



Boston CHNA-CHIP Collaborative

2022

Community Health Needs Assessment

**Boston CHNA-CHIP Collaborative
2022 Community Health Needs Assessment**

TABLE OF CONTENTS

EXECUTIVE SUMMARY i

BACKGROUND..... 1

 Purpose and Context of the 2022 Community Health Needs Assessment..... 1

 Definition of Community Served 2

METHODS..... 2

 Social Determinants of Health Framework..... 2

 Review of Secondary Data 2

 Qualitative Discussions and Community Engagement 3

 Limitations 4

 2022 CHNA: A Snapshot in Time during the COVID-19 Pandemic..... 4

BOSTON POPULATION – Race, Ethnicity, and Language 5

 Race and Ethnic Diversity..... 5

 Language and Immigrant Communities..... 7

COMMUNITY ASSETS AND STRENGTHS 8

OVERALL HEALTH AND MORTALITY 8

 Community Perceptions of Health..... 8

 Overall Mortality..... 9

CHIP PRIORITY AREA - FINANCIAL STABILITY AND MOBILITY: Jobs, Employment, Income, Education, and Workforce Training 14

 Income and Poverty 14

 Food Insecurity..... 17

 Employment..... 19

 Employment Challenges 19

 Employment and the COVID-19 Pandemic 19

 Education 20

CHIP PRIORITY AREA - HOUSING: Affordability, Quality, Homelessness, Homeownership, Gentrification, and Displacement 21

 Housing Affordability 21

 Housing Instability and Transiency 23

 Housing Conditions, Overcrowding, and COVID-19..... 23

CHIP PRIORITY AREA - BEHAVIORAL HEALTH: Mental Health and Substance Use 24

Trauma, Racism, and Discrimination	24
Community Violence and Interactions with the Police.....	27
Mental Health, Depression, and Suicide.....	28
Behavioral and Mental Health Care Access and Barriers to Care.....	31
Substance Use	32
CHIP PRIORITY AREA - ACCESSING SERVICES: Childcare, Social Services, and Health Care.....	34
Accessing Childcare Services.....	34
Accessing Social and Other Services	35
Accessing Health Care Services.....	36
Overall Barriers to Health Care	36
Barriers Specific to People with Disabilities and Older Adults.....	37
Health Care Access Specific to the COVID-19 Pandemic	37
COMMUNITY’S VISION AND COMMUNITY SUGGESTIONS FOR THE FUTURE	38
PRIORITIES FOR COLLABORATIVE ACTION	42
Identified and Reaffirmed Priorities	42
Criteria for Prioritization	42
Prioritization Process	43
APPENDIX A. Structure of the Boston CHNA-CHIP Collaborative	44
APPENDIX B. Steering Committee and Work Group Members	45
APPENDIX C. Ongoing Partner and Community Engagement and the Collaborative Process	48
Ongoing Partner and Community Engagement.....	48
Communicating about the Assessment Findings.....	48
Continuous Updating and Revising of the Assessment	49
APPENDIX D. Technical Notes on CHNA Quantitative and Qualitative Methods and Data.....	50
Quantitative Data – Secondary Data	50
Qualitative Data – Focus Groups and Interviews.....	51
Asset Mapping and Community Resources	52
APPENDIX E. Key Informant Interviewee Organizations.....	53
APPENDIX F. Additional Data Tables.....	55
REFERENCES.....	94

EXECUTIVE SUMMARY

BACKGROUND

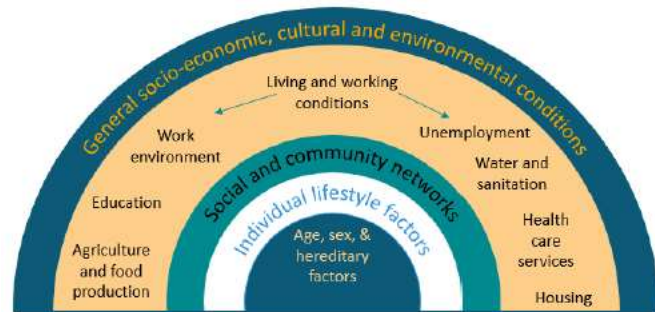
The Boston CHNA-CHIP Collaborative (the Collaborative) is a group of Boston health centers, community-based organizations, community residents, hospitals, and the Boston Public Health Commission. The Collaborative aims to achieve sustainable positive change in the health of the city by partnering with communities, sharing knowledge, aligning resources, and addressing root causes of health inequities. In 2019, the Collaborative conducted the first large-scale joint citywide community health needs assessment (CHNA) which then guided the city's community health improvement plan (CHIP), a blueprint describing how the Collaborative would focus on collectively addressing the key priorities.

In 2021-2022, the Collaborative worked together to develop the 2022 Boston CHNA. The 2022 Boston CHNA builds on the 2019 CHNA and takes a deep dive into the key priority areas identified in the 2020 community health improvement plan: housing, financial stability and mobility, behavioral health, and accessing services. The 2022 CHNA was conducted during an unprecedented time, including the COVID-19 pandemic and a reckoning with systemic racism.

METHODS

This CHNA focuses on the social determinants of health and is guided by a health equity lens. In the U.S., social, economic, and political processes work together to assign social status based on race and ethnicity, which may affect access to opportunities, such as educational and occupational mobility and housing options, each of which are intimately linked with health. Historical oppression, institutional racism, discriminatory policies, and economic inequality are several root factors that shape health inequities across the U.S.

Social Determinants of Health Framework



Source: World Health Organization, Commission on the Social Determinants of Health, Towards a Conceptual Framework for Analysis and Action on the Social Determinants of Health, 2005.

Existing secondary data were reviewed from national, state, and city sources, including datasets such as the American Community Survey, Boston Behavioral Risk Factor Surveillance System (BBRFSS), BBRFSS COVID-19 Health Equity Survey, and vital records, among other sources. For new data collection, key informant interviews were conducted with 62 leaders across sectors and 29 focus groups were facilitated with 309 residents who have been particularly burdened by social, economic, language, and health challenges. We use the term "residents" throughout the report to refer to participants in focus groups, interviews, and community listening sessions.

COMMUNITY ASSETS AND STRENGTHS

- Residents described their communities as deeply connected, resilient, committed to solving problems, and comprised of several supportive community-based organizations.
- Key informants and focus group participants talked about their communities as being vibrant, full of rich cultural traditions, having a strong history of activism and art, intelligent, innovative, and committed to solving problems.

“The community has come together for food distributions, to work together as a community to support the community with food access. There is always more to do, but this is a way that we have improved and supported each other.”
- Focus group participant

OVERALL HEALTH AND MORTALITY

- **Community Health Perceptions:** Top of mind health concerns for focus group and interview participants were mental health, substance use, heart disease, diabetes, asthma, and obesity, all of which they perceived as being harder to tackle during the pandemic.
- **Leading Causes of Death:** COVID-19 was the leading cause of death for Black, Latino, and Asian residents in Boston in 2020. Additional leading causes of death were chronic diseases and accidents.

Leading Causes of Mortality, by Boston and Race/Ethnicity, Age-Adjusted Rate per 100,000 Residents, 2020

	Boston	Asian	Black	Latino	White
1	COVID-19 138.4	COVID-19 95.1	COVID-19 238.1	COVID-19 143.5	Cancer 117.6
2	Cancer 117.4	Cancer 92.8	Heart Disease 183.6	Heart Disease 86.1	Heart Disease 113.1
3	Heart Disease 114.9	Heart Disease 55.4	Cancer 166.7	Cancer 78.8	COVID-19 103.5
4	Accidents 53.7	Cerebrovascular Diseases 22.2 [†]	Accidents 82.7	Accidents 59.5	Accidents 53.2
5	Cerebrovascular Diseases 27.4	Accidents 17.1 [†]	Cerebrovascular Diseases 52.8	Diabetes 27.4	Chronic Lower Respiratory Diseases 24.7

DATA SOURCE: Massachusetts Department of Public Health, Boston Resident Deaths, 2020

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

FINANCIAL STABILITY AND MOBILITY: Jobs, Employment, Income, Education, and Workforce Training

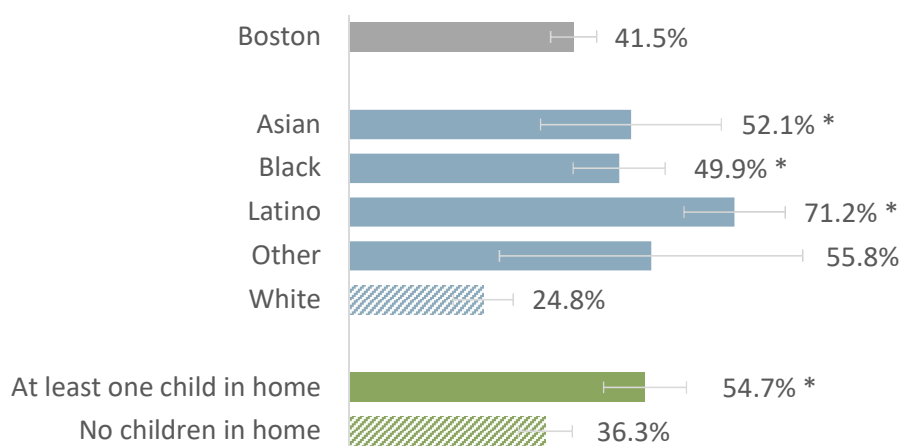
- **Income and Poverty:** Community leaders and residents described financial stability as critical for health and shared that low-wage work and minimum wage is insufficient for many families to survive in Boston. Residents noted that the pandemic has worsened poverty for low-income residents across Boston. Based on the COVID-19 Health Equity Survey, income loss during the pandemic has disproportionately affected residents of color and low-income residents.

- **Food Insecurity:** Barriers to accessing healthy, affordable food emerged as a priority issue, which worsened during the pandemic and by the rising cost of food. According to the COVID-19 Health Equity Survey, food insecurity is greatest among residents of color and adults with children at home.
- **Employment:** Interview and focus group participants described significant job loss linked with the pandemic and noted that finding and securing stable jobs is more difficult for residents of color, immigrants, people with disabilities, and residents with a criminal record. They also shared that low-wage workers, especially immigrants, worked in high-risk job settings during the pandemic.
- **Education:** Focus group and interview participants described remote learning and the pandemic as particularly hard for youth who already face disproportionate challenges in school. According to the COVID-19 Health Equity Survey, 14.5% of Boston adults with children reported unmet educational needs for children or teens during the pandemic.

HOUSING: Affordability, Quality, Homelessness, Homeownership, Gentrification, and Displacement

- **Housing Affordability:** Interview and focus group participants cited housing affordability as a dominant concern that has been exacerbated by the pandemic due to high housing costs and employment fluctuations. In the COVID-19 Health Equity Survey, 41.5% of adults reported having trouble paying their rent or mortgage during the pandemic, with highest proportions reported among residents of color and adults with children at home.
- **Housing Instability and Transiency:** Community leaders and residents described housing assistance as insufficient to meet the needs of low-income residents and expressed concern about ending rental assistance programs instituted during the pandemic. Residents underscored how the lack of affordable housing contributes to homelessness and housing instability, overcrowded housing, and housing displacement – which adversely affect mental health.
- **Housing Conditions, Overcrowding, and COVID-19:** Residents noted that COVID-19 cases often affected several household members, which they linked to dense living conditions that make it difficult to isolate or quarantine and people working multiple jobs outside of the home.

Percent Adults Reporting Having Trouble Paying Their Rent or Mortgage During the COVID-19 Pandemic, by Boston and Selected Indicators, December 2020-January 2021



DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, COVID-19 Health Equity Questionnaire, December 2020 - January 2021

BEHAVIORAL HEALTH: Mental Health and Substance Use

- **Trauma, Discrimination, and Racism:** Residents discussed that some groups are disproportionately affected by trauma, discrimination, and racism, including: residents of color, lesbian, gay, bisexual, transgender, queer or questioning, intersex, and asexual (LGBTQIA+) communities, veterans, people with disabilities, people who have experienced violence, low-income residents, and those who lost loved ones during the pandemic. In the 2015-2019 BBRFSS, reports of being threatened at least a few times a month due to discrimination were highest among Black and Latino residents.
- **Community Violence and Interactions with Police:** Some residents discussed community violence and safety concerns as well as increased neighborhood conversations about community and police relations. In 2015-2019, the most recent years for which data are available, BBRFSS respondents' reports of feeling like they were stopped by police due to their race or ethnicity were highest among residents of color.
- **Mental Health, Depression, and Suicide:** Mental health was a key issue pre-pandemic and the impact of the pandemic only heightened that concern, particularly for children, youth, and caregivers. According to the COVID-19 Health Equity Survey, during the pandemic 16.8% of Boston adults reported experiencing persistent sadness and 21.9% reported persistent anxiety during the pandemic for more than half of the days in the past 2 weeks. Notably, 29.2% of LGBTQIA+ Youth Risk Behavior Survey (YRBS) student respondents reported having had suicidal thoughts in 2015-2019.
- **Behavioral and Mental Health Care Access and Barriers to Care:** Residents discussed several barriers to accessing mental health care, including a limited number of mental health providers, financial barriers, a lack of culturally appropriate and linguistically congruent care, and stigma surrounding mental health care. Based on the COVID-19 Health Equity Survey, 9.9% of Boston adults reported delaying mental health care due to the pandemic and 7.1% reported delaying mental health care because of cost.
- **Substance Use:** Substance use concerns that emerged include misuse of drugs, overusing prescriptions and over-the-counter medicines, and smoking nicotine and marijuana, particularly among LGBTQIA+ residents and youth. According to COVID-19 Health Equity Survey, 27.8% of Boston adults reported increased drinking habits during the pandemic.

“The trauma also perpetuates these issues, and the environment also perpetuates these issues and systemically the services that we don’t get perpetuates these issues. So that is why racism is a public health crisis.”-

Key informant interview

ACCESSING SERVICES: Childcare, Social Services, and Health Care

- **Accessing Childcare Services:** In focus groups and interviews, childcare emerged as a growing need due to the pandemic. According to the COVID-19 Health Equity Survey, 14.3% of Boston adults reported that children in their households experienced unmet childcare needs during the pandemic.
- **Accessing Social and Other Services:** Residents and community leaders discussed rising and acute social and economic needs among a growing segment of low-income residents and significant barriers to accessing services, such as: transportation, difficulty navigating application processes, limited Internet, and lack of eligibility due to immigration status. Several participants also discussed systemic racism, racial injustice, and discrimination. In 2015-2019 BBRFSS data, 28.4% of Boston residents reported receiving poor service at restaurants or stores in day-to-day life due to their race or ethnicity, with a higher proportion of respondents of color indicating having this experience.

- **Accessing Health Care Services:** Residents identified barriers to accessing health care, including: income, health insurance, distrust towards providers, difficulty navigating the health care system, transportation, difficulty securing a medical appointment, language barriers, and limited culturally relevant care. Residents described how racial and ethnic inequities in health care access and social factors – such as transportation and Internet access – have been magnified by the COVID-19 pandemic.

“Due to my language barriers, I was not able to express my health concerns and had a hard time to communicate with doctors to get right treatment.”- Focus group participant

COMMUNITY’S VISION AND COMMUNITY SUGGESTIONS FOR THE FUTURE

Interview and focus group participants were asked for their suggestions for addressing identified needs and their vision for the future. Suggestions included the following:

- Deepen Partnerships with Local Communities and Collaborate to Promote Health Equity
- Focus on Dismantling Systemic Racism
- Create Opportunities that Foster Economic Stability and Mobility
- Improve Housing Affordability
- Improve Access to and Quality of Behavioral Health Care
- Strengthen Health Care Policies and Improve Health Care Access and Quality
- Promote Child and Youth Development
- Create a Healthier Built and Physical Environment

PRIORITIES FOR COLLABORATIVE ACTION

For the past two years, the Boston CHNA-CHIP Collaborative has been implementing the 70 strategies outlined in the 2020 community health improvement plan. Great progress has been made on many of these strategies, while other strategies have not been implemented as extensively given constrained capacity and the current context of the COVID-19 pandemic.

Given this backdrop, the 2022 prioritization process focused on:

- 1) reaffirming the previous priorities and identifying any new issues that have emerged; and
- 2) prioritizing specific strategies within these major areas that should be lifted up for future action.

In May-June 2022, 62 participants were engaged in four community listening sessions to discuss the CHNA findings, provide feedback on the data and key priority areas, and systematically vote on the 2020 CHIP strategies for more focused implementation. The results reaffirmed the CHIP’s priorities of:

- **Housing** (including affordability, quality, homelessness, ownership, gentrification, and displacement)
- **Financial Security and Mobility** (including jobs, employment, income, education, and workforce training which comprised this priority in the past CHIP, and including food security which emerged as a salient issue in the 2022 CHNA)
- **Behavioral Health** (including mental health and substance use)
- **Accessing Services** (including health care, childcare and social services)

Boston CHNA-CHIP Collaborative 2022 Community Health Needs Assessment

BACKGROUND

This report is the 2022 community health needs assessment for the Boston CHNA-CHIP Collaborative. A community health needs assessment, or CHNA, gathers community input and data to gain a greater understanding of the strengths of the community, the issues that residents face, how those issues are currently being addressed, and where there are gaps and opportunities to address these issues in the future. CHNAs provide a data-informed foundation for planning and the development of initiatives.

The Boston CHNA-CHIP Collaborative (the Collaborative) is a group of Boston community residents, community-based organizations, community development corporations, health centers, the hospitals, and the Boston Public Health Commission. This group has come together to achieve sustainable positive change in the health of the city by collaborating with communities, sharing knowledge, aligning resources, and addressing root causes of health inequities. One of the fundamental approaches for this work is to conduct a community health needs assessment so efforts are informed by data and community members themselves. While community health assessment and planning have been long-standing endeavors among organizations across the city, the Collaborative aims to leverage, align, and coordinate efforts and resources across multi-sector stakeholders in Boston. More details about the Collaborative's structure and engagement can be found in the Methods section of this report, Appendices A-C, and at <http://www.bostonchna.org/>.

Purpose and Context of the 2022 Community Health Needs Assessment

In 2019, the Collaborative conducted the first large-scale joint citywide CHNA which then guided the city's community health improvement plan (CHIP), a blueprint describing how the Collaborative would focus on collectively addressing the key priorities. The 2022 Boston CHNA builds on those efforts by taking a deep dive into the key priority areas identified in the previous CHIP: housing, financial stability and mobility, behavioral health, and accessing services.

This 2022 CHNA was conducted during an unprecedented time, including the COVID-19 pandemic, which exacerbated many social and economic inequalities that have been present for generations. The pandemic contributed to a staggering number of COVID-19 cases, deaths, and ongoing health challenges which disproportionately affected marginalized populations. During this same period, there has been a growing national movement calling for racial equity to address racial injustices in the U.S. The growth of this movement has been sparked by the killings of several Black Americans including George Floyd and Ahmaud Arbery. In 2020, the City of Boston declared racism as a public health crisis, underscoring the City's commitment to dismantle structural racism and recognize historical injustice.

This context shaped the assessment approach and content, in that the 2022 Boston CHNA also explores how the pandemic and racial injustices have affected priorities that emerged from the previous CHIP.

These processes have been guided by the Collaborative’s shared values of:

- **Equity:** Focus on inequities that affect health with an emphasis on race and ethnicity;
- **Inclusion:** Engage diverse communities and respect diverse viewpoints;
- **Data driven:** Be systematic in our process and employ evidence-informed strategies to maximize impact;
- **Innovative:** Implement approaches that embrace continuous improvement, creativity, and change;
- **Integrity:** Carry out our work with transparency, responsibility, and accountability;
- **Partnership:** Build trusting and collaborative relationships between communities and organizations to foster sustainable, community-centered change.

Definition of Community Served

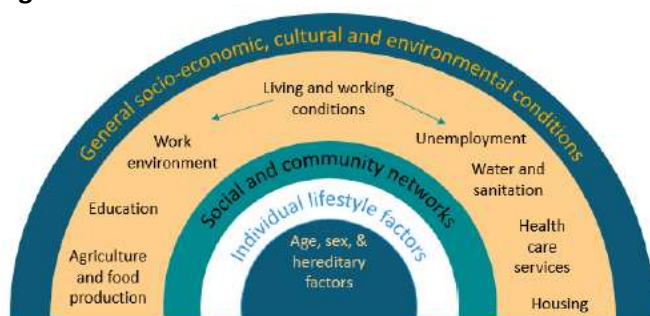
The 2022 Boston CHNA focused on the geographic area of the City of Boston. When available and appropriate, the data are presented for Boston overall and by different sub-populations. This includes by race/ethnicity, neighborhood, and other defining characteristics.

METHODS

Social Determinants of Health Framework

This CHNA focuses on the social determinants of health and is guided by a health equity lens (Figure 1). The contexts in which population groups live, learn, work, and play have a profound impact on health. There is often a deep connection between how race, ethnicity, income, geography, and other factors shape health patterns. In the U.S., social, economic, and political processes work together to assign social status based on race and ethnicity, which may affect access to opportunities, such as educational and occupational mobility and housing options, each of which are intimately linked with health. Historical oppression, institutional racism, discriminatory policies, and economic inequality are several of the root factors that shape persistent and emerging health inequities across the U.S.

Figure 1. Social Determinants of Health Framework



Source: World Health Organization, Commission on the Social Determinants of Health, Towards a Conceptual Framework for Analysis and Action on the Social Determinants of Health, 2005.

Review of Secondary Data

The 2022 Boston CHNA data gathering effort included a review of existing secondary data on social, economic, and health indicators. These indicators provide insights into patterns across Boston, by Boston neighborhood, and by population groups within Boston. Secondary data sources included U.S. Census/American Community Survey, vital statistics (birth/death records), hospital case mix data,

Boston Behavioral Risk Factor Surveillance Survey (BBRFSS), BBRFSS COVID-19 Health Equity Survey, Youth Risk Behavior Survey (YRBS), and the Massachusetts Department of Public Health Bureau of Substance Addiction Services treatment data.

The Secondary Data Work Group of the Collaborative included 16 members representing a range of organizations, including hospitals, health centers, and local public health. The Secondary Data Work Group's charge was to provide guidance on secondary data approach and indicators and foster connections with key networks and groups to provide relevant data (See Appendix B for list of members).

To identify the list of social, economic, and health indicators, Secondary Data Work Group members reviewed the indicator list from the 2019 Boston CHNA and prioritized which indicators should be revisited for the 2022 report. The secondary data work group engaged in multiple discussions and prioritized the secondary data that aligned with the 2019 priority areas; that COVID-19 had a disproportionate impact on, and/or where there were the greatest inequities by race/ethnicity, neighborhood, or other characteristics.

Secondary data in the 2022 CHNA represent the most recent data available, and in several cases overlap with data included in the 2019 CHNA due to the need to combine data across years to look at patterns by neighborhood and social and demographic factors. Qualitative discussions (described in the section that follows) build upon the secondary data by shedding light on residents' recent experiences with and perspectives on many factors, including the social determinants of health and how these issues have been affected by the COVID-19 pandemic. Additional detail on the secondary data approach can be found in Appendix D, while Appendix F presents numerous additional data tables and graphs beyond what is covered in the body of this report.

Qualitative Discussions and Community Engagement

The Community Engagement Work Group includes 24 members representing a range of organizations, including health centers, local public health, community development, community-based organizations, and hospitals. The Work Group's charge is to provide guidance on the approach to community engagement, input on primary data collections methods, and support with logistics for primary data collection (See Appendix B for list of members). The Collaborative's Community Engagement Work Group led efforts to gain insight into community needs and strengths as well as priorities from community leaders and residents, especially among those where there has been a gap in representation in previous processes. Altogether, they facilitated 29 virtual and in-person focus group discussions with a total of 309 residents who have been disproportionately burdened by social, economic, and health challenges including: youth and adolescents, older adults, persons with disabilities, low-resourced individuals and families, LGBTQIA+ populations, racially/ethnically diverse populations (e.g., African American, Latino, Haitian, Cape Verdean, Vietnamese, Chinese), limited-English speakers, immigrant and asylee communities, families affected by incarceration and/or violence, and veterans. Some focus groups were conducted in languages other than English, including Spanish, Chinese, and Vietnamese. Please see Appendix D for more details on the community engagement process and qualitative data approach.

Collaborative members conducted key informant interviews with 62 individuals. These represented a cross-section of sectors to identify areas of action and perspectives on the community. These interviewees included leaders and staff from public health, health care, behavioral health, the faith community, immigrant services, housing organizations, economic development, community

development, racial justice organizations, social service organizations, education, community coalitions, the business community, childcare centers, elected government offices, and others. Please see Appendix E for a list of key informant interviewee organizations.

Additionally, Collaborative members conducted four 90-minute virtual Community Listening Sessions in January 2022. A total of 122 community members participated in these four sessions. These sessions occurred mid-way into the CHNA process and provided an opportunity to gather feedback and insights on preliminary data findings and potential priorities at this point in time. During these sessions, Collaborative members shared preliminary themes from focus groups, interviews, and the review of secondary data. The participants discussed their reactions and feedback to these preliminary findings in small groups and identified areas that were their highest priority for action.

To deepen understanding of issues that were salient to respondents, interview, focus group, and community listening session discussion guides used open-ended questions and did not ask about specific topics. Community engagement work group members and their partners conducted the focus groups and interviews, and then summarized the key themes from the discussions they facilitated. These summaries were then analyzed to identify common themes and sub-themes across population groups as well as unique challenges and perspectives identified by populations and sectors, with an emphasis on diving deep into the root causes of inequities. Frequency and intensity of discussions on a specific topic were key indicators used for extracting main themes. Additional information on the qualitative data collection and analysis process can be found in Appendix D. We use the term "residents" throughout the report to refer to participants in focus groups, interviews, and community listening sessions.

Limitations

While the data sources used in this CHNA are highly credible, there are some important limitations and considerations that are important to keep in mind. Qualitative discussions use small sample sizes and non-random sampling methods, the latter of which is an important approach to incorporating the perspectives of communities who were underrepresented in previous processes. Moreover, due to the ongoing COVID-19 pandemic, Collaborative members conducted the majority of interviews and focus group discussions remotely, which may have affected participation – both in terms of who is able to participate remotely and the information elicited in remote discussions.

Secondary data may have a time lag and apply different ways of measuring variable such as neighborhoods. Additionally, BBRFSS data from 2015-2019 are the most recent data available regarding the experiences, health behaviors, and self-reported health and health care patterns among Boston residents. Given the need to aggregate data across years to look at patterns across neighborhoods and population groups, data from the 2015-2019 period overlap with data reported in the 2019 community health needs assessment. Finally, COVID-19 data provide a snapshot in one moment in time in the ongoing pandemic and are not representative of the entire pandemic.

2022 CHNA: A Snapshot in Time during the COVID-19 Pandemic

The COVID-19 pandemic has been an important and evolving backdrop to the 2022 Boston CHNA, and thus shapes how the COVID-19 pandemic has affected priority areas identified in the 2019 CHNA. Despite access to vaccinations beginning in late 2020 and early 2021, there have been multiple increases in case rates linked with the onset of the Delta and Omicron variants. The COVID-19 pandemic is marked by significant changes and inequities in health, the economy, and the workforce. Given the unprecedented nature of the COVID-19 pandemic, it is critical now, more than ever, to understand community needs, experiences, and opportunities for the future.

We also recognize how the pandemic has shaped this process. As part of the BBRFSS, a separate COVID-19 Health Equity Survey was conducted by the Boston Public Health Commission to better understand experiences among residents who have been most impacted by the pandemic. This survey of a random sample of over 1,650 residents in multiple languages was conducted in December 2020/January 2021 and examined issues related to job loss, food insecurity, access to services, mental health, as well as COVID-19 risk perceptions, vaccination, and information sources.

Additionally, the COVID-19 pandemic affected the data collection methods as most of the focus groups and interviews occurred by telephone or video conference. Not surprisingly, the COVID-19 pandemic came up quite a bit during the discussions – but less about the disease itself, and more about how the pandemic has highlighted long-standing and existing inequities that have been pervasive in Boston and the U.S. For these reasons, findings should be understood as capturing a snapshot in an unprecedented moment in time.

BOSTON POPULATION – RACE, ETHNICITY, AND LANGUAGE

Boston’s population is incredibly diverse in terms of race and ethnicity, country of birth, and language use. While the racial and ethnic distribution across Boston has remained similar since the 2019 CHNA, the racial and ethnic composition is changing across neighborhoods.

Race and Ethnic Diversity

Historic disinvestment in communities of color are the root causes of racial inequities in the social determinants of health.¹ Racial and ethnic health and health care inequities are persistent and are among the leading public health challenges of our time. For example, people of color experienced a disproportionate burden of COVID-19-related income loss, cases, and deaths, whereas White residents appeared to weather the COVID-19 pandemic with fewer social, economic, and health costs.^{2,3} Understanding the racial, ethnic, and language profiles of Boston residents provides context to data about health status and the structural, discriminatory, and social factors that contribute to health inequities.

Focus group participants and key informants discussed the racial diversity of residents across Boston as a unique strength, highlighting Black/African American, African, Latino, Cape Verdean, Haitian, Asian, and other Caribbean communities in the Boston area. According to Census estimates (

Table 1), approximately 3 in 5 (60.0%) Boston residents identify as people of color. Mattapan, Hyde Park, Dorchester, and Roxbury are home to the largest proportion of Boston residents who identify as Black. East Boston, Roxbury, Hyde Park, and Dorchester's 02121 and 02125 zip codes have the largest percent of residents who identify as Latino, while Fenway and Allston/Brighton are home to the largest proportion of Asian residents.

Table 1. Racial and Ethnic Distribution, by Boston and Neighborhood, 2020

	Asian	Black	Latino	White	Two or More Races
Boston	9.7%	25.2%	19.8%	44.5%	5.3%
Allston/Brighton	19.3%	4.9%	11.1%	59.0%	4.2%
Back Bay	12.7%	3.5%	7.4%	71.9%	3.7%
Charlestown	8.6%	5.2%	10.9%	71.3%	3.5%
Dorchester (02121, 02125)	11.4%	33.5%	23.7%	17.7%	9.5%
Dorchester (02122, 02124)	8.6%	39.5%	15.5%	29.1%	5.3%
East Boston	4.5%	3.3%	50.4%	36.6%	3.6%
Fenway	24.1%	6.6%	9.0%	55.0%	3.6%
Hyde Park	2.2%	45.7%	24.7%	21.9%	4.2%
Jamaica Plain	7.6%	10.0%	20.3%	56.2%	5.0%
Mattapan	1.0%	68.3%	21.0%	2.5%	5.6%
Roslindale	3.7%	15.4%	20.4%	55.3%	4.2%
Roxbury	11.0%	35.7%	27.3%	19.4%	5.0%
South Boston	5.1%	4.2%	10.4%	76.6%	2.9%
South End	15.6%	12.6%	14.7%	52.4%	3.9%
West Roxbury	7.4%	13.3%	13.0%	62.2%	3.3%

DATA SOURCE: U.S. Census, Decennial Census of Population and Housing, 2020

NOTE: Neighborhoods as defined by Boston Public Health Commission; Back Bay includes Back Bay, Beacon Hill, Downtown, North End, and West End; South End includes South End and Chinatown; Latino includes residents who identify as Latino regardless of race and race categories may include residents who identify as Latino; therefore, the percentages may not add up to 100%

Language and Immigrant Communities

A theme across several interviews and focus groups was that immigrant communities in the Boston area are hardworking, family- and community-oriented, willing to help others, eager to contribute socially and economically, and passionate about local issues and issues in their home countries. Several key informants and focus group participants observed that undocumented immigrants experienced additional barriers to housing, health insurance, and accessing resources and assistance programs, which they perceived were based on legal status and fear of deportation.

“I think [specific neighborhoods] are great for new immigrants. When you first come to the United States, you need help from others.”
- Focus group participant

Key informants and focus group participants noted many languages spoken among residents, including Cantonese, Mandarin, Russian, Spanish, Haitian Creole, Cape Verdean Creole, and indigenous languages. Some residents described free English classes as an important resource for residents for whom English is not their first language. However, language barriers still emerged as an important issue affecting immigrant communities.

COMMUNITY ASSETS AND STRENGTHS

Residents described their communities as deeply connected, resilient, committed to solving problems, and comprised of several supportive community-based organizations.

Understanding the strengths of community members and community resources and services helps to identify the assets that can be drawn upon to promote community health and address any existing gaps. When asked about community strengths, residents discussed a strong sense of community among residents, especially those who have lived in neighborhoods for years. They described their neighbors as supporting each other even when they themselves have limited resources. Focus group participants described their neighbors as “resilient” and “resourceful” even under difficult circumstances. Key informants and focus group participants talked about their communities as being vibrant, full of rich cultural traditions, having a strong history of activism and art, intelligent, innovative, and committed to solving problems.

Focus group participants and key informants discussed the breadth of community-based institutions and services that they knew of, especially those focused on early childhood, youth, young men of color, food security, housing, mental health, health care, caregiver support, workforce development, and the LGBTQIA+ population. Resource sharing and collaboration among a network of community-based organizations was also discussed as a strength. Residents described other community strengths, including engaged elected officials, educational opportunities and the school system, green space (e.g., parks), accessible libraries, and easy access to the transportation system.

“The community has come together for food distributions, to work together as a community to support the community with food access. There is always more to do, but this is a way that we have improved and supported each other.”

- Focus group participant

OVERALL HEALTH AND MORTALITY

Top of mind health concerns for focus group and interview participants were mental health, substance use, heart disease, diabetes, asthma, and obesity, all of which they perceived as being harder to tackle during the pandemic. Meanwhile, COVID-19 was the leading cause of death for Black, Latino, and Asian residents in Boston in 2020.

Community Perceptions of Health

Mental health, substance use, heart disease, diabetes, asthma, and obesity were most frequently brought up as health concerns during interviews and focus group discussions. Key informants and focus

group participants also described a high case rate of COVID-19 for immigrants and communities of color (e.g., Haitian, Cape Verdean, Latino) and for residents of color and low-wage workers who were not able to work from home.

Other health concerns discussed by community leaders and residents included cancer, dementia, Alzheimer’s, osteoporosis, oral health, Black women’s maternal health, and chronic obstructive pulmonary disease (COPD). Some key informants and focus group participants underscored how pre-existing conditions have worsened during the COVID-19 pandemic, including chronic conditions that are difficult to manage, conditions that have remained undiagnosed, and chronic conditions linked with trauma. Youth and LGBTQIA+ focus group participants described sleep as critical to promoting health and identified stress and anxiety as barriers to living a healthy lifestyle and getting adequate sleep. Several focus group participants, particularly youth and residents in Chinatown, cited environmental quality as being linked with health, including air pollution, poor ventilation, smoke from tobacco and marijuana use, and lack of cleanliness in the neighborhood.

