# HEALTH OF BOSTON 2024

## THE ACCESS TO CARE REPORT

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**SUGGESTED CITATION**

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# FOREWORD

Welcome to the Boston Public Health Commission's (BPHC) Health of Boston 2024: The Access to Care Report. This is one of a series of reports providing public health surveillance data on the health of Boston residents. It aims to provide residents, medical and public health professionals, health policy makers, and community advocates with actionable information on Boston residents' access to and quality of healthcare.

In Section 1 we look at access to care through the lens of insurance coverage, Medicare enrollment, affordability of dental, mental, and physical healthcare, and access to a medical home. The results in this section are derived from the Boston Behavioral Risk Factor Surveillance System (BBRFSS), a survey of adult Boston residents on health behaviors. Data on MassHealth recipients is presented. We also report the experiences of adult Boston residents on physician trust and communication from the BBRFSS survey.

In Section 2 we examine access to care by looking at the distribution of primary care facilities and locations of primary care practices, community health centers, hospitals, urgent care centers, and pharmacies, as well as MBTA key bus routes, subway lines, and commuter rail lines by Boston neighborhood.

In Section 3 we report on the experience of commercially insured patients with their primary care provider in Boston, stratified by race and ethnicity, with statewide benchmarks for comparison. In this section we combine results from the Mass Health Quality Partners (MHQP) 2021 and 2022 statewide surveys of commercially insured patients and include an analysis of both quantitative data and patient narrative responses.

In the appendix, we report on resident-reported healthcare access stratified by region from the 2021 Center for Health Information and Analysis (CHIA) Massachusetts Health Insurance Survey (MHIS) report. This information is not Boston specific but compares the Boston metro area to other areas within Massachusetts.

Note that some data in this report reflect care during the COVID-19 pandemic that began in March 2020. During this period, healthcare utilization and delivery were greatly impacted by the pandemic, including most notably for this context, delayed or cancelled primary care and preventive visits.

Boston Public Health Commission acknowledges the role of racism in creating and perpetuating systems of oppression that undermine the social determinants of health and have resulted in the historic marginalization and subsequent inequities in health outcomes of Boston residents of color.

We hope this report will help build knowledge and generate conversation around barriers and inequities that Boston residents sometimes face when accessing and receiving healthcare.

# SUMMARY

In recent years, Boston has maintained a high percentage of insured residents and for 2017, 2019 and 2021 combined, based on the Boston Behavioral Risk Factor Surveillance System, only 4.1% of Boston adults were uninsured. However, the percentage of Boston adults who were uninsured was higher for Latinx (9.3%), Asian (4.8%), and Black (3.4%) adults compared with White adults (1.8%). Adults who lived in the US for 10 years or fewer (10.6%) and foreign-born adults who lived in the US for more than 10 years (5.6%) had lower rates of insurance compared with adults who always lived in the US. (2.2%).

Racial and ethnic inequities were also found in key indicators of healthcare access. The percentages of Boston adults who could not afford a doctor and could not afford dental care was higher among Black and Latinx adults when compared with White adults. These percentages were also higher for foreign-born adults compared with adults who were born in the US. Higher percentages of Latinx adults reported not having a usual place of healthcare compared with White adults. Healthcare access inequities were also seen among those unemployed and with lower income and education.

Access to care is not enough to ensure good health; access to quality care is critical. During 2019 and 2021, the percentage of Boston adults who reported trusting their doctor's judgements about their medical care and that they felt healthcare staff was listening to them was lower for Black and Latinx adults when compared with White adults. A similar trend was observed for lower income residents compared to those with a higher income.

The highest percentages of residents utilizing MassHealth (Medicaid) insurance coverage were concentrated in Mattapan, Dorchester and Roxbury. It continues to be important to monitor MassHealth enrollment within the city of Boston now that the COVID-19 emergency act has been lifted. Continued funding to support health insurance coverage in Massachusetts will also help maintain the low percentage of uninsured Boston residents.

Across Boston, there are 57 primary care practices, 27 community health centers (some with multiple sites, including both federally qualified and non-federally qualified), 12 hospitals, 13 urgent care centers, and 115 pharmacies but these healthcare facilities are not equally dispersed, with many facilities concentrated in the Back Bay area.

According to the Massachusetts Health Quality Partners Adult Patient Experience Survey, commercially insured Boston residents scored significantly lower for the Integration of Care, Adult Behavioral Health and Organizational Access composite compared with commercially insured residents in the rest of Massachusetts. Further, Asian, Black and Latinx patients reported significantly lower scores across several indicators of healthcare quality when compared with White patients.

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# INTRODUCTION

Access to affordable healthcare is essential to prevent and manage disease throughout the lifespan[1-6]. Poor access contributes to rising healthcare costs, stresses emergency medical care systems[7] and deepens health inequities. Thus, access tends to be inversely correlated with need for high-quality medical care.[6] In addition to adequate transportation or physical proximity, improving access to healthcare also calls for addressing barriers linked to language, education, and cost of medical insurance[8]. In this report we describe Boston residents' access to health insurance, healthcare utilization, dental insurance and care, transportation, and the patient experience.

### *Racism and access to care*

Racism has led to inequities in access to and use of healthcare resulting in disparities in health among people of color[9]. According to the Kaiser Family Foundation (KFF) in 2021, Asian, Black, and Latinx Americans were worse off compared with White Americans across most examined measures of health coverage, and access to and use of healthcare. Among individuals ages 18 to 64, Asian, Black, and Latinx adults in the US were more likely than their White counterparts to report not having a usual doctor or provider and going without care. Asian and Latinx Americans were more than twice as likely than White Americans to be uninsured. Among adults with any mental illness, Black, Latinx, and Asian adults were less likely than White adults to receive mental health services[10].

Intentional or unintentional bias among providers has been shown to negatively impact patients[11-13]. For example, studies suggest that physicians unknowingly offer different treatment options based on the patient's race, even when patients have similar symptoms[12-15]. As such, patients are accessing the same care but being treated differently resulting in health inequities[16]. These race-based differences may be reduced if physicians recognize they are susceptible to unconscious bias, especially when interacting with patients and prescribing treatments[13,15].

### *COVID-19 and healthcare access*

There is evidence of racial and socio-economic differences in the population affected by COVID-19 due to the decline in healthcare access and use of services which occurred during the pandemic[17-19].

In 2021, numerous resources and staff were required for testing and providing treatment for COVID-19 cases. The supplies were limited, people feared accessing healthcare providers and the effects of the COVID-19 vaccine, all of which complicated accessing quality medical care[19]. The decreased availability of care, surgeries, and other hospital services along with the fear of being exposed to COVID-19 contributed to the decline in people accessing care. This led to the increase in telemedicine as a tool to care for patients remotely, decreasing the risk of COVID-19 exposure to patients, healthcare professionals and the public[17-19].

The COVID-19 pandemic and the array of strategies deployed to tackle the spread of the virus led to changes in access to care for other conditions[20-25]. Despite the emerging use of telehealth[23,24], services deemed non-essential led to cancellations or delays in elective and non-urgent procedures[22,24,25,26]. Further, social distancing to reduce interaction between people such as nationwide partial or complete lockdowns, schools and non-essential business closures, and instructions to stay at home, also created barriers in accessing health services[27].

The economic crisis occurring due to the curtailment of economic activity and the subsequent rise in unemployment and decline in household income, led to loss of health coverage, difficulties in making co-payments, and hardships in accessing transportation to healthcare services, all of which contributed to existing inequities in access to care[28].

In summary, there are numerous indicators including early evidence and experience from previous health crises that convey the commonly observed trend that vulnerable population groups (e.g., populations with low socioeconomic status, the elderly, chronic patients, those with severe conditions, or migrants from low-income countries) experienced a more substantial impact when compared with non-vulnerable population groups[29-34].

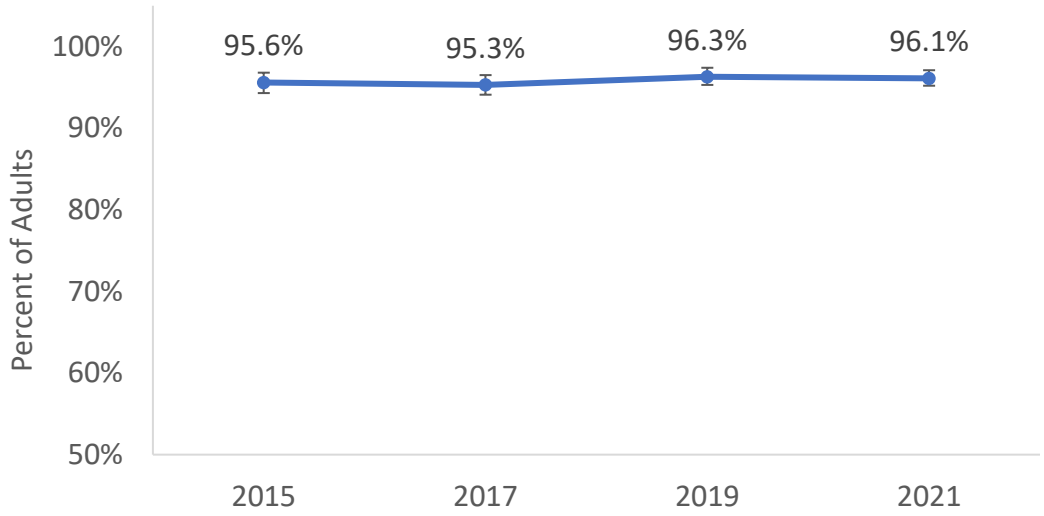
# SECTION 1. INSURANCE, UTILIZATION, AND QUALITY OF CARE

In this section we utilize data from the Boston Behavioral Risk Factor Surveillance System (BBRFSS) to closely examine Boston adult population insurance coverage, healthcare access, dental insurance coverage, and tooth loss (often a consequence of limited dental care) among the Boston adult population.

### *Health Insurance*

With comprehensive health reform in 2006, Massachusetts is a state with near-universal insurance coverage. This remarkable achievement is a result of a system in which the responsibility for health insurance is shared by individuals, their employers, and government[10]. In 2017 and 2018, Massachusetts (a Medicaid expansion state[35]) successfully expanded coverage to most of its residents and now has the lowest percentage of uninsured persons in the US. Only 2.8% of Massachusetts residents were uninsured in both 2017 and 2018, compared with national rates of 7.9% (or 25.6 million) in 2017 and 8.5% (or 27.5 million) in 2018[35-36].

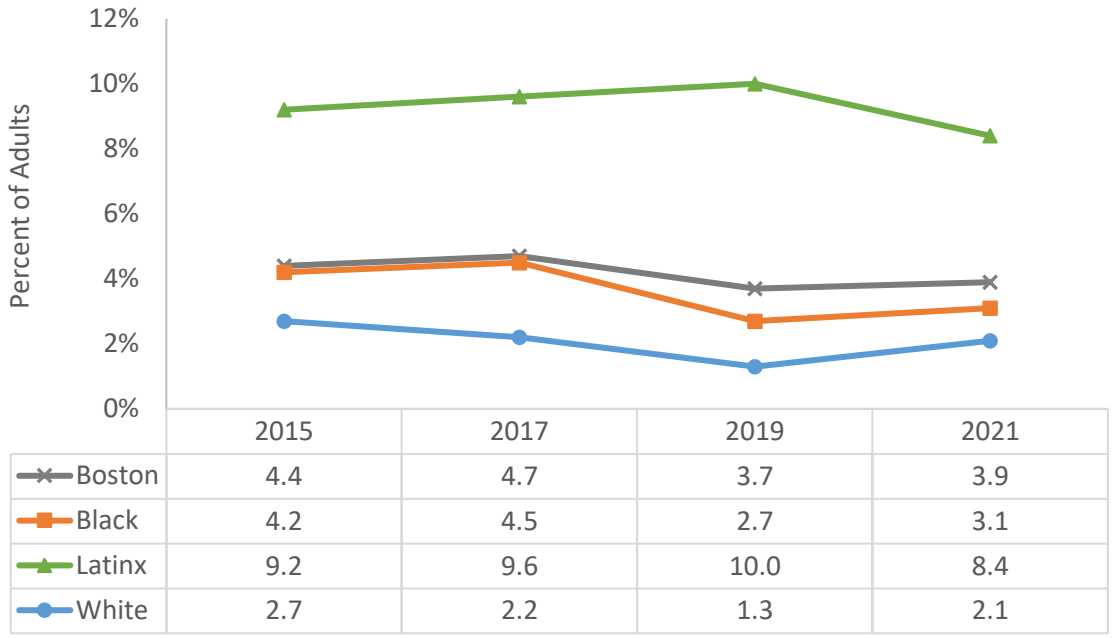
## Figure 1. Boston Adults with any Kind of Healthcare Coverage, 2015 – 2021




DATA SOURCE: Boston Behavioral Risk Factor Surveillance System (2015, 2017, 2019, 2021), Boston Public Health Commission

In Boston, health insurance coverage has been stable from 2015 to 2021. In 2021 only 3.9% of the population was uninsured (i.e., 96.1% percent of Boston adults had any kind of healthcare insurance).

**Figure 2. Uninsured Adults by Race/Ethnicity and Year, 2015 – 2021**

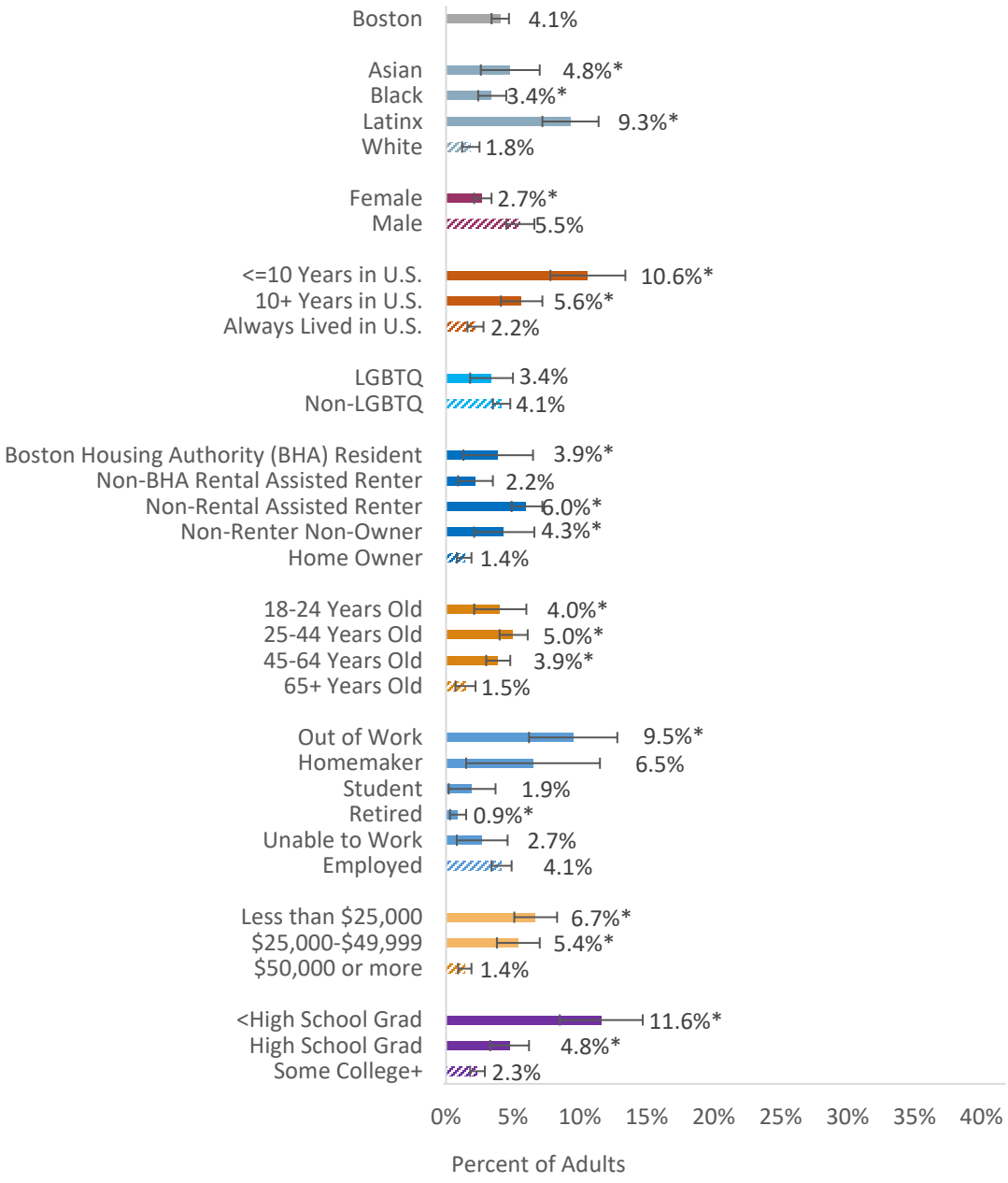



| | 2015 | 2017 | 2019 | 2021 |
|---|---|---|---|---|
| Boston | 4.4 | 4.7 | 3.7 | 3.9 |
| Black | 4.2 | 4.5 | 2.7 | 3.1 |
| Latinx | 9.2 | 9.6 | 10.0 | 8.4 |
| White | 2.7 | 2.2 | 1.3 | 2.1 |

NOTE: Data not presented for Asian residents due to small sample size (n<5)
DATA SOURCE: Boston Behavioral Risk Factor Surveillance System (2017, 2019, 2021), Boston Public Health Commission

From 2015 to 2021 there was no significant change in the percentage of adults who were uninsured for any racial/ethnic group. The percentage of adults who were uninsured for Boston overall in 2021 was 3.9%. The percentage of Boston adults who were uninsured in 2021 was higher for Latinx residents (8.4%) when compared to White residents (2.1%). Nationally, in 2021, the percentage of uninsured by race and Hispanic origin was higher for Asian (5.8%), Black (9.6%) and Latinx (17.7%) adults than for White adults (5.7%)[37].

## Figure 3. Uninsured Adults by Selected Indicators, 2017, 2019, and 2021 Combined




*Statistically significant difference when compared to reference group
NOTE: Bars with hatch marks indicate the reference group within each selected indicator
DATA SOURCE: Boston Behavioral Risk Factor Surveillance System (2017, 2019, 2021), Boston Public Health Commission

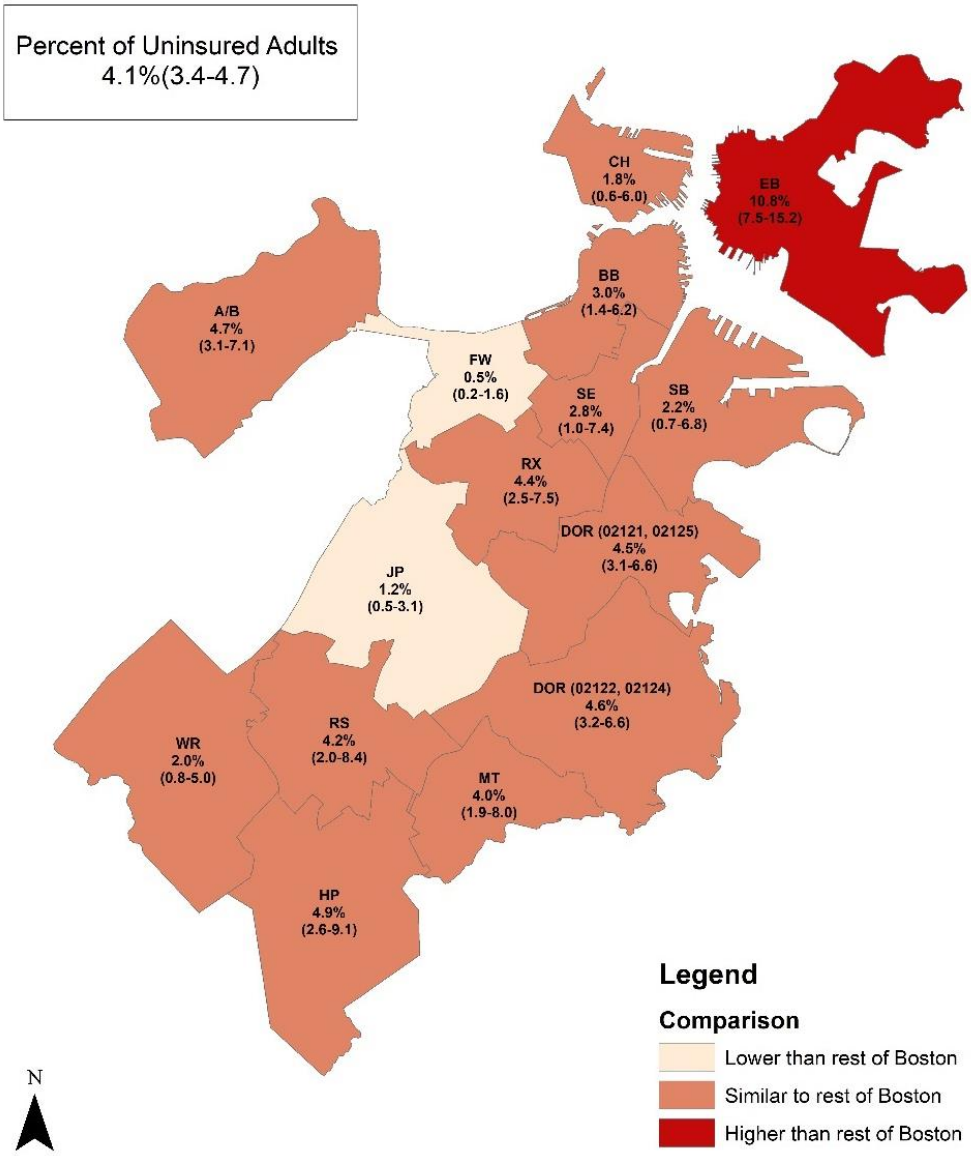
During 2017, 2019 and 2021, 4.1% of Boston adults were uninsured. The percentage of Boston adults who were uninsured was higher for the following groups:

- Asian (4.8%), Black (3.4%) and Latinx (9.3%) adults when compared with White adults (1.8%)
- Adults who lived in the US for 10 years or fewer (10.6%) and foreign-born adults who lived in the US for more than 10 years (5.6%) when compared with adults who always lived in the US (2.2%)
- Adults who are Boston Housing Authority (BHA) residents (3.9%), adults who are non-rental assisted renters (6.0%) and adults who are non-renter non-owners (4.3%) when compared with adults who are homeowners (1.4%)
- Adults ages 18-24 years old (4.0%), adults ages 25-44 years old (5.0%) and adults ages 45-64 years old (3.9%) when compared with adults ages 65 or over (1.5%)
- Adults who are out of work (9.5%) when compared with adults who are employed (4.1%)
- Adults with household income less than $25,000 annually (6.7%) and adults with household income of $25,000 to $49,999 annually (5.4%) when compared with adults with household income of $50,000 or more (1.4%)
- Adults who received less than a high school education (11.6%) and adults who received a high school education (4.8%) when compared with adults who received at least some college education (2.3%)

During 2017, 2019 and 2021, the percentage of Boston adults who were uninsured was lower for the following groups:

- Female adults (2.7%) when compared with male adults (5.5%)
- Adults who are retired (0.9%) when compared with adults who are employed (4.1%)

## Figure 4. Uninsured Adults by Neighborhood, 2017, 2019, 2021 and Combined




DATA SOURCE: Boston Behavioral Risk Factor Surveillance System (2017, 2019, 2021), Boston Public Health Commission

During 2017, 2019 and 2021, the percentage of uninsured adult residents was higher for East Boston and lower for Fenway and Jamaica Plain compared with the rest of Boston.

