

#### **RESEARCH REPORT**

# Implications of Housing Conditions for Racial Wealth and Health Disparities

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# Acknowledgments

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iv ACKNOWLEDGMENTS

### **Executive Summary**

Homeownership is critical for building wealth. Yet Black households are significantly less likely to own their home compared with white households. But even when Black households become homeowners, they are more likely to live in structures considered inadequate.

Living in less adequate housing has important implications for the racial wealth gap. The median value of an inadequate property owned by a Black household is lower than both the property of White household living in an inadequate property and a Black household living in an adequate property considered adequate. And compared with these two groups, Black homeowners face higher utility costs relative to the size of their home.

Higher utility costs faced by Black homeowners living in inadequate housing suggests that a home's property condition may also have impact the wealth of the occupants as well. Black homeowners live under inadequate conditions are more likely to have received a utility shut-off notice. And Black homeowners are also more likely to reduce or forgo basic necessities due to their energy bill or to keep their home at an unhealthy temperature.

Based on the data and the challenges that Black homeowners face, we offer these recommendations for policymakers:

- Support affordable homebuying, refinancing, and renovation spending to close these disparities in property condition and their implications for both wealth building and health risks.
- 2. Facilitate using home equity for homeowners to make improvements.
- Improve renovation assistance to help to close the adequate housing difference between Black and white homeowners.
- 4. Create or expand renovation programs by local governments.

EXECUTIVE SUMMARY v

# **Inadequate Housing Conditions Can** Contribute to Black-White Disparities in Wealth and Health

Black homeowners are more likely to live in inadequate housing compared with white homeowners. Living in substandard conditions reduces the financial benefits typically associated with homeownership for Black households. Moreover, living in inadequate housing not only undermines the racial wealth divide, but it can also raise health risks for households. These health risks are not only reflected in the physical adequacy of the home but also in the compromises homeowners make because of the greater costs they face.

However, public policy can help address the disparity in substandard living among Black homeowners relative to white homeowners. And many of the key policy steps may be taken by both the federal government as well as state and local governments. By helping to close the property condition gap, policymakers are addressing racial wealth and health disparities while also improving the financial benefits of homeownership for Black households.

#### Background

Black households are less likely to be homeowners compared with white households. The Black-white homeownership rate gap has important implications for the broader racial wealth gap.<sup>2</sup> However, emerging research has illustrated that the benefits of homeownership are also lower for Black homeowners (Neal, Choi, and Walsh 2020). For example, data collected by the Black Wealth Data Center suggests that median home values tend to be lower in majority-Black communities compared with majority-white ones.<sup>3</sup>

One key distinction limiting the benefits of homeownership, particularly for Black households, is related to a property's condition. Lower-income homeowners are more likely to need renovation assistance due to their prevalence of living in inadequate housing (Eisenberg, Wakayama, and Cooney 2021). In addition, recent analysis indicates that Black households are more likely to live in inadequate housing compared with white homeowners.<sup>4</sup> And this disparity partially reflects a history of racial discrimination, potentially including the impact of redlining. 5 Increasingly, researchers are

demonstrating the important role played by property condition in the appraisal of a home's value (Zhu, Neal, and Young 2022).

Highlighting inadequate housing is important because a growing body of research has illustrated the relationship between substandard housing conditions and health risks for Black families (Matthew, Rodriguez, and Reeves 2016). In addition, these families are also more likely to face environmental diseases and injuries (Jacobs 2011). This suggests that poor property conditions not only have implications for the Black-white wealth divide, but also for Black-white health differences, an issue magnified by the COVID pandemic.

This report provides broad results. It shows how poor property condition correlates with lower property values, which in turn limits housing wealth. It also provides data linking inadequate housing with the potential for greater health risks, and it and provides quantitative evidence highlighting key mechanisms that contribute to greater health risks, uncomfortable temperatures in the home, and forgoing living necessities. These compromises represent direct consequences of higher utility costs stemming from physically inadequate homes.

Lastly, in this report, we discuss the data used in the report and quantify the connection between property condition, race, and measures of the financial benefits of homeownership. We then show the racial and property condition disparities in utility costs which links the cost burden of housing with potential health risks. In the last section, we offer policy recommendations and thoughts.

