Rhode Island Housing and COVID-19 Outcomes
Data Brief

About the brief

Reducing disparities in COVID-19 outcomes requires understanding the social and structural factors that contribute to susceptibility, like those in housing, workplace, and school environments. Research from the Brown University School of Public Health's People, Place, and Health Collective (PPHC) and the Rhode Island Department of Health (RIDOH) Health Equity Institute (HEI) examines the connection between COVID-19 outcomes, housing affordability, and housing type, highlighting inequities across Rhode Island communities.[1]

Housing: A vital role in health

Since its emergence in the United States in January 2020, the COVID-19 virus has led to more than 1 million reported deaths and almost 7 million hospitalizations nationwide (as of March 2024).[2] Although COVID-19 affected all Rhode Island communities, some were hit much harder than others, particularly those living in Section 8 housing and those with the highest housing cost burden.

Section 8, also known as the Housing Choice Voucher Program, is a federal program that helps people afford housing in the private market by providing rental assistance.[3]

Housing Cost Burden occurs when households spend between 30% to 50% of their income on housing costs. When people are housing cost-burdened, they have less to spend on things that keep them healthy, like nutritious food, healthcare, or medication.[4]

Severe Housing Cost Burden or Housing Insecure are terms used to describe households that spend more than 50% of their income on housing costs.[4]

Housing costs and type of housing are 2 of several factors in a person's life that influence their health and well-being and are also known as the social determinants of health (SDOH). Other SDOH include a person's income, education level, ZIP code, and other neighborhood and workplace conditions. SDOH exist beyond individual lifestyle choices and the healthcare setting. Instead, SDOH are shaped by broader economic, political, and social policies.[5]

Local, state, and federal policies often strive to meet the needs of all communities but may unintentionally contribute to systems and institutional practices that are unfair and create additional barriers to health and well-being. These systemic barriers result in differences in health outcomes between communities and can exacerbate health disparities or inequities. Nationally, studies have identified associations between SDOH and disparities in COVID-19 outcomes.[5,6,7] Communities facing the greatest barriers had the highest COVID-19 case, hospitalization, and death rates. Locally, Rhode Island followed national trends in COVID-19 outcomes. Like the rest of the country, it was clear how unfair systems and structural barriers were continuing to shape healthcare and public health in Rhode Island, resulting in the highest COVID-19 rates among Hispanic, Latino, Black, and African American residents.[8,9]

Impact of housing cost burden in Rhode Island

Housing has long been recognized as playing a vital role in health, as it is closely linked to income and income inequality.[10] In general, the state of housing in the United States worsened during the pandemic, with the number of housing cost-burdened households increasing.[11] While studying the impact of housing on COVID-19 outcomes, researchers found that eviction and housing displacement were linked to higher case and death rates.[12] Families experiencing homelessness had the highest COVID-19 case rates, and those in unstable housing were twice as likely to experience reinfection as those in stable housing.[2,12]

Across the country, counties with higher percentages of poor housing conditions had the highest COVID-19 death rates.[13] According to the United States Census Bureau, households are considered housing cost-burdened when they spend more than 30% of their income on rent, mortgage, and other housing costs. When people are housing cost-burdened, they have less to spend on essentials like medication, healthy food, or seeing a doctor when they are sick. Households are considered severely housing cost-burdened when they spend more than 50% of their income on housing costs. In March 2025, the Congressional Research Committee released a national report on the 2023 housing cost burden.[14] The report highlighted the following key findings:

- Among households with incomes less than $30,000, 66.5% of renter households and 55% of homeowner households faced a severe housing cost burden.
- Among renter households, the housing cost burden rate exceeded 40% across all income brackets, except the highest bracket ($75,000 or more).
- More than 55% of renter households headed by an older adult (65 years or older) or a person with a disability were housing cost-burdened, compared to 49.5% of renters overall. Similar patterns were observed for homeowners.
- Urban renter households faced a housing cost burden rate of 49.9%, compared to 34.3% among rural renter households.

In the same year, the Rhode Island Foundation released data revealing that 33.2% of Rhode Island households were cost-burdened, slightly more than the national average (32.8%).[15] At the time of the Foundation's report, Rhode Island ranked 38 out of 50 states in housing burden, with 1 representing the lowest burden and 50 the highest.[16]

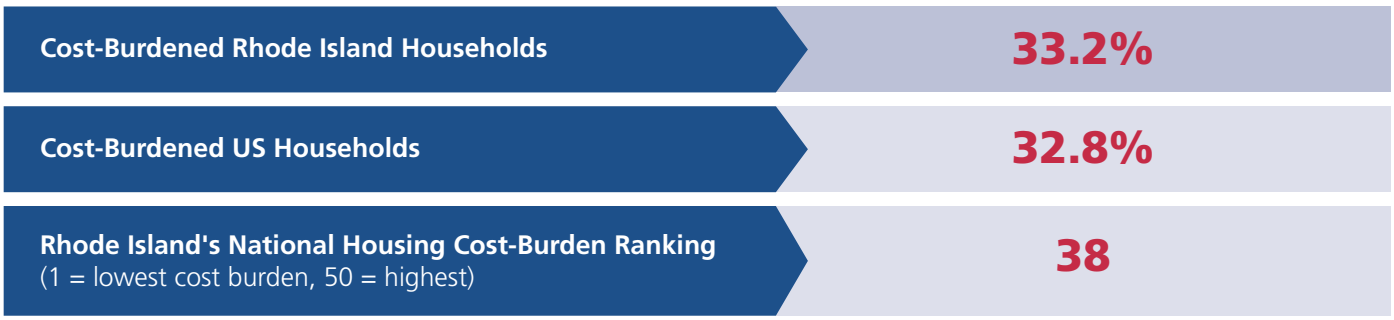

Figure 1: *Percent of cost-burdened households (spending >30% of income on housing), 2023. Rhode Island's National Housing Cost Burden Ranking, 2023. US Census Bureau, American Community Survey, 2023 (as reported by the Rhode Island Foundation).*[16]

