarily homeless due to Harvey were more similar to never-homeless students—except that they were particularly likely to be emergent bilinguals (+18%).

- **Black and economically disadvantaged students who became homeless due to Harvey were particularly likely to remain homeless into the next school year**.

Background

In August 2017, the Houston area was ravaged by Hurricane Harvey. The second-costliest storm on record in the U.S., Harvey caused approximately $125 billion in damage overall and damaged more than 300,000 homes in Texas—including 25% of Houston's affordable housing stock (Mooney & Dennis, 2018; NCEI, 2023). And these numbers signaled a steep human toll: Over 100 Texans died, and thousands in the Houston area became homeless as their homes, particularly in low-lying areas near the city's famous bayous, were irreparably damaged or destroyed.

Harvey's impact was particularly acute in schools: The Texas Education Agency (TEA) estimated that over 1 million Texas students—20% of all students—were affected by the storm in some way (ABC News, 2017). For some students in Houston ISD, the start of classes was delayed by weeks. Nearly all schools sustained damage of some kind, and a handful of campuses were relocated for the entire school year (Waldron, 2017).

Researchers have long studied student homelessness associated with conventional, economic reasons such as job loss and medical debt (Buckner, 2013; Gould & Williams, 2010; Miller, 2011), including in Houston ISD (Richards & Pavlakis, 2022). However, less is known about student homelessness due to natural disasters such as hurricanes despite the fact that social justice perspectives suggest vulnerability to these disasters is inextricably intertwined with race and class (Bullard, 2000; Mohai et al., 2009).

In this brief, we explore the impact of Hurricane Harvey on students who became homeless in Houston ISD. Using data from before and after Harvey, we document the severity and prevalence of homelessness in Houston ISD due to the hurricane. We examine the characteristics of students who became temporarily homeless due to Harvey, as well as students who remained homeless into the next school year. We compare these students

not only to their peers who did not experience homelessness, but also to other students who experienced homelessness in prior years due to conventional reasons.

Research Questions

- How did Hurricane Harvey affect student homelessness in Houston ISD?

- What were the characteristics of students who became homeless due to Harvey?

Data and Methods

This brief uses Public Education Information Management System (PEIMS) data and other Houston ISD administrative data from the 2015-16 to 2018-19 school years provided to the Houston Education Research Consortium (HERC), part of Rice University's Kinder Institute for Urban Research. In total, we employ data on 358,273 students over the four academic years.

We compare four key groups of students:

- students who became homeless temporarily due to Hurricane Harvey (in 2017-18),

- students who became homeless due to Hurricane Harvey in 2017-18 and remained homeless into the 2018-19 school year,

- students who became homeless over the study period for conventional reasons not associated with Hurricane Harvey, and

- students who never experienced homelessness.

We compare the characteristics of these groups along several dimensions: nighttime context (e.g., unsheltered, in shelter, doubled up, motel/hotel); race/ethnicity; binary gender; economic disadvantage; special education status; and emergent bilingual status. See the Methodological Appendix for a more detailed discussion of our data and methods.
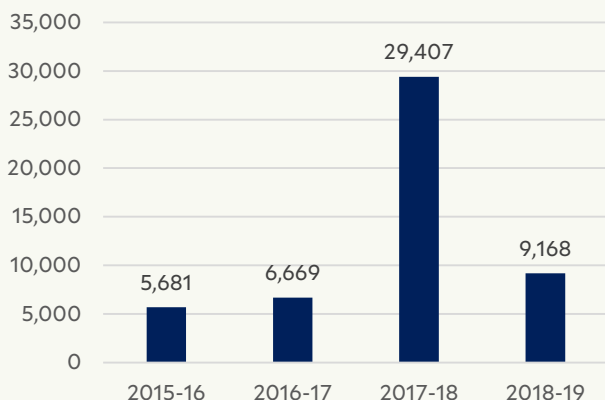
Key Findings

Nearly 24,000 Houston ISD students became homeless due to Hurricane Harvey.
We find that 29,407 Houston ISD students—or 13% of all students in the district—experienced homelessness in the year immediately after Hurricane Harvey. As Figure 1 illustrates, this constituted a 351% increase in the rate of student homelessness over the prior year. According to TEA crisis codes, at least 23,892 of these students—or more than 81%—became homeless specifically due to Hurricane Harvey.