## Table 1. Uninsured Adults, by Neighborhood, Ranked in Descending Order, 2017, 2019, and 2021 Combined

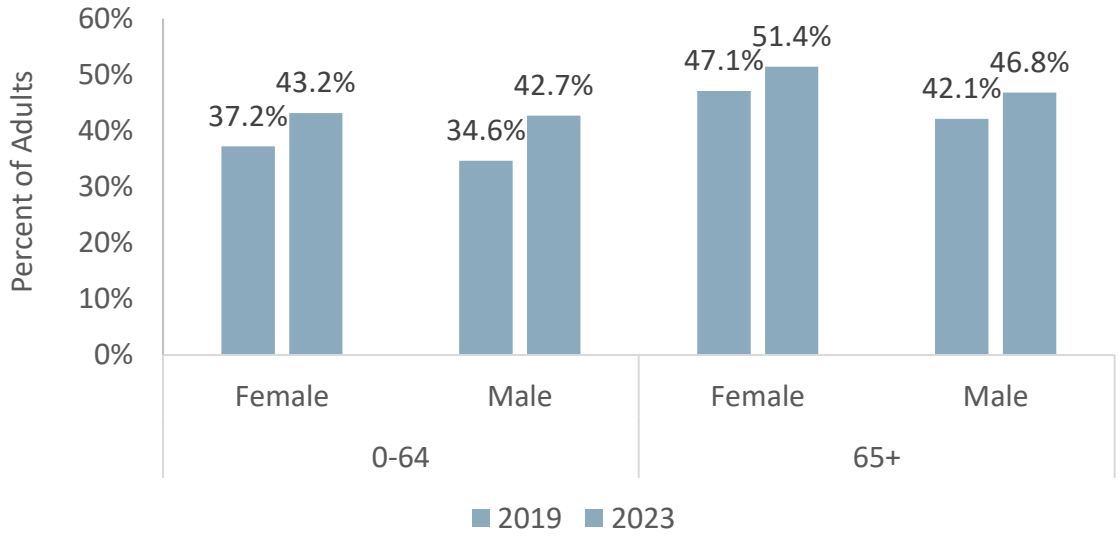
| Neighborhood | Uninsured Percentages | 95% Confidence Intervals |
|---|---|---|
| East Boston (EB), 02128 | 10.8% | (7.5-15.2) |
| Hyde Park (HP), 02136 | 4.9% | (2.6-9.1) |
| Allston/Brighton (A/B), 02134, 02135, 02163 | 4.7% | (3.1-7.1) |
| Dorchester (DOR), 02122, 02124 | 4.6% | (3.2-6.2) |
| Dorchester (DOR), 02121, 02125 | 4.5% | (3.1-6.6) |
| Roxbury (RX), 02119, 02120 | 4.4% | (2.5-7.5) |
| Roslindale (RS), 02131 | 4.2% | (2.0-8.4) |
| Mattapan (MT), 02126 | 4.0% | (1.9-8.0) |
| Back Bay, Downtown, Beacon Hill, North End, West End (BB), 02108-02110, 02113-02114, 02116, 02199 | 3.0% | (1.4-6.2) |
| South End (SE), 02111, 02118 | 2.8% | (1.0-7.4) |
| South Boston (SB), 02127, 02210 | 2.2% | (0.7-6.8) |
| West Roxbury (WR), 02132 | 2.0% | (0.8-5.0) |
| Charlestown (CH), 02129 | 1.8% | (0.6-6.0) |
| Jamaica Plain (JP), 02130 | 1.2% | (0.5-3.1) |
| Fenway (FW), 02115, 02215 | 0.5% | (0.2-1.6) |

DATA SOURCE: Boston Behavioral Risk Factor Surveillance System (2017, 2019, 2021), Boston Public Health Commission

### *MassHealth*

In March 2020, the Families First Coronavirus Response Act was signed into law and enacted policy changes that would remain through the end of the Public Health Emergency, such as eradicating cost-sharing for COVID-19 related visits and increased federal funding for Medicaid. One condition of this enhanced federal funding was that states were prohibited from removing individuals from their Medicaid programs. From the start of the COVID-19 pandemic (March 2020) to late September 2020, enrollment in MassHealth (Massachusetts' Medicaid program), increased by approximately 63,000 people but the overall number of people who had health insurance in Massachusetts stayed relatively the same, and employer-sponsored health insurance coverage did not decrease as fast as expected by the rise in unemployment. On May 11, 2023, the COVID-19 Public Health Emergency ended. MassHealth lost 23,180 members in May 2023 and another 16,698 residents were newly enrolled.

## Figure 5. MassHealth Enrollment by Sex and Age, 2019 and 2023

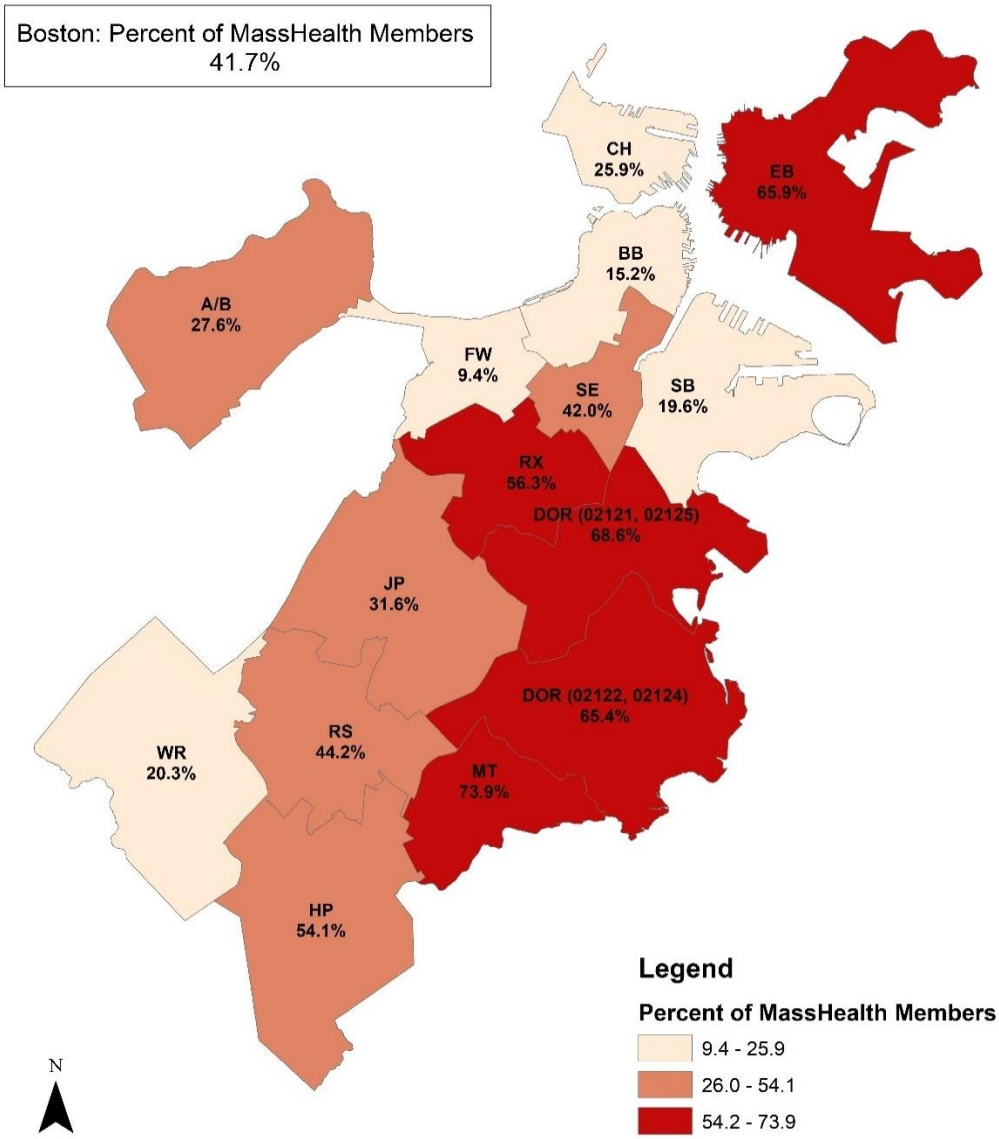



DATA SOURCE: MassHealth Enrollment, Massachusetts Office of Health and Human Services

In 2019, 37.2% of females aged 0-64 were MassHealth members and 34.6% of males aged 0-64 were MassHealth members. In 2023, 43.2% of females aged 0-64 were MassHealth members and 42.7% of males aged 0-64 were MassHealth members.

In 2019, 47.1% of females aged 65 plus were MassHealth members and 42.1% of males aged 65 plus were MassHealth members. In 2023, 51.4% of females aged 65 plus were MassHealth members and 46.8% of males aged 65 plus were MassHealth members.

## Figure 6. MassHealth Enrollment by Neighborhood, 2023




DATA SOURCE: MassHealth Enrollment, Massachusetts Office of Health and Human Services

Figure 6 depicts the percentage of MassHealth members (MassHealth enrollment) by Boston neighborhood in 2023, with the percent of MassHealth members separated into terciles or three parts. The first tercile comprises 9.4% to 25.9% of MassHealth members; the second tercile comprises 26.0% to 54.1% of MassHealth members; lastly, the third tercile comprises 54.2% to 73.9% of MassHealth members. In 2023, the percentage of MassHealth members in

Boston overall is 41.7%. Charlestown, Back Bay/Beacon Hill, Fenway, South Boston and West Roxbury fall within the first tercile, with the lowest percent population who are MassHealth enrollees. Allston/Brighton, South End, Jamaica Plain, Roslindale and Hyde Park fall within the second tercile. East Boston, Roxbury, Dorchester (02121, 02125), Dorchester (02122,02124) and Mattapan fall within the third tercile, where more than half of the population are MassHealth enrollees. See table 2 for enrollment by neighborhood in descending order.

## Table 2. MassHealth Enrollment, by Neighborhood, Ranked in Descending Order, 2023

| Neighborhood | MassHealth Enrollment Percentages |
|---|---|
| Mattapan (MT), 02126 | 73.9% |
| Dorchester (DOR), 02121, 02125 | 68.6% |
| East Boston (EB), 02128 | 65.9% |
| Dorchester, (DOR), 02122, 02124 | 65.4% |
| Roxbury (RX), 02219, 02120 | 56.3% |
| Hyde Park (HP), 02136 | 54.1% |
| Roslindale (RS), 02131 | 44.2% |
| South End (SE), 02111, 02118 | 42.0% |
| Jamaica Plain (JP), 02130 | 31.6% |
| Allston/Brighton (A/B), 02134, 02135, 02163 | 27.6% |
| Charlestown (CH), 02129 | 25.9% |
| West Roxbury (WR), 02132 | 20.3% |
| South Boston (SB), 02127, 02210 | 19.6% |
| Fenway (FW), 02115, 02215 | 14.5% |
| Back Bay, Downtown, Beacon Hill, North End, West End (BB), 02108-02110, 02113-02114, 02116, 02199 | 13.8% |

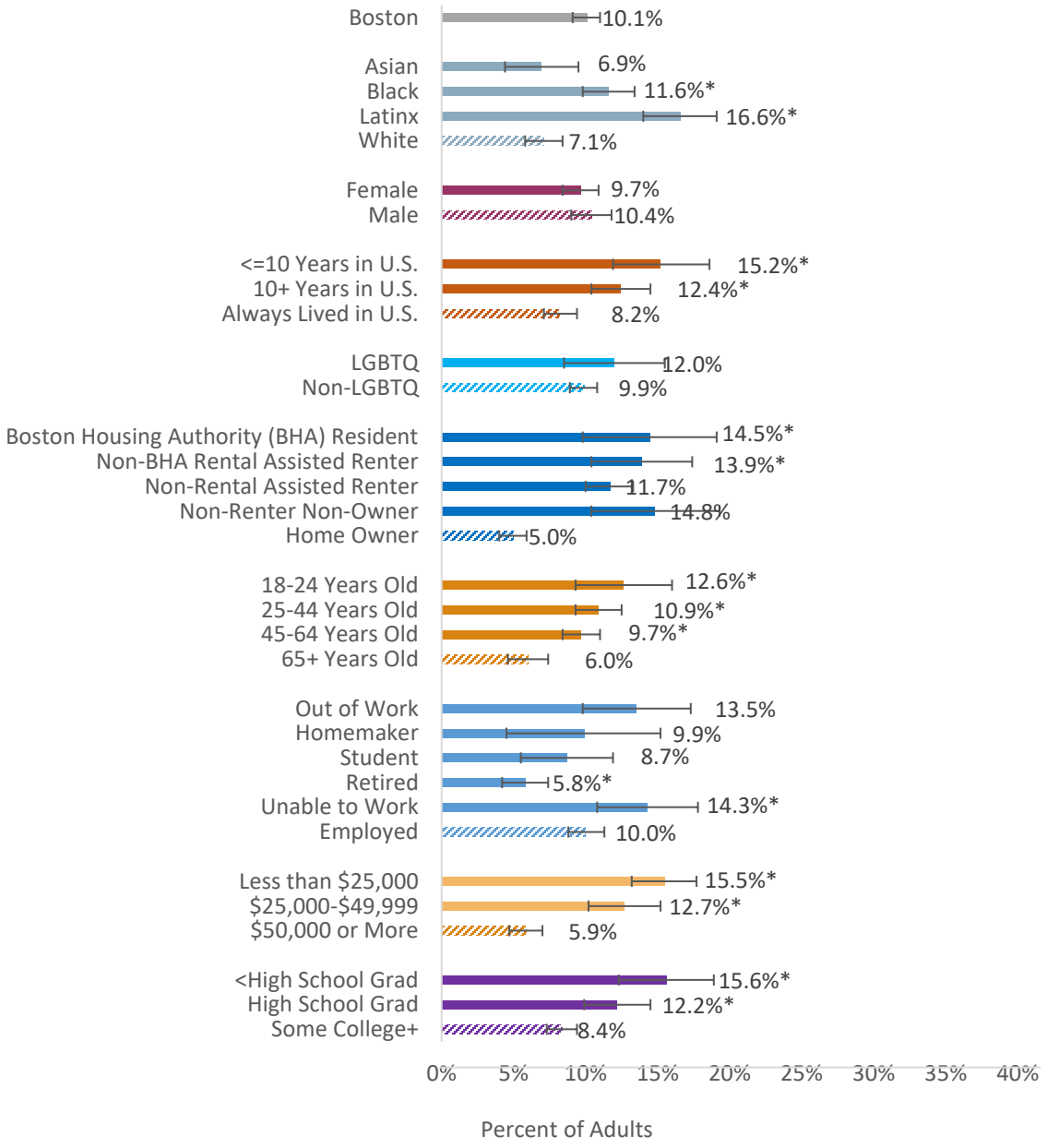
DATA SOURCE: MassHealth Enrollment, Massachusetts Office of Health and Human Services

## *Healthcare Utilization*

Driven mainly by changes to policy during the COVID-19 pandemic, insurance coverage has been reaching new heights across the United States but being underinsured – (having insurance but with high deductibles or co-pays) – is a reality for many Americans[38]. While the US uninsured rate hit 9% in 2022, an additional 23% were insured all year but considered underinsured[38]. Individuals who were insured all year were deemed inadequately insured (underinsured) if their coverage didn't enable affordable access to healthcare. More than two in five working-age (ages 19-64) adults were inadequately insured in 2022.

Barriers and perceived barriers to participating in the healthcare system are faced by those who are uninsured and underinsured[39-41]. In addition, according to the National Center for Health Statistics' National Health Interview Survey in 2022, 6.1% of adults aged 18 and over in the US did not get the medical care they needed due to cost in the past 12 months[42].

## Figure 7. Adults Who Could Not Afford a Doctor in the Past Year by Selected Indicators, 2017, 2019, and 2021 Combined




*Statistically significant difference when compared to reference group
NOTE: Bars with hatch marks indicate the reference group within each selected indicator.
DATA SOURCE: Boston Behavioral Risk Factor Surveillance System (2017, 2019, 2021), Boston Public Health Commission

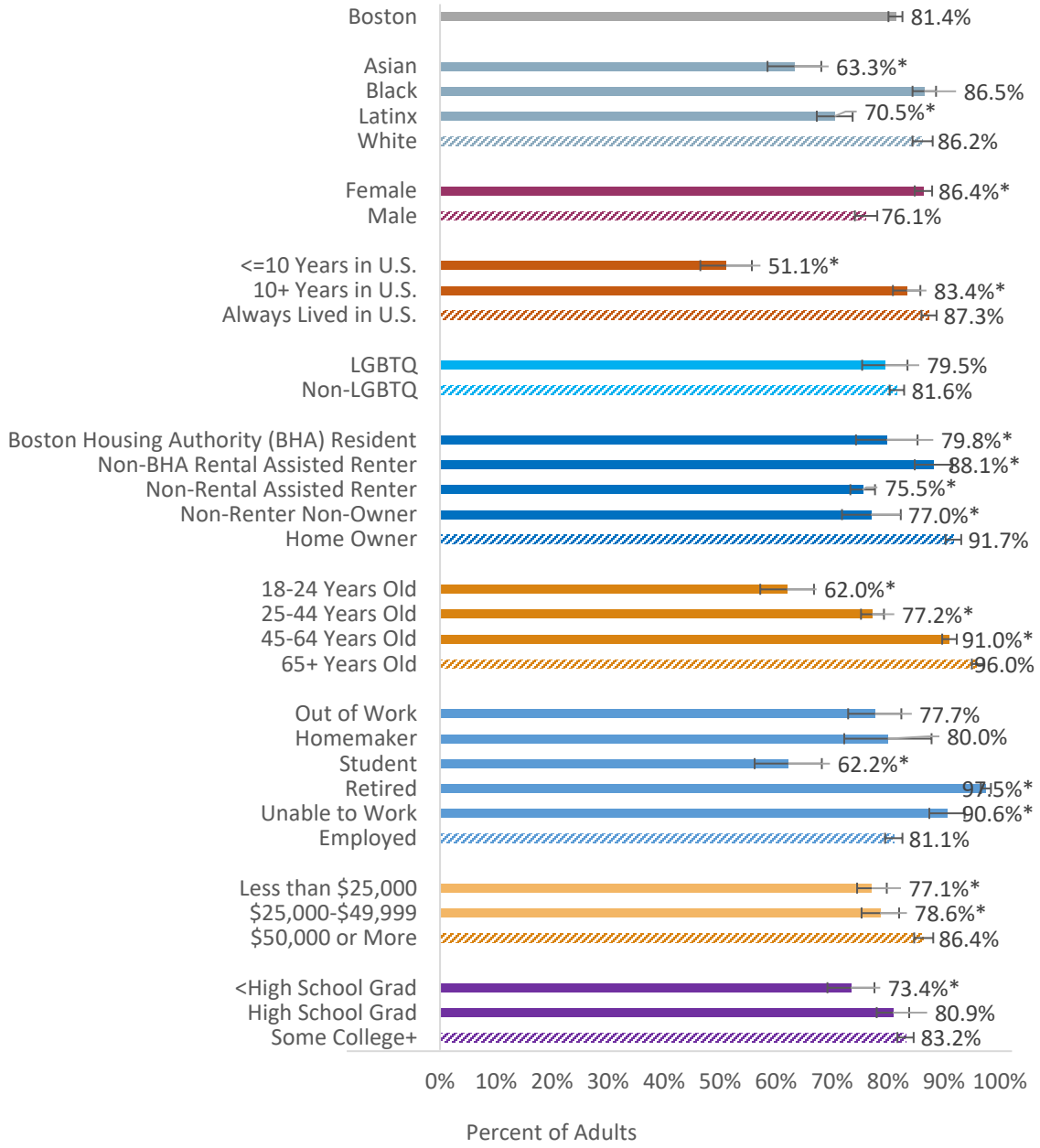
During 2017, 2019 and 2021, 10.1% of Boston adults could not afford a doctor in the past year. The percentage of Boston adults who could not afford a doctor in the past year was higher for the following groups:

- Black adults (11.6%) and Latinx adults (16.6%) when compared with White adults (7.1%)
- Adults who lived in the US for 10 years or fewer (15.2%) and foreign-born adults who lived in the US for more than 10 years (12.4%) when compared with adults who always lived in the US (8.2%)
- Adults who are Boston Housing Authority (BHA) residents (14.5%), adults who are non-BHA rental assisted renters (13.9%), adults who are non-rental assisted renters (11.7%) and adults who are non-renter non-owners (14.8%) when compared with adults who are homeowners (5.0%)
- Adults ages 18-24 years old (12.6%), adults ages 25-44 years old (10.9%) and adults ages 45-64 years old (9.7%) when compared with adults ages 65 or over (6.0%)
- Adults who are unable to work (14.3%) when compared with adults who are employed (10.0%)
- Adults with household income less than $25,000 annually (15.5%) and adults household income of $25,000 to $49,999 annually (12.7%) when compared with adults with household income of $50,000 or more (5.9%)
- Adults who received less than a high school education (15.6%) and adults who received a high school education (12.2%) when compared with adults who received at least some college education (8.4%)

The percentage of Boston adults who could not afford a doctor in the past year was lower for the following groups:

- Adults who are retired (5.8%) when compared with adults who are employed (10.0%)

## Figure 8. Adults Who Have a Doctor or Healthcare Provider by Selected Indicators, 2017, 2019, and 2021 Combined




*Statistically significant difference when compared to reference group
NOTE: Bars with hatch marks indicate the reference group within each selected indicator
DATA SOURCE: Boston Behavioral Risk Factor Surveillance System (2017, 2019, 2021), Boston Public Health Commission

