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Boston Children's Hospital
2019 Community Health Needs Assessment

Final Report

Submitted to:

Boston Children's Hospital
Until every child is well™

Health Resources in Action
Advancing Public Health and Medical Research

Boston Children's Hospital
2019 Community Health Needs Assessment (CHNA)

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EXECUTIVE SUMMARY

Background

Boston Children's community mission is to improve the health and well-being of children and families in the local community. In 2019, Boston Children's conducted its triennial community health needs assessment (CHNA) to identify health-related needs, strengths, and resources among residents in Boston—Dorchester, Fenway, Jamaica Plain, Mattapan, Mission Hill, and Roxbury[1]—as well as those living in communities served by its satellite locations in Lexington, North Dartmouth, Peabody, Waltham, and Weymouth.

Boston Children's 2019 assessment coincides with and uses data from the Boston Collaborative Community Health Needs Assessment. In 2018, a wide variety of Boston stakeholders—community organizations, community development corporations, health centers, hospitals, and the Boston Public Health Commission—formed the Boston CHNA-CHIP Collaborative to engage in Boston's first large-scale collaborative city-wide assessment and plan. While community health assessment and planning work have been long-standing endeavors within individual organizations, the Boston CHNA-CHIP Collaborative aligns and coordinates resources between multi-sector stakeholders across Boston. Boston Children's has been strongly engaged in the city-wide assessment, having representation on both the Steering Committee and work groups. The Boston Children's assessment integrates findings from this collaborative CHNA, along with the specific issues affecting children and families.

Approach and Methods

Boston Children's 2019 assessment used a participatory, collaborative approach and examined health in its broadest context. The assessment draws on data collected for the larger Boston CHNA that includes data from the Massachusetts Department of Public Health, vital records, and surveillance systems. In addition, a community-wide survey was conducted for the Boston CHNA that engaged over 2,400 residents including 548 parents/caregivers of children 18 or younger and 201 youth under 18. Seven of the 13 focus groups conducted for the Boston CHNA emphasized parent and family experiences, and there was one youth specific focus group. Forty-five key informant interviews were conducted for the Boston CHNA, 18 of which focused on issues related to parents, families, or children in Boston. To understand experiences and needs of those served by Boston Children's satellite locations outside Boston, 11 key informant interviews were conducted with clinic staff such as nurses, social workers, and administrators, as well as staff of community-based partner organizations.

The following provides a brief overview of key findings that emerged from this assessment.

Community Social, Economic, and Physical Context

- **Demographic Characteristics:** Boston is a growing and diverse community. In the last several years, the population has increased by 8% overall. Twenty-three percent of Boston residents identify as Black, 19.4% identify as Latino, and 9.4% identify as Asian. About 20% of Boston's residents are 19 years old or younger, with 5% under the age of 5. The Boston Public School (BPS) system is more diverse than the city overall, with nearly 42% of students who identify as Latino and 32% who identify as Black.

[1] Fenway and Mission Hill are priority neighborhoods of Boston Children's due to their proximity to the hospital and the hospital's impact on the neighborhood.

- **Education:** Boston is a well-educated community (48% of Boston adults have a college degree or more); yet, two in ten Black and Latino adults have a college degree or more compared to seven in ten White adults. High school graduation rates are lower and drop-out rates are higher among Latino students, English Language Learners, and students with disabilities. The educational needs of these students as well as variable educational quality across lower income neighborhoods were discussed in several focus groups and interviews conducted for the Boston CHNA.

- **Employment and Workforce:** Boston's 2018 unemployment rate was 3.0% according to the Bureau of Labor Statistics. Over the past several years, unemployment rates have been significantly higher in Boston Children's priority neighborhoods of Roxbury and Dorchester - primarily communities of color that experience disproportionate economic challenges – compared to Boston overall. Focus group participants discussed challenges for workers with lower educational levels or skills in securing well-paying jobs and remarked on stark class divides between Boston residents.

- **Income and Financial Security:** Similar to Boston Children's 2016 CHNA, financial insecurity was a major theme across many focus groups conducted for the 2019 Boston CHNA. Across all indicators of income and financial security, there are substantial differences among Boston neighborhoods and racial and ethnic groups. The median household income in Boston is highest among White residents ($98,317) and lowest among Latino residents ($36,998). While less than one in five Boston families (16.0%) live below the federal poverty line; the proportion of families living in poverty is among the highest citywide in Boston Children's priority neighborhoods of Dorchester (26.6%) and Roxbury (25.7%). Boston CHNA community survey results indicate that respondents with children under 18 were significantly more likely to report challenges paying for most expenses than those without children under 18. Boston CHNA community survey respondents with children under age 18 were also asked how frequently their children were exposed to challenging family situations and most often reported financial hardship (38.7%).

  > *"Kids can feel when their parents are stressed because maybe the landlord raised the rent or something broke in the house. They're one situation away from eviction."*
  > - Focus Group Participant

- **Housing and Homelessness:** The high and rising cost of housing in Boston was a key theme in focus group and interview discussions; participants reported that housing costs comprise a large and increasing portion of household budgets. These perceptions are mirrored in the statistics. The majority of housing units across Boston are renter-occupied (65%) and more than half of those in renter-occupied units are housing cost-burdened, meaning they spend more than 30% of their income on housing. Boston community survey respondents with children under age 18 (23.7%) were significantly more likely than respondents without children under age 18 (16.1%) to report having trouble paying their mortgage or rent. Of the 3,527 homeless households in Boston in 2018, over three in ten included at least one adult and one child.

- **Transportation:** Nearly one in five (19.2%) Boston CHNA survey respondents identified availability of public transportation as a barrier and 15.5% cited cost of transportation as a barrier. Respondents with children under age 18 were significantly more likely to report cost of transportation as a barrier and significantly less likely to report availability of public transportation as a barrier compared to respondents without children under age 18. One in five youth respondents identified availability of public transportation as a barrier.

- **Social Environment and Discrimination:** Focus group and interview participants described strong social networks in Boston, citing cohesion among immigrant groups and others who share similar racial, cultural, linguistic and religious backgrounds. Two-thirds of CHNA community survey respondents believed that people in their neighborhoods help each other and three-quarters perceived that they and their neighbors want the same thing for their neighborhoods. Respondents with children under age 18 were more likely to report positive perceptions of community cohesion than those without children under 18. At the same time, focus group participants mentioned a decline in community social ties, due to lack of time and generational differences; gentrification has likewise changed the *"feel"* of some neighborhoods. CHNA community survey results and conversations in focus groups indicate that subtle and overt discrimination is an issue in Boston.

Community Health Issues

- **Perceptions of Community Health Concerns:** When asked to identify the top five most important concerns in their community or neighborhood that shape their community's health, all respondents and those with children under 18 listed housing quality and affordability, alcohol/drug abuse, mental health, and community violence. Respondents with children under age 18 identified obesity as a top five health concern. In addition, youth participants identified smoking and employment opportunities among their top five concerns.

Percent Boston CHNA Survey Respondents Reporting Top Five Most Important Concerns in Their Community or Neighborhood That Affect Their Community's Health, All Respondents, Respondents with Children Under 18, Youth, 2019

	All Respondents (N=2,053)	Respondents with Children Under 18 (N=544)	Youth (N=197)
1	Housing quality or affordability	Housing quality or affordability	Alcohol/ drug abuse
2	Alcohol/ drug abuse	Alcohol/ drug abuse	Smoking
3	Mental health	Mental health	Mental health
4	Community Violence	Community Violence	Housing quality or affordability
5	Environment	Obesity	Employment/ job opportunities

DATA SOURCE: Boston CHNA Community Survey, 2019

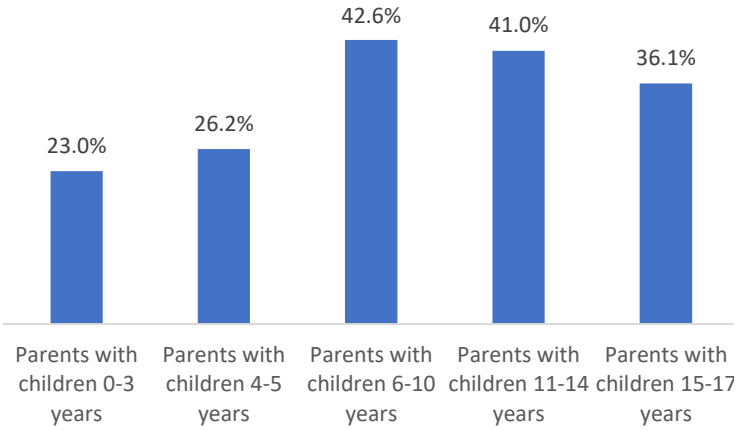
- **Obesity and Related Risk Factors:** Childhood obesity was a common theme that emerged among Boston CHNA focus group and interview discussions. Over 40% of BPS students were overweight or obese in 2017, a rate that has remained constant since 2013. Participants linked obesity to limited access to healthy eating and physical activity. About one-third of Boston CHNA community survey respondents indicated in the past 12 months they felt it was sometimes or often true that they worried that their food would run out before they had money to buy more. Respondents who had children under 18 (45.8%) were significantly more likely to report this than respondents without children under 18 (25.1%).

- **Asthma and Allergies:** After obesity and diabetes, pediatric asthma was the most frequently cited chronic disease concern among focus group and interview participants, especially for those who lived or worked in Dorchester and Roxbury. Concerns about asthma in these communities were also noted in Boston Children's 2016 CHNA. 2019 participants shared that young children living in poverty are disproportionally affected by pediatric asthma as a result of poor environmental factors and/or poor living conditions (e.g., air pollutants, rodents, mold, and tobacco smoke). One in four BPS students reported an asthma diagnosis. Additionally, 2016 and 2017 Boston Children's patient encounter data indicate that Black and Latino children experienced a significantly higher rate of asthma hospital encounters– at least three times that of White children.

> *"So many of our kids…are suffering from chronic and active asthma, where they need their inhalers every single day."*
>
> - Interviewee

- **Mental Health:** Similar to Boston Children's 2016 CHNA, mental health issues were described as a priority concern across almost all focus groups and interviews conducted for the 2019 Boston CHNA. Stress, anxiety, and depression were the most frequently cited mental health challenges among Boston CHNA participants and were often discussed in relation to social determinants of health (e.g., poverty, employment, safety). Responses from the Youth Risk Behavior Survey indicate 33.4% of Boston public high school students reported feeling persistent sadness; this rate rose from 24.8% in 2011. Nearly one in eight Boston public high school students has reported seriously considering suicide. Stigma and systemic challenges, such as insufficient workforce, were seen as barriers to improved mental health in the community. Among Boston CHNA community respondents who reported that they have needed mental health services but could not access them, the highest proportion—over 42%—were those with children 6-10 years.

Percent Boston CHNA Survey Respondents Reporting That They Have Needed Mental Health Services but Could Not Access Them, by Age of Children, 2019



DATA SOURCE: Boston CHNA Community Survey, 2019

- **Substance Use:** Substance use was considered a priority health issue in many focus group and interview discussions. Participants mentioned marijuana, prescription drug use, and opioids as being among the most concerning, and were especially concerned about the impact of substance use disorders on young people. Over a quarter of high school youth reported current alcohol consumption (26.6%), with rates significantly higher among Boston female students (31.0%) than male students (21.8%); LGBTQ students (38.4%) reported higher rates of alcohol use than heterosexual youth (24.9%). Youth cigarette smoking rates in Boston have significantly declined over time, but vaping is a growing concern. The rise in marijuana use since legalization was discussed in multiple focus groups conducted for the Boston CHNA; this was also of concern in 2016. BCH hospital patient encounters due to marijuana dependence and misuse show that Black youth

> *"Children are vaping because they fruity flavors are enticing, and they do not know there are other chemicals involved."*
>
> - Interviewee

experience a significantly higher rate than White youth (41.9 and 29.6 encounters per 10,000 residents ages 13-18, respectively). As in the 2016 Boston Children's CHNA, lack of providers and services were reported as barriers to addressing substance use issues in the community.

- **Violence and Trauma:** Violence and trauma were frequent concerns reported by focus group and interview participants in the 2019 Boston CHNA; this was also prominent in Boston Children's 2016 CHNA. Many focus group participants expressed concern about personal safety in their communities. About 27% of youth under 18 characterized their neighborhood as unsafe or extremely unsafe, which was similar to that of other age groups. However, a higher proportion of respondents with children under 18 (32.0%) than respondents without children under 18 (21.1%) considered their neighborhoods unsafe or extremely unsafe.

- **Maternal and Child Health:** Quantitative data indicate that since 2011 the overall birth rate in Boston has significantly declined for women 15-44 years old to 41.6 births per 1,000 female residents in 2017. Rates of low birthweight infants and preterm births—while less than 10% overall – are significantly higher among Black (13% and 12%, respectively) and Latino mothers (9% and 11%, respectively). Access to prenatal care has improved over time, and currently over eight in ten Boston mothers receive adequate or adequate plus prenatal care (83%); however, Asian, Black, and Latino mothers (84%, 76%, 79%, respectively) are significantly less likely than White mothers (89%) to receive adequate or adequate plus prenatal care. Childcare challenges were frequently discussed in focus groups and interviews, including cost, long waitlists, and lack of summer childcare as primary issues. Preliminary analyses of the 2019 Language, Disability, and Childcare Survey indicate that affordability and accessibility were the most frequent childcare challenges for survey respondents.

- **Sexual Health:** While sexual health was not a prominent theme discussed across focus groups or interviews, according to 2013-2017 Youth Risk Behavioral Survey results, 43.9% of Boston public high school students reported ever having sex and about one third reported that they were currently sexually active (have had sex in the past three months). About 85% of Boston high school youth reported that they used some form of contraception during the last time they had sex; condoms were by far the most frequently used form of birth control, with nearly half of Boston high school youth reporting that they used these.

Access to Care

- **Use and Perceptions of the Health Care System:** Boston is a city with many health care resources and a high proportion of residents have health insurance. Focus group participants, interviewees, and Boston CHNA survey respondents indicated satisfaction with health care in their community. BBRFSS results show that approximately eight in ten respondents have a personal doctor.

- **Barriers and Facilitators to Accessing Health Care Services:** According to focus group participants, interviewees, and community survey respondents, several barriers to accessing health care remain. According to interview and focus group participants, challenges include: underinsurance, language, immigration status, navigation and care coordination, transportation, and lack of culturally-sensitive approaches to care. For CHNA community survey respondents, long wait times for appointments and lack of evening or weekend services were the top two factors that made it difficult for them to access health care (44% and 38% of survey respondents, respectively). When Boston CHNA survey respondents were asked what factors made it easier for them to get the health care services they

needed, having a regular source of care (63.3%), insurance cover what they needed (49.7%), and providers taking their insurance (47.8%) were the top three factors cited.

Community Assets

- **Perceptions of Community Strengths and Assets:** Boston has numerous strengths according to focus group participants, interviewees, and CHNA community survey respondents. Neighborhoods were described as *"tight-knit"* with substantial cultural diversity and strong faith communities. The top five community strengths chosen by all respondents, respondents with children under 18 and youth were largely similar and included: racial and cultural diversity, proximity to medical services, access to resources, and residents who speak the same language as among the top five of their communities' strengths.

> *"There's so much that the city of Boston has to offer; it has some of the best colleges and universities, best teaching hospitals and traveling [health care]."*
>
> - Focus Group Participant

- **Services and Organizational Resources:** Survey, focus group, and interview participants all noted proximity and abundance to health care services as major strengths of their community. Across the city, there are 22 hospitals and 33 health center access sites. Nearly 70% of community survey respondents identified proximity to medical services as a top strength of their communities. Additionally, more than three-quarters of BPS schools offer additional supports for students experiencing trauma, students experiencing homelessness, and English Language Learners. Many focus group and interview participants also described the city of Boston as having a strong network of social services with strong partnerships and collaborations.

Community Suggestions for the Future: Initiatives, Programs & Services

Participants in interview and focus group discussions were asked for their suggestions for addressing identified needs and their vision for the future. Suggestions included the following:

<u>Community Social, Economic, and Physical Context</u>

- **Employment and Workforce:** Reduce employment barriers by making minimum education requirements more inclusive of those with valuable lived experience; subsidize childcare cost for low-income parents to have upward mobility through education and job training; and increase youth employment opportunities.
- **Education:** Focus resources on early childhood education; increase social supports in public schools; train educators on trauma-informed approaches; use restorative justice approaches; and address chronic absenteeism by bolstering wraparound services.
- **Food Insecurity:** Increase access to healthy and affordable food through: urban farming and community gardens; farmer's markets that accept SNAP benefits; and strengthen initiatives that address food access from a clinical perspective.
- **Housing:** Mitigate the negative impacts of gentrification and displacement through increased home ownership in non-White communities to build generational wealth; and long-term renewable leases for nonprofits and social services agencies strained by rising operating costs.
- **Transportation:** Focus on transportation equity in lower income communities with longer commuting times; invest in speedy bus lanes to reduce traffic; continue making the city bikeable; and explore fee structures for ride share programs to generate revenue for local operational costs.

Community Health Issues

- **Chronic Disease:** Focus on prevention strategies and chronic disease management—particularly to prevent diabetes and obesity; and increase affordable gym and healthy food options.
- **Mental Health**: Invest in more mental health supports in public schools; reduce cultural stigma around mental health services, and recruit clinicians who reflect Boston's diversity.
- **Substance Use:** Focus prevention efforts on marijuana and prescription drug use among youth.
- **Violence and Trauma:** Restore trust among government, police, and health care institutions by strengthening community linkages and improving community cohesion.
- **Maternal and Child Health**: Provide more supports to learn positive parenting skills; and subsidize the cost of childcare for low-income families, especially for single-headed households.
- **Health Care Access:** Increase supports for navigating the complex health system and delivering culturally-sensitive care and linguistically appropriate services to diverse groups.

Key Themes and Conclusions

This assessment report describes the social and economic context of Boston Children's priority neighborhoods, key health issues and concerns, and perceived assets and opportunities for addressing current needs and gaps. Interviewees at BCH satellite locations (Lexington, North Dartmouth, Peabody, Waltham, and Weymouth) and quantitative data point to similar health concerns among residents of these communities. Several overarching themes and conclusions emerged:

- **Boston is a young, diverse city that continues to experience population growth.** Boston experienced an 8% increase in population over the past decade, with greater growth among people of color. About 20% of Boston's residents are 19 years old or younger, with about 5% under 5 years old. The wide-ranging diversity of Boston residents presents challenges when delivering health and social services that aim to meet the multitude of needs across the city.
- **Boston has a well-educated population although opportunities and outcomes differ across groups.** Nearly half of Boston adults hold a college degree or higher, although the proportion of Asian and White residents who are well-educated is higher than that of Black or Latino residents. High school graduation rates are also higher among Asian and White youth compared to Latino or Black students. Addressing issues of educational equity across Boston neighborhoods and the needs of specific population groups were seen as needing more attention.
- **There are substantial differences in financial security across Boston neighborhoods and racial and ethnic groups, factors that affect the overall well-being of children and families.** In Dorchester and Roxbury, over one in four families live below the federal poverty level. Focus group and interview participants discussed the challenges of making ends meet and affording goods and services that promote health. Similarly, Boston CHNA survey respondents identified saving money as their most common financial challenge.
- **Lack of affordable housing emerged as a particular challenge for children and families.** As noted in the 2016 CHNA, the high cost of housing is a substantial challenge for Boston residents, particularly those most vulnerable. Of all social determinants identified as imperative to health and well-being, housing stability emerged as a top priority among focus group participants, interviewees, and Boston CHNA survey respondents. More than half of those in renter-occupied units across the city are housing cost-burdened, meaning they spend more than 30% of their income on housing.
- **Behavioral health, specifically mental health and drug use among young people are growing concerns among residents; opioids, prescription drugs, and marijuana use were most concerning**. Co-occurring mental health and substance use issues were frequently discussed among key informants, as well as the interrelationship between trauma, mental health, and substance use.

Among youth CHNA survey respondents, alcohol/drug use, followed by smoking, were identified as the highest community concerns. While alcohol and tobacco use among Boston youth has declined over time, focus group and interview participants expressed concern about rising rates of vaping and marijuana use among young people. Participants also identified a need for expanded mental health services and trauma-informed programs for youth. Quantitative data show that about one-third of Boston high school youth report persistent sadness and this rate has risen over time.

- **Chronic disease, including asthma and obesity, remain a concern for children and families.** As in 2016, obesity and asthma continue to be top community health concerns. One in four BPS students are overweight or obese. Access to healthy food was described as a concern in some Boston neighborhoods, including Jamaica Plain, portions of Roxbury, and Dorchester. Food security likewise is a concern, especially among those with children under age 18. Participants described a need for programs and services, ranging from providing health education to addressing safety concerns that impede physical activity. One in four Boston high school youth reported an asthma diagnosis; asthma emergency department data show Black and Latino children experience significantly higher rates of ED visits than White children.
- **Violence-based trauma was identified as a major factor of negative community health outcomes, and there is a need for more trauma-informed approaches to care, particularly for children and communities of color.** One in four Boston CHNA community survey respondents described their neighborhoods as unsafe or extremely unsafe, with Black and Latino respondents more likely to describe their communities this way. Exposure of children and youth to unhealthy relationships and violence (adverse childhood experiences) is also of concern; focus group and interview participants urged integration of more trauma-informed care in health services and early childhood education.
- **Boston's birth rates have declined over time, while the proportions of low birth weight babies and preterm births have remained steady.** Rates of low birth weight infants and preterm births were significantly higher among Black and Latino mothers compared to White mothers. While about 83% of Boston women received prenatal care, rates of access to prenatal care are lower among Asian, Black, and Latino women compared to White women. Accessing affordable childcare is also a prevalent challenge for families with young children.
- **Boston has many health care and social service assets to be leveraged, but access to those services is a challenge for some residents**. Proximity of health care services and education institutions, diversity and multiculturalism, and engaged residents were noted as key strengths among Bostonians that can be leveraged in future planning. Multifaceted barriers to care included underinsurance, language, immigration status, navigation and care coordination, transportation, and lack of culturally-sensitive approaches to care.

BACKGROUND

Overview of Boston Children's Hospital

Boston Children's Hospital (Boston Children's) is a 415-bed comprehensive center for pediatric health care and the primary pediatric teaching hospital of Harvard Medical School. As one of the largest pediatric medical centers in the United States, Boston Children's offers a complete range of health care services for children from birth through 21 years of age. Boston Children's has a long-standing commitment to community health, and its community mission is to improve the health and well-being of children and families in the local community. In service of this mission, the hospital leverages its resources with community partnerships to address health disparities, improve child health outcomes and enhance the quality of life for children and families. Ultimately, these efforts aim to:

1. Support community-based efforts;
2. Improve systems of health care for children;
3. Build community capacity to tackle the contributors to disparities; and
4. Make care easier to access for families.

Summary of Previous CHNA

Boston Children's conducted its previous Community Health Needs Assessment (CHNA) in 2016. That assessment utilized a participatory, collaborative approach and examined health in its broadest context. As part of the CHNA, Boston Children's sought input from its community advisory board members and engaged youth to design, collect, and analyze data on youth perceptions of needs and opportunities. The assessment process also included synthesizing existing data on social, economic, and health indicators in Boston. Eight interviews and two focus groups were conducted to explore perceptions of the community, health and social challenges for children and families, and recommendations for how to address these concerns. Additionally, Boston Children's collaborated with other hospitals through the Conference of Boston Teaching Hospitals to gather information on community needs via four focus groups hosted by community coalitions. Boston Children's also gathered information on challenges faced by children with special needs and their families by attending a focus group listening session facilitated by Health Care for All. Lastly, the CHNA was informed by results from Boston Children's Determination of Need community engagement process. That process, which was guided by an Advisory Group that met in person six times, included conducting seven facilitated community engagement sessions across the city of Boston. Four targeted small group discussions were also held with communities that were under-represented in the larger community sessions. The 2016 assessment identified the following child health issues: obesity (physical activity and nutrition); early childhood/child development; asthma; access to medical and prevention services; mental and behavioral health; and violence and trauma. Additionally, the CHNA identified several needs focused on the social determinants of health including affordable housing, legal assistance, and youth workforce development and engagement. The 2016 assessment report is available at: http://www.childrenshospital.org/about-us/community-mission/community-needs-assessment

Review of Initiatives

Based on the results of its 2016 CHNA process, Boston Children's developed a plan to address the identified health needs through clinical care, programs and services, and in collaboration with community-based organizations, health centers, advocacy groups, and city agencies. The 2016 plan is available at http://www.childrenshospital.org/about-us/community-mission/community-needs-assessment. Since the 2016 CHNA, Boston Children's has provided a variety of services and programming to address the identified key needs (see Appendix A).

Purpose and Scope of the 2019 Boston Children's Community Health Needs Assessment

In 2019, Boston Children's engaged Health Resources in Action (HRiA), a non-profit public health organization in Boston, to conduct its 2019 CHNA. This report describes the process and findings of this effort. In addition to fulfilling the requirement by the IRS Section H/Form 990 mandate, the Boston Children's CHNA process was conducted to achieve the following overarching goals:

- To update the 2016 assessment and provide a comprehensive portrait of current child and family health needs and strengths with a focus on Boston Children's priority neighborhoods (Dorchester, Fenway, Jamaica Plain, Mattapan, Mission Hill, and Roxbury)[2]
- To present data about community characteristics and health needs of residents served by Boston Children's five satellite locations (Lexington, North Dartmouth, Peabody, Waltham and Weymouth)
- To describe both overall trends and unique issues by sub-populations, using a social determinants of health framework
- To delve deeper into current Boston Children's priority areas to advance and elevate existing initiatives.

Ultimately, through the CHNA, Boston Children's aimed to identify existing needs, and strategic opportunities for the future.

Intersection with 2019 Boston Collaborative Community Health Needs Assessment

It is important to note that the 2019 Boston Children's CHNA is related to a larger CHNA effort conducted across Boston. In 2019, a wide variety of Boston stakeholders—community organizations, community development corporations, health centers, hospitals, and the Boston Public Health Commission—formed the Boston CHNA-CHIP Collaborative to engage in Boston's first large-scale collaborative city-wide Community Health Needs Assessment (CHNA) and Community Health Improvement Plan (CHIP). While community health assessment and planning work have been long-standing endeavors within individual organizations, the Boston CHNA-CHIP Collaborative aligns and coordinates resources between multi-sector stakeholders across Boston. Boston Children's was a founding member of the city-wide assessment, having representation on both the Steering Committee and work groups. The 2019 Boston Collaborative CHNA provides a comprehensive look at a range of health outcomes and conditions in Boston, as well as the social determinants that affect health. That full report is available at www.BostonCHNA.org.

That city-wide effort provides data on a number of different health issues but does not dive deeply on specific issues related to children's health. This report presents findings from the data collection conducted for the Boston Children's CHNA and also integrates the key results of the larger citywide CHNA to provide a deeper perspective on the needs of Boston's children and their parents. In addition, this CHNA includes information about needs in five communities where Boston Children's has satellite sites: Lexington, North Dartmouth, Peabody, Waltham and Weymouth.

Definition of Community Served

Boston Children's undertook its 2019 CHNA to ensure that it is addressing the most pressing health concerns of children and families across Boston and its six priority communities within the city—

[2] Fenway and Mission Hill are priority neighborhoods of Boston Children's due to their proximity to the hospital and the hospital's impact on the neighborhood.

Dorchester, Fenway, Jamaica Plain, Mattapan, Mission Hill, and Roxbury—as well as in the communities served by its satellite locations, Lexington, North Dartmouth, Peabody, Waltham and Weymouth.

It is important to acknowledge that Fenway and Mission Hill have similar needs as Dorchester, Jamaica Plain, Mattapan, and Roxbury; however, they also experience unique challenges due to their proximity to medical and higher education institutions – including, Boston Children's and other academic medical centers, as well as several local colleges and universities – that affect their environment, housing markets, and community residents. For example, large student populations transition in and out of local housing annually and affect the local economy. Therefore, when reviewing population data for these neighborhoods, it is important to consider how social determinants of health, such as employment, income, and poverty, may be skewed by a large student population.

Neighborhoods can be identified in several ways. In this report, consistent with the *Health of Boston 2016-2017,* zip codes are used to identify neighborhood boundaries since this information is collected with health data and it allows us to standardize data to rates using population estimates which can change over time.

With this approach, some neighborhoods are combined to provide a larger area for analysis (e.g., Mission Hill and Roxbury). Please note that the zip code neighborhood definitions used in this report may differ from what are used by other organizations and agencies. To this point, there are a few tables in this report with demographic data by neighborhood that lists more neighborhoods (e.g., Mission Hill). These data were pulled using the Boston Planning and Development Agency delineations of neighborhoods which are based on census tracts. Therefore, it should be noted that the neighborhood boundaries for the data in these tables are slightly different than the rest of the report.

METHODS

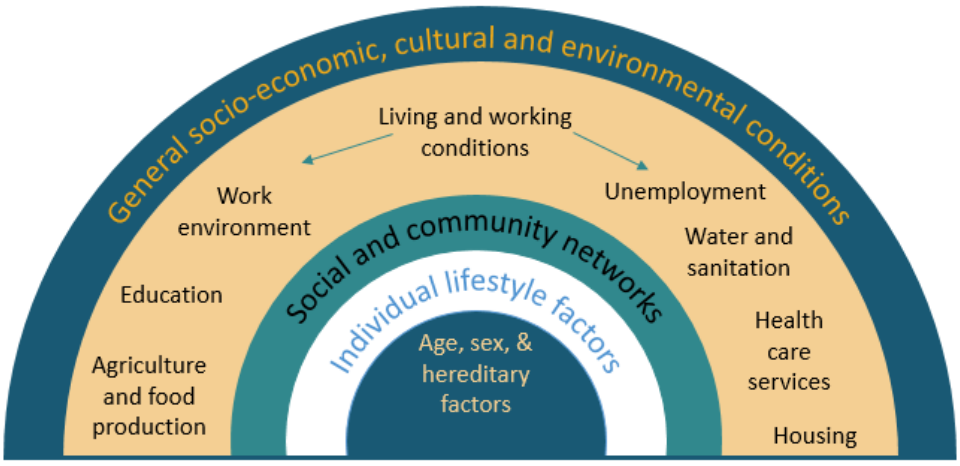
The following section describes how data for the CHNA was compiled and analyzed, as well as the broader lens used to guide this process. Specifically, the CHNA defines health in the broadest sense and recognizes that numerous factors at multiple levels impact a community's health — from lifestyle behaviors (e.g., diet and exercise), to clinical care (e.g. access to medical services), to social and economic factors (e.g., neighborhood safety or employment opportunities).

Social Determinants of Health Framework

Upstream Approaches to Health

Having a healthy population is about more than delivering quality health care to residents. Where a person lives, learns, works, and plays all have an enormous impact on health. Health is not only affected by people's genes and lifestyle behaviors, but by more upstream factors such as employment status, quality of housing stock, and economic policies. Figure 1 provides a visual representation of these relationships, demonstrating how individual lifestyle factors, which are closest to health outcomes, are influenced by more upstream factors such as employment status and educational opportunities.

Figure 1: Social Determinants of Health Framework



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

Health Equity Lens

The influences of race, ethnicity, income, and geography on health patterns are often intertwined. In the United States, social, economic, and political status based on race and ethnicity can influence opportunities for career advancement and housing options, two factors that profoundly affect health. Institutional racism, economic inequality, discriminatory policies and historical oppression of specific groups are a few of the factors that drive health inequities in the U.S.

This report describes health patterns for Boston children overall and areas of need for particular population groups and geographies, where available. Understanding factors that contribute to health patterns for these populations can facilitate the identification of data-informed and evidence-based strategies to provide all families with the opportunity to live a healthy life.

Life Course Perspective

This CHNA is also grounded in a life course perspective which considers how early-life experiences influence health across an entire lifetime, and potentially across generations.[i] This framework is built on the growing evidence of the influence of both biological and social processes on health over the lifespan. It considers how the psychosocial as well as the physical environment influence the pathways of development and patterns of behavior and illnesses from early childhood through adulthood, with a particular focus on those experiences related to economic adversity and the social disadvantages of early life that shape adult health.

Secondary Data

Secondary data for this report are from a variety of sources including the Boston Behavioral Risk Factor Surveillance Survey (BBRFSS), Youth Risk Behavior Survey (YRBS), U.S. Census American Community Survey (ACS), vital records, and Acute Hospital Case Mix Database from the Center for Health Information and Analysis, among others. The Research and Evaluation Office at the Boston Public Health Commission conducted most of the data analysis for the secondary data in this report. Hospital encounter data and data about patient characteristics were provided by the Office of Community Health at Boston Children's Hospital. School data were provided by the Boston Public Schools' Health and Wellness department. Analyses are presented as frequencies (percentages) and rates throughout the

report. Data from the ACS and surveillance systems, such as the BBRFSS, are presented with confidence intervals (or error bars in the figures), where possible. In this report, tests for significance are noted in the table or graph notes (where $p<0.05$), while the narrative uses the words "significant" or "significantly" to note statistically significant differences.

Focus Groups and Key informant Interviews

This report also includes data collected from focus groups and key informant interviews conducted for the Boston CHNA. Thirteen focus groups were conducted with community residents for the collaborative Boston CHNA. These focus groups were with specific populations not typically represented in assessment processes including low wage workers, LGTBQ youth at risk of being homeless, survivors of violence, public housing residents, and immigrant parents. Focus groups were conducted in English, Spanish, Haitian Creole, and Chinese. A total of 104 community residents participated in focus groups. Focus groups were 90-minute semi-structured conversations with approximately 8-12 participants per group and aimed to delve deeply into community's needs, strengths, and opportunities for the future. These discussions were not health topic-specific, but delved more into the social and economic factors that impact their lives. Selected results from these discussions that focus specifically on the experiences and needs of children, youth, and parents are included in this report. This includes seven focus groups that emphasized parent and family experiences and one youth specific focus group.

This report also includes data from 45 key informant interviews conducted for the collaborative Boston CHNA. These interviews were more general and explored interviewees' experiences addressing community needs and opportunities for future alignment, coordination, and expansion of services, initiatives, and policies. Interviewees represented a variety of organizations and sectors including public health, health care, housing and homelessness, transportation, community development, faith, education, public safety, environmental justice, government, workforce development, social services, food insecurity, business organizational staff that work with specific population such as youth, seniors, disabled, LGBTQ, and immigrants. As with focus groups, included in this report are perspectives from key informant interviews that focus specifically on the experiences and needs of children, youth, and parents.

Because the experiences and needs of those served by Boston Children's satellite locations outside Boston are not represented in the Boston CHNA, 11 key informant interviews were conducted with clinic staff such as nurses, social workers, and administrators, as well as staff of community-based partner organizations. The purpose of these interviews was to gather information about health needs and trends in the communities served by satellite , as well as gaps in services, and potential roles Boston Children's could play in addressing needs. Interviews were conducted by Boston Children's staff using a semi-structured interview protocol and were approximately 45-60 minutes in duration.

Community Survey

A community survey was developed and administered for the collaborative Boston CHNA. The survey focused on a range of issues related to the social determinants of health, community perceptions, and access to care. The survey was developed collaboratively with work group members and pilot-tested in late January 2019. The final instrument was launched in February 2019 and fielded through early March 2019. The survey was administered on-line (n=1,996, 83%) and via hard copy (n=408, 17%) in seven languages: English (88.6%), Spanish (5.9%), Portuguese (0.2%), Haitian Creole (0.5%), Chinese (3.0%), Vietnamese (1.6%), and Arabic (0.2%). The survey used a convenience sample, but extensive outreach was conducted by Collaborative members to garner a sample that reflected Boston demographics. The

survey was completed by 2,404 respondents who were Boston residents. Significance testing to identify differences by sub-group were conducted on these data and are noted in the table or graph notes; the narrative uses the words “significant” or “significantly” to note where there are statistically significant differences exist. For this CHNA, additional analyses of the community survey were conducted to stratify results by parents of children under age 18 (n=548) and youth under age 18 (n=201).