Several focus group participants described physical activity, including going for a walk, playing sports, and working out, as important for feeling good, relieving stress, and overall health. Focus group participants explained that during the COVID-19 pandemic they have not been able to do as much physical activity and have been quite sedentary. As one participant mentioned, *“People have not been active through COVID – kids and adults have put on so much weight – some have become obese. I am worried about the kids – they don’t get enough activity.”* Focus group participants cited the importance of and need for green space (e.g., parks, access to walking paths) to enable residents to spend time outside safely and to be physically active in an affordable way. Several focus group participants noted the importance of clean neighborhoods, including air quality and trash. LGBTQIA+ focus group participants also described a need for gyms that are more welcoming to LGBTQIA+ residents.

“It seems like almost every family has high blood pressure, high cholesterol, or diabetes.”
-Focus group participant

Additional data on health issues such as asthma, birth outcomes, and physical activity can be found in Appendix F.

Overall Mortality

In 2020, COVID-19 was the leading cause of death for Black, Latino, and Asian residents in Boston, whereas cancer was the leading cause of death for White residents (

Table 2). Additional leading causes of death were accidents and chronic diseases, such as cancer, heart disease, and cerebrovascular diseases. In the 2019 Boston CHNA, cancer was the leading cause of death across each of the largest racial and ethnic groups in Boston.

Table 2. Leading Causes of Mortality, by Boston and Race/Ethnicity, Age-Adjusted Rate per 100,000 Residents, 2020

	Boston	Asian	Black	Latino	White
1	COVID-19 138.4	COVID-19 95.1	COVID-19 238.1	COVID-19 143.5	Cancer 117.6
2	Cancer 117.4	Cancer 92.8	Heart Disease 183.6	Heart Disease 86.1	Heart Disease 113.1
3	Heart Disease 114.9	Heart Disease 55.4	Cancer 166.7	Cancer 78.8	COVID-19 103.5
4	Accidents 53.7	Cerebrovascular Diseases 22.2 [†]	Accidents 82.7	Accidents 59.5	Accidents 53.2
5	Cerebrovascular Diseases 27.4	Accidents 17.1 [†]	Cerebrovascular Diseases 52.8	Diabetes 27.4	Chronic Lower Respiratory Diseases 24.7

DATA SOURCE: Massachusetts Department of Public Health, Boston Resident Deaths, 2020

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Please be advised that 2020-2022 data are preliminary and subject to change. Raw preliminary data may be incomplete or inaccurate, have not been fully verified, and revisions are likely to occur following the production of these data. The Massachusetts Department of Public Health strongly cautions users regarding the accuracy of statistical analyses based on preliminary data and particularly with regard to small numbers of events; Dagger (†) denotes where rates are based on 20 or fewer deaths and may be unstable

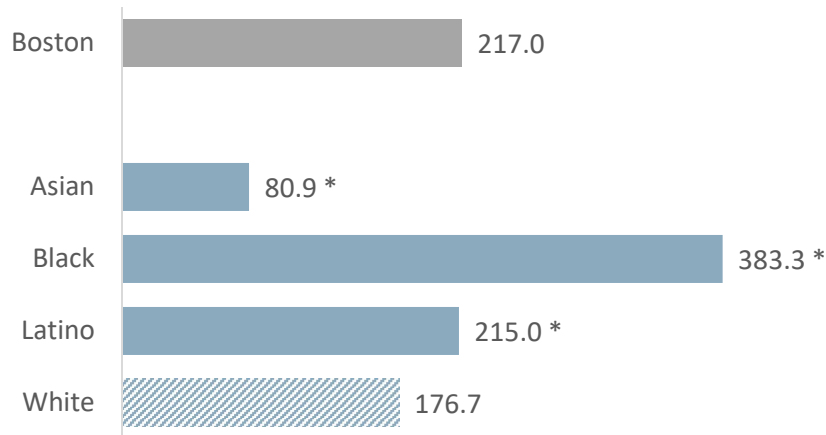
Of note, the cancer mortality rate for each of Boston’s largest racial and ethnic groups in 2020 was lower than that reported in the 2019 community health needs assessment. During this same period, the heart disease mortality rate appeared to increase among Black residents, decrease for Asian and White residents, and remained relatively stable for Latino residents. Since the 2019 community health needs assessment, the accident-related mortality rate increased for Black and Latino residents, remained relatively stable for White residents, and emerged as a leading cause of death for Asian residents. The rate of mortality due to cerebrovascular disease increased for Black residents, remained stable for Asian residents, and did not emerge as the top five causes of mortality for Latino and White residents, likely due to COVID-19 becoming a leading cause of death in 2020. The diabetes-related mortality rate remained stable for Latino residents since the 2019 community health needs assessment. (It should be noted that changes in mortality rates over time were not tested for statistically significant differences.)

Premature mortality refers to deaths among persons under 65 years of age. The premature mortality rate in 2020-2021 was highest among Black and Latino residents (

Figure 2). Of note, the premature mortality rate for Black residents is more than double the premature mortality rate for White residents.

Accidents was the leading cause of premature mortality among all race/ethnicities in Boston except for Asian residents, who experienced cancer as the leading cause of premature death (Table 3). COVID-19 was the second leading cause of premature mortality among Latino residents, underscoring the impact of the pandemic among this community. Notably, homicide is the fifth leading cause of death in Black and Latino communities and the homicide mortality rate for Black residents exceeds the cancer mortality rate for White residents.

Figure 2. Premature Mortality Rate, by Boston and Race/Ethnicity, Age-Adjusted Rate per 100,000 Residents, 2020-2021 Combined



DATA SOURCE: Boston Public Health Commission, Boston resident deaths, 2020-2021 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Premature deaths are defined as deaths at an age under 65 years; Bars with pattern indicate reference group for its specific category; Please be advised that 2020-2022 data are preliminary and subject to change. Raw preliminary data may be incomplete or inaccurate, have not been fully verified, and revisions are likely to occur following the production of these data. The Department of Public Health strongly cautions users regarding the accuracy of statistical analyses based on preliminary data and particularly with regard to small numbers of events. Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category (p < 0.05).

Table 3. Leading Causes of Premature Mortality, by Boston and Race/Ethnicity, Age-Adjusted Rate per 100,000 Residents, 2020

	Boston	Asian	Black	Latino	White
1	Accidents 48.0	Cancer 28.7 [†]	Accidents 77.0	Accidents 56.7	Accidents 46.5
2	Cancer 31.1	Accidents 12.9 [†]	Heart Disease 58.9	COVID-19 33.3	Cancer 25.7
3	Heart Disease 28.4	Heart Disease 11.9 [†]	Cancer 53.7	Cancer 23.2	Heart Disease 24.2
4	COVID-19 17.8	Suicide 6.1 [†]	COVID-19 34.1	Heart Disease 20.9	COVID-19 8.9
5	Homicide 7.5		Homicide 30.6	Homicide 8.8 [†]	Chronic Liver Disease & Cirrhosis 8.6

DATA SOURCE: Massachusetts Department of Public Health, Boston Resident Deaths, 2020

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Premature deaths are defined as deaths at an age under 65 years; Insufficient number of records for analysis for Asian residents; Please be advised that 2020-2022 data are preliminary and subject to change. Raw preliminary data may be incomplete or inaccurate, have not been fully verified, and revisions are likely to occur following the production of these data. The Massachusetts Department of Public Health strongly cautions users regarding the accuracy of statistical analyses based on preliminary data and particularly with regard to small numbers of events; Dagger (†) denotes where rates are based on 20 or fewer deaths and may be unstable

CHIP PRIORITY AREA - FINANCIAL STABILITY AND MOBILITY: JOBS, EMPLOYMENT, INCOME, EDUCATION, AND WORKFORCE TRAINING

Community leaders and residents discussed how the COVID-19 pandemic has worsened already existing income inequalities and the level and severity of poverty for low-income residents across Boston.

Financial stability and mobility - including income, jobs, employment, education, and workforce training - was a priority area in the 2019 Boston CHNA-CHIP. Income, work, and education are powerful social determinants of health. Jobs that pay a living wage enable workers to live in neighborhoods that promote health (e.g., built environments that promote physical activity and resident engagement, better access to affordable healthy foods), and provide income and benefits to access health care.⁴ In contrast, unemployment, underemployment, and job instability make it difficult to afford housing, goods and services that are linked with health, and health care, and also contribute to stressful life circumstances that affect multiple aspects of health.⁵

Income and Poverty

In the 2019 Boston CHNA, poverty and economic instability emerged as key areas of concern among residents and there were substantial differences in income and financial security across Boston neighborhoods and by race and ethnicity.

Similar to the past process, focus group participants and key informants engaged in the 2022 Boston CHNA described financial stability as critically important for health. Key informant interviewees and focus group participants shared that the COVID-19 pandemic has worsened income inequalities and the level and severity of poverty for low-income residents across Boston. According to the COVID-19 Health Equity Survey, income loss during the pandemic has disproportionately affected residents of color and low-income residents, described in more detail below. Key informants and focus group participants noted that low-income communities in Boston generally include residents of color, immigrants, people with disabilities, LGBTQIA+ residents, and older adults on fixed incomes.

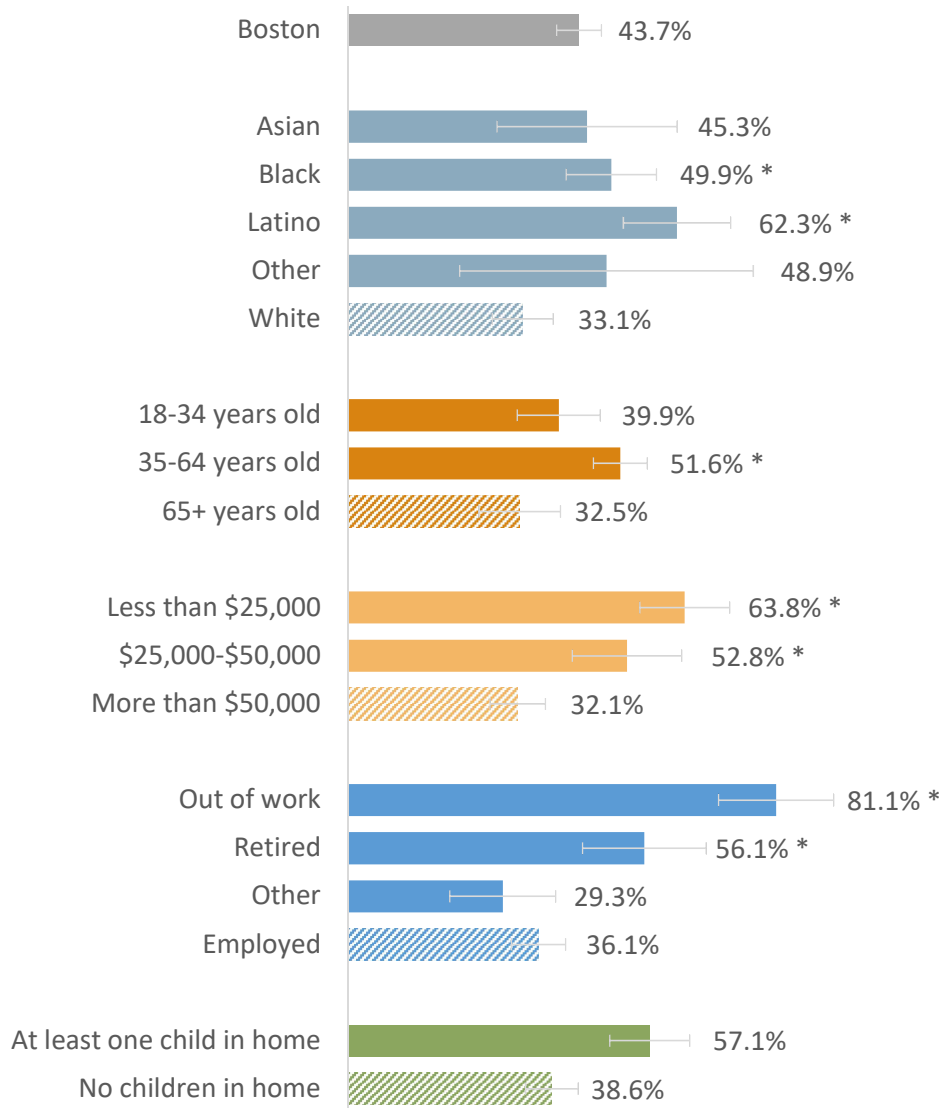
“My husband has 2 jobs so we can pay the rent and food, clothing, everything. It is really difficult now, this situation that is happening.” - Focus group participant

Focus group participants and key informants noted that low-wage work and minimum wage is not enough for many families to survive in Boston, and that many residents are having to work multiple jobs to make ends meet. Several interviewees and focus group participants discussed that while income loss has affected many people, they were most concerned about those residents who were already struggling before the pandemic – this includes low-income communities, residents of color and in particular immigrants, people with disabilities, and residents with a criminal record. They described the cost of living as high and rising, including escalating housing and food costs while wages have not increased. As one participant noted, *“Food prices have gone up a lot while my wage has stayed the same.”* From April 2021 to April 2022, food prices increased an estimated 9.4%.⁶

Some key informants noted that neighborhoods that have historically experienced disinvestment continue to experience greater challenges to growth and development, and small businesses in low-income communities have been hit hard by the COVID-19 pandemic. Some elected officials described insufficient access to capital and financial instability as barriers to community development. Some key informants perceived that limited funding – and competition for this limited funding – contributes to some organizations not collaborating to provide access to resources.

As shown in Figure 3, over 4 in 10 Boston adults (43.7%) reported that they had experienced a loss of income during the COVID-19 pandemic. Residents who identified as Black or Latino were most affected by income loss, with about 62.3% of Latino respondents indicating that they had income loss during the pandemic and nearly half of Black residents reporting income loss. More than half of adults 35-64 years of age, adults with lower incomes, and adults with at least one child in the home reported income loss during the pandemic. When looking at income loss by occupational status, a higher proportion of adults who were out of work or retired reported income loss during the pandemic, compared to employed adults.

Figure 3. Percent Adults Reporting Experiencing an Income Loss During the COVID-19 Pandemic, by Boston and Selected Indicators, December 2020-January 2021



DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, COVID-19 Health Equity Survey, December 2020 - January 2021

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Data show percentage of adults reporting their household had experienced a loss of employment income since COVID-19 occurred; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

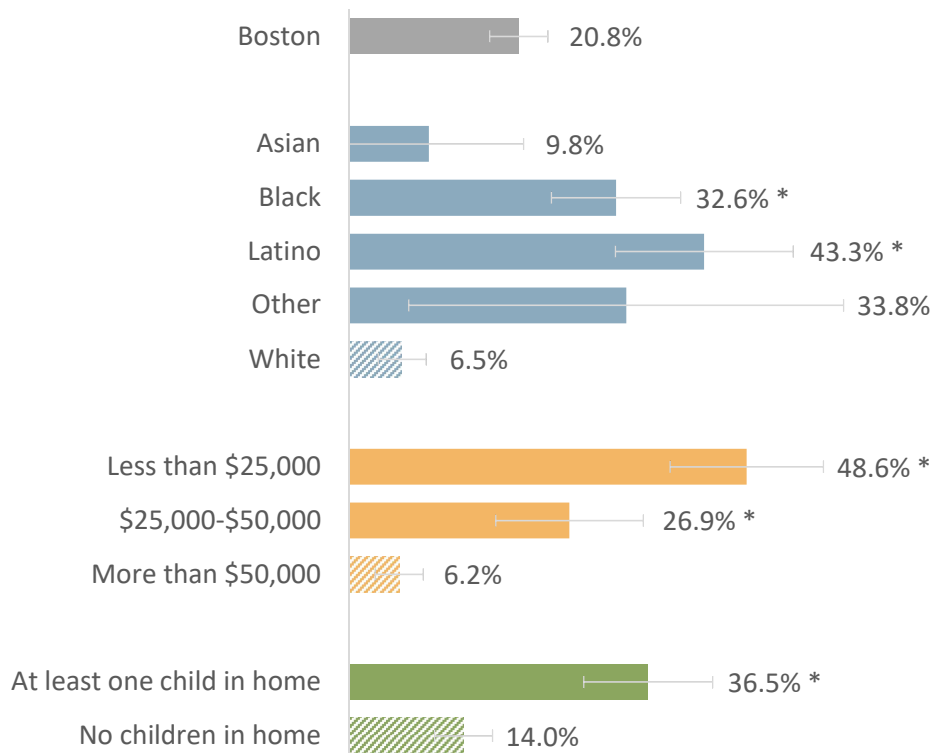
Food Insecurity

Struggling to make ends meet is directly linked with struggling to put food on the table. Food insecurity, namely barriers to accessing healthy, affordable food emerged as a key priority issue across many interviews and focus groups. Food insecurity patterns indicate that a greater proportion of residents report experiencing food insecurity since the COVID-19 pandemic.

“Folks are struggling with [food] affordability. Inflation on goods has been astronomical.” - Focus group participant

Pre-pandemic, 2015-2019 BBRFSS data show that about 17.8% of Boston residents were identified as food insecure – in that the food they purchased ran out before they had money to buy more (see Figure 42 in Appendix F). The burden of food insecurity was even greater in Mattapan, Dorchester, and East Boston compared to the rest of Boston (see Figure 43 in Appendix F). Many residents reported being food insecure during the pandemic. According to the COVID-19 Health Equity Survey, while 20.8% of Boston residents were considered food insecure during the pandemic, about 43.3% of Latino residents were food insecure, as well as 32.6% of Black residents (**Figure 4**). The prevalence of food insecurity was also higher among adults who had a child at home compared to adults without children.

Figure 4. Percent Adults Reporting Food Purchased Did Not Last and Did Not Have Money to Get More During the COVID-19 Pandemic, by Boston and Selected Indicators, December 2020-January 2021



DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, COVID-19 Health Equity Survey, December 2020 - January 2021

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

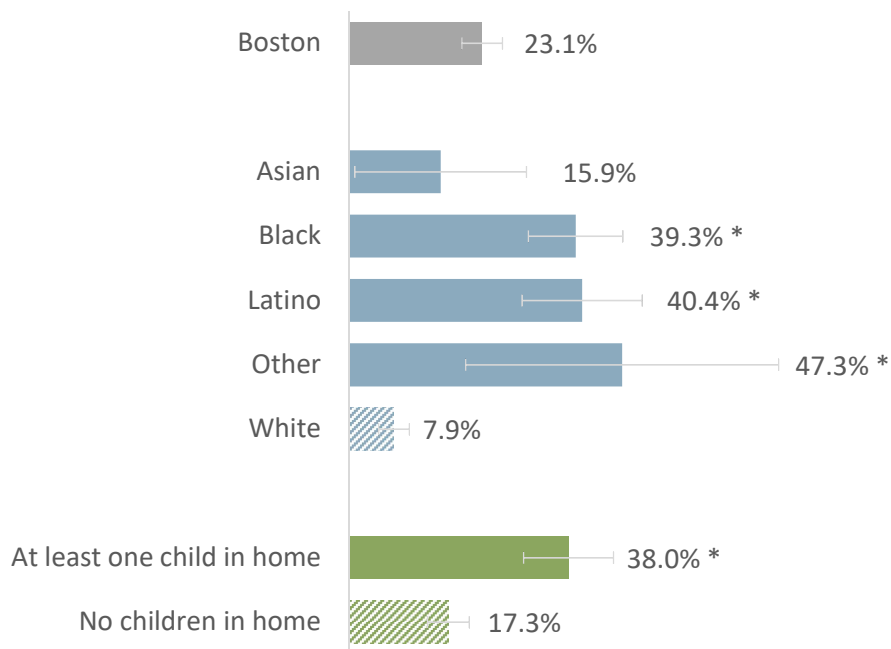
NOTES: Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category (p <0.05); Error bars show 95% confidence interval

Community leaders and residents discussed that healthy food is available, but not accessible to lower-income residents. As noted by a focus group participant, *“We live in a food desert. I have to travel out of town to find healthy food. The grocery store in [my neighborhood] doesn’t carry the same healthy foods as towns that are more affluent. I feel badly for those who don’t have a car and don’t have access to healthier food.”*

Participants also talked about how the cost of food is rising, contributing to growing levels of food insecurity as residents struggled to afford food, let alone healthy food. As one focus group participant mentioned, *“Access to healthy food is challenging because food costs are so high. When you have a big family, it gets very complicated. Healthy food is very connected to a healthy community.”* Several residents underscored that many low-income residents have not been able to eat healthy foods during the COVID-19 pandemic due to financial constraints and some residents – such as older adults – face barriers to safely accessing food due to concern about virus transmission.

Many residents are accessing food assistance. According to the COVID-19 Health Equity Survey, about 23.1% of Boston adults reported using food assistance services during the COVID-19 pandemic (Figure 5), compared to 16.1% reported pre-pandemic. Approximately 40% of Latino (40.4%) and Black (39.3%) adults reported using food assistance services during the COVID-19 pandemic, compared to 7.9% of White adults. Additionally, 38.0% of adults with children in the home reported using food assistance during the COVID-19 pandemic, compared to 17.3% of adults who did not have children in the home.

Figure 5. Percent Adults Reporting Utilizing Food Assistance Services During the COVID-19 Pandemic, by Boston and Selected Indicators, December 2020-January 2021



DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, COVID-19 Health Equity Survey, December 2020 - January 2021

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Food assistance services include food banks, food stamps, or other sources; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category (p < 0.05); Error bars show 95% confidence interval

Employment

Employment provides income, benefits, and economic stability, which is important for health.⁷ While pre-pandemic Boston enjoyed a low unemployment rate, unemployment was highest during that time in Roxbury, Dorchester, Fenway, and Mattapan (see Figure 46 in Appendix F).

A key pattern that emerged from interviews and focus groups was significant job loss linked with the COVID-19 pandemic. Similar to the rest of the country, the greater Boston metropolitan area fluctuated dramatically in unemployment rate during the pandemic. According to the Bureau of Labor Statistics, the Boston metro area's unemployment rate was 16.0% during the early stages of the pandemic in April 2020 and has dropped to 3.7% nearly two years later in February 2022. Additionally, as of December 2021, an estimated 56,900 workers in Massachusetts have left the labor force; this pattern is not reflected in current unemployment rates.⁸

"I see that there is work and people apply [...]. I've applied [to] a lot of places and am not given jobs. It says 'apply, help wanted,' but if you don't know anyone you won't be considered." - Focus group participant

Employment Challenges

Even with more opportunities available, focus group and interview participants observed that some residents are still struggling to find jobs after losing work during the COVID-19 pandemic. Residents explained that it has been more difficult for residents of color, immigrants, people with disabilities, and residents with a criminal record to find and secure stable jobs. For example, interviewees discussed the barrier of being flagged for a criminal record: *"People can have a CORI for the silliest thing, and it follows [them] for the rest of [their] life and can prevent them from being hired."* Immigrant focus group participants discussed the challenges of being undocumented, as one resident mentioned, *"If you don't have a social [security number], you can't get a job. Even at McDonald's."* Others talked about the importance of needing to know someone at the place of employment to even be considered for a job.

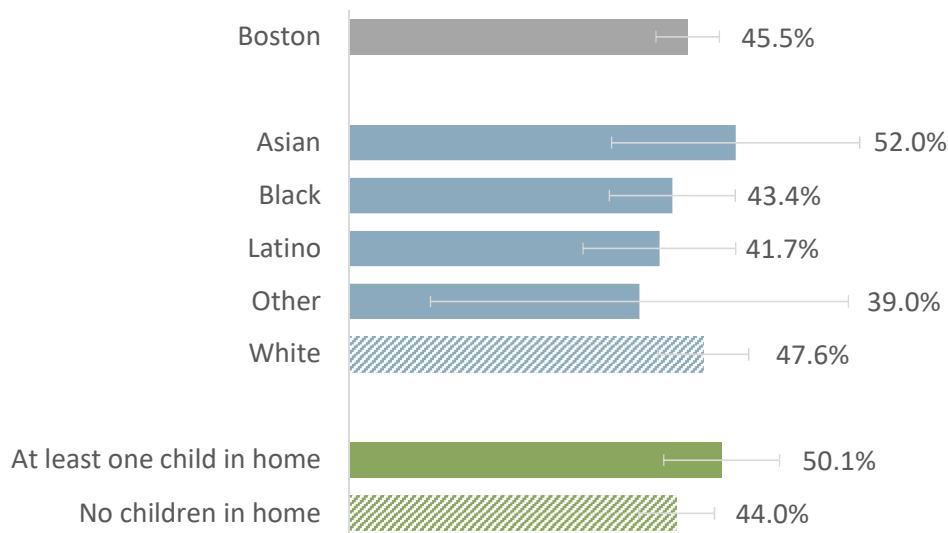
Elected officials and focus group participants cited lack of access to workforce development training as a concern. As one focus group participant commented, *"[I]f you don't have the training, you won't be considered. There need to be more options."* Some participants described experiencing discrimination in hiring, citing that Black men and those with disabilities seem to be the least likely to be hired for some positions. Some youth focus group participants observed that college is too expensive and expressed interest in more resources to pursue career options that do not require a college degree.

Employment and the COVID-19 Pandemic

Residents also discussed their employment challenges during the height of the pandemic. They recalled how unemployment applications were a major burden, and many working undocumented immigrants who are paid informally were not able to apply for or access payroll protection or COVID-19 relief funds. Focus group participants and key informants mentioned that low-wage workers, especially immigrants, worked in high-risk job settings with limited personal protective equipment (PPE). As shown in Figure 6, nearly half -- 45.5% -- of Boston residents indicated that they worked outside of their home during the COVID-19 pandemic.

On the positive side, some participants in focus groups and interviews mentioned a growth in the ability to work remotely, which they described as helpful for residents who experience transportation barriers and persons with complex health issues.

Figure 6. Percent Adults Reporting Working Outside of the Home During the COVID-19 Pandemic, by Boston and Selected Indicators, December 2020-January 2021



DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, COVID-19 Health Equity Survey, December 2020 - January 2021

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Data show percentage of adults reporting they worked at least part of the time at a workplace outside of home since the COVID-19 pandemic began; Percentage does not include adults who did not work for pay at all; Bars with pattern indicate reference group for its specific category; No significant differences compared to reference groups within specific categories were observed ($p > 0.05$); Error bars show 95% confidence interval

Education

Education is an important issue to Boston residents and a critical factor affecting health. Community leaders and residents discussed how many children struggle in school, especially during the pandemic. Based on the COVID-19 Health Equity Survey, about 14.5% of Boston adults with children reported that they had unmet educational needs for children or teens during the COVID-19 pandemic (see Appendix F for data tables).

Focus group and interview participants discussed that remote learning and the COVID-19 pandemic was particularly hard for youth who already face disproportionate challenges in school. In the 2021-2022 school year, 30.1% of Boston Public School students were identified as Limited English Proficient (LEP) or English Language Learners (ELL) and nearly 68.9% of students were considered economically disadvantaged (participating in one or more state-administered programs of SNAP, TAFDC, DCF, or MassHealth). Interview and focus group participants discussed the need for greater investment to meet

“If you have an asthmatic student and they are constantly out especially in the wintertime [...] asthma doctors should educate parents and tell them about resources like getting a 504 plan [...] so they won’t get in trouble for truancy and ensure the child has support while there in school.”- Key informant interview

the social, emotional, and academic needs of these children and youth. In particular, participants discussed their insufficient access to early childhood education, the need for more after school programs, support for enrolling children in school with proper educational plans in place, school dropout, health and economic barriers that affect school attendance, and the need for adult English classes for residents for whom English is not their primary language. From the 2020 to 2021 academic school year, PreK-12th grade Massachusetts student enrollment declined by 37,396 students.⁹

CHIP PRIORITY AREA - HOUSING: AFFORDABILITY, QUALITY, HOMELESSNESS, HOMEOWNERSHIP, GENTRIFICATION, AND DISPLACEMENT

As in previous assessments, housing affordability is a dominant concern among Boston residents and leaders and has only been exacerbated during the pandemic.

Housing - including housing affordability, quality, homelessness, homeownership, gentrification, and displacement - was a priority area identified in the 2019 community health needs assessment and community health improvement plan. Housing is typically the largest household expense, and, for homeowners, housing can be an important source of wealth.^{10,11} For low-income residents, housing instability, the stress of unaffordable housing costs, and poor housing quality increase the risk of adverse health outcomes.¹² Housing concerns in the city have been pervasive for years. The sentiment has not changed, and many residents have been even more concerned about being able to afford where they live during the COVID-19 pandemic.

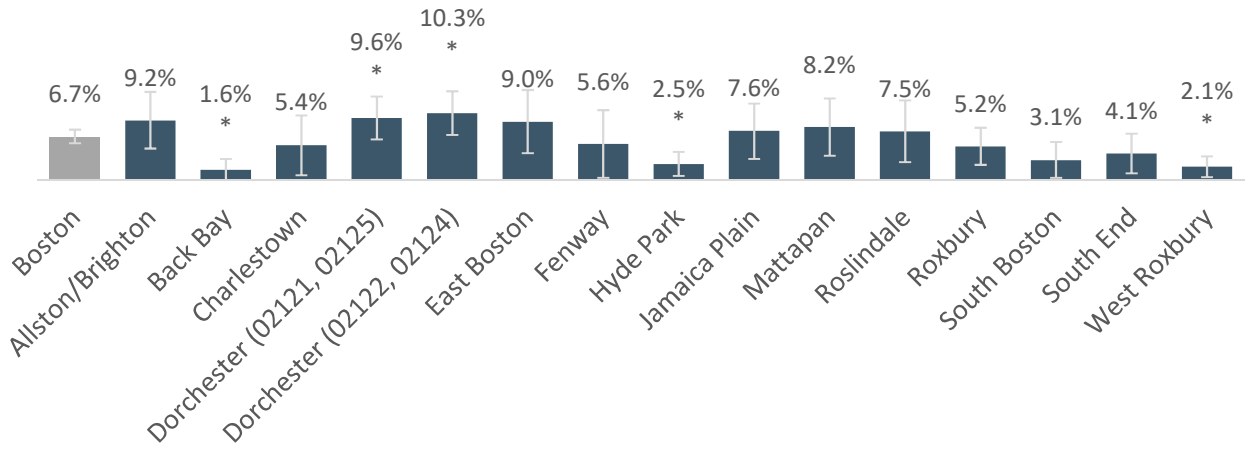
“Every year they raise the rent. They stopped during the pandemic, but I was told that they are going to raise it again. I can’t imagine how much they are going to raise it. I can’t move to other places because it’s worse there.”

-Focus group participant

Housing Affordability

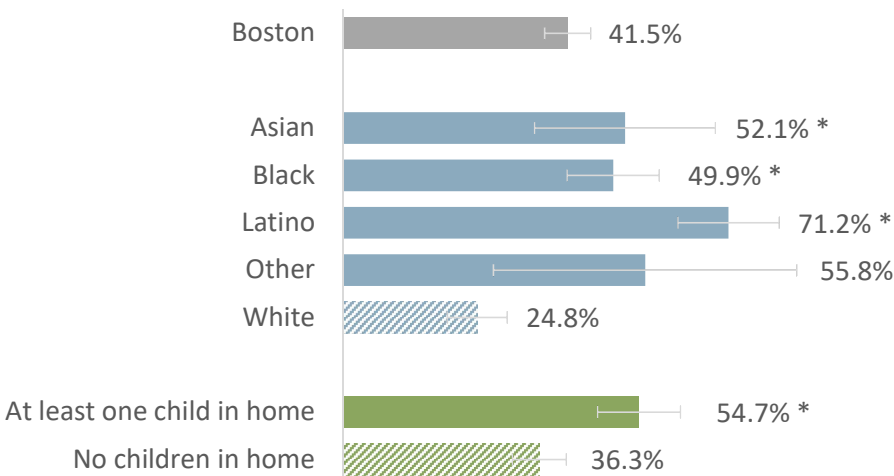
Pre-pandemic, an estimated 6.7% of Boston BBRFSS adult respondents in 2015-2019 reported moving in the past three years due to housing affordability. Reports of moving due to housing costs were highest for residents in Dorchester, Allston/Brighton, and Mattapan (Figure 7). In discussions, residents and leaders were even more concerned about high housing costs during the pandemic, especially given fluctuations in employment. In the COVID-19 Health Equity Survey, more than 4 in 10 respondents reported that they have had trouble paying their rent or mortgage during the COVID-19 pandemic, with highest proportions reported among Latino, Asian and Black adults, and adults with children in the home (Figure 8).

Figure 7. Percent Adults Reporting Moving in Past Three Years Because They Could No Longer Afford Their Home, by Boston and Neighborhood, 2015, 2017, and 2019 Combined



DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined
 DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
 NOTES: Asterisk (*) denotes where neighborhood estimate was significantly different compared to the rest of Boston ($p < 0.05$); Error bars show 95% confidence interval

Figure 8. Percent Adults Reporting Having Trouble Paying Their Rent or Mortgage During the COVID-19 Pandemic, by Boston and Selected Indicators, December 2020-January 2021



DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, COVID-19 Health Equity Survey, December 2020 - January 2021
 DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
 NOTES: Data show percentage of adults reporting that it was somewhat or very difficult to pay the full amount of their rent or mortgage now; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

Key informants and focus group participants underscored that high housing costs affect low-income residents, residents of color, older adults, undocumented immigrants, immigrants more broadly, and people with disabilities. When discussing a lack of affordable housing, several residents in focus groups described a backdrop of gentrification and overdevelopment as a contributor to housing displacement for low-income residents. Some residents also discussed racism around unfair housing prices, language barriers to accessing housing, and discrimination in acceptance of housing vouchers by landlords and among those previously incarcerated. Focus group participants discussed high and rising rent, rising costs of housing and property taxes, and prioritizing paying rent over other health-promoting factors such as food and physical activity.

Housing Instability and Transiency

Participants discussed how the intersection between housing assistance and housing instability was a tenuous one. Some focus group participants noted that many landlords do not participate in rental assistance programs offered by the government, and that they are concerned that rental assistance programs instituted during the COVID-19 pandemic are coming to an end.

However, some residents also discussed the paradox of qualifying for low-income housing assistance, observing that the income threshold for affordable housing means that if residents earn higher wages, they stand to lose their housing voucher, yet they cannot afford housing at the market rate. Additionally, some key informants observed that while there were several policies enacted during the pandemic that aimed to help tenants stay in their homes (e.g., rent control, eviction moratorium), the increases in housing costs and limited availability of affordable housing were still major challenges.