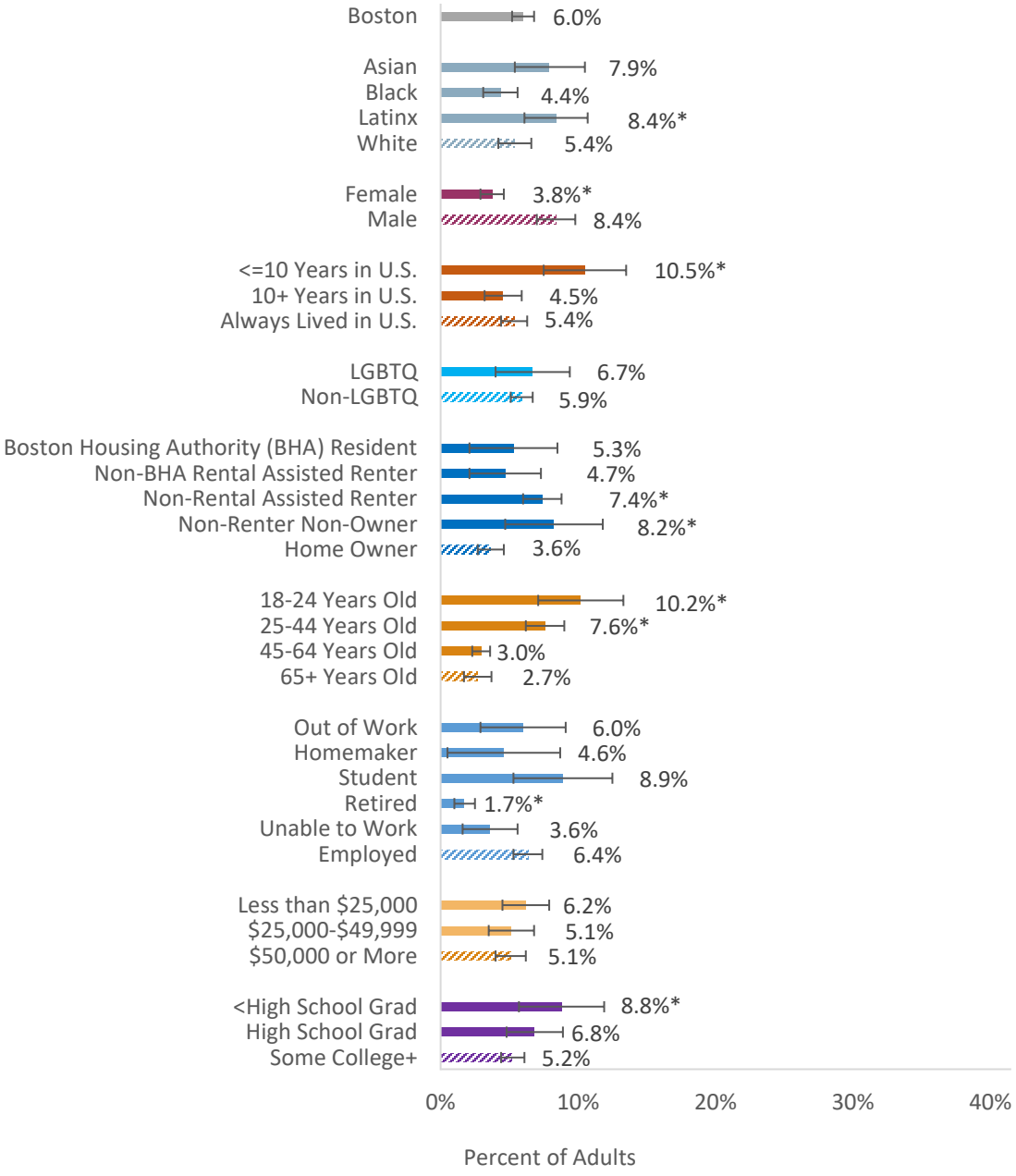
During 2017, 2019 and 2021, 81.4% of Boston adults had a doctor or healthcare provider. The percentage of Boston adults who had a doctor or healthcare provider was higher for the following groups:

- Female adults (86.4%) when compared with male adults (76.1%)
- Adults who are retired (97.5%) and adults who are unable to work (90.6%) when compared with adults who are employed (81.1%)

During 2017, 2019 and 2021, the percentage of Boston adults who had a doctor or healthcare provider was lower for the following groups:

- Asian adults (63.3%) and Latinx adults (70.5%) when compared with White adults (86.2%)
- Adults who lived in the US for 10 years or fewer (51.1%) and foreign-born adults who lived in the US for more than 10 years (83.4%) when compared with adults who always lived in the US (87.3%)
- Adults who are Boston Housing Authority (BHA) residents (79.8%), adults who are non-BHA rental assisted renters (88.1%), adults who are non-rental assisted renters (75.5%) and adults who are non-renter non-owners (77.0%) when compared with adults who are homeowners (91.7%)
- Adults ages 18-24 years old (62.0%), adults ages 25-44 years old (77.2%) and adults ages 45-64 years old (91.0%) when compared with adults ages 65 or over (96.0%)
- Adults who are students (62.2%) when compared with adults who are employed (81.1%)
- Adults with household income than $25,000 annually (77.1%) and adults with household income of $25,000 to $49,999 annually (78.6%) when compared with adults with household income of $50,000 or more (86.4%)
- Adults who received less than a high school education (73.4%) when compared with adults who received at least some college education (83.2%)

## Figure 9. Adults Who Do Not Have a Usual Place for Healthcare by Selected Indicators, 2017, 2019, and 2021 Combined




*Statistically significant difference when compared to reference group
NOTE: Bars with hatch marks indicate the reference group within each selected indicator
DATA SOURCE: Boston Behavioral Risk Factor Surveillance System (2017, 2019, 2021), Boston Public Health Commission

During 2017, 2019 and 2021, 6.0% of Boston adults did not have a usual place for healthcare. The percentage of Boston adults who did not have a usual place for healthcare was higher for the following groups:

- Latinx adults (8.4%) when compared with White adults (5.4%)
- Adults who lived in the US for 10 years or fewer (10.5%) when compared with adults who always lived in the US (5.4%)
- Adults who are non-rental assisted renters (7.4%) and adults who are non-renter non-owners (8.2%) when compared with adults who are homeowners (3.6%)
- Adults ages 18-24 years old (10.2%) and adults ages 25-44 years old (7.6.%) when compared with adults ages 65 or over (2.7%)
- Adults who received less than a high school education (8.8%) when compared with adults who received at least some college education (5.2%)

During 2017, 2019 and 2021, the percentage of Boston adults who did not have a usual place for healthcare was lower for the following groups:

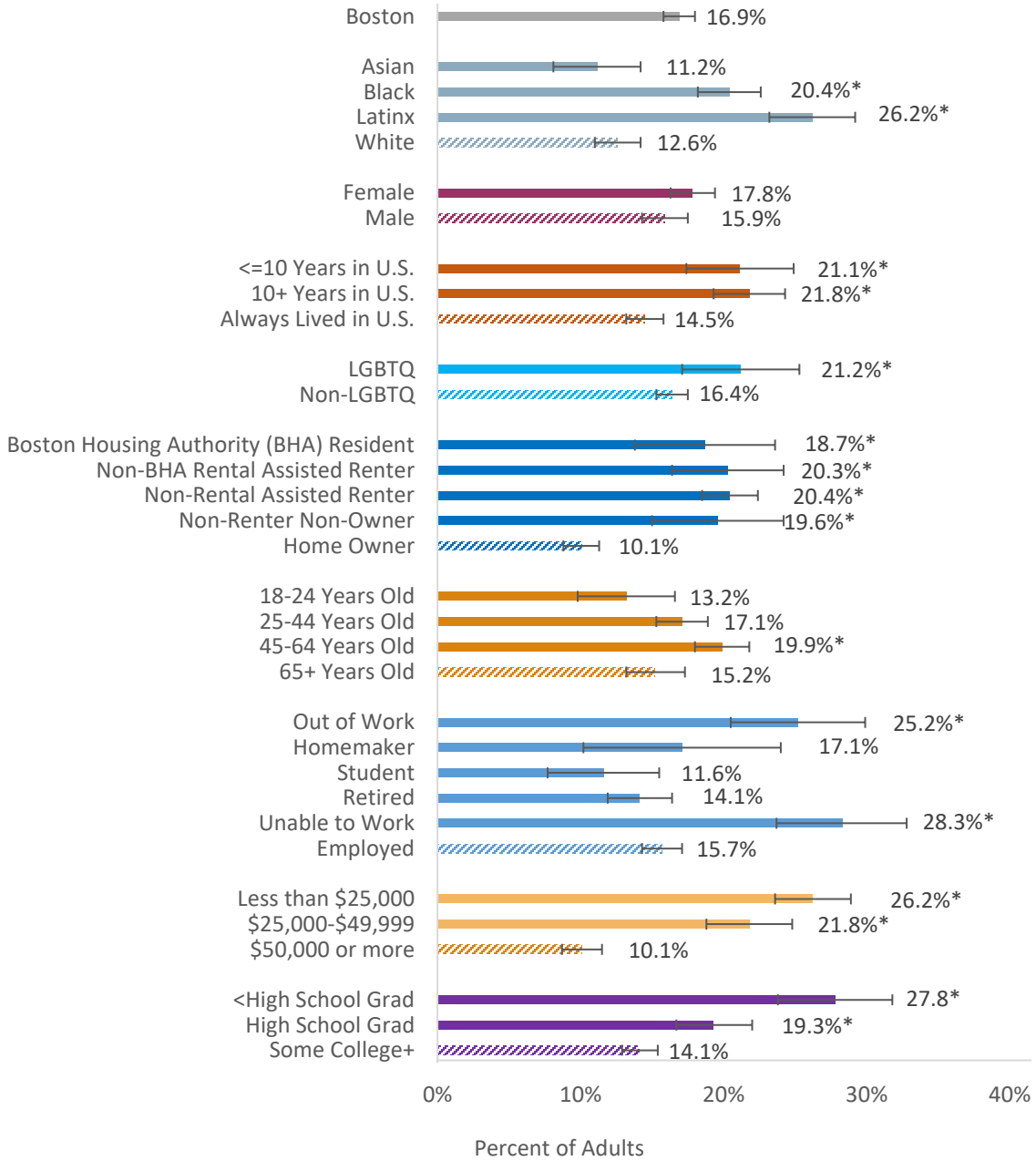
- Female adults (3.8%) when compared with male adults (8.4%)
- Adults who are retired (1.7%) when compared with adults who are employed (6.4%)

### *Dental Health Insurance and Care*

Access to oral healthcare, an often-overlooked aspect of healthcare access, is a main cause of inequities in oral health[43]. Tooth decay (including cavities) is one of the most common chronic conditions in the US[44]. Poor oral health has been linked to other chronic diseases, including diabetes and heart disease[44]. More adults are retaining their teeth but still require treatment for dental issues.

Disparities in dental care associated with race/ethnicity and income levels declined from 2000 to 2018, as the percentage of Americans with an annual oral healthcare visit increased from 74% to 86%[43]. While this improvement was seen mainly among children younger than 18 years, differences observed across race/ethnicity groups and income levels for adults remained. For example, more than 40% of the low-income adults have untreated cavities compared with 9% among individuals who are not in low-income groups[43]. Untreated cavities prevalence is 36% among Black adults and 23% among Hispanic adults compared with 18% among non-Hispanic White adults[45]. These racial disparities existed even after controlling for income level. This report also stated that less than half of older adults living below 200% of the federal poverty guideline had an annual dental visit[43].

## Figure 10. Adults Who Could Not Afford Dental Care in the Past Year by Selected Indicators, 2017, 2019, and 2021 Combined

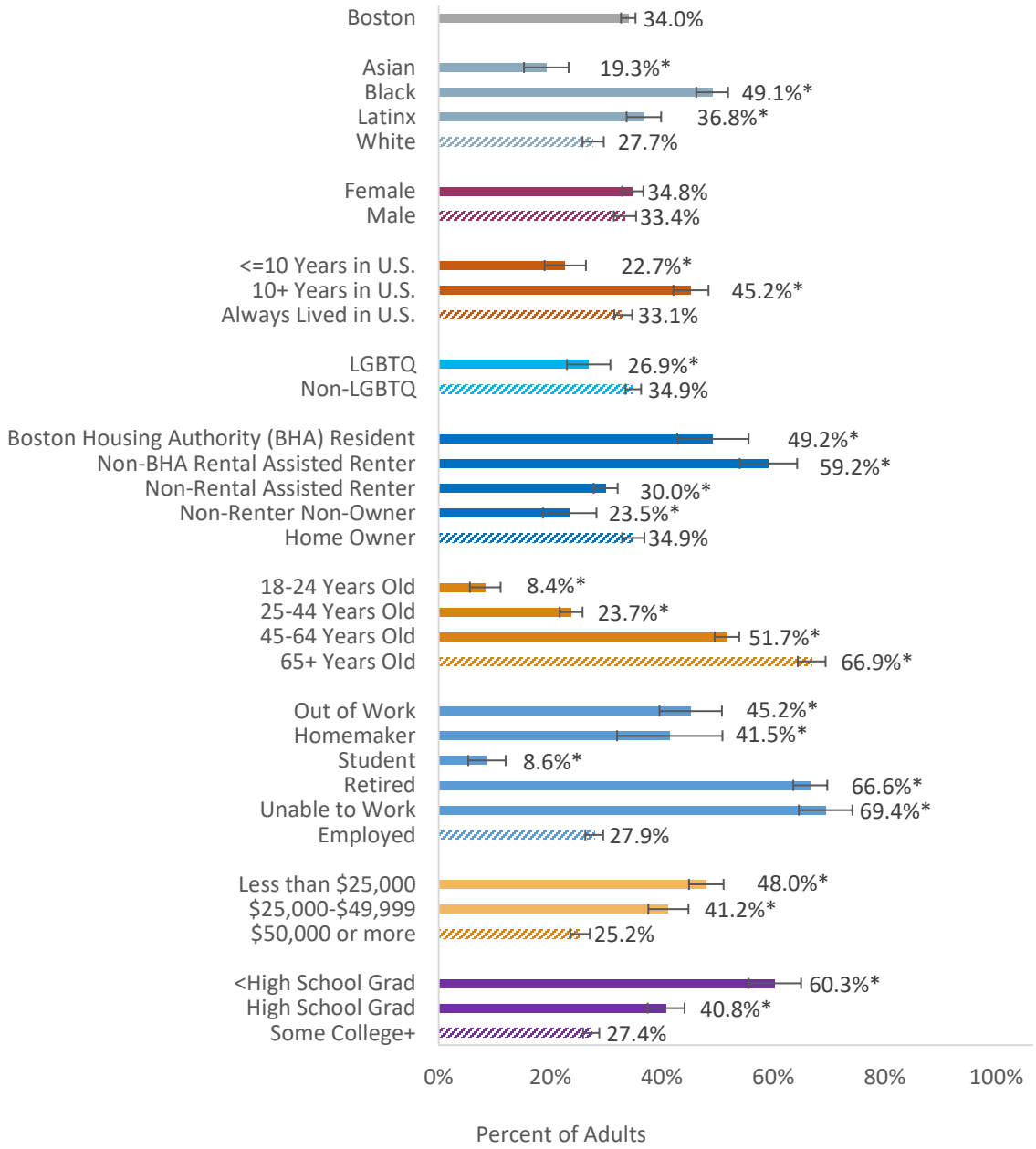



*Statistically significant difference when compared to reference group
NOTE: Bars with hatch marks indicate the reference group within each selected indicator
DATA SOURCE: Boston Behavioral Risk Factor Surveillance System (2017, 2019, 2021), Boston Public Health Commission

During 2017, 2019 and 2021, 16.9% of Boston adults could not afford dental care in the past year. The percentage of Boston adults who could not afford dental care in the past year was higher for the following groups:

- Black adults (20.4%) and Latinx adults (26.2%) when compared with White adults (12.6%)
- Adults who lived in the US 10 years or fewer (21.1%) and foreign-born adults who lived in the US for more than 10 years (21.8%) when compared with adults who always lived in the US (14.5%)
- Adults who identified as LGBTQ (21.2%) when compared with adults who identified as non-LGBTQ (16.4%)
- Adults who are Boston Housing Authority (BHA) residents (18.7%), adults who are non-BHA rental assisted renters (20.3%), adults who are non-rental assisted renters (20.4%) and adults who are non-renter non-owners (19.6%) when compared with adults who are homeowners (10.1%)
- Adults ages 45-64 years old (19.9%) when compared with adults ages 65 or over (15.2%)
- Adults who are out of work (25.2%) and adults who are unable to work (28.3%) when compared with adults who are employed (15.7%)
- Adults with household income of less than $25,000 annually (26.2%) and adults with household income of $25,000 to $49,999 annually (21.8%) when compared with adults with household income of $50,000 or more (10.1%)
- Adults who received less than a high school education (27.8%) and adults who received a high school education (19.3%) when compared with adults who received at least some college education (14.1%)

## Figure 11. Adults Who Lost One or More Teeth by Selected Indicators, 2017, 2019, and 2021 Combined




*Statistically significant difference when compared to reference group
NOTE: Bars with hatch marks indicate the reference group within each selected indicator
DATA SOURCE: Boston Behavioral Risk Factor Surveillance System (2017, 2019, 2021), Boston Public Health Commission

During 2017, 2019 and 2021, 34.0% of Boston adults lost one or more teeth. The percentage of Boston adults who lost one or more teeth was higher for the following groups:

- Black adults (49.1%) and Latinx adults (36.8%) when compared with White adults (27.7%)
- Foreign-born adults who lived in the US for more than 10 years (45.2%) when compared with adults who always lived in the US (33.1%)
- Adults who are Boston Housing Authority (BHA) residents (49.2%) and adults who are non-BHA rental assisted renters (59.2%) when compared with adults who are homeowners (34.9%)
- Adults who are out of work (45.2%), adults who are homemakers (41.5%), adults who are retired (66.6%) and adults who are unable to work (69.4%) when compared with adults who are employed (27.9%)
- Adults with household income of less than $25,000 annually (48.0%) and adults with household income of $25,000 to $49,999 annually (41.2%) when compared with adults with household income of $50,000 or more (25.2%)
- Adults who received less than a high school education (60.3%) and adults who received a high school education (40.8%) when compared with adults who received at least some college education (27.4%)

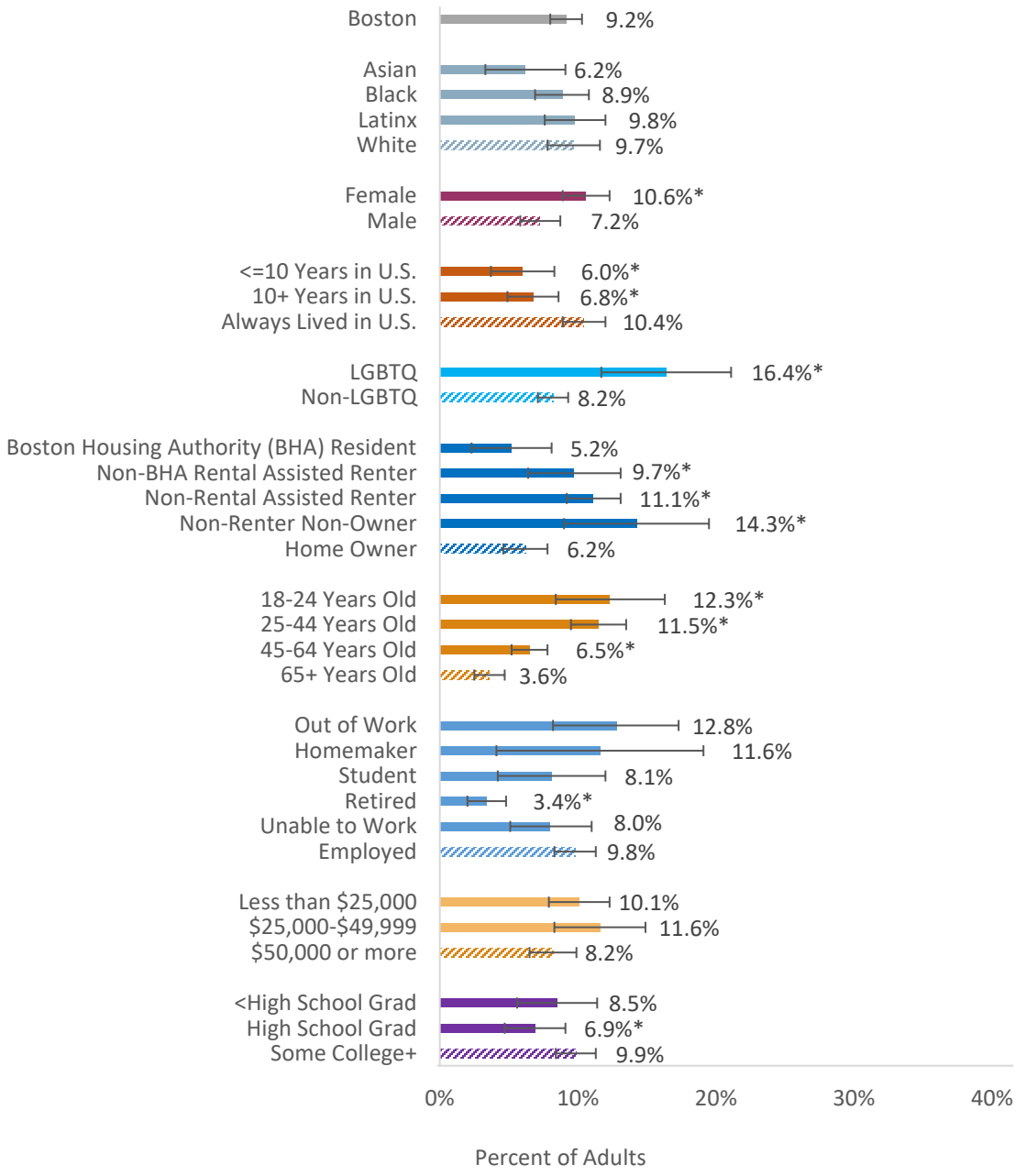
During 2017, 2019 and 2021, the percentage of Boston adults who lost one or more teeth was lower for the following groups:

- Asian adults (19.3%) when compared with White adults (27.7%)
- Adults who lived in the US for 10 years or fewer (22.7%) when compared with adults who always lived in the US (33.1%)
- Adults who identified as LGBTQ (26.9%) when compared with adults who identified as non-LGBTQ (34.9%)
- Adults who are non-rental assisted renters (30.0%) and adults who are non-renter non-owners (23.5%) when compared with adults who are homeowners (34.9%)
- Adults ages 18-24 years old (8.4%), adults ages 25-44 years old (23.7%) and adults ages 45-64 years old (51.7%) when compared with adults ages 65 or over (66.9%)
- Adults who are students (8.6%) when compared with adults who are employed (27.9%)

***Mental Health Insurance and Care***

Access to mental healthcare and treatment for mental health issues is not an option for many people living in the US even though 21% of US adults had a mental illness in 2020[2]. Even when mental health professionals are geographically accessible to patients, it is difficult for insured patients to find a provider within their insurance network leading them to pay high out-of-pocket costs for out-of-network care and at times, they just do not try to access any form of mental healthcare[15] .The Mental Health Parity and Addiction Equity Act of 2008 states that there must be equal coverage and benefits for mental health and general mental conditions, there are gaps between insurance coverage for mental health conditions that exist and are still increasing[14].