Data Limitations

Several limitations related to these data should be acknowledged. A number of secondary data sources were drawn upon for this report. Although all the sources used for this purpose are considered highly credible, sources may use different methods and assumptions when conducting analyses (e.g., different questions to identify race/ethnicity; different boundaries for neighborhoods). For example, how sources define neighborhood boundaries may vary (e.g., the Boston Public Health Commission combines Roxbury and Mission Hill together, while the Boston Redevelopment Authority defines them separately). There is also often a time lag from the time of data collection to data availability. Some data are not available by specific population groups or at a more granular geographic levels due to small sub-sample sizes. In some cases, data from multiple years may have been aggregated to allow for data estimates at a more granular level or among specific groups.

Additionally, while focus groups and interviews provide valuable insights and important in-depth context, due to their small sample size and non-random sampling methods, results are not necessarily generalizable. Additionally, it is important to note that data were collected at one point in time, so findings, while directional and descriptive, should not be interpreted as definitive.

For the Boston CHNA survey, a convenience sample was used, which is a type of non-probability sampling; thus, while strong efforts were made to conduct broad outreach, there is potential selection bias in who participated or was asked to participate in the survey. For example, WiFi services are not provided in housing developments, thus residents in these developments without access to WiFi through personal resources may have been less likely to respond to the survey. Due to this, results cannot necessarily be generalized to the larger population.

Throughout this report, comparisons are made to findings from the 2016 Boston Children’s CHNA. It is important to note, however, that the methodologies related to qualitative data collection differ substantially across these two reports. In 2016, numerous focus groups were conducted as part of the CHNA process for Boston Children’s. These included one focus group with the Boston Children’s Community Advisory Board, one conducted with Boston Children’s Hospital staff, six focus groups with youth, four focus groups with community residents, and a focus group listening session with parents of children with complex needs and coalition leaders. For the 2019 Boston Children’s CHNA, focus group data are from those conducted for the Boston CHNA. Additionally, in 2016, eight phone interviews with community stakeholders were conducted to gauge their perceptions of the community served by Boston Children’s, health concerns for youth and families, and what programming, services, or initiatives were most needed to address these concerns. This year, 11 phone interviews were conducted with a similar purpose but focused on communities served by satellite locations. Thus, comparisons to themes from the 2016 report are made sparingly in this report, and results should be interpreted with caution.

Community Social, Economic, and Physical Context

Population Overview

The most current figures from the 2013-2017 American Community Survey show that Boston has 669,158 residents, a population that has grown 8% in the last several years (Table 1). Boston's population is projected to continue to grow at that rate—to 723,500 people by 2030. Among Boston Children's priority neighborhoods, Dorchester has the largest population (143,450). In the last several years, the population has increased in all neighborhoods; Roxbury, one of Boston Children's priority neighborhoods, has experienced a double-digit percentage increase in population (17.1%).

Table 1. Total Population, by Boston and Neighborhood, 2008-2012 and 2013-2017

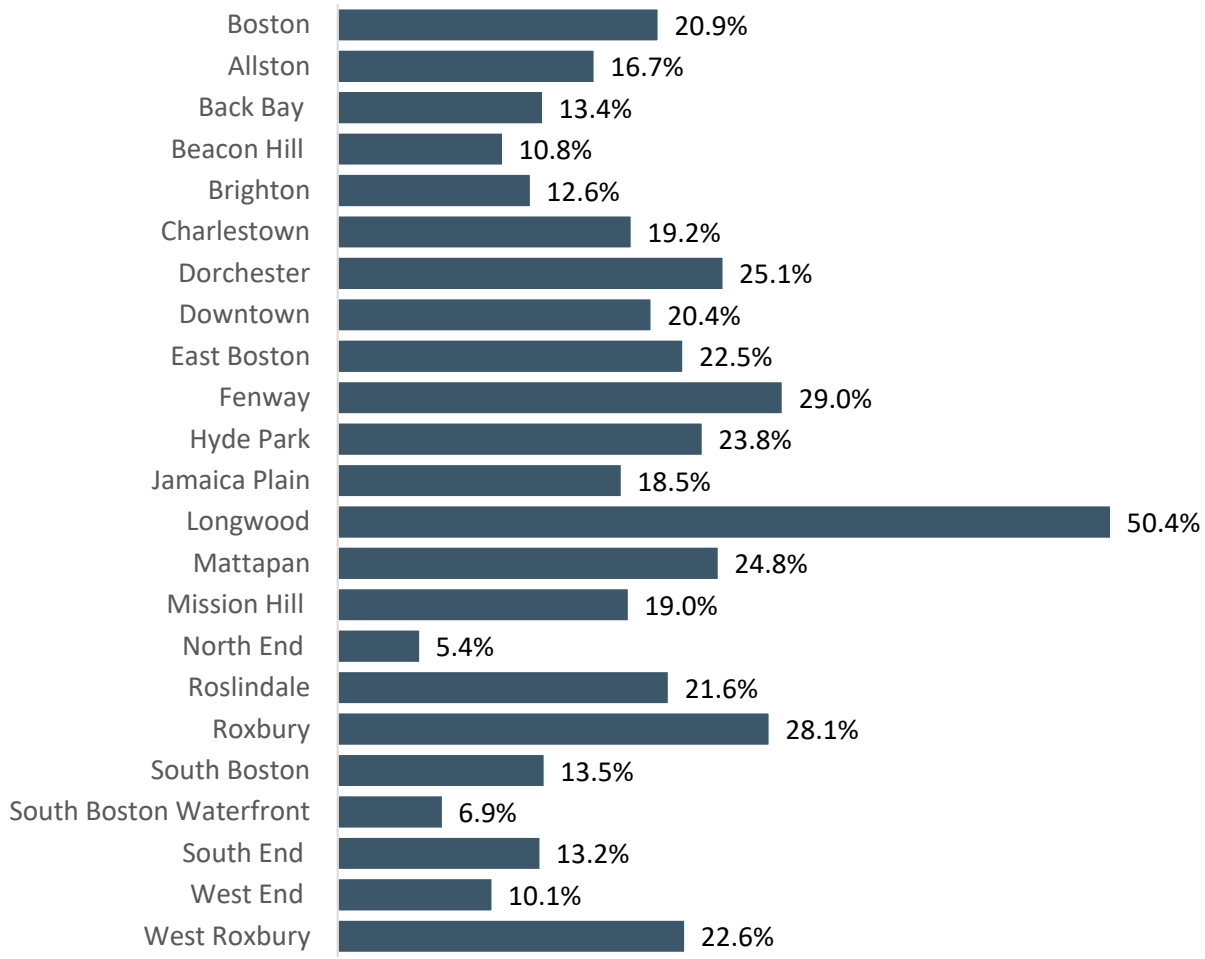
	2008-2012	2013-2017	% population change 2012 to 2017
Boston	619,662	669,158	8.0%
Allston/Brighton	61,159	63,270	3.5%
Back Bay	51,735	55,635	7.5%
Charlestown	17,052	18,901	10.8%
Dorchester (02121, 02125)	58,797	63,733	8.4%
Dorchester (02122, 02124)	75,304	79,717	5.9%
East Boston	41,680	46,655	11.9%
Fenway	52,897	54,267	2.6%
Hyde Park	29,219	33,084	13.2%
Jamaica Plain	36,866	39,435	7.0%
Mattapan	27,335	29,141	6.6%
Roslindale	30,370	32,819	8.1%
Roxbury	37,454	43,871	17.1%
South Boston	34,452	39,866	15.7%
South End	34,395	34,777	1.1%
West Roxbury	27,163	28,505	4.9%

DATA SOURCE: U.S. Census, American Community Survey 5-Year Estimates, 2008-2012 and 2013-2017
NOTE: Neighborhoods as defined by Boston Public Health Commission; Back Bay includes Back Bay, Beacon Hill, Downtown, North End, and West End; South End includes South End and Chinatown; Boston population count includes some areas that are not covered by neighborhood definitions per ZCTAs; Data for Mission Hill were analyzed by Boston Planning and Development Agency

Age Distribution

Boston's population represents a range of age groups, but the distribution of these ages varies across neighborhoods. Overall, about 20% of Boston's residents are 19 years old or younger (Figure 2). Among Boston Children's priority neighborhoods, Fenway (n=15,737, 29.0%) and Roxbury (n=12,328, 28.1%) had the largest proportion of children and teenagers (those under 20), although it should be noted that the Fenway has a high proportion of college-age students. Among Boston Children's priority neighborhoods, Jamaica Plain (18.5%) and Mission Hill (19.0%) had the smallest proportion of residents 19 years and younger.

Figure 2. 0-19 Age Distribution, by Boston and Neighborhood, 2013-2017



DATA SOURCE: U.S. Census, American Community Survey 5-Year Estimates, 2013-2017
NOTE: Neighborhoods as defined by Boston Planning and Development Agency based on a combination of census tracts, zip codes and zoning districts; Downtown includes Chinatown, Leather District and Downtown; South End includes South End and Bay Village

Data by age of children under 18 indicate that about 5% of Boston's population is under 5 years old, while 6.8% are adolescents (Table 2). Charlestown and Roxbury have the highest proportion of very young children, while Dorchester, East Boston, Hyde Park and Mattapan have the highest proportion of adolescents, and Fenway has the lowest proportion of children age 0-17 years. It should be noted that Boston Children's priority neighborhood of Mission Hill is represented in the Roxbury data.

Table 2. Under 18 Age Distribution, by Boston and Neighborhood, 2013-2017

	Under 5 years	5-9 years	10-14 years	15-17 years
Boston	5.2%	4.3%	4.1%	2.7%
Allston/Brighton	3.7%	2.3%	1.8%	1.3%
Back Bay	3.2%	1.5%	1.8%	0.7%
Charlestown	8.1%	4.7%	3.8%	1.4%
Dorchester (zip codes 02121, 02125)	6.0%	6.5%	5.9%	4.3%
Dorchester (zip codes 02122, 02124)	6.8%	5.6%	6.0%	4.0%
East Boston	6.8%	5.4%	5.2%	3.2%
Fenway	1.2%	1.4%	0.6%	0.7%
Hyde Park	5.0%	5.8%	8.0%	4.7%
Jamaica Plain	5.7%	3.6%	3.8%	2.4%
Mattapan	5.9%	6.1%	6.4%	4.3%
Roslindale	6.3%	6.3%	4.9%	3.7%
Roxbury	5.0%	5.9%	4.9%	3.3%
South Boston	4.3%	3.0%	3.4%	1.6%
South End	5.3%	3.5%	3.0%	1.6%
West Roxbury	8.7%	4.2%	4.4%	3.1%

DATA SOURCE: U.S. Census, American Community Survey 5-Year Estimates, 2013-2017
NOTE: Neighborhoods as defined by Boston Public Health Commission; Back Bay includes Back Bay, Beacon Hill, Downtown, North End, and West End; South End includes South End and Chinatown; Data represent the Under 18 age category disaggregated (denominator for each age grouping is out of total population)

Racial and Ethnic Composition

Boston is a diverse city with 23% of residents identifying as Black, 19% identifying as Latino, and nearly 10% identifying as Asian (Table 3). The Boston Public School (BPS) system is even more diverse than the city overall. Of the 52,665 students in BPS in 2018, nearly 42% identify as Latino and 32% identify as Black. Table 4 presents student enrollment data for BPS by race/ethnicity over time. Trend data indicate that racial/ethnic distribution of BPS students has been similar since 2014.

Table 3. Racial and Ethnic Distribution, by Boston and Neighborhood, 2013-2017

	Asian	Black	Latino	White	Other
Boston	9.4%	22.7%	19.4%	44.9%	3.6%
Allston	21.7%	6.2%	13.8%	54.2%	4.1%
Back Bay	9.9%	4.2%	8.1%	75.5%	2.3%
Beacon Hill	6.2%	1.3%	6.9%	83.4%	2.2%
Brighton	15.9%	4.4%	10.8%	65.0%	3.8%
Charlestown	7.2%	5.8%	11.8%	73.2%	2.0%
Dorchester	9.4%	45.4%	18.1%	21.5%	5.6%
Downtown	31.6%	3.4%	6.1%	56.4%	2.5%
East Boston	3.8%	2.6%	57.4%	32.6%	3.7%
Fenway	20.3%	4.5%	11.6%	60.1%	3.5%
Hyde Park	1.8%	45.5%	24.9%	24.5%	3.3%
Jamaica Plain	6.2%	11.2%	23.7%	55.1%	3.9%
Longwood	11.2%	5.9%	9.8%	70.2%	2.9%
Mattapan	1.8%	73.0%	15.3%	6.8%	3.1%
Mission Hill	18.5%	15.9%	20.0%	43.9%	1.7%
North End	3.2%	0.5%	6.4%	88.4%	1.5%
Roslindale	2.0%	20.5%	23.1%	51.3%	3.1%
Roxbury	3.7%	51.5%	30.0%	10.5%	4.3%
South Boston	4.2%	6.3%	10.9%	77.0%	1.6%
South Boston Waterfront	10.7%	2.7%	3.0%	81.4%	2.1%
South End	16.6%	10.6%	13.5%	55.9%	3.4%
West End	15.0%	7.0%	12.7%	62.6%	2.7%
West Roxbury	7.6%	10.4%	10.2%	69.4%	2.5%

DATA SOURCE: U.S. Census, American Community Survey 5-Year Estimates, as analyzed by BPDA Research Division, as reported by Boston Planning and Development Agency, BPDA Research Division, Boston in Context: Neighborhoods 2019, 2013-2017
NOTES: Neighborhoods as defined by Boston Planning and Development Agency based on a combination of census tracts, zip codes and zoning districts; Downtown includes Chinatown, Leather District and Downtown; South End includes South End and Bay Village; Latino includes residents who identify as Latino regardless of race and racial categories include residents who do not identify as Latino; Other includes American Indian and Alaska Native, Native Hawaiian and Other Pacific Islander, Some other race, and Two or more races

Table 4. Number of Boston Public School Enrolled Students and Percent, by Race/Ethnicity, 2014-2018

	2014	2015	2016	2017	2018
Total	54,300	54,312	53,530	53,263	52,665
Asian	8.6%	8.5%	8.7%	8.8%	9.0%
Black	34.5%	33.6%	32.4%	31.8%	31.5%
Latino	40.4%	40.9%	41.5%	41.8%	41.9%
White	13.6%	13.8%	14.2%	14.2%	14.2%
Other	11.5%	11.7%	11.9%	12.2%	12.4%

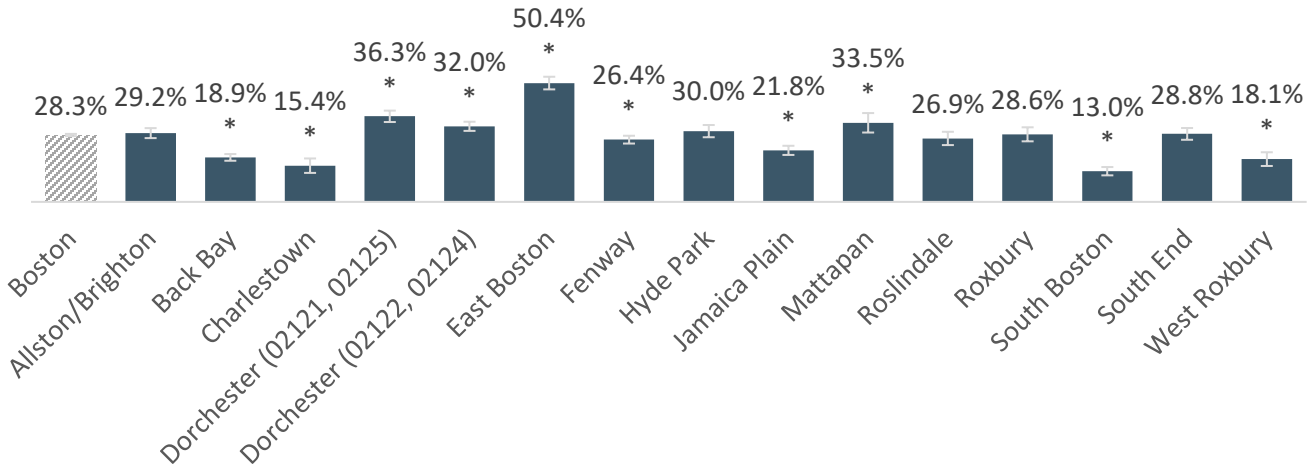
DATA SOURCE: Massachusetts Department of Elementary and Secondary Education, School and District Profiles, Trends - DART, 2014-2018
NOTE: Other includes Native American, Native Hawaiian or Pacific Islander, and Multi-race

Diversity among younger residents is greater than among older residents, and diversity at the neighborhood level varies substantially. While more than one in five Boston residents (22.7%) identify as Black, in Boston Children's priority neighborhoods of Dorchester, Mattapan, and Roxbury over 45% of residents identify as Black. In Fenway, Mission Hill, and Jamaica Plain, the largest proportion of residents identify as White. Fenway (20.3%) and Mission Hill (18.5%) have the highest proportion of Asian residents among Boston Children's priority neighborhoods while Roxbury (30.0%) and Jamaica Plain (23.7%) have the highest proportion of Latino residents.

While Boston's overall population increased by 8% from 2008 to 2017, the number of Latino residents grew by 20.1%. The number of Asian residents increased by 12.8%, and those of another race (a combined category of American Indian/Alaskan Native, Native Hawaiian and Other Pacific Islander, some other race, or two or more races) increased 13.6% in the past several years.[ii] Growth in the number of Black residents and White residents between 2008 and 2017 was comparatively lower: the number of Black residents increased by 6.1% over this time period, while the number of White residents increased by 3.1%.

Boston's immigrant community is strong. Over 28% of Boston residents were born outside the United States, with the highest proportion coming from the Caribbean (29.1% of foreign-born residents) and Asia (26.0% of foreign-born residents).[iii] Around one third of Dorchester and Mattapan residents are foreign-born, a rate significantly higher than Boston overall (Figure 3). Additionally, nearly 38% of residents speak a language other than English at home and those figures are significantly higher for Dorchester (zip codes 02121, 02125) and Roxbury compared to Boston overall.[iv] Spanish, French/Haitian Creole/Cajun, other Indo-European languages (e.g., Portuguese, Italian), and Chinese are the most commonly spoken languages in Boston other than English. It should be noted that Boston Children's priority neighborhood of Mission Hill is represented in the Roxbury data.

Figure 3. Percent Foreign Born Population, by Boston and Neighborhood, 2013-2017

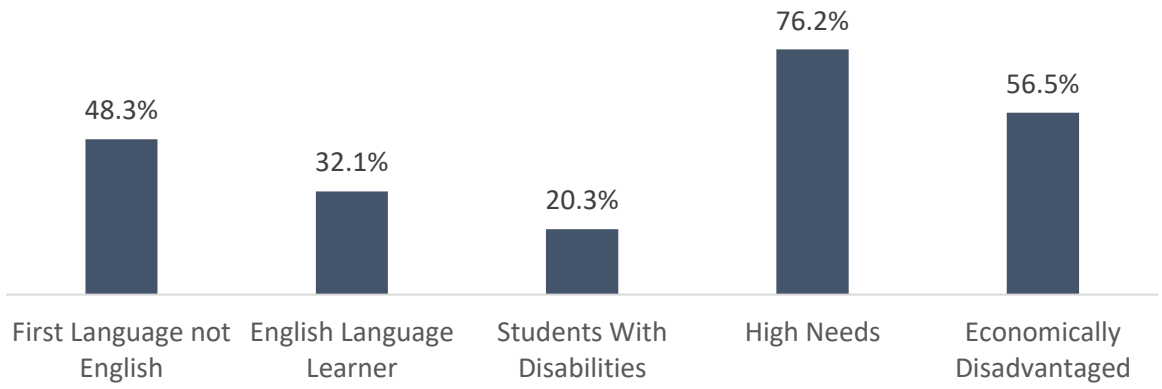


DATA SOURCE: U.S. Census, American Community Survey 5-Year Estimates, 2013-2017
NOTE: Neighborhoods as defined by Boston Public Health Commission; Back Bay includes Back Bay, Beacon Hill, Downtown, North End, and West End; South End includes South End and Chinatown; Asterisk denotes where the neighborhood estimate is significantly different compared to the Boston estimate ($p<0.05$); Error bars show 95% confidence interval

Education

The student population in Boston Public Schools is diverse in their needs. Figure 4 shows that 32.1% of BPS students are considered English Language Learners, defined as a student whose first language is a language other than English and who is unable to perform ordinary classroom work in English, 20.3% are students with disabilities, and 56.5% are considered economically disadvantaged. Altogether, 76.2% of BPS students are deemed high needs, as either being low income, economically disadvantaged, being a current or former English Language Learner, or having a disability.

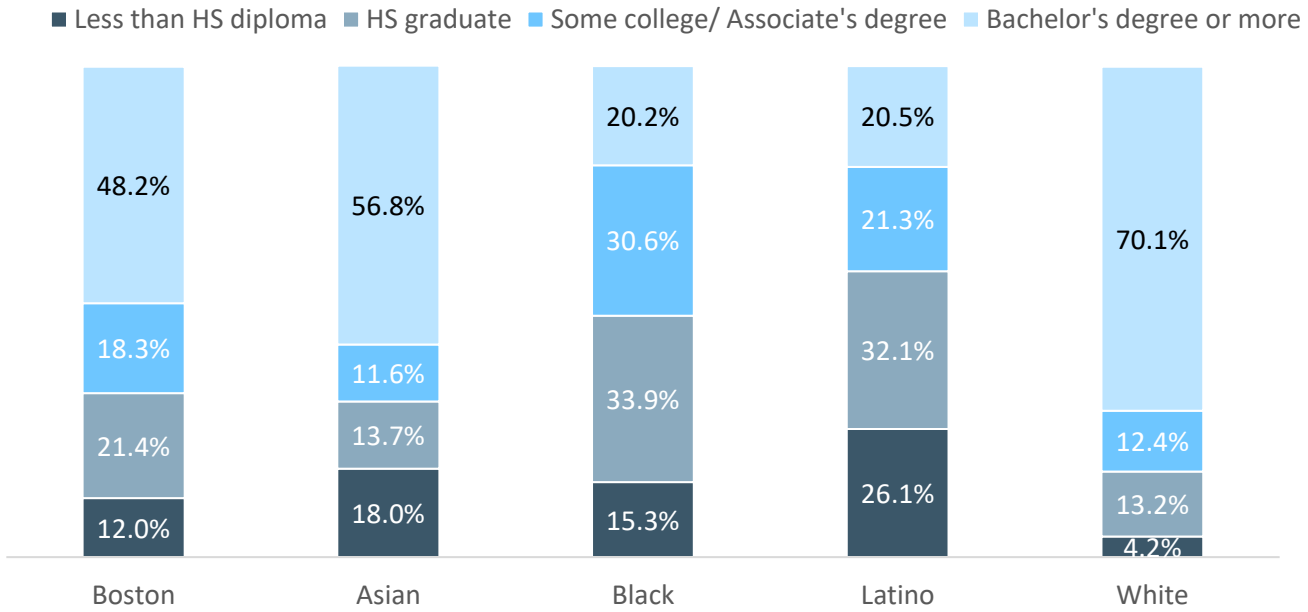
Figure 4. Percent Boston Public School Students Enrolled, by Selected Sub-Populations, 2019



DATA SOURCE: Massachusetts Department of Elementary and Secondary Education, School and District Profiles, Selected Populations, 2019
NOTES: Years represent school years (e.g., 2014 represents school year 2013-2014); First Language not English indicates the percent of enrollment whose first language is a language other than English; English Learners indicates the percent of enrollment who are English learners, defined as 'a student whose first language is a language other than English who is unable to perform ordinary classroom work in English;' Economically disadvantaged is determined based on a student's participation in one or more of the following state-administered programs: the Supplemental Nutrition Assistance Program (SNAP), the Transitional Assistance for Families with Dependent Children (TAFDC), the Department of Children and Families' (DCF) foster care program, and MassHealth (Medicaid); High needs is defined as students designated as either low income (prior to School Year 2015), economically disadvantaged (starting in School Year 2015), or ELL, or former ELL, or a student with disabilities.

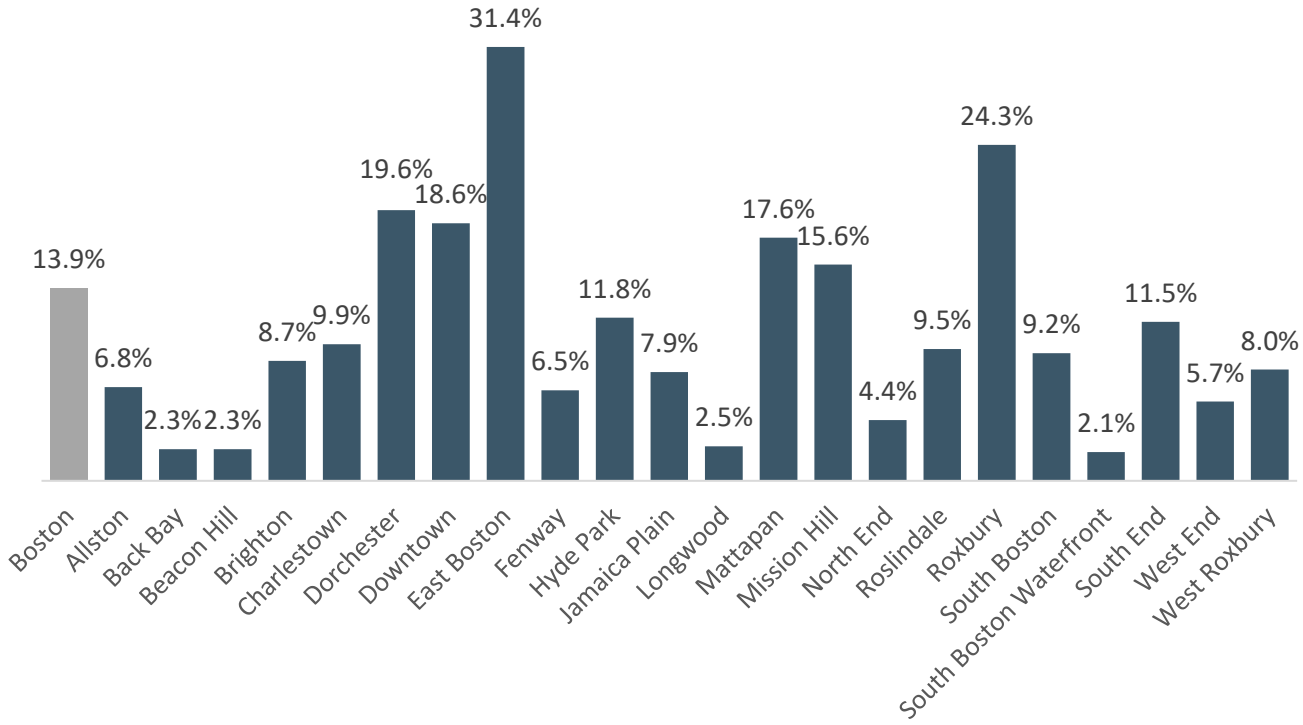
Overall Boston is a highly educated city with nearly half of adults (48.2%) age 25 years old or older holding a college degree or more (Figure 5). However, there are stark differences by race/ethnicity and neighborhood. Nearly seven in ten white residents hold a college degree, compared to two in ten Black and Latino residents. Nearly six in ten Asian residents hold a college degree. Over one quarter of Latino adult residents do not have a high school diploma, compared to 4% of white adult residents. Among Boston Children's priority neighborhoods, Roxbury has the greatest proportion of residents who do not have a high school diploma, nearly one quarter (Figure 6).

Figure 5. Educational Attainment for Population 25 Years and Over, by Boston and Race/Ethnicity, 2017



DATA SOURCE: U.S. Census, American Community Survey 1-Year Estimates, 2017

Figure 6. Percent Population 25 Years and Over with Less Than High School Diploma, by Boston and Neighborhood, 2013-2017



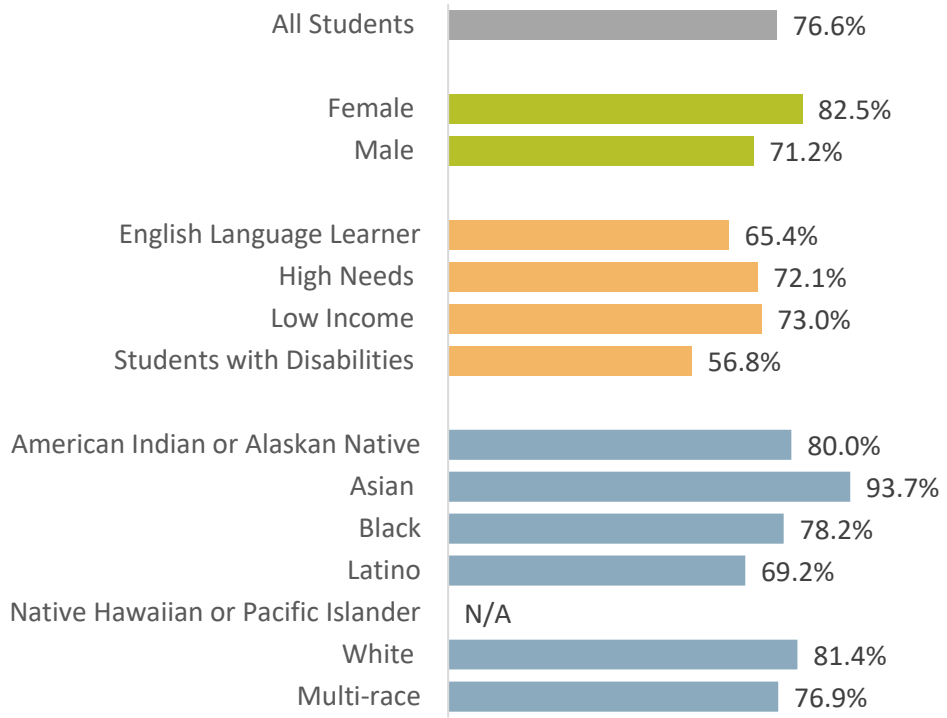
DATA SOURCE: U.S. Census, American Community Survey 5-Year Estimates, as analyzed by BPDA Research Division, as reported by Boston Planning and Development Agency, BPDA Research Division, Boston in Context: Neighborhoods 2019, 2013-2017
NOTES: Neighborhoods as defined by Boston Planning and Development Agency based on a combination of census tracts, zip codes and zoning districts; Downtown includes Chinatown, Leather District and Downtown; South End includes South End and Bay Village

Addressing the educational needs of specific population groups was an issue discussed in several focus groups and interviews conducted for the Boston CHNA. Children with special needs, undocumented students, and those who have experienced trauma were identified as groups that needed more support in and outside of the classroom. For example, parents in Chinatown discussed challenges receiving adequate special education resources. One shared, "*My kid needs speech therapy; he's getting one hour per week with the speech therapist and I requested increased services but was denied. I wish the school provided more resources for special education."* When discussing strategies to address trauma, one key informant shared, "*We need early interventions that have wrap around service models; we need individual counseling, family therapy, a parent advocate…we need interventions at multiple levels."*

Chronic absenteeism—defined as students who are absent 10% or more of their total number of student days of membership in a school—was a concern among parents and those in the educational field. Key informant interviewees in the field discussed how chronic absenteeism is of particular concern among children from families who are homeless or with parents who have substance use disorders or co-occurring mental health issues. One interviewee shared, "*Kids are missing a lot of academic time and school days because they are placed in shelters and then transported somewhere else; kids are sometimes commuting an hour and a half each way to school..."* Interviewees indicated that children who have experienced trauma are more likely to miss school or become disengaged when they are in school. There were suggestions for more trainings that focus on trauma-informed approaches to teaching. One key informant shared, "*Being trauma-informed in education means knowing what to look for [trauma symptoms] and being able to respond accordingly. Because your response as a provider or a teacher can either make or break how kids are engaged in services."*

Approximately three-quarters (76.6%) of students who started high school in 2013-2014 graduated within four years (Figure 7). This graduation rate is slightly higher than that reported in the 2016 Boston Children's CHNA (70.7%) and falls in the middle of other similarly-sized cities; 4-year graduation rates in Washington DC and San Francisco were 68.5% and 84.4%, respectively, in the same year. Four-year graduation rates differ across different subgroups of students, with at least 80% of female, Asian, White, and American Indian or Alaskan Native students graduating on time. Graduation rates are lower among Latino students (69.2%), English Language Learners (65.4%), and students with disabilities (56.8%). A comparison of current high school graduation rates to those reported in the last CHNA (2015 rates) shows that graduation rates have increased across students of all races/ethnicities.

Figure 7. Graduation Rate Among Boston Public High School Students, 2018

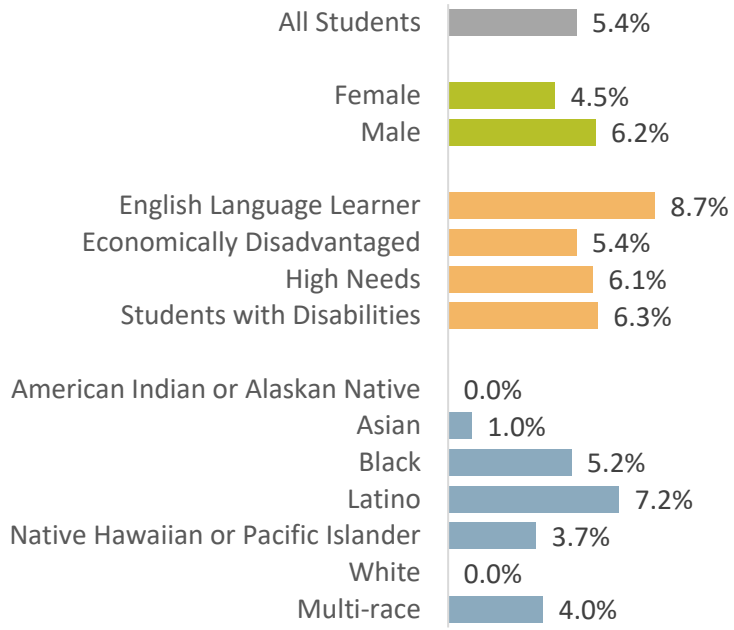


DATA SOURCE: Massachusetts Department of Elementary and Secondary Education, School and District Profiles, Cohort 2018 Graduation Rates, 2018

NOTES: Years represent school years (e.g., 2014 represents school year 2013-2014); Graduation Rate indicates the percentage of students who graduate with a regular high school diploma within 4 years (# of students in cohort who graduate in 4 years or less); Low-income indicates the percent of enrollment who meet any one of the following definitions of Low-income: 1) the student is eligible for free or reduced price lunch; or 2) the student receives Transitional Aid to Families benefits; or 3) the student is eligible for food stamps; The English language learners, Special Education, and Low-income groups include all students who were reported in those categories at least once in high school. Students can be counted in more than one group

Data from 2018 show that the high school drop-out rate among all Boston students was 5.4%, a lower rate than that reported in the last CHNA (11.9%) (Figure 8). High school drop-out rates are highest among English Language Learners (8.7%) and Latino students (7.2%) and lowest among White (0%), American Indian (0%), and Asian students (1.0%). Dropout rates declined between 2015 (as reported in the last CHNA) and 2018 across students of all races/ethnicities.