#### Data

This research is motivated by publicly available data compiled by the by the Black Wealth Data Center and housed in the Racial Wealth Equity Database. For example, the data shown in the Racial Wealth Equity Database and sourced from the American Community Survey suggest Black-white differences in home values (Jacobs 2011). The Black Wealth Data Center is building a comprehensive repository for Black wealth data. The Racial Wealth Equity Database aims to empower decisionmakers with reliable data and raise the national standard for data collection and accessibility.

This report relies on two surveys, the 2021 American Housing Survey (AHS) and the 2020 Residential Energy Consumption Survey (RECS). The AHS is sponsored by the US Department of Housing and Urban Development (HUD) and conducted by the Census Bureau every two years. The survey provides current information on the size, composition, and quality of the nation's housing and measuring changes in our housing stock as it ages (HUD 2013). The survey provides up-to-date information about the quality and cost of housing in the United States and major metropolitan areas.

The survey also includes questions about the physical condition of homes and neighborhoods, the costs of living in a home, and the characteristics of the people who live in these homes.

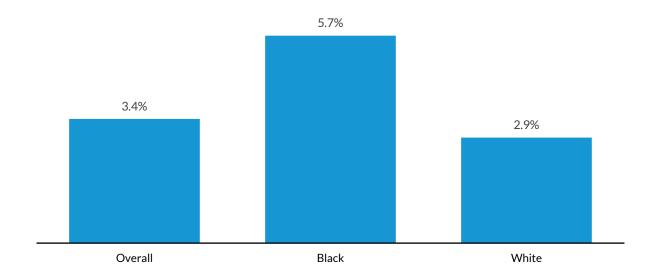
Since there is a smaller share of homeowners living in inadequate housing, we provide estimates from the 2019 AHS or the 2017 AHS as well. Most AHS variables discussed in this report were available in the 2019 iteration as well, except for the notice of shutting off the utility. The 2017 AHS is the last time utility shut-off variable was used. We find that the same calculations using the 2019 AHS or, in the case of utility shut-off notices, the 2017 AHS, parallel trends presented using the 2021 AHS (see appendix).

The Energy Information Administration administers the RECS to a nationally representative sample of housing units and is conducted every five years. The RECS is a multiphase study that begins with a household survey, which asks respondents about physical characteristics of the home, including the roofing material and the number of windows and energy use behaviors such as how many times per week the microwave is used. The Energy Information Administration then contacts the energy suppliers for the housing unit to obtain the fuel consumption and expenditures data. The RECS and many of the Energy Information Administration supplier surveys are integral ingredients for some of its more comprehensive data products and reports, such as the Annual Energy Outlook and Monthly Energy Review.

# Living in Inadequate Housing Corresponds with Lower Property Values

A small percentage of homeowners live in inadequate housing. However, Black homeowners are more likely to live in inadequate housing compared with white homeowners. According to the 2021 AHS, 3.4 percent of homeowners lived in inadequate housing. Among white homeowners, 2.9 percent lived in inadequate housing. But the share of Black homeowners living in inadequate housing was nearly double the white homeowner average, 5.7 percent (figure 1).

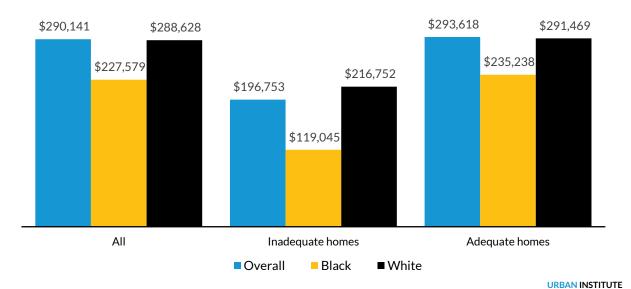
FIGURE 1 Share of Homeowners Living In Inadequate Housing by Race



Source: 2021 American Housing Survey. Note: Overall includes all racial and ethnic groups.

The value of primary residences owned by Black households lags that of white households. In 2021, the median value of a home owned by a Black household was \$227,579. This was 21.2 percent less than the median value of a home owned by a white household, \$288,628. At the same time, physically inadequate homes may be of lower value than those considered adequate. 9 The median value of a primary residence considered physically inadequate was \$196,753 in 2021. This is 33 percent less than the median home considered physically adequate, \$293,618 (figure 2).

FIGURE 2 Median Property Value by Home Condition and Race



Source: 2021 American Housing Survey.

Note: Overall includes all racial and ethnic groups.