## Figure 12. Adults Who Could Not Afford Mental Healthcare in Past Year by Selected Indicators, 2019 and 2021 Combined




* Statistically significant difference when compared to reference group
NOTE: Bars with hatch marks indicate the reference group within each selected indicator
DATA SOURCE: Boston Behavioral Risk Factor Surveillance System 2019, 2021), Boston Public Health Commission

During 2019 and 2021, 9.2% of Boston adults reported wanting to consult with a mental health professional but could not because of cost. The percentage of Boston adults who reported wanting to consult with a mental health professional but could not because of cost was higher for the following groups:

- Female adults (10.6%) when compared with male adults (7.2%)
- Adults who identified as LGBTQ (16.4%) when compared with adults who identified as non-LGBTQ (8.2%)
- Adults who are non-BHA rental assisted renters (9.7%), adults who are non-rental assisted renters (11.1%) and adults who are non-renter Non-owners (14.3%) when compared with adults who are homeowners (6.2%)
- Adults ages 18-24 years (12.3%), adults ages 25-44 years (11.5%) and adults ages 45-64 years (6.5%) when compared with adults ages 65 years or over (3.6%)

During 2019 and 2021, the percentage of Boston adults who reported wanting to consult with a mental health professional but could not because of cost was lower for the following groups:

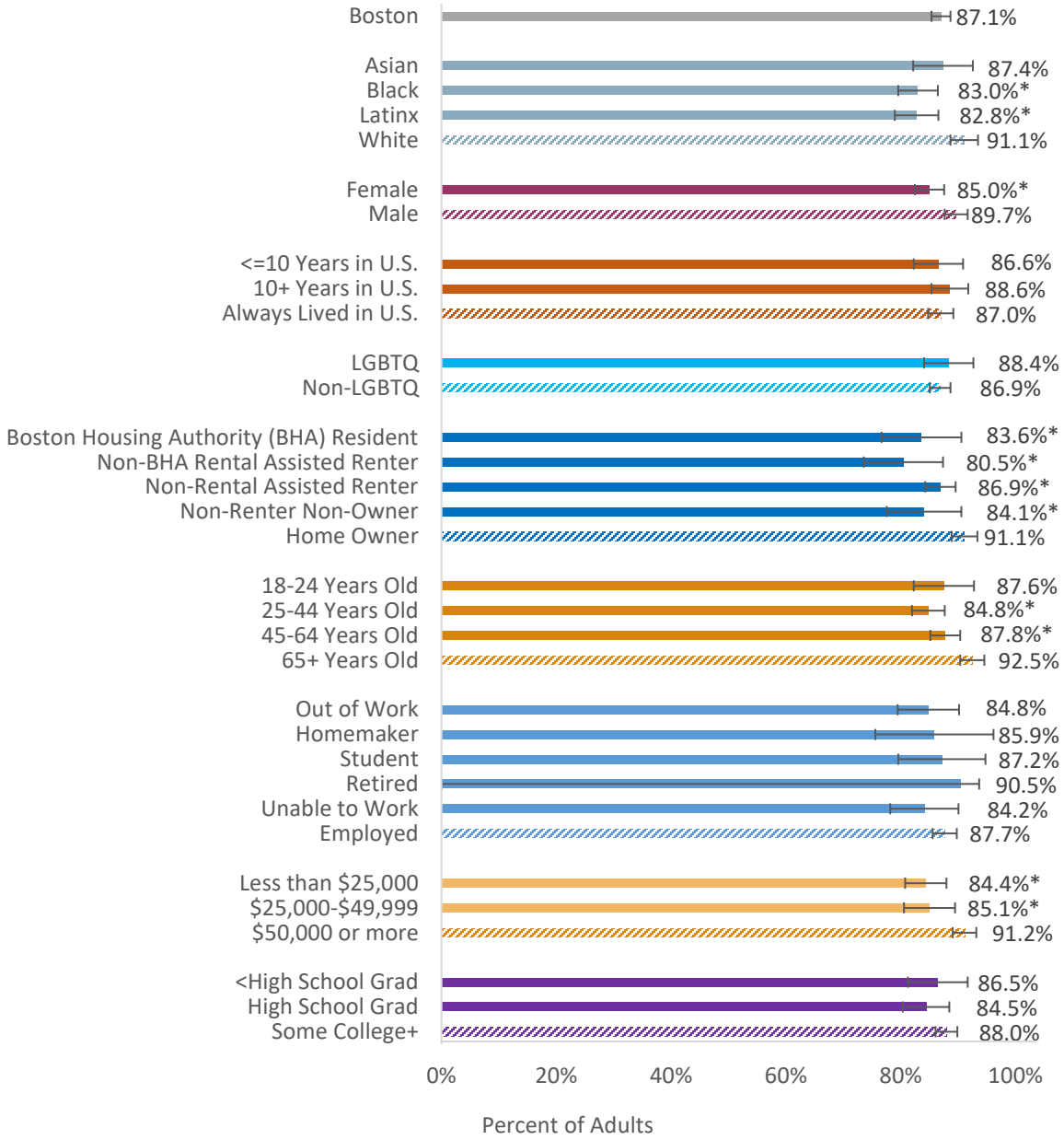
- Adults who lived in the US for 10 years or fewer (6.0%) and foreign-born adults who lived in the US for more than 10 years (6.8%) when compared with adults who always lived in the US (10.4%)
- Adults who are retired (3.4%) when compared with adults who are employed (9.8%)
- Adults who received a high school education (6.9%) when compared with adults who received at least some college education (9.9%)

***Physician Trust and Communication***

The physician-patient relationship is a critical contributor to the quality of care. Patient trust in the physician is a keystone in the physician-patient bond. Patient trust is defined as "the patient's expectation that the physician will provide beneficial care and truthful information to the patient, regardless of their ability to monitor or control the physician"[46]. Trust building is a main step in cultivating high-quality interactions between physicians and patients. Physician-patient relationships that are built on trust "are associated with high disclosure of information, patient adherence and satisfaction, better health outcomes, and fewer lawsuits"[46].

Physician trust also played a major role in the COVID-19 pandemic, particularly with regards to COVID-19 vaccine acceptance[47]. The absence of trust is one of the root causes of patient hesitancy or reluctance to receive the COVID-19 vaccine. The COVID-19 pandemic invoked fear due to the presence of so many unknowns and the lack of knowledge about the virus and vaccines; therefore, the decision to receive the vaccine is mainly driven by three factors: patient trust in 1) the safety and efficacy of vaccines, 2) the authorities that approve vaccines and 3) the physicians that administer the vaccines[47]. If the trust in each of these entities is absent, vaccine hesitancy can result.

## Figure 13. Adults Who Agree or Strongly Agree "I trust my doctor's judgments about my medical care," by Selected Indicators, 2019 and 2021 Combined

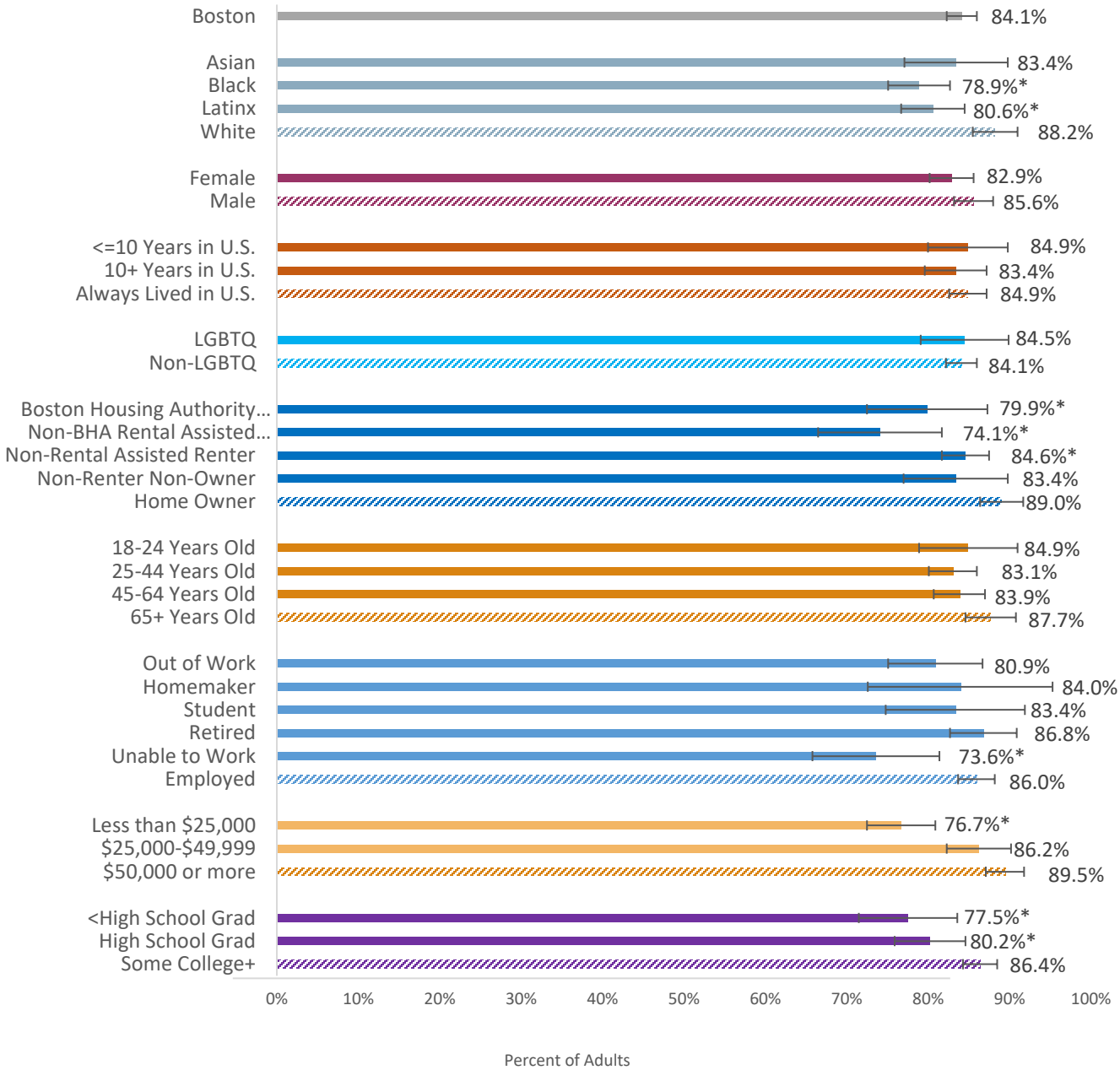



* Statistically significant difference when compared to reference group
NOTE: Bars with hatch marks indicate the reference group within each selected indicator
DATA SOURCE: Boston Behavioral Risk Factor Surveillance System (2019, 2021), Boston Public Health Commission

During 2019 and 2021, 87.1% of Boston adults reported agreeing or strongly agreeing with the statement "I trust my doctor's judgements about my medical care." The percentage of Boston adults who reported agreeing or strongly agreeing with the statement "I trust my doctor's judgements about my medical care" was lower for the following groups:

- Black adults (83.0%) and Latinx adults (82.8%) when compared with white adults (91.1%)
- Female adults (85.0%) when compared with male adults (89.7%)
- Adults who are Boston Housing Authority (BHA) residents (83.6%), adults who are non-BHA rental assisted renters (80.5%), adults who are non-rental assisted renters (86.9%) and adults who are non-renter non-owners (84.1%) when compared with adults who are homeowners (91.1%)
- Adults ages 25-44 years (84.8%) and adults ages 45-64 years (87.8%) when compared with adults 65 years or over (92.5%)
- Adults with household income of less than $25,000 annually (84.4%) and adults with household income of $25,000 to $49,999 annually (85.1%) when compared with adults with household income of $50,000 or more (91.2%)

## Figure 14. Adults Who Reported "I Feel my Doctor or Nurse is Listening to What I am Saying, Always or Most of the Time," by Selected Indicators, 2019 and 2021 Combined




* Statistically significant difference when compared to reference group
NOTE: Bars with hatch marks indicate the reference group within each selected indicator
DATA SOURCE: Boston Behavioral Risk Factor Surveillance System (2019, 2021), Boston Public Health Commission

During 2019 and 2021, 84.1% of Boston adults reported feeling their doctor or nurse is listening to what they are saying always or most of the time. The percentage of Boston adults who reported feeling their doctor or nurse is listening to what they are saying always or most of the time was lower for the following groups:

- Black adults (78.9%) and Latinx adults (80.6%) when compared with white adults (88.2%)
- Adults who are Boston Housing Authority (BHA) residents (79.9%), adults who are non-BHA rental assisted renters (74.1%) and adults who are non-rental assisted renters (84.6%) when compared with adults who are homeowners (89.0%)
- Adults who are unable to work (73.6%) when compared with adults who are employed (86.0%)
- Adults with household income of less than $25,000 annually (76.7%) when compared with adults with household income of $50,000 or more (89.5%)
- Adults who received less than a high school education (77.5%) and adults who received a high school education (80.2%) when compared with adults who received at least some college education (86.4%)

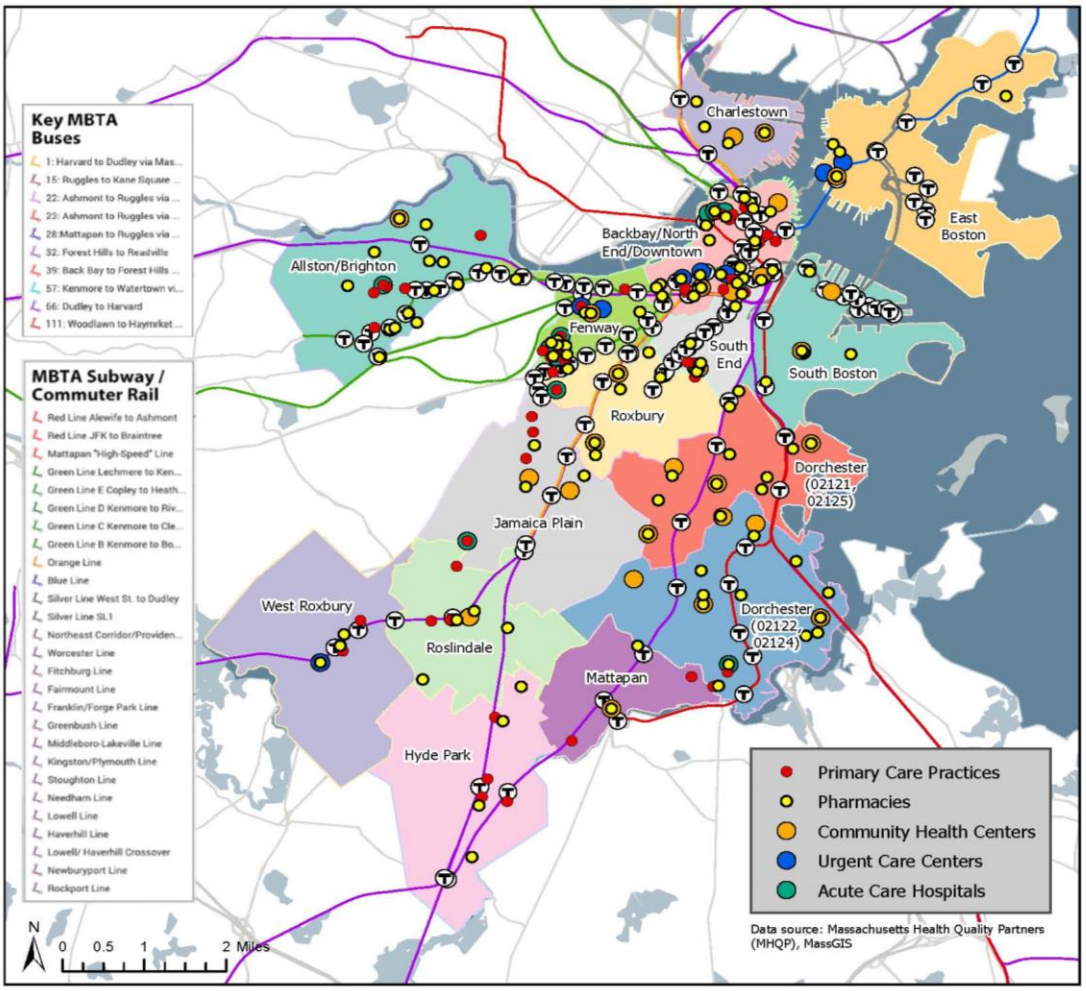
# SECTION 2. TRANSPORTATION AND PROXIMITY TO HEALTHCARE

Millions of Americans delay healthcare every year because they do not have the transportation necessary to reach a doctor's office. Transportation barriers prevent patients from receiving the healthcare they need, causing delayed and missed appointments and medication access[48]. The percentage of Americans with transportation-related barriers to care did not change between 1997 and 2018, holding at 1.8%[18].

The risk that is accompanied with transportation-related barriers to care is not distributed in a uniform manner and varies by certain factors: race, ethnicity, age, poverty status, educational attainment, employment status, health status and functional status[18]. Demographic groups that have greater social and economic disadvantages are at higher risk of encountering transportation barriers to healthcare and having to deal with detrimental effects on their health[48]. One study showed that Latinx adults, adults in poverty, adults who rely on Medicaid, and adults with a disability or health issue experienced the highest odds of having transportation-related barriers to care[18].

Figure 15 displays MBTA key bus routes, subway lines, and commuter rail lines in each of Boston's 15 neighborhoods: Allston/Brighton, Back Bay (including Beacon Hill, Downtown, and the North End), Charleston, Dorchester (02121, 02125), Dorchester (02122, 02124), East Boston, Fenway (including Kenmore and Longwood), Hyde Park, Jamaica Plain, Mattapan, Roslindale, Roxbury, South Boston, South End, and West Roxbury. Primary care practices, community health centers (including both federally qualified and non-federally qualified, including multiple sites), hospitals, urgent care centers, and pharmacies are also mapped in Figure 15.

## Figure 15. Healthcare Facilities and Public Transportation Options by Neighborhood




DATA SOURCES: Massachusetts Provider Database, Massachusetts Health Quality Partners, Community Health Centers, Massachusetts League of Community Health Centers, Fiscal Year 2020 Massachusetts Hospital Profiles Report, Massachusetts Health Provider Verification Site, Google Search Engine, Data as of April 2024

Across the city of Boston, there are 57 primary care practices, 27 community health centers (including multiple sites), 12 hospitals, 13 urgent care centers, and 115 pharmacies. Table 3 (below) includes counts of primary care practices, community health centers, hospitals, urgent care centers, and pharmacies by neighborhood. Table 3 also includes total population counts, as well as population counts for children (0-17 years) and adults (18+) in 2022 by neighborhood.

## Table 3. Counts of Healthcare Facilities and Population Counts by Neighborhood

| Neighborhood | Population (Child) | Population (Adult) | Population (Total) | Primary Care Practices | Community Health Centers | Hospitals | Urgent Care Centers | Pharmacies | All Facilities |
|---|---|---|---|---|---|---|---|---|---|
| Allston/Brighton | 6,065 | 64,265 | 70,330 | 7 | 1 | 1 | 0 | 14 | **23** |
| Back Bay | 4,091 | 53,556 | 57,647 | 15 | 2 | 3 | 3 | 19 | **42** |
| Charlestown | 3,459 | 15,661 | 19,120 | 1 | 2 | 0 | 0 | 4 | **7** |
| Dorchester (02121,02125) | 14,247 | 49,445 | 63,692 | 0 | 3 | 0 | 1 | 12 | **16** |
| Dorchester (02122,02124) | 16,756 | 58,601 | 75,357 | 2 | 5 | 1 | 2 | 12 | **22** |
| East Boston | 8,240 | 34,826 | 43,066 | 0 | 1 | 0 | 2 | 4 | **7** |
| Fenway | 2,109 | 56,421 | 58,530 | 11 | 1 | 3 | 2 | 10 | **27** |
| Hyde Park | 7,487 | 27,615 | 35,102 | 4 | 0 | 0 | 0 | 4 | **8** |
| Jamaica Plain | 5,429 | 32,855 | 38,284 | 4 | 2 | 1 | 0 | 3 | **10** |
| Mattapan | 5,204 | 17,530 | 22,734 | 2 | 1 | 0 | 0 | 2 | **5** |
| Roslindale | 5,904 | 24,640 | 30,544 | 3 | 1 | 0 | 0 | 5 | **9** |
| Roxbury | 8,382 | 38,371 | 46,753 | 2 | 3 | 1 | 1 | 8 | **15** |
| South Boston | 4,607 | 39,140 | 43,747 | 0 | 2 | 0 | 1 | 5 | **8** |
| South End | 4,638 | 34,151 | 38,789 | 4 | 3 | 2 | 0 | 10 | **19** |
| West Roxbury | 4,980 | 22,131 | 27,111 | 2 | 0 | 0 | 1 | 3 | **6** |
| **Total** | **101,811** | **573,803** | **675,614** | **57** | **27** | **12** | **13** | **115** | **224** |

NOTE: Data as of April 2024; Healthcare Facilities included in this table are Primary Care Practices, Community Health Centers, Hospitals, Urgent Care Centers, and Pharmacies; The category of "All Facilities" references only those facilities listed in this table. Community Health Centers may have multiple sites.
DATA SOURCES: Massachusetts Provider Database, Massachusetts Health Quality Partners, Community Health Centers, Massachusetts League of Community Health Centers, Fiscal Year 2020 Massachusetts Hospital Profiles Report, Massachusetts Health Provider Verification Site, Google Search Engine, Data as of April 2024

Each neighborhood, with the exceptions of Dorchester 02121, 02125, East Boston and South Boston, has at least one primary care practice, and many neighborhoods have more than one primary care practice. The Back Bay and Fenway neighborhoods have the most primary care practices, with 15 and 11 primary care practices in each neighborhood, respectively.

With the exceptions of Hyde Park and West Roxbury, each neighborhood has at least one community health center, and several neighborhoods have more than one community health center. Dorchester 02122, 02124, the largest neighborhood has five community health centers, the most of any neighborhood in Boston. Dorchester 02121 02125, Roxbury, and the South End have three community health centers, while the remaining neighborhoods have one or two community health centers.

There are three hospitals in the Fenway and Back Bay area, and two in the South End. Note that one of the hospitals in Roxbury is the New England Baptist Hospital, which does not have an emergency department or urgent care center and specializes in orthopedic care.

There are three urgent care centers in the Back Bay. Dorchester 02121 02125, Dorchester 02122 02124, East Boston, Fenway, South Boston, Roxbury, the South End and West Roxbury have one or two urgent care centers each. Urgent care centers are not available in any other neighborhoods.