Figure 8. Dropout Rate Among Boston Public High School Students, 2018



DATA SOURCE: Massachusetts Department of Elementary and Secondary Education, School and District Profiles, Student Dropout Rate Report, 2018
NOTES: Years represent school years (e.g., 2014 represents school year 2013-2014); Dropouts are defined as students who leave school prior to graduation for reasons other than transfer to another school, in other words, the data indicate the percentage of students in grades 9-12 who dropped out of school between July 1 and June 30 prior to the listed year and who did not return to school by the following October 1; Dropout rates are not reported for any student group where the number of students is less than 6

Educational quality was brought up among many focus group and interview participants and discussed within the frame of educational equity. Participants believed that students in lower income neighborhoods were not necessarily receiving the same quality education as those in more affluent neighborhoods within Boston. Parents in focus groups in Allston/Brighton and in Dorchester, for example, held the perception that public schools did not invest in schools equitably across neighborhoods. One Allston parent shared, "*I want a better education for my daughter. The scores at our schools are very low compared to other neighborhoods."* Some parents discussed lottery systems that made it challenging to access neighborhood schools that were perceived to be of higher caliber. One key informant explained, *"When it comes to kids in elementary [school], one of the bigger challenges becomes feeling like you have to luck out to get into a good school. It's a lottery, and if you're able to tour and make informed choices you are not guaranteed a slot at the school. The older the children get, the more challenging it can feel…finding quality education in the city."*

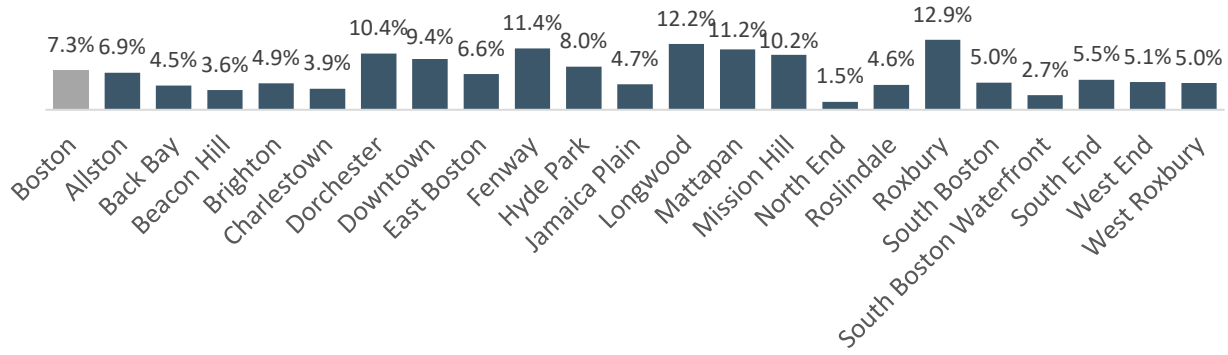
Key informant interviewees who work with families or were in the educational field saw a need for smaller class sizes, more social emotional supports, teachers that reflect the diversity of the community, and more venues to discuss health and wellness. One key informant summarized, "*We need to increase teachers and counselors and decrease class sizes. There is an opportunity to formalize more social support positions within Boston Public Schools to address [child] mental health on an on-going basis."* In addition, several interviewees discussed the importance of early childhood education and supports. Key informants also expressed desire for cultural immersion experiences. One interviewee shared, *"[We need to be] bringing in more opportunities for children around art and cultural experiences. Helping children think about culture inside and outside the academic lens."*

Employment and Workforce

Overall, Boston residents have been experiencing low levels of unemployment in the last several years. However, in focus group and interview discussions conducted for the Boston CHNA, there were differing views about employment and economic prospects in the city of Boston. Several key informant interviewees talked about the economic vitality in the city, citing a strong local economy and thriving small businesses. However, many residents across several focus groups discussed challenges for workers – especially those with lower educational levels or skills – in securing well-paying jobs, remarking on the stark class divides between Boston residents. Similar themes were shared in the 2016 CHNA. One interviewee shared*, "We have become the two cities of Boston. The extreme and stark difference is right in your face; where you have urban affluence right up against urban poverty… the Ritz condo development right next to St. Francis House…"* Immigrant communities, single-parent households, residents with a criminal record, and parents of children with special needs were described as especially vulnerable to unstable employment situations.

Quantitative data indicate differences in the proportion of residents who are unemployed. In 2018, Boston's unemployment rate was 3.0%, according to the Bureau of Labor Statistics; however, when examining unemployment data over the past several years (2013-2017), which can be analyzed by neighborhood and other subgroups, there are differences by neighborhood. Unemployment during this period was 7.3% citywide, but over 10% in Boston Children's priority neighborhoods of Roxbury, Dorchester, Fenway, Mattapan, and Mission Hill (Figure 9); although, it should be noted that Fenway and Mission Hill have a high proportion of college students, which may skew the data.

Figure 9. Percent Population 16 Years and Over Unemployed, by Boston and Neighborhood, 2013-2017



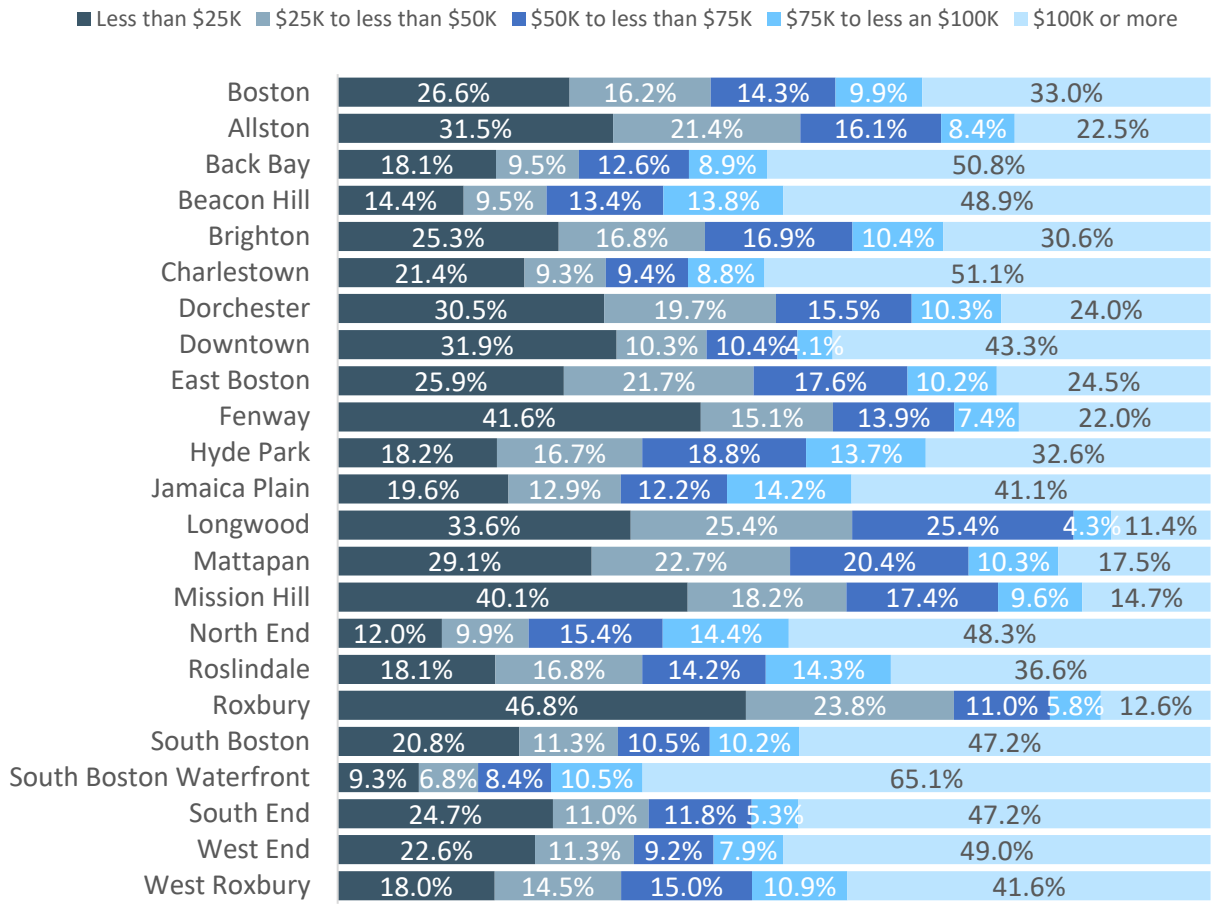
DATA SOURCE: U.S. Census, American Community Survey 5-Year Estimates, as analyzed by BPDA Research Division, as reported by Boston Planning and Development Agency, BPDA Research Division, Boston in Context: Neighborhoods 2019, 2013-2017
NOTES: Neighborhoods as defined by Boston Planning and Development Agency based on a combination of census tracts, zip codes and zoning districts; Downtown includes Chinatown, Leather District and Downtown; South End includes South End and Bay Village

Income and Financial Security

Similar to discussions conducted for Boston Children's CHNA In 2016, financial insecurity was a major theme across many focus groups conducted for the Boston CHNA. Participants talked about the challenges of making ends meet. As one participant noted, *"Even if rent goes up $50 or $100 a month, it's a lot when your income is not growing."* In particular, participants talked about challenges with being stuck in low-wage jobs, with little room for advancement, and how that made it difficult to maintain a good quality of life. Across most groups, participants spoke of having to live paycheck to paycheck and being unable to save any additional income for emergencies. Residents who are in the lower middle class also described struggles to maintaining financial stability, mentioning limited resources to help families attain upward mobility. One key informant explained, *"Families who are lower middle income are trying to get out of the grey area but are stuck because they don't qualify for services where they can advance*." Multiple focus group participants also described what is known as 'the cliff effect'- when a minor increase in income can cause a swift and total loss of benefits that are often more than the financial raise. Focus group residents who identified as low-income echoed this sentiment, with some describing experiences of losing health insurance or other benefits as a result of picking up even a few extra hours of work a week. One Mattapan resident shared, *"I got 4 extra hours at my job and MassHealth cut me off and I couldn't afford my pills for weeks after that."*

Across all indicators of income and financial security, there are substantial differences across Boston neighborhoods and racial and ethnic groups. The median household income in Boston is $62,021 but ranges from $27,721 in Roxbury to $150,678 in the South Boston Waterfront. In 2013-2017, over one-quarter of Boston households had incomes below $25,000 (26.6%) (Figure 10). Roxbury (46.8%), Fenway (41.6%), and Mission Hill (40.1%) had the highest proportion of households with incomes below $25,000, although it is important to note that Fenway and Mission have high proportions of college students, which may skew the data. There are also significant racial/ethnic differences in median household income relative to the average for Boston. White households ($98,317) reported incomes that were 47% higher than the city average ($66,758). Asian ($47,048), Black ($39,344), and Latino ($36,998) households earned significantly less than the average across Boston.[v]

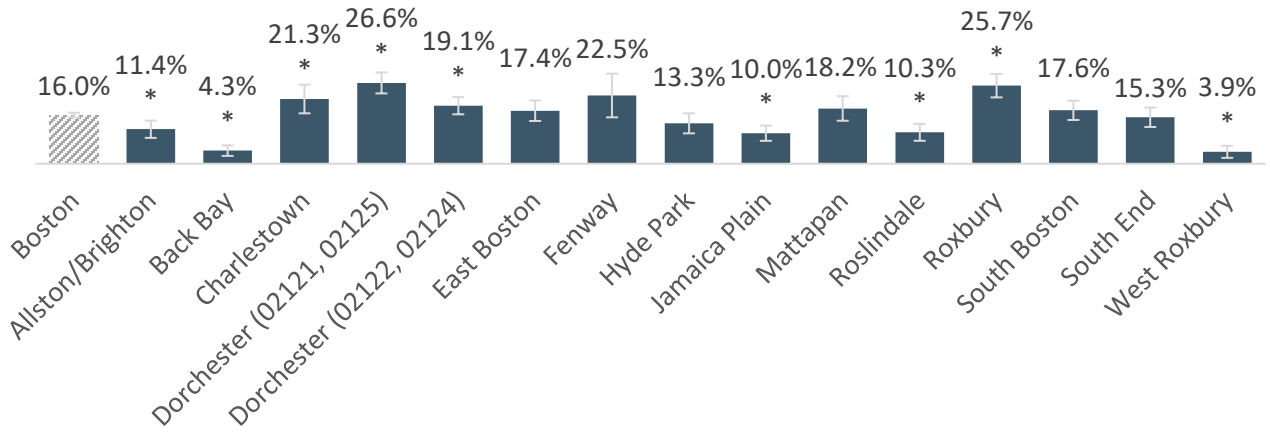
Figure 10: Household Income Distribution, by Boston and Neighborhood, 2013-2017



DATA SOURCE: U.S. Census, American Community Survey 5-Year Estimates, as analyzed by BPDA Research Division, as reported by Boston Planning and Development Agency, BPDA Research Division, Boston in Context: Neighborhoods 2019, 2013-2017
NOTES: Neighborhoods as defined by Boston Planning and Development Agency based on a combination of census tracts, zip codes and zoning districts; Downtown includes Chinatown, Leather District and Downtown; South End includes South End and Bay Village

Less than one in five Boston families (16.0%) live below the federal poverty line, although this varies by neighborhood (Figure 11). The proportion of families living in poverty is among the highest citywide in Boston Children's priority neighborhoods of Dorchester (26.6%) and Roxbury (25.7%).

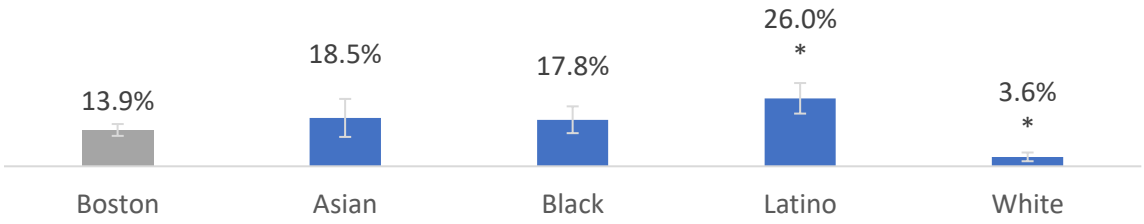
Figure 11. Percent Families Living Below Poverty Level, by Boston and Neighborhood, 2013-2017



DATA SOURCE: U.S. Census, American Community Survey 5-Year Estimates, 2013-2017
NOTE: Neighborhoods as defined by Boston Public Health Commission; Back Bay includes Back Bay, Beacon Hill, Downtown, North End, and West End; South End includes South End and Chinatown; Asterisk (*) denotes neighborhood estimate was significantly different compared to the Boston estimate ($p < 0.05$); Error bars show 95% confidence interval

Examining 2017 poverty rates among Boston families shows significant differences by race/ethnicity. Over one in four Latino families (26%) live below the poverty level, which is significantly higher than Boston families overall (13.9%) (Figure 12).

Figure 12. Percent Families Below Poverty Level, by Boston and Race/Ethnicity, 2017



DATA SOURCE: U.S. Census, American Community Survey 1-Year Estimates, 2017
NOTE: Asterisk (*) denotes race/ethnicity estimate was significantly different compared to the Boston estimate ($p < 0.05$); Error bars show 95% confidence interval

Boston CHNA survey respondents were asked whether they had trouble financially in several different areas. The most common financial challenge reported among Boston CHNA survey respondents was saving money (56.5%), followed by paying credit card bills (24.2%), and buying groceries (22.9%) (Table 5). A comparison of results by respondents with and without children under the age of 18 shows that those with children under 18 were significantly more likely to report challenges paying for most expenses except medical bills (data in Appendix B). Youth also reported some financial challenges, with 38% of respondents reporting that they have trouble saving money.

Table 5. Boston CHNA Survey Respondents Reported Financial Challenges, All Respondents, Respondents with Children Under 18, Youth, 2019

	All respondents (N=1,773)	Respondents with children under 18 (N=526)	Youth (N=135)
Saving money	56.5%	64.2%*	38.0%*
Paying credit card bills	24.2%	30.1%*	10.5%*
Buying groceries	22.9%	32.6%*	10.8%*
Paying your monthly utilities	21.7%	30.6%*	13.5%*
Paying your rent/mortgage	19.5%	23.7%*	12.3%*
Paying medical bills	19.3%	21.8%	5.3%*
Paying for transportation	16.7%	23.4%*	10.7%*
Paying for medication	14.6%	17.1%*	7.1%*
Paying for child care	10.8%	23.1%*	3.8%*

DATA SOURCE: Boston CHNA Community Survey, 2019
NOTE: Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Respondents were allowed to select multiple response options; therefore, percentages may not sum to 100%; Asterisk (*) denotes statistically significant differences across groups (respondents with and without children under 18; age groups) for question item ($p < 0.05$)

Receipt of assistance from an organization is an important indicator of financial insecurity. This indicates the challenge of living paycheck to paycheck and being unable to save money for emergencies, a common theme that emerged in focus groups and interviews. Table 6 shows the proportion of CHNA survey respondents who reported receiving assistance from an organization or program in the past 12 months. While the majority reported that they have not received assistance, about 16% of all respondents reported that they received food assistance. Higher proportions of respondents who had children under 18 and youth respondents reported receiving various types of assistance. Nearly 30% of respondents with children under 18 and 20% of youth, for example, reported receiving food assistance. Higher rates of respondents with children under 18 reported that they received housing, transportation, medication, and childcare assistance than all respondents. A higher proportion of youth reported receiving assistance with housing, transportation, medication, education, and job search or training.

Table 6. Percent Boston CHNA Survey Respondents Reported Receiving Assistance, All Respondents, Respondents with Children Under 18, and Youth, 2019

	All respondents (N=1,773)	Respondents with children under 18 (N=526)	Youth (N=135)
Have not received assistance/Not applicable	48.5%	50.4%*	48.9%*
Food	16.1%	28.1%*	20.0%*
Housing	9.8%	15.6%*	11.9%*
Transportation	7.8%	8.6%	14.1%*
Medications	7.5%	6.3%*	10.4%*
Utility Bills	7.1%	12.7%*	5.2%*
Education	5.4%	7.4%	9.6%*
Childcare	3.4%	9.3%*	5.2%*
Job search or training	3.4%	3.4%	15.6%*
Translation/interpretation	2.3%	2.3%	1.5%*
Care for elder or disabled	2.3%	1.7%	2.2%*
Legal Issues	2.1%	4.4%*	0.7%
Immigration issues	1.0%	2.1%*	0.7%

DATA SOURCE: Boston CHNA Community Survey, 2019

NOTE: Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Respondents were allowed to select multiple response options; therefore, percentages may not sum to 100%; Asterisk (*) denotes statistically significant differences across groups (respondents with and without children under 18; age groups) for question item ($p < 0.05$)

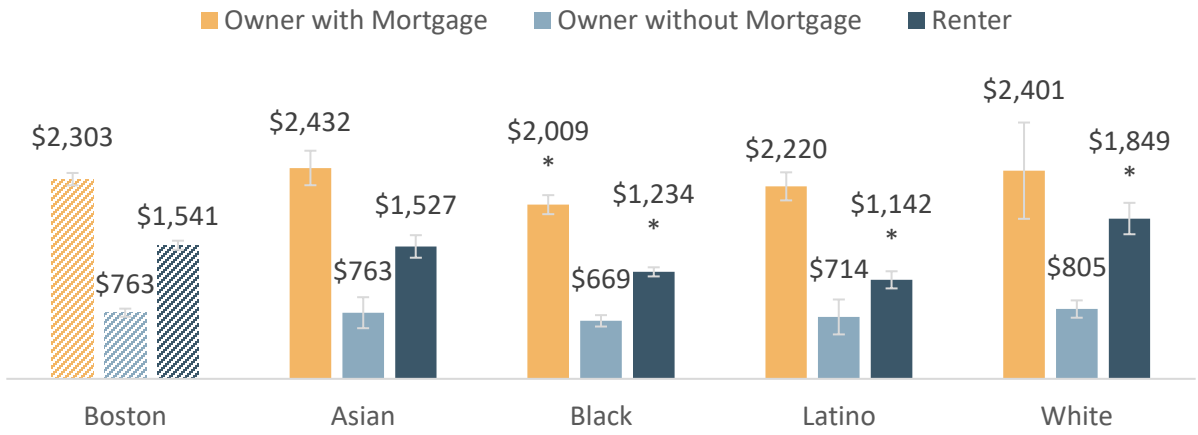
Housing and Homelessness

Lack of affordable housing was a prominent theme that arose across all key informant interviews and focus groups, as it was in the 2016 CHNA. Participants across geographies consistently shared that the rising cost of living in Boston was a major day-to-day concern. Most participants reported a need for more affordable housing for low and moderate-income levels. Quantitative data also indicate that the proportion of affordable housing to market rate is decreasing; even with the growth in development, the proportion of affordable housing units in total production in Boston has been falling since 2003.[vi]

Concerns shared by focus group participants and interviewees included increasing gentrification that have priced people out of some neighborhoods, families being forced to live further away from the city center and thus services, increased demand and long wait lists for Section 8 housing, and overcrowding. These issues were concerns in 2016 as well. Housing discrimination was an issue that was discussed in a few focus groups. Specifically, parents of younger children noted that they felt landlords discriminated against families, especially single-parent households. One East Boston resident shared, *"There are owners of houses and the first thing they ask you is whether or not you have kids and how many. If you have kids, they don't want to rent to you."*

Housing cost data aligns with resident and leader concerns cited during focus groups and interviews. Overall, Boston households spent an average of $1,445 per month on housing if they rented and $2,293 per month if they owned their housing unit with a mortgage. Compared to similarly sized cities, these figures are similar to Washington DC, but less expensive than San Francisco, CA and more expensive than Denver, CO. Median monthly housing costs for renter households differed by race/ethnicity. The median monthly rent for White ($1,849) households was significantly higher than for Boston overall ($1,541), while it was significantly lower for Black ($1,234) and Latino ($1,142) households (Figure 13).

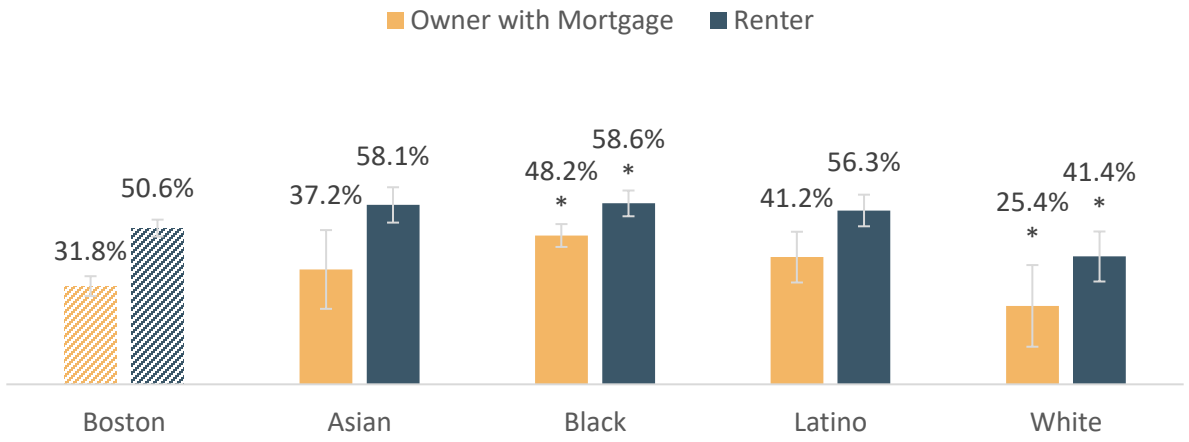
Figure 13. Median Monthly Housing Costs, by Boston and Race/Ethnicity, 2017



DATA SOURCE: U.S. Census, American Community Survey 1-Year Estimates, 2017
NOTE: Asterisk (*) denotes race/ethnicity estimate was significantly different compared to the Boston estimate ($p < 0.05$)

A higher proportion of renter-occupied units spent at least 30% of their income on housing compared to home owners (Figure 14). In 2017, 48% of Black households that own their homes and 59% of Black households that rent their homes spent 30% or more of their income on housing, compared to the Boston average, a significant difference. In contrast, 25% of White households that own their homes and 41% of White households that rent their homes spent at least 30% of their income on housing, significantly less than the Boston average.

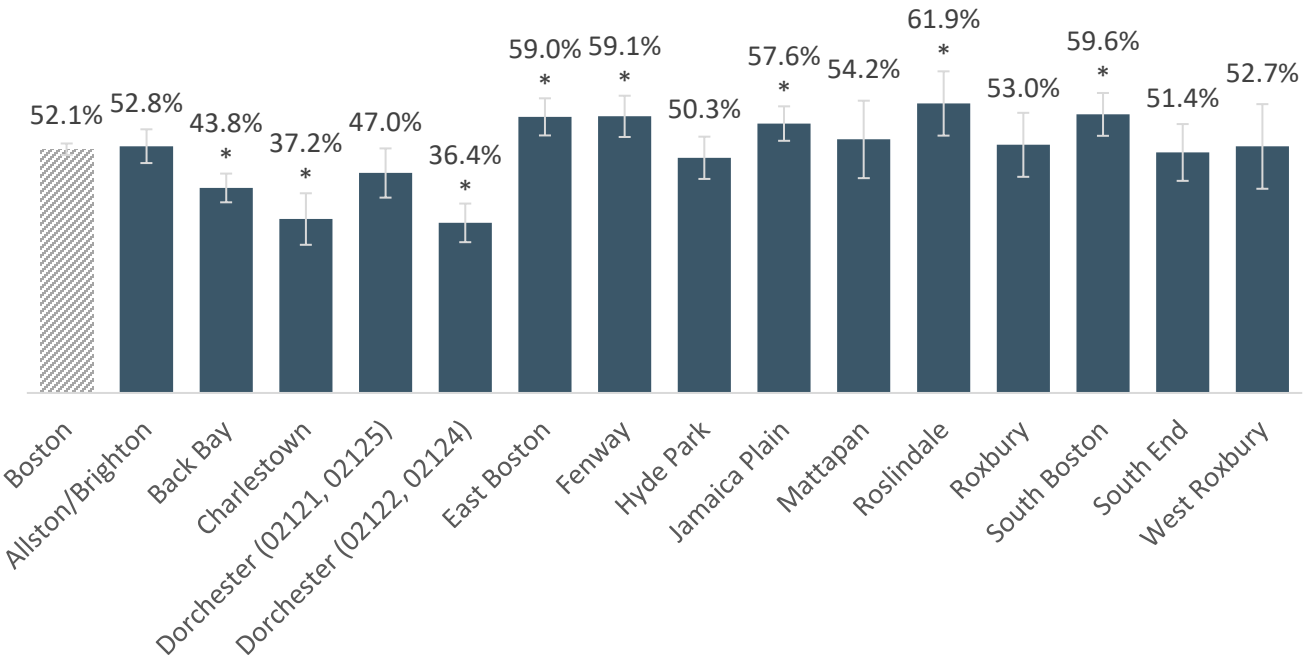
Figure 14. Percent Housing Units Where 30% or More of Income Spent on Monthly Housing Costs by Housing Tenure, by Boston and Race/Ethnicity, 2017



DATA SOURCE: U.S. Census, American Community Survey 1-Year Estimates, 2017
NOTE: Asterisk (*) denotes race/ethnicity estimate was significantly different compared to the Boston estimate ($p < 0.05$)

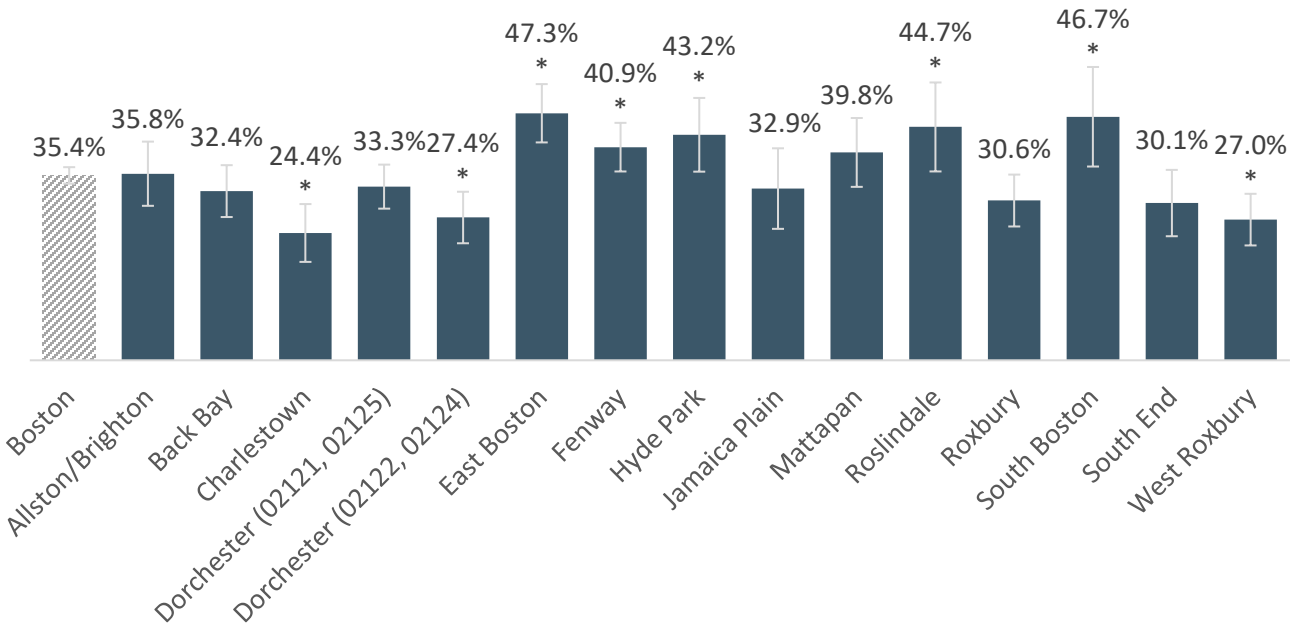
Among Boston Children's priority neighborhoods, a significantly higher proportion of residents in rental units in Fenway (59.1%) and Jamaica Plain (57.6%) spent at least 30% of their income on housing costs, compared to the Boston overall average (Figure 15). However, Fenway has a high proportion of college and graduate students, which may skew the data. Similarly, compared to Boston overall, a significantly higher proportion of residents of owner-occupied units in Fenway (40.9%) spent at least 30% of their income on housing (Figure 16). It should be noted that the Boston Children's priority neighborhood of Mission Hill is represented in the Roxbury data.

Figure 15. Percent Housing Units Where 30% or More of Income Spent on Monthly Housing Costs, by Renter, by Boston and Neighborhood, 2013-2017



DATA SOURCE: U.S. Census, American Community Survey 5-Year Estimates, 2013-2017
NOTE: Neighborhoods as defined by Boston Public Health Commission; Back Bay includes Back Bay, Beacon Hill, Downtown, North End, and West End; South End includes South End and Chinatown; Asterisk (*) denotes neighborhood estimate was significantly different compared to the Boston estimate ($p < 0.05$)

Figure 16. Percent Housing Units Where 30% or More of Income Spent on Monthly Housing Costs, by Owner with Mortgage, by Boston and Neighborhood, 2013-2017

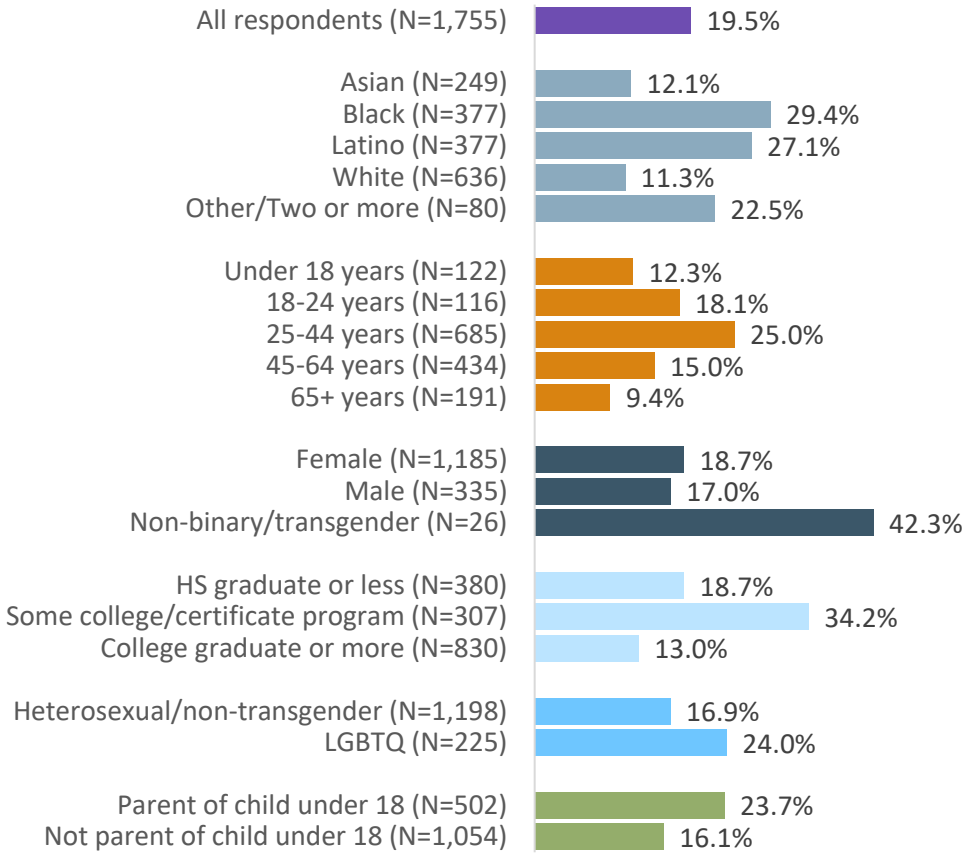


DATA SOURCE: U.S. Census, American Community Survey 5-Year Estimates, 2013-2017
NOTE: Neighborhoods as defined by Boston Public Health Commission; Back Bay includes Back Bay, Beacon Hill, Downtown, North End, and West End; South End includes South End and Chinatown; Asterisk (*) denotes neighborhood estimate was significantly different compared to the Boston estimate ($p < 0.05$)

According to key informants, and most focus group participants who identified as low-income, housing costs comprise a large part of spending for low-income households, leaving few resources for other needs such as health care, medicine, or nutritious food. One interviewee shared, "*Many folks who are rent burdened are paying [up to] 50% of their income in rent; most of their resources going to this very essential need. The choices that people have to make—whether its not being able to ever take a vacation, not being able to purchase clothing or pay your bills… causes immense stress and mental health issues for care takers and children."* The notion that children adopt the stressors of rising housing costs was also noted by multiple key informants with experience working with children. One shared, "*Kids can feel when their parents are stressed because maybe the landlord raised the rent or something broke in the house. They're one situation away from eviction."* Further, some interview and focus group participants reported instances of residents remaining in emotionally or physically un-healthy environments because they could not afford other circumstances.

Boston CHNA community survey respondents also indicated that housing costs were a heavy burden for their household. As shown in Figure 17, about one in five (19.5%) survey respondents reported having trouble paying their rent or mortgage. Respondents with children under age 18 (23.7%) were significantly more likely than respondents without children under age 18 (16.1%) to report having trouble paying their mortgage or rent.