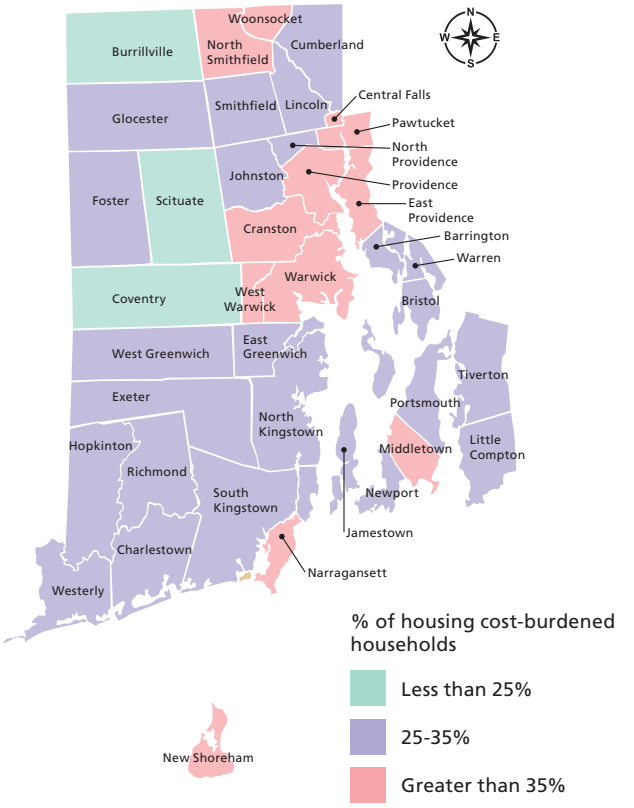

Figure 2: *Map of cost-burdened households by municipality, 2023. Rhode Island Foundation.*[17]

Housing cost burden among renters was similar across racial and ethnic groups, but among homeowners, a higher percentage of Black and Hispanic households experienced cost burden.4 The shortage of affordable housing for low-income renters and the resulting increase in housing cost-burdened households have led to significant drops in perceptions about housing affordability in Rhode Island, especially among Black and Latino communities.[17,18]

Across Rhode Island, roughly one-third of the population, about 150,000 total households, were housing cost-burdened in 2023.[17] Both renters and homeowners earning the state's median household income ($81,370), as well as those earning the median income for homeowners ($107,452), could not affordably purchase a median-priced single-family home in any Rhode Island city or town.[4] That same year, Rhode Island households earning the state's median renter income ($45,560) could afford to rent the average 2-bedroom apartment in a single town in the entire state.[4]

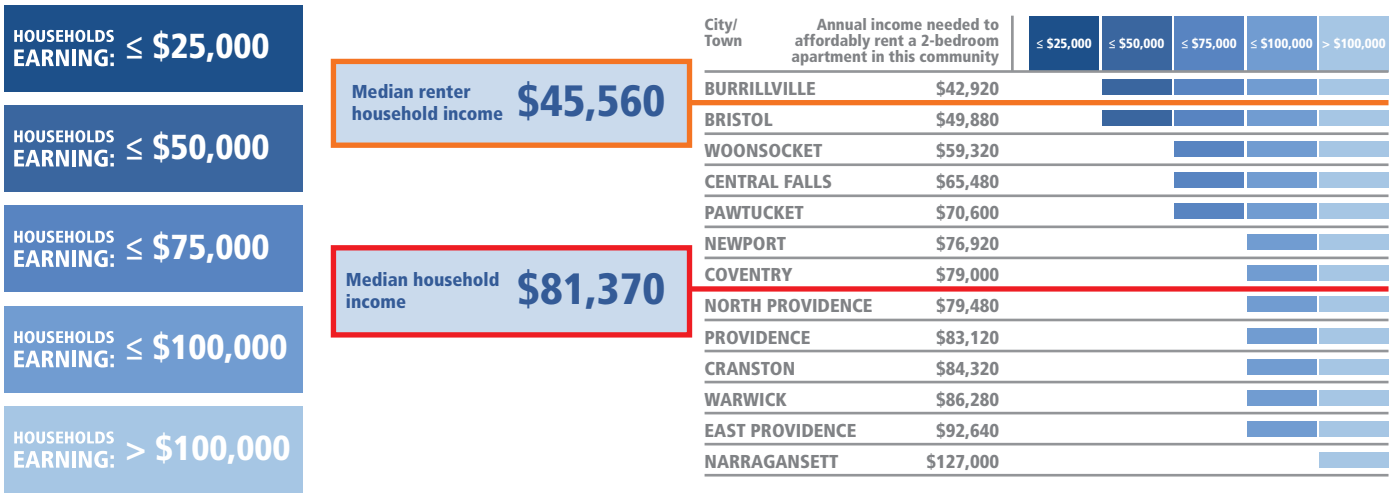

Figure 3: *Annual income needed to affordably rent a 2-bedroom apartment in Rhode Island communities in 2023. Housing Fact Book by HousingWorksRI, 2024.*[4]

Housing cost burden was linked to higher COVID-19 hospitalization and death rates

Throughout the pandemic, housing arrangements like multigenerational or multifamily units and other shared living situations increased the likelihood of COVID-19 exposure.[19] Data also suggest that communities with the highest concentration of cost-burdened households, especially where households were spending more than 50% of income on housing, saw the worst COVID-19 hospitalization and death rates.