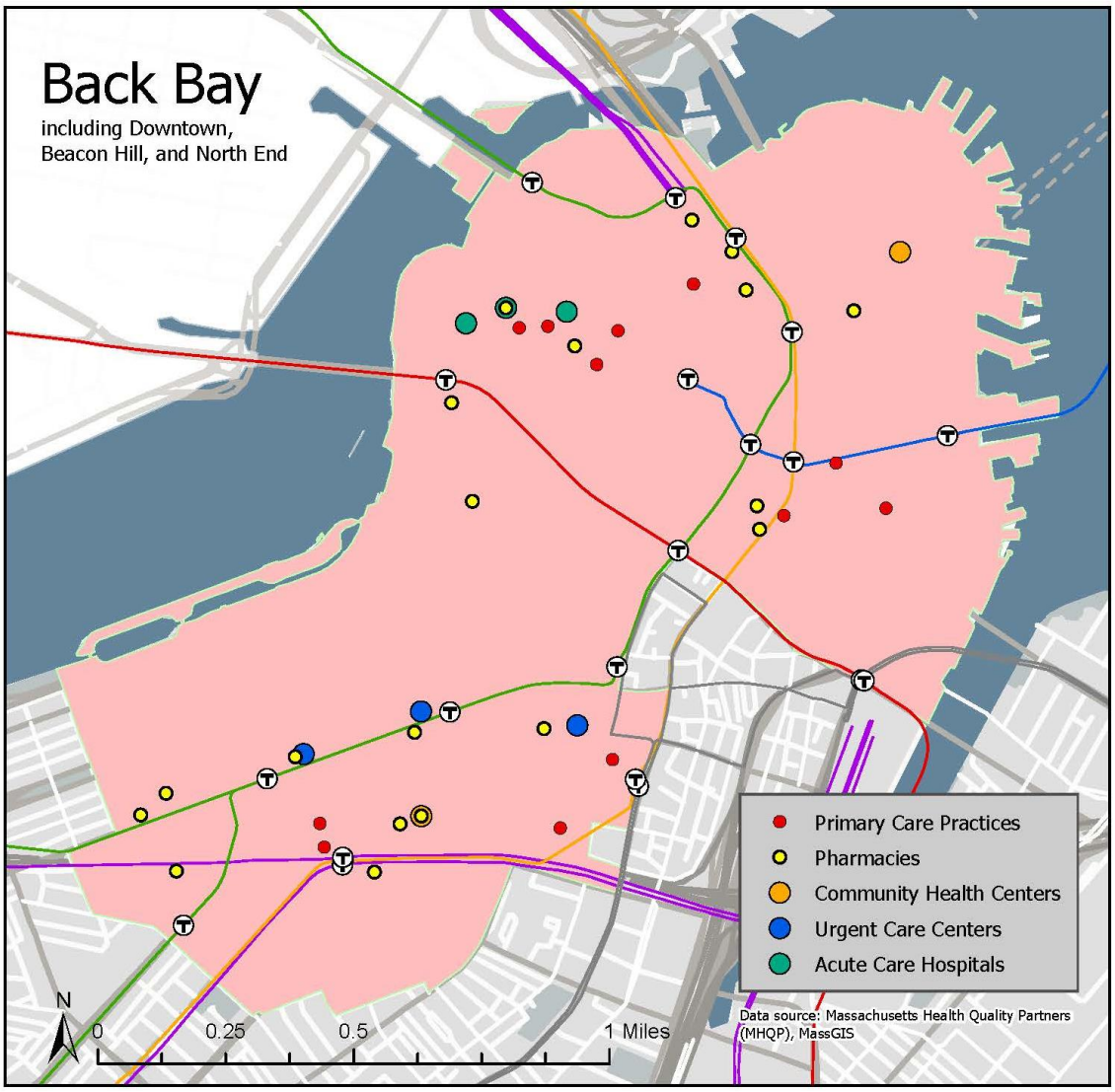
Pharmacies are concentrated in Allston/Brighton, Dorchester and Back Bay while the Hyde Park neighborhood has only four pharmacies and the Mattapan neighborhood has only two pharmacies.

The Back Bay neighborhood has a total of 42 healthcare facilities across primary care practices, community health centers, hospitals, urgent care centers, and pharmacies. Conversely, several neighborhoods have more limited healthcare facility options. For example, East Boston has only seven facilities (one community health center, four pharmacies, and two urgent care centers), and Mattapan has only five facilities (two primary care practices, one community health center, and two pharmacies). It is possible that Boston residents may be going to surrounding towns and cities to receive care.

There are various MBTA transportation options in north Boston neighborhoods, but transportation options are more limited in south Boston neighborhoods.

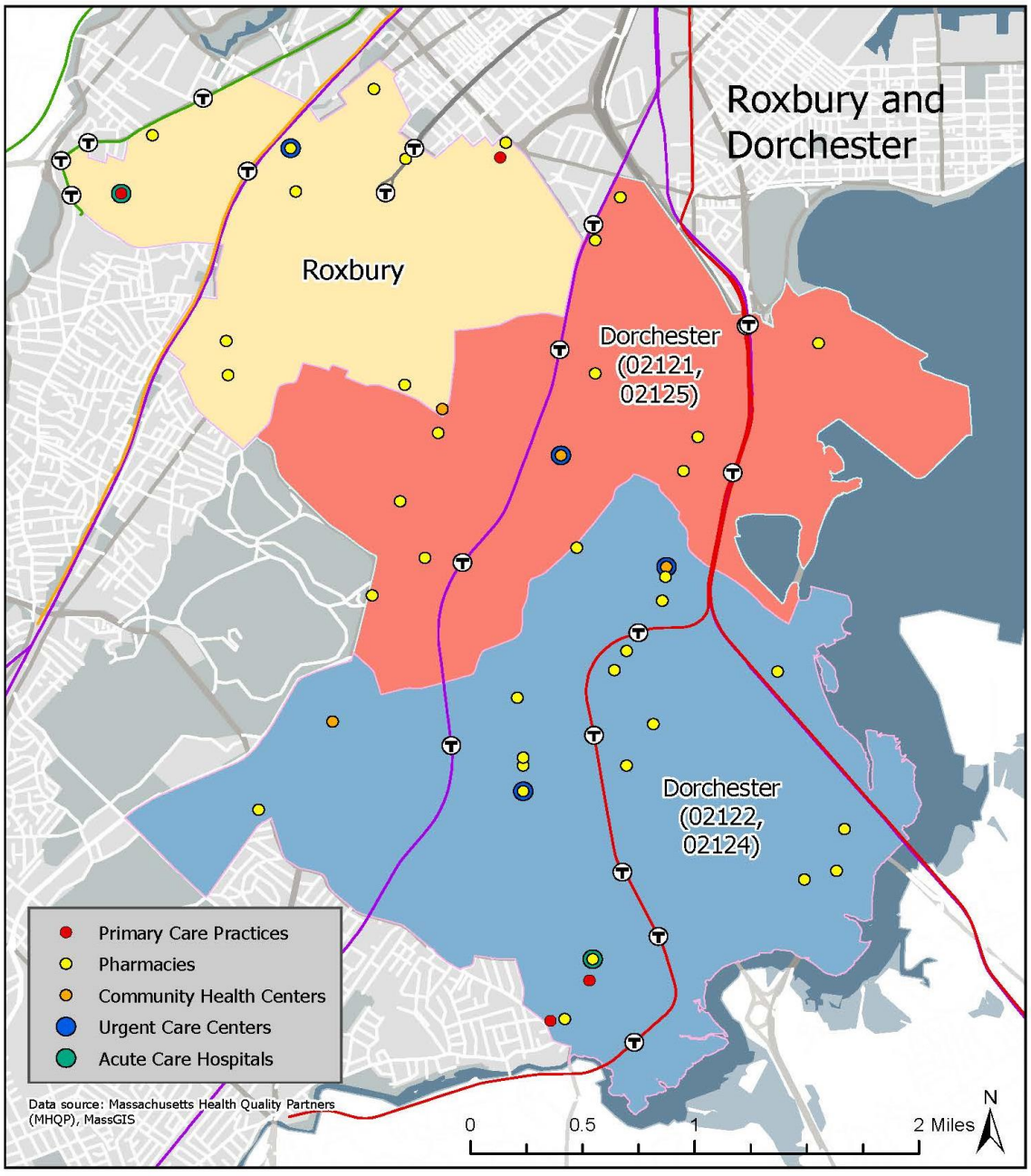
Figures 14 through 17 display primary care practices, community health centers, hospitals, urgent care centers, and pharmacies by neighborhood, as well as key bus routes, subway lines, and commuter rail lines in the Back Bay (Figure 16), Roxbury and Dorchester (Figure 17), East Boston and South Boston (Figure 18), and Mattapan (Figure 19) neighborhoods.

## Figure 16. Healthcare Facilities and Public Transportation in Back Bay




NOTE: Data as of April 2024
DATA SOURCES: Massachusetts Provider Database, Massachusetts Health Quality Partners, Community Health Centers, Massachusetts League of Community Health Centers, Fiscal Year 2020 Massachusetts Hospital Profiles Report, Massachusetts Health Provider Verification Site, Google Search Engine, Data as of April 2024

## Figure 17. Healthcare Facilities and Public Transportation in Roxbury and Dorchester



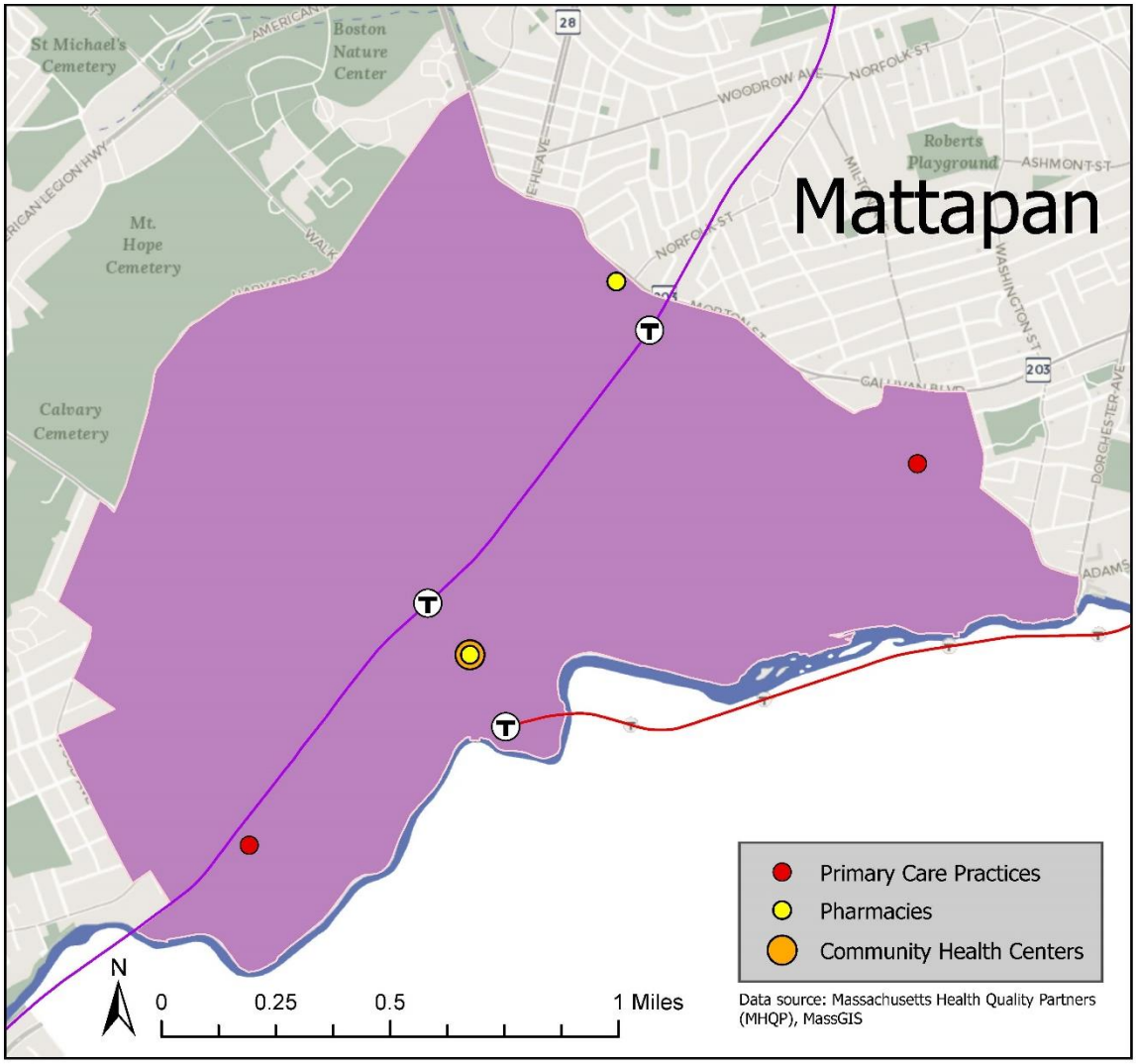

NOTE: Data as of April 2024

DATA SOURCES: Massachusetts Provider Database, Massachusetts Health Quality Partners, Community Health Centers, Massachusetts League of Community Health Centers, Fiscal Year 2020 Massachusetts Hospital Profiles Report, Massachusetts Health Provider Verification Site, Google Search Engine, Data as of April 2024

**Figure 18. Healthcare Facilities and Public Transportation in East Boston and South Boston**


NOTE: Data as of April 2024
DATA SOURCES: Massachusetts Provider Database, Massachusetts Health Quality Partners, Community Health Centers, Massachusetts League of Community Health Centers, Fiscal Year 2020 Massachusetts Hospital Profiles Report, Massachusetts Health Provider Verification Site, Google Search Engine, Data as of April 2024

## Figure 19. Healthcare Facilities and Public Transportation Options in Mattapan

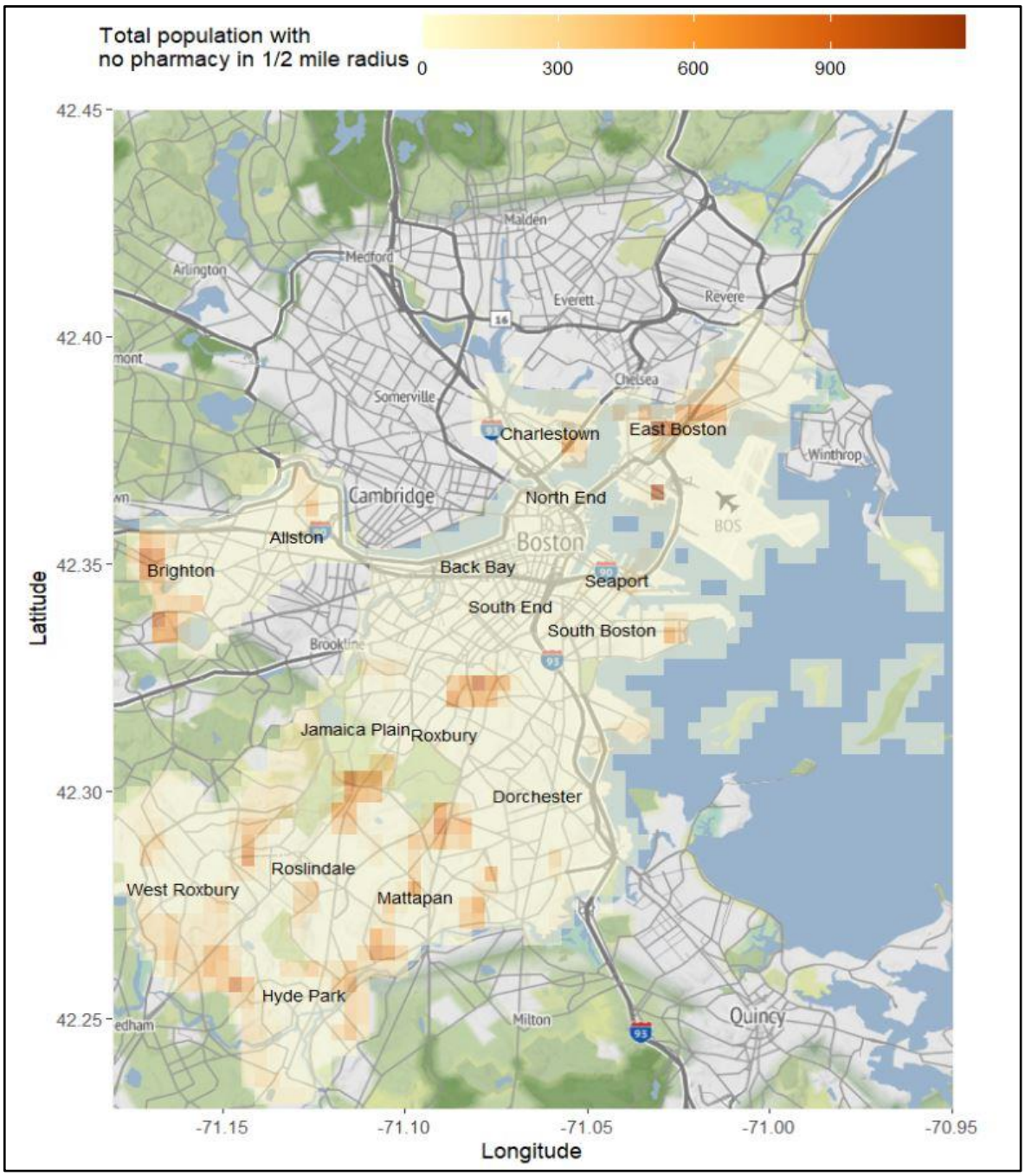



NOTE: Data as of April 2024
DATA SOURCES: Massachusetts Provider Database, Massachusetts Health Quality Partners, Community Health Centers, Massachusetts League of Community Health Centers, Fiscal Year 2020 Massachusetts Hospital Profiles Report, Massachusetts Health Provider Verification Site, Google Search Engine, Data as of April 2024

**Pharmacy Deserts**

Pharmacies are an important part of the healthcare ecosystem, as they provide necessary medication and access to other healthcare tools, such as COVID-19 vaccines. However, there is evidence that pharmacies are not equally distributed within cities, exacerbating health inequities. A study looking at the 30 largest US Cities found that nearly 40% of neighborhoods where Black and Latinx residents made up at least 50% of the population had inadequate access to pharmacies in comparison to 25% of White neighborhoods[49]. Inadequate access to pharmacies can result in poor medication adherence, which leads to worse health outcomes. Figure 20 depicts the total population living with no pharmacy within a ½ mile radius.

## Figure 20. Total Population with No Pharmacy Within a Half-Mile Radius, Boston




NOTE: Data as of April 2024
DATA SOURCE: Boston Medical Center Pharmacy Analytics Team

The distribution of pharmacies varied across Boston. Sections of Brighton, East Boston, Jamaica Plain, Mattapan and Roxbury had a large total population living in an area with no pharmacy within a half-mile radius. Parts of Dorchester, Charlestown, Hyde Park, and West Roxbury also had larger populations living in an area with no pharmacy within a half-mile radius, compared to other parts of Boston.

## Table 4. Neighborhood Populations with No Pharmacy Within a Half-Mile Radius, Ranked by Largest Percentage

| Neighborhood | % Non-White Population | % of All Population Within 0.5 Mile of Pharmacy |
|---|---|---|
| Dorchester | 78% | 93% |
| Roxbury | 87% | 89% |
| Brighton | 37% | 79% |
| East Boston | 63% | 70% |
| Jamaica Plain | 46% | 76% |
| South Boston | 23% | 96% |
| Fenway | 46% | 100% |
| Hyde Park | 77% | 59% |
| West Roxbury | 34% | 46% |
| Roslindale | 54% | 82% |
| South End | 43% | 100% |
| Allston | 49% | 95% |
| Mattapan | 94% | 79% |
| Back Bay | 28% | 100% |
| Charlestown | 29% | 86% |
| Mission Hill | 61% | 99% |
| Downtown | 32% | 100% |
| North End | 14% | 100% |
| Beacon Hill | 19% | 100% |
| West End | 36% | 100% |
| Chinatown | 73% | 100% |
| South Boston Waterfront | 23% | 80% |
| Longwood | 39% | 100% |

# SECTION 3. COMMERCIALLY INSURED PATIENT EXPERIENCES WITH PRIMARY CARE IN BOSTON

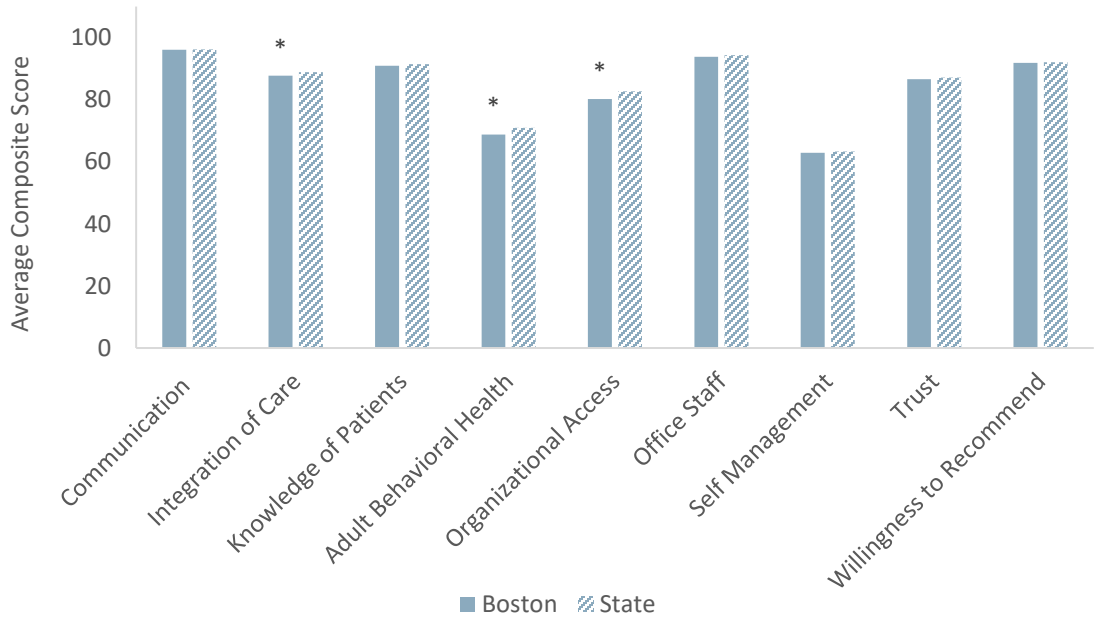
To provide a comprehensive picture of the quality, effectiveness, and safety of healthcare we also need to understand the patient experience. As stated by the Agency for Healthcare Research and Quality (AHRQ): "understanding patient experience is a key step in moving toward patient-centered care. By looking at various aspects of patient experience, one can assess the extent to which patients are receiving care that is respectful of and responsive to individual patient preferences, needs, and values"[50]. It is also critically important to identify inequities in patient experiences of care, and several studies have documented disparities in care by race and ethnicity[6-8]. Eradicating racial inequities in health status as well as medical care should be a priority within Boston and the US[51].

The data below are combined Massachusetts Health Quality Partners (MHQP) Patient Experience Survey results for 2021 and 2022. Average Composite Scores represent a general level of patient experience within a given domain (i.e., composite) with higher scores indicating better experience (for more information on methods used to calculate scores please see Methods).