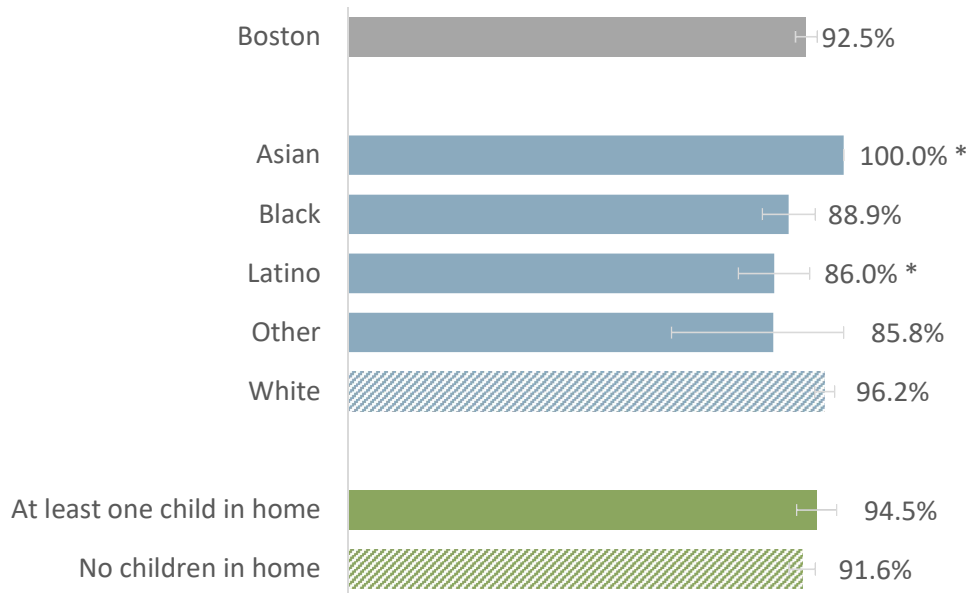
Residents shared that lack of affordable housing contributes to experiences of homelessness and housing instability, overcrowded housing, and housing displacement, each of which are linked with poor mental health outcomes.¹³ Some interview and focus group participants noted that people experiencing homelessness include families and residents who were evicted from their homes and observed that people experiencing homelessness are often criminalized.

Housing Conditions, Overcrowding, and COVID-19

Focus group and interview participants discussed how the COVID-19 pandemic affected housing instability, homelessness, and increasingly residents moving in with others due to income loss, which contributes to overcrowded housing. Residents noted that COVID-19 cases often affect several household members, which they linked to multiple generations living in household and people working multiple jobs outside of the home. They noted that it is difficult to isolate or quarantine from family members due to dense living conditions. Participants discussed that these conditions, especially during COVID lockdown, also contribute to worsening mental health. As one focus group participant commented, *“When folks lost their jobs 2 years ago, they were suddenly crammed in houses, which affected physical health and mental well-being.”*

Another critical aspect to housing infrastructure, especially during the pandemic is access to Internet. As discussed in the Access to Services section, Internet access became a critical household resource during the COVID-19 pandemic given the dependence on remote work, education, and health care for many populations. While about 9 in 10 Boston adults reported having Internet access at home during the COVID-19 pandemic, it is notable that a smaller percent of Latino adults reported Internet access at home compared to White adults (86.0% and 96.2%, respectively) (Figure 9).

Figure 9. Percent Adults Reporting Having Internet Access at Home During the COVID-19 Pandemic, by Boston and Selected Indicators, December 2020-January 2021



DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, COVID-19 Health Equity Survey, December 2020 - January 2021

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category (p <0.05); Error bars show 95% confidence interval

CHIP PRIORITY AREA - BEHAVIORAL HEALTH: MENTAL HEALTH AND SUBSTANCE USE

Community leaders and residents described trauma, stress, depression, and anxiety as top-of-mind concerns among all populations, but some groups were cited as being disproportionately impacted – such as youth, low-income households, caregivers, elders, and people of color.

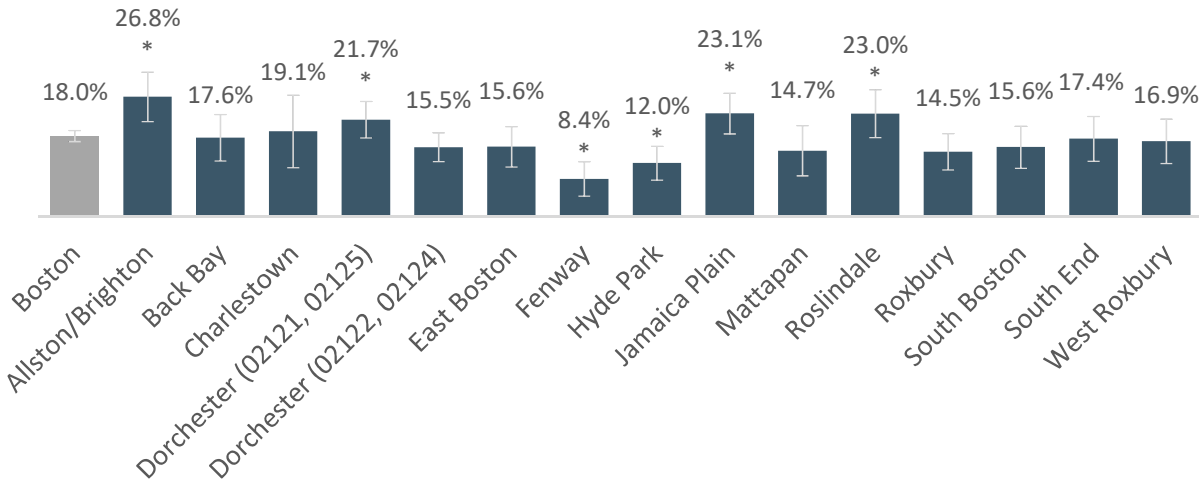
Behavioral health, including mental health and substance use, was another priority area identified in the 2019 Boston community health needs assessment and improvement plan. Behavioral health is an overarching term for the connection between behaviors and people’s mental and physical health.

Trauma, Racism, and Discrimination

Trauma and related issues were discussed among a number of residents and leaders in assessment conversations. Several participants discussed the characteristics of childhood trauma – such as racism, violence, poverty, home environments, housing conditions, addiction, neglect, and the loss of loved ones – and how they have affected all aspects of a person’s life, including their health and their economic opportunity.

The mental health of caregivers is one of many potential sources of childhood trauma. About 18.0% of Boston residents reported having lived with a caregiver with mental illness as a child (Figure 10). About 1 in 4 adults in Allston/Brighton reported having lived with a caregiver with a mental illness when they were young, followed by about one in five adults in Jamaica Plain, Roslindale, and Dorchester (02121, 02125).

Figure 10. Percent Adults Reporting Having Lived with a Caregiver with Mental Illness as a Child (ACE), by Boston and Neighborhood, 2015, 2017, and 2019 Combined



DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Data show percentage of adults reporting that they have ever lived with a parent or caregiver who was depressed, mentally ill, or suicidal; Asterisk (*) denotes where neighborhood estimate was significantly different compared to the rest of Boston ($p < 0.05$); Error bars show 95% confidence interval

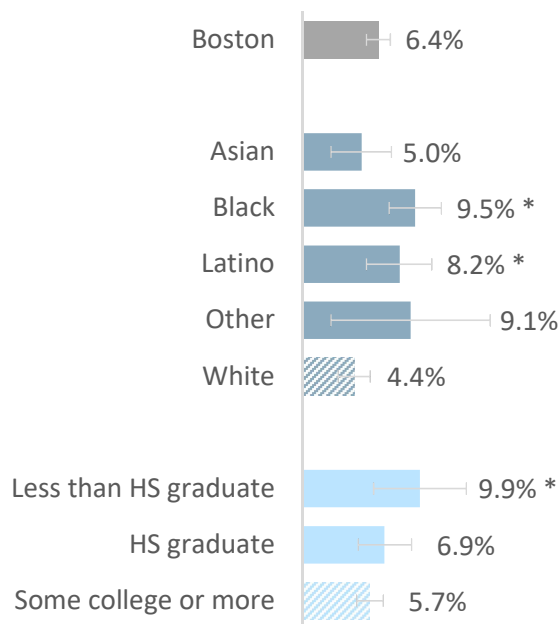
Veterans in focus groups discussed post-traumatic stress disorder as an issue pervasive in their community, while people with disabilities in focus groups noted how they experience mental health issues and trauma linked with their disability, such as bullying. Interview and focus group participants noted that these concerns have all increased during the pandemic. Additional traumatic stressors identified by key informants and focus group participants include community violence, domestic violence (especially during the pandemic and the challenges of staying home when in an abusive relationship), grief from loss of loved ones during the COVID-19 pandemic, and poverty.

Several participants described how racism and discrimination affects the mental well-being of residents of color, citing the role of intergenerational trauma, such as the history of slavery; stereotypes that devalue people of color; and “white-washing” critical histories and cultural practices of people of color. Several participants mentioned systemic racism and white supremacy as affecting multiple opportunities and facets of life, including jobs, housing, safety, and educational opportunities.

“The trauma also perpetuates these issues, and the environment also perpetuates these issues and systemically the services that we don’t get perpetuates these issues. So that is why racism is a public health crisis.”- Key informant interview

As shown in Figure 11, 6.4% of BBRFSS respondents in 2015-2019 indicated that they have been threatened at least a few times a month due to discrimination. This is significantly greater among Black and Latino residents (9.5% and 8.2%, respectively). These numbers increase dramatically for residents who indicated they have been threatened at least once *a year* because of discrimination, with 17.3% of all Boston residents reporting this (see Appendix F for data tables).

Figure 11. Percent Adults Reporting Being Threatened At Least a Few Times a Month Due to Discrimination, by Boston and Selected Indicators, 2015, 2017, and 2019 Combined



DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Data show percentage of adults reporting being threatened or harassed due to discrimination a few times a month, at least once a week, or almost every day; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval. For race/ethnicity, of the 201 respondents classified as Other, non-Hispanic, 23% identified as American Indian/Alaskan Native. The remainder are either multi-race or some other race.

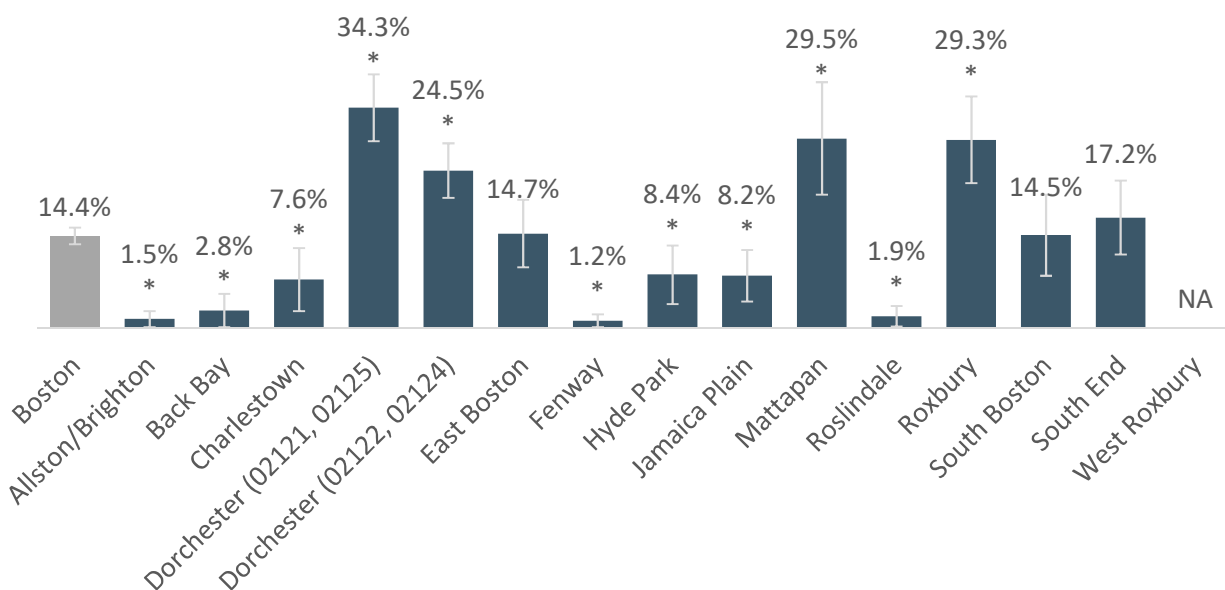
Focus group and interview participants also discussed discrimination specifically against LGBTQIA+ communities, particularly transphobia, as an important driver of mental health issues affecting

LGBTQIA+ communities. Participants also noted that LGBTQIA+ residents of color experience stress related to discriminatory experiences that target multiple aspects of their identities.

Community Violence and Interactions with the Police

Community violence and interactions with the police are public health issues that contribute to trauma and affect physical and mental health. Neighborhood safety concerns were a discussion topic among focus group and interview participants. According to 2015-2019 BBRFSS data, 14.4% of Boston residents perceived their neighborhoods as unsafe, with the highest percentage of residents from Dorchester (all zip codes), Mattapan, and Roxbury indicating concerns about neighborhood safety (Figure 12). Many focus group and interview participants reiterated these sentiments and also discussed that they were concerned about a decrease in neighborhood safety, particularly around gang-affiliated violence, during the pandemic.

Figure 12. Percent Adults Reporting Their Neighborhood Unsafe, by Boston and Neighborhood, 2017 and 2019 Combined



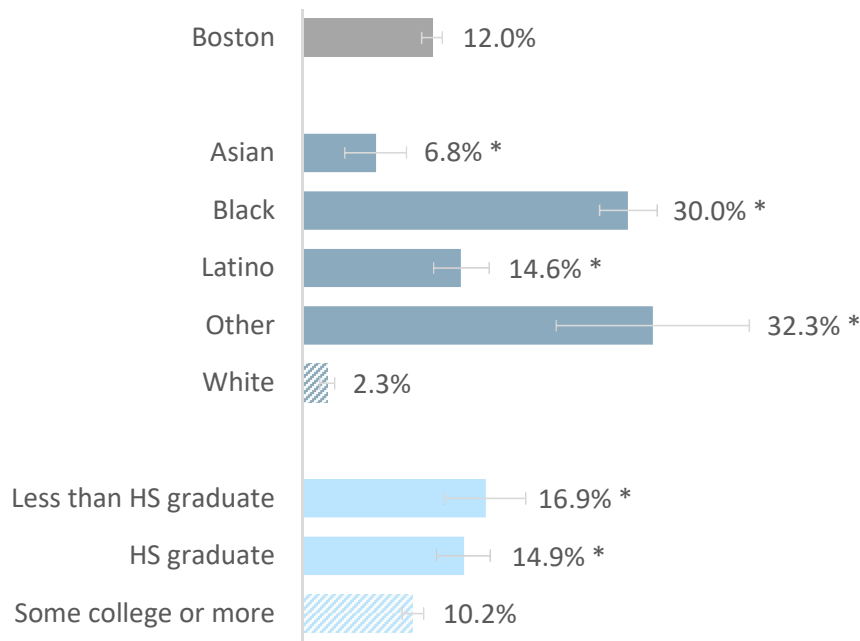
DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Data show percentage of adults reporting considering their neighborhood to be unsafe from crime; NA denotes where data are not presented due to insufficient sample size; Asterisk (*) denotes where neighborhood estimate was significantly different compared to the rest of Boston ($p < 0.05$); Error bars show 95% confidence interval

Some focus group and interview participants also discussed the increased neighborhood conversations about the relationship between the community and police. While they saw an increase in greater dialogue around police violence towards communities of color, community leaders and residents noted that greater strides still needed to be made. According to 2015-2019 BBRFSS data, about 30.0% of Black adults in Boston and 14.6% of Latino adults reported ever feeling like they were stopped by police due to their race or ethnicity, compared to just 2.3% of White adults (Figure 13).

Figure 13. Percent Adults Reporting Ever Feeling They Were Stopped by Police Due to Race or Ethnic Background, by Boston and Selected Indicators, 2015, 2017, and 2019 Combined



DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Data show percentage of adults reporting ever feeling they were stopped by the police just because of their race or ethnic background; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

For race/ethnicity, of the 201 respondents classified as Other, non-Hispanic, 23% identified as American Indian/Alaskan Native. The remainder are either multi-race or some other race.

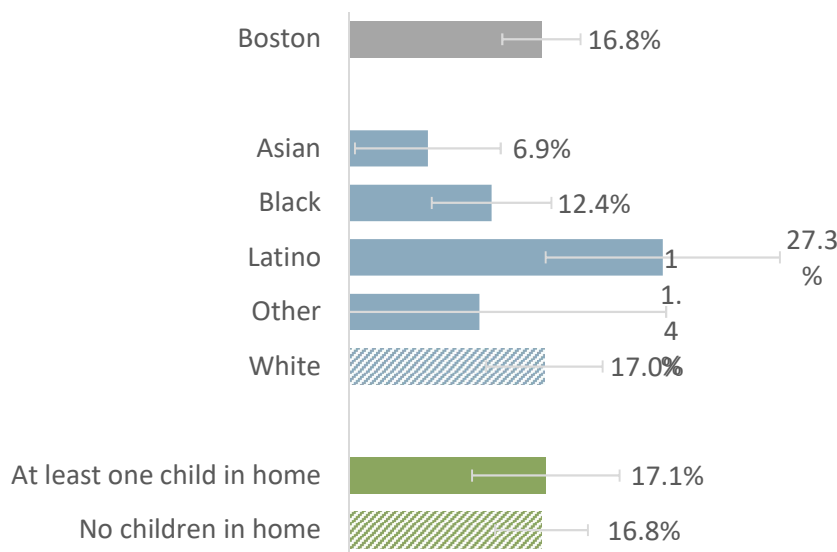
Mental Health, Depression, and Suicide

Mental health overall was a key issue pre-pandemic, and not surprisingly, the impact of the pandemic only heightened that concern. According to the COVID-19 Health Equity Survey, during the COVID-19 pandemic 16.8% of Boston adults reported experiencing persistent sadness – defined as feeling down, depressed, or hopeless more than half of the days in the previous 2 weeks (Figure 14). Overall, 21.9% of Boston adults reported feeling persistent anxiety during the pandemic – having felt nervous, anxious, or on edge for more than half of the days in the past 2 weeks (Figure 15).

Several focus group and interview participants discussed how the COVID-19 pandemic worsened mental health issues, including: social isolation, fear about contracting the virus, feeling overwhelmed by constant and changing information about the pandemic, and uncertainty about what the pandemic holds. In several discussions, participants also attributed the COVID-19 pandemic to worsening the high levels of stress that many low-income families already experience. They also noted that the resources that facilitate community connections, such as in-person meeting spaces and community centers, have been closed at times due to COVID-19 safety measures, and these closures hamper community building efforts. Some also noted that the COVID-19 pandemic contributes to trauma for older adults, who have lost many friends and family during the pandemic.

“Everything is so interwoven. [There are] a lot of young people with significant depression and anxiety, but [we’re] also talking about a lot of PTSD, implications related to trauma, poverty, and neglect.”
 - Key informant interview

Figure 14. Percent Adults Reporting Persistent Sadness During the COVID-19 Pandemic, by Boston and Selected Indicators, December 2020-January 2021

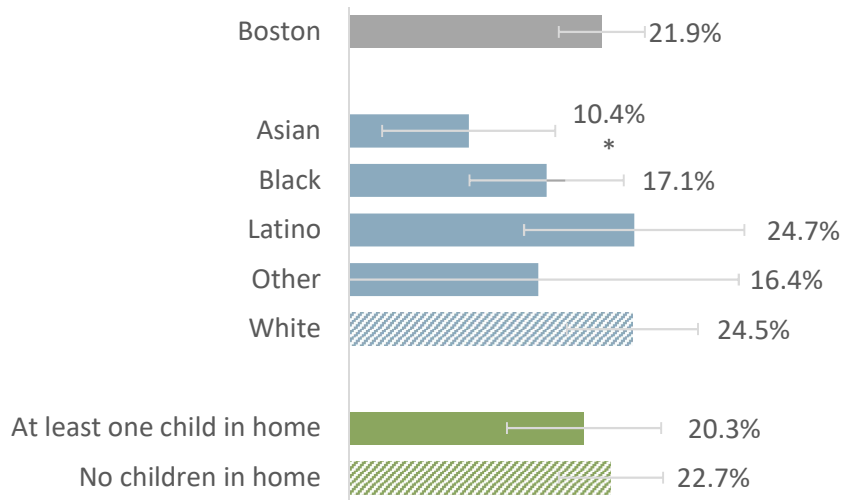


DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, COVID-19 Health Equity Survey, December 2020 - January 2021

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Persistent sadness is defined as feeling down, depressed or hopeless for more than half of the days within the past 2 weeks; Bars with pattern indicate reference group for its specific category; No significant differences compared to reference groups within specific categories were observed ($p > 0.05$); Error bars show 95% confidence interval

Figure 15. Percent Adults Reporting Persistent Anxiety During the COVID-19 Pandemic, by Boston and Selected Indicators, December 2020-January 2021



DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, COVID-19 Health Equity Survey, December 2020 - January 2021

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

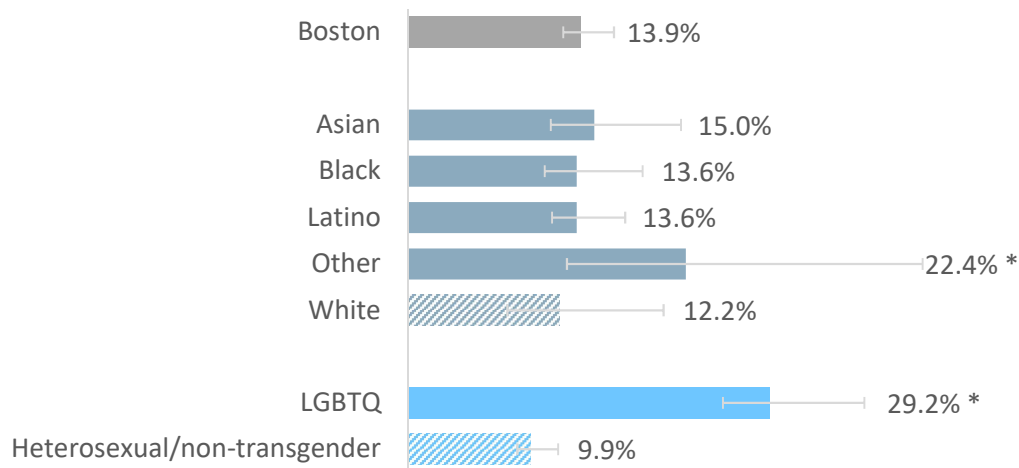
NOTES: Persistent anxiety is defined as feeling nervous, anxious or on the edge for more than half of the days within the past 2 weeks; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

Prior to the pandemic, mental health among youth was a concern. Pre-pandemic, about 13.9% of Boston high school students reported having had suicidal thoughts, according to 2015-2019 data from the YRBS. About 29.2% of LGBTQIA+ students reported having had suicidal thoughts, based on the YRBS (Figure 16).

Focus group and interview participants discussed that they were especially concerned about mental health worsening among youth during the pandemic. Youth focus group members cited insufficient sleep, family issues, unhealthy relationships, the stress of school, busy schedules that make it difficult to practice self-care, peer pressure, and unhealthy coping mechanisms as factors that affect their mental health.

Several interviews and focus group discussions emphasized the impact of the COVID-19 pandemic on children and youth, including the disruption of their routines and trauma, despair, adverse childhood experiences, overcrowded housing, and addiction. Youth described being exposed to toxic environments at home during stay-at-home phase of the COVID-19 pandemic. The well-being of adults who support youth also emerged as a concern, including caregivers who have taken care of others during the COVID-19 pandemic and have not have the opportunity to also care for themselves and teachers and school staff who respond to behavioral health issues in school settings.

Figure 16. Percent Boston Public High School Students Reporting Having Suicidal Thoughts, by Boston and Selected Indicators, 2015, 2017, and 2019 Combined



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2015, 2017, and 2019 combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

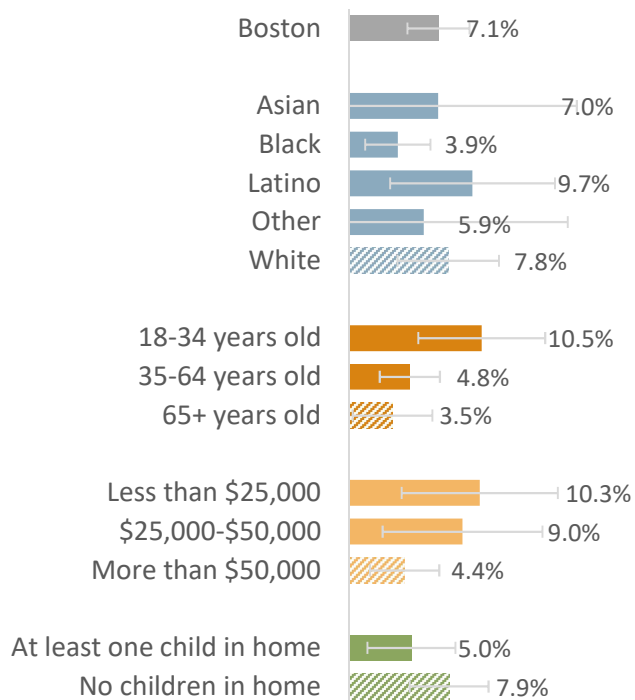
NOTE: Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

Behavioral and Mental Health Care Access and Barriers to Care

Based on the COVID-19 Health Equity Survey, 9.9% of Boston adults reported delaying mental health care due to the pandemic (see Appendix F for data tables), and about 7.1% reported delaying mental health care specifically because of cost (Figure 17).

Participants discussed several barriers to accessing mental health care. On the supply and demand side, community leaders and residents in interviews and focus groups observed a limited number of mental health providers in the community and in school settings, long wait lists, and few mental health services for children. One provider noted that behavioral health referrals were at the highest level that they could recall. Financial barriers to mental health care identified by key informants and focus group participants included bureaucratic barriers, such as needing a referral from a primary care provider, and limited mental health options for low-income communities. Several focus group participants described a lack of culturally appropriate and linguistically congruent care for low-income residents, residents of color, and LGBTQIA+ residents. Some focus group participants discussed stigma surrounding mental health care, particularly for immigrant communities, communities of color, and youth. As one resident noted, *“They think asking for help is a weakness, not a strength.”*

Figure 17. Percent Adults Reporting Not Seeking Mental Health Care Due to Cost During the COVID-19 Pandemic, by Boston and Selected Indicators, December 2020-January 2021



DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, COVID-19 Health Equity Survey, December 2020 - January 2021

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Data show percentage of adults reporting there was a time when they needed to see a mental health professional but could not because of cost since March 1, 2020; Bars with pattern indicate reference group for its specific category; No significant differences compared to reference groups within specific categories were observed ($p > 0.05$); Error bars show 95% confidence interval

Substance Use

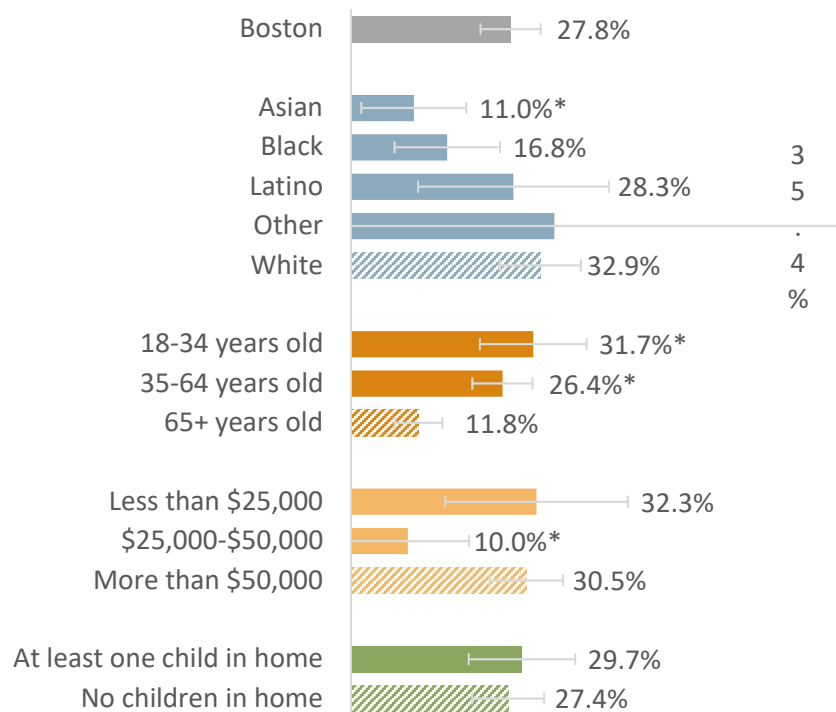
While substance use emerged as a key concern among Boston residents prior to the pandemic, substance use was less commonly discussed as a health concern in recent focus groups and interviews perhaps because residents largely discussed how the COVID-19 pandemic worsened inequities in the social determinants of health. However, mortality data continues to indicate that overdose deaths are an important health issue. In the 2019 community health needs assessment, unintentional opioid overdoses accounted for the majority of deaths due to accidents in 2016. In 2020-2021, the unintentional opioid overdose mortality rate was highest in Dorchester (all zip codes), Roxbury, and the South End (Figure 75 in Appendix F). The unintentional opioid overdose mortality rate for Black and Latino residents exceeded that for White residents in 2020-2021 (Figure 76 in Appendix F). Additionally, the unintentional opioid overdose death rate among Black residents was 50.7 per 100,000 residents in 2020-2021 whereas it was 21.1 per 100,000 residents in 2016. The difference was much less stark for Latino and White residents over this time period.

Some focus group participants discussed substance use concerns, including misuse of drugs, overusing prescriptions and over-the-counter medicines, and smoking nicotine and marijuana. Residents discussed substance use concerns as particularly affecting LGBTQIA+ residents and youth, and described substance use as a coping mechanism for dealing with stress. Several participants perceived that substance use was increasing, particularly among Cape Verdean, Asian, and Vietnamese communities. As one

participant described, “I can remember as a child how it was; it was a close-knit community. When drugs started being introduced to [our] community, the children dropping out of school, it started to change.”

According to the COVID-19 Health Equity Survey, about 27.8% of Boston adults reported increased drinking habits during the COVID-19 pandemic (Figure 18). Almost 1 in 3 adults 18-34 years of age and over 1 in 4 of adults 35-64 years of age reported increased drinking during the COVID-19 pandemic, compared to 11.8% of adults 65 years of age or over.

Figure 18. Percent Adults Reporting Increased Drinking Habits During the COVID-19 Pandemic, by Boston and Selected Indicators, December 2020-January 2021



DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, COVID-19 Health Equity Survey, December 2020 - January 2021

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Increased drinking habits is defined as increased weekly alcohol intake or started drinking and did not before since March 1, 2020; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

CHIP PRIORITY AREA - ACCESSING SERVICES: CHILDCARE, SOCIAL SERVICES, AND HEALTH CARE

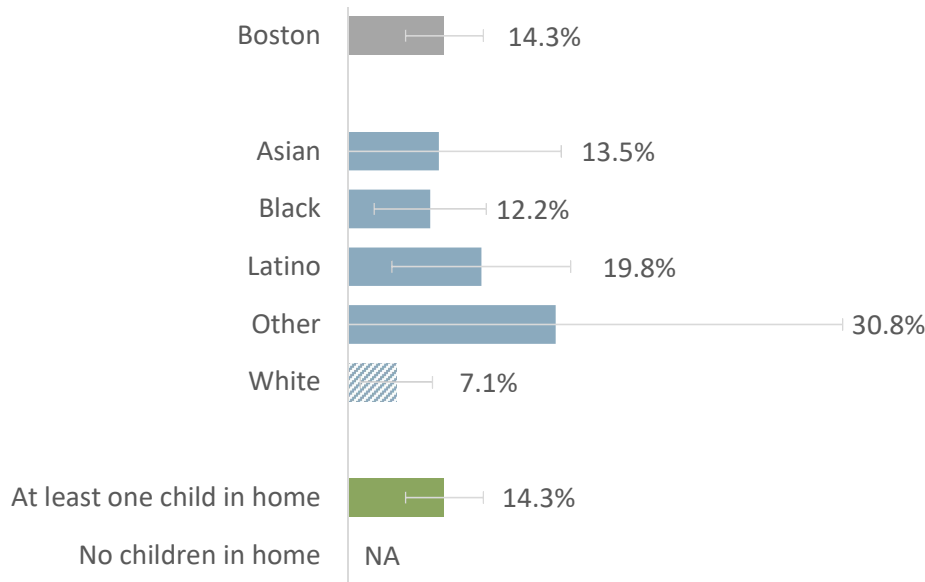
Residents and community leaders continued to cite numerous barriers to accessing childcare, social services, and health care including cost, transportation, language barriers, limited Internet, discrimination and systemic racism, immigration/documentation status, limited culturally appropriate services, and the difficulties in navigating the complex social service and health care systems.

Accessing childcare, social services, and health care was identified as a prominent theme and priority area in the previous community health needs assessment and improvement plan. Some aspect of access limitations came up in nearly every conversation in this recent process, and many issues were exacerbated during the pandemic.

Accessing Childcare Services

Pre-pandemic, Boston residents identified economic and access barriers to affording childcare, and in recent focus groups and interviews childcare emerged as a growing need due to the COVID-19 pandemic. While focus group participants and key informants described several community-based organizations that provide services for historically marginalized groups, they also observed rising and acute social and economic needs among a growing segment of low-income residents. Affordable, quality childcare was difficult to find before the pandemic, but with parents' unpredictable work schedules, unforeseen childcare closings, and the need for many parents to work outside the home, finding care for young children was even more challenging during the pandemic. According to the COVID-19 Health Equity Survey, about 50.1% of adults with at least one child at home indicated that they worked outside the home during the COVID-19 pandemic (see Appendix F for data tables). In the same survey, 14.3% of Boston adults reported that children in their households experienced unmet childcare needs during the pandemic (Figure 19).

Figure 19. Percent Adults with Children Reporting Having Unmet Childcare Needs During the COVID-19 Pandemic, by Boston and Selected Indicators, December 2020-January 2021



DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, COVID-19 Health Equity Survey, December 2020 - January 2021

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: NA denotes where data are not available because only respondents who indicated having at least one child present in the household were asked this question; Bars with pattern indicate reference group for its specific category; No significant differences compared to reference groups within specific categories were observed ($p > 0.05$); Error bars show 95% confidence interval

Some focus group participants and key informants discussed how some students have not been adequately challenged academically or able to reach their full potential during their schooling during the COVID-19 pandemic. Focus group participants and key informants also discussed significant and growing social and emotional needs for children and teens since the onset of the pandemic, particularly low-income children and youth. Barriers to early childhood education cited by residents include the costs of early childhood education, restrictions on vouchers for subsidized childcare for low-income families, limited availability of early childhood education centers, and limited understanding of the benefits of early childhood education.