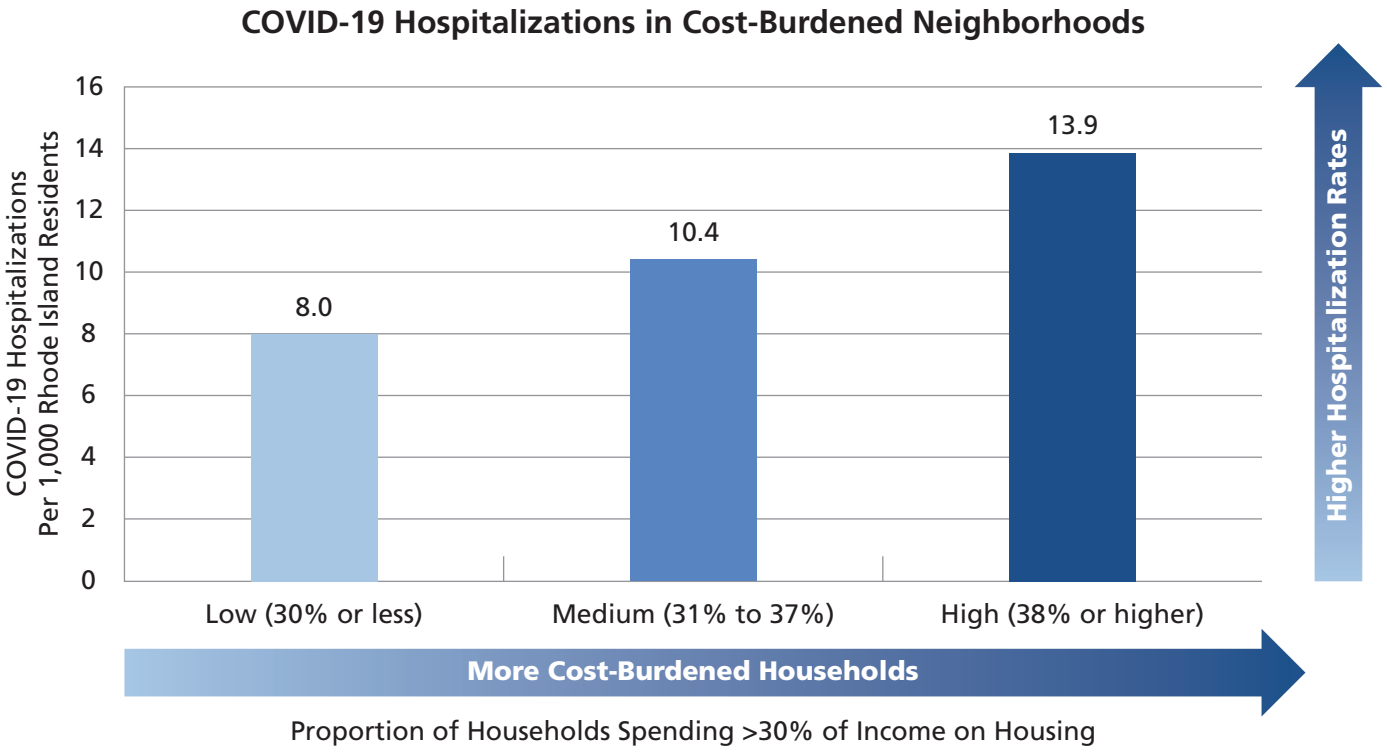

Figure 4: *People living in higher cost-burdened neighborhoods experienced higher rates of COVID-19 hospitalizations, March 1, 2020-December 31, 2021. Data from ProjectSignal.*[1]

Methodology

Project SIGNAL, a collaboration between RIDOH, PPHC, and the Center for Computation and Visualization (CCV), explored inequities related to housing and COVID-19, supported by national and local research.[1] To understand the impact of COVID-19 on different communities, Project SIGNAL analyzed COVID-19 case, hospitalization, and death rates by age and housing type.

The process began with collecting COVID-19 case, hospitalization, and death data from RIDOH case investigations and other sources. Then, using residential addresses, data were grouped by housing type: public, Section 8, congregate, and non-congregate. Finally, case, hospitalization, and death rates for each housing type were calculated by dividing the counts of cases, hospitalizations, and deaths in each group by the total population of that housing type.