Intersecting race and the physical adequacy of the home, the median value of physically inadequate primary residences owned by Black households was the lowest, \$119,045, which is 45.1 percent less than the median property value of physically inadequate homes owned by white households, \$235,238. In addition, it was 49.4 percent less than the median property value of physically adequate homes owned by Black households. And compared with the median property value among white households living in adequate homes, \$291,469, the median property values of Black households living in inadequate homes was 59.2 percent less.

Race and the physical adequacy of the home are not the only determinants of a property's value. Past research exploring property values found that even with controlling for a broad set of measures focused on household, property, and neighborhood characteristics, race and physical adequacy were still statistically significant determinants of a property's value (Neal et al. 2021). Intuitively, Black households and physically inadequate homes corresponded with lower property values.

At the same time, instances of racial discrimination may contribute to this gap in property values.<sup>10</sup> Most notably, the underestimation of property values for homes owned by Black households could further widen this racial difference. In addition, incorporating even after adjusting for property condition, appraisal estimates of automated valuation models had greater percentage error in Black communities than white ones (Zhu, Neal, and Young 2022).

#### **Lower Property Values Coincide with Lower Housing Costs**

The price of a home represents the size of the home (in square feet) and the price per square foot. 11 Black homeowners may tend to have lower housing costs compared with white homeowners. 12 Homeowners living in inadequate homes are more likely to live in smaller homes, those less than 1,500 square feet, than homeowners living in adequate homes. In addition, Black homeowners living in inadequate homes are more likely to live in smaller homes than white homeowners living in inadequate homes and Black homeowners living in adequate homes (table 1). And they are significantly more likely to live in smaller homes than white homeowners living in adequate homes.

TABLE 1 Share of Homeowners Living in Smaller Homes by Race and Home Condition Percent

_	Inadequate		Adequate	
	Black	White	Black	White
Less than 1,500 sq. ft.	60.5	45.7	36.7	30.1
1,500 sq. ft. or more	39.5	54.3	63.3	69.9
_ Total	100.0	100.0	100.0	100.0

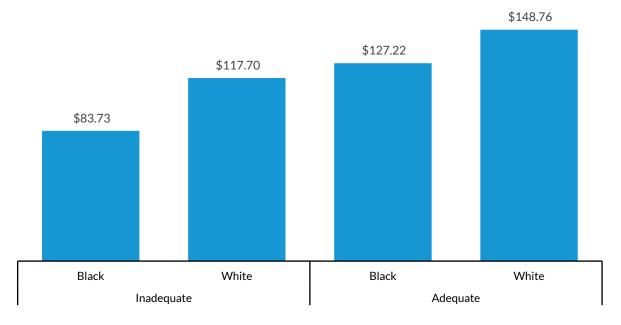
Source: 2021 American Housing Survey.

Notes: sq. ft. = square feet.

In addition, the average price per square foot of homes in substandard condition owned by Black households are lower as well. The price per square foot of Black-owned homes in inadequate condition is lower than that of white-owned homes in inadequate condition, white-owned homes in adequate condition, and Black-owned homes in adequate condition.

Consistent with owning lower valued and smaller homes, total annual housing costs per square foot associated with inadequate homes owned by Black households are lower too. Figure 3 illustrates that average total housing cost per square foot for Black homeowners living in inadequate housing is lower than that of white homeowners living in inadequate housing, Black homeowners living in adequate housing, and white homeowners living in adequate housing.

FIGURE 3 Median Property Value Per Square Foot by Race and Home Condition



Source: 2021 American Housing Survey.

Across key types of housing costs, Black homeowners living in inadequate housing also have the lowest costs. These areas include the mortgage payment, property tax payment, and insurance payment. This may reflect the fact that the unpaid principal balance at a home closing, the millage, and home insurance are typically quoted as a percentage of the home's value (table 2). 13 As a result, significantly lower-valued homes coincide with lower costs relative to the size of the home.