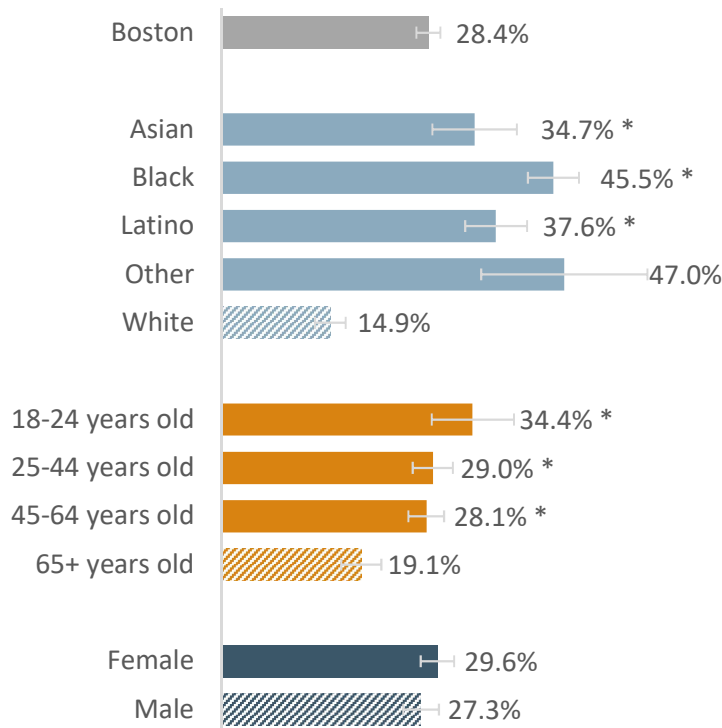
Accessing Social and Other Services

Focus group and interview participants discussed additional challenges of accessing the range of social and other services that might be available. These barriers included limited transportation, difficulty navigating application processes, limited Internet for completing applications, and lack of eligibility due to immigration/documentation status.

A number of participants across conversations also discussed systemic racism, racial injustice, and discrimination as interwoven into U.S. social, economic, educational, and health care systems. Many discussed how our current systems are set up to perpetuate current inequities. Others talked about facing discrimination themselves, in stores, restaurants, employment, or housing. From 2015-2019 BBRFSS data, about 28.4% of Boston residents reported receiving poor service at restaurants or stores in day-to-day life due to their race or ethnicity (Figure 20). About 45.5% of Black adults reported

experiencing poor service, while 37.6% of Latino adults and 34.7% of Asian adults indicated having this experience.

Figure 20. Percent Adults Reporting Receiving Poor Service Due to Their Race/Ethnicity, by Boston and Selected Indicators, 2015, 2017, and 2019 Combined



DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Data show percentage of adults reporting receiving poorer service than other people at restaurants or stores in day-to-day life due to race/ethnicity; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

Accessing Health Care Services

Although about 95.8% of Boston residents have health insurance (see Appendix F for detailed data), focus group and interview participants cited numerous barriers to accessing health care services in general and especially during the pandemic.

Overall Barriers to Health Care

Key informants and focus group participants in 2022 cited some very similar barriers to accessing health care as they did in the previous community health needs assessment. Recent focus group participants noted that income-related barriers to accessing care were common and included income restrictions for qualifying for MassHealth, a lack of insurance benefits linked with employment, unaffordable out-of-pocket and surprise medical expenses not covered by health insurance, the high cost of medications (particularly

“Due to my language barriers, I was not able to express my health concerns and had a hard time to communicate with doctors to get right treatment.”- Focus group participant

for people with chronic illnesses), and the challenge of finding a job that provides insurance benefits. Participants also discussed distrust towards health care systems and health providers, concern about undocumented legal status, difficulty navigating the health care system, lack of cultural sensitivity among providers, long waits for medical appointments, transportation barriers, and difficulty securing a medical appointment.

Residents shared that language barriers and limited culturally relevant care make it difficult to navigate and access health care and social services and to follow treatment plans for residents for whom English is not their first language. This was particularly salient in conversations with Cape Verdean Creole speakers.

Barriers Specific to People with Disabilities and Older Adults

Some participants described limited staffing and support for home health care as a concern, particularly for older adults and residents with disabilities. Participants with disabilities described several barriers to health care, including: lack of accessible equipment (e.g., exam tables, scales, assistance with wheelchair transfers), communication barriers (e.g., interpretation), the need for support in completing forms, limited training among providers in treating patients with a range of disabilities, denial of access to care (e.g., psychological services, rehabilitation, nursing homes) for people with developmental disabilities, limited information about available resources or services needed, and lack of reliable Internet service.

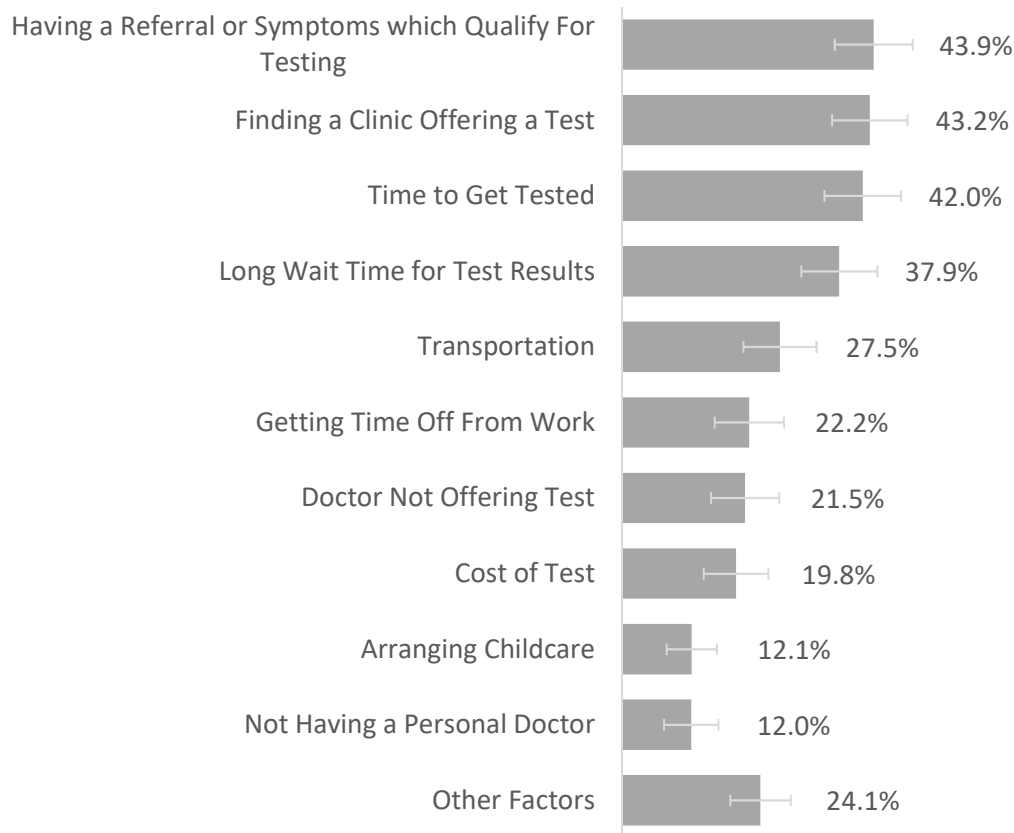
Participants also described a growth in telehealth visits. They noted that conducting assessments and developing treatment plans can be difficult during telehealth visits and that telehealth visits can be a barrier for older adults, immigrants, and persons with disabilities. Participants noted that some patients prefer in-person visits and cited several barriers to using telehealth, including technological resources, support, and training needed.

Health Care Access Specific to the COVID-19 Pandemic

Residents described how racial/ethnic inequities in health care access and social factors that impact health care access – such as transportation and Internet access – have been magnified by the COVID-19 pandemic. Some residents noted that patients who rely on family support for interpretation during visits have lost this support due to COVID-19 policies that limit visits to the patient only. Some key informants and focus group participants discussed how residents with chronic health conditions and those with undiagnosed conditions have been affected by delayed health care and ongoing lack of a medical home.

Getting tested for COVID-19 had its own set of challenges. Respondents of the COVID-19 Health Equity Survey cited a number of barriers to getting tested for COVID-19. Having a referral or symptoms to qualify for a test, finding a clinic that offered COVID testing, the length of time that it takes to get tested, and long wait times to receive COVID test results were the leading barriers to COVID-19 testing among Boston residents in December 2020/January 2021 (Figure 21). However, according to the COVID-19 Health Equity Survey, more than one in five Boston residents also cited issues such as transportation, getting time off of work, and cost of a test as barriers to getting a COVID test in December 2020-January 2021. Appendix F has the breakdown of data by race/ethnicity and age for each of these barriers.

Figure 21. Percent Adults Reporting Barriers to COVID-19 Testing, by Specific Barriers, by Boston and Selected Indicators, 2020-2021



DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, COVID-19 Health Equity Survey, December 2020 - January 2021

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

Residents explained that at multiple points during the pandemic, COVID-19 information was not clear enough and residents for whom English was not their first language encountered language barriers to accessing changing and time-sensitive COVID-19 information. Lack of access to technology also emerged as a barrier to COVID-19 information, particularly for older adults who relied on family and friends to use technological devices to sign up for COVID-19 resources or access COVID-19 information. Residents also described rampant misinformation about COVID-19.

COMMUNITY’S VISION AND COMMUNITY SUGGESTIONS FOR THE FUTURE

Interview and focus group participants shared numerous ideas for collective action for the future including: addressing systemic racism, strengthening collaboration, improving economic development and housing, improving access to behavioral health and health care services, promoting youth development, and creating a healthier environment.

Deepen Partnerships with Local Communities and Collaborate to Promote Health Equity

While some interviewees described effective collaboration happening throughout the city, they discussed several barriers to collaboration. These challenges included decentralized partnerships and competition for funding among local non-profit organizations, which they noted undermines relationship building. Several interviewees called for creating and strengthening partnerships that create and implement long-term strategic plans to promote community health and developing and deepening long-term relationships between City of Boston agencies (e.g., schools, housing, public health), hospitals, and smaller community-based organizations. To accomplish these goals, key informants recommended centering the voices of affected residents in planning and implementation processes, engaging community builders and community organizers, funding community-based initiatives to implement strategies to address health inequities, and creating centralized mechanisms to share information and resources with residents. Key informants also recommended disseminating CHNAs and CHIPs in modes that improve access to the general public and center resident voices.

"[There is opportunity] for closer collaborative work in the city. There is a challenge and advantage of having so many different institutions that are working in the same or overlapping neighborhoods."— Key informant interview

Focus on Dismantling Systemic Racism

Interview participants' recommendations to address systemic racism included developing hospital-based reparations funds for neighborhoods such as Roxbury, in which hospital campuses are based and which also experience persistent health inequities and developing land trusts that can serve as community spaces. Another recommendation pertained to providing continual education (e.g., Equity, Diversity, and Inclusion training) for institutions and people who work with people of color and low-income communities to improve understanding of and build capacity to address systemic racism and implicit bias. One key informant recommended that schools, businesses, non-profit organizations, governmental, and health care sectors participate in this training.

Create Opportunities that Foster Economic Stability and Mobility

Recommendations for improving employment opportunities included partnering with small businesses to recruit and hire local residents and pay workers a living wage, fostering work environments that are inclusive of LGBTQIA+ communities, and addressing discrimination in hiring and work environments. Additional recommendations included creating opportunities for immigrant health professionals who trained and practiced in their home country to work in the local health care system, improving job training opportunities designed to facilitate economic mobility for youth and

"Economic justice goes along with health. To have a healthy community, there's going to be healthy economic activity because it takes psychological, mental, emotional, good way of being for a business to function effectively." – Key informant interview

adults, and bringing hospitals and community-based organizations together to create health careers training programs for youth.

Strategies to address growing income inequities, as recommended by key informants and interview participants, included containing rising costs, taxing wealthy households and corporations, ensuring residents have life insurance, and forgiving student loans. While several key informants noted that there are several social and economic resources available to support Boston residents, key informants and focus group participants emphasized the importance of connecting residents with these resources and services. Recommendations for supporting immigrants include creating pathways for immigrants to complete any credentialing needed to enable them to work locally, supporting immigrants seeking asylum, and increasing volunteer-based programs to support immigrant communities. Improving resources and services for veterans and LGBTQIA+ communities also emerged as recommendations.

Improve Housing Affordability

Community leaders' and residents' recommendations for promoting housing affordability and stability pertained to improving the availability of low-income housing, increasing access to affordable housing through programs such as rent control and rental assistance, and using vacant buildings as homeless shelters. Another set of recommendations by participants pertained to investing in homeownership models for low-income residents, including asset building programs such as rent-to-own programs for affordable housing and housing loans for low-income residents. Institutionally, one recommendation pertained to ensuring that development projects include credits that are returned to the community to improve housing access and quality.

Improve Access to and Quality of Behavioral Health Care

Recommendations by interview and focus group participants to improve access to mental health care included making therapy accessible to low-income communities and in the primary language of patients; strengthening mental health care in community health centers; improving access to mental health for youth; and increasing awareness about and addressing stigma around mental health services. In terms of improving quality of mental health care, recommendations included increasing culturally congruent care for residents of color and LGBTQIA+ communities; providing peer-to-peer and group therapy models; and incorporating art therapy to engage youth in mental health care. Other recommendations included providing a list of mental health resources that is available in residents' primary language; training community-based stakeholders to respond to mental health crises; and addressing substance use and addiction through mental health care.

“We need more mental health services that are not rooted in the white dominant culture, but that are rooted in people's cultural experiences.” – Key informant interview

Strengthen Health Care Policies and Improve Health Care Access and Quality

To improve health care coverage and access, key informants and focus group participants recommended supporting residents in enrolling in MassHealth and other programs for low-income residents such as food and cash aid benefits; lowering health insurance rates; providing access to a wider range of affordable health plans; compensating spouses as personal care assistants under MassHealth; and covering personal protective equipment through health insurance.

Interview and focus group participants also discussed the importance of improving access to preventive and specialty care (e.g., audiology, ophthalmology, podiatry) and collaborating with grassroots organizations when designing efforts to improve health care access. Residents also cited the need to make health care more accessible by providing care in patients' primary language, ensuring that health care is available at times that are feasible for residents who work multiple jobs, addressing transportation barriers to accessing health care. To improve provider sensitivity to patients' needs, residents recommended recruiting more bilingual providers and providers of color to more closely reflect underserved patient populations; training providers to better serve people of color, low-income residents, and people with disabilities; and ensuring providers are connected with the communities they serve.

A recommendation related to the social determinants of health and health care access included providing wrap-around services by addressing multiple health care needs (e.g., preventive care, vaccines). Relatedly, key informants and focus group participants suggested connecting residents with community-based resources in clinic or other community-based (e.g., churches, schools, YMCA) settings located in low-income communities and communities of color. Key informants and focus group participants recommended using this local, centralized setting to connect patients with community resources, leverage medical-legal partnerships to improve residents' access to legal supports, coordinate care for seniors, support the transition from pediatric to adult care, and improve care and support for people with disabilities. One key informant recommended building the capacity of community health workers or other peer-to-peer models to support residents in navigating social and health care systems and to build resident awareness of health issues.

Promote Child and Youth Development

Key informants and focus group participants recommended a number of strategies to promote child and youth development. In the school context, recommendations included providing more funding for schools and creating programs where school nurses provide hygiene kits for students. Another set of recommendations pertained to creating more community-based spaces for youth, such as fully-staffed libraries and community centers, which could provide support with academics, opportunities to be active, workforce development opportunities, connect residents to resources, and bring longstanding and new residents together. Another recommendation included affirming LGBTQIA+ youth. Supporting caregivers and low-income families also emerged as a recommendation, including improving parent supports to access resources and services and navigate educational and criminal justice systems.

Create a Healthier Built and Physical Environment

Having a healthier built and physical environment – built environment, green space, and air quality— was important to focus group and interview participants, and they cited a number of suggestions for the future. Residents described the importance of improving air quality, providing families with air filters, cleaning up vandalism and trash, improving transportation, and providing affordable Internet access and improving digital literacy for low-income residents and older adults. Focus group participants described opportunities for promoting physical activity, such as creating affordable access to gyms, yoga, meditation, and community walks and bike rides. Recommendations for improving access to healthy and affordable food included bringing healthy food to neighborhoods that lack access to healthy, affordable food; improving school lunches to offer healthy, fresh food; and providing nutrition education to LGBTQIA+ communities.

PRIORITIES FOR COLLABORATIVE ACTION

The Boston CHNA-CHIP Collaborative aims to undertake a collaborative planning process May -September 2022 to identify the prioritized issues on which this cross-sector group will take action.

For the past two years, the Boston CHNA-CHIP Collaborative has been focused on four priority areas and implementing the 70 strategies outlined in the 2020 community health improvement plan. Great progress has been made on many of these strategies, while other strategies have not been implemented as extensively given constrained capacity and the current context of the COVID-19 pandemic.

Given this backdrop, the 2022 prioritization process focused on:

- 1) reaffirming the previous priorities and identifying any new issues that have emerged; and
- 2) prioritizing specific strategies within these major areas that should be lifted up for future action.

To this end, in May-June 2022, the Collaborative undertook a collaborative prioritization process to solicit community input on the key strategies for collective impact to focus their 2022 community health improvement plan.

Identified and Reaffirmed Priorities

The prioritization process was centered on the data from this 2022 CHNA and the current CHIP which has four main priority areas and an overarching central focus of achieving racial and ethnic health equity:

1: Housing

Focusing on affordability, quality, homelessness, ownership, gentrification and displacement

2: Financial Security and Mobility

Focusing on jobs, employment, income, education, and workforce training which comprised this priority in the past CHIP, and including food security which emerged as a salient issue in the 2022 CHNA

3: Behavioral Health

Focusing on mental health and substance use

4: Accessing Services

Focusing on healthcare, childcare, and social services

Criteria for Prioritization

The Collaborative aimed to use a systemic, engaged approach informed by data to confirm the larger priority areas and prioritize the specific strategies for focus in future planning and implementation efforts. The following criteria were used to help participants identify priority strategies from the current CHIP.

- **Burden:** How much does this issue affect health in Boston?
- **Equity:** Will addressing this issue substantially benefit those most in need?

- **Impact:** Can working on this issue achieve both short-term and long-term change?
- **Feasibility:** Is it possible to address this issue given infrastructure, capacity, and political will?
- **Collaboration/Engagement:** Are there existing groups across sectors willing to work together on this issue? Is there an opportunity for engaging these groups?
- **Data:** Do we have data to support this objective and strategy?

Prioritization Process

The prioritization process was multi-stepped and aimed to be inclusive, participatory, and data driven. During May-June 2022, several steps were taken to confirm the larger priority areas and identify the prioritized strategies for the upcoming planning process. A total of 62 participants were part of the prioritization process, and activities included the following:

- Three separate 90-minute virtual listening sessions were conducted in late May and early June. In each of these sessions, Collaborative members presented key findings and high-level themes from this current CHNA to provide context for prioritization. Following the data presentation, listening session participants (n=15) were asked to complete an online survey to select priority strategies using the criteria described above.
- Based on low participation during the scheduled listening sessions, the survey and a pre-recorded data presentation were sent to all registered participants who did not attend. The survey was open for an additional 24-hours, and an additional 5 respondents completed the prioritization survey.
- To increase participation in the process, Collaborative members attended a Union Capital Boston (UCB) meeting on 6/7/22 to gather additional feedback. 42 community members participated in a break-out session that included a brief data presentation and dialogue about the prioritization process. These participants discussed which areas most resonated with them and provided feedback on which strategies to prioritize.
- Feedback from this session was incorporated with the earlier survey responses, and these results were posted on the Collaborative's website in 10 languages (Arabic, Cape Verdean, Chinese traditional – Cantonese, Chinese simplified – Mandarin, Haitian Creole, Portuguese, Russian, Somali, Spanish, and Vietnamese) to gather additional community input prior to the late June planning session. The feedback form was shared with the Collaborative Steering Committee for distribution to communities via email.

These discussions reaffirmed these four priority areas. The cross-cutting and overarching focus of the planning process will continue to be around ***Achieving Racial and Ethnic Health Equity*** recognizing that institutional racism and structural inequities are what drive the health disparities we see around race, ethnicity, and language in the city for nearly all issues.

The Collaborative will meet to develop a CHIP that will provide a blueprint to address the prioritized strategies listed above. The CHIP development process will include a virtual planning session in late June 2022 to refine the CHIP document based on community input. A 2022 CHIP will be finalized in Fall 2022.

APPENDIX A. STRUCTURE OF THE BOSTON CHNA-CHIP COLLABORATIVE

The Boston CHNA-CHIP Collaborative (the Collaborative) is a group of Boston community residents, community-based organizations, community development corporations, health centers, the hospitals, and the Boston Public Health Commission. This group has come together to achieve sustainable positive change in the health of the city by collaborating with communities, sharing knowledge, aligning resources, and addressing root causes of health inequities. One of the fundamental approaches for this work is to conduct a community health needs assessment so efforts are informed by data and community members themselves. While community health assessment and planning have been long-standing endeavors among organizations across the city, the Collaborative aims to leverage, align, and coordinate efforts and resources across multi-sector stakeholders in Boston. More details about the Collaborative's structure and engagement can be found in the Methods section of this report, Appendices A-C, and at <http://www.bostonchna.org/>.

The Collaborative's structure provides a framework for large-scale engagement to improve the community's health. This structure includes:

- *Steering Committee* – comprising of 19 members representing hospitals, health centers, Boston Public Health Commission, a public health organization focused on community, community development corporations, and community representatives. Its role is to provide strategic direction and oversight of the process (See Appendix B for list of Steering Committee members).
- *Operations Committee* – comprising of the Steering Committee co-chairs and the Collaborative's Coordinator. This Committee resolves operational issues requiring immediate actions.
- *Work groups* – comprising of Steering Committee members and general membership. The two Work Groups for the CHNA provided input and assistance on implementing activities (See Appendix B for members). For the Boston CHNA, these two Work Groups were:
 - *Community Engagement/Primary Data Work Group* – including 24 members representing a range of organizations, including hospitals, health centers, local public health, community development, and community-based organizations. The Work Group's charge is to provide guidance on the approach to community engagement, input on primary data collections methods, and support with logistics for primary data collection.
 - *Secondary Data Work Group* – including 16 members representing a range of organizations, including hospitals, health centers, and local public health. The Work Group's charge is to provide guidance on secondary data approach and indicators and foster connections with key networks and groups to provide relevant data.
 - *Additional Work Groups* – Additionally, the Collaborative has comprised work groups for the planning and implementation of the Community Health Improvement Plan (CHIP). This includes a work group to prepare for the 2022 CHIP process and four work groups that are focused on overseeing and implementing the strategies of the 2019 CHIP (one per priority area: behavioral health, financial security and mobility, housing, and access to services)
- *General membership* attends events, shares information, and participates in work groups. Over 400 people are engaged in communication with the Collaborative's activities.

APPENDIX B. STEERING COMMITTEE AND WORK GROUP MEMBERS

Boston CHNA-CHIP Collaborative Steering Committee Membership

Organization	Name
Massachusetts League of Community Health Centers	Mary Ellen McIntyre (co-chair)
Dana-Farber Cancer Institute	Magnolia Contreras (co-chair)
Black Boston COVID-19 Coalition	Louis Elisa
Community Resident	Ricky Guerra
Madison Park Development Corporation	Leslie Reid
Mattapan Food and Fitness Coalition	Vivien Morris
Urban Edge	Emilio Dorcely
Beth Israel Deaconess Medical Center	Nancy Kasen
Boston Children’s Hospital	Shari Nethersole, MD
Boston Medical Center	Thea James, MD
Brigham & Women’s Hospital	Michelle Keenan
Brigham & Women’s Faulkner Hospital	Tracy Mangini Sylven
East Boston Neighborhood Community Health Center	Hollis Graham
Harbor Health Services	Amanda Mastrangelo
Massachusetts General Hospital	Leslie Aldrich
Mass Eye and Ear	Tavinder Phull
Tufts Medical Center	Sherry Dong
Boston Public Health Commission	Catherine Fine

**Community Engagement (Primary Data) Work Group Membership
Boston CHNA-CHIP Collaborative**

Organization	Name
Beth Israel Deaconess Medical Center	Robert Torres (co-chair)
Jamaica Plain Neighborhood Development Corporation	Ricky Guerra (co-chair)
Mattapan Food and Fitness Coalition	Vivian Morris
Beth Israel Deaconess Medical Center	Danelle Marable
Boston Children’s Hospital	Ayesha Cammaerts
Boston Children’s Hospital	Carolyn King
Brigham & Women’s Hospital	Sarah Ingerman
Brigham & Women’s Hospital	Madison Louis
Dana-Farber Cancer Institute	Magnolia Contreras
East Boston Neighborhood Community Health Center	Joanna Cataldo
East Boston Neighborhood Community Health Center	Alexis Davis
East Boston Neighborhood Community Health Center	Gloria DeVine
East Boston Neighborhood Community Health Center	Joanne Suarez
East Boston Neighborhood Community Health Center	Carly Wellington
Mass General Brigham	Tavinder Phull
Massachusetts General Hospital	Leslie Aldrich
Massachusetts General Hospital	Kelly Washburn
Massachusetts League of Community Health Centers	Mary Ellen McIntyre
Tufts Medical Center	Lisa Hy
Tufts Medical Center	Karen Peterson
Tufts Medical Center	Danchen Xu
Boston Public Health Commission	Catherine Fine
Boston Public Health Commission	Trinese Polk
City of Boston Health and Human Services	Krystal Garcia

**Secondary Data Work Group Membership
Boston CHNA-CHIP Collaborative**

Organization	Name
Mass General Brigham	Trang Hickman (co-chair)
Boston Public Health Commission	Johnna Murphy (co-chair)
Boston Children's Hospital	Ayesha Cammaerts
Boston Children's Hospital	Carolyn King
Brigham & Women's Hospital	Sarah Ingerman
Brigham & Women's Hospital	Madison Louis
Brigham & Women's Hospital	RonAsia Rouse
Dana-Farber Cancer Institute	Magnolia Contreras
Harbor Health Services	Amanda Mastrangelo
Mass General Brigham	Tanner Parente
Mass General Brigham	Tavinder Phull
Massachusetts General Hospital	Nikki Reyes
Tufts Medical Center	Sherry Dong
Tufts Medical Center	Karen Peterson
Boston Public Health Commission	Catherine Fine
City of Boston Health and Human Services	Krystal Garcia

APPENDIX C. ONGOING PARTNER AND COMMUNITY ENGAGEMENT AND THE COLLABORATIVE PROCESS

Ongoing Partner and Community Engagement

Community health improvement efforts can only be accomplished through ongoing and meaningful engagement of community members and partners across a multitude of sectors. Through the work group structure, open community meetings, email dissemination, and the vast network of partners, the Collaborative aims to engage a range of sectors in the community. The Steering Committee of the Collaborative includes local public health, hospitals, community development, health centers, and numerous community organizations. Each Steering Committee member is a champion, engaging a wide network of organizations and residents. Each Collaborative work group comprises dozens of members across sectors to advance their charge. When gaps are identified within the activities of the work groups, work group co-chairs make a concerted effort to engage those involved in that area (e.g., bringing in additional representatives from the childcare sector in Access to Services during the implementation process.)

The community engagement process was carried out in accordance with the Massachusetts Department of Public Health's Community Engagement Standards for Community Health Planning Guideline, consistent with state law, Determination of Need (DoN) Regulation found at 105 CMR 100.000 as well as The Attorney General's Community Benefits Guidelines for Non-Profit Hospitals. These standards establish procedures for defining the community, required stakeholders, and process steps and requirements.

Through email communications, virtual and in-person meetings and listening sessions run by the Collaborative, and meetings via Steering Committee members' own structures (e.g., hospital Community Benefit Advisory Committees), community members have been and will be continuously engaged in this process from assessment to planning to implementation.

This includes inviting broad resident and stakeholder participation in the CHIP Working Groups for each priority area. These CHIP working groups meet monthly or bi-monthly throughout the CHIP implementation period and are led by two Co-Chairs who manage and oversee these meetings. The CHIP Working Group Co-Chairs also update and present to the larger Collaborative Steering Committee at least three times annually and meet as a group six times annually to explore and discuss synergies and cross-collaboration in key CHIP implementation objectives.

At the Collaborative's annual community meeting, the CHIP Working Group Co-Chairs provide updates to the larger community and move into breakout sessions to strategize, strengthen and update CHIP working group activities and objectives, and to recruit new members to the CHIP Working Groups.

Communicating about the Assessment Findings

As mentioned in the Priorities for Collaborative Action section in this report, the CHNA findings were shared with community members in four different listening sessions in May-June 2022. During these sessions, Collaborative members presented on the assessment findings and engaged in a discussion with community members on what resonated with them and where there are gaps to inform a systematic prioritization process for planning. In total, 62 community members participated in this process.

Once this report is final, it will be posted on the Collaborative's website, and an announcement with the link to the report will be emailed out to the Collaborative mailing list, nearly 400 people that comprise of residents and community organization staff from across sectors including housing, transportation, economic development, public health, healthcare, and the faith community.

Continuous Updating and Revising of the Assessment

Review of data is a critical part of the planning and implementation process. The Collaborative has data sharing agreements with the Boston Public Health Commission and strong relationships with institutions and organizations across the city. These institutions are part of the Community Health Improvement Planning (CHIP) implementation work groups. During these work group meetings, data from the specific priority areas will be continuously examined to ensure that strategies are appropriate for and aligned to the community's needs.

In the past cycle, the ongoing CHIP implementation work groups (one per priority area) used the 2019 CHNA data to develop their initial list of strategies. In 2020 and on, they continually worked with the Boston Public Health Commission and community-based organizations to collect and synthesize new data, particularly with a focus on how the COVID-19 pandemic exacerbated inequities and identified areas of urgent need. For example, during the process, real-time data indicated that many residents were facing a loss of income, increased risk of eviction, and loss of childcare during the pandemic. This guided the CHIP implementation work groups so that they could nimbly adjust to current circumstances: the Financial Security and Mobility group focused more on employment-related strategies, the Housing work group focused more on eviction issues, and the Access to Services ramped up their strategies addressing childcare needs. This was only made possible via the broad cross-section of partnerships within each work group. These issue areas were identified as critical for further review during the 2022 CHNA process.

In addition to carrying forward the foregoing processes into the next cycle, the Collaborative plans to hold annual community meetings in order to provide updates to the community on CHIP progress and objectives, and to gain additional input and recommendations from Community Members on current and future activity within each working group. The Collaborative has held annual community meetings each year, with the exception of 2021 when virtually all Collaborative members shifted to responding to a significant surge in community transmission of COVID-19 and increased hospitalizations.

As new data and community input is generated and synthesized through these processes, it will also be reviewed at least annually for the purposes of identifying any potential enhancements or additions to the CHNA.

APPENDIX D. TECHNICAL NOTES ON CHNA QUANTITATIVE AND QUALITATIVE METHODS AND DATA

Quantitative Data – Secondary Data

How Indicators and Data Sources were Identified

The Secondary Data Work Group members identified the goals of the secondary data as: 1) to examine inequities by population group specifically among those with disproportionate burden and 2) to dig deeply into areas of need most exacerbated by the COVID-19 pandemic.

The Secondary Data Work Group was instrumental in developing and providing feedback on list of data indicators, identifying potential data sources, and making connections to those sources. The secondary data work group began their work of reviewing the indicator list from the 2019 CHNA. These indicators were identified through multiple methods – 1) review of existing, validated indicators for social, economic, and health issues; 2) multiple discussions with a 30 person secondary data work group to brainstorm gaps in the initial list; and 3) review and refinement of the longer indicator list among the work group and work group co-chairs to prioritize those indicators that were available, focused on upstream issues, could be tracked over time, and where there were significant inequities.

The 2022 CHNA process started with this 2019 list and then further refined and prioritized for this report. The secondary data work group engaged in multiple discussions and prioritized indicators: that aligned with the 2019 priority areas; that COVID-19 had a disproportionate impact on, and/or where there were the greatest inequities by race/ethnicity, neighborhood, or other characteristics.

Secondary Data Sources

Numerous data sources were reviewed and included in the 2022 CHNA. Secondary data sources included U.S. Census/American Community Survey, vital statistics (birth/death records), hospital case mix data, Bureau of Labor Statistics, Boston Behavioral Risk Factor Surveillance Survey (BBRFSS), BBRFSS COVID-19 Health Equity Survey, Youth Risk Behavior Survey (YRBS), and the Massachusetts Department of Public Health Bureau of Substance Addiction Services treatment data.

Analyses

All secondary data on birth and death records, BBRFSS, YRBS, and Acute Hospital Case Mix were analyzed by the Research and Evaluation Office of the Boston Public Health Commission. Other data were analyzed by the organizations cited in the data source. Analyses were conducted for frequencies (percentages) and rates (per 100,000 residents), where applicable. Confidence intervals (or error bars in the figures) were calculated for survey data from the ACS and surveillance systems, such as the BBRFSS and YRBS. Statistical significance testing by sub-groups was conducted at $p < 0.05$.

Secondary data were included in the main body of the CHNA report that were most relevant to the themes that emerged in the focus groups and interviews, that aligned with the CHIP priority areas, that COVID-19 had a disproportionate impact on, and where there were the most significant inequities by race/ethnicity, neighborhood, or other characteristics

Qualitative Data – Focus Groups and Interviews

How Populations and Interviewees were Identified

The Community Engagement Work Group identified one of its main goals as ensuring that diverse and historically underrepresented community voices are lifted throughout the CHNA-CHIP process using an equity framework. To that end, the Community Engagement work group conducted a thorough review of the 2019 CHNA and identified areas where there were gaps in representation. Concerted efforts were made in the 2022 process to ensure that those voices were included (e.g., expanded engagement with residents of Chinatown and Boston’s Chinese community.)

Additionally, each hospital involved their Community Benefit Advisory Committee (CBAC) in the process as well, which included engagement of stakeholders at the neighborhood level across a range of sectors. The list of population segments for focus groups and stakeholders were vetted through each CBAC and additional ideas were brainstormed where there were gaps. CBACs were also asked to identify neighborhoods and population segments most impacted by COVID-19 (e.g., essential workers).

Focus group discussions were conducted with those who have been disproportionately burdened by social, economic, and health challenges including: youth and adolescents, older adults, persons with disabilities, low-resourced individuals and families, LGBTQI+ populations, racially/ethnically diverse populations and/or limited-English speakers (e.g., African American, Latino, Haitian, Cape Verdean, Vietnamese, Chinese), immigrant and asylee communities, families affected by incarceration and/or violence, and veterans. Key informant interviews were conducted with a cross-section of sectors to identify areas of action and perspectives on the community. These interviewees included leaders and staff from public health, health care, behavioral health, the faith community, immigrant services, housing organizations, economic development, community development, racial justice organizations, social service organizations, education, community coalitions, the business community, childcare centers, elected government offices, and others.

Discussion Guides and Process

Members of the Community Engagement Work Group and their partners -- Boston Children’s Hospital, John Snow Inc. on behalf of Beth Israel Medical Center and New England Baptist Hospital, Massachusetts General Hospital, Brigham and Women’s Hospital, Brigham and Women’s Hospital Faulkner Hospital, Tufts Medical Center, East Boston Neighborhood Health Center, EASTIE Coalition at East Boston Neighborhood Center, Soccer without Borders, Veronica Robles Cultural Center, and Maverick Landing Community Services – conducted the focus groups and interviews. Members of the community engagement work group divvied up key informant interviews and focus groups that they conducted using a consistent guide which focused on community needs and strengths and particularly which aspects of life were most impacted by the pandemic. Each organization organized their own discussions and made slight variations to the guide where appropriate.