Figure 17. Percent Boston CHNA Survey Respondents Reported Having Trouble Paying Rent/Mortgage, by All Respondents and Selected Indicators, 2019



DATA SOURCE: Boston CHNA Community Survey, 2019
NOTE: Chi-square analyses were conducted and there were statistically significant differences within the following groups ($p < 0.05$): race/ethnicity, age, gender identity, educational attainment, sexual orientation, and parent status

Boston CHNA survey respondents were also asked about their housing arrangements. Over half (52.0%) of all respondents reported that they were living in a rental house or apartment while almost one third (31.1%) reported that they were living in a house or apartment they own (Table 7) (full table in Appendix B). Among respondents with children under 18, the highest proportion of respondents (57.3%) reported that they own their house or apartment, while over 5% reported staying with family and nearly 2% reported that they were living in a homeless shelter or transitional housing. A roughly equal proportion of youth under 18 reported that they were living in rental housing (35.6%) as in owned housing (36.6%), although it should be noted that because only one quarter of youth reported staying with family, they may be reporting on the housing status of their parents/caregivers rather than themselves.

Table 7. Percent Boston CHNA Survey Respondents by Housing Arrangement, All Respondents, Respondents with Children Under 18, and Youth, 2019

	All respondents (N=2,018)	Respondents with children under 18 (N=541)	Youth (N=194)
Living in a house/apartment that I rent	52.0%	30.9%	35.6%
Living in a house/apartment that I own	31.1%	57.3%	36.6%
Staying with family	8.9%	5.6%	25.8%
Living in a room that I rent	4.3%	2.8%	0.0%
Living in a homeless shelter or transitional housing program	0.9%	1.7%	0.5%
Staying with friends	0.5%	0.4%	0.0%
Living in a hotel or motel that the government pays for	0.5%	0.6%	0.0%
Living in my car, on the streets, in an abandoned building, or another place not meant for people to sleep in	0.3%	0.0%	0.0%
Other	1.4%	0.9%	1.6%

DATA SOURCE: Boston CHNA Community Survey, 2019
NOTE: Chi-square analyses were conducted and there were statistically significant differences within the following groups ($p < 0.05$): respondents with and without children under 18 and age groups

Homelessness was discussed as a concern across focus group and key informant discussions and was perceived to be on the rise in some communities, such as Chinatown, Downtown, and East Boston. In 2018, there were an estimated 6,188 residents counted as homeless or housing unstable in Boston, a count that may not include residents who are temporarily without a permanent address and are staying with friends or in their car.[vii] This count is lower than that reported for 2013 in the 2016 CHNA (7,248). While households without children (67%) comprised the largest portion of homeless households in the city, over three in ten homeless households included at least one adult and one child (31.8%) (Table 8). Emergency shelter was the most common type of shelter for homeless households, followed by transitional housing.

Table 8. Total Number of Homeless Households Living in Boston, by Household Type and Shelter Type, 2018

	Sheltered				
	Emergency Shelter	Transitional Housing	Unsheltered	Total	Percent of Total
Households without Children	1,806	407	163	**2,376**	**67.4%**
Households with at least one adult and one child	1,075	46	0	**1,121**	**31.8%**
Households with only children	28	2	0	**30**	**0.9%**
Total	**2,909**	**455**	**163**	**3,527**	

DATA SOURCE: U.S. Department of Housing and Urban Development, Continuums of Care, HUD 2018 Continuum of Care Homeless Assistance Programs Homeless Populations and Sub Populations, 2018
NOTE: Safe Haven programs are included in the Transitional Housing category

Key informants noted that compared to other cities, Boston has a sophisticated strategy to addressing chronic homelessness by using real-time data to drive priorities and working with a host of partners across sectors including the public health department, Boston Housing Authority, Pine Street Inn, Boston Health care for the Homeless, and St. Francis House, among others. Interviewees in the field discussed that while up-to-date, centralized data are a key first step to addressing chronic homelessness, more resources are needed for newly homeless families or for residents who have been homeless for a year or less. One interviewee explained, *"Ironically, people who are homeless but [who are not categorized] as "chronic" have fewer options and limited resources."* There was also a perception that the length of stays in homeless shelters is increasing, partly due to long wait lists for subsidized housing, which was described as straining resources for newly-homeless families. One interviewee explained, *"Boston has great shelters in the area that are temporarily housing mothers with young children, but it's hard because [families] may be in the shelter for up to two years because of the inability to find an apartment that accepts Section 8 vouchers."*

Housing quality and poor housing conditions were themes discussed in several conversations as well. Participants across most groups voiced concerns about the old housing stock in Boston, specifically mentioning lead, mold, rodents, and insects as issues in their neighborhoods. Focus group participants who identified as low-income and/or housing insecure indicated that with such high demand for apartments, tenants are less likely to voice concerns of poor housing conditions due to fear of being evicted or losing their home. One East Boston resident shared, *"There are a lot of situations where people are living in housing that is not good and they can't say anything because they are scared to be kicked out."*

Transportation

Residents in focus groups across different neighborhoods shared mixed perceptions about transportation. About 23% of Boston CHNA survey respondents cited limited street parking, traffic-related noise, or traffic as a barrier to getting to medical appointments (Table 9). Nearly one in five (19.2%) Boston CHNA survey respondents identified the availability of public transportation as a barrier, while 15.5% cited cost of transportation a barrier. Respondents with children under age 18 were significantly more likely to report cost of transportation as a barrier and significantly less likely to report availability of public transportation as a barrier compared to respondents without children under age 18. One in five youth respondents identified availability of public transportation as a barrier.

Table 9. Percent Boston CHNA Survey Respondents Reported Transportation Barriers to Getting to Medical Appointments, Meetings, Work, or Getting Things Needed for Daily Living, By All Respondents, Respondents with Children Under 18, Youth, 2019

	All Respondents (N=2,012)	Respondents with children under 18 (N=532)	Youth (N=200)
None of the above	55.8%	52.4%*	57.0%*
Limited street parking, traffic-related noise, or traffic	23.1%	25.2%	20.5%*
Availability of public transportation	19.2%	15.4%*	21.5%*
Cost of transportation	15.5%	19.9%*	10.0%*
Limited opportunities for safe bicycle riding	8.5%	8.1%	5.5%*
Clear and understandable transportation signs and directions	4.0%	3.4%	4.0

DATA SOURCE: Boston CHNA Community Survey, 2019
NOTE: Question asked: In the past 12 months, have any of the following transportation barriers kept you from medical appointments, meetings, work, or from getting things needed for daily living? (Please check all that apply.); Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Respondents were allowed to select multiple response options; therefore, percentages may not sum to 100%; Asterisk (*) denotes statistically significant differences across groups (respondents with and without children under 18; age groups) for question item ($p < 0.05$)

Overall, participants reported being generally satisfied with transportation access in their neighborhoods, although a few participants expressed concerns about cost, timeliness, and accessibility for the elderly. Across most focus groups, parking and traffic were mentioned as a day-to-day concern for many residents. According to key informants, rapid development across the city is compounding parking issues. Further, ride shares such as Uber and Lyft were described as exacerbating congestion issues. Transportation barriers were also identified by those with limited English proficiency, who reported difficulties navigating the transit system. A few focus group participants mentioned the recent increases to MBTA fares and perceived that these increases disproportionally impact seniors, low-wage workers, and communities of color.

According to key informants, the city is working towards efforts to address transportation issues through initiatives like Go Boston 2030 and the addition of Blue Bikes and protected bike lanes. However, they commented that these efforts should be bolstered, and creative solutions are needed to address increasing traffic and parking pressures caused by development. Local solutions to transportation barriers were cited as most effective.

Social Environment and Discrimination

Community cohesion refers to community dynamics, such as a shared sense of membership, influence, social integration, and connections among residents. In focus group discussions, participants who belonged to similar affinity groups expressed a strong sense of cohesion among their communities, particularly those with similar racial, cultural, linguistic, and religious backgrounds. While some groups described strong community linkages, others such as public housing residents and lower-income groups described limited connections or interactions with their neighbors.

When asked about perceptions of community cohesion or connectedness, over three-quarters of Boston CHNA survey respondents perceived that they and their neighbors want the same thing for their

neighborhood (77.2%) (Table 10). Respondents with children under age 18 were more likely to report positive perceptions of community cohesion than those without children under 18 (Table 10) (full table in Appendix B). A significantly higher proportion of these residents reported that they can recognize more people who live in their neighborhoods, they and their neighbors want the same thing for their neighborhoods, and they expect to live in their neighborhoods for a long time. Notably, nearly half of respondents with children under age 18 reported that they have a lot of influence over what their neighborhoods are like, compared to less than 30% of those respondents who do not have children under 18. Less than 20% of youth reported that they felt they had a lot of influence over what their neighborhoods are like.

Table 10. Percent Boston CHNA Survey Respondents Reported Perceptions of Community Cohesion in Their Neighborhood, All Respondents, Respondents with Children Under 18, and Youth (Percent indicating strongly agree or agree), 2019

	All respondents	Respondents with children under 18	Youth
My neighbors and I want the same thing for our neighborhood.	77.2%	80.9%*	77.3%*
I expect to live in my neighborhood for a long time.	72.7%	77.3%*	64.7%*
People in my neighborhood help each other out.	67.6%	68.6%	66.9%*
I can recognize most of the people who live in my neighborhood.	56.0%	64.0%*	49.0%*
I have a lot of influence over what my neighborhood is like.	35.3%	46.0%*	18.8%*

DATA SOURCE: Boston CHNA Community Survey, 2019
NOTE: Question asked: How much do you agree or disagree with the following statements about your neighborhood?; Asterisk (*) denotes estimate for which there were differences between groups ($p < 0.05$)

Experiences of discrimination were also mentioned in several focus groups across the city, particularly among immigrants and non-English speakers, LGBTQ residents, substance users, and the homeless population. These experiences were described as both subtle and overt acts occurring on a regular basis; examples ranged from verbal altercations to more systemic issues such as people of color being passed up for job promotions despite qualifications. All of these issues were compounded when residents belonged to multiple oppressed identities, for example, queer people of color or non-English speaking residents in recovery.

Focus group participants who identified as immigrants most commonly described instances of discrimination in public spaces like supermarkets or on public transportation; this was especially true for those who identified as Latino and Asian. These participants perceived an increase in prejudice or discriminatory behavior in the last few years and attributed these tensions to the current political climate. Being discriminated against because of one's ability to speak English or accent was also a common theme among non-English focus group participants. One resident expressed, *"Even when you try to speak English, they try to humiliate your accent."*

Community Health Issues

This section describes community health issues and concerns utilizing data collected through secondary sources, Boston Children's encounter data, the Boston CHNA Community Survey, and interviews and focus groups conducted for the Boston CHNA. Information about Boston Children's patients, including demographic information and top diagnoses, are presented in Appendix C.

Perceptions of Community Health Concerns

When asked to identify the top five most important concerns in their community or neighborhood that shape their community's health, all respondents and those with children under 18 listed housing quality and affordability, alcohol/drug abuse, mental health, and community violence (Table 11). Parents of children under age 18 identified obesity as a top five health concern, while environmental concerns were among the top five responses across all respondents. In addition to alcohol/drug abuse, mental health, and housing, youth participants identified smoking and employment opportunities among their top five concerns.

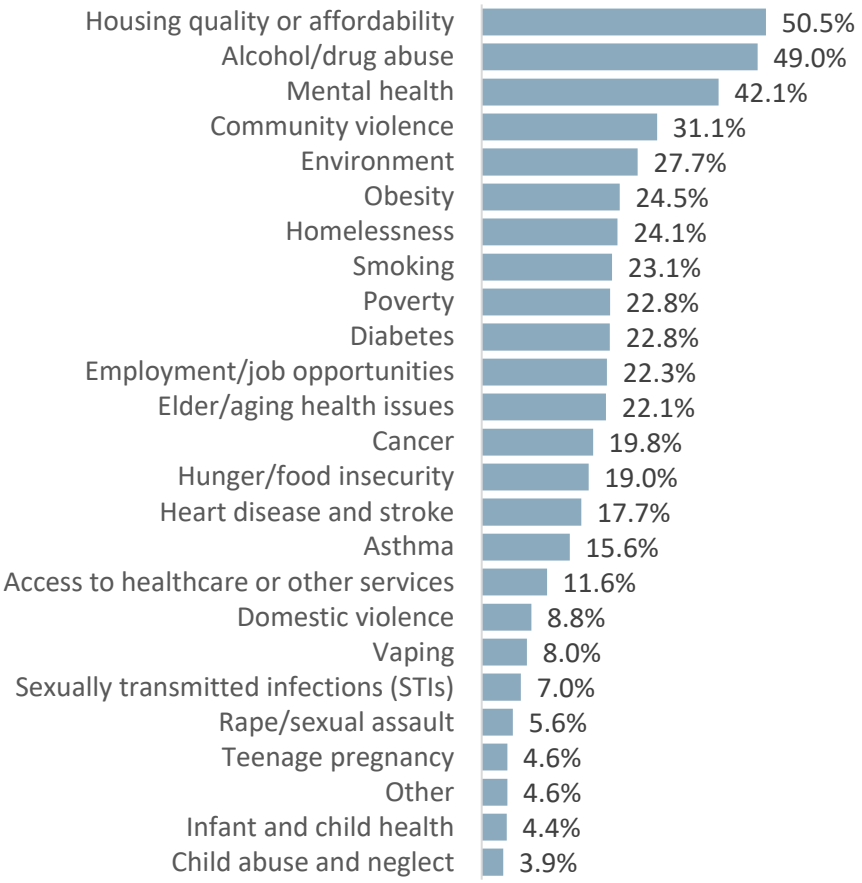
Table 11. Percent Boston CHNA Survey Respondents Reporting Top Five Most Important Concerns in Their Community or Neighborhood That Affect Their Community's Health, All Respondents, Respondents with Children Under 18, Youth, 2019

	All Respondents (N=2,053)	Respondents with Children Under 18 (N=544)	Youth (N=197)
1	Housing quality or affordability	Housing quality or affordability	Alcohol/ drug abuse
2	Alcohol/ drug abuse	Alcohol/ drug abuse	Smoking
3	Mental health	Mental health	Mental health
4	Community Violence	Community Violence	Housing quality or affordability
5	Environment	Obesity	Employment/ job opportunities

DATA SOURCE: Boston CHNA Community Survey, 2019

Overall, all Boston CHNA Community Survey respondents identified housing quality or affordability (50.5%) and alcohol/drug abuse (49.0%) as the top priorities, followed by mental health (42.1%) and community violence (31.1%) (Figure 18). Approximately one-quarter of respondents cited the environment, obesity, and homelessness, as among the leading concerns. These concerns were similar to those identified during interview and focus group discussions conducted for the Boston CHNA and were also among the key health concerns identified in Boston Children's 2016 CHNA.

Figure 18. Percent Boston CHNA Survey Respondents Reporting Top Most Important Concerns in Their Community or Neighborhood That Affect Their Community's Health (N=2,053), 2019



DATA SOURCE: Boston CHNA Community Survey, 2019

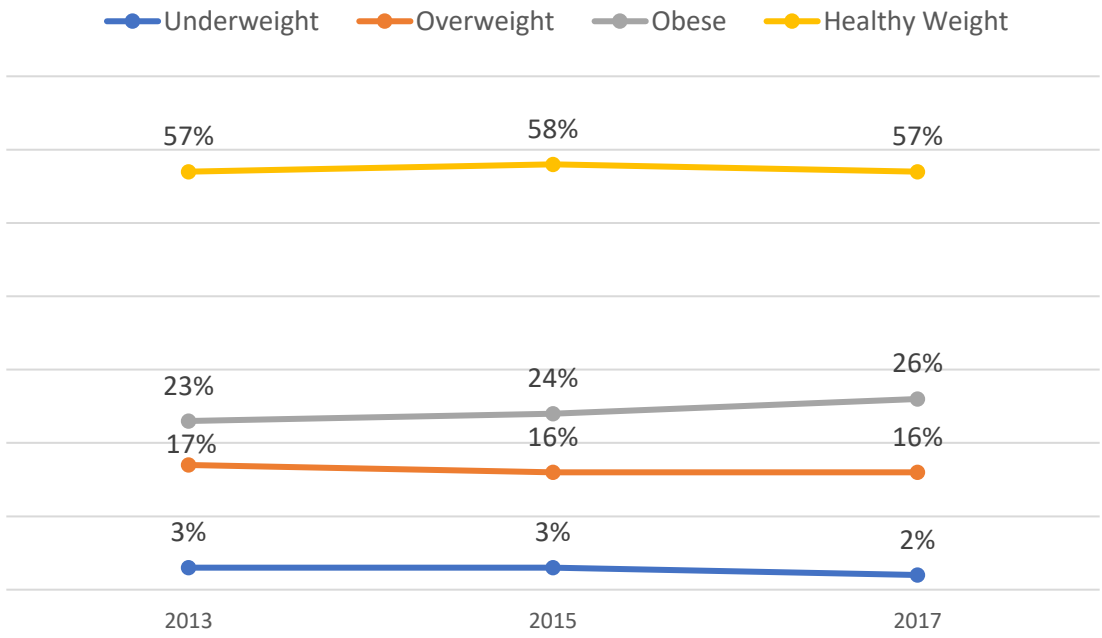
Obesity and Related Risk Factors

Obesity

Childhood obesity was a common theme that emerged among focus group and interview discussions conducted for the Boston CHNA, as in Boston Children's 2016 CHNA. Participants linked obesity to challenges related to healthy eating. Concerns about childhood obesity were especially prominent in focus groups with immigrant parents and with low-income residents from Dorchester. Parents in these groups described challenges affording and accessing healthy food, time constraints, and economic challenges that create barriers to providing healthy opportunities for their children. One interviewee shared, "*When your kid is hungry, it's much cheaper to buy a soda and a bag of chips than buy some fruit. There's a huge difference in paying almost $10 for berries versus $3 for a soda and large bag of chips that'll fill you."* Other key informants perceived that limited physical activity and increased screen time is exacerbating the issue. One shared, *"When you look at the full picture around obesity it makes sense. You have kids spending the majority of their time in front of a screen, less investments in physical education and health classes, and finally poor eating."* School nutrition was mentioned in one focus group: participants in Dorchester perceived that public schools were making positive efforts to enhance nutritional food and provide prevention resources to communities, however, more is needed during school breaks and the summer time.

Related to obesity, healthy eating, and physical activity is Type 2 diabetes. Diabetes was frequently mentioned as a community health concern in focus groups and interviews conducted for the Boston CHNA and was seen as an issue that can affect children as well as adults. For example, participants explained that stress often triggers unhealthy coping mechanisms such as unhealthy eating that cause illness. One resident shared, "*I work with a lot of women and what I see is a lack of motivation [to exercise]. Moms have to work so much, and all of their energy goes to mechanisms to cope like eating poorly; stress often means weight gain."* Further, key informants perceived the rise in type 2 Diabetes symptoms among young children—particularly among Black and Latino children. One interviewee shared, "*I'm seeing many of our elementary-aged kids exhibiting early signs of Type 2 Diabetes…the darkening ring behind the neck, blurred vison, and frequent urination. Lots of times parents don't realize that these early symptoms are dangerous*." While there is a low prevalence of diabetes in Boston (9%), there were significant differences across the population. Black and Latino residents have a higher prevalence of diabetes and experience higher diabetes-related hospitalization and death rates than White residents. Additionally, about four in ten Boston Public School students were overweight or obese in 2017, which has remained consistent since 2013 (Figure 19).

Figure 19. BMI Trend Lines for all Boston Public School Students, 2013, 2015, and2017

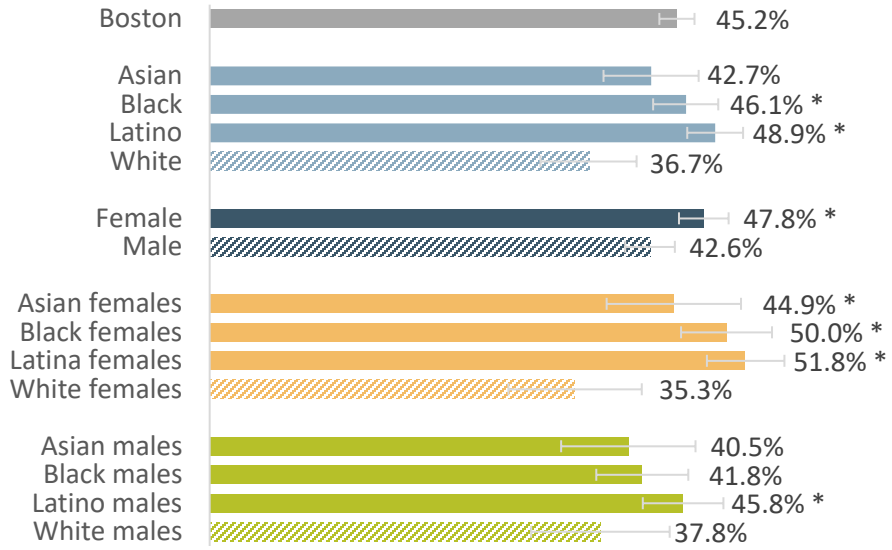


DATA SOURCE: SY17-18 BPS Wellness Policy Annual Report, Health and Wellness Department, Boston Public Schools

Fruit and Vegetable Consumption

More than four in ten (45%) Boston public high school students reported consuming fruit on a less than daily basis in 2013-2017 (Figure 20). This rate has remained steady over time (data in Appendix B). Among female high school students, a significantly higher proportion of Latina (51.8%), Black (50.0%), and Asian (44.9%) female students reported less than daily fruit consumption than White female students (35.3%). Among male high school students, Latino male students (45.8%) were significantly more likely than White male students (37.8%) to consume fruit on a less than daily basis.

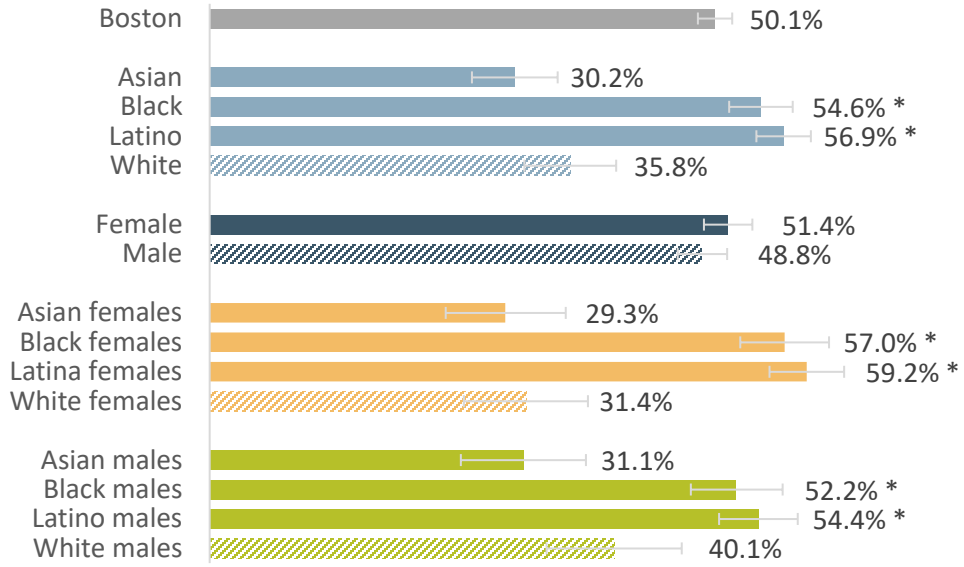
Figure 20. Percent Boston Public High School Youth Reporting Fruit Consumption Less Than Once per Day, by Boston and Selected Indicators, 2013, 2015, and 2017 Combined



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2013, 2015, and 2017 combined
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTE: Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

Half (50.1%) of Boston Public High School students reported consuming vegetables on a less than daily basis in 2013-2017 (Figure 21). This has remained steady over time (data in Appendix B). When looking at patterns by race/ethnicity and gender, a significantly high proportion of Latina/o (59.2% and 54.4%) and Black (57.0% and 52.2%) female and male students, respectively, ate vegetables less than daily compared to 31.4% of White female students and 40.1% of White male students.

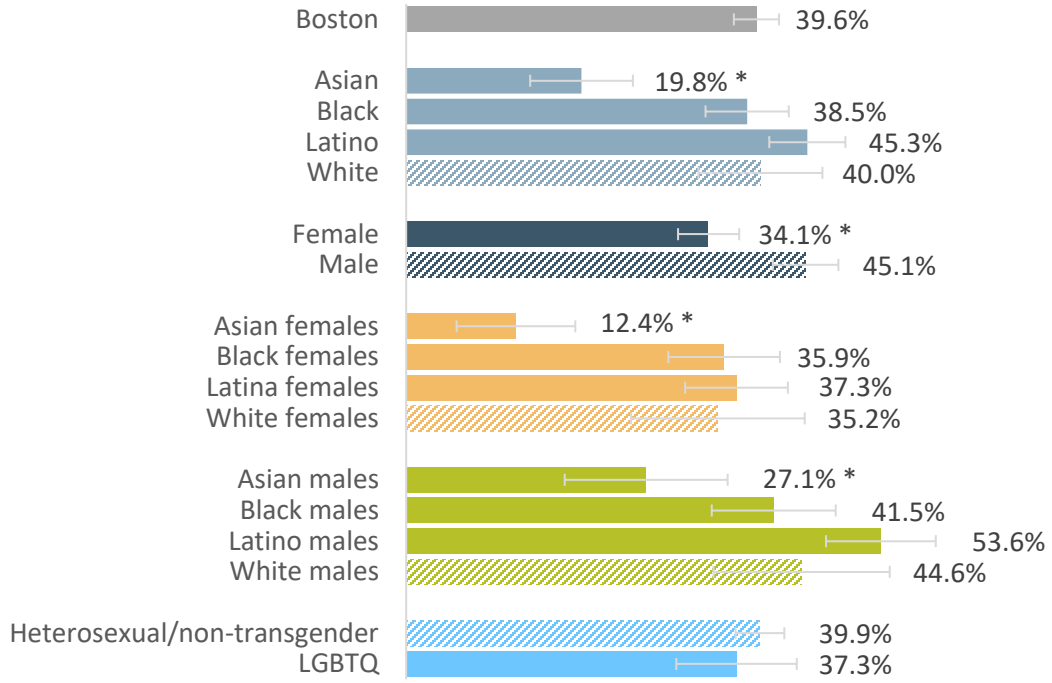
Figure 21. Percent Boston Public High School Youth Reporting Vegetable Consumption Less Than Once per Day, by Boston and Selected Indicators, 2013, 2015, and 2017 Combined



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2013, 2015, and 2017 combined
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTE: Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

Approximately 40% of Boston Public School youth reported that they consumed a sugar-sweetened beverage at least once per day (Figure 22). A significantly smaller proportion of females (34.1%) than males (45.1%) reported regular consumption of sugar-sweetened beverages. Asian students (19.8%) were significantly less likely to consume these beverages regularly than White students (40.0%).

Figure 22. Percent Boston Public School Youth Reporting Sugar Sweetened Beverage Consumption At Least One per Day, by Boston and Selected Indicators, 2015 and 2017 Combined



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2015 and 2017 combined
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTE: Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

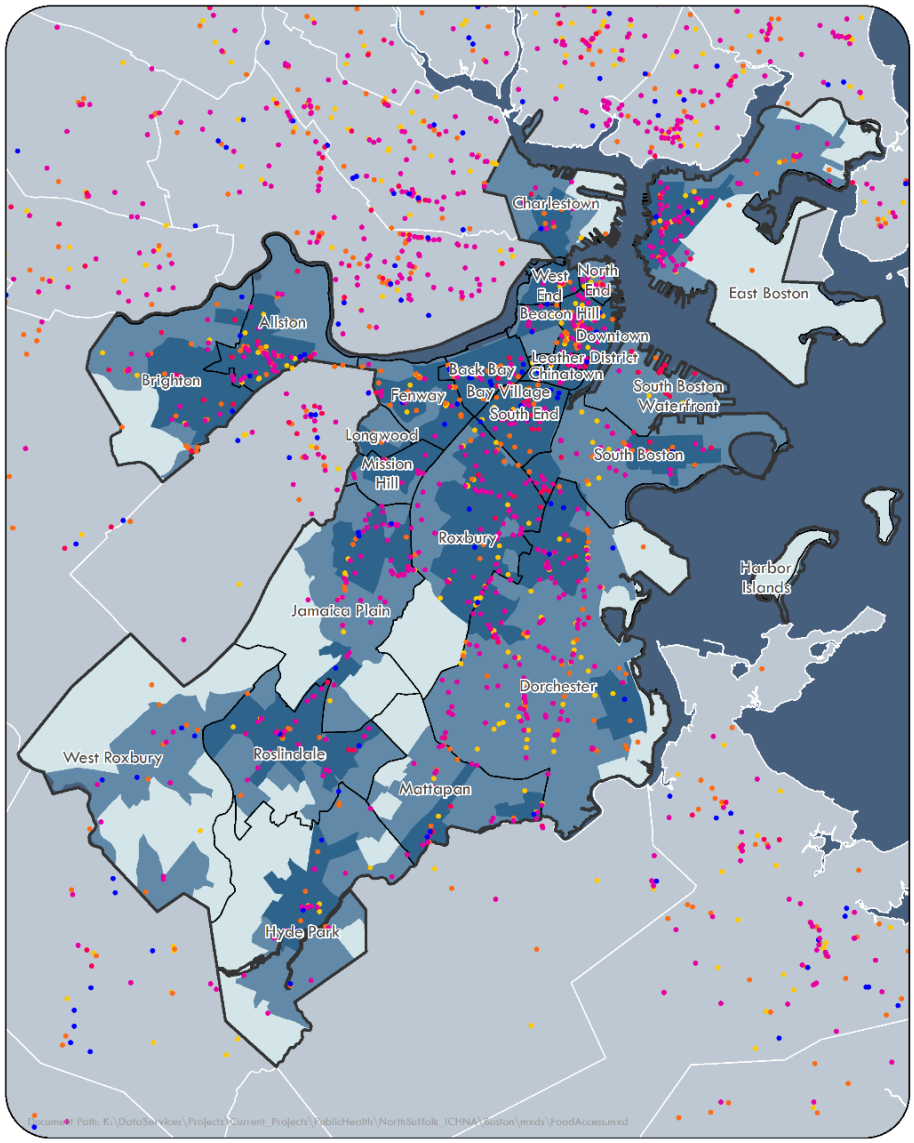
Access to Healthy Food

Focus group and interview participants in the Boston CHNA expressed concern about limited healthy food options in lower income neighborhoods across the city—particularly in Dorchester, Mattapan, and Roxbury. The higher cost of fresh produce and lack of time for healthy food preparation were identified as barriers to healthy eating. One Dorchester resident shared, "*Buying cheap food is not good for your kids but I can't afford Whole Foods."* Similarly, another resident who identified as low income summarized, "*People work so many jobs that it's very difficult to cook. There's no time so you just work to eat any kind of junk food."*

Some residents in focus groups described a prevalence of convenient stores and fast food restaurants in low-income communities, which many linked to the rise of obesity and diabetes. One parent from Dorchester shared, **"***In our neighborhood we have a lot of corner stores full of a bunch of junk foods. If you go to fruit and veggie areas in corner stores…those fruits have often been sitting there a long time and have fruit flies. If you can't make it out to South Bay or Grove Hall, that's what your healthy options are."* Further, focus group participants from these communities perceived their neighborhoods had lower quality food compared to more affluent areas of the city. One resident shared, "*The problem is that you can't get quality food unless you leave your community. It feels like the food in our supermarkets [in Dorchester] is what the other stores are not able to sell…the fruit is bad, the meat low quality…"* In addition, transportation was cited a barrier to accessing healthy food by a few focus group participants and interviewees.

As shown in Figure 23, several of Boston Children's priority neighborhoods—Jamaica Plain, portions of Roxbury, and Dorchester—are characterized by sizable geographic areas with limited access to grocery stores. Many of these areas without grocery stores also do not have convenience stores, drug stores, or specialty markets.

Figure 23. Access to Food Retailers, by Type and Neighborhood, 2019

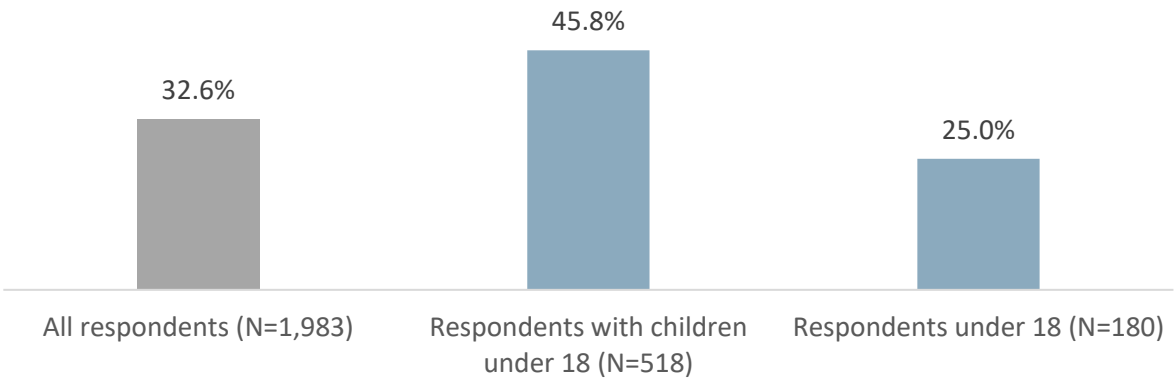


DATA SOURCE: Courtesy of Metropolitan Area Planning Council, 2019

Food Security

In addition to accessibility, the expense and affordability of healthy food was a key area of concern shared by focus group participants and interviewees participating in the Boston CHNA. Food security was identified as a growing and pressing issue in Boston Children's 2016 CHNA as well. About one-third of 2019 Boston CHNA Community Survey respondents indicated that in the past 12 months they felt it was sometimes or often true that they worried that their food would run out before they had money to buy more (Figure 24). Respondents who had children under 18 (45.8%) were significantly more likely to report this than respondents without children under 18 (25.1%) (data in Appendix B). One quarter of respondents under 18 often or sometimes worried that food would run out.