Homelessness dropped in 2018-19, the first full year after Harvey. However, the rate of homelessness remained 41.8% higher than in the year immediately before the hurricane. However, such increases in homelessness may be partly explained by improvements in identification and training on the McKinney-Vento Homeless Assistance Act in the wake of Harvey (Menchaca, 2023). See the Methodological Appendix for more information on the MVA.

In addition, 981 students who became homeless specifically due to the hurricane remained homeless into the following school year, with 96% of Harvey's homeless experiencing a shorter-term episode of homelessness lasting less than 1 year.

More than 15,000 Houston ISD students lived, at least temporarily, in unsheltered contexts due to Harvey.
As Figure 2 demonstrates, over 15,000 Houston ISD students—51% of students experiencing homelessness—lived in unsheltered contexts after Hurricane Harvey. This means they spent their nights in places unfit for human habitation, such as cars, encampments, abandoned buildings, substandard housing, or on the streets. This number dropped in 2018-19, with 259 students reporting that they spent their nights in

FIGURE 1 **Number of students experiencing homelessness, 2015-16 to 2018-19**

FIGURE 2 **Number of students experiencing homelessness, by nighttime residential context and reason for homelessness, 2015-16 to 2018-19**
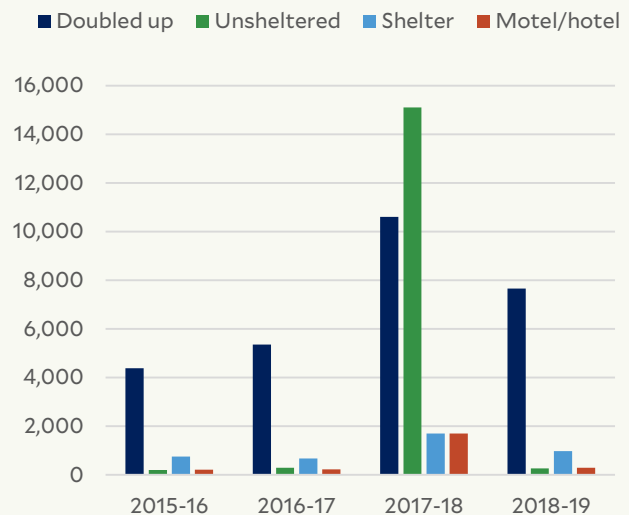
unsheltered conditions in the year after the hurricane. By 2018-19, most students experiencing homelessness lived doubled up with friends and family, as was the case prior to Harvey (83.4% vs. 81.2%). However, the number of students residing in shelters was 43% higher in the year after the hurricane than in the year prior to the hurricane.

Students who became temporarily homeless due to Harvey differed significantly from students who experienced homelessness for conventional reasons. The green and dark blue bars in Figures 3 and 4 compare the characteristics of students experiencing temporary homelessness due to Harvey and students experiencing homelessness due to conventional reasons to never-homeless students.

The relatively small green bars in Figure 3 demonstrate that students experiencing temporary homelessness due to Harvey were racially/ethnically similar to never-homeless students, although they were slightly less likely to be Asian/Pacific Islander or White. By contrast, students experiencing homelessness for conventional reasons were substantially less likely to be Asian/Pacific Islander (-73%) or White (-73%) and substantially more likely to be Black (+60%) than never-homeless students.
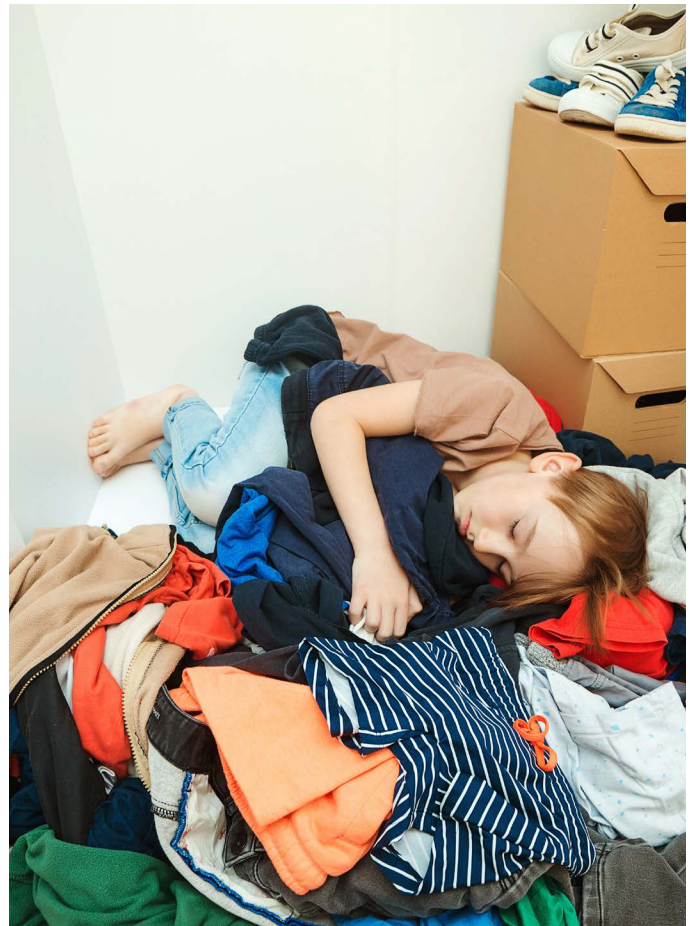