TABLE 2 Median Annual Housing Costs per Square Foot by Race and Home Condition Dollars

_	Inadequate		Adequate	
	Black	White	Black	White
Total housing costs	4.68	6.90	7.67	7.68
Mortgage payment	4.81	5.48	5.81	5.84
Utility costs	1.92	1.65	1.65	1.55
Property taxes	0.78	1.07	1.13	1.43
Insurance costs	0.47	0.48	0.57	0.57

**Note:** Missing unit size values are excluded. Source: 2021 American Housing Survey.

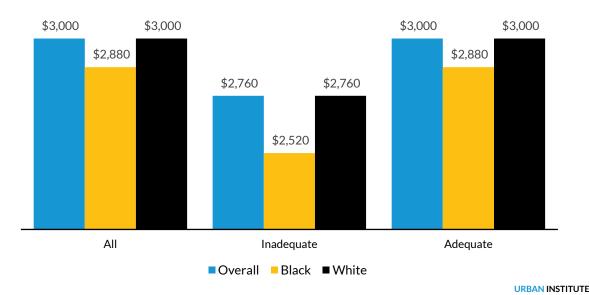
However, the average annual utility payment per square foot diverges from this trend. Black homeowners living in inadequate homes have the highest average annual utility payments per square foot. On average, they exceed those of white homeowners living in inadequate homes, Black homeowners living in adequate homes, as well as white homeowners living in inadequate homes.

### Households Living in Inadequate Housing Have Higher **Utility Costs**

The median annual utility cost paid by Black homeowners was modestly less than the median amount paid by white homeowners, \$2,880 and \$3,000 respectively.<sup>14</sup> In addition, the median amount paid by homeowners living in inadequate homes was less than the amount paid by homeowners living in adequate homes, \$2,760 and \$3,000 respectively.

At the intersection of race and property condition, the median annual utility cost paid by Black homeowners living in inadequate housing was only modestly less than both that of white homeowners living in inadequate housing and Black homeowners living in adequate housing. 15 It was also less than the median amount paid by white homeowners living in adequate housing (figure 4).

FIGURE 4 Median Annual Utility Costs by Race and Home Condition



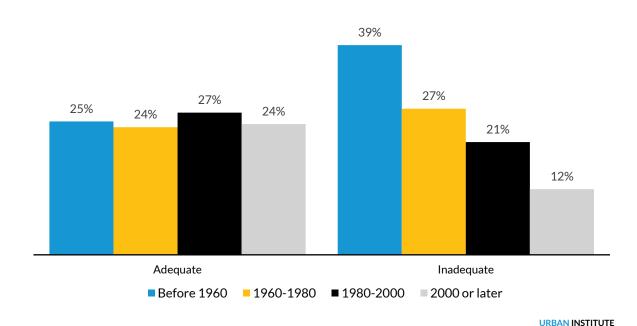
Source: 2021 American Housing Survey.

Notes: Overall includes all racial and ethnic groups. The American Housing Survey provides square footage as a range. We take the midpoint for each option; includes missing unit size values. Costs are annualized by multiplying the monthly utility costs (by 12) estimated in the 2021 American Housing Survey.

But the modestly lower utility costs paid by Black homeowners living in inadequate housing are spread over a much smaller area. For every square foot of property, Black homeowners living in inadequate housing paid more in utility costs than white homeowners living in inadequate housing and Black homeowners living in adequate housing. They also paid more on a square foot basis compared with white homeowners living in adequate housing.

The lower property values may also reflect the age of the home. In addition, older homes are less energy efficient as well. In 2021, 66 percent of inadequate homes were built before 1980. In contrast, fewer than half of adequate homes are that old. While slightly more than half of adequate homes were built in 1980 or later, only one-third of inadequate homes were built over the past 40 years (figure 5).

FIGURE 5 Distribution of Owner-Occupied Homes by Year-Built and Home



Source: 2021 American Housing Survey.

#### Utility Costs Cause Financial Instability That Could Also Raise Health Risks

Utility costs place the highest cost burden on Black homeowners living in inadequate housing. This largely reflects the low median income across this group of homeowners. Table 3 below illustrates that the average utility cost burden, annualized utility costs as a share of annual household income is higher for Black homeowners compared with white homeowners. In addition, it is higher for homeowners living in inadequate homes compared with those living in adequate homes.

TABLE 3 Annual Average Utility Cost Burden by Race and Home Condition

	Overall	Black	White
Inadequate homes	5.2	6.6	4.9
Adequate homes	3.8	4.8	3.7

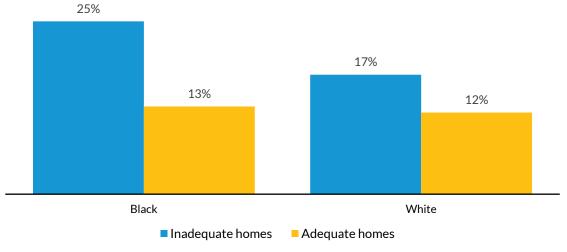
Note: Overall includes all racial and ethnic groups.