Figure 24. Percent Boston CHNA Survey Respondents Reporting That It Was Sometimes or Often True That They Worried That Their Food Would Run Out Before They Got Money to Buy More in Past 12 Months, All Respondents, Respondents with Children Under 18, Youth, 2019

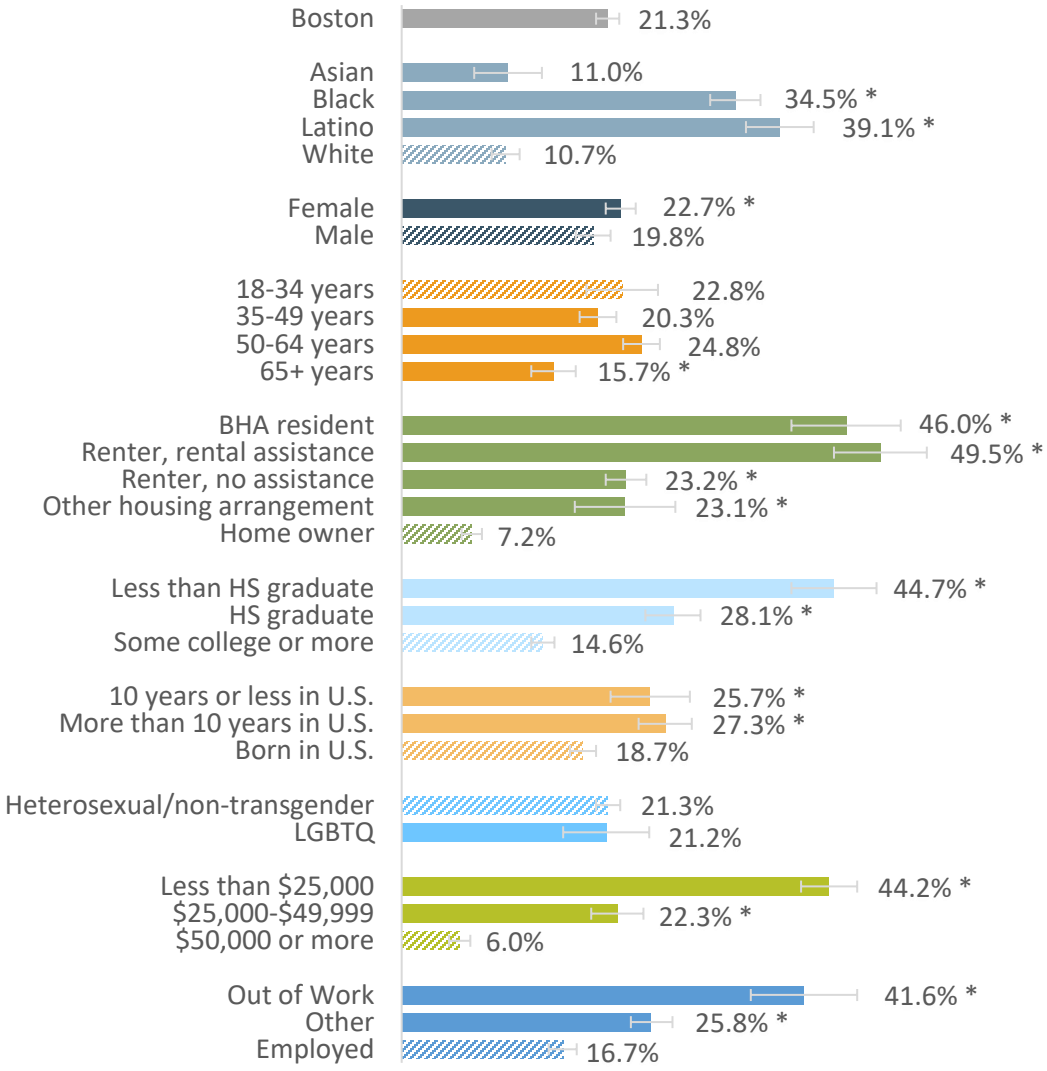


DATA SOURCE: Boston CHNA Community Survey, 2019
NOTES: Question was worded: "In the last 12 months, have you worried that your food would run out before you got money to buy more?" and respondents were asked to select one of the following response options: often true, sometimes true, never true, and prefer not to answer; Percentage calculations do not include respondents who selected "prefer not to answer"

Key informant interviews and low-income focus group participants across neighborhoods discussed the challenge of not having enough money to afford food. As one focus group participant remarked, *"I'm working three jobs and I can barely afford food; I buy whatever I need to feed my kid and that's it."* While housing might be the largest cost to a family's budget in Boston, the cost of food was still challenging for many. As one key informant explained, *"A lot of people spend money on food after utilities and health care; whatever is left goes to food."* Focus group participants echoed this sentiment and described having to eat canned or processed food that contain high levels of sodium and low-nutritional value because they felt like that was what they could afford. Focus group and interview participants identified seniors and children as being especially vulnerable to being food insecure. Those who worked with children explained that food insecurity impacts a child's stress levels, ability to pay attention at school, lower test scores, and absences.

BBRFSS data indicate that over one in five Boston residents reported being food insecure, in that it was sometimes or often true that the food they purchased did not last and they did not have money to get more. Experiences with food insecurity varied by population group (Figure 25). In aggregated 2013, 2015, and 2017 BBRFSS data, Latino (39.1%) and Black (34.5%) residents were significantly more likely than White residents (10.7%) to report being food insecure. According to the 2017 Boston YRBS, 5% of Boston public high school students reported that they did not have enough food in their homes.

Figure 25. Percent Adults Reporting Food Purchased Did Not Last and Did Not Have Money to Get More, by Boston and Selected Indicators, 2013, 2015 and 2017 Combined



DATA SOURCE: Boston Public Health Commission, Boston Behavioral Risk Factor Surveillance System, 2013, 2015, and 2017 combined
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTES: Data show percentage of adults reporting it was sometimes or often true that the food didn't last and they did not have money to get more; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

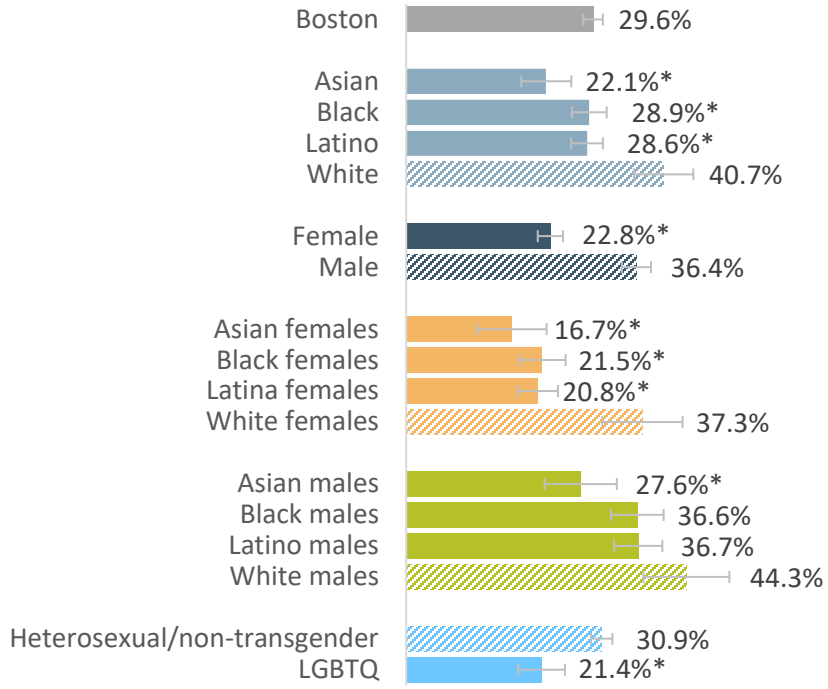
Residents across multiple focus groups reported that assistance programs and community services are critical to help those who are challenged with affording food. Nearly 20% of Boston residents received benefits from the Supplementation Nutrition Assistance Program (SNAP) (formerly food stamps).[viii] Focus group participants also described community gardens and farmer's markets as strengths in their communities that can be leveraged, a topic that was also prominent in 2016 Boston Children's Hospital CHNA discussions. Participants noted that moving forward, it would be imperative that these initiatives continue to consider low-cost options and accept SNAP benefits. Further, there were suggestions to strengthen policy and systematic initiatives that address food access from a clinical perspective, where practitioners can prescribe services and are reimbursed as part of ACO plans. One interviewee shared, *"We need to be looking into things like Medicaid reimbursements for food prescriptions and health incentive programs for SNAP benefits that incentivize residents to buy healthy food."* Other suggestions from key informants included: strengthening the network of food distributors, especially in low-income communities; giving residents financial independence to have autonomy over what they can purchase with SNAP benefits; having food pantry hours that are accessible to working families; and providing healthier options at food pantries to include more fresh produce, meat, and dairy.

Physical Activity

Limited access to affordable opportunities for physical activity was a common theme in discussions with residents. As in 2016, participants reported economic constraints that made it difficult to engage in physical activities. As one focus group parent shared, "*Not everyone is able to afford a $150 for a camp during school vacation."* Community resources such as the YMCA and Boys and Girls Club were identified as inaccessible to many due to cost. One resident from Dorchester explained, "*The only gym by me is the YMCA, but that is now $30 a month. Who has an extra $30 a month? They say they do it by your income but there's no way I can afford that."*

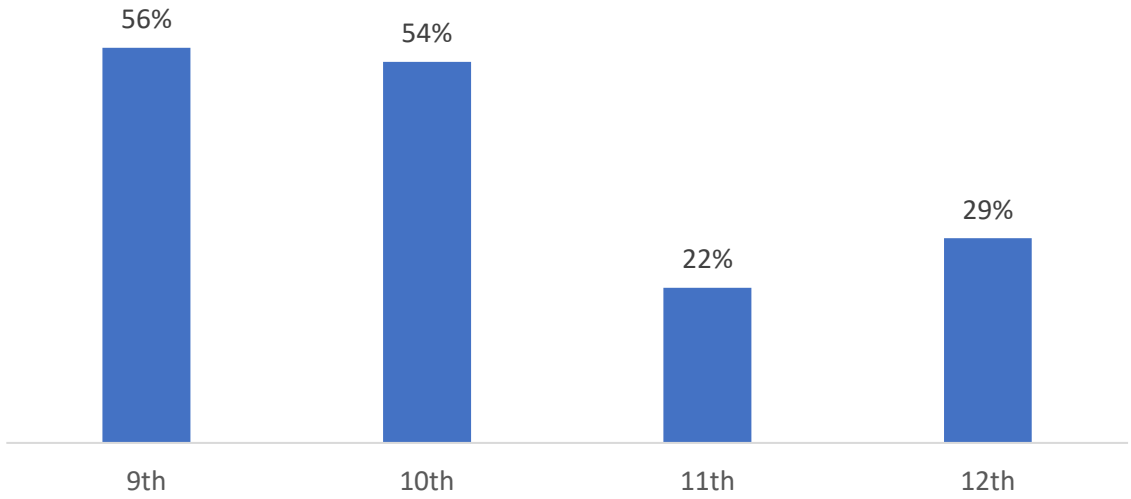
Reflecting residents' concerns, a low percent of youth across Boston reported regular exercise. Three in ten (29.6%) Boston high school youth reported engaging in regular physical activity in 2013-2017 (Figure 26). Among female high school youth, less than one quarter of Asian (16.7%), Latina (20.8%), and Black (21.5%) students engaged in regular physical activity, significantly lower than the percent reported among White female youth (37.3%). One-quarter of Asian male high school youth (27.6%) reported engaging in regular physical activity, which was significantly lower than the 44.3% of White male high school youth reporting engaging in physical activity. About one in five high school youth who identified as LGBTQ (21.4%) reported regular physical activity, a proportion that was significantly lower than that of heterosexual and non-transgender students (30.9%). The proportion of Boston high school youth engaging in regular physical activity has stayed steady over time (data in Appendix B). In 2017, over half of Boston public school 9th and 10th graders reported engaging in weekly physical education classes compared to less than 30% of 11th and 12th graders (Figure 27).

Figure 26. Percent Boston Public High School Youth Reporting Engagement in Regular Physical Activity, by Boston and Selected Indicators, 2013, 2015, and 2017 Combined



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2013, 2015, and 2017 combined
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTE: Regular physical activity is defined as at least 60 minutes per day for at least 5 of the past 7 days; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

Figure 27. Percent Boston Public High School Youth Reporting Attending Weekly Physical Education Classes, Boston by Grade, 2017



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

According to the 2017 YRBS, 24% of Boston public high school youth reported that they watch three or more hours of television per school day; this is a statistically significant decrease from 2015. The proportion of youth who reported playing video games or using a computer more than three hours a day for something that was not school work was 44% in 2017, a statistically significant increase from 2007 (Figure 28).

Figure 28. Percent Boston Public School Youth Reporting Playing Video or Computer Games or Using a Computer, Smartphone or Table 3+ Hours per Day for Something that is not School Work, by Boston, 2007 and 2017

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

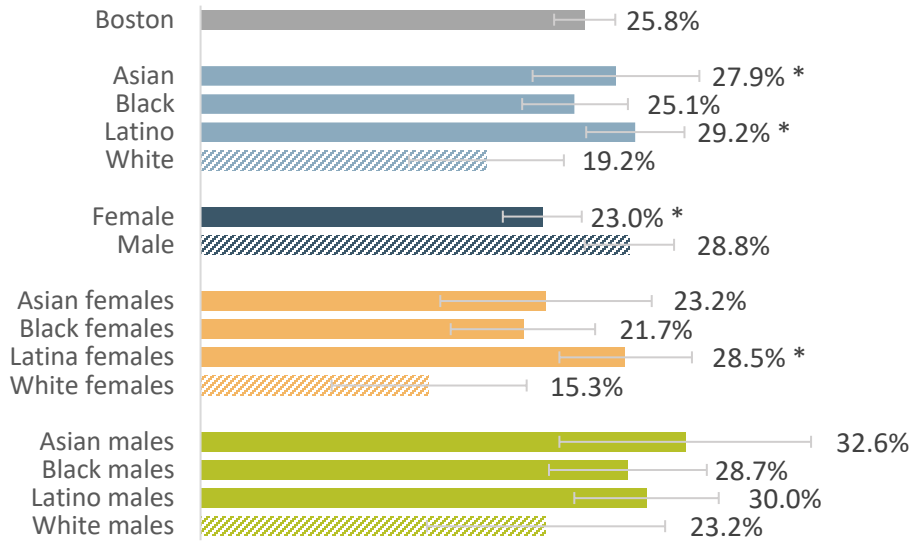
Asthma and Allergies

After obesity and diabetes, pediatric asthma was the most frequently cited chronic concern among focus group participants and key informants, especially for those who lived or worked in Dorchester and Roxbury. Concerns about asthma in these communities were also noted in Boston Children's 2016 CHNA. One key informant explained, *"So many of our kids…are suffering from chronic and active asthma, where they need their inhalers every single day."* Participants shared that young children living in poverty are disproportionally affected by pediatric asthma as a result of poor environmental factors and/or poor living conditions including exposure to air pollutants, rodents, mold, tobacco smoke, and lead. For example, one key informant from Chinatown explained that the neighborhood's proximity to the highway, and poor ventilation systems in older buildings exacerbated asthma rates. One resident shared, "*Asthma rates are high [in Chinatown]. This is related to the prevalence of tobacco use, as well as living conditions; so many housing developments have pests like rats and cockroaches."* Further, pediatric asthma was described as a factor affecting school attendance. Key informants explained that when children are sent home due to asthma concerns, it impedes a parent's ability to maintain stable employment. One interviewee shared, "*It's really hard for parents to pick kids up from school or make meetings, because making meetings means missing work."*

Second hand smoke from tobacco and marijuana were also mentioned as concerns in the home and workplace affecting asthma. For example, an interviewee that worked with children explained, "*We're seeing a trend of increases in asthma; this can go in line with more experiences of second-hand smoke now that marijuana is legalized. A lot of kids are in cars or homes where marijuana smoke is present."*

One in four Boston Public High School students (25.8%) reported an asthma diagnosis, as seen in Figure 29. A significantly greater percent of Asian (27.9%) and Latino (29.2%) high school students reported being diagnosed with asthma compared to White students (19.2%). The prevalence of diagnosed asthma among female students (23.0%) was significantly lower than that of male students (28.8%). When looking at patterns by race/ethnicity and sex, the asthma prevalence among Latina female students (28.5%) was significantly higher than that of White female students (15.3%).

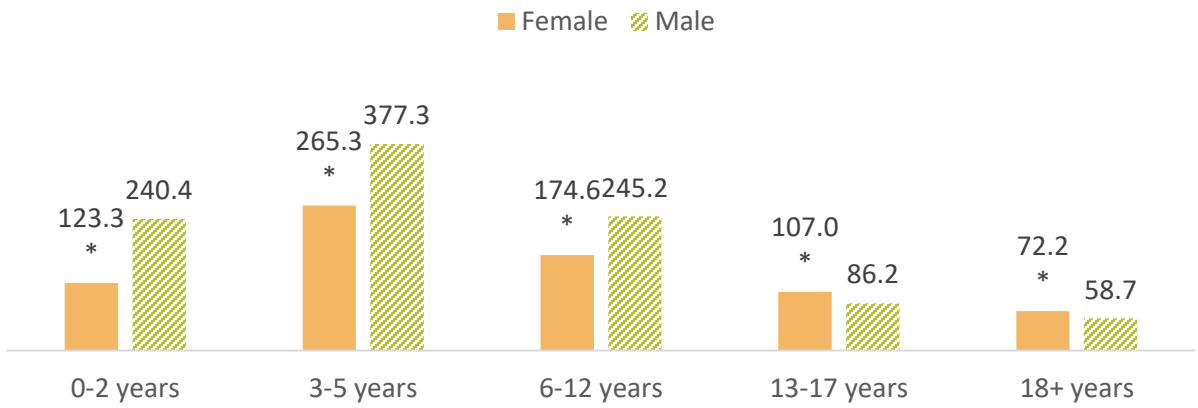
Figure 29. Percent Boston Public High School Youth Reporting Having Asthma, by Boston and Selected Indicators, 2013 and 2017 Combined



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2013 and 2017 combined
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTE: Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

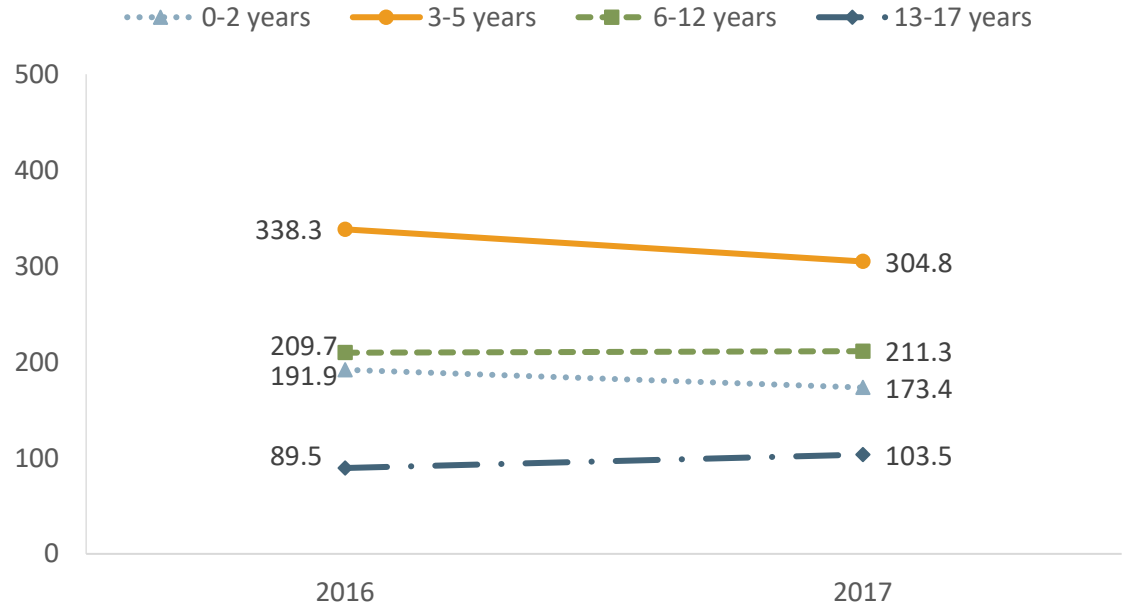
Data about asthma-related emergency department (ED) visits among children in Boston show that the rate was highest among 3-5 year-olds (265.3 asthma ED visits per 10,000 residents for female children and 377.3 asthma ED visits per 10,000 residents for male children) (Figure 30). Rates were also significantly higher among males than females for children 12 and younger and significantly higher for females than males for children over age 12. From 2016-2017, there was no significant change in the asthma ED rate for any age group (Figure 31).

Figure 30. Asthma Emergency Department Visit Rate in Boston, by Age and sex, Age-Specific Rate per 10,000 Residents, 2016-2017 Combined



DATA SOURCE: Massachusetts Center for Health Information and Analysis, Acute Hospital Case Mix Databases, 2016-2017 Combined
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTES: Bars with pattern indicate reference group within each age category; Asterisk (*) denotes where estimate was significantly different compared to reference group within each specific age category (p <0.05)

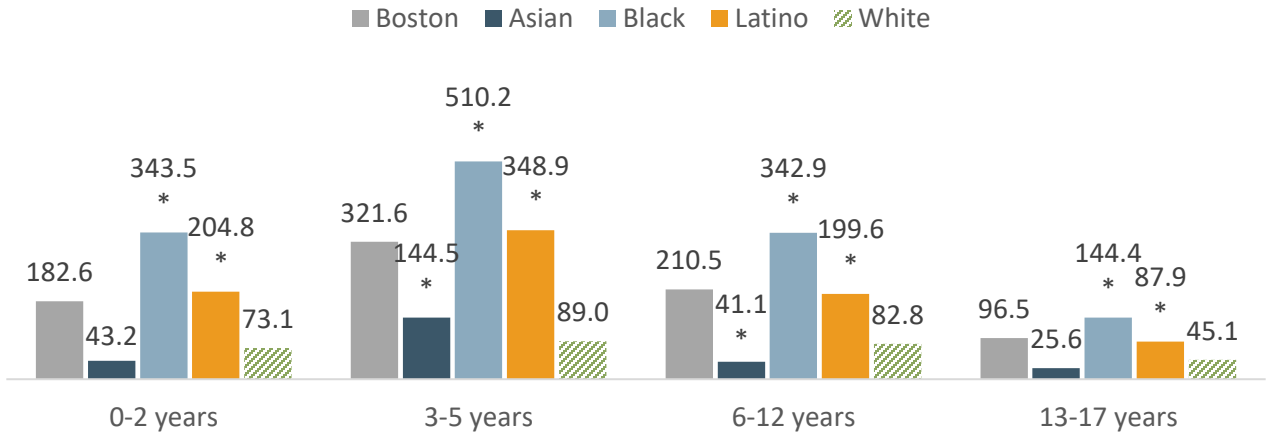
Figure 31. Asthma Emergency Department Rate in Boston, by Age and Over Time, Age-Specific Rate per 10,000 Residents, 2016-2017



DATA SOURCE: Massachusetts Center for Health Information and Analysis, Acute Hospital Case Mix Databases, 2016 and 2017
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTE: Change over time was not statistically significant for any of the age groups

The asthma ED visit rates for Black and Latino children were significantly higher than that for White children across all age groups (Figure 32). For example, among children ages 3-5, the ED visit rate for asthma is over five times higher for Black children (510.2 asthma ED visits per 10,000 residents) and over three times higher for Latino children (348.9 asthma ED visits per 10,000 residents) than for White children (89.0 asthma ED visits per 10,000 residents).

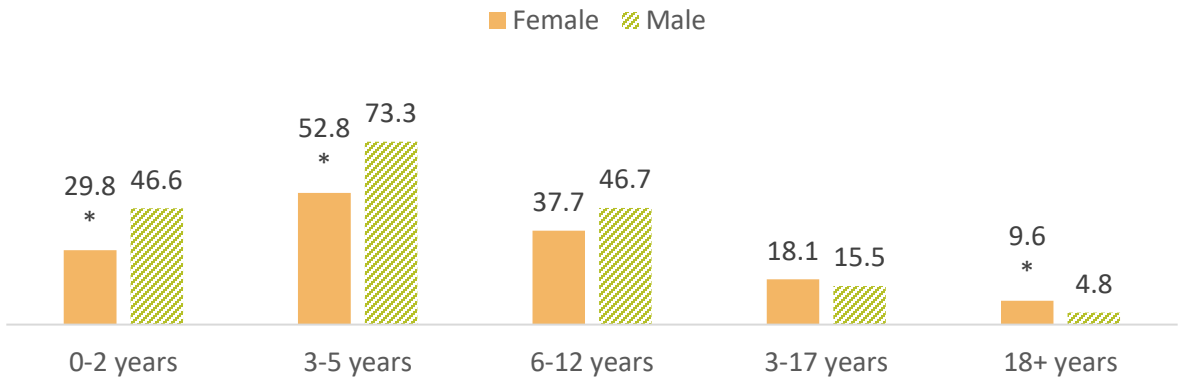
Figure 32. Asthma Emergency Department Visit Rate, by Boston and Race/Ethnicity by Age, Age-Specific Rate per 10,000 Residents, 2016-2017 Combined



DATA SOURCE: Massachusetts Center for Health Information and Analysis, Acute Hospital Case Mix Databases, 2016-2017 Combined
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTES: Sample sizes for Asian in the 0-2 years, 6-12 years, and 13-17 years are ≤ 20 and rates should be interpreted with caution; Bars with pattern indicate reference group within each age category; Asterisk (*) denotes where estimate was significantly different compared to reference group within each specific age category (p <0.05)

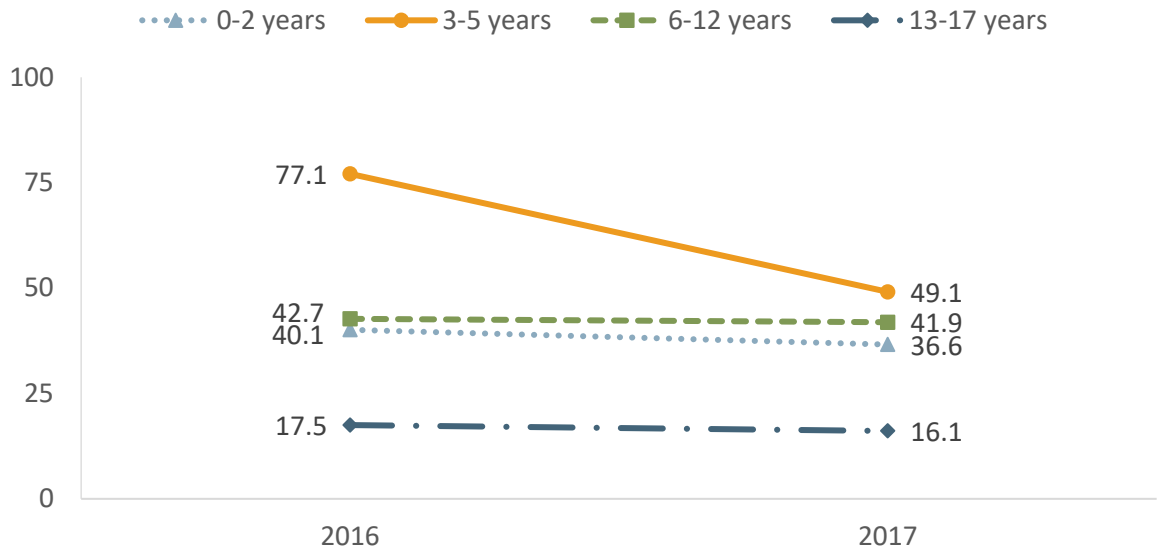
As with ED visits, children age 3-5 experience the highest rate of hospitalization due to asthma (Figure 33). However, this rate has declined significantly between 2016 and 2017, from 77.1 to 49.1 asthma hospitalizations per 10,000 residents (Figure 34). The asthma hospitalization rate among children 5 years and younger is significantly higher for males than females.

Figure 33. Asthma Hospitalization Rate in Boston, by Age, Age-Specific Rate per 10,000 Residents, 2016-2017 Combined



DATA SOURCE: Massachusetts Center for Health Information and Analysis, Acute Hospital Case Mix Databases, 2016-2017 Combined
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTES: Bars with pattern indicate reference group within each age category; Asterisk (*) denotes where estimate was significantly different compared to reference group within each specific age category (p <0.05)

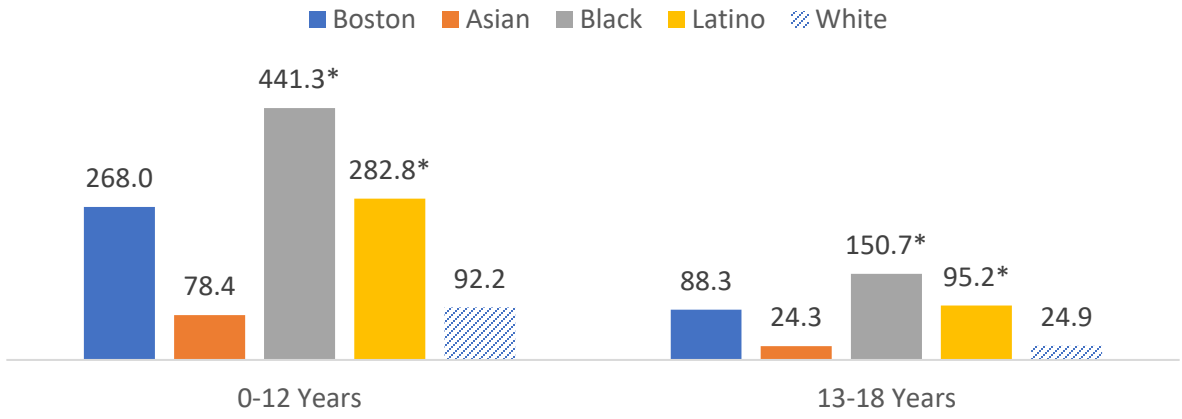
Figure 34. Asthma Hospitalization Rate in Boston, by Age and Over Time, Age-Specific Rate per 10,000 Residents, 2016-2017



DATA SOURCE: Massachusetts Center for Health Information and Analysis, Acute Hospital Case Mix Databases, 2016 and 2017
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTE: Change over time for the 3-5 years age group was statistically significant

Boston Children's hospital patient encounter data indicate that in 2016-2017, the rate for asthma encounters among Boston children 0-12 years old was 268.0 encounters per 10,000 residents—three times higher than that of adolescents 13-18 years old (88.3 encounters per 10,000 residents) in 2016-2017 (Figure 35). Rates were significantly higher for Black and Latino children than for White children: the rate of asthma hospital encounters was over four times higher for Black children and almost three times higher for Latino children ages 0-12 than for White children of this age. Similarly, hospital encounters for Black adolescents was over five times that of White adolescents and Latino adolescents were three times as high. Encounter rates for asthma were significantly higher in Dorchester and Roxbury for both age groups compared to Boston overall (data in Appendix B).

Figure 35. BCH Asthma Hospital Patient Encounters by Race/Ethnicity, Age-specific Rates per 10,000 Residents, Ages 0-12 and 13-18, 2016 and 2017 Combined

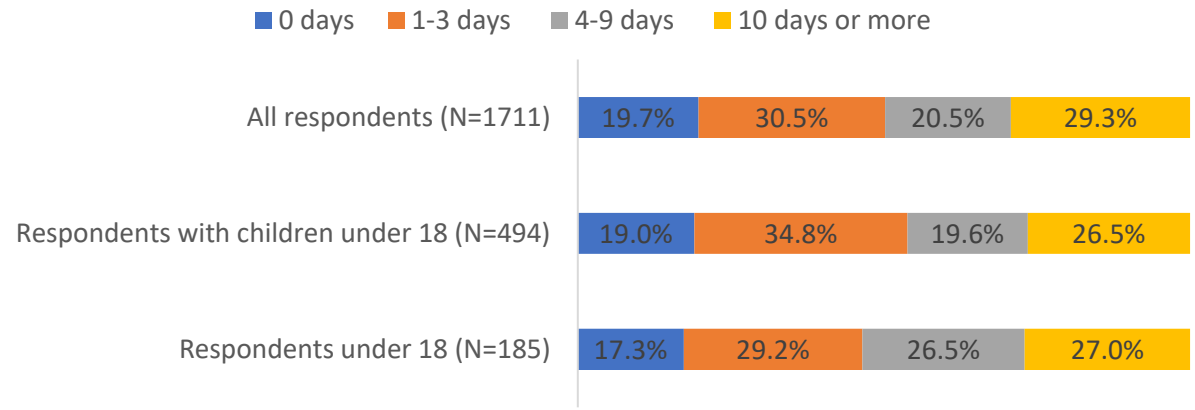


NOTES: Sample sizes for Asian in the 13-18 years are ≤ 20 and rates should be interpreted with caution; Bars with pattern indicate reference group within each age category; Asterisk (*) denotes where estimate was significantly different compared to reference group within each specific age category (p <0.05)

Mental Health

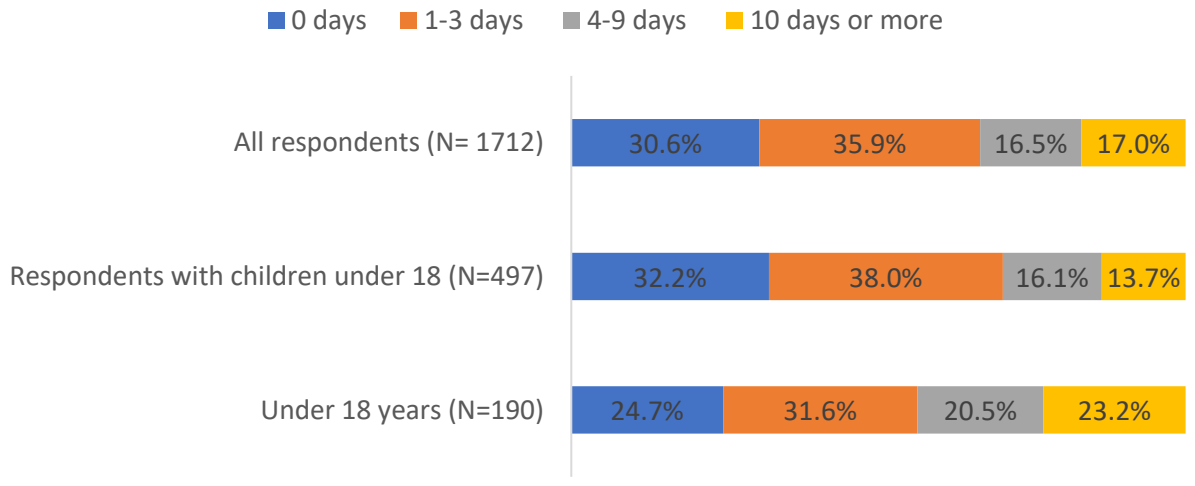
Similar to findings from the Boston Children's 2016 CHNA, mental health issues were described as a priority concern. Boston CHNA survey respondents were asked about the number of days in the past month they experienced mental distress. Slightly less than 30% of respondents reported that they felt worried, tense, or anxious 10 days or more in the past 30 days (Figure 36). Conversely, approximately 20% of respondents reported not feeling anxious any days over the course of the month. Almost a quarter of respondents under the age of 18 reported feeling sad, blue, or depressed for 10 or more days over the past month (Figure 37).

Figure 36. Percent Boston CHNA Survey Respondents Reporting the Number of Days in Past 30 Days During Which They Felt Worried, Tense, or Anxious, All Respondents, Respondents with Children Under 18, and Youth, 2019



DATA SOURCE: Boston CHNA Community Survey, 2019
NOTES: Question was worded: "During the past 30 days, for about how many days have you felt worried, tense, or anxious?"; Percentage calculations do not include respondents who selected "prefer not to answer"

Figure 37. Percent Boston CHNA Survey Respondents Reporting the Number of Days in Past 30 Days During Which They Felt Sad, Blue, or Depressed, All Respondents, Respondents with Children Under 18, Youth, 2019



DATA SOURCE: Boston CHNA Community Survey, 2019
NOTES: Question was worded: "During the past 30 days, for about how many days have you felt sad, blue, or depressed?"; Percentage calculations do not include respondents who selected "prefer not to answer"

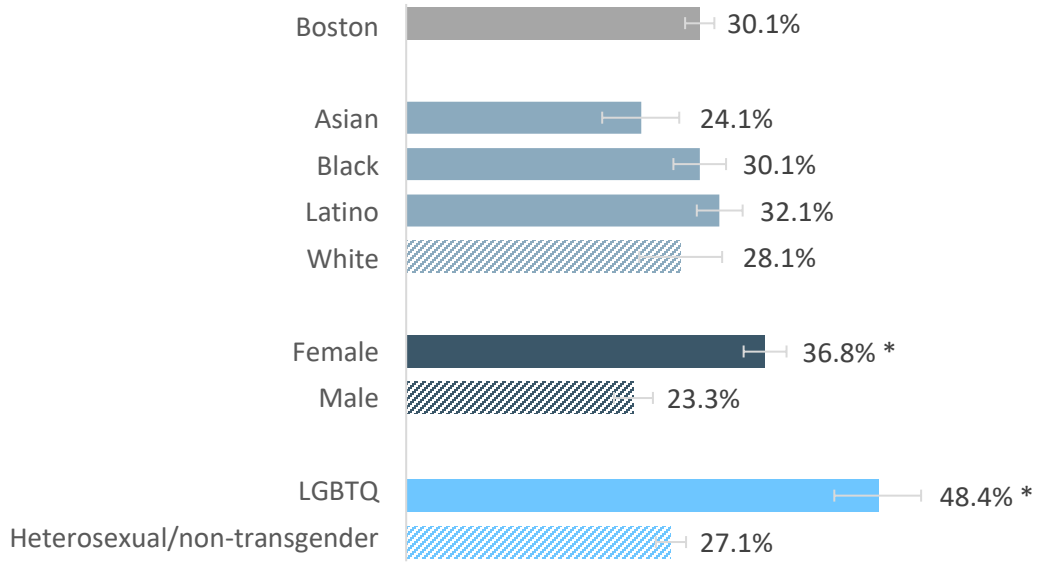
Across almost all focus groups and interviews conducted for the 2019 Boston CHNA, stress, anxiety, and depression were the most frequently cited mental health challenges among Boston CHNA participants. In conversations, mental health issues were often discussed in relation to social determinant factors such as poverty, employment, safety. One interviewee summarized, "*Many residents are significantly impacted by untreated mental health, addiction, and untreated chronic conditions. They are at significant disadvantages in terms of the social determinants of health; communities and families that have multigenerational issues around poverty, lack of education, histories of trauma and violence…"* Additional factors affecting mental health, according to key informants included: unstable housing situations; parental incarceration, especially for Black and Latino men; and domestic violence. Immigrants and communities of color were described as especially vulnerable to mental health issues due to limited English language skills, cultural norms, and stigma related to seeking mental health services.