Qualitative data were from 62 key informant community leaders across a range of sectors and 29 focus groups with 309 community residents. The selection process for both the qualitative and quantitative data were guided by the Collaborative’s shared values of equity.

Analysis

Each organization that conducted the focus groups and interviews initially synthesized the data they collected. The organizations summarized key themes into a consistent template that identified

feedback from the discussions on the community strengths, impact of COVID, priority health issues, factors that promote community health, barriers to healthy living, specific findings among the four priority areas (housing, financial security and mobility, behavioral health, and accessing services), and proposed ideas and recommendations for the future. Findings under each of these were summarized, along with notations among which sub-populations they mapped to. Additionally, the template provided space for organizations to pull out illustrative quotes.

These summaries were submitted to Health Resources in Action (HRiA), a non-profit public health organization, that helped support the analysis and development of the CHNA report. HRiA analyzed the qualitative summaries to identify common themes across population groups as well as unique challenges and perspectives identified by populations and sectors, with an emphasis on diving deep into the root causes of inequities. Frequency and intensity were key factors used for extracting main themes and sub-themes, as well as its alignment with the Collaborative's focus on equity.

Asset Mapping and Community Resources

Leading up to the 2022 CHNA, most of the CHIP work groups (one per priority area: behavioral health, access to services, housing, and financial stability & mobility) developed a comprehensive resources list to identify where there were current resources and where there were gaps. This information guided which strategies were prioritized, how they were implemented, and which partners needed to be involved in the discussions. This information then informed the 2022 CHNA. Additionally, in the 2022 CHNA, 62 key informant community leaders in interviews and 309 community residents in 29 focus groups were asked about what they saw as the strengths and assets in their community. This feedback was synthesized in this report.

APPENDIX E. KEY INFORMANT INTERVIEWEE ORGANIZATIONS

Organization
Alice Taylor Housing
Black Ministerial Alliance TenPoint
Boston Center for Independent Living
Boston City Council
Boston Higher Education Resource Center
Boston Housing Authority
Boston Police Community Liaison
Boston Police Department
Boston Public Health Commission
Boston Public Schools
Boston Senior Home Care
Boston Women's Fund
Boys & Girls Club of Boston
Brigham and Women's Hospital
Cape Verdean Association of Boston
Cape Verdean Community Leader
Community Servings
Dimock Center
East Boston Neighborhood Health Center
East Boston Social Centers
Ecumenical Social Action Committee Boston
Family Nurturing Center
Fenway Health
Friends of the Boston Public Library
Greater Boston Parents, Families, and Friends of Lesbians and Gays
Haitian Americans United
Haitian Community Leader
Health Leads Boston
Hyde Park Community Physicians
Italian Home for Children
Jamaica Plain Neighborhood Development Corporation
Local Initiatives Support Corporation
Madison Park Development Corporation
Madison Park High School
Maria Sanchez House
Massachusetts Affordable Housing Alliance
Massachusetts Association of Community Development Corporations
Massachusetts General Hospital Asylum Clinic
Massachusetts Office on Disability
Massachusetts State Legislature
Maverick Landing Community Services
Metropolitan Area Planning Council
Mission Hill Health Movement

Mission Hill Link
Mission Hill Main Streets
Mission Hill Neighborhood Housing Services
Mission Main
NAACP
Parker Hill Fenway
Partners for Youth with Disabilities
Roxbury Main Streets
Roxbury Tenants of Harvard
Sociedad Latina
South Cove Community Health Center
Tech Goes Home
Tobin Community Center
YMCA Hyde Park

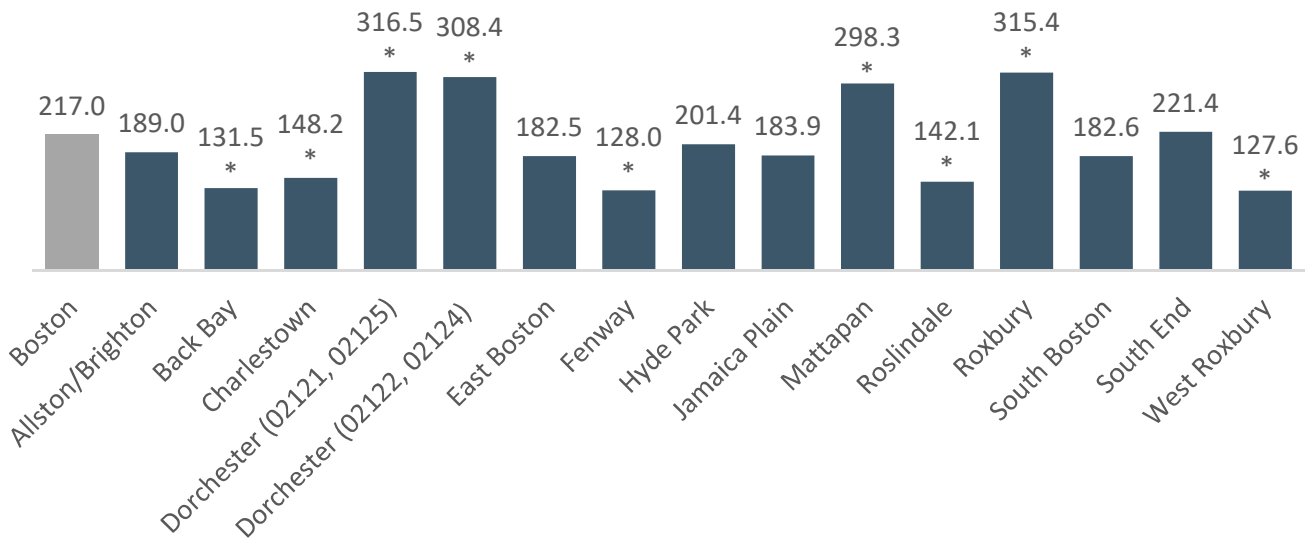
APPENDIX F. ADDITIONAL DATA TABLES

The main CHNA report focused on including data that were most relevant to the themes that emerged in the focus groups and interviews, that aligned with the CHIP priority areas, that COVID-19 had a disproportionate impact on, and where there were the most significant inequities by race/ethnicity, neighborhood, or other characteristics. Appendix F includes additional data to complement what is presented in the body of the report.

Community Health

Premature Mortality

Figure 22. Premature Mortality Rate, by Boston and Neighborhood, Age-Adjusted Rate per 100,000 Residents, 2020-2021 Combined



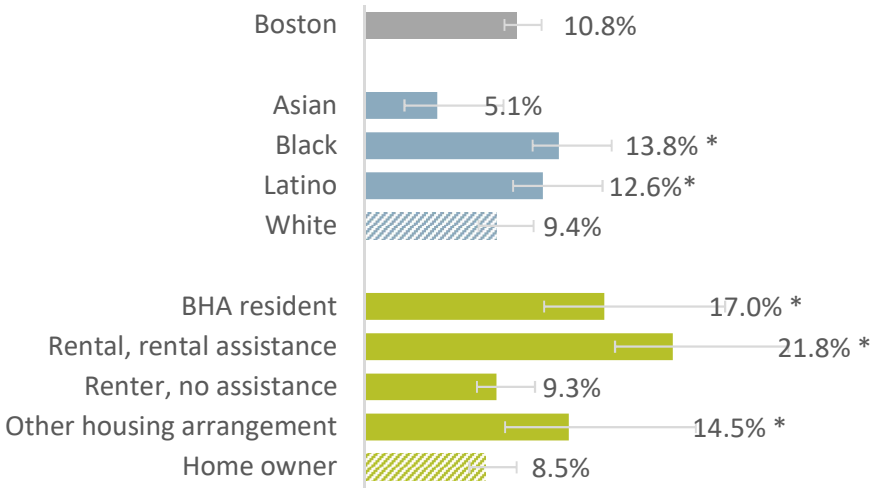
DATA SOURCE: Boston Public Health Commission, Boston resident deaths, 2020-2021 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Premature deaths are defined as deaths at an age under 65 years; Please be advised that 2020-2022 data are preliminary and subject to change. Raw preliminary data may be incomplete or inaccurate, have not been fully verified, and revisions are likely to occur following the production of these data. The Massachusetts Department of Public Health strongly cautions users regarding the accuracy of statistical analyses based on preliminary data and particularly with regard to small numbers of events; Asterisk (*) denotes where neighborhood estimate was significantly different compared to the rest of Boston ($p < 0.05$)

Asthma

Figure 23. Percent Adults Reporting Having Asthma, by Boston and Selected Indicators, 2015, 2017, and 2019 Combined



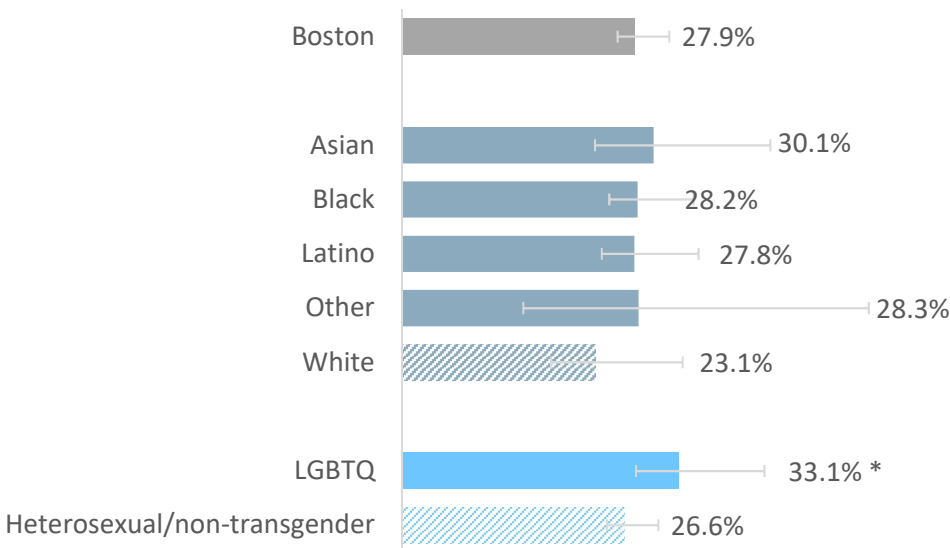
DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

For race/ethnicity, of the 201 respondents classified as Other, non-Hispanic, 23% identified as American Indian/Alaskan Native. The remainder are either multi-race or some other race.

Figure 24. Percent Boston Public High School Students Reporting Having Asthma, by Boston and Selected Indicators, 2015, 2017, and 2019 Combined



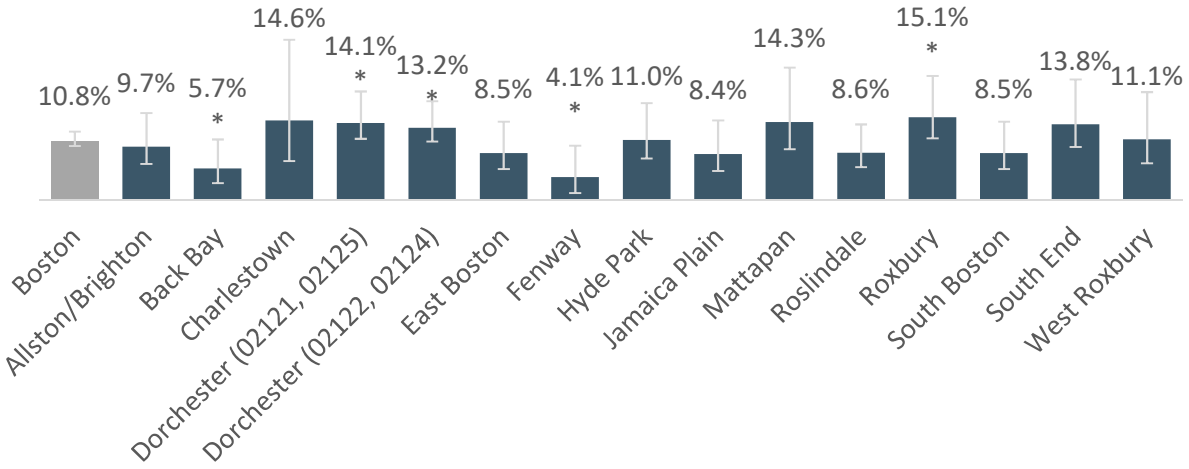
DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2015, 2017, and 2019 combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTE: Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

For race/ethnicity, of the 201 respondents classified as Other, non-Hispanic, 23% identified as American Indian/Alaskan Native. The remainder are either multi-race or some other race.

Figure 25. Percent Adults Reporting Having Asthma, by Boston and Neighborhood, 2015, 2017, and 2019 Combined

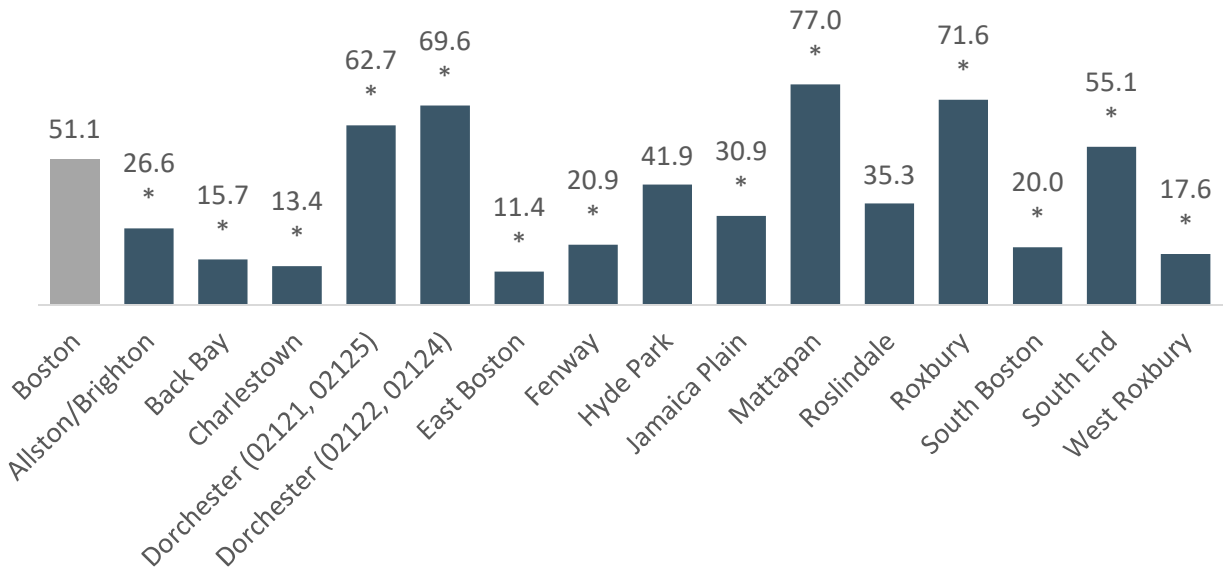


DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

Figure 26. Asthma-Related Hospital Patient Encounter Rate, by Boston and Neighborhood, Age-Adjusted Rate per 10,000 Residents, 2020

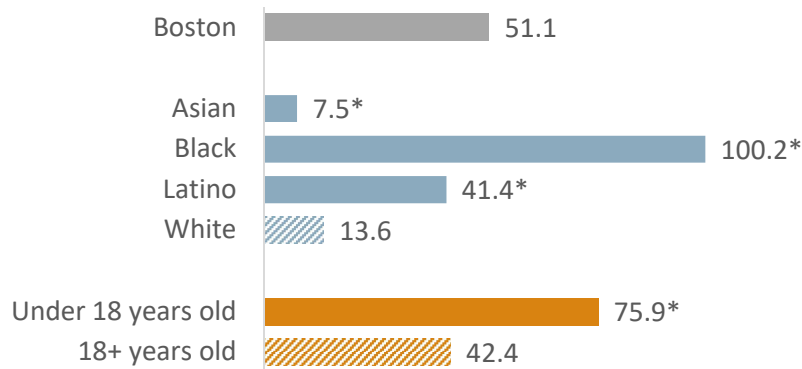


DATA SOURCE: Massachusetts Center for Health Information and Analysis, Acute Hospital Case Mix Databases, 2020

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTE: Hospital patient encounters (HPEs) include both emergency department visits and hospitalizations; Asterisk (*) denotes where neighborhood estimate was significantly different compared to the rest of Boston ($p < 0.05$)

Figure 27. Asthma-Related Hospital Patient Encounter Rate, by Boston and Selected Indicators, Age-Adjusted Rate per 10,000 Residents, 2020

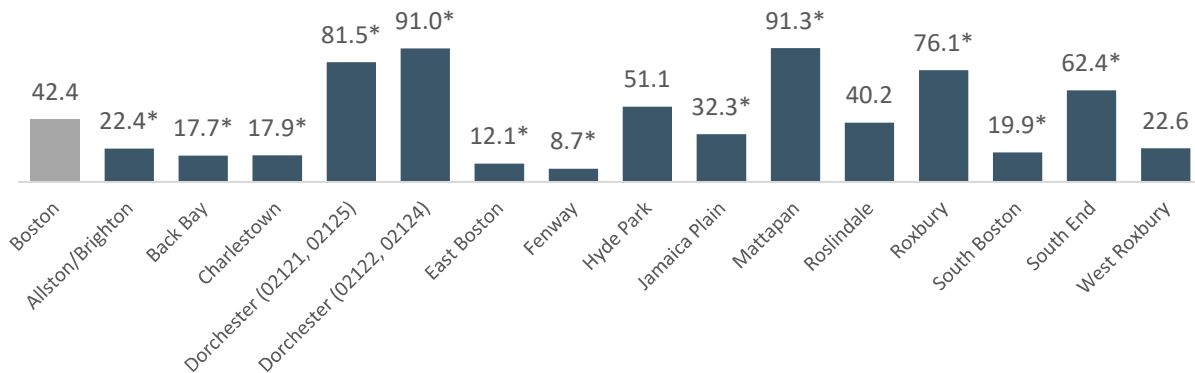


DATA SOURCE: Massachusetts Center for Health Information and Analysis, Acute Hospital Case Mix Databases, 2020

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTE: Hospital patient encounters (HPEs) include both emergency department visits and hospitalizations. Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$)

Figure 28. Asthma Hospital Patient Encounters (Adults Over 18 Years), by Boston and Neighborhood, Rate per 10,000 Residents, 2020

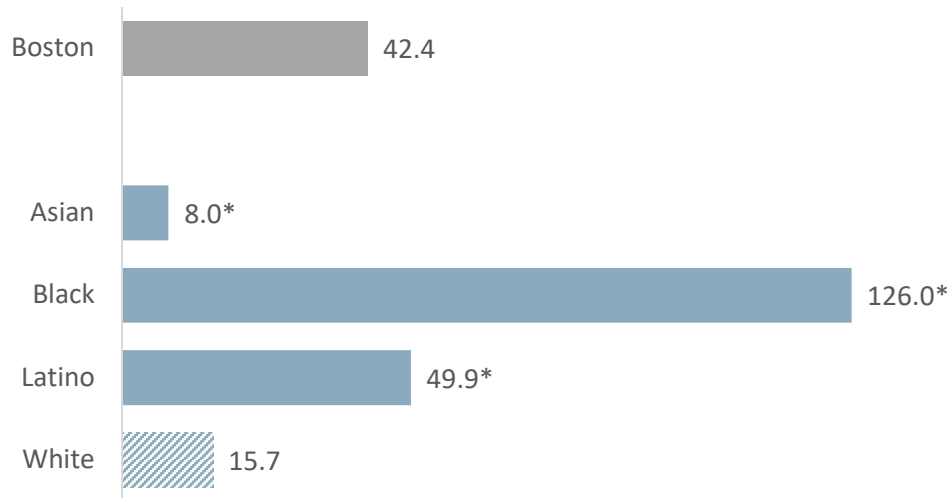


DATA SOURCE: Massachusetts Center for Health Information and Analysis, Acute Hospital Case Mix Databases, 2020

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Hospital patient encounters (HPEs) include both emergency department visits and hospitalizations; Asterisk (*) denotes where neighborhood estimate was significantly different compared to the rest of Boston ($p < 0.05$)

Figure 29. Asthma Hospital Patient Encounters (Adults Over 18 Years), by Boston and Race/Ethnicity, Rate per 10,000 Residents, 2020

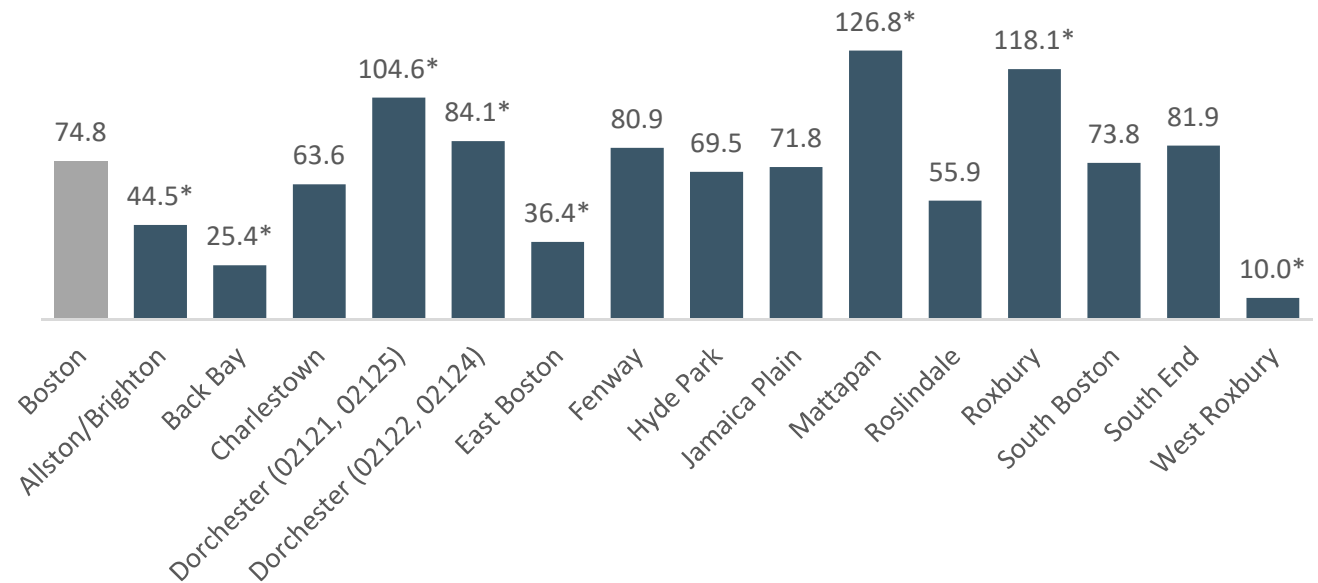


DATA SOURCE: Massachusetts Center for Health Information and Analysis, Acute Hospital Case Mix Databases, 2020

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Hospital patient encounters (HPEs) include both emergency department visits and hospitalizations; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$)

Figure 30. Asthma Hospital Patient Encounters (Children Under 18 Years), by Boston and Neighborhood, Rate per 10,000 Residents, 2020

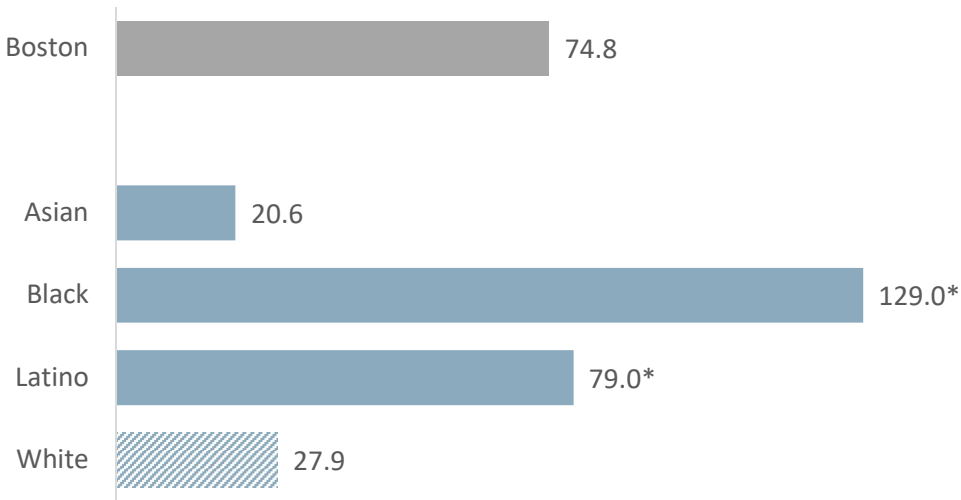


DATA SOURCE: Massachusetts Center for Health Information and Analysis, Acute Hospital Case Mix Databases, 2020

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Hospital patient encounters (HPEs) include both emergency department visits and hospitalizations; Asterisk (*) denotes where neighborhood estimate was significantly different compared to the rest of Boston ($p < 0.05$)

Figure 31. Asthma Hospital Patient Encounters (Children Under 18 Years), by Boston and Race/Ethnicity, Rate per 10,000 Residents, 2020

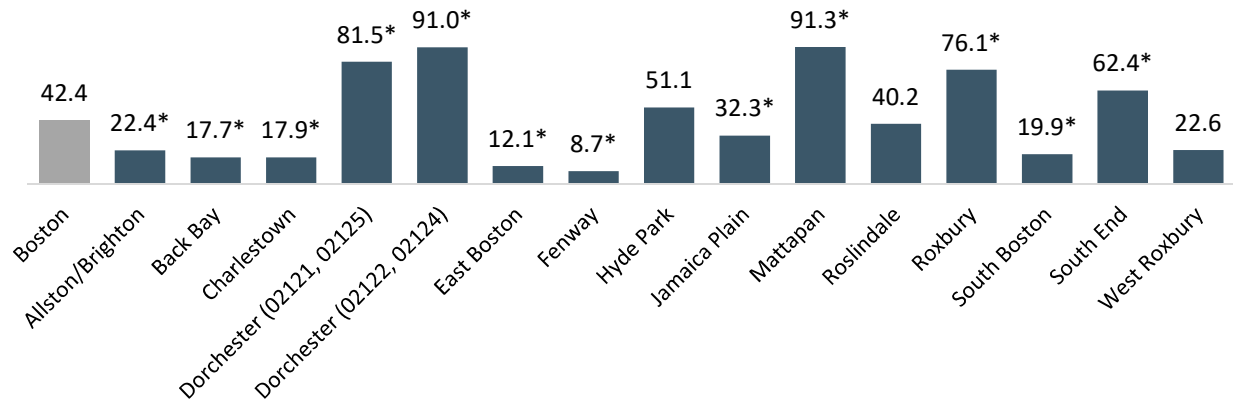


DATA SOURCE: Massachusetts Center for Health Information and Analysis, Acute Hospital Case Mix Databases, 2020

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Hospital patient encounters (HPEs) include both emergency department visits and hospitalizations; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$)

Figure 32. Asthma Emergency Department Visits (Adults Over 18 Years), by Boston and Neighborhood, Rate per 10,000 Residents, 2020

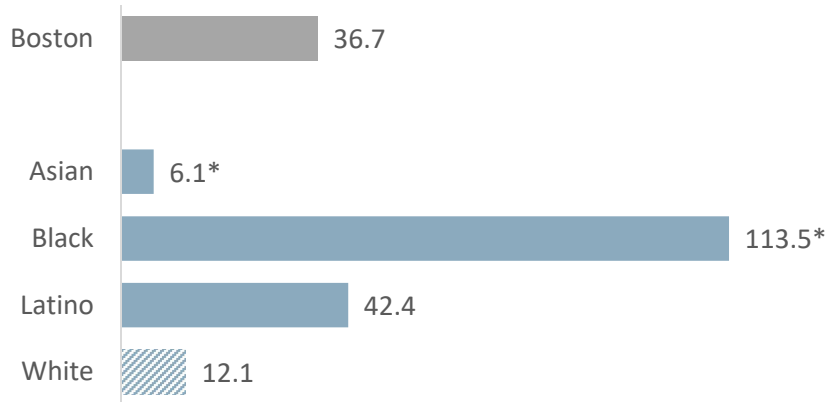


DATA SOURCE: Massachusetts Center for Health Information and Analysis, Acute Hospital Case Mix Databases, 2020

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Asterisk (*) denotes where neighborhood estimate was significantly different compared to the rest of Boston ($p < 0.05$)

Figure 33. Asthma Emergency Department Visits (Adults Over 18 Years), by Boston and Race/Ethnicity, Rate per 10,000 Residents, 2020

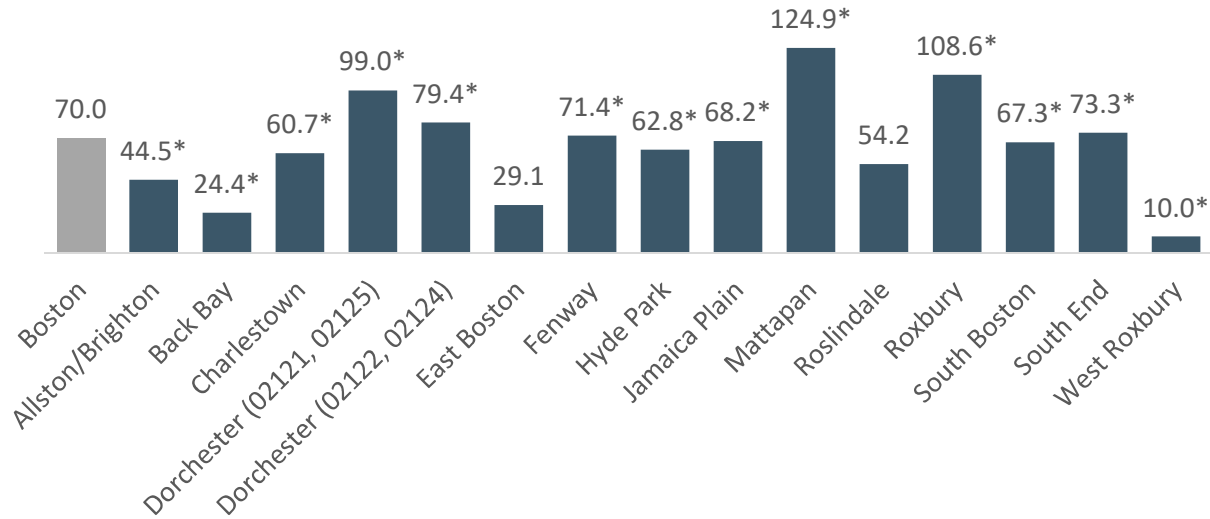


DATA SOURCE: Massachusetts Center for Health Information and Analysis, Acute Hospital Case Mix Databases, 2020

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$)

Figure 34. Asthma Emergency Department Visits (Children Under 18 Years), by Boston and Neighborhood, Rate per 10,000 Residents, 2020

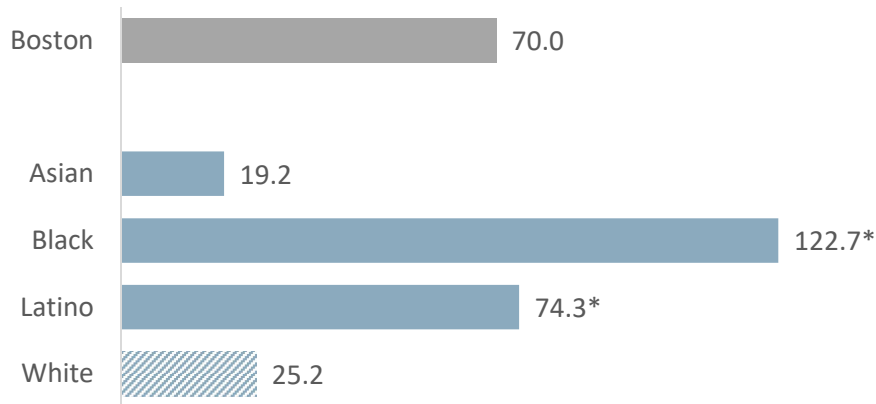


DATA SOURCE: Massachusetts Center for Health Information and Analysis, Acute Hospital Case Mix Databases, 2020

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Asterisk (*) denotes where neighborhood estimate was significantly different compared to the rest of Boston ($p < 0.05$)

Figure 35. Asthma Emergency Department Visits (Children Under 18 Years), by Boston and Race/Ethnicity, Rate per 10,000 Residents, 2020



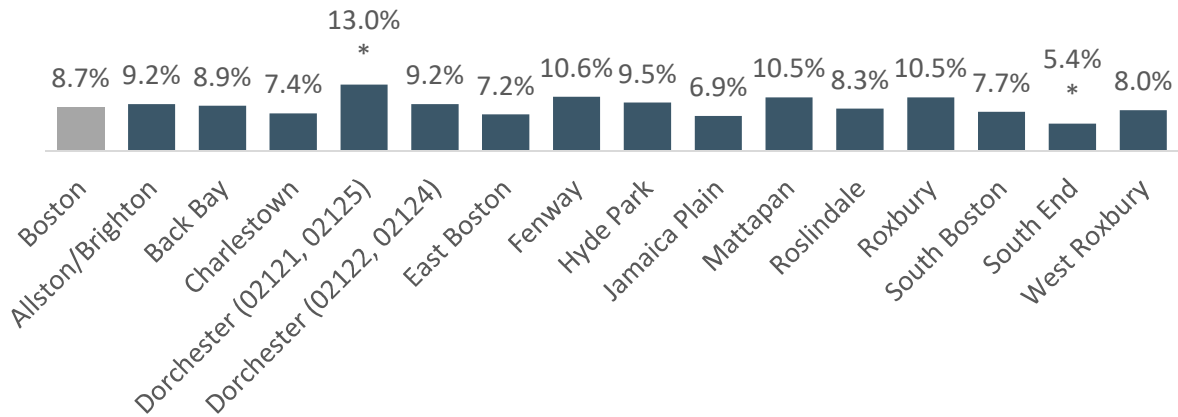
DATA SOURCE: Massachusetts Center for Health Information and Analysis, Acute Hospital Case Mix Databases, 2020

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$)

Birth Outcomes

Figure 36. Percent Low Birthweight Births, by Boston and Neighborhood, 2019

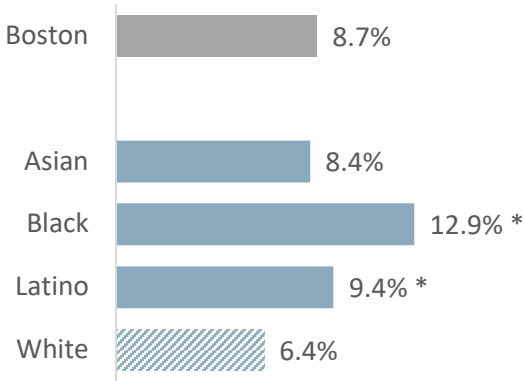


DATA SOURCE: Massachusetts Department of Public Health, Boston Resident Live Births, 2019