Source: 2021 American Housing Survey.

At the intersection of race and property condition, Black homeowners living in inadequate homes have the highest average annual utility cost burden. The average cost burden faced by this group exceeds that of white homeowners living in inadequate housing, Black homeowners living in adequate housing, and white homeowners living in adequate housing.

Conditional on reporting, the highest cost burden faced by Black homeowners living in inadequate housing corresponds with the greatest likelihood that these homeowners received a utility shut-off notice. 16 On average, Black homeowners were more likely than white homeowners to receive a shut-off notice and homeowners living in inadequate homes were more likely than those living in adequate homes to receive a shut-off notice (figure 6). At the intersection of race and property condition, a quarter of Black homeowners received a utility shut-off notice.

FIGURE 6 Share of Owner-Occupied Homes that Received Utility Shut-Off Notices by Race and Home Condition



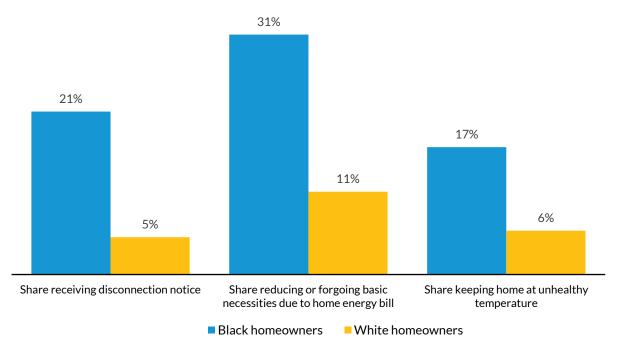
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Source: 2021 American Housing Survey.

The 2020 RECS provides deeper insights into the financial instability caused by energy costs.<sup>17</sup> The RECS provides similar results indicating that Black homeowners are more likely to receive a disconnection notice than white homeowners. At the same time, the RECS indicates that Black homeowners are more likely to forgo basic necessities due to the home energy bill and are more likely to keep the home at an unhealthy temperature to save money on energy bills (figure7). This is compounded by evidence suggesting that Black homeowners' demand for heating is relatively greater even after controlling for socioeconomic inequality (Baik, Hines, and Sim 2023).

For example, if the home temperature is too cold of a temperature, it can result in higher blood pressure, clotting factors, and cholesterol issues. Cold air inflames lungs and inhibits circulation, increasing the risk of respiratory conditions, such as asthma attacks or symptoms, worsening of chronic obstructive pulmonary disease (COPD), and infection. But health risks can emerge if the temperature is too hot as well. This risk includes heat stroke, heat rash, and heat exhaustion and can cause cardiovascular mortality and emergency hospitalizations 18 (Benmarhnia et al. 2015; Phung et al. 2016).

FIGURE 7 **Utility Bill Outcomes by Race** 



Source: 2020 Residential Energy Consumption (RECS) Survey.

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These results suggest that the challenges presented by living in inadequate living conditions not only have implications for the Black-white wealth gap, they also could disproportionately aggravate health risks among Black households as compared with white households.

These results also add support to the post-pandemic view that health is a part of one's wealth. In the aftermath of the worst of the COVID-19 pandemic to-date, Black people had higher death rates due to COVID-19 than white people. <sup>19</sup>The degree to which wealth reflects the resources to create a better life than health is foundational in this pursuit. <sup>20,21</sup>

# Policymakers Can Take Steps to Close Racial Inequities In Property Conditions

Based on the data and the challenges that Black homeowners face, we offer these recommendations for policymakers to address the racial gaps between inadequate homes of Black and white homeowners:

- Support affordable homebuying, refinancing, and renovation spending to close these disparities in property condition and their implications for both wealth building and health risks.
  - » For example, expand down payment assistance, particularly for first-time and first-generation homebuyers to help them afford a newer and adequate home.<sup>22</sup>And amid higher mortgage rates, also consider the benefits of interest-rate buydowns to improve affordability while also boosting housing equity through principal reduction (Neal and Pang 2022).
- Facilitate using home equity for homeowners to make improvements. Research indicates that Black homeowners are less likely to refinance compared with their white peers.<sup>23</sup> But amid record housing equity nationwide, the ability to tap into one's home equity is a key way of financing improvements.
  - » The federal government should develop streamlined rate refinance programs that do not require employment or income verification; these programs would allow borrowers to take advantage of lower interest rates, while reducing the risk to the insuring entity.<sup>24</sup>
- Improve renovation assistance to help to close the adequate housing difference between Black and white homeowners. However, federal programs offered by the Department of Housing Urban Development, Fannie Mae, and Freddie Mac are not easy to use.<sup>25</sup> Solutions to improve their efficiency could also expand their usage.