FIGURE **3** **Probability of students experiencing homelessness by race/ethnicity and pathway to homelessness**
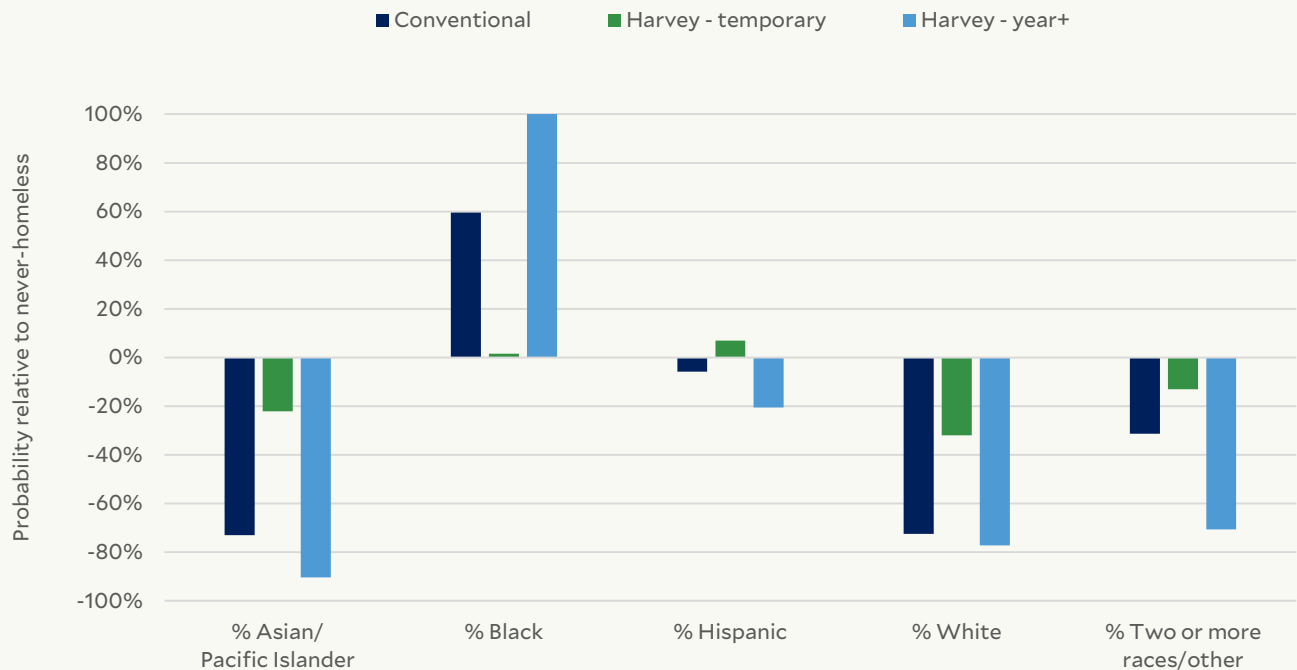
Figure 4 reveals that students experiencing temporary homelessness were also more similar to never-homeless students in terms of economic disadvantage and special education services. By contrast, again, students experiencing homelessness for conventional reasons were more likely to be economically disadvantaged (+23%) and to qualify for special education (+12%). Notably, students who became temporarily homeless due to Harvey were disproportionately likely to be emergent bilinguals (+18%).

Black and economically disadvantaged students who became homeless due to Harvey were particularly likely to remain homeless into the next school year.