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Low birthweight is defined as weighing less than 5 pounds, 8 ounces; Asterisk (*) denotes where neighborhood estimate was significantly different compared to the rest of Boston ($p < 0.05$)

Figure 37. Percent Low Birthweight Births, by Boston and Race/Ethnicity, 2019

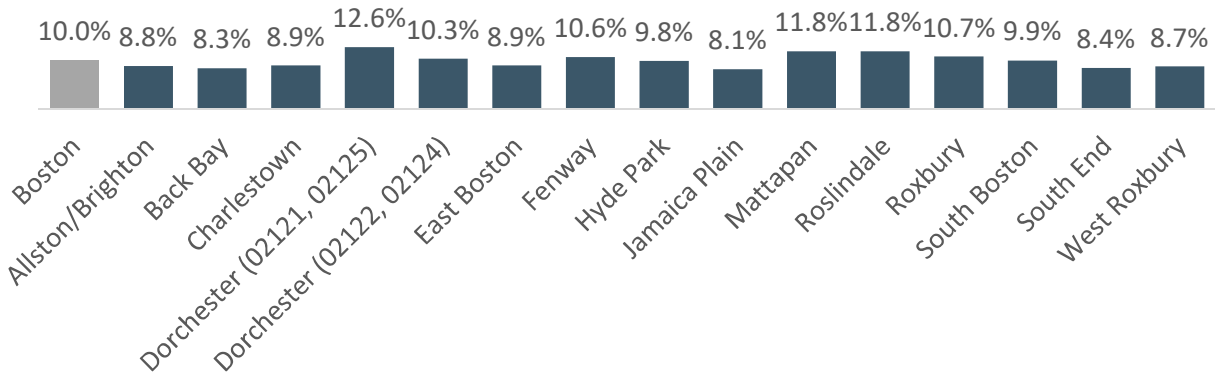


DATA SOURCE: Massachusetts Department of Public Health, Boston Resident Live Births, 2019

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Low birthweight is defined as weighing less than 5 pounds, 8 ounces; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$)

Figure 38. Percent Preterm Births, by Boston and Neighborhood, 2019

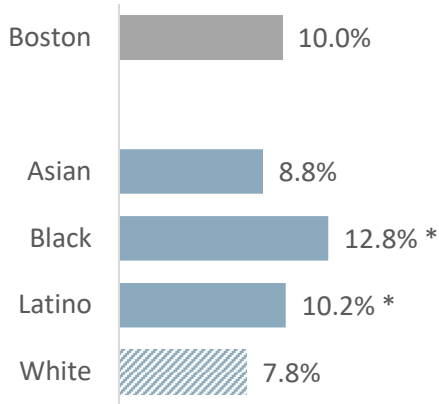


DATA SOURCE: Massachusetts Department of Public Health, Boston Resident Live Births, 2019

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Preterm birth is defined as being born before 37 weeks of gestation; No significant differences between neighborhood estimates compared to the rest of Boston were observed ($p > 0.05$)

Figure 39. Percent Preterm Births, by Boston and Race/Ethnicity, 2019

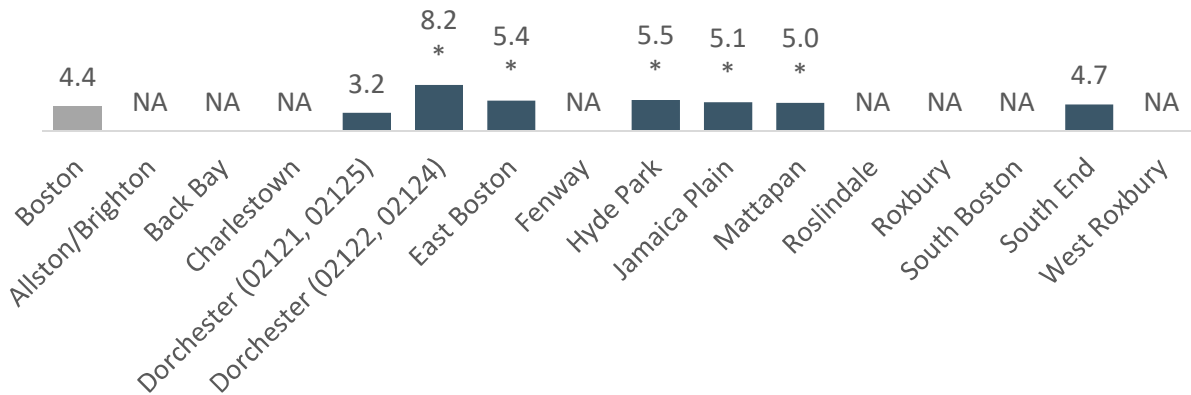


DATA SOURCE: Massachusetts Department of Public Health, Boston Resident Live Births, 2019

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Preterm birth is defined as being born before 37 weeks of gestation; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$)

Figure 40. Infant Mortality Rate, by Boston and Neighborhood, Rate per 1,000 Live Births, 2017-2019 Combined

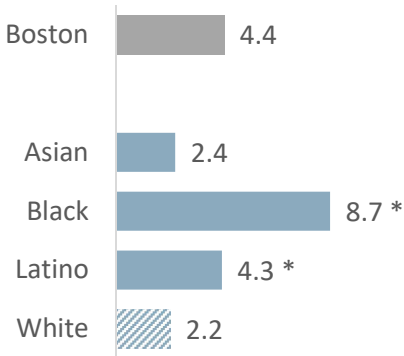


DATA SOURCE: Massachusetts Department of Public Health, Boston Resident Live Births, 2017-2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Infant mortality is defined as the death of an infant before 1 year of age; NA denotes where rates are not shown due to insufficient sample size; Asterisk (*) denotes where neighborhood estimate was significantly different compared to the rest of Boston ($p < 0.05$)

Figure 41. Infant Mortality Rate, by Boston and Race/Ethnicity, Rate per 1,000 Live Births, 2017-2019 Combined



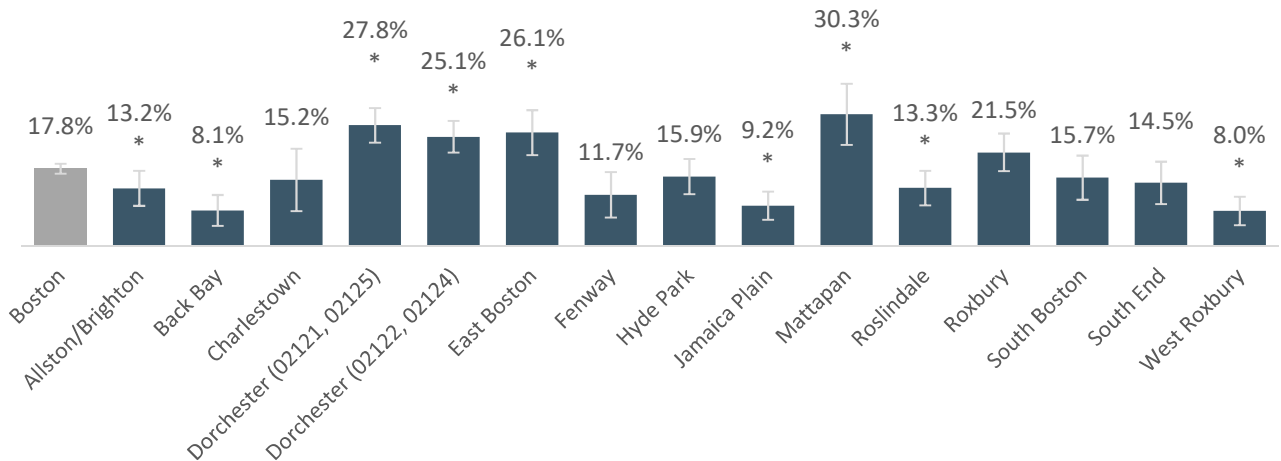
DATA SOURCE: Massachusetts Department of Public Health, Boston Resident Live Births, 2017-2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Infant mortality is defined as the death of an infant before 1 year of age; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category (p < 0.05)

Financial Security and Mobility

Figure 42. Percent Adults Reporting Food Purchased Did Not Last and Did Not Have Money to Get More, by Boston and Neighborhood, 2015, 2017, and 2019 Combined

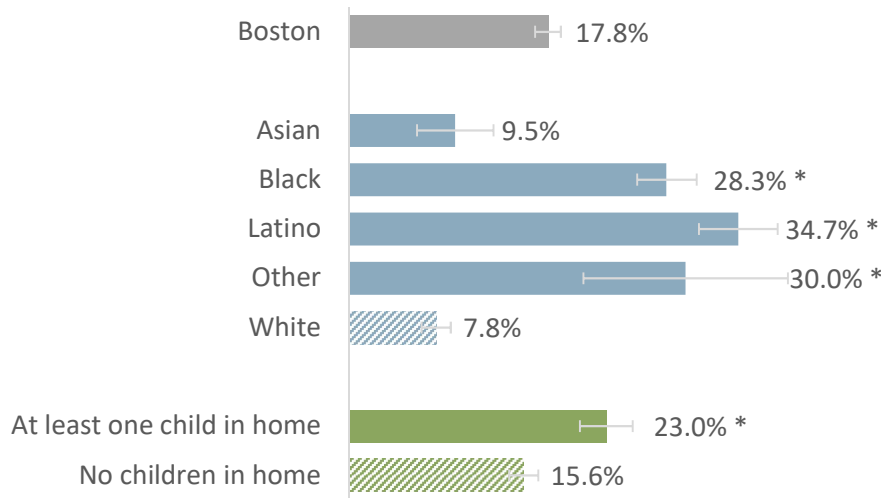


DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Data show percentage of adults reporting it was sometimes or often true that the food did not last and they did not have money to get more; Asterisk (*) denotes where neighborhood estimate was significantly different compared to the rest of Boston (p < 0.05); Error bars show 95% confidence interval

Figure 43. Percent Adults Reporting Food Purchased Did Not Last and Did Not Have Money to Get More, by Boston and Selected Indicators, 2015, 2017, and 2019 Combined

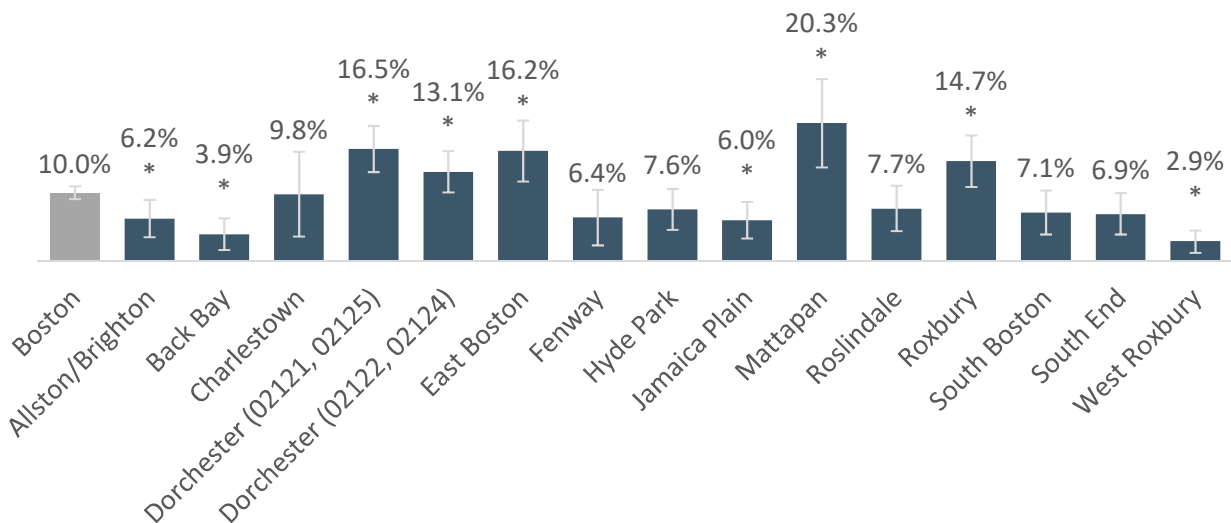


DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Data show percentage of adults reporting it was sometimes or often true that the food didn't last and they did not have money to get more; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval
For race/ethnicity, of the 201 respondents classified as Other, non-Hispanic, 23% identified as American Indian/Alaskan Native. The remainder are either multi-race or some other race.

Figure 44. Percent Adults Reporting Feeling Hungry But Did Not Eat Because Could Not Afford Food, by Boston and Neighborhood, 2015, 2017, and 2019 Combined

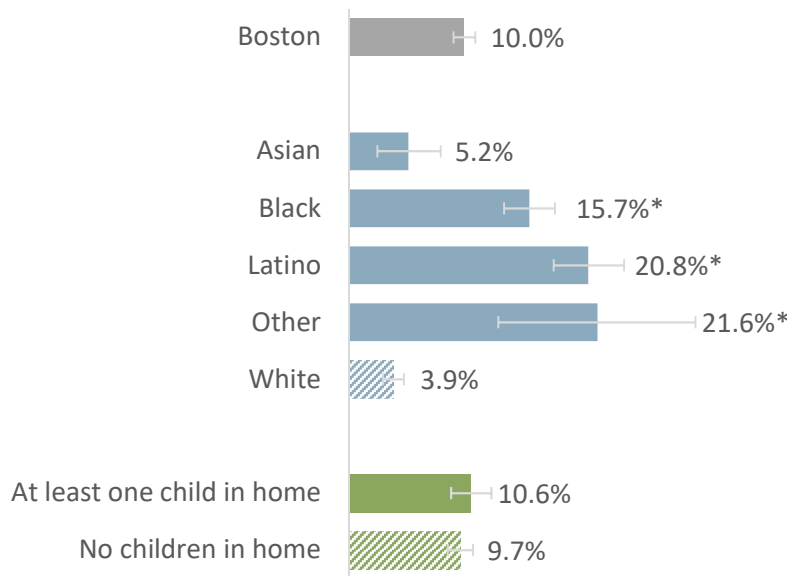


DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Data show percentage of adults reporting it was sometimes or often true in the past 12 months they remained hungry because they could not afford food; Asterisk (*) denotes where neighborhood estimate was significantly different compared to the rest of Boston ($p < 0.05$); Error bars show 95% confidence interval

Figure 45. Percent Adults Reporting Feeling Hungry But Did Not Eat Because Could Not Afford Food, by Boston and Selected Indicators, 2015, 2017, and 2019 Combined



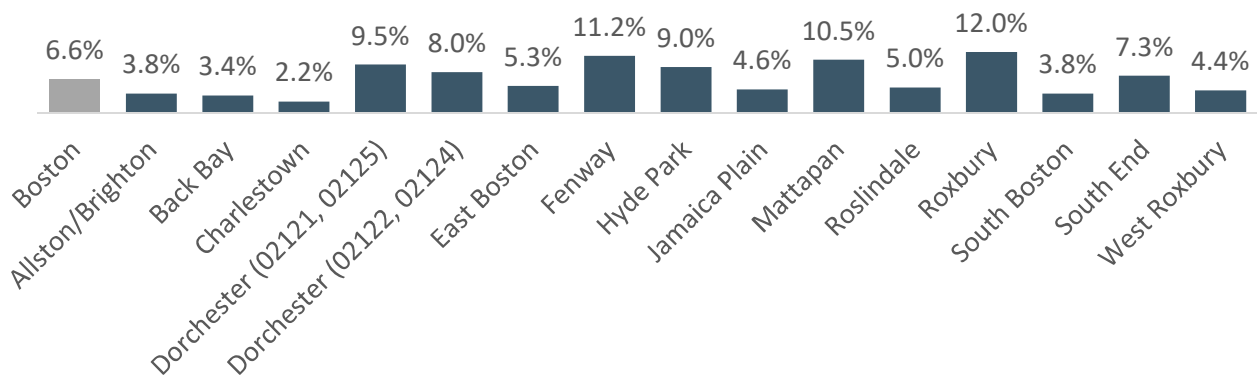
DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Data show percentage of adults reporting it was sometimes or often true in the past 12 months they remained hungry because they could not afford food; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

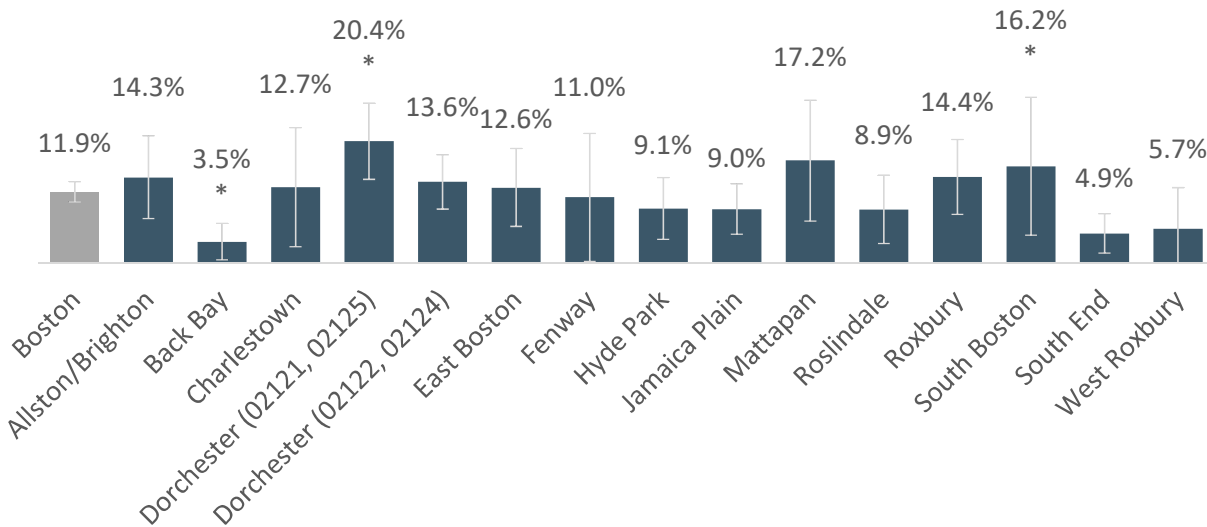
For race/ethnicity, of the 201 respondents classified as Other, non-Hispanic, 23% identified as American Indian/Alaskan Native. The remainder are either multi-race or some other race.

Figure 46. Percent Population 16 Years and Over Unemployed, by Boston and Neighborhood, 2015-2019



DATA SOURCE: U.S. Census, American Community Survey 5-Year Estimates, 2015-2019

Figure 47. Percent Adults Reporting Having Transportation Difficulties in Past Year, by Boston and Neighborhood, 2015, 2017, and 2019 Combined

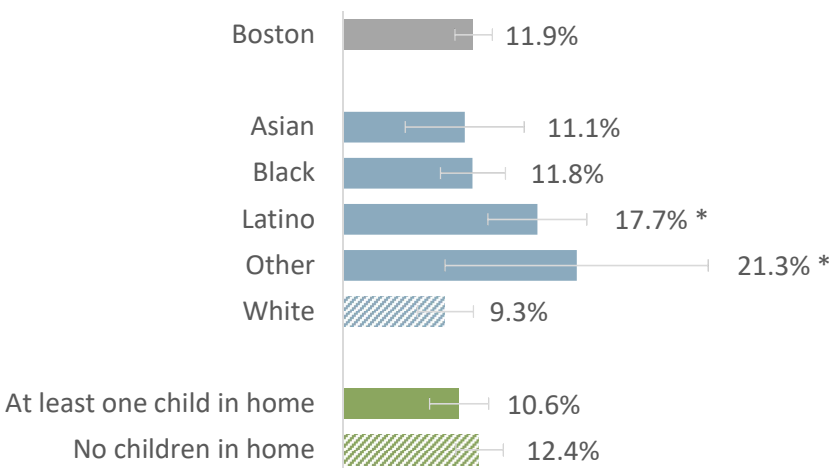


DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Data show percentage of adults reporting to that transportation difficulties have kept them from medical appointments, meetings, work, or from getting things needed for daily living in the past 12 months; Asterisk (*) denotes where neighborhood estimate was significantly different compared to the rest of Boston ($p < 0.05$); Error bars show 95% confidence interval

Figure 48. Percent Adults Reporting Having Transportation Difficulties in Past Year, by Boston and Selected Indicators, 2015, 2017, and 2019 Combined



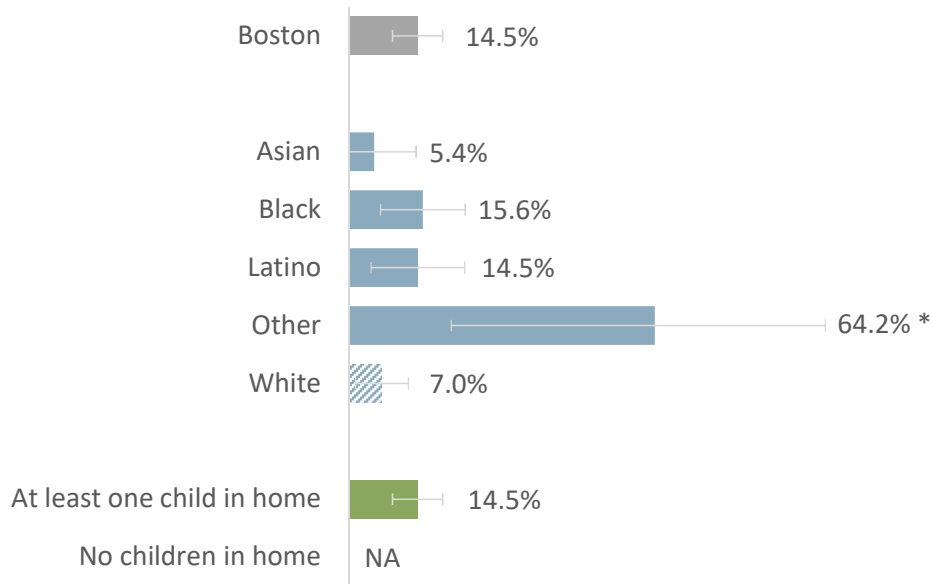
DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Data show percentage of adults reporting to that transportation difficulties have kept them from medical appointments, meetings, work, or from getting things needed for daily living in the past 12 months; Asterisk (*) denotes where neighborhood estimate was significantly different compared to the rest of Boston ($p < 0.05$); Error bars show 95% confidence interval

For race/ethnicity, of the 201 respondents classified as Other, non-Hispanic, 23% identified as American Indian/Alaskan Native. The remainder are either multi-race or some other race.

Figure 49. Percent Adults with Children Reporting Having Unmet Education Needs for Children or Teens in Household During the COVID-19 Pandemic, by Boston and Selected Indicators, December 2020-January 2021



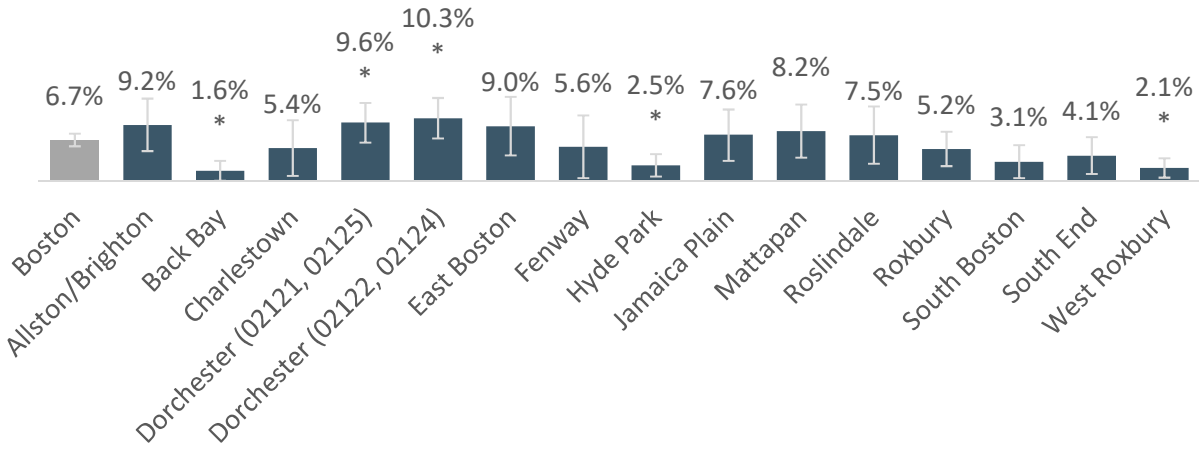
DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, COVID-19 Health Equity Survey, December 2020 - January 2021

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: NA denotes where data are not available because only respondents who indicated having at least one child present in the household were asked this question; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

Housing

Figure 50. Percent Adults Reporting Moving in Past Three Years Because They Could No Longer Afford Their Home, by Boston and Neighborhood, 2015, 2017, and 2019 Combined

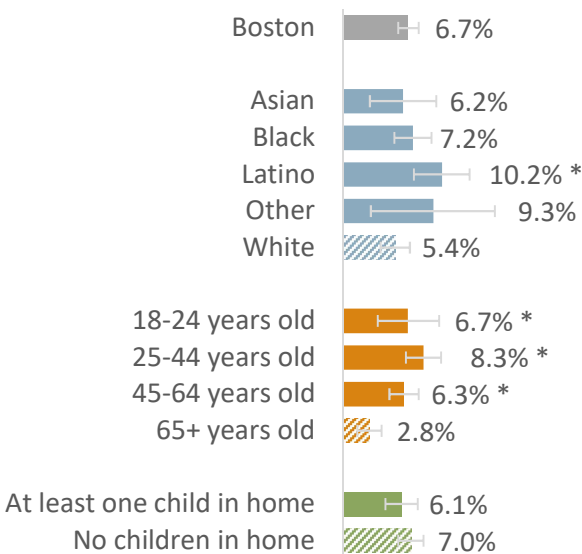


DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Asterisk (*) denotes where neighborhood estimate was significantly different compared to the rest of Boston ($p < 0.05$); Error bars show 95% confidence interval

Figure 51. Percent Adults Reporting Moving in Past Three Years Because They Could No Longer Afford Their Home, by Boston and Selected Indicators, 2015, 2017, and 2019 Combined



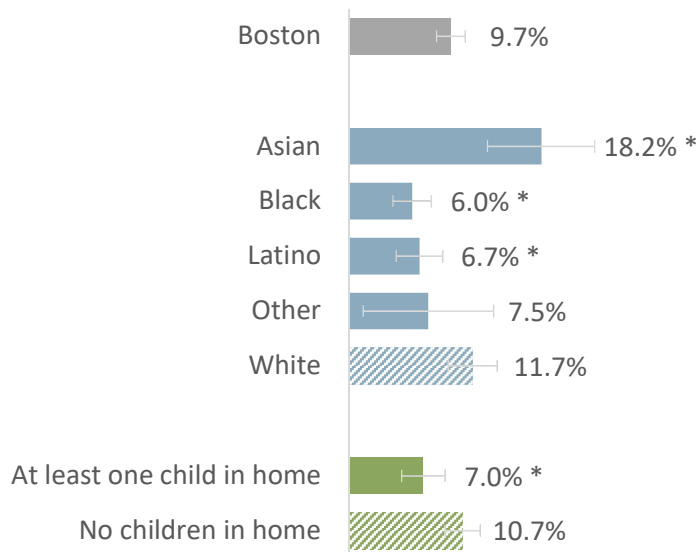
DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

For race/ethnicity, of the 201 respondents classified as Other, non-Hispanic, 23% identified as American Indian/Alaskan Native. The remainder are either multi-race or some other race.

Figure 52. Percent Adults Reporting Living in Their Zip Code for Less Than One Year, by Boston and Selected Indicators, 2015, 2017, and 2019 Combined



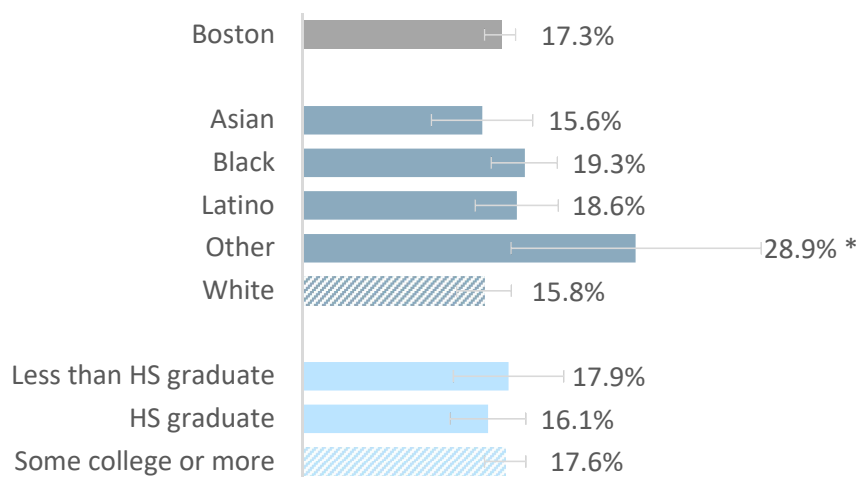
DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Data show percentage of adults reporting they have lived in their zip code for less than one year in a row, excluding time as a student living on a college or university campus; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

Behavioral Health

Figure 53. Percent Adults Reporting Being Threatened At Least Once a Year Due to Discrimination, by Boston and Selected Indicators, 2015, 2017, and 2019 Combined

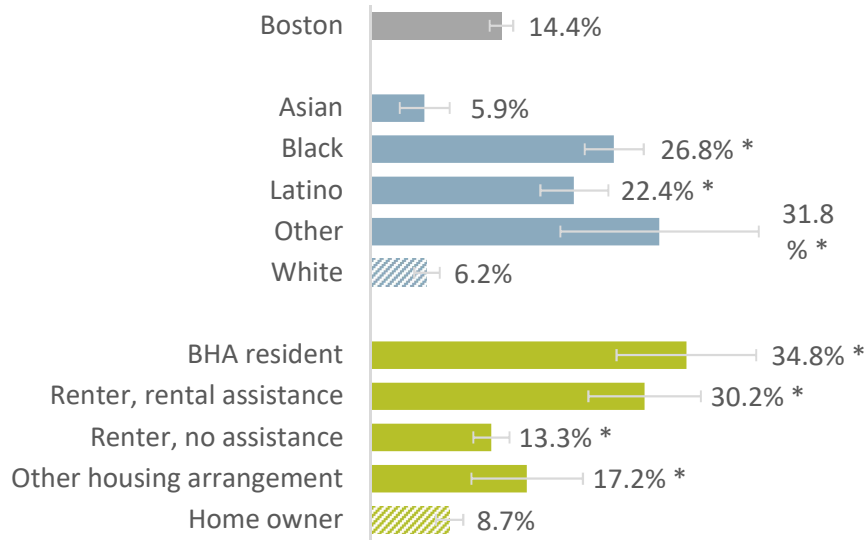


DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Data show percentage of adults reporting being threatened or harassed due to discrimination a few times a year, a few times a month, at least once a week, or almost every day; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

Figure 54. Percent Adults Reporting Their Neighborhood Unsafe, by Boston and Selected Indicators, 2015, 2017, and 2019 Combined



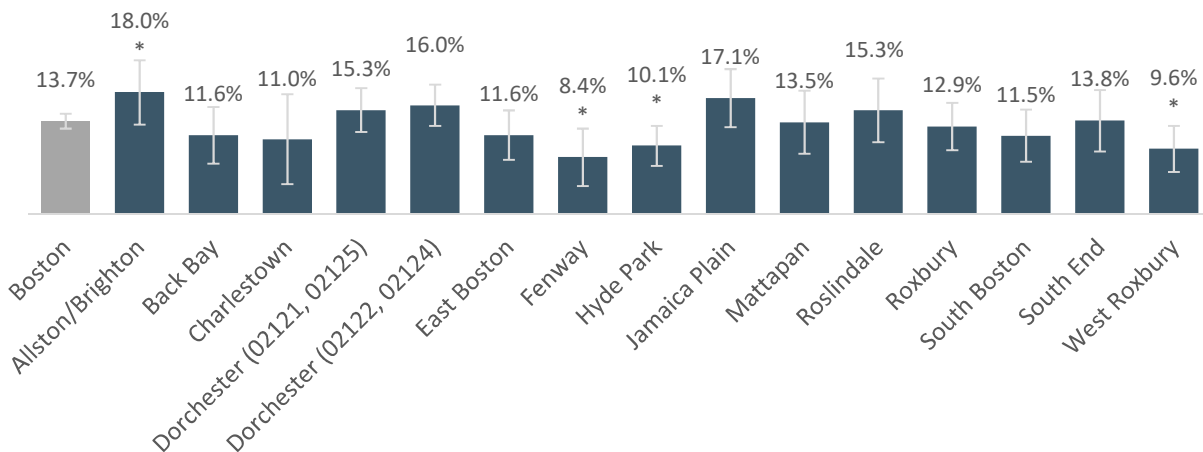
DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Data show percentage of adults reporting considering their neighborhood to be unsafe from crime; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

For race/ethnicity, of the 201 respondents classified as Other, non-Hispanic, 23% identified as American Indian/Alaskan Native. The remainder are either multi-race or some other race.

Figure 55. Percent Adults Reporting Experiencing Violence in Adult Lifetime, by Boston and Neighborhood, 2015, 2017, and 2019 Combined

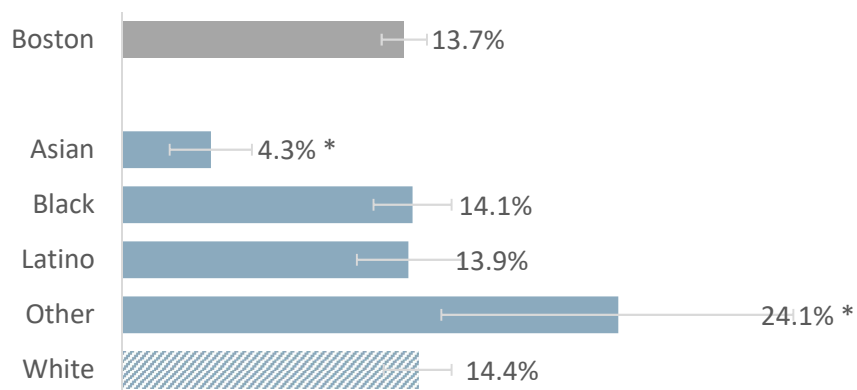


DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Data show percentage of adults who reported to have experienced any physical or sexual violence since turning 18 years old; Asterisk (*) denotes where neighborhood estimate was significantly different compared to the rest of Boston ($p < 0.05$); Error bars show 95% confidence interval

Figure 56. Percent Adults Reporting Experiencing Violence in Lifetime, by Boston and Race/Ethnicity, 2015, 2017, and 2019 Combined



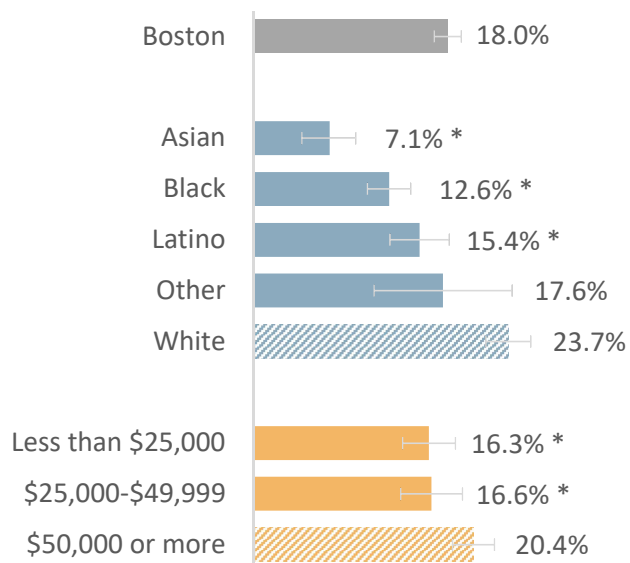
DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Data show percentage of adults who reported to have experienced any physical or sexual violence since turning 18 years old; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

For race/ethnicity, of the 201 respondents classified as Other, non-Hispanic, 23% identified as American Indian/Alaskan Native. The remainder are either multi-race or some other race.