**Note that MHQP's statewide survey includes commercially insured patients only and does not include Medicaid (MassHealth) and Medicare insured patients. It is important to note that some organizations, notably community health centers, have low counts of commercially insured patients. In 2021, 56% of Boston adult residents were commercially insured overall, but the percentage varied considerably by racial/ethnic group (62% of Asian, 46% of Black, 33% of Latinx and 73% of White residents, respectively) (10).**

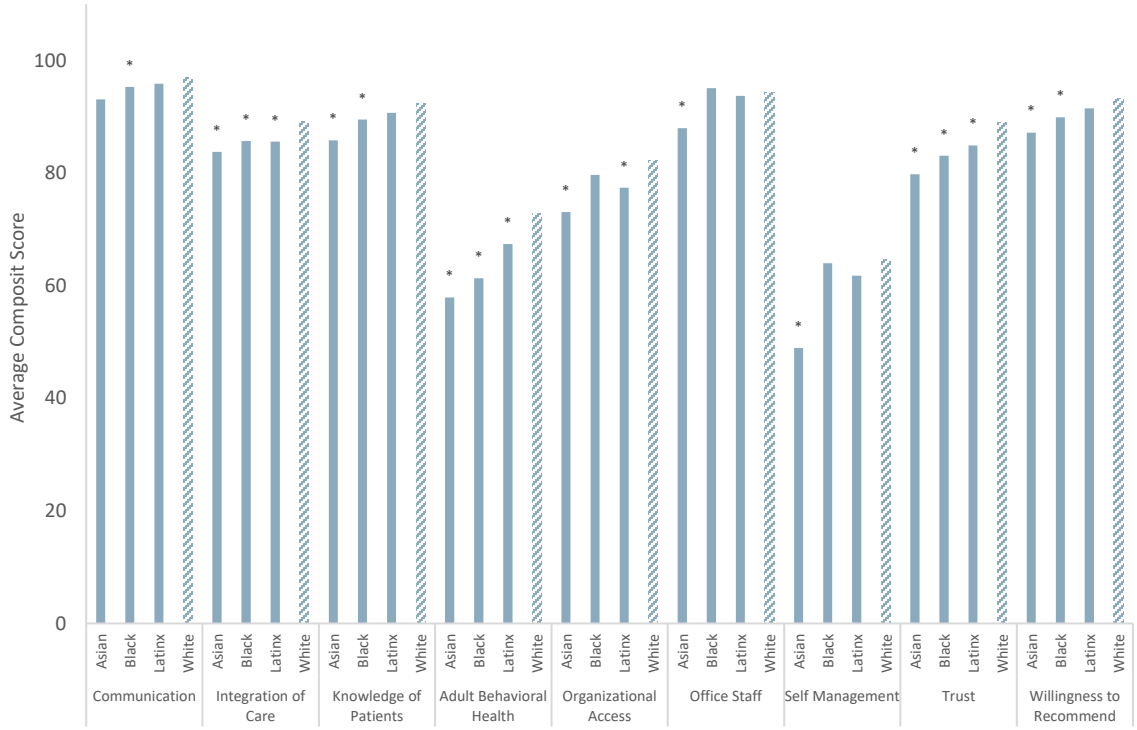
## ADULT PATIENT SURVEY RESULTS

### Figure 21. Commercially Insured Adult Patient Experience Scores by Composite, MHQP Patient Experience Survey, 2021 and 2022 Combined




* Statistically significant difference when compared to reference group
DATA SOURCE: Patient Experience Survey, Massachusetts Health Quality Partners

## Figure 22. Commercially Insured Boston Adult Patient Experience Scores by Composite and Race/Ethnicity, MHQP Patient Experience Survey, 2021 and 2022 Combined




* Statistically significant difference when compared to reference group
DATA SOURCE: Patient Experience Survey, Massachusetts Health Quality Partners

Clear patterns emerged in the quantitative analysis of adult PES results. There were statistically significant differences between Boston and statewide average composite scores; specifically, scores were significantly lower in Boston for *Integration of Care*, *Adult Behavioral Health*, and *Organizational Access* compared with the state. The largest differential was observed for the *Organizational Access* composite – the statewide score was 2.5 points higher than the Boston score. Earlier in the report, the relationship between usual and ongoing healthcare and better health outcomes was highlighted.[11] Yet, patients of color face a variety of access barriers.[14]This trend was reflected in the PES results. Patients of color reported lower *Organizational Access* scores compared with their White counterparts.

Statistically significant differences in scores were observed across several other composites when results were stratified by race and ethnicity. Black or African American patients reported significantly lower scores compared with their White counterparts on *Communication*, *Integration of Care*, *Knowledge of Patient*, *Adult Behavioral Health*, *Trust*, and *Willingness to Recommend* composites. When compared with White patients, Latinx patients reported significantly lower scores on *Integration of Care*, *Adult Behavioral Health*, *Organizational Access*, and *Trust* composites. Patients who selected "Other" as their race reported significantly lower scores compared with their White counterparts on *Knowledge of Patient* and *Trust* composites. Decisively, Asian patients reported significantly lower scores across every domain compared with their White counterparts.

Notably, Latinx, Black, Asian, and patients who selected "Other" as their race all reported significantly lower scores compared with White patients on the *Trust* composite. Increasingly, attention is being focused on disparities in health outcomes while less attention is being paid to distrust in the healthcare system, which has historically prevented people of color from attaining their highest level of health[52]. Results from the PES highlight the reality of this history of mistrust in healthcare professionals and the need to address medical mistrust experienced by patients of color.

Patients who identified as Latinx, Black, and Asian reported significantly lower *Adult Behavioral Health* scores compared with their White counterparts. The Adult Behavioral Health survey questions include two mental health measures: 1) if anyone in the provider's office asked if there was a period when they felt sad, empty, or depressed, and 2) if anyone in the provider's office talked to them about things in their life that worry or cause them stress. Given that discrimination is positively associated with measures of depression and anxiety[53], it is critical that primary care providers are aware of and intentionally address these disparities in behavioral health screenings.

*Communication*

There were no significant differences between Boston and state-level average composite scores for *Communication*. However, Black or African American respondents (95.3) and Asian respondents (93.1) in Boston reported significantly lower *Communication* scores compared with White respondents (97.0).

> *"[The provider] must learn to take the lead from the patient and partake in active listening, specifically when choosing to work in marginalized communities." (Black or African American patient, 2021)*
>
> *"The most important thing I look for in a healthcare provider is someone who is thorough and takes the time to listen to all your questions and concerns. I do not like to feel rushed in my appointments or as if we are skimming through everything just to get the appointment out of the way." (Black or African American patient, 2021)*
>
> *"I see this provider annually for physical examination. Every year, the examination procedures and tests she [orders] are different. I wish she would explain to me why she chose not to perform some procedures/tests in the routine physical examination." (Asian patient, 2021)*
>
> *"They can speak Mandarin. They understand my problem very well and communicate very well." (Asian patient, 2022)*
>
> *"[The doctor] always seems to find the time to answer questions and raise issues on how older problems are resolving. He is easy to talk to and tries to set a comfortable way to interact." (White patient, 2021)*

*Integration of Care*

Boston-level scores (87.7) were significantly lower compared with the state (88.9) for *Integration of Care*. Hispanic or Latinx respondents (85.6), Black or African American respondents (85.7), and Asian respondents (83.8) in Boston reported significantly lower *Integration of Care* scores compared with White respondents (89.1).

> *"During my last in-person visit, they took a urine sample and then seemingly never tested it and I never received results, which was frustrating." (Hispanic/Latinx patient, 2022)*

*"I am still not happy about the fact that [my provider] has yet to prescribe a non-drowsy allergy medicine for me and I cannot wrap my mind around why this is such a difficult task… [The pharmacy] told me, and I relayed the info to [my provider]… The doctor or someone from his office simply needed to connect with them to see which medicines would be covered… Having to follow up 4-5 times for the same issue is frustrating." (Black or African American patient, 2022)*

*"[I expect my provider to] inform me of my test results…, prompt issuance of script particularly when dealing with my pharmacy, [and] communicate well with physicians of other departments." (Asian patient, 2021)*

*"My interactions with [my provider] went very well… He was aware of the dates and status of my appointments with my other providers." (Asian and Native Hawaiian or Other Pacific Islander patient, 2021)*

*"She is also my husband's doctor and during COVID he had an emergency and ended up in the hospital… [The doctor] kept up with his condition. [The next day] I received a phone call from [the doctor] checking in on how he and I were doing since she had seen the news of his visit on Patient Gateway. I cannot express how much that meant to me as I was scared and frightened and it was so nice to hear from her." (Asian patient, 2021)*

*Knowledge of Patients*

There were no significant differences in scores between the Boston and state-level scores for *Knowledge of Patient*. Black or African American respondents (89.5), Asian respondents (85.8), and respondents who selected "Other" as their race (89.6) in Boston reported significantly lower *Knowledge of Patient* scores compared with White respondents (92.3).

*"I wasn't that impressed because she doesn't really know me and when we met, I could tell by our conversation that she did not take time to review my medical history. She also confused me with another patient's diagnosis twice." (Black or African American patient, 2022)*

*"I look for doctors that… remember what was happening from the previous visits." (Asian patient, 2021)*

*"I think all of the people in this office have been seeing me for a long enough time that they know ahead of time that I am a person that researches my care and asks a lot of questions, and they are all very patient with me." (Patient who selected "Other" as their race, 2022)*

*Adult Behavioral Health*

Boston-level scores (68.8) were significantly lower compared with the state (70.9) for *Adult Behavioral Health*. In addition, Hispanic or Latinx respondents (67.4) in Boston reported significantly lower *Adult Behavioral Health* scores compared with White respondents (72.). Compared with their White counterparts, Black or African American respondents (61.3), and Asian respondents (57.9) in Boston also reported significantly lower *Adult Behavioral Health* scores, with differences of 11.5 and 14.9 points, respectively.

> *"I've brought up concerns with my mental health a couple of times before, and she didn't offer much help or guidance, aside from letting me know that it was hard to find a therapist because there's so much demand. I interpreted that as 'you're not in crisis so deal with it because other people need the available help more,' and consequently didn't try to find a therapist until I really was in a crisis. I know that the screening questions are looking for people who are about to harm themselves, which has never been an issue for me, but as it turned out I've been 'just dealing with' generalized anxiety and chronic depression for years, and that didn't need to happen. (White patient, 2021)*

> *"It was a normal visit, but I love that she actually listens to my concerns especially with my mental health. She addressed things I didn't think needed addressing." (Black or African American patient, 2022)*

> *"My local [primary care practice] site has no on-site behavioral health department." (White patient, 2021)*

*Organizational Access*

Boston-level scores (80.2) were significantly lower compared with the state (82.7) for *Organizational Access*. Hispanic or Latinx respondents (77.4) and Asian respondents (73.1) in Boston reported significantly lower *Organizational Access* scores compared with White respondents (82.3).

> *"The last time I called to make a routine eye appointment, they said they don't have any available appointments at all. I feel like I have to resort to going to the ER for minor things because I can never get an appointment in a reasonable amount of time." (Black or African American patient, 2021)*

*"I wish they would value my time more. I value their time by showing up 15-20 minutes early, but my appointments are routinely 20 minutes late. So, I end up waiting for 30-40 minutes total, which is longer than my appointments usually last." (Asian patient, 2021)*

*"[I'm] very frustrated because [the call center doesn't] answer the phone and when they do [it is] hard to get appointment…" (Hispanic/Latinx patient, 2021)*

*"I wish she was on time. [The office should] schedule differently if [they are] consistently running over... It's not fair to me, my time is also valuable." (White patient, 2021)*

*Office Staff*

There were no significant differences in scores between the Boston and state-level scores for *Office Staff*. Asian respondents (88.0) in Boston reported significantly lower *Office Staff* scores compared with White respondents (94.3).

*"Front desk should pay attention to patient when they approach the counter and [they should] speak nice to me… Staff make feel like I went there to bother them." (Asian patient, 2021)*

*"The front desk staff can be curt and rude when working with them." (Asian patient, 2022)*

*"Everyone in the office was very friendly and easy to talk to, walking me through any necessary documents and procedures." (White patient, 2022)*

*Self-Management*

There were no significant differences in scores between the Boston and state-level scores for *Self-Management*. Asian respondents (48.9) in Boston reported significantly lower *Self-Management* scores compared with White respondents (64.7), a difference of 15.8 points.

*"I just turned 40, which meant I need to start having more testing (e.g., mammogram). [The doctor] was great in that she gave me "homework" to get certain tests done before our next appointment… We developed a game plan if my base line tests came up unremarkable." (White patient, 2021)*

> *"[I expect my provider to] help me understand what I can do to get better and improve my health." (Asian patient, 2021)*

*Trust*

There were no significant differences in scores between the Boston and state-level scores for *Trust*. Hispanic or Latinx respondents (84.9), Black or African American respondents (83.1), Asian respondents (79.8), and patients who selected "Other" as their race (83.0) in Boston reported significantly lower *Trust* scores compared with White respondents (89.0).

> *"I completely trust [my provider] and I feel his care is impeccable. I have never had a doctor give me the level of care he has." (White patient, 2021)*

> *"I need a new doctor. A good one. I am afraid of just trusting any unknown doctor after [an] awful experience." (Hispanic/Latinx patient, 2021)*

> *"Can I trust [the provider] to give me good recommendations that doesn't just sound like I need to pay a bunch of money and still not have concrete answers?" (Black or African American patient, 2022)*

> *"I definitely trust her expertise as she had provided multiple alternative solutions to any minor conditions that I had experienced… She doesn't only provide one-size-fits-all solutions. (Asian patient, 2021).*

*Willingness to Recommend*

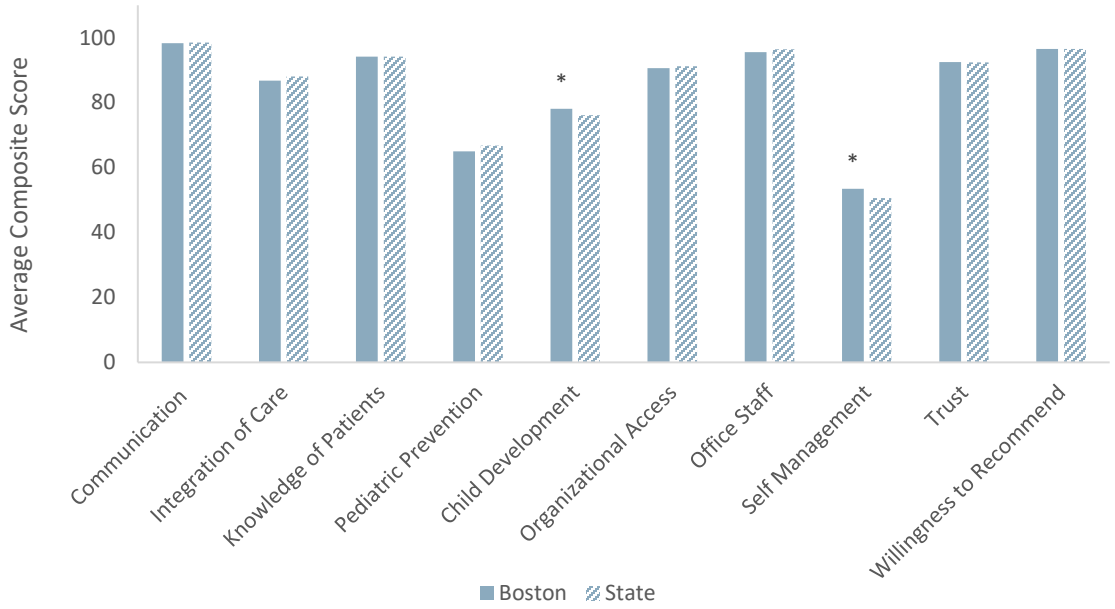
There were no significant differences in scores between the Boston and state-level scores for *Willingness to Recommend*. Black or African American respondents (89.9) and Asian respondents (87.2) in Boston reported significantly lower *Willingness to Recommend* scores compared with White respondents (93.3).

> *"[My provider] is the best example of what a doctor should be." (White patient, 2021)*

## COMMERCIALLY INSURED PEDIATRIC PATIENT EXPERIENCE SURVEY RESULTS

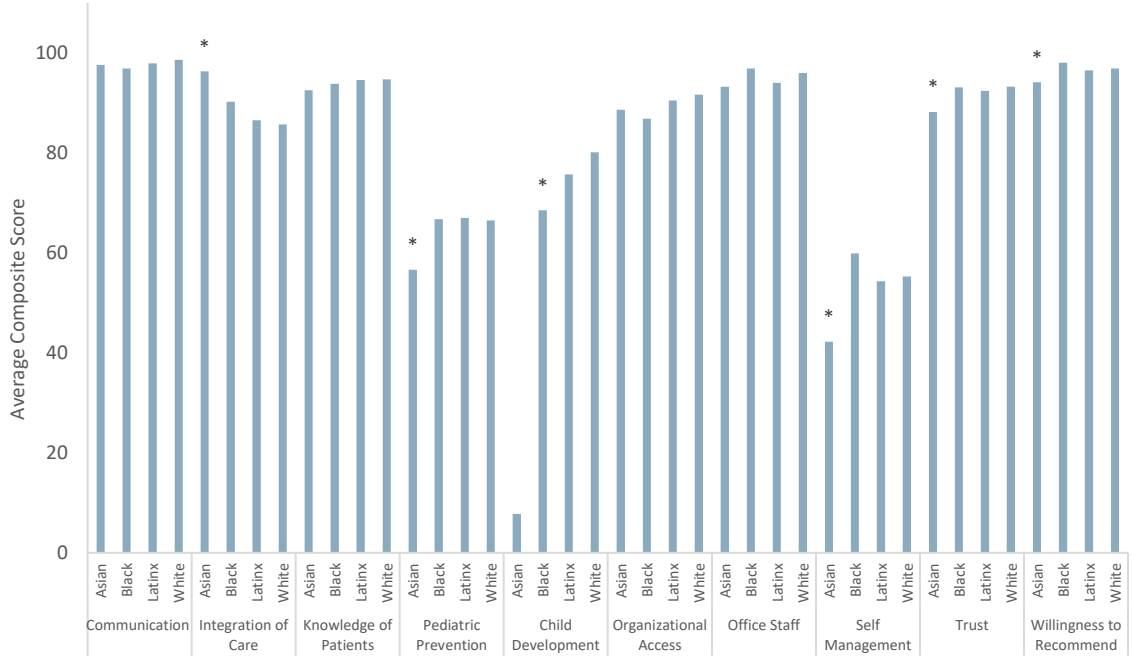
The section below focuses on results from the pediatric Patient Experience Survey (PES). Pediatric PES results are discussed below by composite. Results from the quantitative analysis of average composite scores are highlighted, and exemplar patient narratives are shared to illustrate the quantitative findings. Given the low volume of comments from parents/guardians of children, composites may not have many or any accompanying quotes available that detail the quantitative findings.

## Figure 23. Commercially Insured Pediatric Patient Experience Scores by Composite, MHQP Patient Experience Survey, 2021 and 2022 Combined




* Statistically significant difference when compared to reference group
DATA SOURCE: Patient Experience Survey, Massachusetts Health Quality Partners

## Figure 24. Commercially Insured Boston Pediatric Patient Experience Scores by Composite and Race/Ethnicity, MHQP Patient Experience Survey, 2021 and 2022 Combined




* Statistically significant difference when compared to reference group
DATA SOURCE: Patient Experience Survey, Massachusetts Health Quality Partners

For pediatrics, there were not as many consistent differences in average composite scores across groups as there were on the adult side. For example, there were fewer significant differences between Boston- and state-level scores across composites. However, Boston scores were significantly higher for Pediatric Development and Self-Management Support compared with the state. There were also fewer significant differences in composite scores across racial and ethnic groups, with significantly higher scores for some composites, but significantly lower scores on other composites. For example, parents/guardians of Asian children reported significantly higher scores for Integration of Care, but significantly lower scores for Self-Management Support, Pediatric Prevention, Trust, and Willingness to Recommend compared with parents/guardians of White children. In addition, parents/guardians of Black or African American children reported significantly lower scores for Pediatric Development. Parents/guardians who selected "Other" as their child's race reported significantly lower scores for Self-Management Support, compared with parents/guardians of White children. Given the lack of clear data patterns identified through this analysis, more work is needed to better understand the experiences of care of pediatric patients in Boston.

*Communication*

There were no significant differences in scores between the Boston and state-level scores for *Communication*. In addition, there were no significant differences in scores across racial and ethnic groups. Scores across racial and ethnic groups were high, ranging from 96.9 for both the parents/guardians of Black or African American children and parents/guardians who selected "Other" as their child's race to 98.6% for the parents/guardians of White children.

> *"[I look for] providers who listen to concerns fully and do not minimize or divert from concern." (Parent/guardian of Black or African American child, 2022)*

> *"[My child's provider] is patient and kind, stays on track with the appointment (we don't often have to wait for him so I know he stays on time, but our appointments don't feel rushed)." (Parent/guardian of White child, 2022)*

*Integration of Care*

There were no significant differences in scores between the Boston and state-level scores for *Integration of Care*. However, the parents/guardians of Asian children (96.3%) in Boston reported significantly higher *Integration of Care* scores compared with White respondents (85.7).

*Knowledge of Patient*

There were no significant differences in scores between the Boston and state-level scores for *Knowledge of Patient*. In addition, there were no significant differences in scores across racial and ethnic groups.

> *"We're always impressed by how much [our doctor] remembers about us and our daughter between visits." (Parent/guardian of White child, 2022)*

> *"Our doctor knows our children and always takes care of every aspect of their wellbeing in a thorough, kind, and thoughtful manner." (Parent/guardian of Hispanic/Latinx child, 2022)*

*Pediatric Preventive Care*

There were no significant differences in scores between the Boston and state-level scores for *Pediatric Preventive Care*. However, the parents/guardians of Asian children (56.6) in Boston reported significantly lower *Pediatric Preventive Care* scores compared with White respondents (66.5).

> *"The health habits interview (eating, sleeping, exercise, screen time) – it is collected information and provided advice while still feeling friendly." (Parent/guardian of White child, 2022)*

*Pediatric Development*

Boston-level scores (78.1) were significantly higher compared with the state (76.1) for *Pediatric Development*. However, the parents/guardians of Black or African American children (68.5) in Boston reported significantly lower *Pediatric Development* scores, compared with White respondents (80.1) – a striking difference of 11.6 points.

> *"We discussed my child's development, general health and any concerns that I had and went through anticipatory guidance for the next 6 months as well as what I can expect at the next visit." (Parent/guardian of White child, 2022)*

*Organizational Access*

There were no significant differences in scores between the Boston and state-level scores for *Organizational Access*. There were no significant differences in scores across racial and ethnic groups.

> *"Since the pandemic, it has been very difficult to get a well-visit appointment even when calling weeks in advance. There are often no appointments available, and it is very difficult to get through to the front desk at [the practice]. The team has also not been calling to remind parents to arrange the well visits." (Parent/guardian of White child, 2022)*

> *"Always able to get timely information and appreciate availability of same day sick visits." (Parent/guardian of Hispanic/Latinx and White child, 2022)*

> *"The office could improve their wait times." (Parent/guardian of Hispanic/Latinx child, 2022)*

*Office Staff*

There were no significant differences in scores between the Boston and state-level scores for *Office Staff*. In addition, there were no significant differences in scores across racial and ethnic groups.