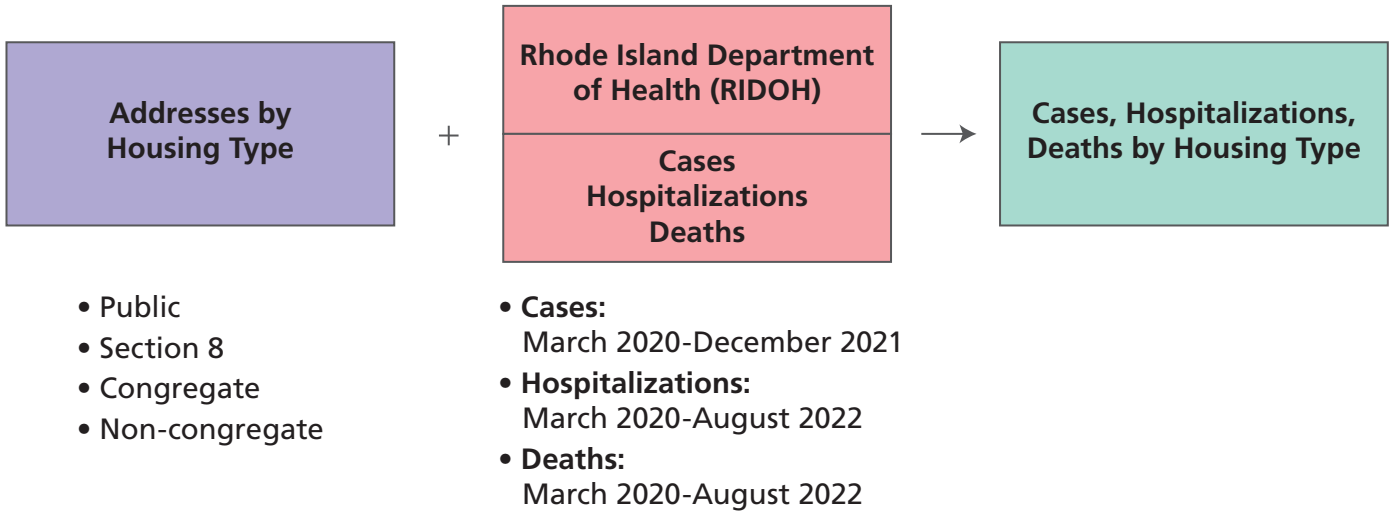

Figure 5: *Project SIGNAL organized COVID-19 data (case, hospitalization, and death counts) by housing type.*

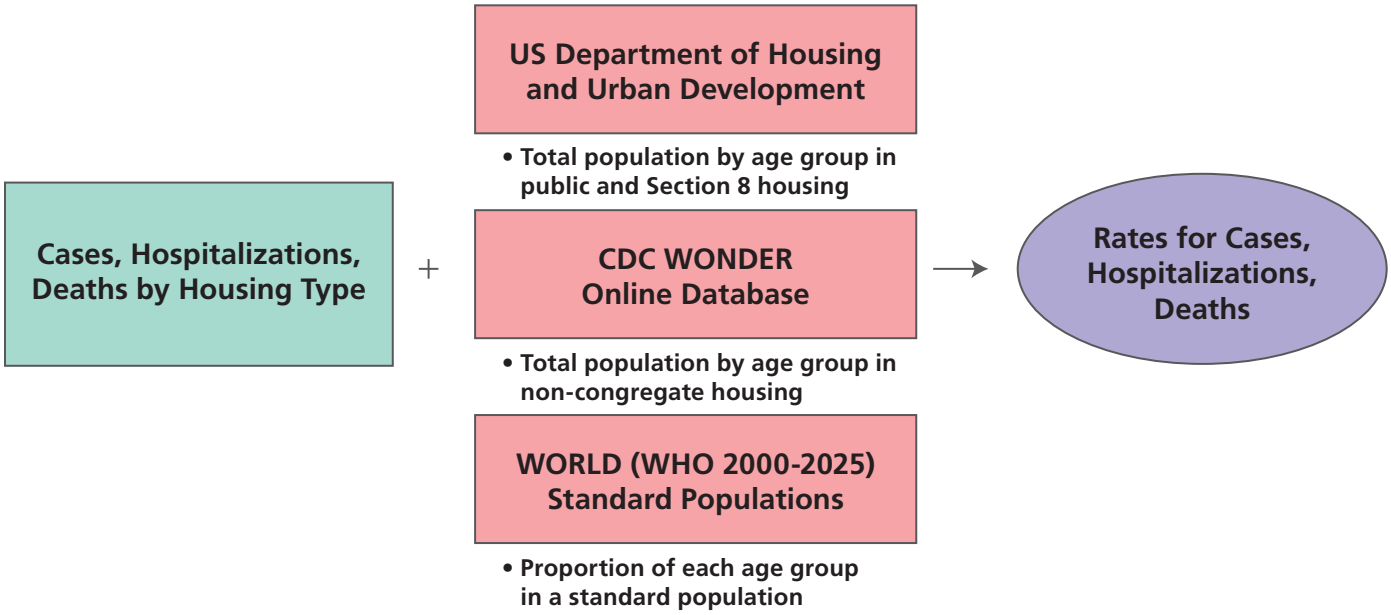

Figure 6: *Project SIGNAL calculated the rates of cases, hospitalizations, and deaths within each housing type by dividing the counts of cases, hospitalizations, and deaths in each group by the total population of that housing type.*

Housing Type, Age, and COVID-19 Outcomes

To better understand how COVID-19 was spreading in communities within housing types, 3 categories of dwellings were examined: public housing, Section 8 housing, and non-congregate setting housing. Additionally, the Project Signal team broke down the information within each housing category by age. Looking at rates by age group, in addition to comparing overall rates, helps compare communities that have different amounts of people in each age range (i.e., areas with more younger people versus those with more older people). **Nationally, people aged 65 and older had the highest COVID-19 case, hospitalization, and death rates compared to younger age groups.**

Hospitalizations by Age and Housing Type

The research found that **public and Section 8 housing saw significantly higher rates of hospitalization compared to those in non-congregate housing**. This was especially true for older adults (ages 62 and up), particularly for those ages 62-82. Older adults living in Section 8 housing were much more likely to be hospitalized than those of the same age living in public and non-congregate housing. This pattern lasted throughout the pandemic.