Youth Mental Health

Focus group and interview participants participating in the Boston CHNA expressed increasing concern about mental health issues experienced by children and teens. Key informants spoke of how poor social and economic factors exacerbate mental health issues for children; for example, poor children who are at risk of living under chronic stress or experiencing vicarious trauma through their parent's experiences. One interviewee explained, "*Children feed off the stress of their parents. A child comes to school thinking, 'my parents don't have rent money, we don't have any food' and it impacts their mental health and their ability to learn."* Children of immigrants were also described as susceptible to mental health challenges because of competing pressures and identities, often serving as a "*liaison between both worlds."* Though not as frequently discussed as stress, anxiety was also identified as a common concern for parents and young people who participated in focus groups. Online bullying and social media were mentioned as components of this anxiety, as well as high-pressures to perform in school.

Concerns about youth mental health issues was validated by survey data. Responses from the Youth Risk Behavior Survey indicate approximately 30% of Boston public high school students reported feeling persistent sadness (measured by feeling sad or hopeless every day for 2 weeks or more in the past 12 months) (Figure 38). When looking at data by specific groups, female students (36.8%) were significantly more likely than male students (23.3%) and students who identify as LGBTQ (48.4%) were significantly more likely than students identifying as heterosexual/non-transgender (27.1%) to report feeling persistent sadness.

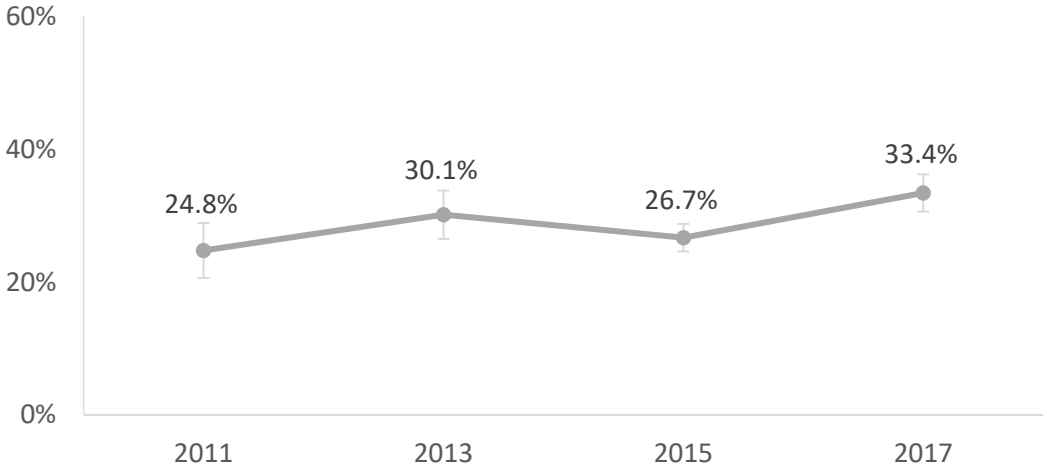
Figure 38. Percent Boston Public High School Youth Reporting Persistent Sadness, by Boston and Selected Indicators, 2013, 2015, and 2017 Combined



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2013, 2015, and 2017 combined
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTE: Students were asked in the past 12 months if they felt sad or hopeless every day for 2 weeks or more; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category (p <0.05); Error bars show 95% confidence interval

When examining YRBS data by year, Figure 39 shows a statistically significant increase over time, from 24.8% of Boston public high school students reporting persistent sadness in 2011 to 33.4% reporting the same in 2017.

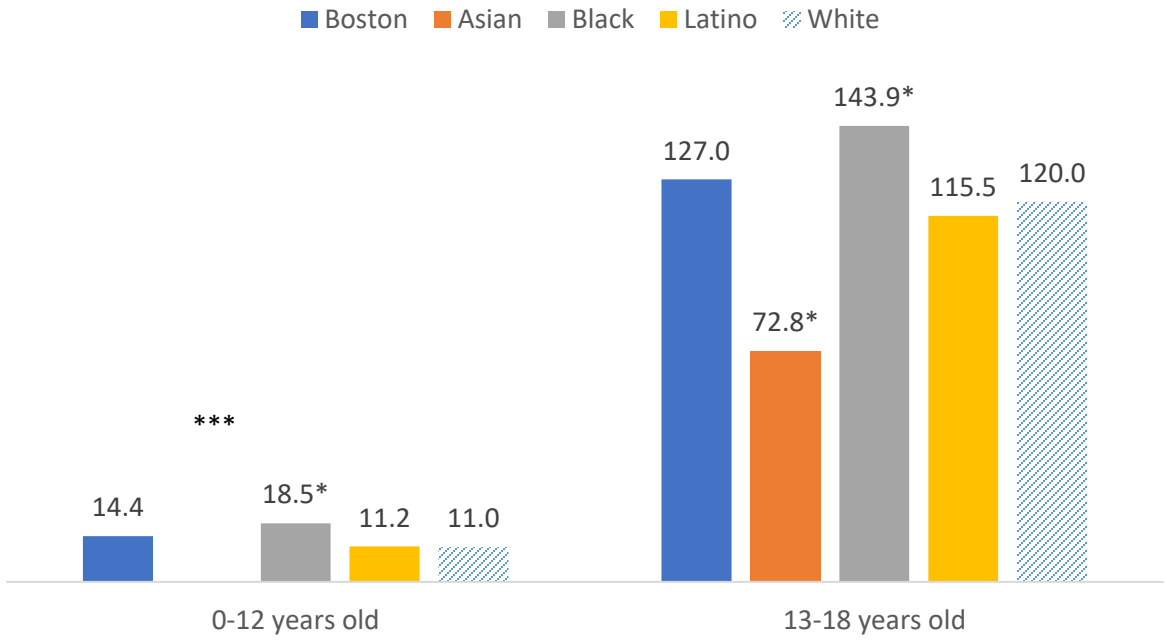
Figure 39. Percent Boston Public High School Youth Reporting Persistent Sadness, by Boston and Over Time, 2011-2017



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2011, 2013, 2015, and 2017
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTE: Students were asked in the past 12 months if they felt sad or hopeless every day for 2 weeks or more; Error bars show 95% confidence interval; Change over time was statistically significant (increase over time)

According to Boston Children's patient encounter data, the rate of hospital patient encounters for depression among children was 14.4 child encounters (ages 0-12) per 10,000 residents and 127.0 adolescent encounters (ages 13-18) per 10,000 residents in 2016-2017 (Figure 40). This rate was significantly higher for Black children and adolescents compared to White children and adolescents, and lower for Asian adolescents compared to White adolescents. The hospital encounter rate for 0-12 year-olds was significantly higher in Jamaica Plain than Boston overall, and significantly higher in Dorchester and Jamaica Plain among 13-18 year-olds than Boston overall (data in Appendix B).

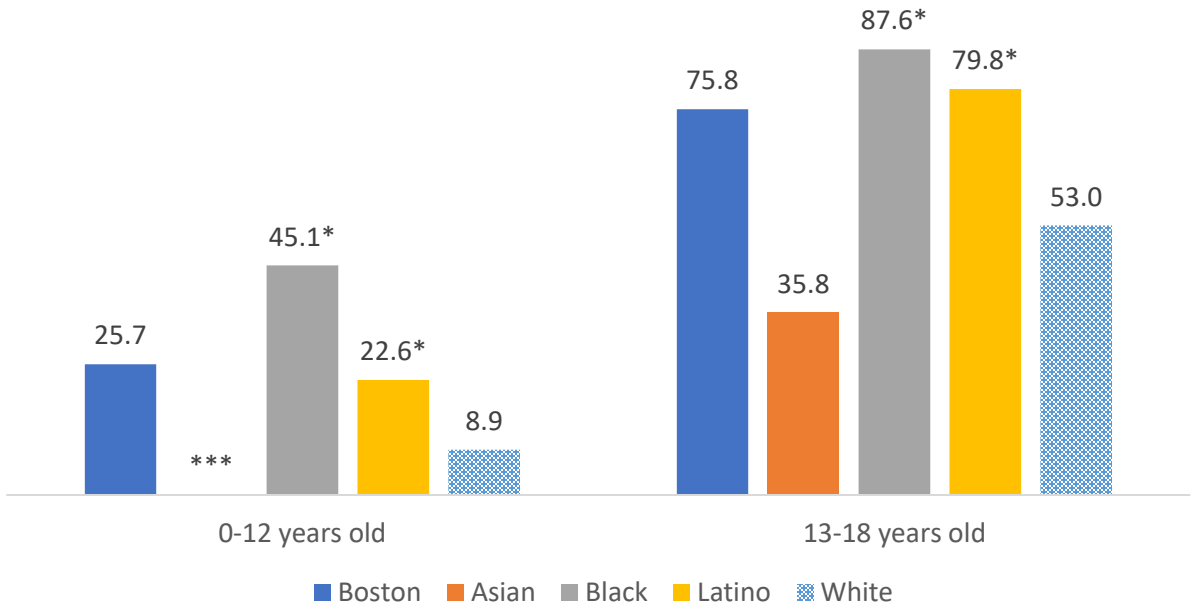
Figure 40. BCH Hospital Patient Encounters due to Depression by Race/Ethnicity, Age-specific Rates per 10,000 Residents, Ages 0-12 and 13-18, 2016 and 2017 Combined



DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis
DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
*** Data suppressed due to too few cases (n<11)
NOTE: Bars with pattern indicate reference group within each age category; Asterisk (*) denotes where estimate was significantly different compared to reference group within each specific age category ($p < 0.05$). Hospital Patient Encounters include any emergency department, hospitalization, or observation encounter with primary diagnosis of mood (affective) disorder.

The rate of hospital patient encounters for anxiety among children was 25.7 encounters (ages 0-12) per 10,000 residents and 75.8 adolescent encounters (ages 13-18) per 10,000 residents in 2016-2017 (Figure 41). The rate was significantly higher for Black and Latino children of both age groups compared to White children. The rate of hospital encounters for anxiety in 2016-2017 was about five times higher for Black children ages 0-12 and over twice as high for Latino children ages 0-12 compared to White children. The encounter rate was significantly higher in Dorchester than Boston overall for both age groups and significantly higher in Jamaica Plain and Roxbury than Boston overall among 0-12 year-olds (data in Appendix B).

Figure 41. BCH Hospital Patient Encounters due to Anxiety by Race/Ethnicity, Age-specific Rates per 10,000 Residents, Ages 0-12 and 13-18, 2016 and 2017 Combined

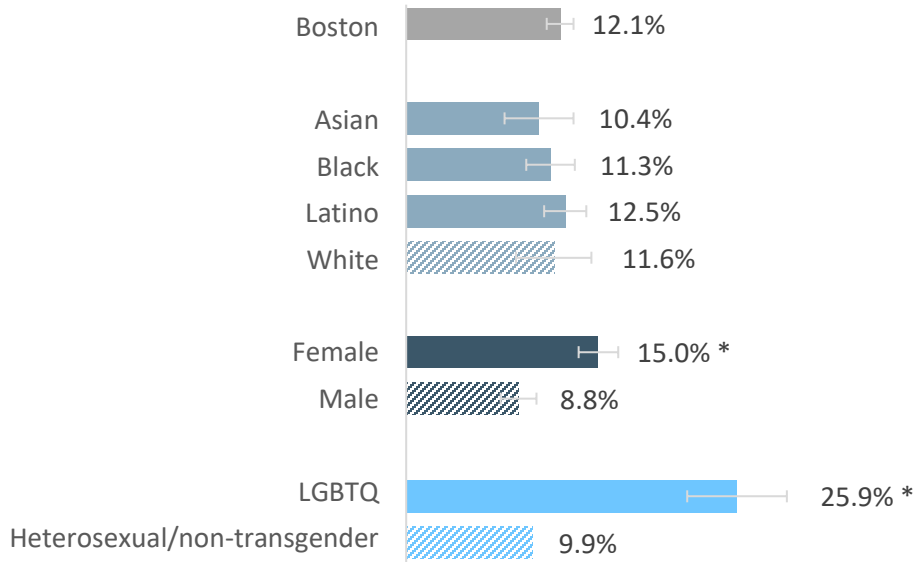


DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis
DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
*** Data suppressed due to too few cases (n<11)
NOTE: Bars with pattern indicate reference group within each age category; Asterisk (*) denotes where estimate was significantly different compared to reference group within each specific age category (p <0.05). Hospital Patient Encounters include any emergency department, hospitalization, or observational encounter with primary diagnosis of anxiety, dissociative, stress-related, somatoform and other nonpsychotic mental disorders.

Youth Suicide

Nearly one in eight Boston public high school students has reported seriously considering suicide (Figure 42). Suicide ideation was highest among LGBTQ students, where nearly 25.9% indicated they seriously considered suicide, compared to 9.9% of students who identified as heterosexual or non-transgender. Female students (15.0%) were also significantly more likely than male students (8.8%) to report considering suicide. The percentage of students who reported seriously considering suicide generally remained steady over time from 2011-2017 (data in Appendix B).

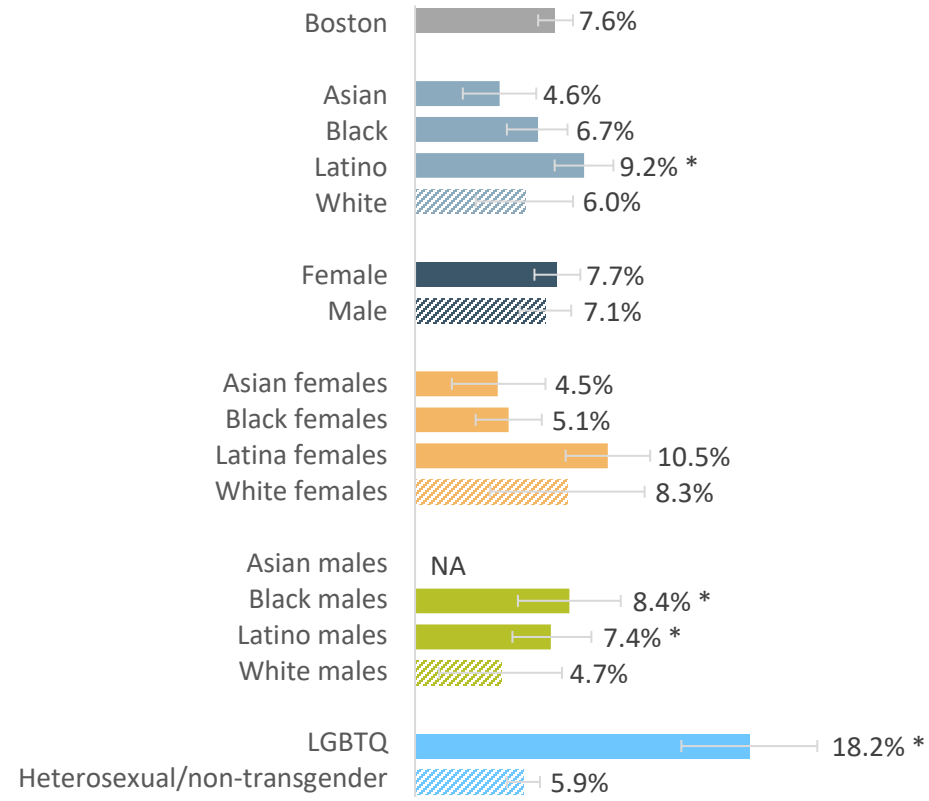
Figure 42. Percent Boston Public High School Youth Reporting Seriously Considering Suicide in the Past Year, by Boston and Selected Indicators, 2013, 2015, 2017 Combined



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2013, 2015, and 2017 combined
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTES: Students were asked if during the past 12 months, did they seriously consider attempting suicide; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

Similar to the pattern of suicide ideation, LGBTQ students, at 18.2%, were more likely to report attempting suicide in the past year compared to heterosexual/non-transgender students (5.9%) (Figure 43). There were also differences by race/ethnicity among students responding to this question. Latino students overall (9.2%) were significantly more likely than White students (6.0%) to report attempting suicide in the past year. Among male students, Black (8.4%) and Latino (7.4%) males were significantly more likely than White males (4.7%) to report attempting suicide in the past year.

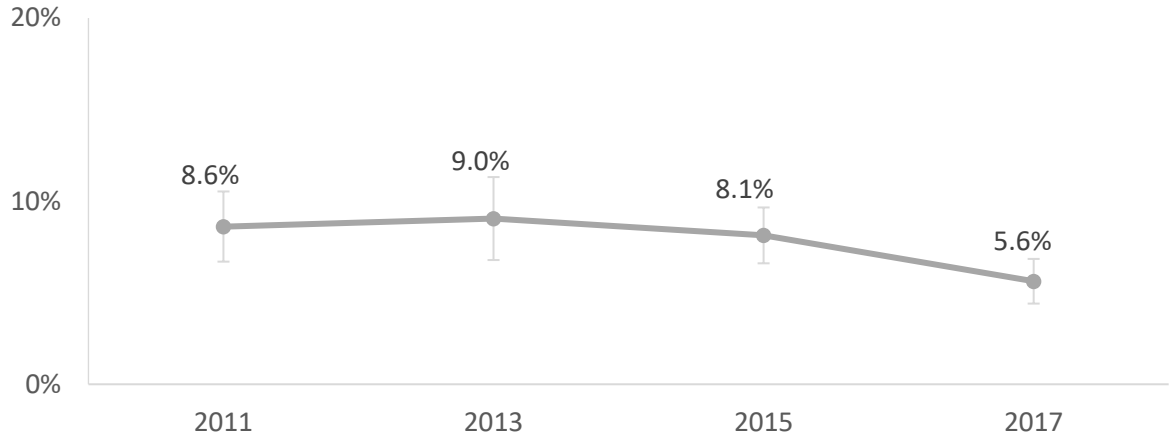
Figure 43. Percent Boston Public High School Youth Reporting Attempting Suicide in the Past Year, by Boston and Selected Indicators, 2013, 2015, 2017 Combined



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2013, 2015, and 2017 combined
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTES: Bars with pattern indicate reference group for its specific category; NA denotes where data not presented due to insufficient sample size; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

While trend data for suicide ideation show the proportion of students considering suicide has remained steady over time, Figure 44 shows a significant decrease in the percentage of students who reported attempting suicide, from 8.6% in 2011 to 5.6% in 2017.

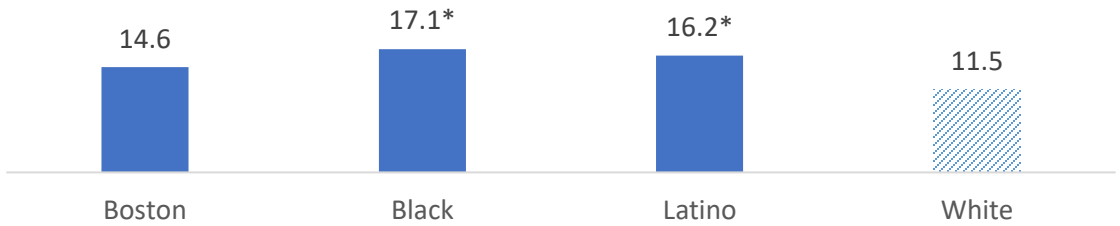
Figure 44. Percent Boston Public High School Youth Reporting Attempting Suicide in the Past Year, by Boston and Over Time, 2011-2017



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2011, 2013, 2015, and 2017
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTES: Students were asked if during the past 12 months, did they seriously consider attempting suicide; Error bars show 95% confidence interval; Change over time was statistically significant (decrease over time)

In 2016-2017, the rate of Boston Children's hospital encounters due to intentional self-harm and suicide attempts was 14.6 child encounters (0-18 year-olds) per 10,000 residents (Figure 66). This rate was significantly higher among Black and Latino children compared to White. Data for Asian children are not included due to too few cases. When examined by Boston Children's priority neighborhoods, hospital encounter rates for intentional self-harm and suicide attempts were significantly higher among children in Jamaica Plain and Roxbury compared to the rest of Boston (data in Appendix B).

Figure 45. BCH Hospital Patient Encounters due to Intentional Self-harm and Suicide Attempts by Race/Ethnicity, Age-specific Rates per 10,000 Residents, Ages 0-18, 2016 and 2017 Combined

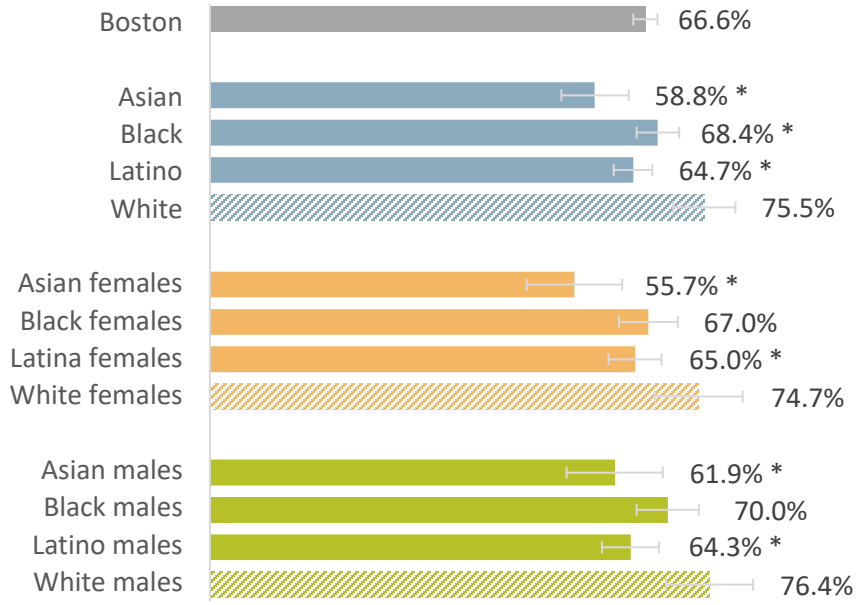


DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis
DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
NOTE: Bars with pattern indicate reference group; Data for Asian children and youth suppressed due to too few cases (n<11); Asterisk (*) denotes where estimate was significantly different compared to reference group within each specific age category (p <0.05). Hospital Patient Encounters include any emergency department, hospitalization, or observational encounter for intentional self-harm, including non-fatal suicide attempts.

Youth Social Connectedness

Connectedness is an important protective factor in mental health; having a trusted adult in one's life is one indicator of positive youth development and support. Two-thirds of Boston public high school students reported having at least one trusted adult at school; however, a significantly lower proportion of Asian and Latino females and males reported having a trusted adult when compared to their White counterparts (Figure 46). These patterns mirror some data about overall youth mental health, especially among females and Latino youth: a significantly higher proportion of females than males report persistent sadness and seriously considering suicide; a significantly higher proportion of Latinos overall and Latino males have reported attempting suicide and hospital encounters for intentional self-harm and suicide attempts than their White counterparts.

Figure 46. Percent Boston Public High School Youth Reporting Having At Least One Trusted Adult at School, by Boston and Selected Indicators, 2013, 2015, 2017 Combined



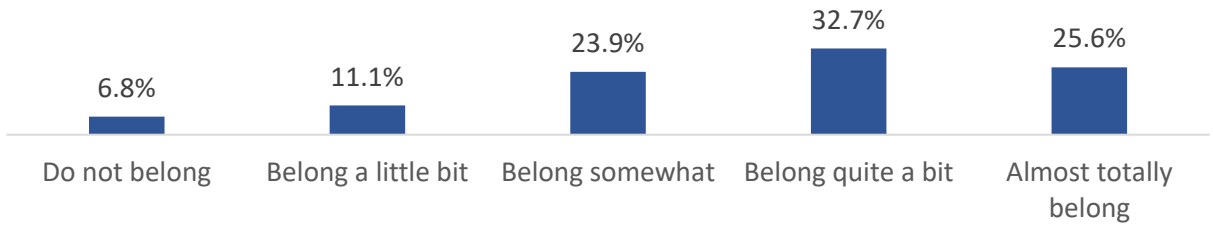
DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2013, 2015, and 2017 combined

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

NOTES: Students were asked if there was at least one adult at school they could talk to if they had a problem; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

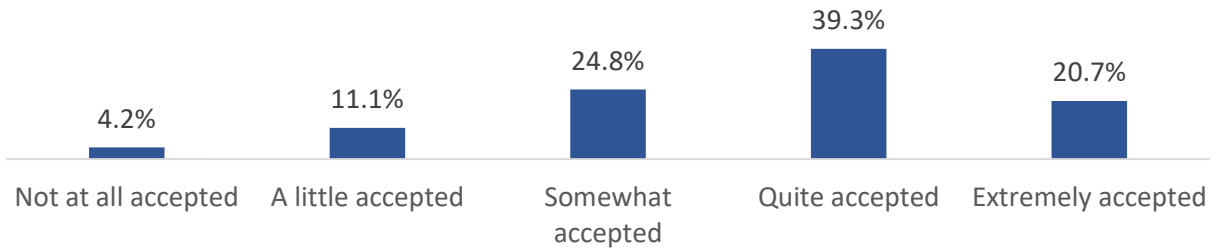
The Boston Public Schools Student Climate Survey is conducted every year with students in grades 4-11. In 2018, nearly 60% of students indicated that they belong quite a bit or almost totally belong at school, while 6.8% of students reported feeling like they do not belong (Figure 47). Similarly, 60% of students reported quite or extremely accepted by other students at school, while 4.2% reported feeling not accepted at all (Figure 48). Finally, 41.9% reported that they felt quite or extremely well connected to adults at school, while 8.4% reported that they did not feel at all connected (Figure 49).

Figure 47. Percent Boston Public School Students Reporting Feeling Like They Belong at School (N=10,458), 2018



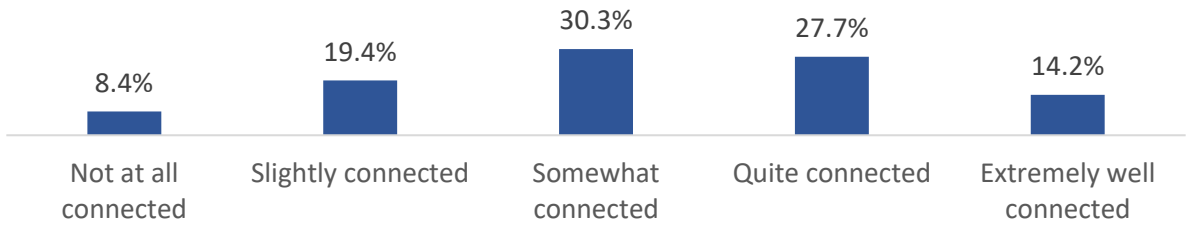
DATA SOURCE: Boston Public Schools, Office of Data and Accountability, Student Climate Survey, 2018

Figure 48. Percent Boston Public School Students Reporting Feeling Accepted by Other Students at School (N=10,461), 2018



DATA SOURCE: Boston Public Schools, Office of Data and Accountability, Student Climate Survey, 2018

Figure 49. Percent Boston Public School Students Reporting Feeling Connected to Adults at School (N=10,488), 2018

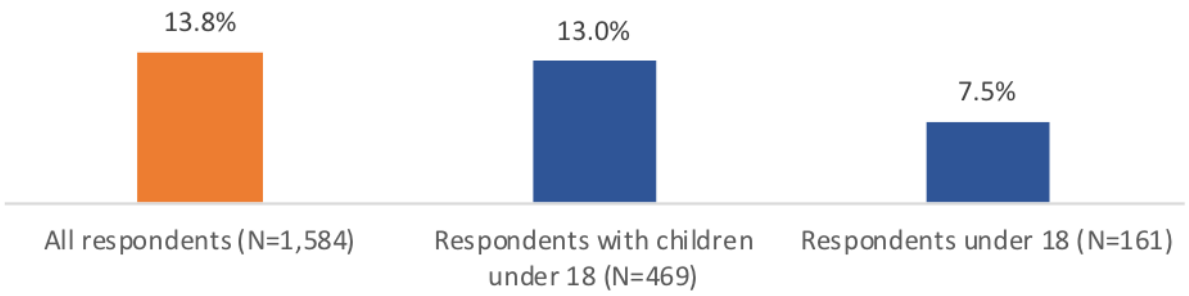


DATA SOURCE: Boston Public Schools, Office of Data and Accountability, Student Climate Survey, 2018

Mental Health Service Utilization and Barriers

Results from the Boston CHNA Community Survey show that about 14% of respondents reported that they have needed mental health services but have not been able to access them (Figure 50). A similar proportion of respondents with children under 18 reported being unable to access needed mental health services (13.0%), while 7.5% of those under 18 reported this challenge. Among respondents with children under 18 who reported difficulty accessing mental health services, the highest proportion—over 42%—were those with children 6-10 years, followed by those with children 11-14 years (See Appendix B).

Figure 50. Percent Boston CHNA Survey Respondents Reporting That They Have Needed Mental Health Services but Could Not Access Them, by All Respondents, Respondents with Children Under 18, Youth, 2019



DATA SOURCE: Boston CHNA Community Survey, 2019
NOTE: Question worded as: Was there a time in the past 12 months when you needed services and/or treatment for depression, anxiety, or other mental health concerns but could not access them?

These statistics and the ones above mirror some of the themes discussed in the Boston CHNA focus groups related to mental health services – where stigma, access barriers, and cultural competency concerns were challenges to getting the mental health care services needed. Specifically, focus group participants perceived that mental health services were more easily available for some communities than others; they saw gaps or challenges specifically around services for children, non-English speakers, LGBTQ residents, seniors, and the homeless population.

Stigma around mental health was commonly discussed in key informant interviews conducted for the Boston CHNA and in many English and non-English focus groups as a challenge to seeking services. For example, one key informant explained, "*Mental health is kind of a taboo discussion; the community's willingness to embrace mental health services is an issue."* Focus group participants described issues of cost and language accessibility that create barriers to mental health access for these populations. Cost for these services was also noted as barrier for middle-income residents with private insurance who do not qualify for financial supports.

Cultural and linguistic differences were described as barriers to mental health utilization for immigrant communities. One interviewee summarized, "*There's a lack of mental health providers in general, and then when you add the cultural competency/language barriers among those providers it's even harder."* Focus group participants, namely those from communities of color and immigrant residents, expressed frustration at the lack of mental health providers that reflect their lived experiences. For example, mothers who experienced violence in Dorchester explained being offered mental health services from

clinicians who they identified as inexperienced and lacking racial awareness. As one focus group participant explained, *"We want help, it's not in our community to get help because we were raised to not talk about what happens in our house; but when we ask for help, you get somebody who clearly does not understand what you're going through. It's not easy to balance."* One key informant explained that traditional counseling services may not be the best approach for every population group—religious minority groups, for example—and it's important to consider tailored approaches for each community: "*Not everyone needs counseling or medicine; it's not easy to find a counselor who can think with you. Sometimes counselors can make things worse if [they] don't understand the basics of your faith."*

Other key informant participants pointed to systemic challenges to addressing community mental health issues. Participants described an insufficient number of providers in the community to meet the demand, noting long wait lists and limited resources for non-English speakers. Key informants with school-based experience spoke of the need for more full-time emotional supports in the school system, including social workers and counselors in every public school. Several key informants also cited larger workforce challenges that compounded these issues, including the struggle to attract and retain a diverse behavioral health work force; these challenges were attributed to low-wages, licensing demands, and costs of higher education or student debt. Key informants and focus groups with parents identified a need for additional mental health supports within schools and community-based organizations, especially for children who have experienced trauma or community violence.

Substance Use

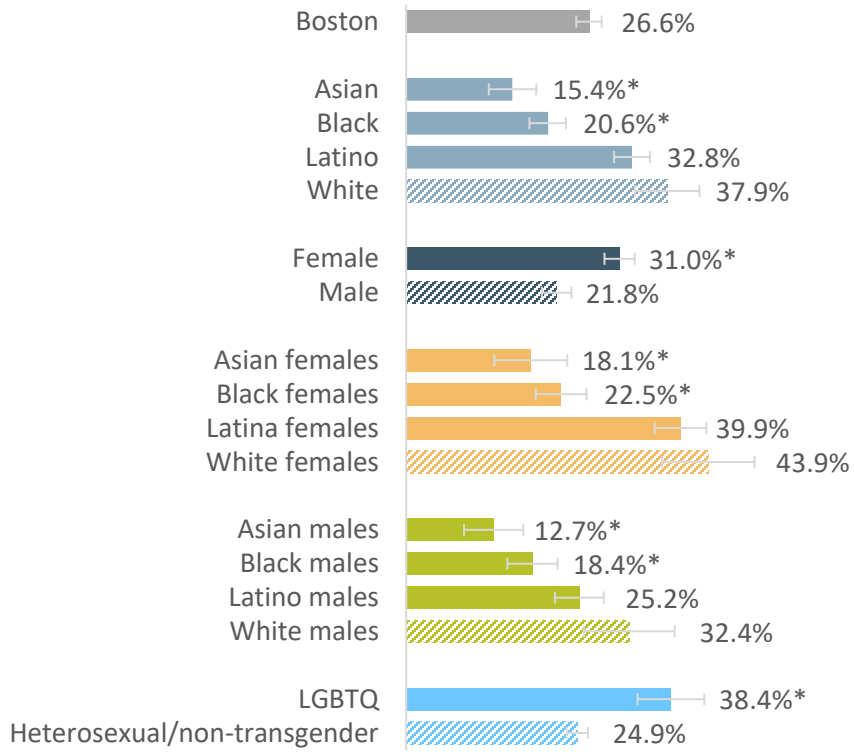
Substance use was considered a priority health issue in many focus group and interview discussions conducted for the Boston CHNA. Participants mentioned a variety of substances including opioids, marijuana, and prescription drug use as being among the most concerning. Co-occurring mental health and substance use issues were frequently discussed among key informants. Additionally, key informant interviewees discussed the interrelationship between trauma, mental health, and substance use. As one interviewee noted, *"Significant levels of trauma and adverse childhood events are really huge issues that contribute to a whole host of negative health outcomes, substance use being a big one of them."*

Participants were especially concerned about the impact of substance use disorders on young people. In Chinatown, East Boston, and Dorchester, for example, focus group participants perceived an increase in youth drug abuse, specifically mentioning marijuana, vaping, and prescription pills like Adderall. Some focus group participants and key informants reported that they believed that providers were over prescribing/diagnosing children, and as a result, enabling addictive behavior. For example, interviewees explained that conditions such as ADHD often mimic symptoms that are caused by trauma; there were perceptions that children are being overmedicated for these ailments because the root causes of their symptoms were not being addressed. One Roxbury resident who worked with children shared, "*There have been huge increases in ADHD diagnoses—especially in Black and Latino boys. It makes me wonder—how much of this is really ADHD and how much of these behavioral issues stem from trauma?"* Likewise, focus group participants in the South End echoed this sentiment, with one sharing, "*A lot of doctors are too quick to medicate; we need to as what brought [children] to this point. If they have depression, they give them medications instead of finding out why this is happening and connecting them to other resources other than medicating them."*

Alcohol

Over a quarter of high school youth reported current alcohol consumption (26.6%) (Figure 51). There are substantial differences across sub-populations. Reported rates of alcohol use was significantly higher among Boston female students (31.0%) than male (21.8%) and significantly lower among Asian (15.4%) and Black (20.6%) students than White (37.9%). LGBTQ students (38.4%) report higher rates of alcohol use than heterosexual youth (24.9%). The rate of current alcohol consumption among Boston youth has remained steady over time (data in Appendix B).