The light blue bars in Figures 3 and 4 isolate the characteristics of the unique population of students who experienced longer-term homelessness due to Harvey into the subsequent school year. As the figures illustrate, these students, while relatively small in number, were disproportionately likely to be Black (+99%) and economically disadvantaged (+28.2%) compared to students who experienced shorter-term stints of homelessness after Harvey.

FIGURE 4 **Probability of students experiencing homelessness by student characteristics and pathway to homelessness**
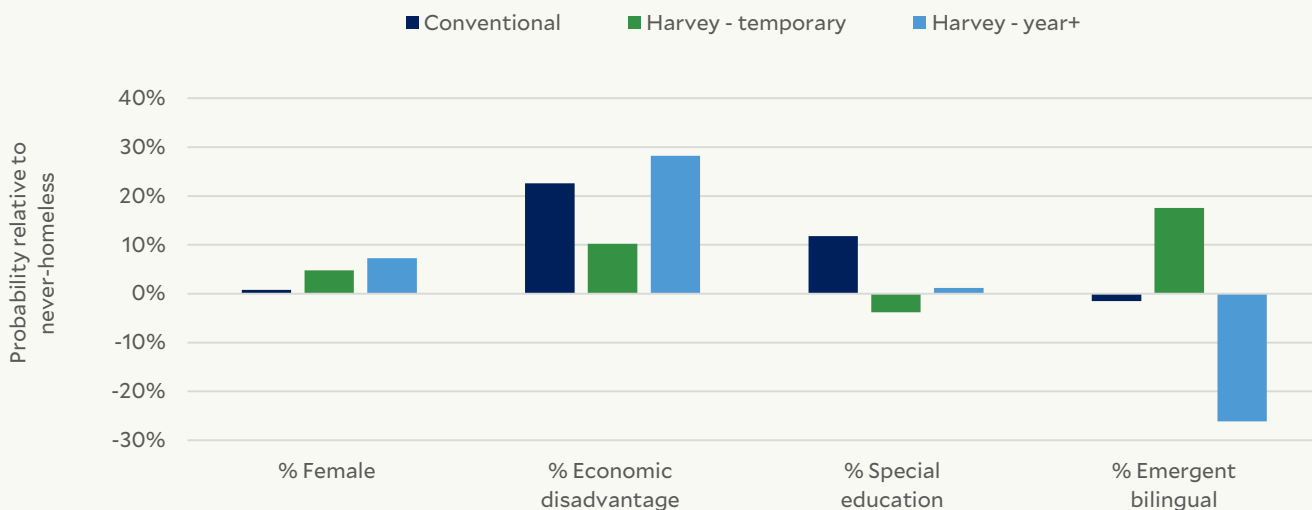
Conclusion

Hurricane Harvey was a generational storm; however, "thousand-year floods" and other natural disasters are intensifying with climate change. In this brief, we document the severity of student homelessness after Hurricane Harvey, which caused the homelessness of over 24,000 students in Houston ISD alone. Most of these students lived at least temporarily in unsheltered contexts, such as in cars, encampments, abandoned buildings, substandard housing, or on the streets.

Students who became homeless due to Hurricane Harvey were fairly representative of Houston ISD students—and they were substantially less likely to be Black and economically disadvantaged than students who became homeless due to conventional reasons. This is perhaps surprising to those familiar with prior storms like Hurricane Katrina, which disproportionately devastated Black and low-income communities (Cutter, 2006; FEMA, n.d.; Taneja et al., 2021). In Houston, however, damage from Harvey was widespread—hitting both more- and less-advantaged communities owing to historical patterns of residential segregation and the unique configuration of the city's bayous.

Additionally, we find that Black and economically disadvantaged students were particularly likely to remain homeless for longer than a year, an emblem of how marginalized Black and low-income communities in Houston were slower to recover from the storm.

Implications and Recommendations

Improve identification of students experiencing homelessness.
While we document nearly 30,000 students who were homeless in the year after Harvey, this is certainly an underestimate of the true impact of the storm. Accurate identification is critical to supporting students through both natural disasters and "everyday" crises of homelessness. Training school staff on students' legal and educational rights and signs of homelessness is essential and required by McKinney-Vento. Carefully designed collaborations and data sharing between schools and community providers such as shelters can improve identification and ease access to resources.