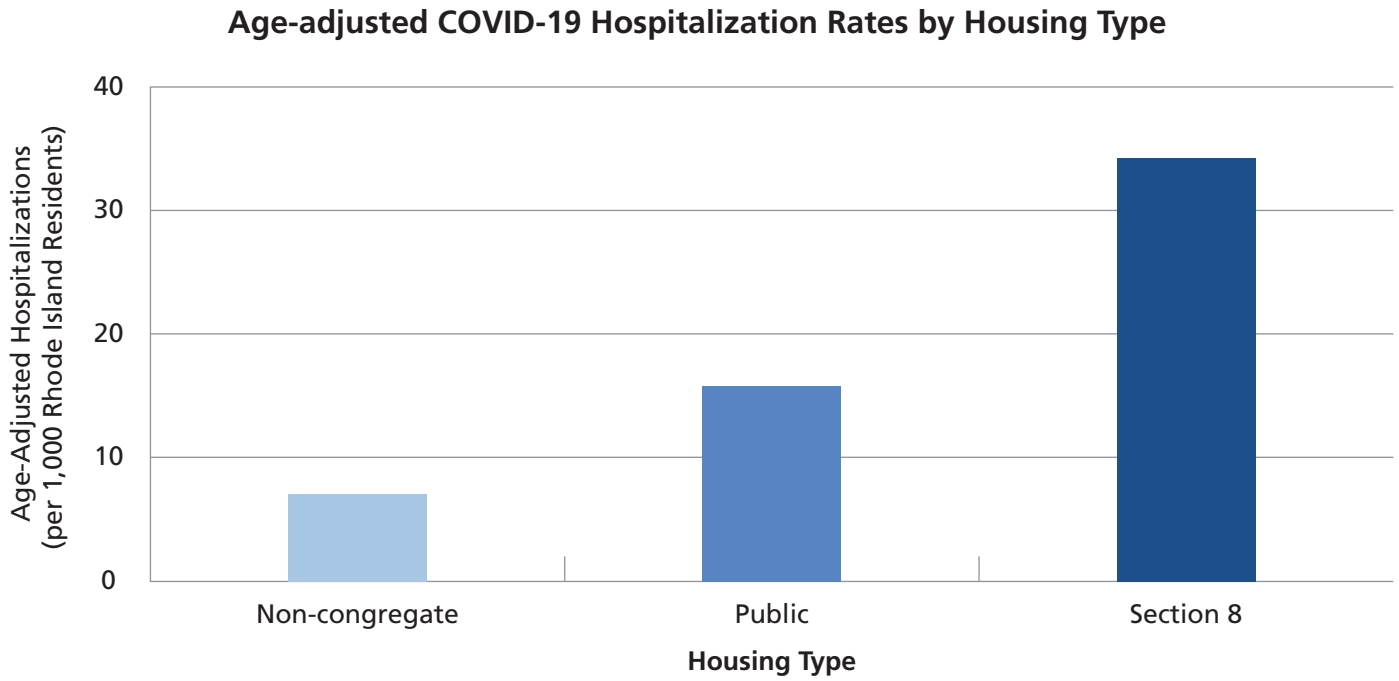

Figure 7: *Age-adjusted COVID-19 hospitalization rates by housing type per 1,000 Rhode Island residents, March 2020 to December 2021, Project SIGNAL.*