Figure 57. Percent Adults Reporting Having Lived with a Caregiver with Mental Illness as a Child (ACE), by Boston and Selected Indicators, 2015, 2017, 2019 Combined



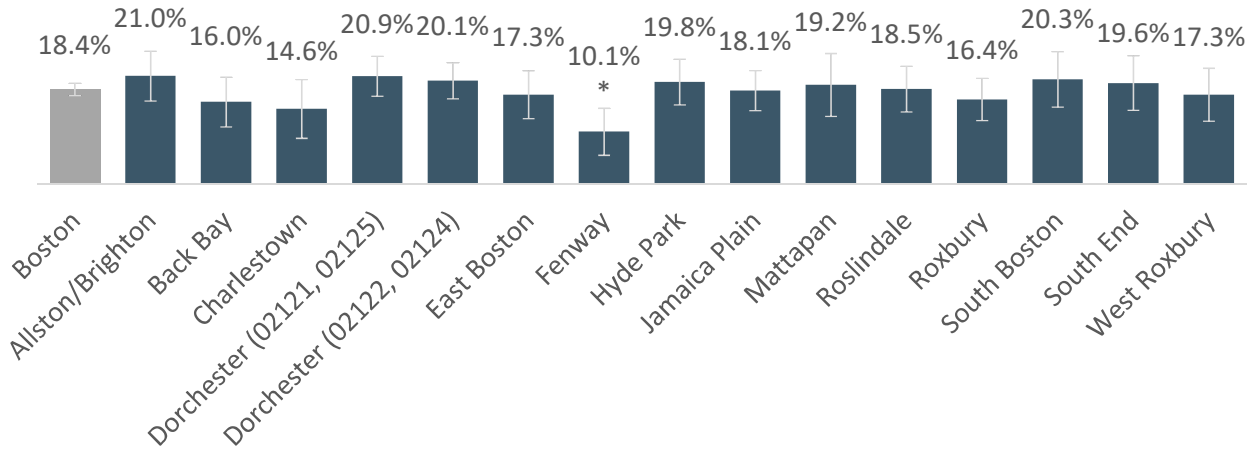
DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Data show percentage of adults reporting that they have ever lived with a parent or caregiver who was depressed, mentally ill, or suicidal; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

For race/ethnicity, of the 201 respondents classified as Other, non-Hispanic, 23% identified as American Indian/Alaskan Native. The remainder are either multi-race or some other race.

Figure 58. Percent Adults Reporting Having Lived with a Caregiver with Substance Misuse as a Child (ACE), by Boston and Neighborhood, 2015, 2017, and 2019 Combined

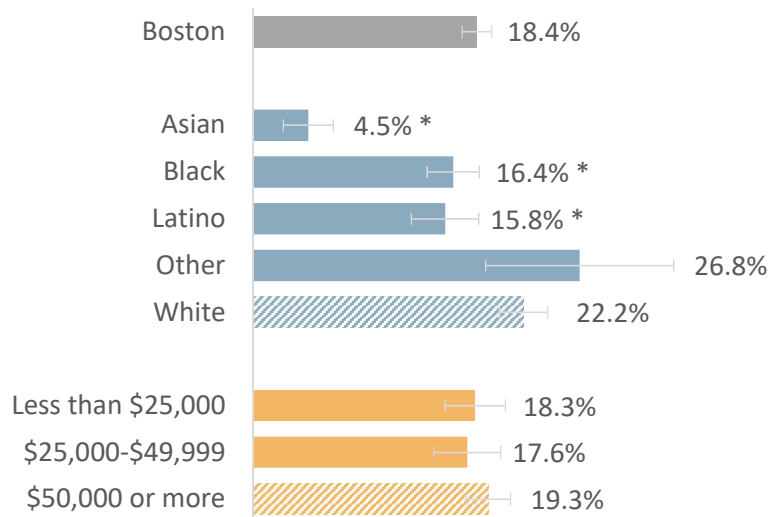


DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Data show percentage of adults reporting that they have ever lived with a parent or caregiver who was a problem drinker or alcoholic, or who used illegal street drugs or abused prescription medications; Asterisk (*) denotes where neighborhood estimate was significantly different compared to the rest of Boston ($p < 0.05$); Error bars show 95% confidence interval

Figure 59. Percent Adults Reporting Having Lived with a Caregiver with Substance Misuse as a Child (ACE), by Boston and Selected Indicators, 2015, 2017, and 2019 Combined



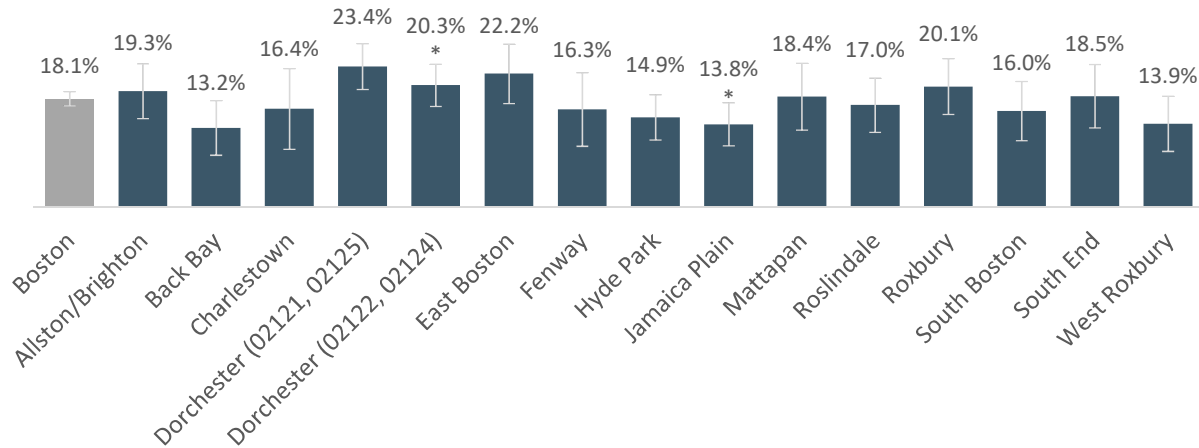
DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Data show percentage of adults reporting that they have ever lived with a parent or caregiver who was a problem drinker or alcoholic, or who used illegal street drugs or abused prescription medications; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

For race/ethnicity, of the 201 respondents classified as Other, non-Hispanic, 23% identified as American Indian/Alaskan Native. The remainder are either multi-race or some other race.

Figure 60. Percent Adults Reporting Having Lived with Adults who Physically Abused Each Other as a Child (ACE), by Boston and Neighborhood, 2015, 2017, and 2019 Combined

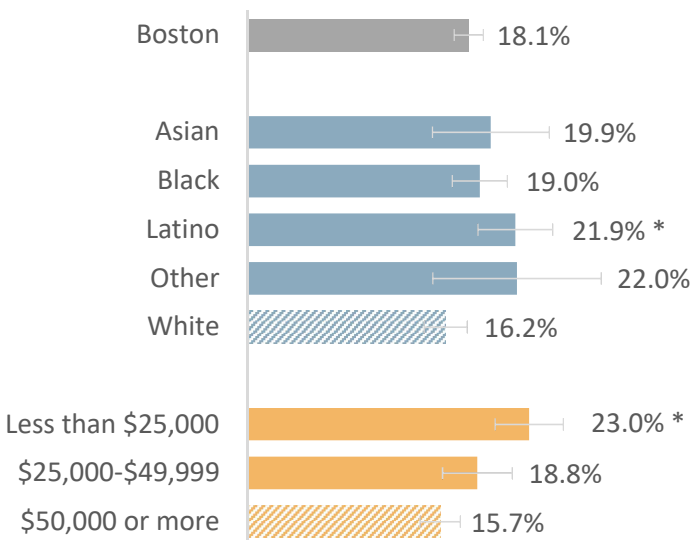


DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Data show percentage of adults reporting that their parents or the adults in their home ever slapped, hit, kicked, punched, or beat each other up; Asterisk (*) denotes where neighborhood estimate was significantly different compared to the rest of Boston ($p < 0.05$); Error bars show 95% confidence interval

Figure 61. Percent Adults Reporting Having Lived with Adults who Physically Abused Each Other as a Child (ACE), by Boston and Selected Indicators, 2015, 2017, and 2019 Combined



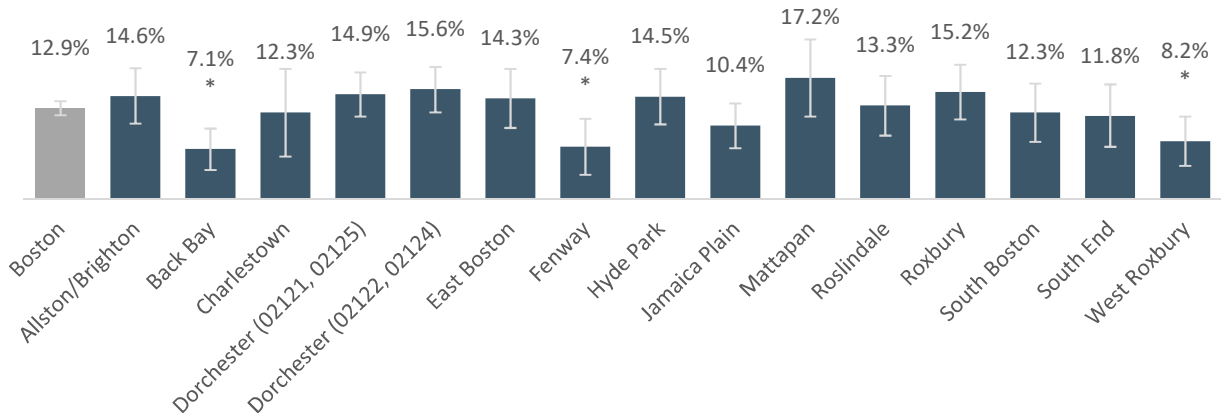
DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Data show percentage of adults reporting that their parents or the adults in their home ever slapped, hit, kicked, punched, or beat each other up; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

For race/ethnicity, of the 201 respondents classified as Other, non-Hispanic, 23% identified as American Indian/Alaskan Native. The remainder are either multi-race or some other race.

Figure 62. Percent Adults Reporting Persistent Sadness, by Boston and Neighborhood, 2015, 2017, and 2019 Combined

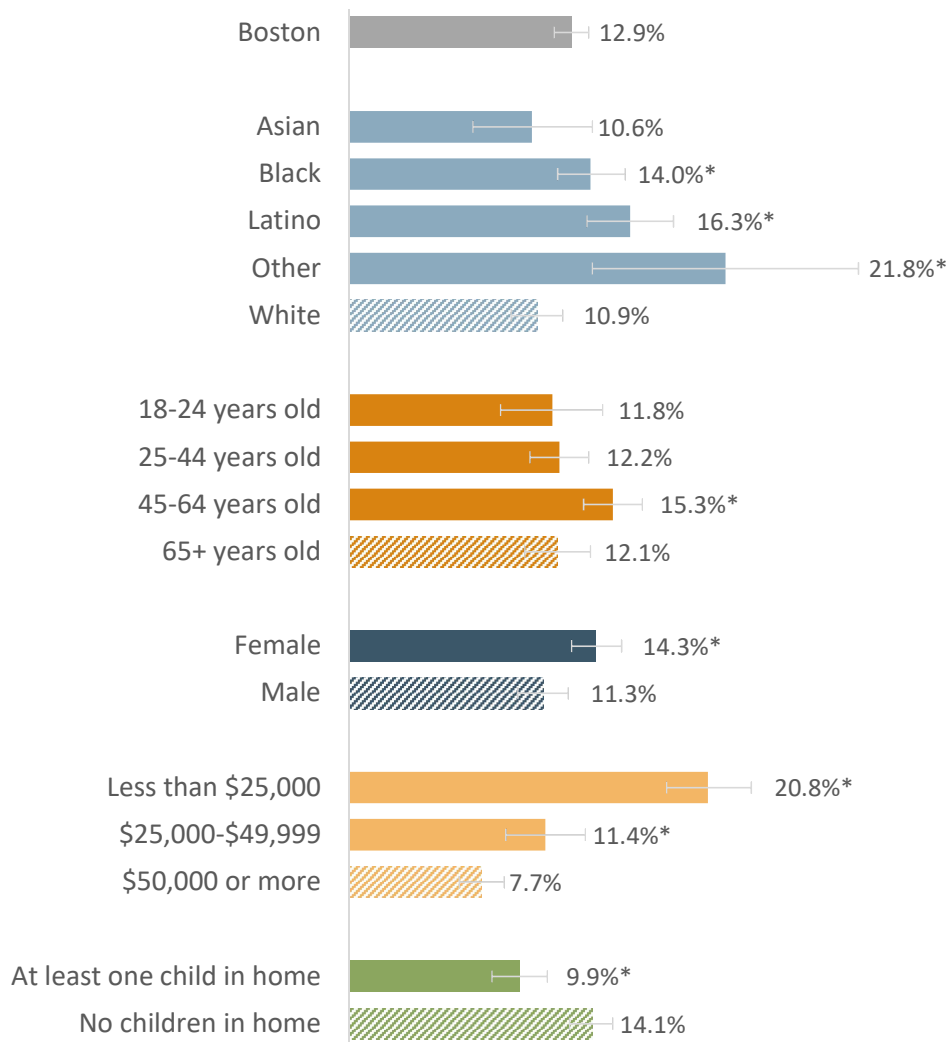


DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Persistent sadness is defined as feeling sad, blue, or depressed for more than 15 days within the past 30 days; Asterisk (*) denotes where neighborhood estimate was significantly different compared to the rest of Boston ($p < 0.05$); Error bars show 95% confidence interval

Figure 63. Percent Adults Reporting Persistent Sadness, by Boston and Selected Indicators, 2015, 2017, and 2019 Combined



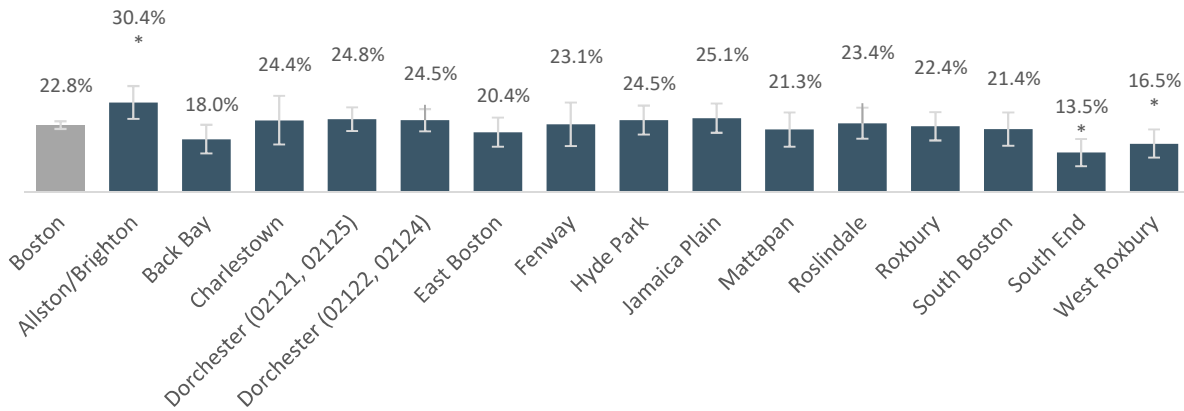
DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Persistent sadness is defined as feeling sad, blue, or depressed for more than 15 days within the past 30 days; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

For race/ethnicity, of the 201 respondents classified as Other, non-Hispanic, 23% identified as American Indian/Alaskan Native. The remainder are either multi-race or some other race.

Figure 64. Percent Adults Reporting Persistent Anxiety, by Boston and Neighborhood, 2015, 2017, and 2019 Combined

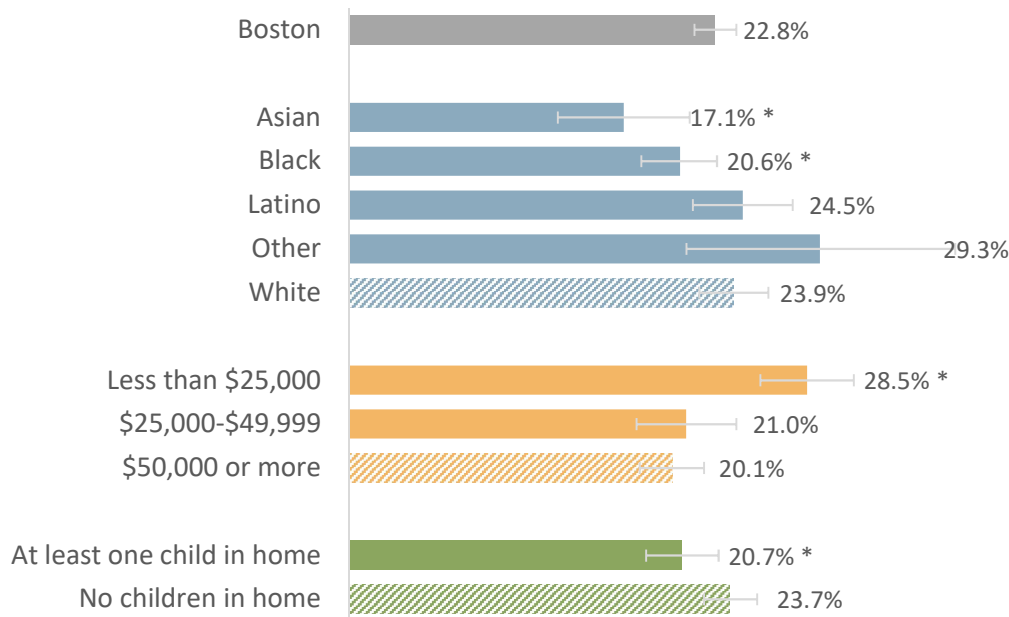


DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Persistent anxiety is defined as feeling worried, tense, or anxious for more than 15 days within the past 30 days; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

Figure 65. Percent Adults Reporting Persistent Anxiety, by Boston and Selected Indicators, 2015, 2017, and 2019 Combined



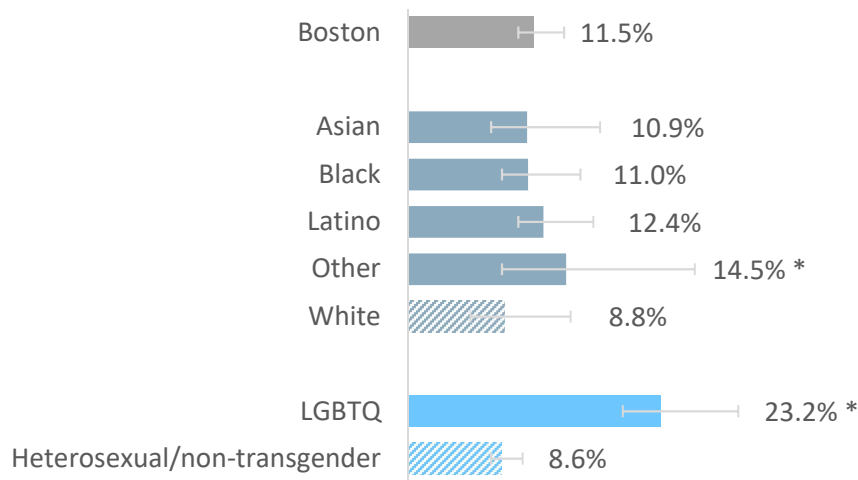
DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Persistent anxiety is defined as feeling worried, tense, or anxious for more than 15 days within the past 30 days; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

For race/ethnicity, of the 201 respondents classified as Other, non-Hispanic, 23% identified as American Indian/Alaskan Native. The remainder are either multi-race or some other race.

Figure 66. Percent Boston Public High School Students Reporting Having Had a Suicidal Plan, by Boston and Selected Indicators, 2015, 2017, and 2019 Combined

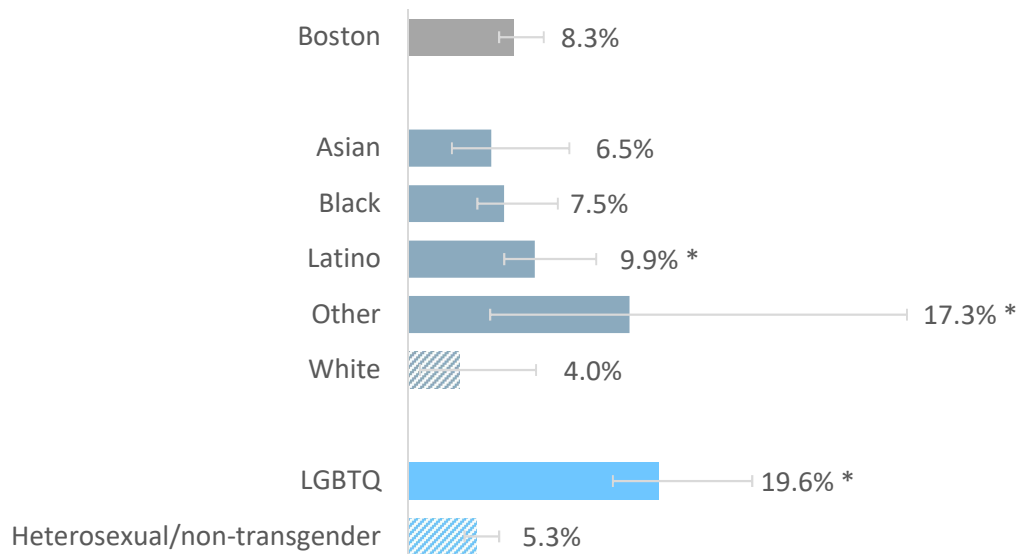


DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2015, 2017, and 2019 combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTE: Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

Figure 67. Percent Boston Public High School Students Reporting Attempting Suicide, by Boston and Selected Indicators, 2015, 2017, and 2019 Combined

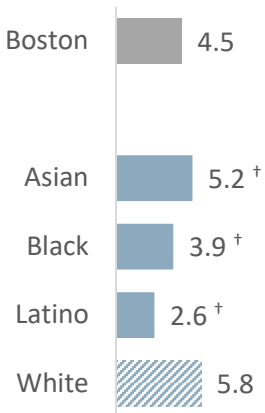


DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2015, 2017, and 2019 combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTE: Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

Figure 68. Suicide Rate, by Boston and Race/Ethnicity, Age-Adjusted Rate per 100,000 Residents, 2020-2021 Combined

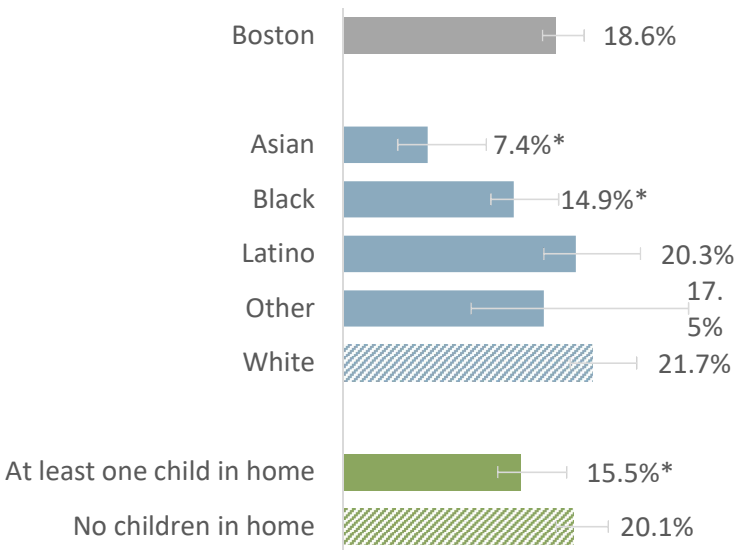


DATA SOURCE: Massachusetts Department of Public Health, Boston resident deaths, 2020-2021 combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Please be advised that 2020-2022 data are preliminary and subject to change. Raw preliminary data may be incomplete or inaccurate, have not been fully verified, and revisions are likely to occur following the production of these data. The Massachusetts Department of Public Health strongly cautions users regarding the accuracy of statistical analyses based on preliminary data and particularly with regard to small numbers of events; Dagger (†) denotes where rates are based on 20 or fewer deaths and may be unstable; No significant differences between estimates compared to the reference group were observed ($p > 0.05$)

Figure 69. Percent Adults Reporting Receiving Treatment for Depression in the Past Year, by Boston and Selected Indicators, 2015, 2017, and 2019 Combined

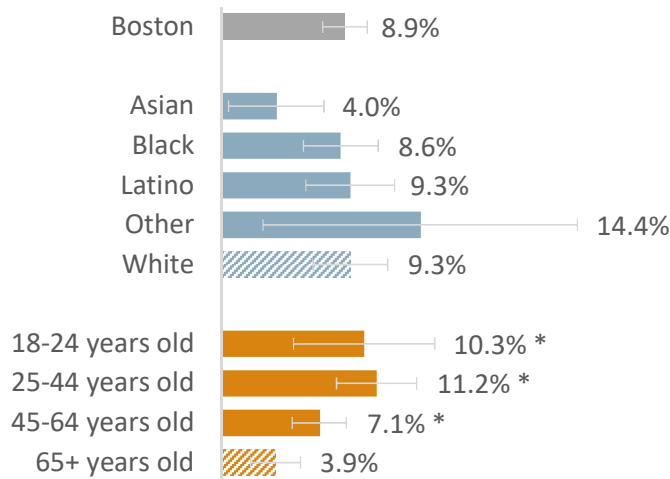


DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

Figure 70. Percent Adults Reporting They Did Not Seek Mental Health Care Due to Cost in Past Year, by Boston and Selected Indicators, 2015, 2017, and 2019 Combined

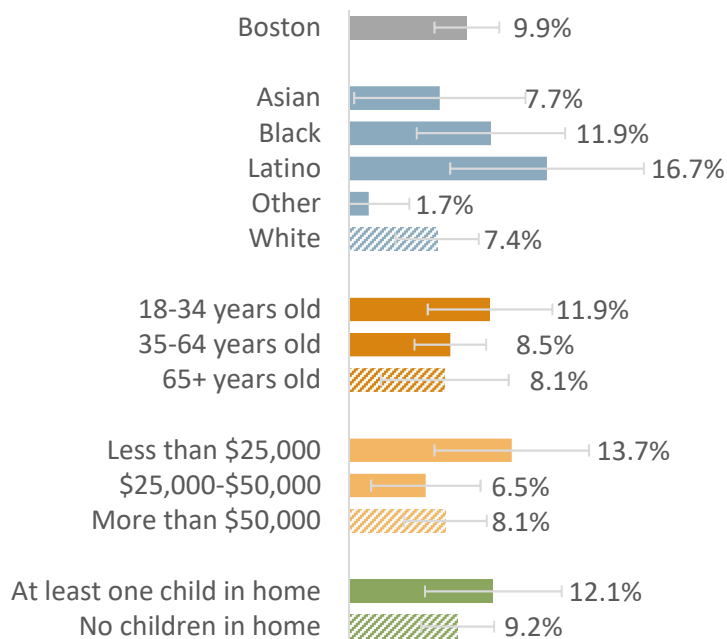


DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Data show percentage of adults reporting there was a time in the past 12 months when they would have seen a therapist, psychologist, or psychiatrist but did not because of cost; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval For race/ethnicity, of the 201 respondents classified as Other, non-Hispanic, 23% identified as American Indian/Alaskan Native. The remainder are either multi-race or some other race.

Figure 71. Percent Adults Reporting Delaying Mental Health Care Due to COVID-19 Concerns During the COVID-19 Pandemic, by Boston and Selected Indicators, December 2020-January 2021

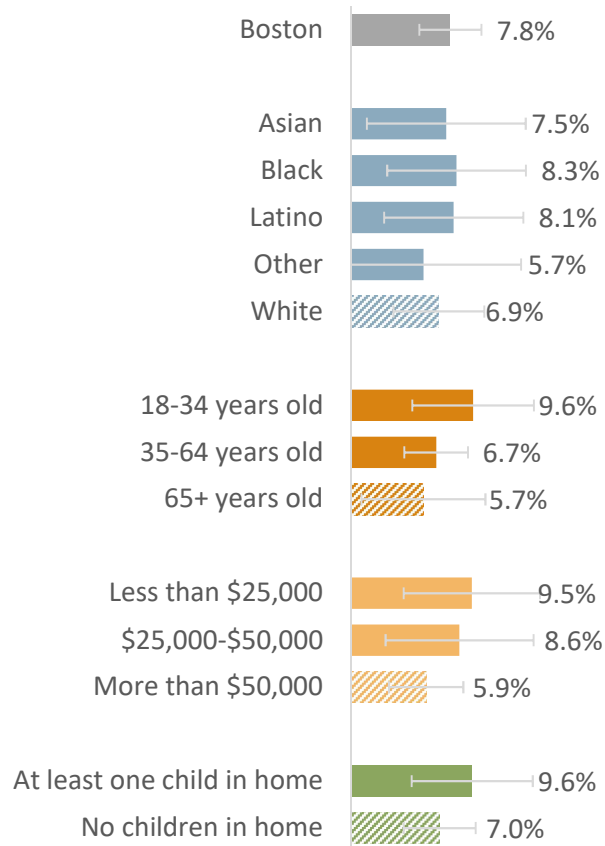


DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, COVID-19 Health Equity Survey, December 2020 - January 2021

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Data show percentage of adults reporting to have avoided seeing a therapist or healthcare professional for mental health services due to concerns about COVID-19 since March 1, 2020; Percentage does not include adults reporting their appointments were canceled for them; No significant differences compared to reference groups within specific categories were observed ($p>0.05$); Error bars show 95% confidence interval

Figure 72. Percent Adults Reporting Still Delaying Mental Health Care due to COVID-19 Concerns, by Boston and Selected Indicators, December 2020-January 2021

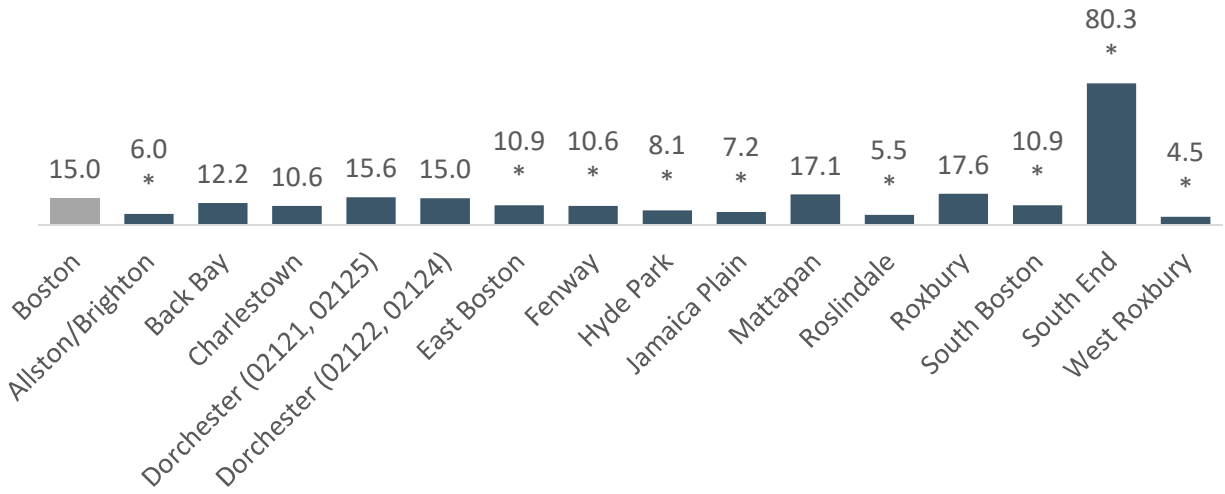


DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, COVID-19 Health Equity Survey, December 2020 - January 2021

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Still delaying mental health care is defined as currently postponing or cancelling mental health services; Bars with pattern indicate reference group for its specific category; No significant differences compared to reference groups within specific categories were observed ($p>0.05$); Error bars show 95% confidence interval

Figure 73. Opioid Overdose-Related Hospital Patient Encounter Rate, by Boston and Neighborhood, Age-Adjusted Rate per 10,000 Residents, 2020

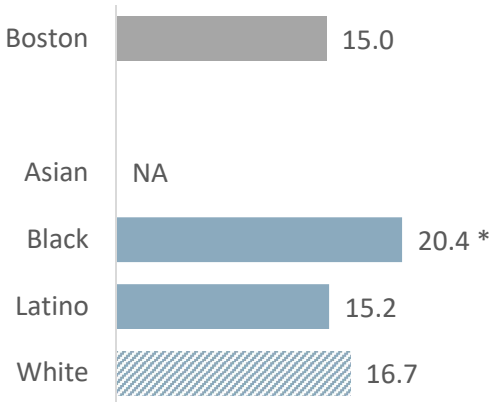


DATA SOURCE: Massachusetts Center for Health Information and Analysis, Acute Hospital Case Mix Databases, 2020

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Asterisk (*) denotes where neighborhood estimate was significantly different compared to the rest of Boston ($p < 0.05$). Please note, opioid overdose hospital patient encounter levels are substantially impacted by patients identifying as homeless with residential zip codes reflecting corresponding homeless shelter zip codes. The people experiencing homelessness impact on neighborhood overdose rates varies considerably with specific neighborhoods (e.g., South End) experiencing substantially higher rates as a result.