For example, revise the HUD's 203(k) program with a preferred vendor list which can overcome the lack of knowledge regarding construction costs that plague homeowners looking to renovate their home and financial institutions lending for the renovation.<sup>26</sup>

#### Create or expand renovation programs by local governments.<sup>27</sup>

For example, the city of Newark, New Jersey, recently took steps to expand assistance for home repairs.<sup>28</sup> Steps taken by local policymakers can also support equitable growth if their locale faces high levels of displacement risk stemming from economic development. These actions are underway in cities like Charlotte, North Carolina.<sup>29</sup> By creating income-based repayment plans for home improvement resources, it can reduce the likelihood that residents living in lower-quality housing are forced to sell their homes during periods of intense economic development.30

The majority of homeowners live in homes considered as physically adequate. However, Black homeowners are more likely to live in inadequate housing compared with white homeowners. The data suggest that Black homeowners living in inadequate homes experience lower home values weighing on home equity. And at the same time, the higher relative utility costs both undermine stable housing health. However, policy solutions can help to address the root of these inequities—living in inadequate housing. Both federal and local stakeholders can take actions on policy solutions. By doing so, they will help to make progress toward ensuring that Black homeowners experience the same wealth and health benefits of homeownership as white homeowners.

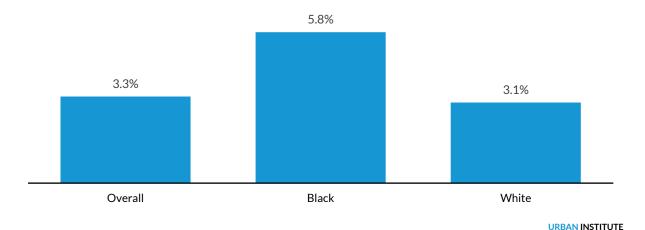
# Appendix A. Inadequate Housing Conditions Can Contribute to Black-White Disparities in Wealth and Health

This appendix provides the same figures using the 2021 American Housing Survey (AHS) shown throughout this report, but using the 2019 AHS. And for shut-off notices, we use the 2017 AHS because the data was not available in the 2019 AHS.

In spite of the small shares of homeowners living in inadequate housing, the figures in the appendix confirm that the trends reported with the 2021 AHS would also exist for the 2019 or where applicable, 2017 AHS as well.

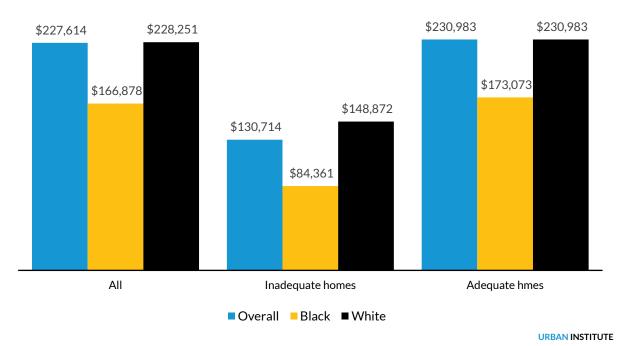
# 2019 American Housing Survey Figures Show Similar Trends as Reported in 2021

FIGURE A1
Share of Homeowners Living In Inadequate Housing by Race



**Note:** Overall includes all racial and ethnic groups. **Source:** 2019 American Housing Survey.

FIGURE A2
Median Property Value By Home Condition and Race



Source: 2019 American Housing Survey.

Note: Overall includes all racial and ethnic groups.