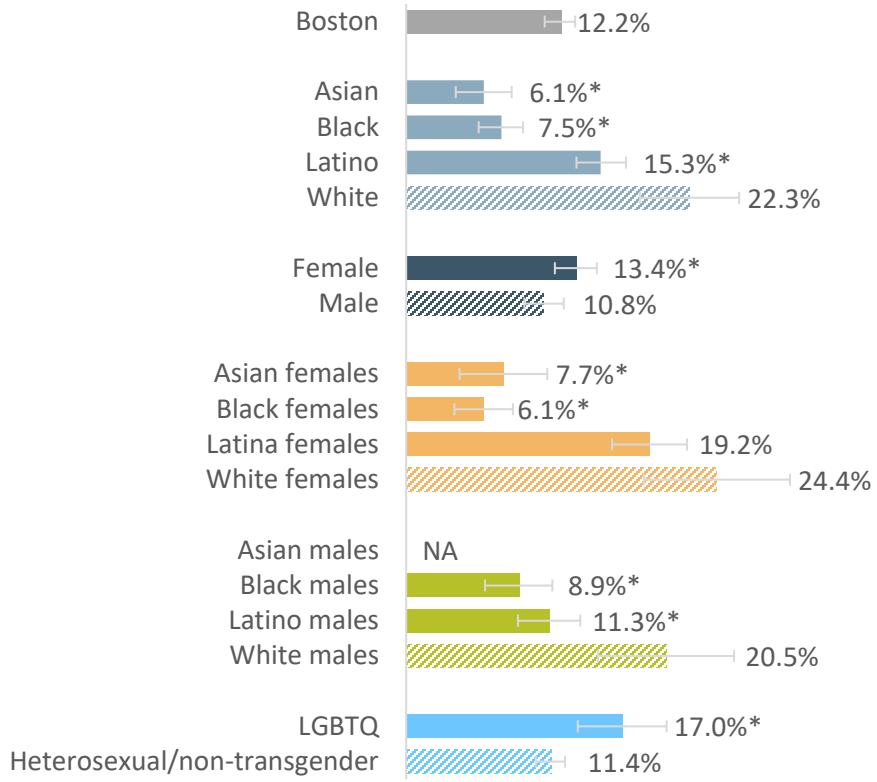
Figure 51. Percent Boston High School Youth Reporting Current Alcohol Consumption, by Boston and Selected Indicators, 2013, 2015, and 2017



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2013, 2015, and 2017 combined
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTE: Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

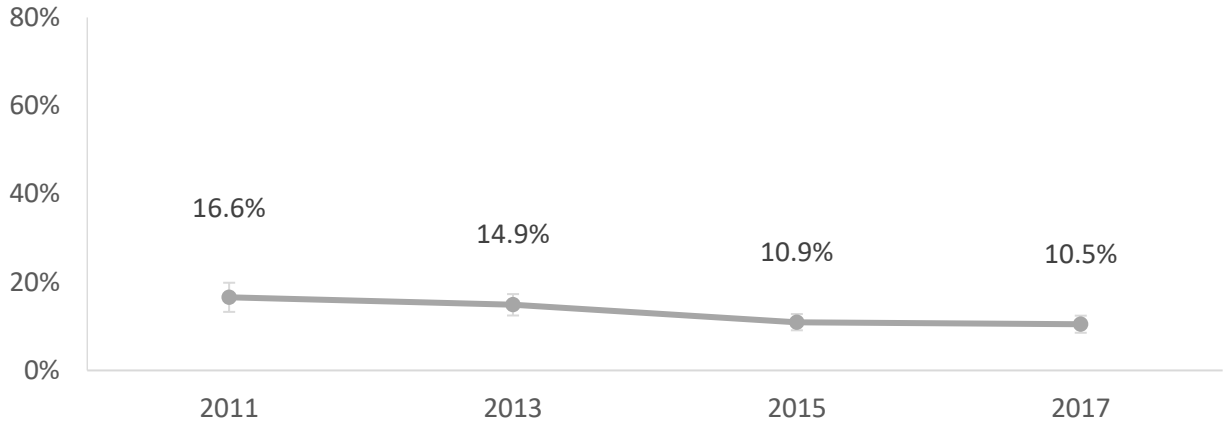
About 12% of Boston high school youth reported current binge drinking (Figure 52). There are significant differences by student characteristics. White students were more likely than those of racial/ethnic groups, female students were more likely than male students, and LGBTQ students were more likely than heterosexual/non-transgender students to report current binge drinking behaviors. There has been a significant decrease since 2011 in the percent of Boston high school students who report binge drinking, from 16.6% in 2011 to 10.5% in 2017 (Figure 53).

Figure 52. Percent Boston High School Youth Reporting Current Binge Drinking, by Boston and Selected Indicators, 2013, 2015, and 2017



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2013, 2015, and 2017 combined
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTE: Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category (p <0.05); Error bars show 95% confidence interval; NA denotes where data are suppressed due to insufficient sample size

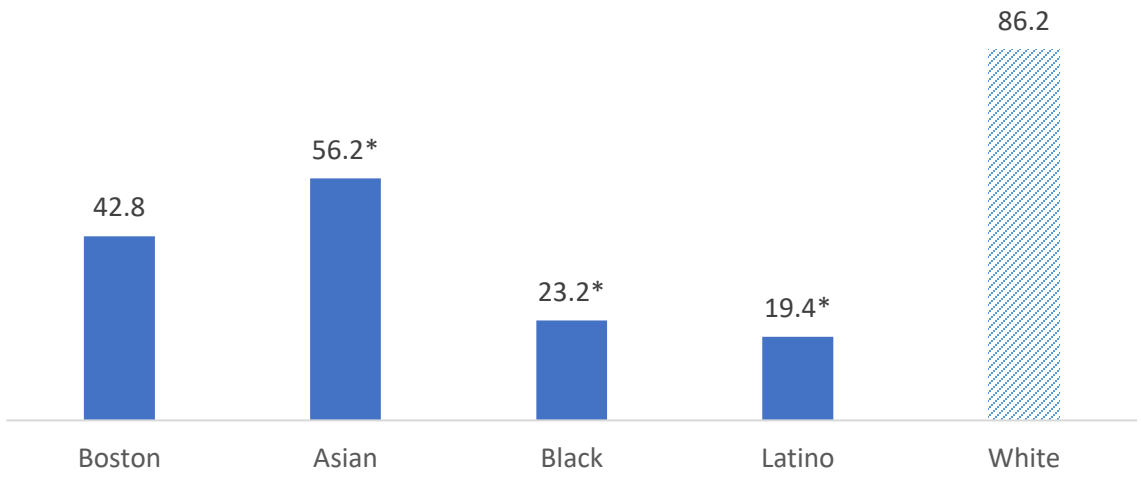
Figure 53. Percent Boston High School Youth Reporting Binge Drinking, by Boston and Over Time, 2011-2017



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2011, 2013, 2015, and 2017
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTE: Binge drinking is defined having 5 or more drinks of alcohol within a couple of hours at least once in the past 30 days; Error bars show 95% confidence interval; Change over time was statistically significant (decrease over time)

Boston Children's encounter data show that in 2016-2017, the rate of hospital encounters due to alcohol dependence and misuse was 42.8 among 13-18 year-olds per 10,000 residents (Figure 54). This rate is significantly higher among White youth than among youth of other races/ethnicities. The rate of hospital encounters due to alcohol dependence and misuse was four times higher among White youth than among Latino youth and over three times higher than among Black youth.

Figure 54. BCH Hospital Patient Encounters due to Alcohol Dependence and Misuse by Race/Ethnicity, Age-specific Rates per 10,000 Residents, Ages 13-18, 2016 and 2017 Combined

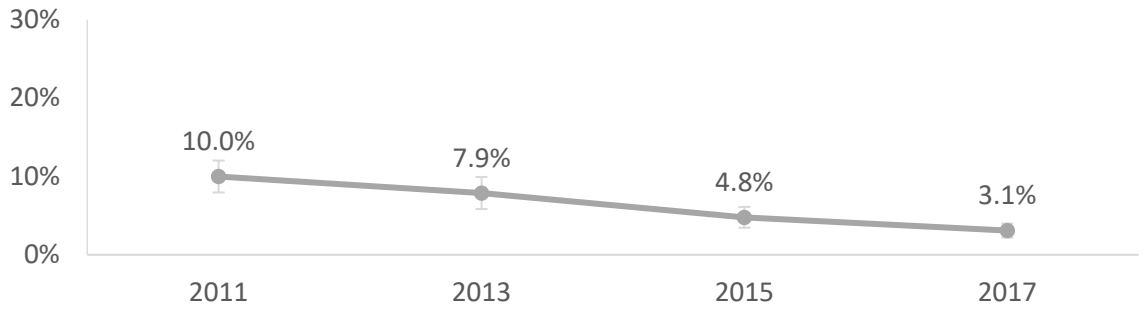


DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis
DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
NOTE: Bars with pattern indicate reference group; Asterisk (*) denotes where estimate was significantly different compared to reference group within each specific age category ($p < 0.05$). Hospital Patient Encounters include any emergency department, hospitalization, or observational encounter for alcohol dependence and misuse.

Smoking and Marijuana Use

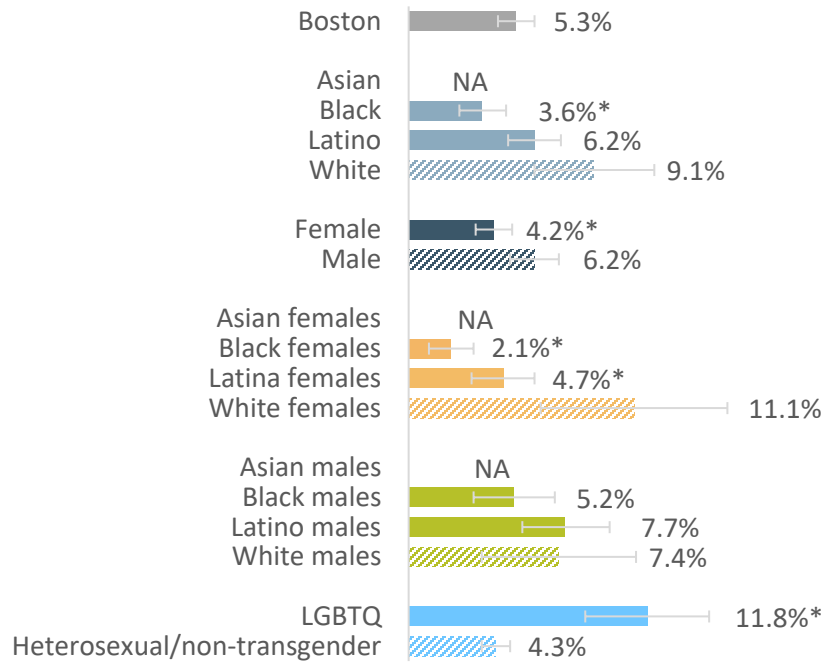
Youth cigarette smoking rates in Boston have significantly declined over time, from 10% of Boston high school students reporting being a current smoker in 2011 to 3.1% of high school students in 2017 (Figure 55). Smoking rates among Boston high school students were significantly lower among Black students and females, and specifically among Black and Latina females when looking at rates within sex (Figure 56).

Figure 55. Percent Boston Public High School Youth Reporting Current Cigarette Smoking, by Boston and Over Time, 2011-2017



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2011, 2013, 2015, and 2017
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTE: Error bars show 95% confidence interval; Change over time was statistically significant (decrease over time)

Figure 56. Percent Boston Public High School Youth Reporting Current Cigarette Smoking, by Boston and Selected Indicators, 2013, 2015, and 2017 Combined

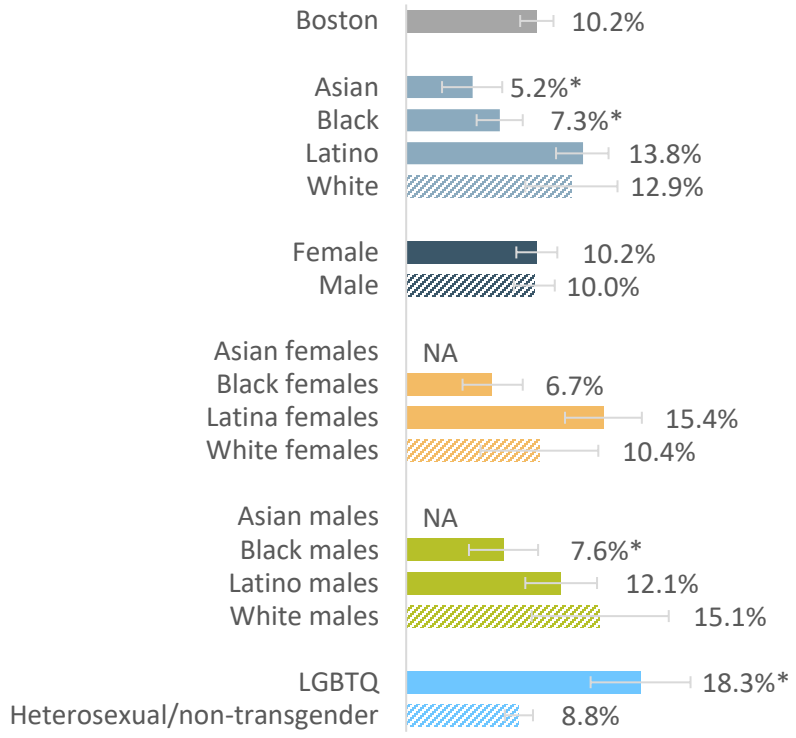


DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2013, 2015, and 2017 combined
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTE: Current smoking is defined as smoking cigarette in the past 30 days; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

A growing concern among Boston CHNA focus group and interview participants was e-cigarettes or vaping, which was described as an increasingly popular substance used by young people and adults. This was not identified as a concern in Boston Children's 2016 CHNA. Data from the Youth Risk Behavior Risk Survey indicates that the use of e-cigarettes among high school students has significantly decreased, from 14.5% reporting use in 2015 down to 5.1% of high school students in 2017 reporting any e-cigarette use in the past 30 days.

E-cigarette use among youth does vary by different groups. At 18.3%, LGBTQ youth are significantly more likely to report having used e-cigarettes in the last 30 days than heterosexual or non-transgender youth (8.8%) (Figure 57). Additionally, White students (12.9%) are significantly more likely than Asian (5.2%) or Black (7.3%) students to use e-cigarettes. Key informants perceived that there were misconceptions of the health risks of vaping, with one sharing, "*Children report that they may have tried vaping because the fruity flavors were enticing, and they did not know there were other chemicals involved."* Others explained how the discreet nature of these devices made it easier for young people to use in places like schools or in public, sharing*, "E-cigarettes are discrete and appear like USB drives; a user can take a puff and put the device back in their pocket, so one does not always notice them out in public the way we do with cigarettes."*

Figure 57. Percent Boston Public High School Youth Reporting Current Electronic Cigarette Smoking, by Boston and Selected Indicators, 2015 and 2017 Combined



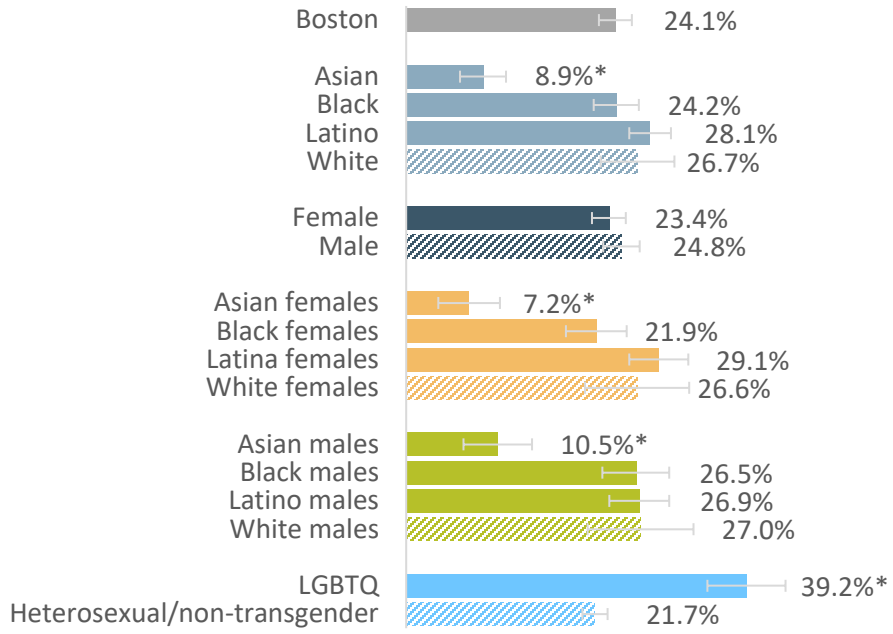
DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2015 and 2017 combined
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTE: Current electronic cigarette use is defined as any use of electronic cigarettes in the past 30 days; Electronic cigarettes are not limited to tobacco consumption only; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

Marijuana concerns were discussed in multiple focus groups conducted for the Boston CHNA, particularly as they related to young people and particularly given the recent legalization of the substance. Marijuana use was also mentioned as a concern by youth participating in focus groups for the 2016 Boston Children's CHNA. Those working with young people or in community-based settings described seeing an increase in marijuana use among students and parents in recent years, which they attributed to more social acceptance. However, YRBS data over the last few years indicates that marijuana use has remained steady since 2011, with approximately one-quarter of Boston high school students reporting current marijuana use (data in Appendix A).

Several focus group and interview participants commented on the variety of ways that residents are consuming marijuana, with one interviewee sharing: *"Marijuana used to be simple, something kids would do behind the school; but today there are so many forms of marijuana like brownies and gummy bears, and youth are organizing parties or gatherings to try these things."* Focus group participants in some communities reported concerns for plans to open marijuana dispensaries in their neighborhoods. Those who identified as parents often spoke negatively of marketing campaigns that promoted marijuana use. One resident shared, *"It's very difficult to talk to your kids about marijuana because dispensaries are here and [they are] pervasive*." Another participant agreed and added, "*It's really rare to find someone who doesn't smoke weed…it's so normal to them. Every day my 11-year-old has to drive by a billboard in East Boston that says 'Smile, weed is legal.' What kind of example is that?"* Key informants discussed the importance of early prevention in elementary and middle schools. One interviewee shared, "*We can't stop [marijuana] use all together, but if we can delay first use as long as possible, that could go a long way to preventing more dangerous addictions as kids get older."*

About one quarter of Boston high school youth reported current marijuana use (Figure 58). LGBTQ youth (39.2%) were significantly more likely than heterosexual/non-transgender youth to be current marijuana users (21.7%). Looking at the responses by race/ethnicity, Asian students (8.9%) were significantly less likely to report current marijuana use compared to White students (26.7%).

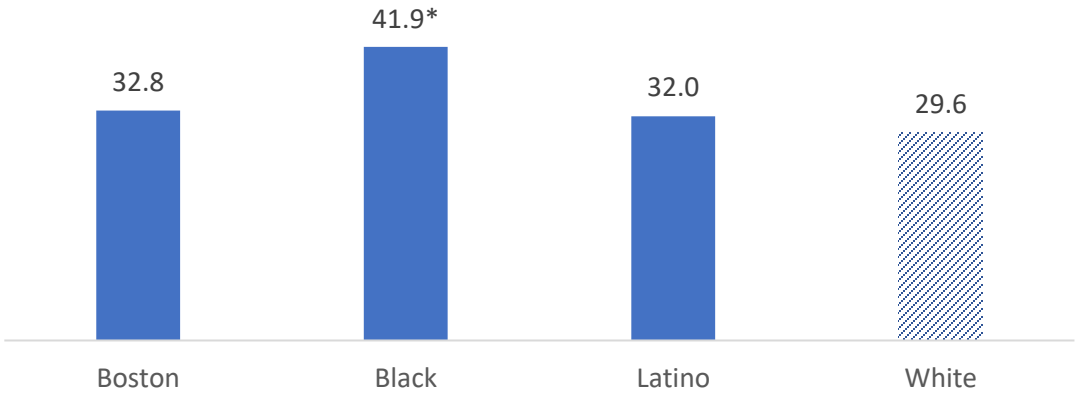
Figure 58. Percent Boston Public High School Youth Reporting Current Marijuana Use, by Boston and Selected Indicators, 2013, 2015, and 2017 Combined



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2013, 2015, and 2017 combined
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTE: Current marijuana use is defined as any marijuana use in the past 30 days; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category (p <0.05); Error bars show 95% confidence interval

In 2016-2017, the rate of Boston Children's hospital encounters due to marijuana dependence and misuse was 32.8 among 13-18 year-olds per 10,000 residents (Figure 59). This rate is significantly higher among Black youth (41.9 per 10,000 residents) compared to White (29.6 per 10,000 residents). Data for Asian youth are not included due to too few cases (full data table in Appendix B).

Figure 59. BCH Hospital Patient Encounters due to Marijuana Dependence and Misuse by Race/Ethnicity, Age-specific Rates per 10,000 Residents, Ages 13-18, 2016 and 2017 Combined

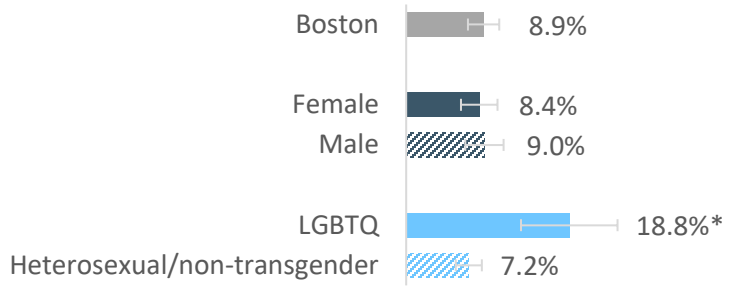


DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis
DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
NOTE: Bars with pattern indicate reference group; Data for Asian youth suppressed due to too few cases (n<11); Asterisk (*) denotes where estimate was significantly different compared to reference group within each specific age category (p <0.05). Hospital Patient Encounters include any emergency department, hospitalization, or observational encounter for Marijuana Dependence and Misuse.

Opioid Use

Concerns about opioid misuse were prevalent in the 2016 Boston Children's CHNA as they were in 2019 Boston CHNA. In many instances, opioid addiction starts with dependence of taking prescription pain medication. In 2017, Boston high school students were asked if they had ever taken prescription pain medication without a doctor's prescription or differently than how a doctor told them. While fewer than 10% of Boston high school students reported this, LGBTQ students were significantly more likely—at 18.8%—to report this behavior compared to heterosexual/non-transgender students (7.2%) (Figure 60).

Figure 60. Percent Boston Public High School Youth Reporting Prescription Drug Use without Doctor's Prescription/Differently How Told to Use It, by Boston and Selected Indicators, 2017



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2017
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
Question asked if students ever took prescription pain medicine without a doctor's prescription or differently than how a doctor told them to use it (counting drugs such as codeine, Vicodin, Hydrocodone, and Percocet)
NOTE: Sub-sample sizes by race/ethnicity were insufficient to provide stratified analyses. Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

The majority of focus group participants and key informants who discussed substance use as a concern identified opioids as a persistent issue in Boston. While a few key informants indicated that major headway around substance use and the opioid epidemic has been made in recent years, more is needed to address the severity of the issue. Several informants indicated that heroin and fentanyl use was on the rise, and that these substances were cheap and easily available. One key informant shared, "*Heroin is a real health issue; addiction to heroin has been pervasive for decades among some communities and populations."* Another reported that opioid use was increasing among parents, saying, "*We're seeing parents abusing drugs like heroin, which then leads to the DCF (Department of Children and Families) involvement and removing of children."* Focus group members from some communities as well as several interview participants reported concerns about used needles littering city streets, playgrounds, and parks across Boston.

Treatment Service Utilization and Barriers

Barriers to substance use treatment was discussed by the focus group participants in recovery and a few interviewees. As in the 2016 Boston Children's CHNA, focus group members and interviewees reported that a lack of providers and services are barriers to addressing substance use issues in the community. Participants discussed the need for more affordable inpatient and outpatient treatment options, especially for non-English speakers. Long-term support services like sober houses were identified as limited and expensive, with one key informant sharing, "*I can get someone into detox, but what we don't have enough us is a place for them to get to the next step [of sobriety]."* Focus group participants in recovery also reported that cost was a barrier to treatment. There was a perception that insurance

companies only covered certain substances. Further, the need for culturally-competent treatment options was also discussed as a challenge by key informants. One illustrated these barriers by sharing, *"There is far too little access to treatment programs, and those that do exist are not linguistically and culturally competent."*

Among Boston CHNA Community Survey respondents, 1.3% reported that they needed substance use services and/or treatment but could not access them while 4.7% reported that they needed services and were able to access them; 94% of respondents reported that they did not need substance use services. About 1% of respondents with children under age 18 reported needing substance use services but being unable to access them while .6% of youth under 18 reported this (data in Appendix B).

Violence

Violence and trauma were frequent concerns reported by focus group and interview participants in the 2019 Boston CHNA. The effect that community violence and trauma have on youth was a prominent theme across interviews and focus groups in the Boston Children's 2016 CHNA as well. Violence can be experienced in many ways—community violence, family violence, partner violence, sexual violence, and interpersonal violence are some of the most common forms. The BRFSS asked respondents whether they have ever experienced physical or sexual violence in their lifetime. In data aggregated across 2013-2017, 13% of Boston adults reported experiencing violence in their lifetime.

Community violence was the most frequently discussed type of violence in Boston CHNA focus groups, namely in the neighborhoods of Dorchester, Mattapan, Roxbury, Chinatown, and East Boston. English and non-English speaking residents alike reported concerns about personal safety in their communities. Participants who identified as parents commonly discussed concerns of the impacts of violence on young people. Violence-based trauma emerged as a key health issue affecting many population groups, particularly young children and communities of color. Several interview participants expressed the need to better understand how systemic issues such as racism and other forms of oppression impact trauma in communities of color.

Across all language groups, many focus group participants reported concerns about personal safety in their communities. Key informants and focus group participants specifically mentioned that children and communities of color are disproportionately impacted by violence. Other marginalized groups that were mentioned by key informant and focus group assessment participants include LGBTQ youth—especially those who identify as transgender or non-binary and immigrants. Further, community residents and interviewees alike stressed that community violence needs to be addressed from a lens of collective trauma. One Dorchester resident shared, "*Our community is suffering from PTSD. We need to heal these wounds…kids have to walk by places where people they loved have been killed."*

Some LGBTQ youth who participated in focus groups described their neighborhoods as "*very violent*" with one sharing, "*It's dangerous to walk around my neighborhood; I could be sitting on my porch and see fights, car accidents…it's just not a safe neighborhood for kids."* Focus group participants and interviewees from Dorchester most frequently cited concerns about increasing gun violence in their communities. One key informant explained, "*A lot of families are experiencing sudden death because of gun violence; it's traumatizing and de-stabilizing to the community*."

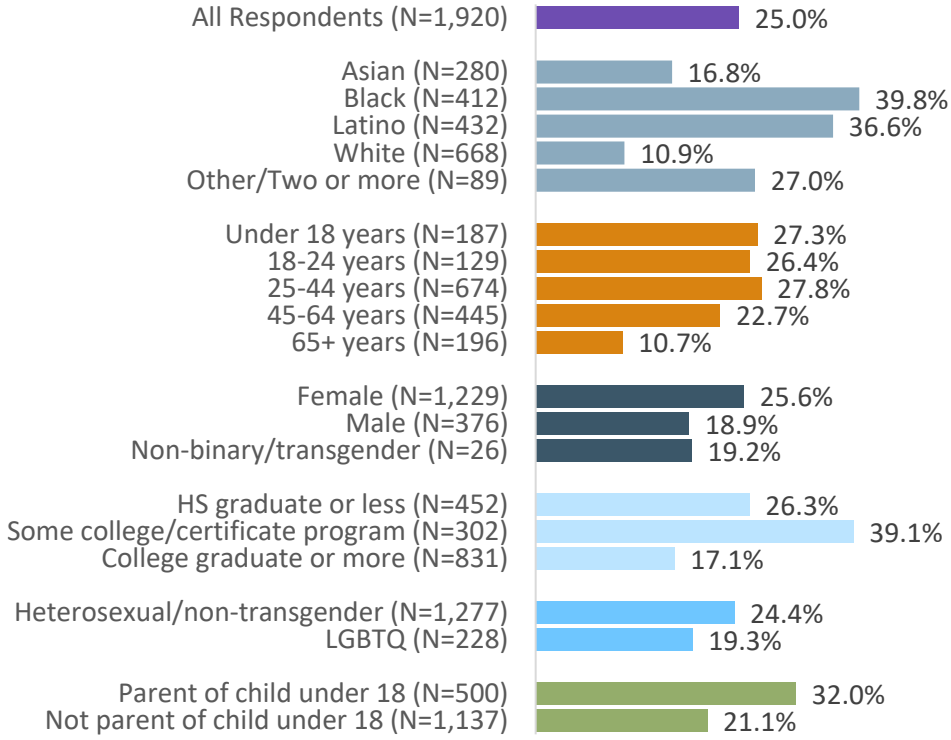
Some residents in East Boston reported a decrease in violence in recent years; still, East Boston was described as an area that needed more violence prevention supports. In Mattapan, Haitian focus group participants perceived that more Haitian youth were involved in gangs and the criminal justice system.

One participant shared, "*Social delinquency was less in the Haitian community; now there are a lot of young Haitian men in prison."* Other participants agreed with this sentiment and added that certain neighborhoods like Mattapan have reputations for community violence. "*Mattapan has the nickname MurderPan…even some newspapers call it that."*

Community Violence

When Boston CHNA survey respondents were asked how safe from crime they considered their neighborhood to be, 25% described their neighborhood as unsafe or extremely unsafe (Figure 61). About 27% of youth under 18 characterized their neighborhood as unsafe or extremely unsafe, a proportion similar to that of other age groups. However, a higher proportion of respondents with children under 18 (32.0%) than respondents without children under 18 (21.1%) considered their neighborhoods unsafe or extremely unsafe.

Figure 61. Percent Boston CHNA Survey Respondents Reporting Considering Their Neighborhood Unsafe or Extremely Unsafe, by All Respondents and Selected Indicators, 2019



DATA SOURCE: Boston CHNA Community Survey, 2019
NOTE: Chi-square analyses were conducted and there were statistically significant differences within the following groups ($p < 0.05$): race/ethnicity, age, gender identity, educational attainment, and parent status

One in five Boston CHNA survey respondents described gunshots in the neighborhood (21.5%) and feeling unsafe when alone on the street at night (19.3%) as serious problems (Table 12). About one third of respondents with children under 18 identified gunshots in the neighborhood as a serious problem, a higher rate than overall respondents and respondents without children under 18. Youth (23.7%) identified feeling unsafe while alone on the street at night as the most serious problem.

Table 12. Percent Boston CHNA Survey Respondents Reported Serious Problems in Their Neighborhood, All Respondents, Respondents with Children Under 18, and Youth (Percent indicating strongly agree or agree), 2019

	All respondents (N=1957)	Respondents with children under 18 (N=525)	Youth (N=199)
Feeling unsafe while alone on street during the day	5.2%	6.1%*	4.0%*
Feeling unsafe while alone on street at night	19.3%	16.1%*	23.7%*
Feeling unsafe in home	2.9%	3.5%	2.1%*
Gunshots in neighborhood	21.5%	31.6%*	14.4%*
Feeling unsafe in public places in neighborhood (e.g., parks, bus stops)	10.7%	13.9%*	7.5%*
Feeling unsafe while riding a bike in neighborhood	14.0%	16.3%	3.1%

DATA SOURCE: Boston CHNA Community Survey, 2019
NOTE: Asterisk (*) denotes estimate for which there were differences between groups ($p < 0.05$)

Interpersonal and Domestic Violence

The prevalence of interpersonal violence—a pattern of behavior used to establish power and control over another person through fear and intimidation, often including the threat or use of violence—was discussed by a few key informants and some focus group participants in the Boston CHNA. One key informant explained, "*There are plenty of families who are dealing with abusive relationships…there is evidence of abuse, domestic violence, drug addiction."* Women of color and non-English speaking immigrants were identified as especially vulnerable to interpersonal and domestic violence due to cultural or linguistic barriers. The need for more service providers who were bi-lingual was described as a priority among these groups. One key informant explained, "*[I] would like to see [health care institutions] to employ more Asian people, especially immigrants and bilingual people, not only as medical providers, but as administrative and other staff, like custodians, greeters, accountants, security personnel, food service workers, technicians, etc."*

Further, there was a perception that it was common for young people to be exposed to unhealthy relationships. One key informant shared, "*Men are seen as having dominion over their home and family, and women are expected to defer to his wishes and seek his permission to do certain things; youth today see that and therefore believe it's right for men to be in charge and for women to obey. This is why dating violence and domestic violence continues to be a challenge in Chinatown, and why it's not considered a big deal*." Another non-English focus group participant in East Boston expressed concerns related to domestic violence in immigrant communities, sharing, "*Marriage and divorce are very difficult- there are a lot of people marrying because of necessity, even if it's not the healthiest situation."*

In 2017, 19% of Boston public high school youth reported that they had been in a physical fight over the past 12 months (Figure 62). This is a statistically significant decrease from 33% in 2007. About 10% of students who reported that they dated over the prior 12 months reported that they had experienced sexual dating violence, a statistically significant increase since 2015.