Increase use of crisis codes.
After Harvey, TEA emphasized the use of crisis codes to facilitate access to services. However, these codes should not only be used for massive events such as Harvey, but also applied to crises that affect individual students and more local communities (e.g., house fires, flooding of an apartment building) to ensure students receive the educational rights they are entitled to under McKinney-Vento.

Align practices to the unsheltered nature of disaster homelessness.
Our findings indicate that there was an unprecedented surge in students living in unsheltered contexts in the wake of Hurricane Harvey. This was atypical for Houston ISD and most public school districts—where the majority of students experiencing homelessness tend to live doubled up with friends and family out of economic necessity. As such, it is important to ensure that school and community practices, even when well-developed, are adapted to meet the unique needs of students after natural disasters, such as students living in unsheltered contexts.

Don't neglect conventional homelessness.
Students experiencing homelessness for conventional reasons were disproportionately Black, economically disadvantaged, and enrolled in special education relative to students who became homeless due to Harvey. While Harvey captured the attention of the community and the nation, and families impacted by natural disas-

ters are often viewed as "deserving" of public support, school leaders should also consider how crisis resources and policy changes might benefit all students experiencing homelessness, irrespective of the role the disaster played in their housing instability. Lessons learned during Harvey, such as the community-wide ethos that emerged and spurred large infusions of resources, should be applied to routine policies, practices, and norms around homelessness.

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Methodological Appendix

This brief uses Houston ISD administrative data from the 2015-16 to 2018-19 school years that were provided to the Houston Education Research Consortium. In total, we analyzed data on 358,273 students over the four academic years of the study.

This time span allows us two years to estimate the characteristics and numbers of students experiencing homelessness both before and after the storm. We elect not to follow students in 2019-20 onwards, as analyses would confound the effects of the hurricane with the effects of the global COVID-19 pandemic.

Our analyses are descriptive in nature. We compare the characteristics of students experiencing homelessness due to Harvey and conventional, economic factors to students not experiencing homelessness. We compare these groups along several dimensions: nighttime context, race/ethnicity, binary gender, economic disadvantage, special education status, and emergent bilingual status. We discuss each of these variables in turn:

Homelessness. We use data on student homelessness obtained from Houston ISD attendance data. Unlike the PEIMS data, which provides a "snapshot" of students in fall, this allows us to capture students who were homeless at any time during the school year. Student homelessness is captured by the district in accordance with McKinney-Vento's definition of homelessness as any student who lacks "a fixed, regular, and adequate nighttime residence." As noted, we employ four mutually exclusive homelessness categories:

- students who became homeless temporarily due to Hurricane Harvey (in 2017-18),

- students who became homeless due to Hurricane Harvey in 2017-18 and remained homeless into the 2018-19 school year,

- students who became homeless over the study period for conventional reasons not associated with Hurricane Harvey, and

- students who never experienced homelessness.

Homeless due to Harvey. We capture student homelessness specifically due to Harvey via TEA crisis codes 5A, 5B, and 5C, which were specifically designed to identify these students and ensure they receive McKinney-Vento services.

Nighttime context. In accordance with McKinney-Vento, school districts also track where students experiencing homelessness spend their nights, including:

- **shelters**, such as emergency and transitional facilities;

- **doubled up** with friends and family out of economic necessity;

- **unsheltered**, or in places unfit for human habitation, such as cars, encampments, abandoned buildings, substandard housing, or on the streets; or

- **motels or hotels**.

Gender. We use students' binary gender codes from PEIMS, which classify students as male or female.

Economic disadvantage. We categorize students as economically disadvantaged using PEIMS codes, including students who are eligible for free- and reduced-price lunch or are eligible for federal benefits, etc.

Special education. We use students' special education codes from PEIMS to indicate whether the student is participating in a special education program or a general education program using special education support services, supplementary aids, etc.

Emergent bilingual. We classify students as emergent bilingual using the Limited English Proficient (LEP) indicator codes from PEIMS. We consider students emergent bilinguals if they were classified as currently LEP or in the first or second year after reclassifying.

Mission

The Kinder Institute for Urban Research builds better cities and improves lives through data, research, engagement and action.

About

The Houston Education Research Consortium (HERC) is a research-practice partnership between the Kinder Institute for Urban Research and 10 Houston-area school districts. HERC aims to improve the connection between education research and decision making for the purpose of equalizing outcomes by race, ethnicity, economic status, and other factors associated with inequitable educational opportunities.

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