TABLE 1A
Share of Homeowners Living in Smaller Homes by Race and Home Condition
Percent

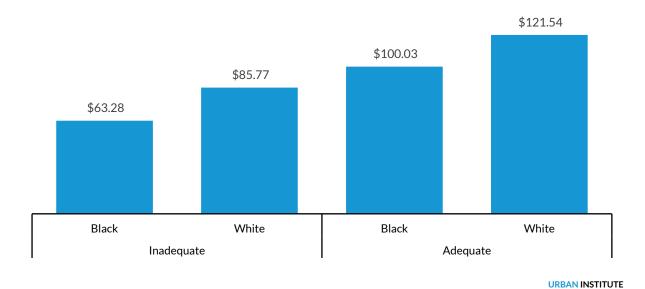
	Inadequate		Adequate	
	Black	White	Black	White
Less than 1,500 sq. ft.	50.9	42.7	37.1	30.2
1,500 sq. ft. or more	49.1	57.3	62.9	69.8
	100.0	100.0	100.0	100.0

Source: 2019 American Housing Survey.

Note: sq. ft. = square feet.

FIGURE A3

Median Property Value Per Square Foot by Race and Home Condition



Source: 2019 American Housing Survey.

TABLE 2A

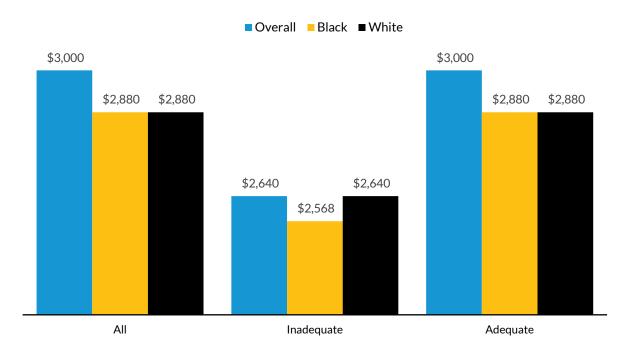
Median Annual Housing Costs per Square Foot by Race and Home Condition

Dollars

	Inadequate		Aded	quate
_	Black	White	Black	White
Total housing costs	4.80	5.90	7.59	7.47
Mortgage payment	4.19	5.23	5.45	5.84
Utility costs	1.73	1.63	1.65	1.54
Property taxes	0.66	0.95	1.00	1.26
Insurance costs	0.29	0.44	0.52	0.51

**Source:** 2019 American Housing Survey. **Note:** Missing unit size values are excluded.

FIGURE 4A
Median Annual Utility Cost By Race and Home Condition

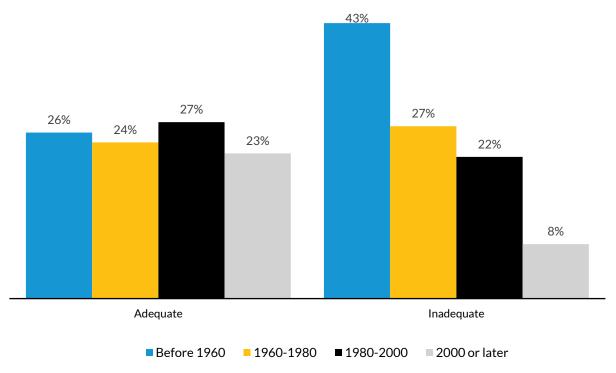


Source: 2019 American Housing Survey.

**Notes**: Overall includes all racial and ethnic groups. The American Housing Survey provides square footage as a range. We take the midpoint for each option. Includes missing unit size values. Costs are annualized by multiplying the monthly utility costs (by 12) as estimated in the 2021 American Housing Survey.

FIGURE 5A

Distribution of Owner-Occupied Homes by Year-Built and Home Condition



Source: 2019 American Housing Survey.

TABLE 3A

Annual Average Utility Cost Burden by Race and Home Condition

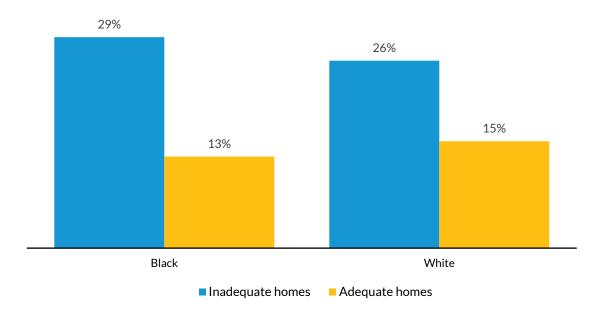
Percent

	Overall	Black	White
Inadequate homes	5.1	6.8	4.9
Adequate homes	3.9	4.7	3.8

Source: 2019 American Housing Survey.

Note: Overall includes all racial and ethnic groups.