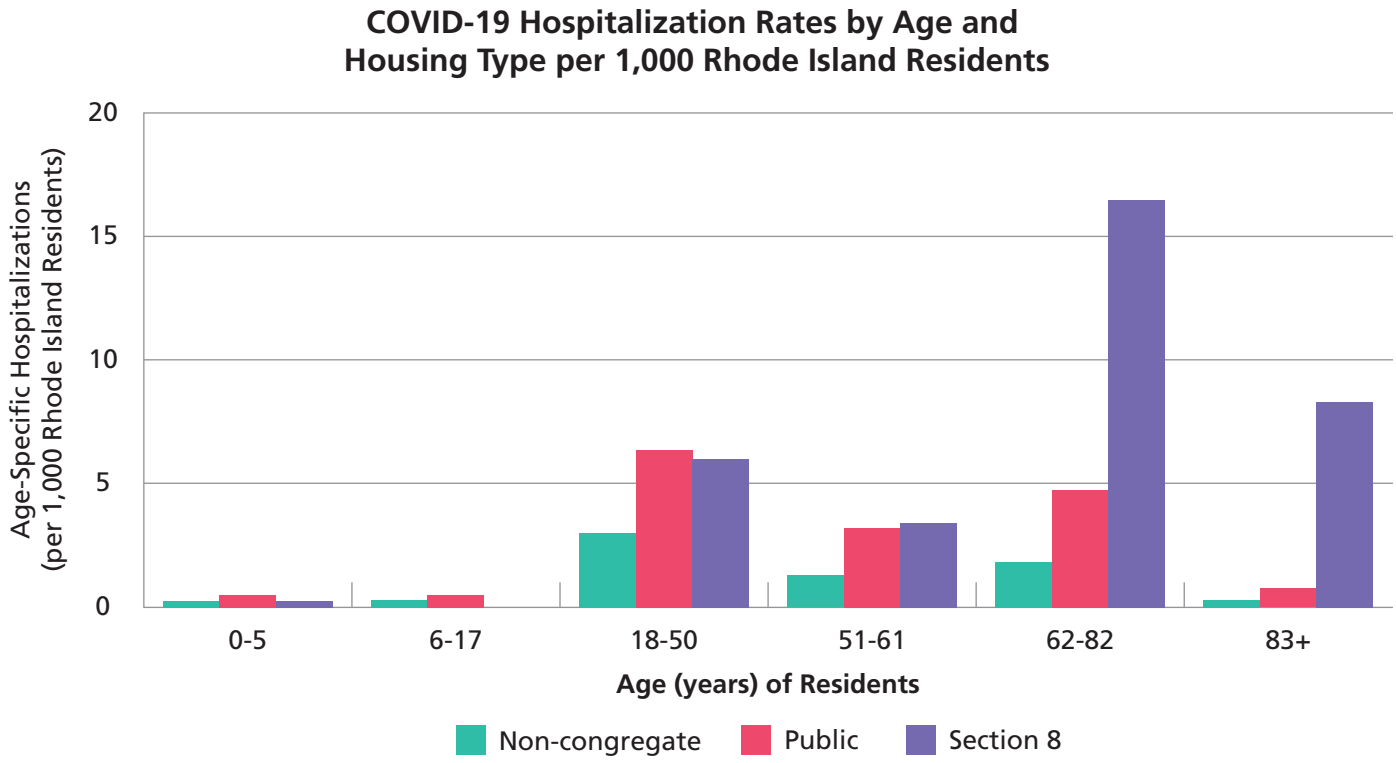

Figure 8: *Age-specific COVID-19 hospitalization rates by age and housing type per 1,000 Rhode Island residents, March 2020 to December 2021, Project SIGNAL.*

Deaths by Age and Housing Type

Death rates were also broken down by age and housing type. Like with hospitalizations, public and Section 8 housing saw higher death rates compared to non-congregate housing, and worse again in senior populations.

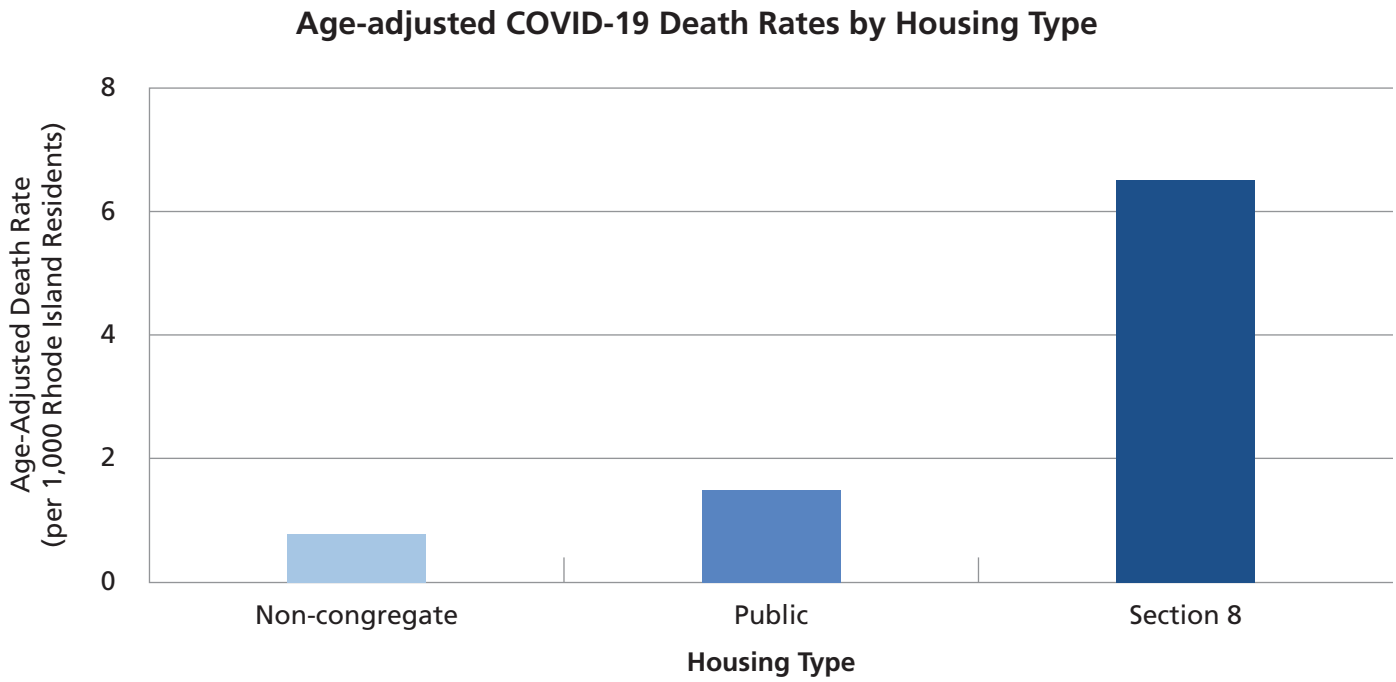

Figure 9: *Age-adjusted COVID-19 death rates by housing type per 1,000 Rhode Island residents, March 2020 to December 2021, Project SIGNAL.*