Figure 74. Opioid Overdose-Related Hospital Patient Encounter Rate, by Boston and Race/Ethnicity, Age-Adjusted Rate per 10,000 Residents, 2020

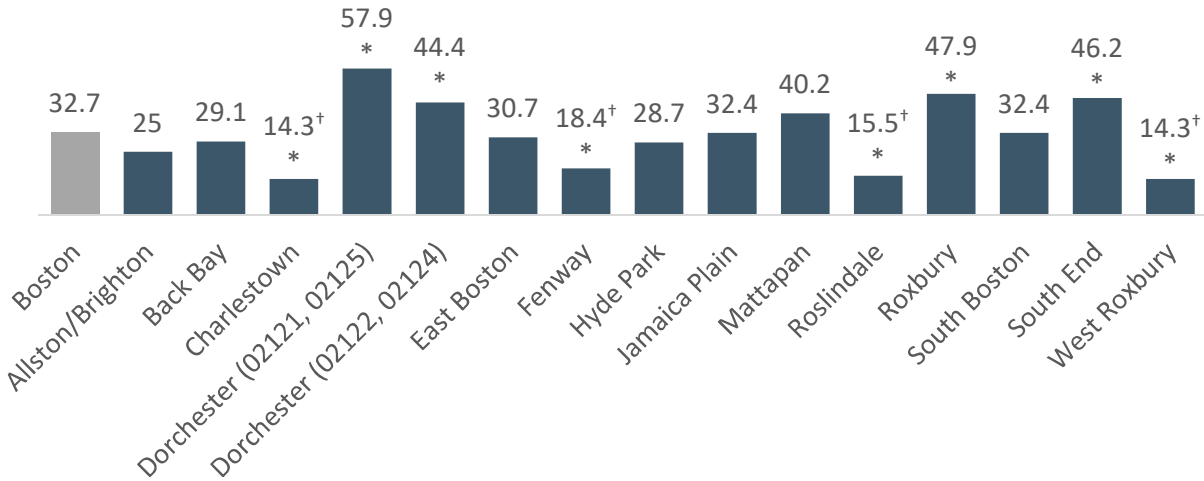


DATA SOURCE: Massachusetts Center for Health Information and Analysis, Acute Hospital Case Mix Databases, 2020

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$). NA denotes where data are not presented due to insufficient sample size

Figure 75. Unintentional Opioid Overdose Mortality Rate, by Boston and Neighborhood, Age-Adjusted Rate per 100,000 Residents, 2020-2021 Combined

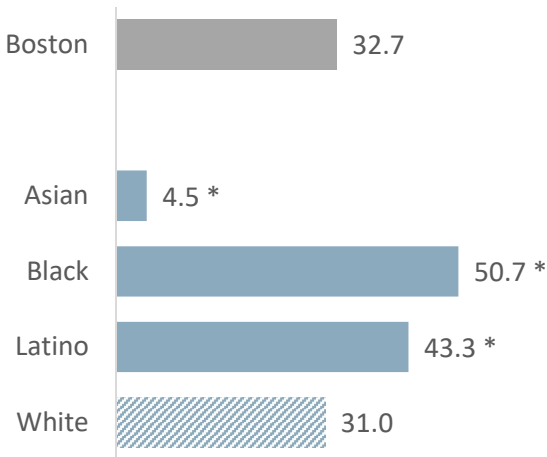


DATA SOURCE: Massachusetts Department of Public Health, Boston resident deaths, 2020-2021 combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Please be advised that 2020-2022 data are preliminary and subject to change. Raw preliminary data may be incomplete or inaccurate, have not been fully verified, and revisions are likely to occur following the production of these data. The Massachusetts Department of Public Health strongly cautions users regarding the accuracy of statistical analyses based on preliminary data and particularly with regard to small numbers of events; Dagger (†) denotes where rates are based on 20 or fewer deaths and may be unstable; Asterisk (*) denotes where neighborhood estimate was significantly different compared to the rest of Boston ($p < 0.05$). Please note, opioid overdose hospital patient encounter levels are substantially impacted by patients identifying as homeless with residential zip codes reflecting corresponding homeless shelter zip codes. The people experiencing homelessness impact on neighborhood overdose rates varies considerably with specific neighborhoods (e.g., South End) experiencing substantially higher rates as a result.

Figure 76. Unintentional Opioid Overdose Mortality Rate, by Boston and Race/Ethnicity, Age-Adjusted Rate per 100,000 Residents, 2020-2021 Combined

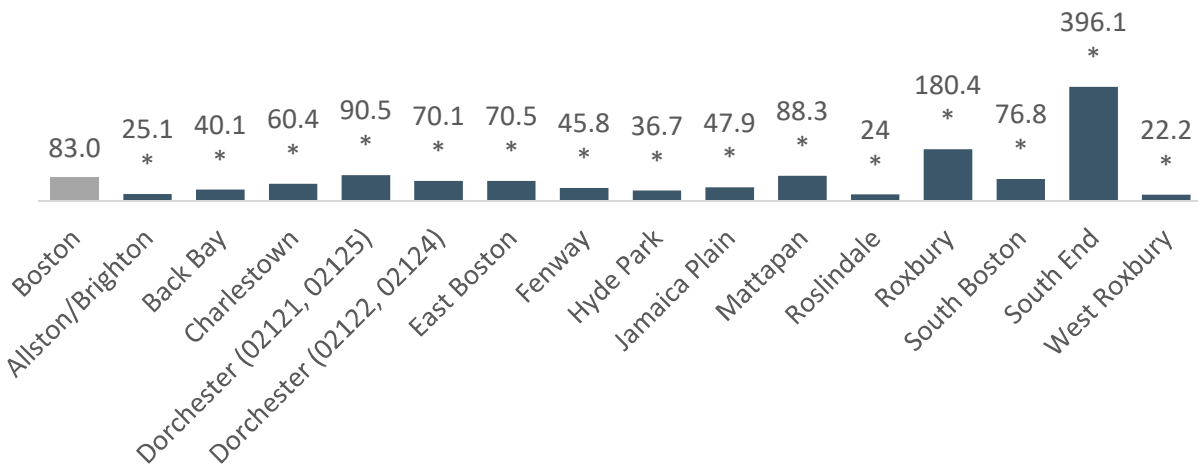


DATA SOURCE: Massachusetts Department of Public Health, Boston resident deaths, 2020-2021 combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Please be advised that 2020-2022 data are preliminary and subject to change. Raw preliminary data may be incomplete or inaccurate, have not been fully verified, and revisions are likely to occur following the production of these data. The Massachusetts Department of Public Health strongly cautions users regarding the accuracy of statistical analyses based on preliminary data and particularly with regard to small numbers of events; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category (p < 0.05)

Figure 77. Unique Substance Use Treatment Admission Rate, by Boston and Neighborhood, Age-Adjusted Rate per 10,000 Residents, 2020-2021 Combined



DATA SOURCE: Massachusetts Department of Public Health, Bureau of Substance Abuse Services, 2020-2021 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Asterisk (*) denotes where neighborhood estimate was significantly different compared to the rest of Boston (p < 0.05)

Figure 78. Unique Substance Use Treatment Admission Rate, by Boston and Race/Ethnicity, Age-Adjusted Rate per 10,000 Residents, 2020-2021 Combined



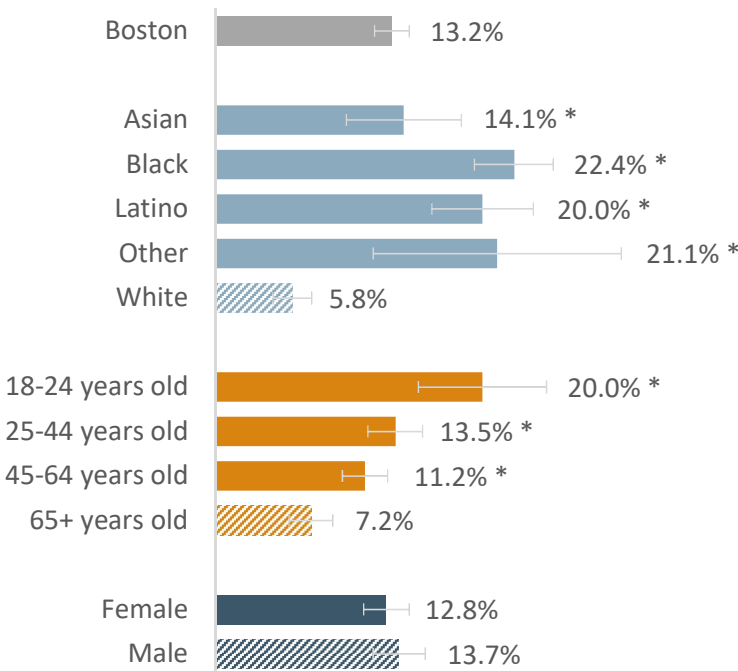
DATA SOURCE: Massachusetts Department of Public Health, Bureau of Substance Abuse Services, 2020-2021 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); NA denotes where data are not presented due to insufficient sample size

Access to Services

Figure 79. Percent Adults Reporting Receiving Poor Service At Least a Few Times a Month Due to Race/Ethnicity, by Boston and Selected Indicators, 2015, 2017, and 2019 Combined



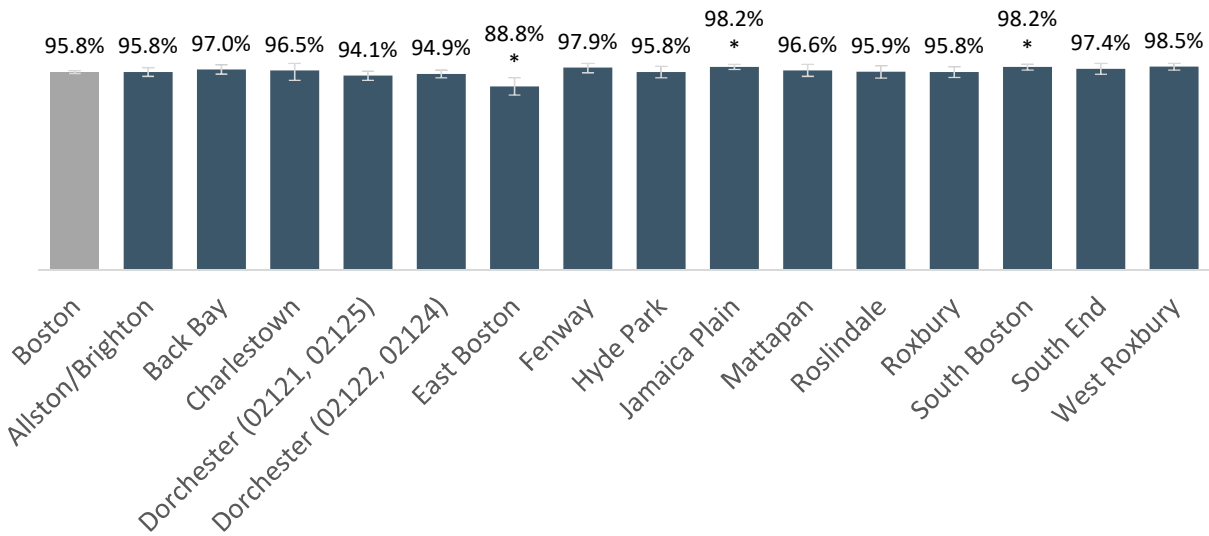
DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Data show percentage of adults reporting receiving poorer service than other people at restaurants or stores in day-to-day life due to race/ethnicity a few times a month, at least once a week, or almost every day; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

For race/ethnicity, of the 201 respondents classified as Other, non-Hispanic, 23% identified as American Indian/Alaskan Native. The remainder are either multi-race or some other race.

Figure 80. Percent Adults Reporting Having Health Insurance, by Boston and Neighborhood, 2015, 2017, and 2019 Combined

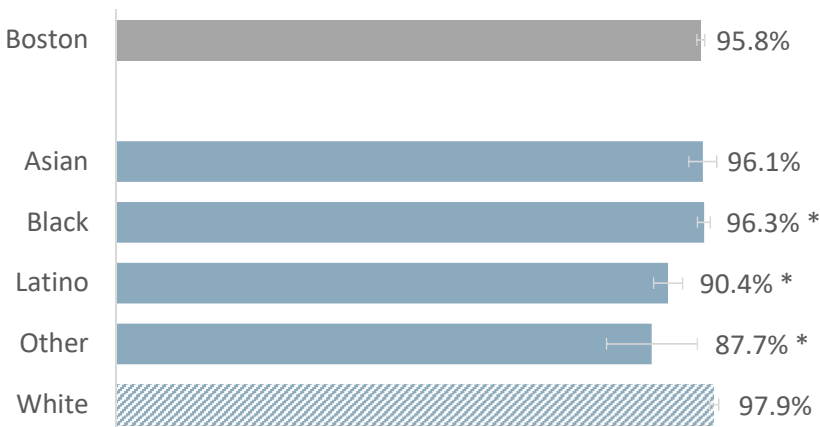


DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Data show percentages of adults who reported that they have some kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare; Asterisk (*) denotes where neighborhood estimate was significantly different compared to the rest of Boston ($p < 0.05$); Error bars show 95% confidence interval

Figure 81. Percent Adults Reporting Having Health Insurance, by Boston and Race/Ethnicity, 2015, 2017, and 2019 Combined



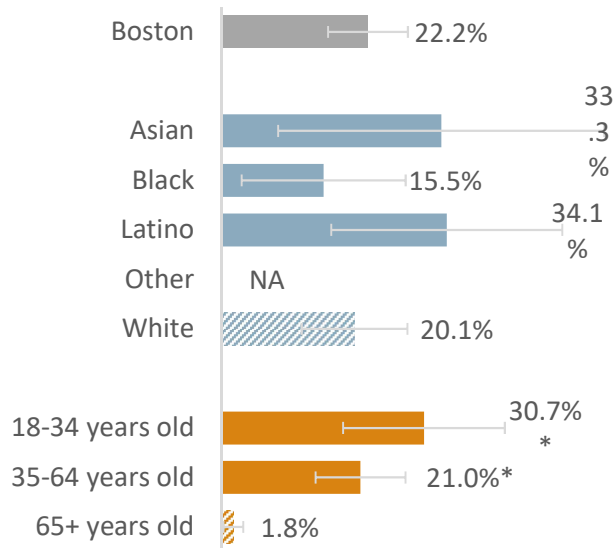
DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2015, 2017, and 2019 Combined

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Data show percentages of adults who reported that they have some kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

For race/ethnicity, of the 201 respondents classified as Other, non-Hispanic, 23% identified as American Indian/Alaskan Native. The remainder are either multi-race or some other race.

Figure 82. Percent Adults Reporting Getting Time Off from Work as Barrier to COVID-19 Testing, by Boston and Selected Indicators, December 2020-January 2021

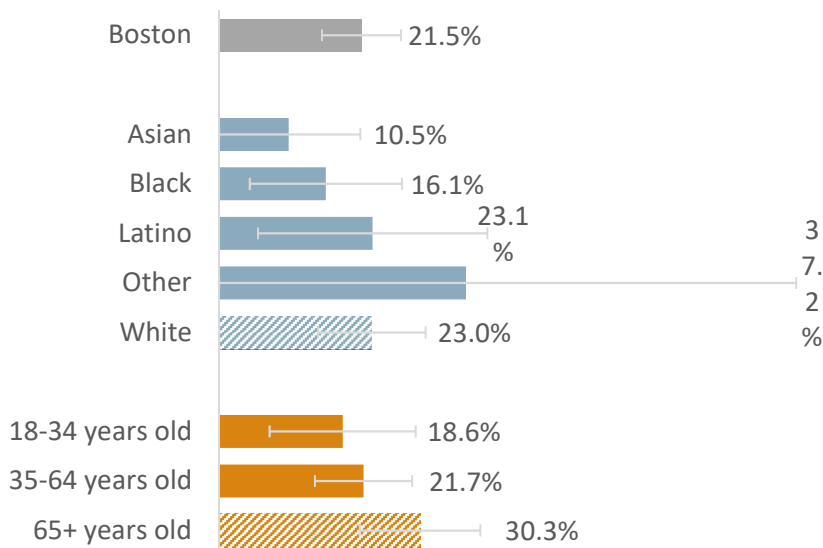


DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, COVID-19 Health Equity Survey, December 2020 - January 2021

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval. NA denotes where data are not presented due to insufficient sample size.

Figure 83. Percent Adults Reporting Doctor Not Offering Test as Barrier to COVID-19 Testing, by Boston and Selected Indicators, December 2020-January 2021

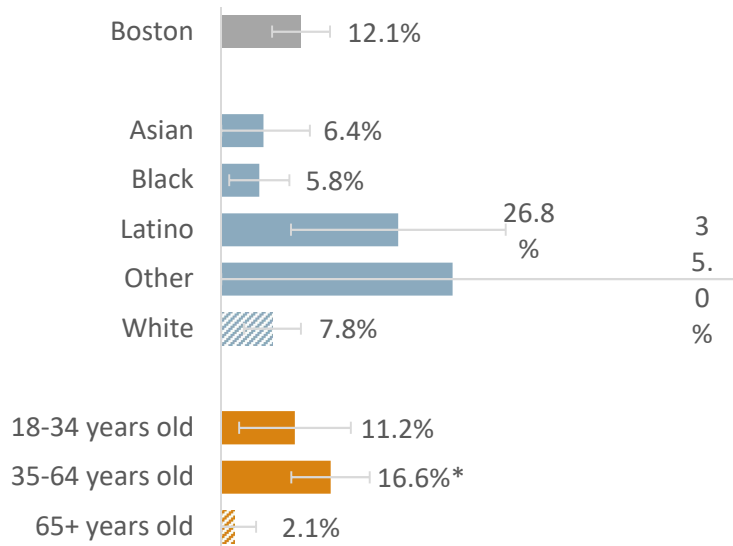


DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, COVID-19 Health Equity Survey, December 2020 - January 2021

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Bars with pattern indicate reference group for its specific category; No significant differences compared to reference groups within specific categories were observed ($p > 0.05$); Error bars show 95% confidence interval

Figure 84. Percent Adults Reporting Arranging Childcare as Barrier to COVID-19 Testing, by Boston and Selected Indicators, December 2020-January 2021

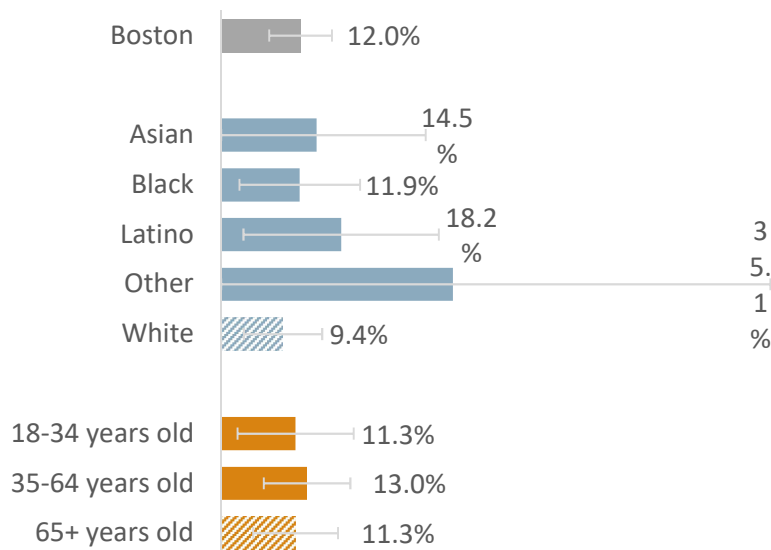


DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, COVID-19 Health Equity Survey, December 2020 - January 2021

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

Figure 85. Percent Adults Reporting Not Having a Personal Doctor as Barrier to COVID-19 Testing, by Boston and Selected Indicators, December 2020-January 2021

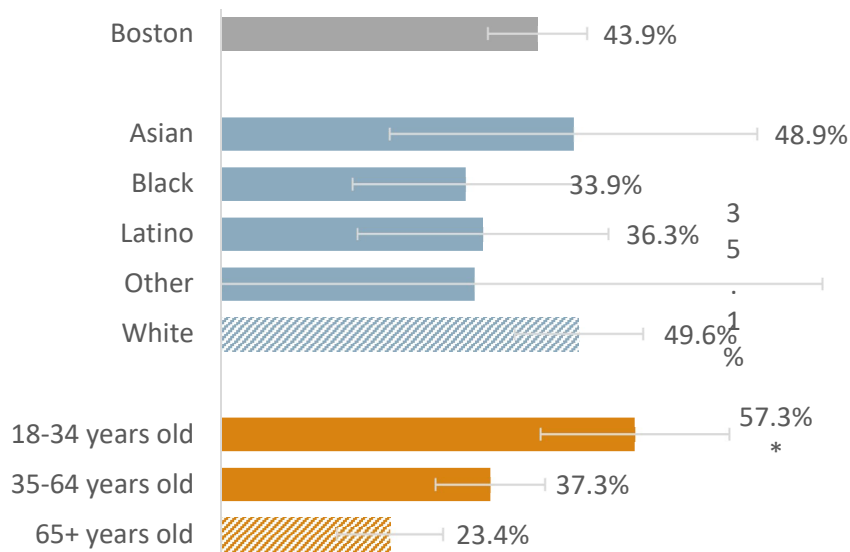


DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, COVID-19 Health Equity Survey, December 2020 - January 2021

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Bars with pattern indicate reference group for its specific category; No significant differences compared to reference groups within specific categories were observed ($p > 0.05$); Error bars show 95% confidence interval

Figure 86. Percent Adults Reporting Having a Referral or Symptoms which Qualify For Testing as Barrier to COVID-19 Testing, by Boston and Selected Indicators, December 2020-January 2021

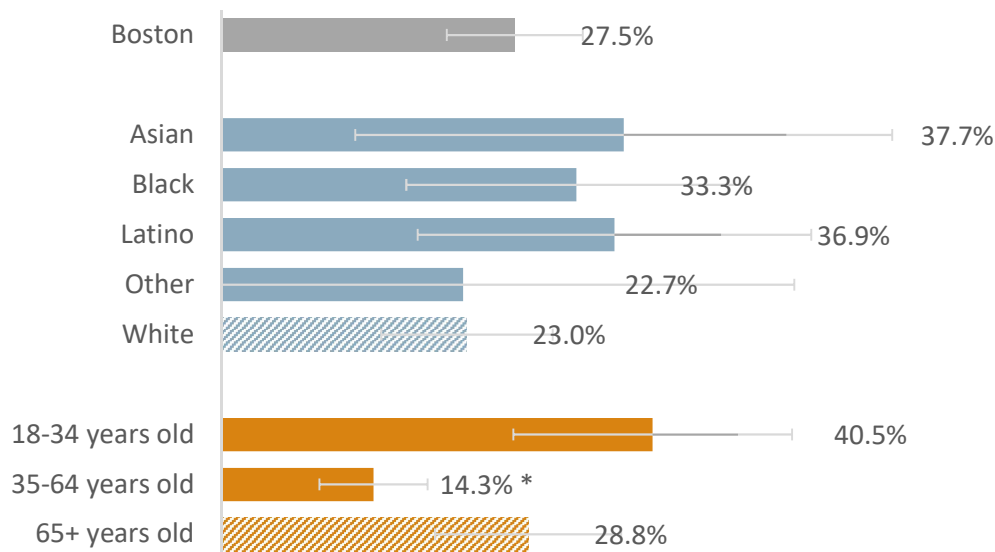


DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, COVID-19 Health Equity Survey, December 2020 - January 2021

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

Figure 87. Percent Adults Reporting Getting to Test Location/Transportation as Barrier to COVID-19 Testing, by Boston and Selected Indicators, December 2020-January 2021

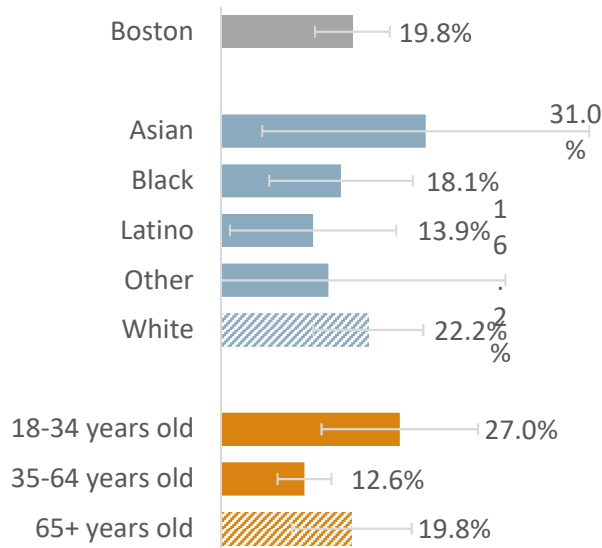


DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, COVID-19 Health Equity Survey, December 2020 - January 2021

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

Figure 88. Percent Adults Reporting Cost of Test as Barrier to COVID-19 Testing, by Boston and Selected Indicators, December 2020-January 2021

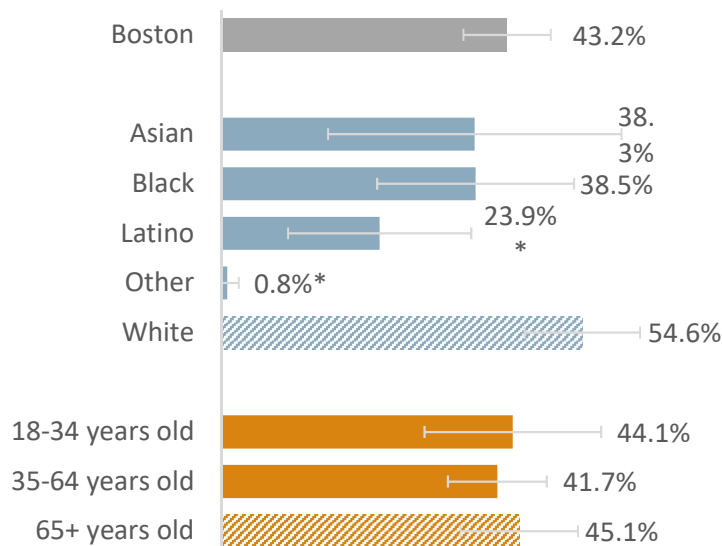


DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, COVID-19 Health Equity Survey, December 2020 - January 2021

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Bars with pattern indicate reference group for its specific category; No significant differences compared to reference groups within specific categories were observed ($p > 0.05$); Error bars show 95% confidence interval

Figure 89. Percent Adults Reporting Finding a Clinic Offering a Test as Barrier to COVID-19 Testing, by Boston and Selected Indicators, December 2020-January 2021

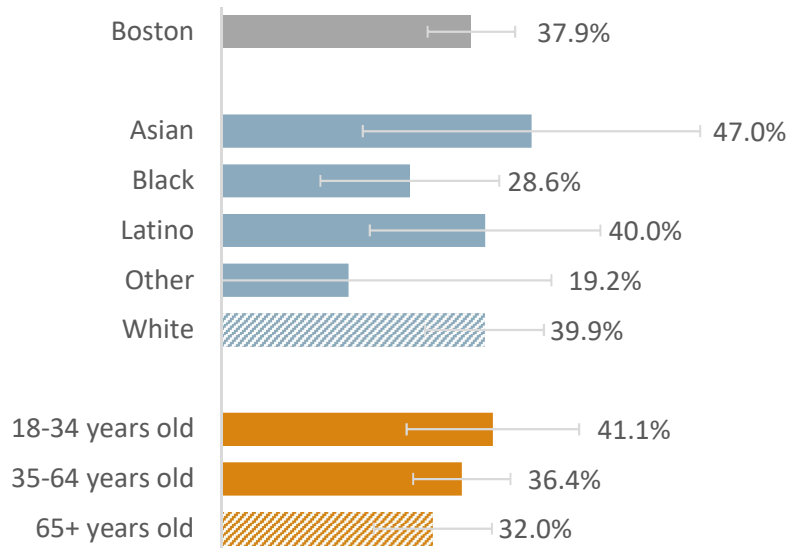


DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, COVID-19 Health Equity Survey, December 2020 - January 2021

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

Figure 90. Percent Adults Reporting Long Wait Time for Test Results as Barrier to COVID-19 Testing, by Boston and Selected Indicators, December 2020-January 2021

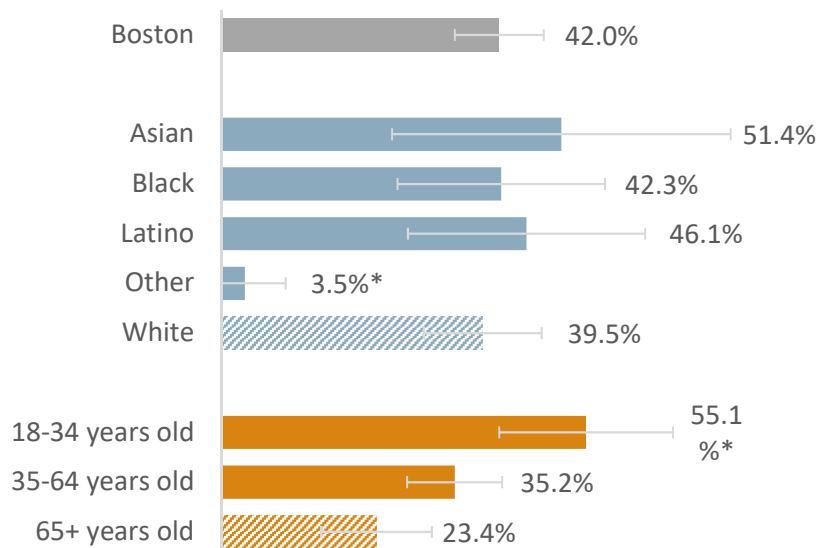


DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, COVID-19 Health Equity Survey, December 2020 - January 2021

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Bars with pattern indicate reference group for its specific category; No significant differences compared to reference groups within specific categories were observed ($p > 0.05$); Error bars show 95% confidence interval

Figure 91. Percent Adults Reporting Time it Takes to Get Tested as Barrier to COVID-19 Testing, by Boston and Selected Indicators, December 2020-January 2021

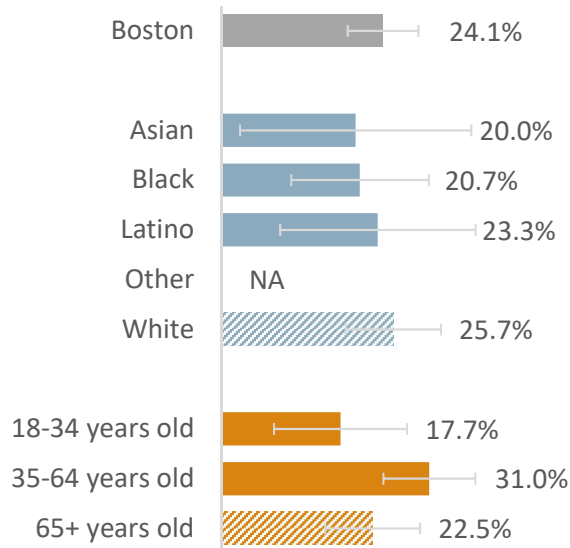


DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, COVID-19 Health Equity Survey, December 2020 - January 2021

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category (p <0.05); Error bars show 95% confidence interval

Figure 92. Percent Adults Reporting Other Factors as Barrier to COVID-19 Testing, by Boston and Selected Indicators, December 2020-January 2021



DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, COVID-19 Health Equity Survey, December 2020 - January 2021

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

NOTES: NA denotes where data are not presented due to insufficient sample size; Bars with pattern indicate reference group for its specific category; No significant differences compared to reference groups within specific categories were observed (p>0.05); Error bars show 95% confidence interval

REFERENCES

- ¹ Williams, D. R., & Collins, C. (2001). Racial Residential Segregation: A Fundamental Cause of Racial Disparities in Health. *Public Health Reports*, 116: 404-416.
- ² Mackey, K., Ayers, C. K., Kondo, K. K., Saha, S., Advani, S. M., Young, S., ... & Kansagara, D. (2021). Racial and Ethnic Disparities in COVID-19–related Infections, Hospitalizations, and Deaths: A Systematic Review. *Annals of Internal Medicine*, 174(3), 362-373.
- ³ Grinstein-Weiss, M., Chun, Y., Roll, S., & Jabbari, J. (2021). Do Racial and Ethnic Disparities in Savings and Job Loss during COVID-19 Explain Disparities in Housing Hardships? A Moderated Mediation Analysis. *The ANNALS of the American Academy of Political and Social Science*, 698(1), 68-87.
- ⁴ Robert Wood Johnson Foundation. (2013). How Does Employment, or Unemployment, Affect Health? Retrieved May 15, 2022 from Robert Wood Johnson Foundation website: <https://www.rwjf.org/en/library/research/2012/12/how-does-employment--or-unemployment--affect-health-.html>
- ⁵ Robert Wood Johnson Foundation. (2013). How Does Employment, or Unemployment, Affect Health? Retrieved May 15, 2022 from Robert Wood Johnson Foundation website: <https://www.rwjf.org/en/library/research/2012/12/how-does-employment--or-unemployment--affect-health-.html>
- ⁶ United States Department of Agriculture, Economic Research Service. (2022). Summary Findings: Food Price Outlook, 2022. Retrieved June 13, 2022 from Economic Research Service website: <https://www.ers.usda.gov/data-products/food-price-outlook/summary-findings/>
- ⁷ Robert Wood Johnson Foundation. (2013). How Does Employment, or Unemployment, Affect Health? Retrieved May 15, 2022 from Robert Wood Johnson Foundation website: <https://www.rwjf.org/en/library/research/2012/12/how-does-employment--or-unemployment--affect-health-.html>
- ⁸ Boston Indicators. Retrieved June 14, 2022 from Boston Indicators: <https://www.bostonindicators.org/article-pages/2022/february/ma-labor-market-update>
- ⁹ Boston Indicators. Retrieved June 14, 2022 from Boston Indicators: https://www.bostonindicators.org/reports/report-website-pages/covid_indicators-x2/2020/december/enrollment-drop
- ¹⁰ Braverman, P., Dekker, M., Egerter, S., Sadegh-Nobari, T., & Pollack, C. (2011). How Does Housing Affect Health? Retrieved May 15, 2022 from: <https://www.rwjf.org/en/library/research/2011/05/housing-and-health.html>
- ¹¹ Chambers, E., Fuster, D., Suglia, S., & Rosenbaum, E. (2015). The Link between Housing, Neighborhood, and Mental Health. Retrieved May 15, 2022 from the MacArthur Foundation: https://www.macfound.org/media/files/hhm_brief_-_housing_neighborhood_mental_health_cnb5grx.pdf
- ¹² Chambers, E., Fuster, D., Suglia, S., & Rosenbaum, E. (2015). The Link between Housing, Neighborhood, and Mental Health. Retrieved May 15, 2022 from the MacArthur Foundation: https://www.macfound.org/media/files/hhm_brief_-_housing_neighborhood_mental_health_cnb5grx.pdf
- ¹³ Benfer, E. A., Vlahov, D., Long, M. Y., Walker-Wells, E., Pottenger, J. L., Gonsalves, G., & Keene, D. E. (2021). Eviction, Health Inequity, and the Spread of COVID-19: Housing Policy as a Primary Pandemic Mitigation Strategy. *Journal of Urban Health*, 98(1), 1-12.