> *"I like it when the staff is nice and respectful. A few years ago, there was someone who was disrespectful and did not make us feel welcomed. That has changed recently." (Parent/guardian of Hispanic/Latinx, Black or African American, and White child, 2022)*

> *"Her staff is supportive, and I appreciate the entire office working cohesively to provide a positive experience for my family's healthcare needs." (Parent/guardian of Asian child, 2022)*

> *"Her staff is friendly and helpful every time we go to the office." (Parent/guardian of White child, 2021)*

*Self-Management*

Boston-level scores (53.5) were significantly higher compared with the state (50.6) for *Self-Management*. However, the parents/guardians of Asian children (42.2) and parents/guardians who selected "Other" as their child's race (40.6) in Boston reported significantly lower *Self-Management* scores compared with White respondents (55.3), a difference of 13.1 and 14.7 points, respectively.

> *"When our baby was only a week old and losing weight, our provider gave me the attention I needed to support our new baby so he could gain weight." (Parent/guardian of White child, 2022)*

> *"Very clear 'next steps' for us." (Parent/guardian who responded to the question about their child's race with "Other" and "White" response options, 2022)*

*Trust*

There were no significant differences in scores between the Boston and state-level scores for *Trust*. The parents/guardians of Asian children (88.2) in Boston reported significantly lower *Trust* scores compared with White respondents (93.2).

> *"[Our provider] is absolutely amazing and I trust her with the care of both my children without hesitation." (Parent/guardian of Asian and White child, 2022)*

> *"My daughter really trusts that [our doctor] has her best interests at heart and isn't afraid to ask her questions." (Parent/guardian who selected "Other" as their child's race, 2022)*

> *"I did not feel safe or comfortable leaving my kid alone with [the provider]." (Parent/guardian who selected "Other" as their child's race, 2021)*

*Willingness to Recommend*

There were no significant differences in scores between the Boston and state-level scores for *Willingness to Recommend*. The parents/guardians of Asian children (94.1) in Boston reported significantly lower *Willingness to Recommend* scores compared with White respondents (96.9).

> *"We like the doctor very much; the practice overall is good, but scheduling is occasionally a challenge." (Parent/guardian of Asian and White child, 2022)*

> *"[The provider] is simply outstanding. I can't say enough good things about him, his expertise, and his care." (Parent/guardian of Hispanic/Latinx child, 2021)*

> *"I've referred many friends to [the practice] and will continue to do so." (Parent/guardian of White child, 2021)*

## ADDITIONAL EQUITY-FOCUSED THEMES IDENTIFIED IN QUALITATIVE ANALYSIS OF PATIENT NARRATIVES

Several equity-focused themes that were not asked about in the closed-ended questions in MHQP's PES were identified in the qualitative analysis process. These themes are described here.

*Culturally-Responsive Care*

The authors defined culturally responsive care as the intentional decisions providers make to take into consideration, respect, and celebrate aspects that make each patient unique, including incorporating the healthcare beliefs, practices, and cultural and linguistic needs of patients from diverse backgrounds.

> *"I needed her to understand my trauma and direct me accordingly. I was left to figure it out for myself. [The doctor] is very nice, but nice does not save lives." (Black or African American patient, 2021)*

> *"[I look for providers who are] knowledgeable about LGBTQ and blended family structures." (Parent/guardian of White child, 2021)*

*Implicit Bias in Medicine*

The authors defined implicit bias in medicine as providers' negative attitudes and associated stereotypes that affect the care they provide.

> *"I don't like general comments which I believe are false especially 'high blood pressure is common in Black people' because that is false. It is common in low-income Black people but not all, and there is no science to prove that statement, only statistics that align with economic situations." (Black or African American patient, 2022)*

> *"[I look for] providers who do not make assumptions about relationship styles or sexual identity." (White patient, 2022)*

*Dismissiveness*

The authors defined dismissiveness as a provider not believing a patient or taking a patient's conditions or thoughts about their health seriously.

> *"I attempted to express to [my doctor about] my traumatic experience… and how it's affecting me emotionally. She said, "oh I'm just going to just write stress at work." At that point I realized she lacked the understanding I needed in a physician. She continued to thwart the subject repeatedly." (Black or African American patient, 2021)*
>
> *"As a woman of color, I look for appropriate bedside manner, sound medical advice and to ensure I'm listened to and that my concerns are taken seriously always." (Black or African American patient, 2022)*
>
> *"My provider made me feel like my thoughts and opinions didn't count. I did not feel the respect when I gave my opinion regarding my health. I felt targeted and was verbally abused due to my opinion because I disagreed with her. I felt it was time to change providers." (Black or African American patient, 2022)*

*Identifying Health Equity Solutions Through Patient Narratives*

In order to solve some of the most pressing health equity challenges, we need to hear the voices of people experiencing them. These powerful quotes underscore the importance of listening to and sharing the stories of patients who experience inequities to better understand the individual and system-level challenges and barriers they face when accessing healthcare. More work is needed to share patient narratives with healthcare leaders and frontline staff to reduce disparities in patient experiences of care.

# METHODS

Adult data from the **Boston BRFSS** are derived from random sample surveys with approximately 3,000 respondents administered approximately every other year from 2015 to 2021. The data from the past four survey years were adjusted (i.e. weighted) to permit generation of rates (i.e. percentages) that represent the entire Boston resident population of adults living in households. In some cases, survey data for multiple years were combined to increase stability of estimates. Logistic regression was used to determine the direction of change over time (i.e. increasing, decreasing or stable) and for comparing two demographic groups within a given time period ($p<0.05$).

Quantitative data on commercially insured patients from the MHQP **Patient Experience Survey** (PES) were combined across the 2021 and 2022 survey years statewide and for Boston. **Average Composite Scores** represent a general aggregated measure of patient experience within a given domain (i.e., composite) with higher scores indicating overall better experience. As calculated, Average Composite Scores do not speak directly to percentages of respondents or percentages at any given score. The measure represents scores, averaged at two levels, of reported better experience for the specified group.

Patient Experience Survey composite scores were initially produced at the individual respondent level by averaging the respondent's scores across relevant questions within a given domain termed "composite" (e.g., Communication, Integration of Care, etc.). The respondent level composite scores were subsequently averaged at the unit of analysis level producing the average composite scores for Boston respondents and statewide respondents (units of analysis being Boston and MA, respectively) and for each Boston racial/ethnic group of respondents (unit of analysis being racial /ethnic group). The resulting Average Composite Scores range from 0 to 100 and can be interpreted as a unit level average response with higher scores indicating better experience.

Aggregated statewide survey composite scores were compared to aggregated unadjusted Boston composite scores and tested for statistical significance, using a two-sided t-test ($p<0.05$). Note that some research indicates that response bias has an impact on results of patient experiences surveys. A 2002 study suggested that response bias may lead to the overestimation of patient satisfaction with their primary care provider overall[54]. A more recent study published in 2020 found that the most satisfied patients were the most likely to participate in a post-hospitalization satisfaction survey.

Narrative data within the PES were manually analyzed by two researchers using directed content analysis techniques and the MHQP survey domains as an initial framework.

Representative quotations were derived from individual unidentified participants to illustrate themes identified during the analysis process.

All **racial and ethnic designations** from both BBRFSS and PES were based on self-report. Several cautions should be kept in mind when using data reported by race/ethnicity. Race and ethnicity are social constructs, not biological facts. There is often more genetic variation between members of the same race than between members of different races. In addition, the meanings of these designations are highly subject to historical, cultural, and political forces. Not only do these designations change over time, but there is also a very subjective element that influences who is considered a member of one group or another. The concept of race can be notably broad: the term "Black," for example, includes people describing themselves as African American, African diaspora, or Caribbean, groups with distinct histories and differing health risks. Nevertheless, racial designations are useful in that they are nearly universally used by people in the United States to describe themselves, and they permit us to identify and address health inequities that exist across racial and ethnic groups.

For racial/ethnic group comparisons White residents were used as the reference group and for assessment of the differences between each non-White resident group rate (e.g. result for Black residents) and the White resident (reference group) rate.

Hispanic and/or Latinx people can be of any race. In this report, data for persons of Hispanic and/or Latinx decent are described as Latinx and presented alongside non Latinx racial groups. Boston specific data by race and Latinx ethnicity is presented for non-Latinx Asian residents, non-Latinx Black residents, non-Latinx White residents and Latinx residents of any race. Few sources have data in large enough counts to allow presentation of data about smaller groups such as the many ethnicities included under the category "Asian." Additionally, small survey sample size limits the ability to identify and describe health disparities for indigenous peoples.

**Pharmacy Deserts** were defined as total population living with no pharmacy in a ½ mile radius. Boston pharmacies were geocoded to latitude/longitude coordinates using Bing Maps API. Population and race data were taken from 2020 block group Census file and distances between pharmacies and each grid element within a census block group were calculated via straight-line (Haversine) distance. Each grid element was matched to the nearest pharmacy, whose distance was aggregated by neighborhood into a series of distance-based metrics and all analyses were conducted in R version 4.3.1.

# DATA SOURCES

**Boston Behavioral Risk Factor Surveillance System, (Boston BRFSS), Population Health and Research Office, Boston Public Health Commission (BPHC):** The Boston Behavioral Risk Factor Surveillance System (Boston BRFSS) is a system of telephone health surveys of adults living in non-institutional household settings ages 18 and over that collects information on health risk behaviors, preventive health practices, and healthcare access primarily related to chronic disease and injury. The BPHC conducts an independent survey approximately every other year modeled after the Centers for Disease Control and Prevention (CDC) Behavioral Risk Factor Surveillance System (BRFSS) survey. Over time, the survey has been modified by BPHC to be more reflective of health determinants specific to the Boston population while maintaining a majority of the standard questions included by the Massachusetts Department of Public Health. Results from the survey are used by BPHC to plan and implement health initiatives; to identify health problems within populations; to identify racial/ethnic inequities in access to and utilization of healthcare, in risk behaviors, and selected health conditions; to establish and monitor health objectives; to support health-related legislative activities; to evaluate disease prevention activities and programs; and to assist in receiving grants and other funding.

For additional information regarding the analytical methods used within this report, please contact the Boston Public Health Commission Population Health and Research (PHAR) Office at populationhealth@bphc.org.

**Patient Experience Survey (PES), Massachusetts Health Quality Partnership (MHQP):** The Patient Experience Survey (PES) is fielded each year in mid-April to early July among commercially insured patients who had any visit with adult and pediatric practice sites located in Massachusetts having at least three primary care providers (PCPs). The statewide survey asks patients about experiences with their primary care providers or their children's providers, and other staff in the providers' practice.

Note that MHQP's statewide survey includes commercially insured patients only and does not include Medicaid (MassHealth) and Medicare insured patients. It is important to note that some organizations, notably community health centers, have low counts of commercially insured patients. Results from 2021 and 2022 surveys were combined to ensure a sufficient number of Boston resident respondents necessary for producing statistically reliable results.

Since 2015, MHQP has been soliciting comments from patients who respond to the survey electronically. Qualitative data presented in this report include responses to the Consumer Assessment of Healthcare Providers and Systems (CAHPS) Patient Narrative Item Sets, which ask respondents to answer opened-ended questions about primary care expectations and experiences. Information emerging from patient narrative data can help provide a more

representative picture and better understanding of the commercially insured patient experience; provide a better understanding of what patients expect from their providers; and expand on information obtained quantitatively from patients using closed-ended questions.

**Massachusetts Health Insurance Survey, Centers for Health Information and Analysis (CHIA):** The data in appendix of this report are from the 2021 Center for Health Information and Analysis (CHIA) Massachusetts Health Insurance Survey (MHIS) report, which included data on resident-reported healthcare access stratified by region. The MHIS is a statewide, population-based survey of non-institutionalized Massachusetts residents. It is part of the Continuing Program of Study on Insurance Coverage, Underinsurance, and Uninsurance at CHIA. The MHIS provides information on health insurance coverage, healthcare access and use, and healthcare affordability in the Commonwealth. The MHIS relies on stratified random samples to obtain representative samples of Massachusetts residents across key attributes. For information on MHIS methodology, including sample design, see the 2021 MHIS Methodology Report.

**MassHealth Enrollment, Massachusetts Office of Health and Human Services**

**Massachusetts Provider Database (MPD), Massachusetts Health Quality Partners (MHQP)**

**Community Health Centers, Massachusetts League of Community Health Centers**

**Fiscal Year 2020 Massachusetts Hospital Profiles Report, Center for Health Information and Analysis (CHIA)**

**Massachusetts Health Professions License Verification Site**

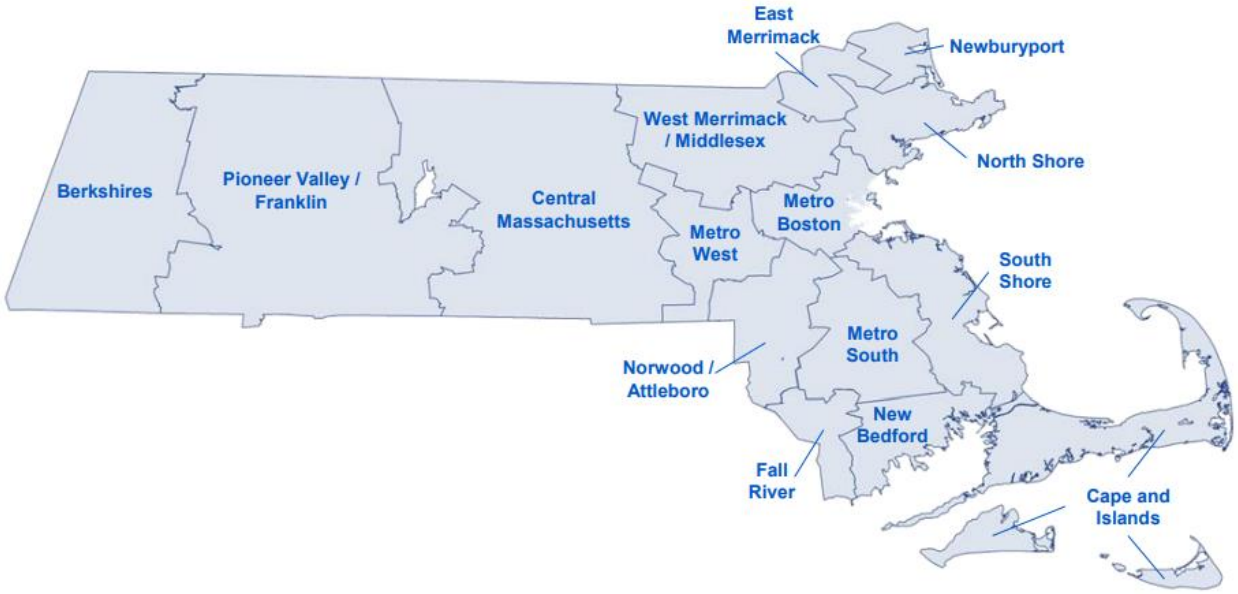
**Boston Population Estimate Project, Boston Public Health Commission**

# APPENDIX

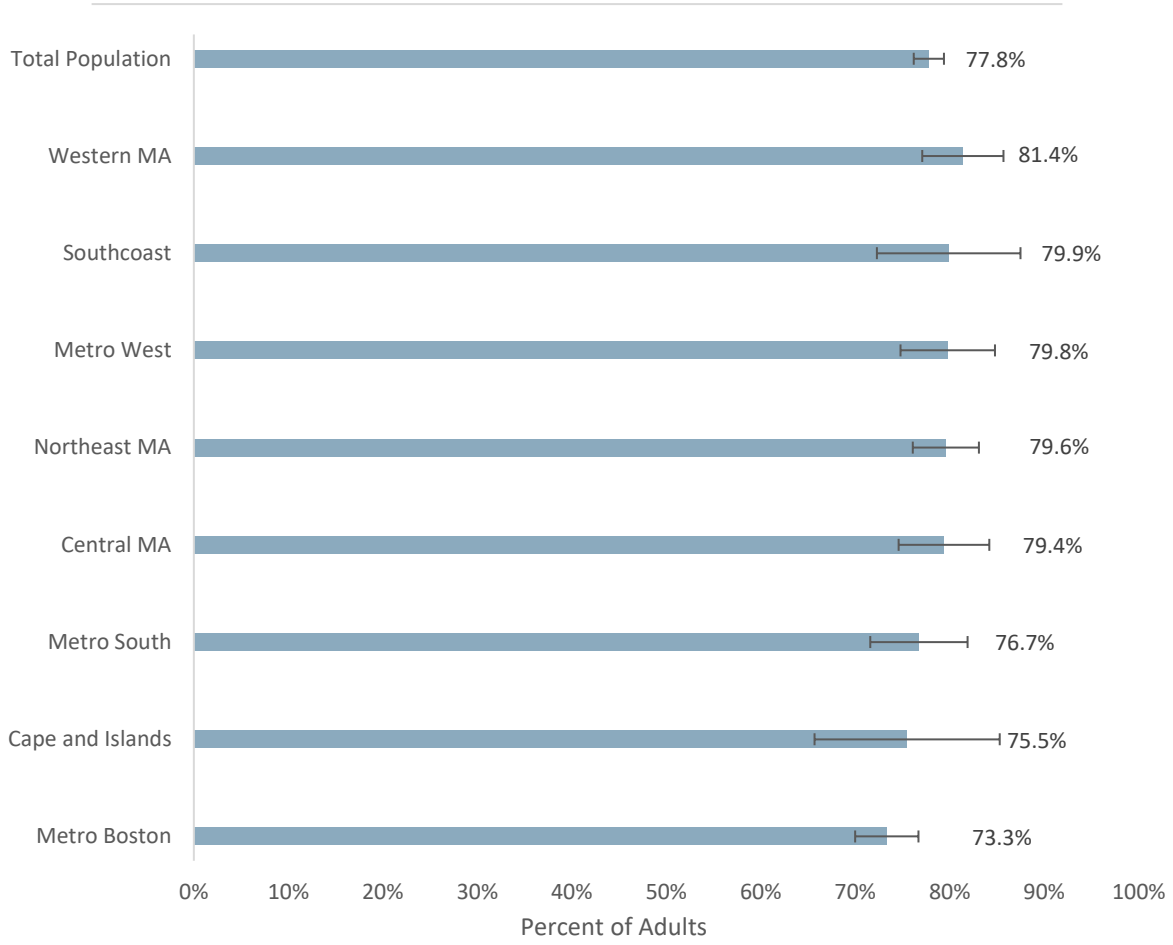
This appendix presents data from the Massachusetts Health Insurance Survey (MHIS) and permits comparisons of metro Boston to the rest of Massachusetts.

*Data is not presented within the body of the report due to the inclusion of other towns besides the city of Boston in the Metro Boston definition. Results are stratified by 15 health service areas as defined by the Health Policy Commission. The following cities/towns are listed in the health service areas crosswalk for* ***Metro Boston: Boston, Brookline, Dedham, Cambridge, Chelsea, Revere, Quincy, Newton, and Chestnut Hill***. See Figure 23 below to view a map of health service areas in Massachusetts as defined by the Health Policy Commission.

## Figure 25. Massachusetts Health Service Areas



## Figure 26. Had a Visit to a General Doctor, Nurse Practitioner, Physician's Assistant, or Midwife for Preventive Care in Past 12 months by Region

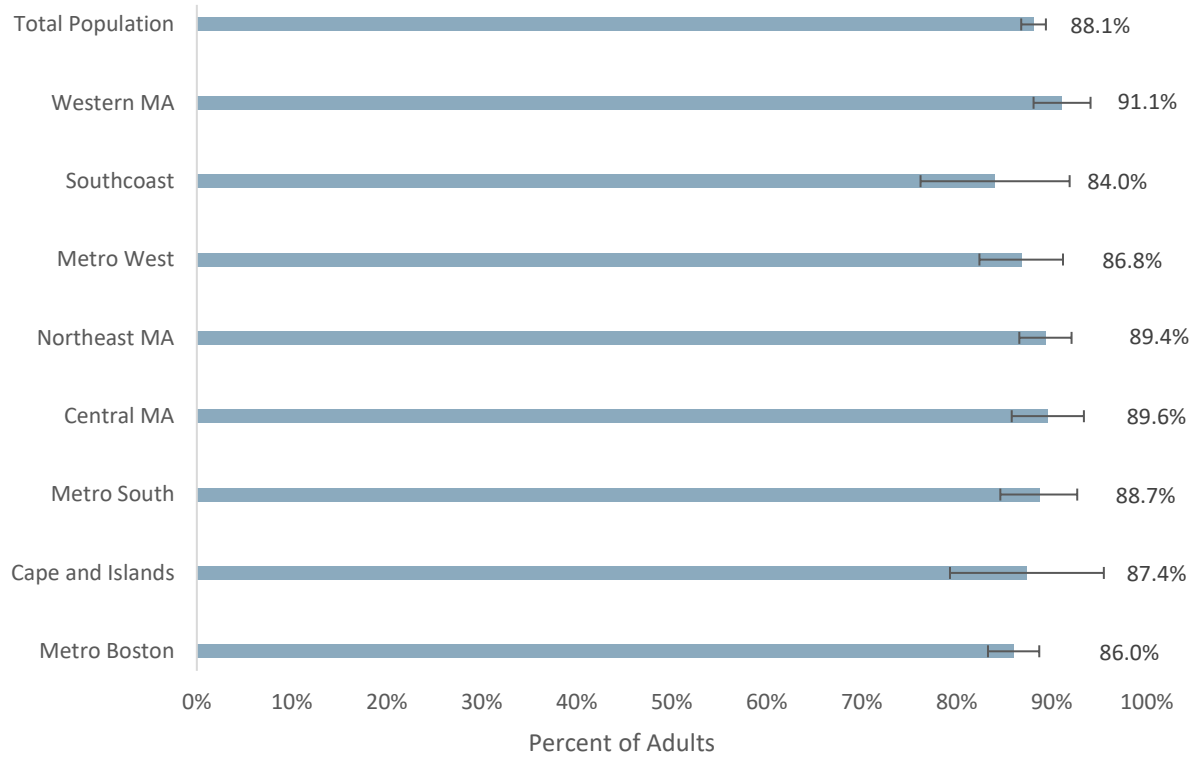



DATA SOURCE: 2021 Center for Health Information and Analysis (CHIA) Massachusetts Health Insurance Survey (MHIS) Report

In Massachusetts, 77.8% of residents had a visit to a general doctor, nurse practitioner, physician's assistant or midwife for preventive care in the past 12 months.

Within the region of Metro Boston, 73.3% of residents had a visit to a general doctor, nurse practitioner, physician's assistant or midwife for preventive care in the past 12 months.