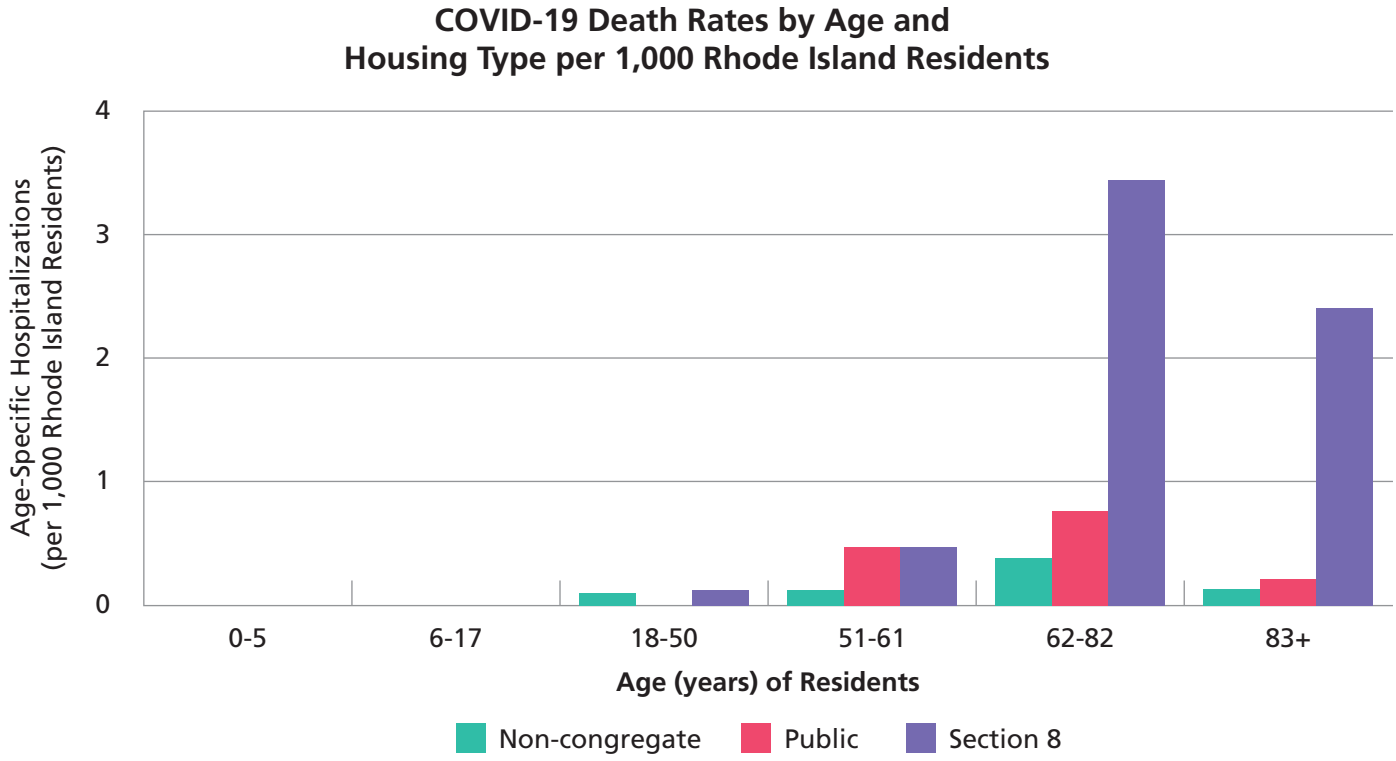

Figure 10: *Age-adjusted COVID-19 death rates by housing type per 1,000 Rhode Island residents, March 2020 to December 2021, Project SIGNAL.*

Nationally, 17% and 11% of residents in public and Section 8 housing, respectively, are older adults (ages 62 and up).[20] As of 2022, older adults were the head of household in 43% of Rhode Island's extremely low-income renter households.[14,21] Rhode Island's population is aging. By 2030, approximately 250,000 Rhode Island residents will be 65 years and older, about 22% of the projected population of 1,106,119.[22,23]

Residents in low-income housing already face several barriers to health due to location, limited access to healthcare, food insecurity, and insufficient resources to allocate toward healthcare or social services.[20] These barriers became more apparent during the pandemic when healthcare workers and health departments struggled to reach residents within privately owned Section 8 housing. Initiatives like the Public Housing Primary Care Program, supported by the National Center for Health in Public Housing, were designed to provide healthcare access to public housing residents. More research is needed to better understand how health departments and other organizations can effectively reach residents living in privately owned low-income housing.