FIGURE 6A
Share of Owner-Occupied Homes that Received Utility Shut-Off Notices by Race and Home Condition



**Source**: 2017 American Housing Survey.

### **Notes**

- Alexander Herman, "In Nearly Every State, People of Color Are Less Likely to Own Homes Compared to White Households," Joint Center for Housing Studies, February 8, 2023, https://www.jchs.harvard.edu/blog/nearly-every-state-people-color-are-less-likely-own-homes-compared-white-households#:~:text=At%20just%2041.7%20percent%2C%20Black,they%20exceeded%2040%20percentage% 20points.
- <sup>2</sup> Thomas Shapiro, Tatjana Meschede, and Sam Osoro, "The Roots of the Widening Racial Wealth Gap: Explaining the Black-White Economic Divide," Institute on Assets and Social Policy. February 2013, https://heller.brandeis.edu/iere/pdfs/racial-wealth-equity/racial-wealth-gap/roots-widening-racial-wealth-gap.pdf.
- <sup>3</sup> Black Wealth Data Center, "Explore Data: Homeownership," accessed on November 28, 2023, https://blackwealthdata.org/explore/homeownership.
- Sophia Weeden, "Greater Assistance Needed to Combat the Persistence of Substandard Housing," Joint Center for Housing Studies, August 1, 2023, https://www.jchs.harvard.edu/blog/greater-assistance-needed-combatpersistence-substandard-housing.
- Maria Godoy, "In U.S. Cities, The Health Effects Of Past Housing Discrimination Are Plain To See," NPR. November 19, 2020, https://www.npr.org/sections/health-shots/2020/11/19/911909187/in-u-s-cities-the-health-effects-of-past-housing-discrimination-are-plain-to-seek.
- <sup>6</sup> United States Census Bureau, "About the American Housing Survey," https://www.census.gov/programs-surveys/ahs.html.
- In addition to a unit being considered adequate, the American Housing Survey also allows a unit to be either moderately physically inadequate or severely inadequate. Any of the following issues would deem a unit inadequate: lack of hot and cold running water, lack of a bathtub or shower, lack of a flush toilet, shared plumbing facilities or more than two breakdowns of the heating equipment have occurred lasting longer than six hours, electricity is not used, or wiring exposure. A unit may also be inadequate if it has water leaks, holes in the floor, cracks, peeling paint, or rats.
- <sup>8</sup> US Energy Information Administration, "Survey Background and Technical Information," https://www.eia.gov/consumption/residential/background-technical.php.
- <sup>9</sup> Throughout this report, overall refers to owner-occupied households across all racial and ethnic groups.
- Freddie Mac, "Racial and Ethnic Valuation Gaps in Home Purchase Appraisals," September 20, 2021, https://www.freddiemac.com/research/insight/20210920-home-appraisals At the same time instances of racial discrimination may contribute to this gap in property values. Most notably, underestimation of property values for homes owned by Black households could further widen this racial difference.
- <sup>11</sup> Michael Neal, "Recent Growth of Newly Built Smaller Homes Could Ease the Housing Shortage, but Higher Costs Hamper Affordability," *Urban Wire*, May 7, 2021, https://www.urban.org/urban-wire/recent-growth-newly-built-smaller-homes-could-ease-housing-shortage-higher-costs-hamper-affordability.
- <sup>12</sup> Black Wealth Data Center.
- <sup>13</sup> It is worth pointing at that a home's value may differ in each instance. The original principal balance will be quoted as a share of a home's market value while the millage is a share of the assessed value and home insurance may be quoted as a share of a home's replacement value.

20 NOTES

- <sup>14</sup> The American Housing Survey provides data on the monthly utility amount. We take the median of the monthly amount multiplied by 12 to calculate an annual amount.
- This is one place where our 2021 results diverge from the 2019 estimates. Using the 2019 AHS, the median annual utility cost for Black homeowners living in inadequate homes was equal to that of white homeowners living in inadequate homes, \$2,640. However, since Black homeowners living in inadequate homes were more likely to live in smaller properties, than the utility cost per square foot was wider for Black homeowners living in inadequate homes. And still, the median annual utility payment for Black homeowners living in inadequate homes was less than that of Black homeowners living in adequate homes and that of white homeowners living in adequate homes.
- We collapsed the utility shut-off variable into two categories: received a notice, which includes utilities shut-off, utilities not shut-off, and shut-off not reported. The second category was received no notice. We exclude those not reported and those considered not applicable.
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