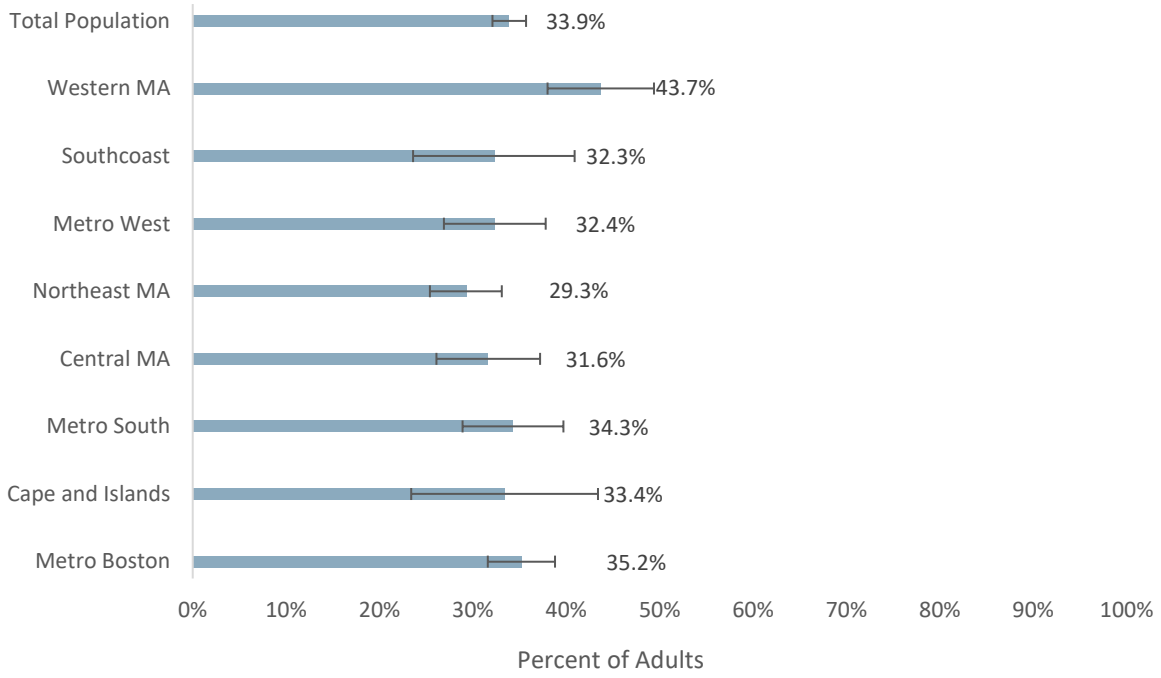
## Figure 27. Has a Usual Source of Health Care (Excluding Emergency Department) by Region




DATA SOURCE: 2021 Center for Health Information and Analysis (CHIA) Massachusetts Health Insurance Survey (MHIS) Report

In Massachusetts, 88.1% of residents had a usual source of healthcare (excluding emergency department). Within the region of Metro Boston, 86.0% of residents had a usual source of healthcare (excluding emergency department).

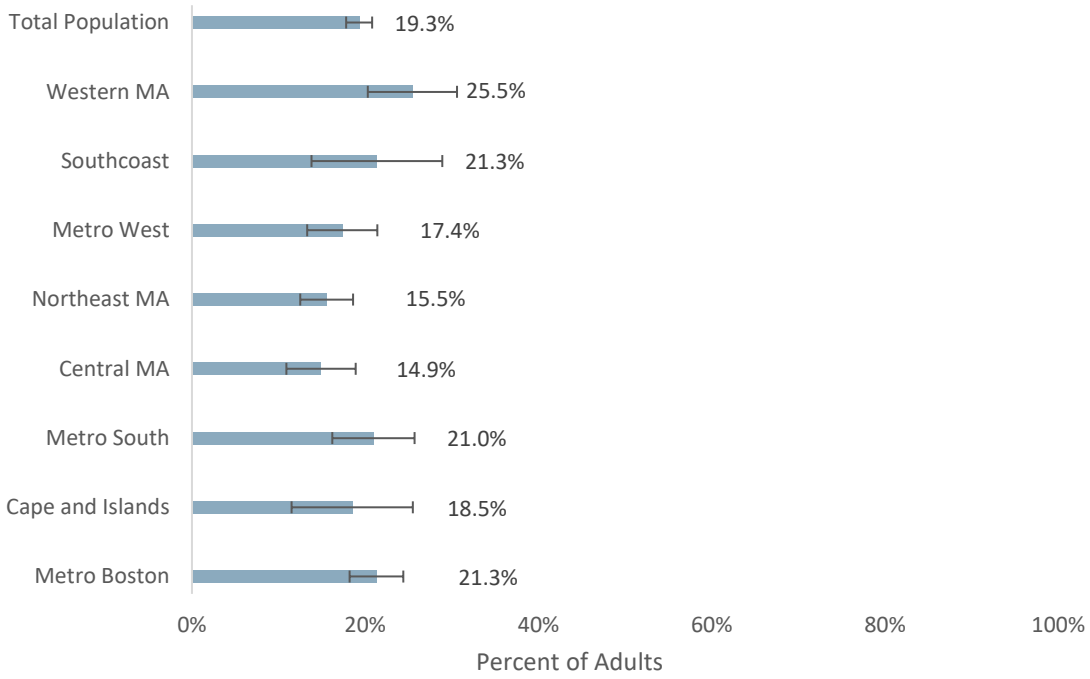
## Figure 28. Any Difficulty Accessing Care in the Past 12 Months by Region




DATA SOURCE: 2021 Center for Health Insurance and Analysis (CHIA) Massachusetts Health Insurance Survey (MHIS) Report

In Massachusetts, 33.9% of residents had difficulty accessing care in the past 12 months. Within the region of Metro Boston, 35.2% of residents had any difficulties accessing care in the past 12 months.

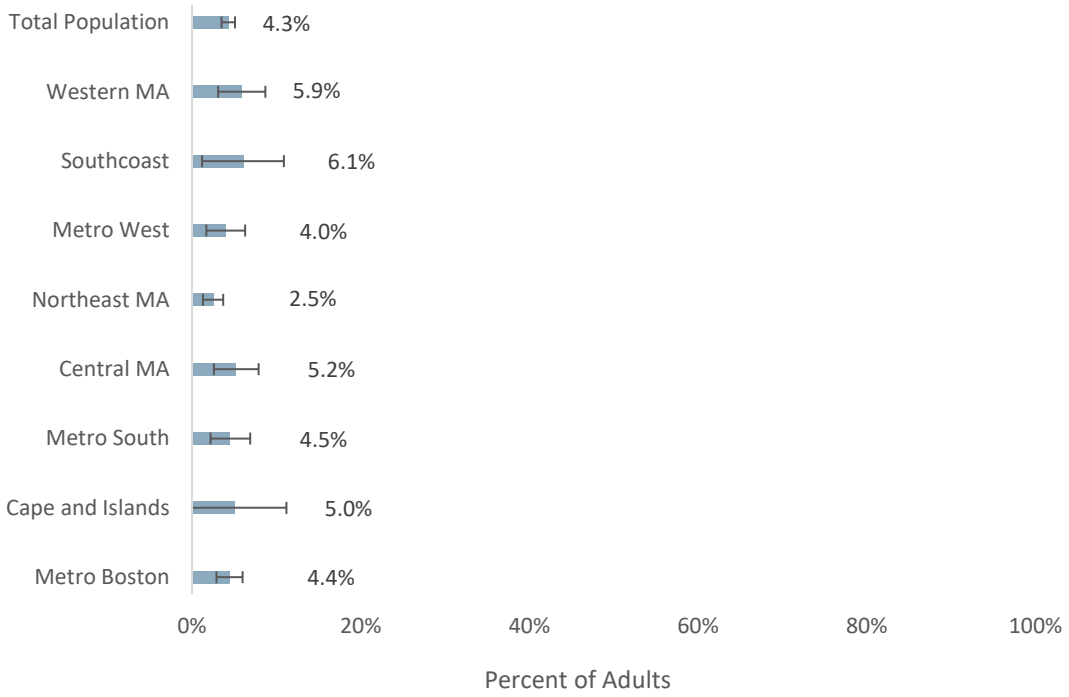
## Figure 29. Unable to Get an Appointment with a Doctor's Office or Clinic as Soon as Needed in the Past 12 months by Region




DATA SOURCE: 2021 Center for Health Insurance and Analysis (CHIA) Massachusetts Health Insurance Survey (MHIS) Report

In Massachusetts, 19.3% of residents were unable to get an appointment with a doctor's office or clinic as soon as needed in the past 12 months. Within the region of Metro Boston, 21.3% of residents were unable to get an appointment with a doctor's office or clinic as soon as needed in the past 12 months.

## Figure 30. Unable to Get an Appointment with a Doctor's Office or Clinic Because of Transportation Issues in the Past 12 Months by Region




DATA SOURCE: 2021 Center for Health Insurance and Analysis (CHIA) Massachusetts Health Insurance Survey (MHIS) Report

In Massachusetts, 4.3% of residents were unable to get an appointment with a doctor's office or clinic because of transportation issues in the past 12 months. Within the region of Metro Boston, 4.4% of residents were unable to get an appointment with a doctor's office or clinic because of transportation issues in the past 12 months.

## COMMUNITY HEALTH CENTERS AND ACUTE CARE HOSPITALS SHOWN IN FIGURES 15-19

**Community Health Centers**

Boston Health Care for the Homeless Program
Bowdoin Street Health Center
Brookside Community Health Center
Charles River Community Health
Codman Square Health Center
Daniel Driscoll - Neponset Health Center
Dimock Community Health Center
DotHouse Health
East Boston Neighborhood Health Center
Fenway Health*
Fenway Health
MGH Community Health Associates Health Centers
NEW Health*
South Boston Community Health Center*
South Cove Community Health Center*
Southern Jamaica Plain Health Center
Upham's Corner Health Center
Whittier Street Health Center*

*Health Center has more than one location

**Acute Care Hospitals**

Beth Israel Deaconess Medical Center
Boston Children's Hospital
Boston Medical Center
Brigham and Women's Hospital
Brigham and Women's Faulkner Hospital
Dana-Farber Cancer Institute
Massachusetts Eye and Ear Infirmary
Massachusetts General Hospital
New England Baptist Hospital
Shriners Hospitals for Children
Steward Carney Hospital
Steward St. Elizabeth's Medical Center
Tufts Medical Center

# REFERENCES

1. Institute of Medicine Committee on Monitoring Access to Personal Health Care Service. Access to Health Care in America. National Academy of Sciences. 1993.

2. Institute of Medicine (US) Committee on the Consequences of Uninsurance. Health insurance is a family matter. Washington D.C.: National Academies Press; 2002.

3. Almli LM, Alter CC, Russell RB, Tinker SC, Howards PP, Cragan J, et al. Association Between Infant Mortality Attributable to Birth Defects and Payment Source for Delivery - United States, 2011-2013. MMWR Morbidity and mortality weekly report. 2017;66(3):84-7.

4. Williams WW, Lu PJ, O'Halloran A, Kim DK, Grohskopf LA, Pilishvili T, et al. Surveillance of Vaccination Coverage Among Adult Populations - United States, 2014. Morbidity and mortality weekly report Surveillance summaries (Washington, DC : 2002). 2016;65(1):1-36.

5. Goad JA, Taitel MS, Fensterheim LE, Cannon AE. Vaccinations administered during off-clinic hours at a national community pharmacy: implications for increasing patient access and convenience. Annals of family medicine. 2013;11(5):429-36.

6. Roetzheim RG, Pal N, Tennant C, Voti L, Ayanian JZ, Schwabe A, et al. Effects of health insurance and race on early detection of cancer. Journal of the National Cancer Institute. 1999;91(16):1409-15.

7. Healthy People 2020. Access to Health Services: Overview U.S. Department of Health and Human Services; [01/25/17]. Available from: https://www.healthypeople.gov/2020/topics-objectives/topic/Access-to-Health-Services.

8. Healthy People 2020. Social Determinants of Health: Overview: U.S. Department of Health and Human Services; [01/25/17]. Available from: https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health.

9. Hill L, Ndugga N, Artiga S. Key Data on Health and Health Care by Race and Ethnicity | KFF. KFF; 2023. Accessed August 4, 2023. https://www.kff.org/racial-equity-and-health-policy/report/key-data-on-health-and-health-care-by-race-and-ethnicity /

10. The Henry J Kaiser Family Foundation. Focus On Health Care Reform, Massachusetts Health Care Reform: Six Years Later. 2012. Report No.: 8311.

11. Oliver MN, Wells KM, Joy-Gaba JA, Hawkins CB, Nosek BA. Do physicians' implicit views of African Americans affect clinical decision making? Journal of the American Board of Family Medicine : JABFM. 2014;27(2):177-88.

12. Drwecki BB, Moore CF, Ward SE, Prkachin KM. Reducing racial disparities in pain treatment: the role of empathy and perspective-taking. Pain. 2011;152(5):1001-6.

13. Chapman EN, Kaatz A, Carnes M. Physicians and implicit bias: how doctors may unwittingly perpetuate health care disparities. Journal of general internal medicine. 2013;28(11):1504-10.

14. Penner LA, Dovidio JF, Gonzalez R, Albrecht TL, Chapman R, Foster T, et al. The Effects of Oncologist Implicit Racial Bias in Racially Discordant Oncology Interactions. Journal of clinical oncology: official journal of the American Society of Clinical Oncology. 2016;34(24):2874-80.

15. Sabin JA, Greenwald AG. The influence of implicit bias on treatment recommendations for 4 common pediatric conditions: pain, urinary tract infection, attention deficit hyperactivity disorder, and asthma. American journal of public health. 2012;102(5):988-95.

16. Institute of Medicine Committee on U, Eliminating R, Ethnic Disparities in Health C. In: Smedley BD, Stith AY, Nelson AR, editors. Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care. Washington (DC): National Academies Press (US)

17. Cochran AL. Impacts of COVID-19 on access to transportation for people with disabilities. Transp Res Interdiscip Perspect. 2020;8:100263.

18. Henning-Smith C. The Public Health Case for Addressing Transportation-Related Barriers to Care. Am J Public Health. 2020;110(6):763-764. doi:10.2105/AJPH.2020.305638

19. Núñez A, Sreeganga SD, Ramaprasad A. Access to Healthcare during COVID-19. Int J Environ Res Public Health. 2021;18(6):2980. doi:10.3390/ijerph18062980

20. Pujolar G, Oliver-Anglès A, Vargas I, Vázquez ML. Changes in Access to Health Services during the COVID-19 Pandemic: A Scoping Review. Int J Environ Res Public Health. 2022;19(3):1749. doi:10.3390/ijerph19031749

21. Hussein J. COVID-19: What implications for sexual and reproductive health and rights globally? Sex. Reprod. Health Matters. 2020;28:1746065. doi: 10.1080/26410397.2020.1746065.

22. Linn L., Oliel S., Baldwin A. La COVID-19 afectó el Funcionamiento de los Servicios de Salud para Enfermedades no Transmisibles en las Américas—OPS/OMS|Organización Panamericana de la Salud. [(accessed on 12 October 2020)]. Available online: https://www.paho.org/es/noticias/17-6-2020-covid-19-afecto-funcionamiento-servicios-salud-para-enfermedades-no

23. World Health Organization . Pulse Survey on Continuity of Essential Health Services during the COVID-19 Pandemic: Interim Report, 27 August 2020. World Health Organization; Geneva, Switzerland: 2020.

24. World Health Organization . Second Round of the National Pulse Survey on Continuity of Essential Health Services during the COVID-19 Pandemic: January–March 2021. World Health Organization; Geneva, Switzerland: 2021.

25. Global Health Cluster COVID-19 Task Team . Essential Health Services: A guidance Note. How to Prioritize and Plan Essential Health Services during COVID-19 Response in Humanitarian Settings. Health Cluster; Geneva, Switzerland: 2020.

26. Ma X., Vervoort D., Reddy C.L., Park K.B., Makasa E. Emergency and essential surgical healthcare services during COVID-19 in low- and middle-income countries: A perspective. Int. J. Surg. 2020;79:43–46. doi: 10.1016/j.ijsu.2020.05.037.

27. Teslya A., Pham T.M., Godijk N.G., Kretzschmar M.E., Bootsma M.C.J.J., Rozhnova G. Impact of self-imposed prevention measures and short-term government-imposed social distancing on mitigating and delaying a COVID-19 epidemic: A modelling study. PLoS Med. 2020;17:e1003499. doi: 10.1371/journal.pmed.1003166.

28. Porthé V., Vargas I., Sanz-Barbero B., Plaza-Espuña I., Bosch L., Vázquez M.L. Changes in access to health care for immigrants in Catalonia during the economic crisis: Opinions of health professionals and immigrant users. Health Policy. 2016;120:1293–1303. doi: 10.1016/j.healthpol.2016.09.005.

29. Porthé V., Vargas I., Sanz-Barbero B., Plaza-Espuña I., Bosch L., Vázquez M.L. Changes in access to health care for immigrants in Catalonia during the economic crisis: Opinions of health professionals and immigrant users. Health Policy. 2016;120:1293–1303. doi: 10.1016/j.healthpol.2016.09.005.

30. Krishnan L., Ogunwole S.M., Cooper L.A. Historical Insights on Coronavirus Disease 2019 (COVID-19), the 1918 Influenza Pandemic, and Racial Disparities: Illuminating a Path Forward. Ann. Intern. Med. 2020;173:474–481. doi: 10.7326/M20-2223.

31. Dasgupta J., Schaaf M., Contractor S.Q., Banda A., Viana M., Kashyntseva O., Ruano A.L. Axes of alienation: Applying an intersectional lens on the social contract during the pandemic response to protect sexual and reproductive rights and health. Int. J. Equity Health. 2020;19:130. doi: 10.1186/s12939-020-01245-w.

32. Skogberg N., Koponen P., Lilja E., Austero S., Prinkey T., Castaneda A.E. Impact of COVID-19 on the Health and Wellbeing of Persons Who Migrated to Finland: The MigCOVID Survey 2020–2021. Finnish Institute of Health and Welfare's; Helsinki, Finland: 2021.

33. Frohlich K.L., Potvin L. Transcending the known in public health practice: The inequality paradox: The population approach and vulnerable populations. Am. J. Public Health. 2008;98:216–221. doi: 10.2105/AJPH.2007.114777.

34. Suhrcke M., Stuckler D., Suk J.E., Desai M., Senek M., McKee M., Tsolova S., Basu S., Abubakar I., Hunter P., et al. The impact of economic crises on communicable disease transmission and control: A systematic review of the evidence. PLoS ONE. 2011;6:e20724. doi: 10.1371/journal.pone.0020724.

35. Coleman A, Federman S. Where Do the States Stand on Medicaid Expansion? The Commonwealth Fund. Published October 27, 2022. Accessed August 4, 2023. https://www.commonwealthfund.org/blog/2022/where-do-states-stand-medicaid-expansion

36. Berchick, Edward R., Jessica C. Barnett, and Rachel D. Upton Current Population Reports, P60-267(RV), Health Insurance Coverage in the United States: 2018, U.S. Government Printing Office, Washington, DC, 2019.

37. U.S. Census Bureau. 2021 American Community Survey Figures/Tables for Health Insurance Coverage by Race and Hispanic Origin: Figure 1, Figure 2, Table A-1. Health Insurance Coverage by Race and Hispanic Origin:2021 [11/2022]. Available from: https://www.census.gov/content/dam/Census/library/publications/2022/acs/acsbr-012.pdf

38. Collins SR, Haynes LA, Masitha R. State of U.S. Health Insurance in 2022: Biennial Survey | Commonwealth Fund. Accessed August 4, 2023. https://www.commonwealthfund.org/publications/issue-briefs/2022/sep/state-us-health-insurance-2022-biennial-survey

39.Ku L, Waldmann T. How Race/Ethnicity, Immigration Status and Language Affect Health Insurance Coverage, Access to Care and Quality of Care Among the Low-Income Population. Washington D.C.: Kaiser Commission on Medicaid and the Uninsured; 2003.

40.National Center for Health Statistics. NCHS Fact Sheet: Health Insurance and Access to Care 2015 [03/08/17]. Available from: https://www.cdc.gov/nchs/data/factsheets/factsheet_hiac.pdf.

41.Kogan MD, Newacheck PW, Blumberg SJ, Ghandour RM, Singh GK, Strickland BB, et al. Underinsurance among children in the United States. The New England journal of medicine. 2010;363(9):841-51.

42. Schiller JS, Norris T. National Health Interview Survey Early Release Program. National Center for Health Statistics; 2023. https://www.cdc.gov/nchs/data/nhis/earlyrelease/earlyrelease202304.pdf

43. Fellows JL, Atchison KA, Chaffin J, Chávez EM, Tinanoff N. Oral Health in America. J Am Dent Assoc. 2022;153(7):601-609. doi:10.1016/j.adaj.2022.04.002

44. Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Oral Health. Oral Health Basics: Adult Oral Health 2016 [February 3, 2017]. Available from: https://www.cdc.gov/oralhealth/basics/adult-oral-health/index.html.

45. Bashir N.Z. Update on the prevalence of untreated caries in the U.S. adult population, 2017-2020. *JADA.* 2022;153(4):300–308.

46. Wu Q, Jin Z, Wang P. The Relationship Between the Physician-Patient Relationship, Physician Empathy, and Patient Trust. J Gen Intern Med. 2022;37(6):1388-1393. doi:10.1007/s11606-021-07008-9

47. Viskupič F, Wiltse DL, Meyer BA. Trust in physicians and trust in government predict COVID-19 vaccine uptake. Social Science Quarterly. 2022;103(3):509-520. doi:10.1111/ssqu.13147

48. Cochran AL, McDonald NC, Prunkl L, et al. Transportation barriers to care among frequent health care users during the COVID pandemic. BMC Public Health. 2022;22(1):1783. doi:10.1186/s12889-022-14149-x

49. Guadamuz JS, Wilder JR, Mouslim MC, et al. Fewer pharmacies in Black and Hispanic/Latino neighborhoods compared with White or diverse neighborhoods, 2007-15. Health Affairs. 2021; 40 (5):802-811.

50. What is Patient Experience?. Content last reviewed August 2022. Agency for Healthcare Research and Quality, Rockville, MD. https://www.ahrq.gov/cahps/about-cahps/patient-experience/index.html

51. Williams, D. R., & Rucker, T. D. (2000). Understanding and addressing racial disparities in health care. Health care financing review, 21(4), 75–90.

52. Tuckson R. The disease of distrust. *Science.* 2020;370(6518):745. doi: 10.1126/science.abf6109

53. Williams D. Stress and the mental health population of color: Advancing our understanding of race-related stressors. *J Health Soc Behav.* 2018;59(4):466-486. doi: 10.1177/0022146518814251

54. Mazor KM, Clauser BE, Field T, Yood RA, Gurwitz JH. A demonstration of the impact of response bias on the results of patient satisfaction surveys. *Health Serv Res*. 2002;37(5):1403-1417. doi:10.1111/1475-6773.11194