Policy Change

In 2021 and 2022, Rhode Island passed 2 important laws prohibiting housing income source discrimination and streamlining low to moderate-income housing construction and repurposing of old school buildings for affordable housing.[24,25] Other laws passed aim to foster housing development and protect tenants. Actions include eliminating rental application fees, changing rent increase protocols, streamlining low-income housing applications, and allowing adaptive reuse of commercial structures in high-density residential developments.[24] In 2023, the housing budget increased from $250 million to $321 million.[26] The original $250 million investment in housing was American Rescue Plan funds that were approved for various housing projects.[27] In 2023, $101 million of those funds were allocated to 23 housing projects.[26]

For fiscal year 2024, the governor added about $30 million appropriated for a State-funded low-income tax credit program to expand shelter capacity in the state and grow new Department of Housing staff to support the work begun the previous year.[24,28] Additionally, more than $72 million was deployed to secure housing and behavioral health services, as well as a new program for developing housing in priority areas and addressing the needs of extremely low-income populations.[28] The 2024 legislative session passed 14 housing bills to address Rhode Island's housing supply shortage.[29] In 2024, in accordance with the *Low and Moderate Income Act* passed that same year, a record 8 municipalities (Burrillville, Central Falls, East Providence, Newport, Pawtucket, Providence, West Warwick, and Woonsocket) met a long-standing goal of having at least 10% of their homes legally qualified as affordable in 2024. Another 3 municipalities (Cranston, North Providence, and Warwick) met an alternative goal of having at least 15% of their rental apartments qualify as affordable.[26] To support this momentum, the State's 2025 budget includes an extra $20 million to the already $100 million initially allocated for affordable housing creation, of which up to $10 million can be used directly for public housing.[28,29]

In tandem with the State work, organizations like HousingWorksRI, Rhode Island Housing, Rhode Island Foundation, Housing Help Rhode Island, Crossroads Rhode Island, and others are working to improve housing stability in the state. However, more work is still needed, not just in Rhode Island, but across the country. Some states are turning to Medicaid's Section 1115 waivers to improve housing.[30] At least 8 states have received approval to use Section 1115 waivers for health-related social needs, 4 of which are using it to cover enrollees' rent or temporary housing costs.[30,31] New Jersey has used this option for assistance in landlord disputes and home remediation.[31]

Conclusion

The pandemic exposed widespread disparities across a variety of sectors. Researchers have been working to untangle the effects of structural inequities, systemic racism, and SDOH and how they have impacted COVID-19-related outcomes and health disparities. Project SIGNAL began the crucial work of exposing and explaining the connections between housing and COVID-19 outcomes in Rhode Island. They found that low-income housing, specifically Section 8 housing, is associated with higher COVID-19 case, hospitalization, and death rates. They also found that within populations living in Section 8 housing, older residents experienced the worst of the pandemic.

While other researchers have looked at the effect of homelessness, eviction, housing displacement, and unstable housing on COVID-19 outcomes, few have investigated how housing type plays a role in COVID-19 outcomes. With other studies across the country noting that housing, in both costs and availability, has worsened due to the pandemic, insight into housing type is critical. Rent and housing prices have risen across the country and in Rhode Island, with wages quickly falling behind.[16,17] When families become cost-burdened, fewer resources are allocated for staying healthy, putting them at greater risk for COVID-19 infection and severe illness.[11,12,13] Finally, Project SIGNAL's findings reveal how accounting for disparities in SDOH factors can play a pivotal role in planning for and responding to future emergencies.

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Appendix: Definitions

Health equity[32]	The state in which everyone has a fair and just opportunity to achieve their highest level of health. Health equity requires addressing past and present injustices, overcoming socioeconomic obstacles to health and healthcare, and eliminating preventable health disparities.
Health disparities	Differences in health outcomes between groups of people as a result of unavoidable conditions like aging and genetics, avoidable conditions rooted in injustice, or both. In other words, some health disparities happen naturally, while others happen because of unfair systems that don't meet everyone's needs.
Social determinants of health (SDOH)	The non-medical factors and conditions in a person's life that influence their health and well-being. Examples include housing, education, and income. SDOH exist beyond individual lifestyle choices and the healthcare setting. Instead, SDOH are shaped by broader economic, political, and social policies and practices.
Public housing[33]	Housing managed by government agencies for low-income individuals and families, older adults, and people with disabilities.
Housing Choice Vouchers (Section 8)[3]	A federal program that helps low-income individuals and families afford housing in the private market by providing rental assistance.
Subsidized housing[34]	Housing the government pays apartment owners so they can offer reduced rent prices to tenants with low incomes.
Non-congregate housing[1]	A privately owned or rented residence that is not subsidized through government spending.
Congregate housing *(excluded from Project SIGNAL work)*	Housing where individuals typically not related to each other are living in proximity or sharing living facilities (e.g., assisted living residences, nursing homes, group homes, college dormitories, correctional facilities, etc.)
Affordable housing[4]	Housing where the occupant is paying 30% or less of their gross income on all housing-related costs, including utilities.
Low-income housing	For the purposes of this brief, a term encompassing subsidized, Section 8, and public housing. It may have different meanings across different sources.
Housing cost burden[4]	A term for when a household is paying between 30% to 50% of their income on housing costs. When a household is paying more than 50% of its income on housing costs, the term "housing insecure" is sometimes applied.

Data Sources

- COVID-19 case, hospitalization, and death rates were calculated using data from the Rhode Island Department of Health's COVID-19 surveillance system for hospitalizations reported between March 1, 2020, and December 31, 2021.
- Proportions of households spending more than 30% of income on housing were calculated from the US Census Bureau's American Community Survey's 5-year estimates (2018–2022).[15]

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