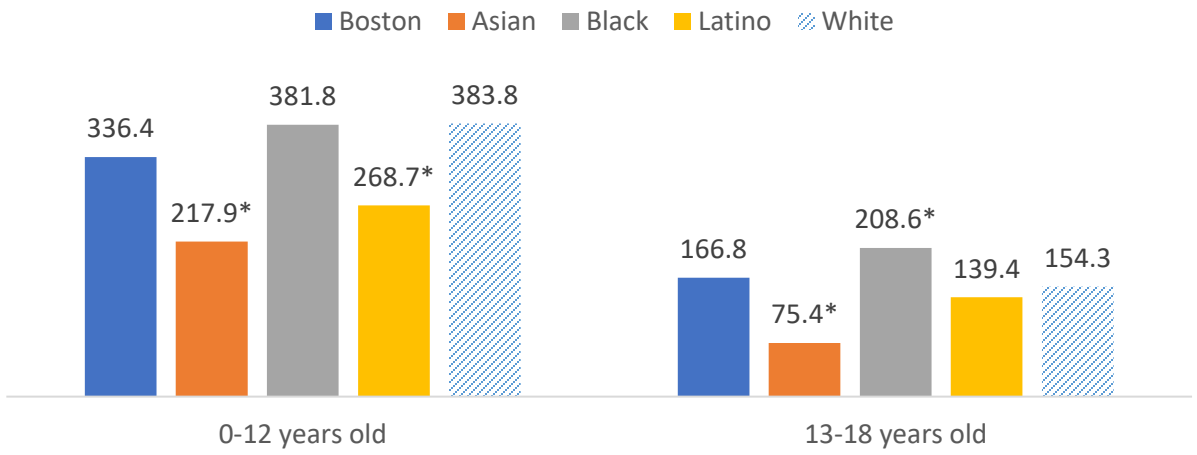
Figure 62. Percent Boston Public School Youth Reporting They Have Been in a Physical Fight Over the Past Year, 2017

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

Injuries

Injuries are the leading cause of death for children in the United States. Boston Children's hospital encounter data show that in 2016-2017, the rate of unintentional fall injuries requiring hospital care was 336.4 encounters per 10,000 residents for 0-12 year-olds and 166.8 encounters per 10,000 residents for 13-18 year-olds (Figure 63). The rate was significantly lower for Asian and Latino children under 12 than White children of this age; among 13-18 year-olds, the rate of hospital encounters for unintentional fall injury was lower for Asian youth than White youth and higher for Black youth. The encounter rate for unintentional fall injuries was significantly higher in Dorchester than Boston overall for both age groups (data in Appendix B).

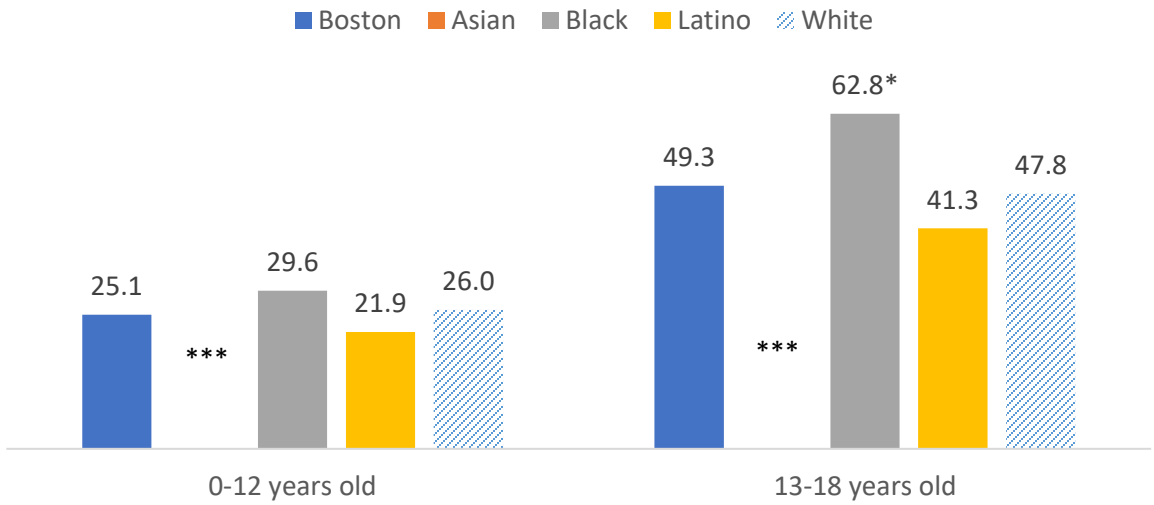
Figure 63. BCH Unintentional Fall Injury Hospital Patient Encounters by Race/Ethnicity and Neighborhood, Age-specific Rates per 10,000 Residents, Ages 0-12 and 13-18, 2016 and 2017 Combined



DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis
DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
NOTE: Bars with pattern indicate reference group; Asterisk (*) denotes where estimate was significantly different compared to reference group within each specific age category ($p < 0.05$). Hospital Patient Encounters include any emergency department or hospitalization encounter for an injury caused by unintentional fall.

Hospital encounter data for concussions show that the rate for 13-18 year-olds in 2016 and 2017 was 49.3 encounters per 10,000 residents and 25.1 encounters per 10,000 residents for 0-12 year-olds (Figure 64). The hospital encounter rate for concussions was significantly higher for Black adolescents than White adolescents, significantly higher in Fenway than the rest of Boston for 0-12 year-olds, and significantly higher for Dorchester adolescents compared to the rest of Boston (data in Appendix B).

Figure 64. BCH Concussion Hospital Patient Encounters by Race/Ethnicity and Neighborhood, Age-specific Rates per 10,000 Residents, Ages 0-12 and 13-18, 2016 and 2017 Combined

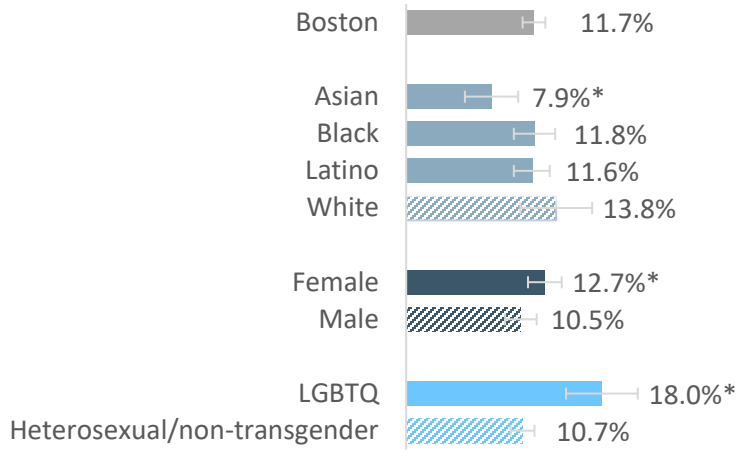


DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis
DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
NOTE: Bars with pattern indicate reference group; Asterisk (*) denotes where estimate was significantly different compared to reference group within each specific age category ($p < 0.05$). Hospital Patient Encounters include any emergency department, hospitalization, or observational encounter with primary diagnosis of Traumatic Brain Injury as defined by National Center for Health Statistics.

Bullying

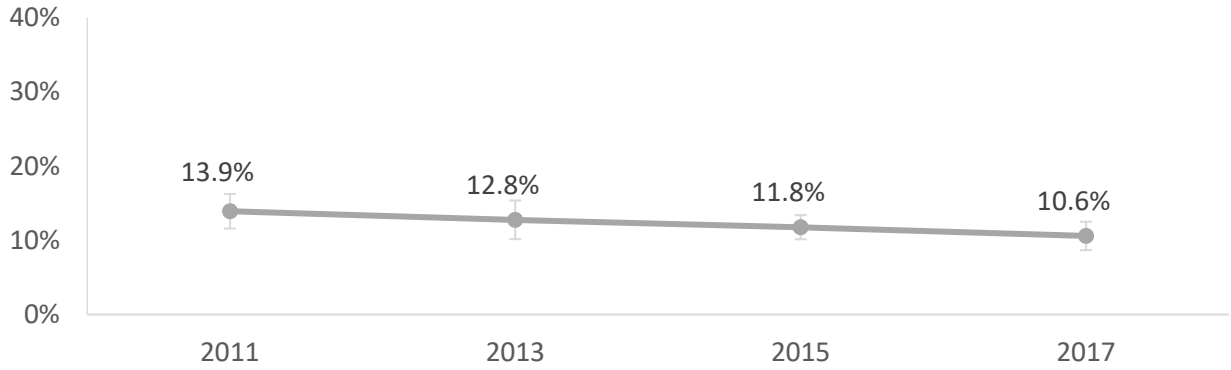
Approximately one in ten Boston high school students (11.7%) reported being bullied on school property in the past year (Figure 65). Female students (12.7%) and LGBTQ students (18.0%) were significantly more likely to report an experience of bullying at school, while Asian students (7.9%) were significantly less likely to report an experience of being bullied at school in the past year. The prevalence of reports of being bullied on school property declined significantly from 13.9% in 2011 to 10.6% in 2017 (Figure 66).

Figure 65. Percent Boston Public High School Youth Reporting Being Bullied on School Property in the Past Year, by Boston and Selected Indicators, 2013, 2015, and 2017 Combined



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2013, 2015, and 2017 combined
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTES: Students were asked if during the past 12 months they had been bullied on school property; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

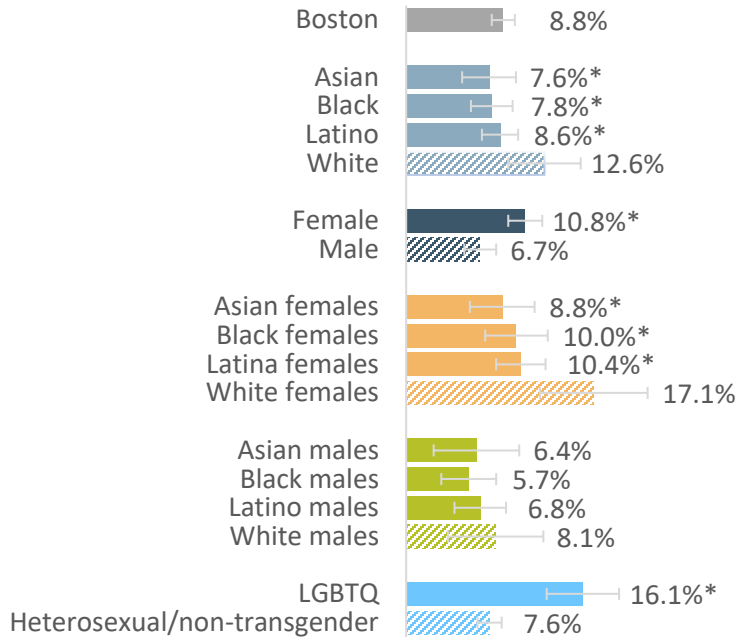
Figure 66. Percent Boston Public High School Youth Reporting Being Bullied on School Property in the Past Year, by Boston and Over Time, 2011-2017



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2011, 2013, 2015, and 2017
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTES: Students were asked if during the past 12 months they had been bullied on school property; Error bars show 95% confidence interval; Change over time was statistically significant (decrease over time)

In 2013-2017, 8.8% of Boston high school students reported being bullied electronically in the past year (Figure 67). Female (10.8%) and LGBTQ students (16.1%) were significantly more likely than their counterparts to report experiences of electronic bullying. Female students of color were significantly less likely to report electronic bullying than White female students. The proportion of Boston high school students who reported being bullied electronically has remained steady between 2011 and 2017 (data in Appendix B).

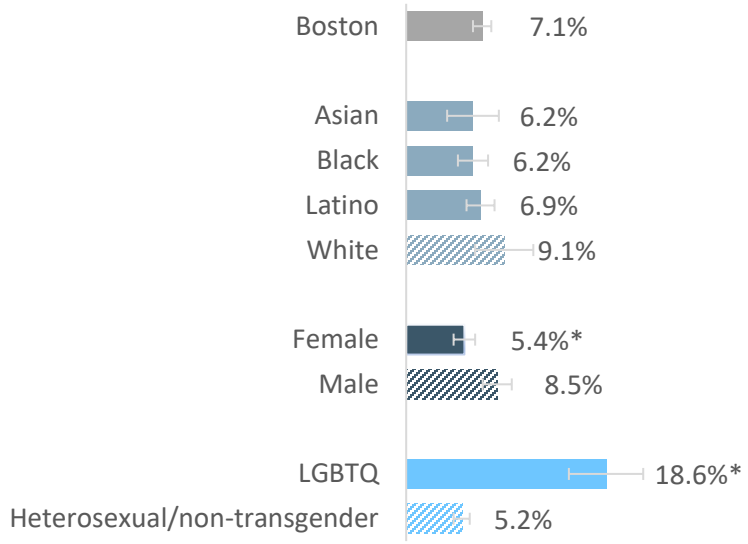
Figure 67. Percent Boston Public High School Youth Reporting Being Electronically Bullied in the Past Year, by Boston and Selected Indicators, 2013, 2015, and 2017 Combined



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2013, 2015, and 2017 combined
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTES: Students were asked if during the past 12 months, they had been electronically bullied (including through texting, Instagram, Facebook, or other social media); Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

In 2013-2017, 7.1% of Boston high school students reported being bullied in the past year because of their sexual orientation (Figure 68). Nearly one in five (18.6%) LGBTQ high school students reported this form of bullying, which was significantly higher than bullying due to sexual orientation reported by their straight and non-transgender peers (5.2%) over the same period. Rates for this indicator have remained steady over the last several years (data in Appendix B).

Figure 68. Percent Boston Public High School Youth Reporting Being Bullied Because of Sexual Orientation in the Past Year, by Boston and Selected Indicators, 2013, 2015, and 2017 Combined



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2013, 2015, and 2017 Combined
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTES: Students were asked if during the past 12 months, they had been the victim of teasing or name calling because someone thought they were gay, lesbian, or bisexual; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category (p <0.05); Error bars show 95% confidence interval

Adverse Childhood Experiences (ACEs)

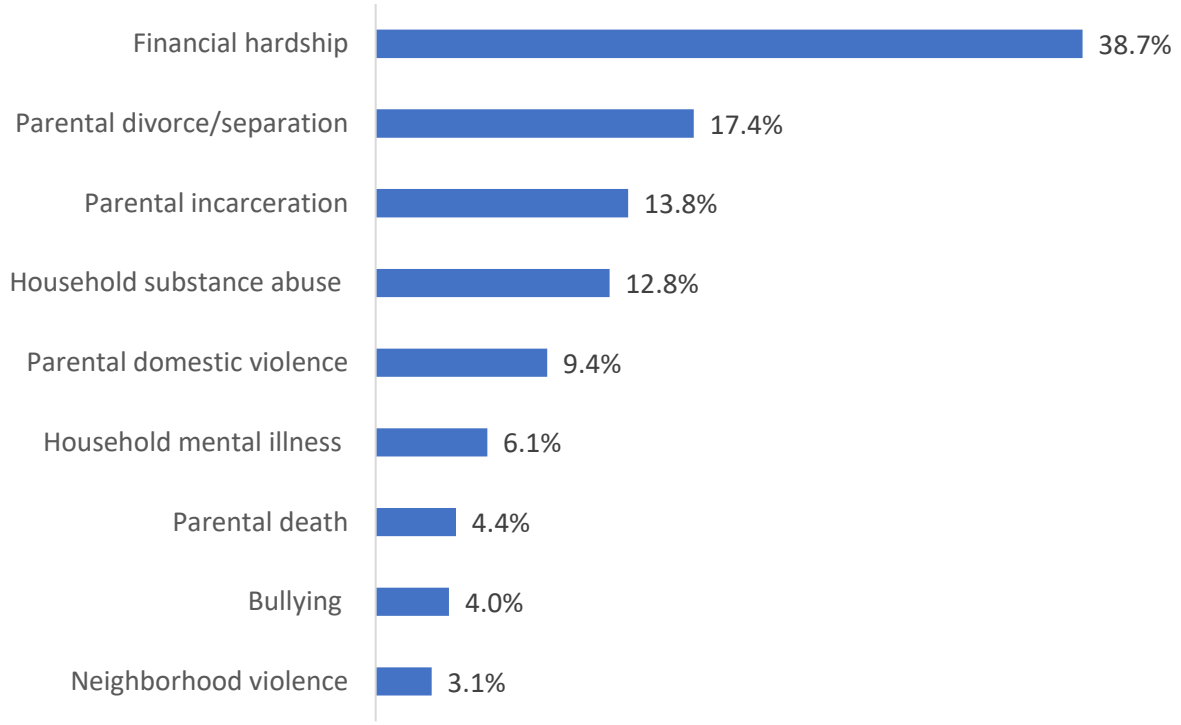
Among participants in focus groups and interviews conducted for the Boston CHNA, children were identified as being the most vulnerable to violence exposure, especially younger children. One key informant summarized, *"You have 1st graders showing up to school hungry, sometimes experience violence in the home; students apologizing for being late because there was a killing and their street was on lock down. They're dysregulated and traumatized."*

There was a perception among key informants and focus group participants who identified as parents that there is a lack of resources for children who have experienced traumatic events. This was especially prominent in focus groups in Dorchester, who cited inequitable social emotional supports in lower income schools of color. One shared, *"We need more therapy in schools. When the marathon bomb happened, they blocked off all the streets until they caught him and after, all those kids got counseling. But that type of response only happens when you're in White schools. Even when the student was shot in front of the [Dorchester] high school in front of hundreds of students they didn't bring in any therapists and kids are walking by the scene every single day being reminded of it."*

Boston CHNA Community Survey respondents had children under age 18 were asked how frequently their children were exposed to challenging family situations. Financial hardship was the most frequently

reported challenge, with 38.7% of respondents reporting that their children are exposed to this somewhat or very often (Figure 69) (data table in Appendix B). One in six respondents (17.4%) reported experiencing a parental divorce or separation during childhood.

Figure 69. Percent Boston CHNA Survey Respondents with Children Under 18 Reporting Their Family/Child Experiencing Adverse Childhood Experiences (ACEs) Somewhat Often or Very Often, 2019



DATA SOURCE: Boston CHNA Community Survey, 2019

Trauma

The impacts of trauma greatly affect health outcomes for youth and adults. Different facets of trauma were described by participants in the Boston CHNA. For example, some key informants discussed the trauma of poverty that results in chronic stress and post-traumatic stress disorder. The topic of intergenerational trauma was also described as a concern by key informants with experience in early childhood education. These interviewees explained that trauma is cyclical, with one sharing, *"trauma is generational; parents and their parents before them are living in unstable housing, are being evicted…".* Further, numerous key informants mentioned the trauma experienced by immigrant children and their families, and cited fear of deportation and family separation.

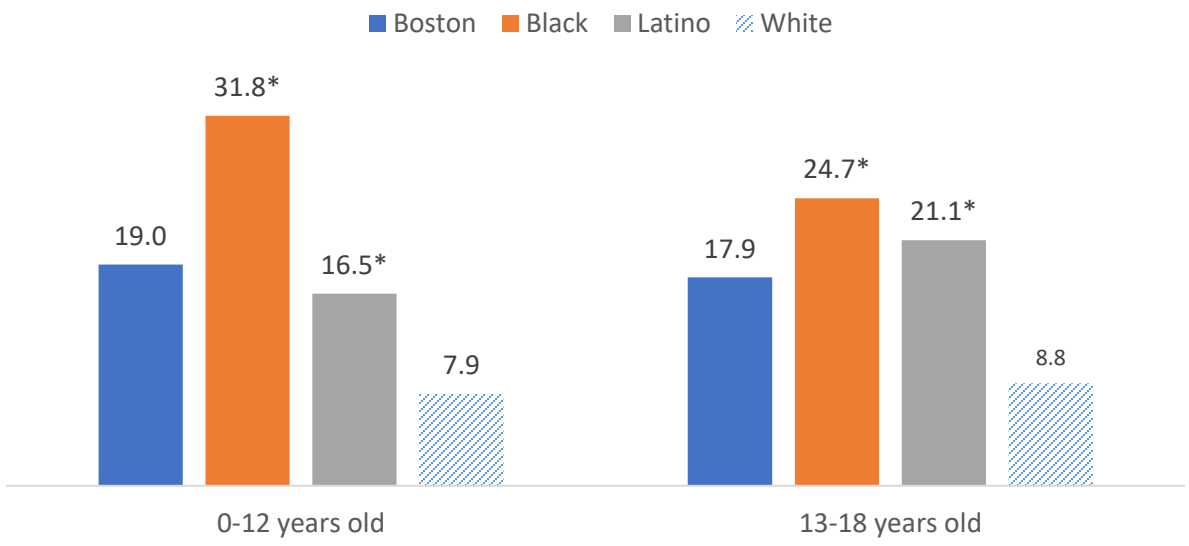
A common theme that emerged in focus group and interviews was the need to integrate more trauma-informed care in health services and early childhood education. Focus group participants who identified as survivors of violence expressed the need for more accessible services, sharing, *"We need trauma-informed classes that are in our neighborhoods [Dorchester]. I want my kids to know that their feelings are valid and real…that it's okay to be scared."* Suggestions were made by key informants to invest in community-driven solutions that meaningfully engage young people. According to key informants, meaningful engagement of youth needs to happen on a structural level, one sharing: "*We need to talk to*

young people. There are times that we consider meaningful youth engagement where we let them pick the color of a t-shirt. If we want to meaningfully engage youth in anti-violence work, we need to hold meetings at times when they're available, pay them for their expertise, and commit resources for them in our budgets."

Widening the trauma-informed care lens by focusing on familial responses to trauma emerged as a theme from key informant interviews. Other suggestions included strengthening the foundation of trust with community residents by addressing trauma from a community-driven, grassroots, perspective. One key informant shared, *"We need to get people involved in in the process of developing strategies to address trauma, using the consumer model of asking people what they need; approaching one household at a time."* There were also suggestions to expand neighborhood trauma teams and strengthen partnerships that bring interdisciplinary groups together. One interviewee suggested creating a community review board before implementing new initiatives, a "*population version of an IRB [institutional review board]."*

In 2016-2017, Boston Children's rate of hospital encounters due to abuse was 19.0 children ages 0-12 per 10,000 residents and 17.9 youth ages 13-18 per 10,000 residents (Figure 70). Rates were significantly higher among Black and Latino children and youth compared to White children and youth, over twice as high for Latino children and youth and over three times as high for Black children and youth.

Figure 70. BCH Hospital Patient Encounters due to Abuse by Race/Ethnicity, Age-specific Rates per 10,000 Residents, Ages 0-12 and 13-18, 2016 and 2017 Combined



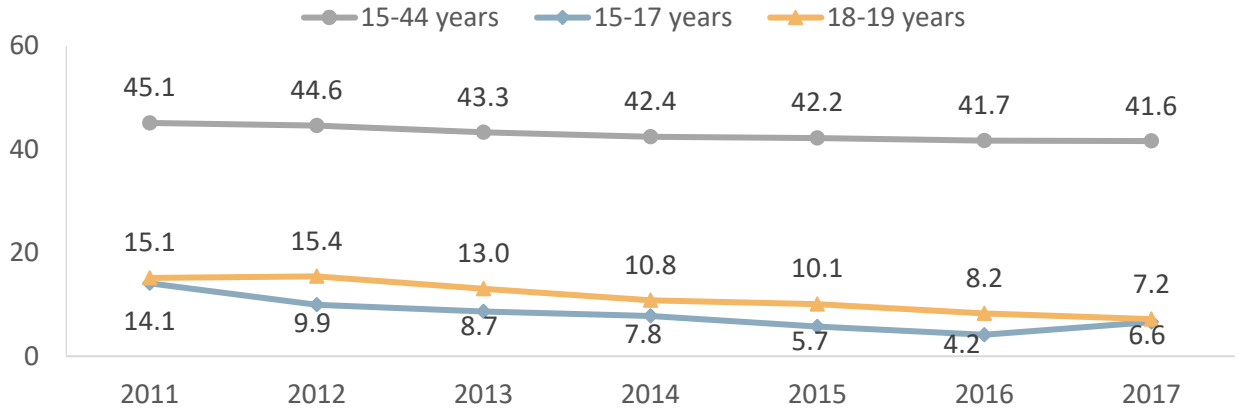
DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis
DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
NOTE: Data for Asian children and youth suppressed due to too few cases (n<11). Bars with pattern indicate reference group within each age category; Asterisk (*) denotes where estimate was significantly different compared to reference group within each specific age category (p <0.05). Hospital Patient Encounters include any emergency department, hospitalization, or observational encounter with any diagnosis of Child Abuse.

Maternal and Child Health

Birth Rate and Birth Risk Factors

In 2017, the overall birth rate in Boston was 41.6 per 1,000 female residents (Figure 71). The birth rate in Boston has significantly declined for women across all age groups since 2011.

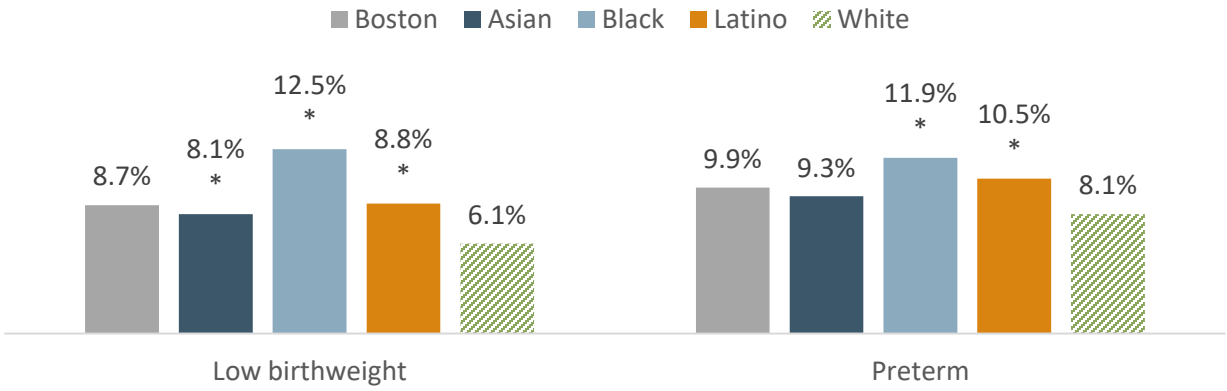
Figure 71. Birth Rate in Boston, by Age of Mother and Over Time, Age-Specific Rate per 1,000 Female Residents, 2011-2017



DATA SOURCE: Massachusetts Department of Public Health, Boston Resident Live Births, 2011-2017
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTE: Change over time was statistically significant for mothers aged 15-44 years (decrease over time), 15-17 years (decrease over time), and 18-19 years (decrease over time)

Low birthweight (born less than 5 lbs., 8 oz.) and preterm births (born less than 37 weeks gestation) are both important risk factors for infants. In 2017, 8.7% of babies born in Boston were born low birthweight and 9.9% were considered preterm. For both low birth weight and preterm births, rates were significantly higher among Black and Latino mothers compared to White mothers (Figure 72). The percentage of babies born low birth weight or preterm have generally remained steady from 2011-2017 (data in Appendix B).

Figure 72. Percent Low Birthweight and Preterm Births, by Boston and Race/Ethnicity, 2017

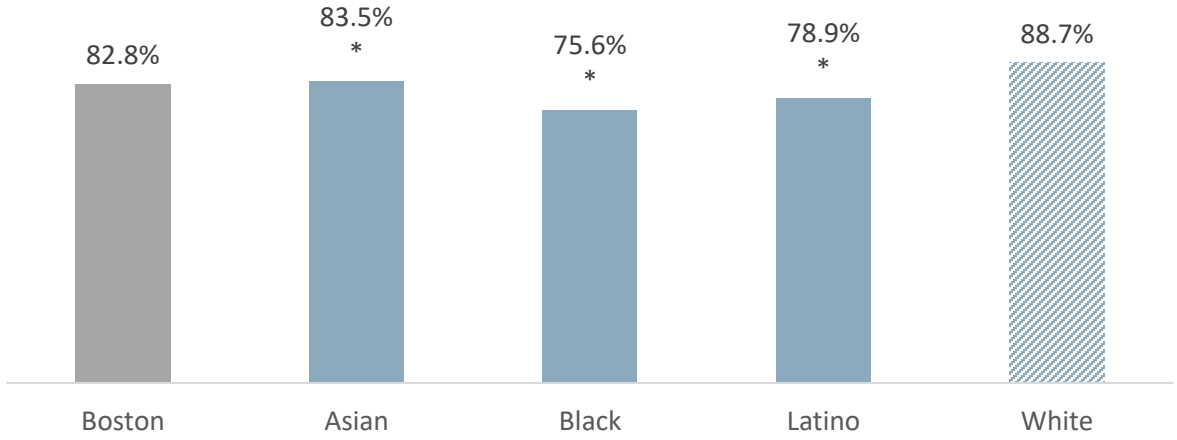


DATA SOURCE: Massachusetts Department of Public Health, Boston Resident Live Births, 2017
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTES: Low birthweight is defined as weighing less than 5 pounds, 8 ounces; Preterm birth is defined as being born before 37 weeks of gestation; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$)

Prenatal Care

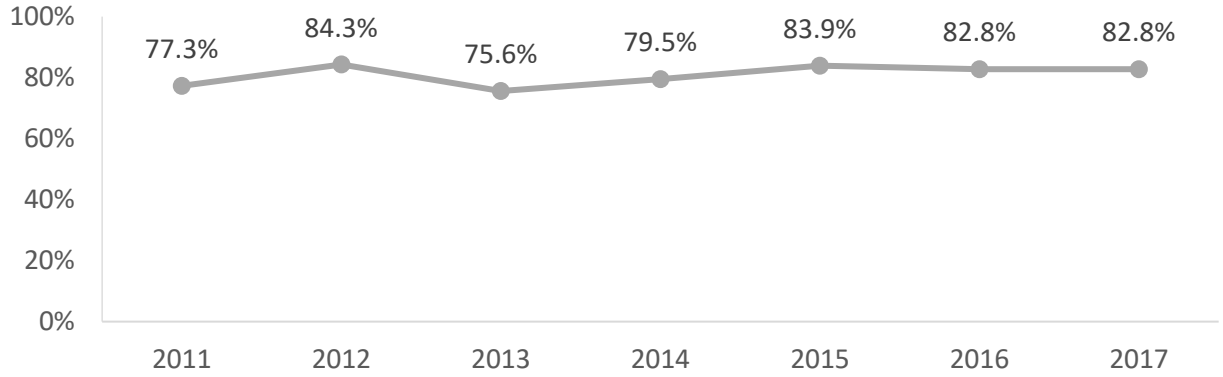
In 2017, approximately 83% of Boston women received adequate or adequate plus prenatal care (Figure 73). However, Asian, Black, and Latino mothers were significantly less likely than White mothers to receive adequate or adequate plus prenatal care. Between 2011 and 2017, the percentage of mothers who have received adequate or adequate plus prenatal care has significantly increased (Figure 74).

Figure 73. Percent Mothers Who Received Adequate or Adequate Plus Care, by Boston and Race/Ethnicity of Mother, 2017



DATA SOURCE: Massachusetts Department of Public Health, Boston Resident Live Births, 2017
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTES: According to the Kotelchuck Index for Prenatal Care, adequate prenatal care is defined as having 80-109.9% of expected visits for prenatal care and adequate plus prenatal care is defined as having 110% or more of expected visits; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$)

Figure 74. Percent Mothers Who Received Adequate or Adequate Plus Prenatal Care, by Boston and Over Time, 2011-2017

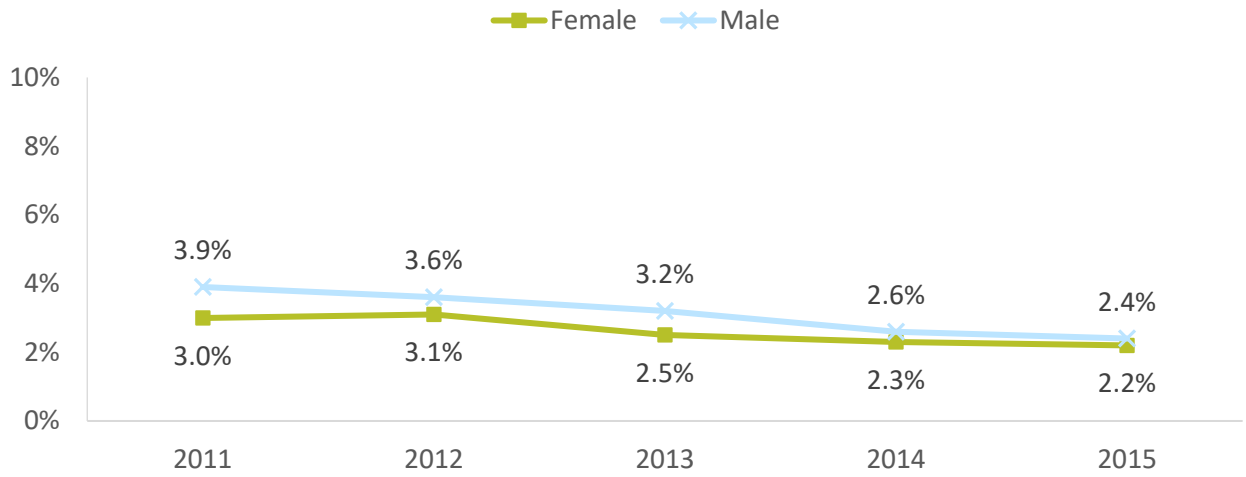


DATA SOURCE: Massachusetts Department of Public Health, Boston Resident Live Births, 2011-2017
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTES: According to the Kotelchuck Index for Prenatal Care, adequate prenatal care is defined as having 80-109.9% of expected visits for prenatal care and adequate plus prenatal care is defined as having 110% or more of expected visits; Change over time was statistically significant (increase over time)

Childhood Lead Exposure

There is a dearth of health surveillance data available for young children. A few Boston CHNA focus group participants, specifically residents in Allston/Brighton and East Boston, mentioned concerns about lead. Specifically, they talked about the possibility of lead paint in older houses and its potential health effects. As one parent shared, "*Lead in the house worries me; this neighborhood has a lot of old houses and people don't know that lead is very dangerous."* A few also commented on concerns of lead in the water in older school buildings. One health issue where data are regularly collected is around lead exposure. In 2011, 3.9% of boys under 6 years old were screened with elevated blood lead levels, while that figure was 2.4% in 2015 (Figure 75). For girls, 3.0% who were screened had high blood levels; in 2015, that number was 2.2%.

Figure 75. Percent Children Under 6 Years Screened with Elevated Blood Lead Levels in Boston, by Sex and Over Time, 2011-2015



DATA SOURCE: Massachusetts Department of Public Health, Childhood Lead Poisoning Prevention Program, 2011-2015
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTES: Poisoning defined greater than 5 ug/dl of blood lead level based on the 2012 CDC recommendation of less than 5 ug/dl of lead; Significance testing was not conducted for these data

Perceptions of Parenting and Child Health

It was not common for Boston CHNA focus group or interview participants to name maternal or child health conditions, per se, as a top concern. Instead, discussions around this topic centered on the economic concerns about raising a family, financial costs of child care, and appropriate parent practices. Mothers from East Boston who participated in focus groups specifically described the challenging demands of raising children and reported that some women are pressured to conceive even if it is not in their best interest. One participant shared, *"I know a woman who has 3 kids and is barely able to get by, but her husband wants more kids and she doesn't. It's easy for them to say but it's not their lives and body they're sacrificing."*

A common theme that emerged among focus group with parents—many of whom identified as single mothers—was the need for more supports to learn positive parenting skills. Some attributed the demands of working long hours as interfering with a parent's ability to spend quality time with their children. Participants indicated that lack of time often results in behavioral issues in children. One

parent summarized, "*Families are so focused on working to provide for their kids, but what kids really need is time with their parents."*

Discipline practices were also discussed in focus group groups, with some participants indicating that cultural norms in parenting differ among population groups. For example, focus group participants in Dorchester expressed the need to break generational practices that some perceived as detrimental to children. One shared, "*Everything I learned as a parent I learned from other women and it wasn't always right. Now I'm finally figuring out how to be a good parent but my youngest is 16 now. They've gone through so much stuff before I figured out what it means to be a good parent."* Immigrant parents in East Boston, Mattapan, and Allston/Brighton described cultural differences in parenting between generations that they perceived as often creating tension between children and parents. One focus group participant shared, "*We come from different cultures and in America it's different. American culture doesn't emphasize respecting elders or devotion to the group; it's all about the individual doing whatever they want with no consequence."* Another parent agreed and expanded, *"We would have never spoken to our parents the way our kids speak to us; my daughter says she's just expressing herself, but that behavior is not okay in my country."*

Access and Barriers to Childcare

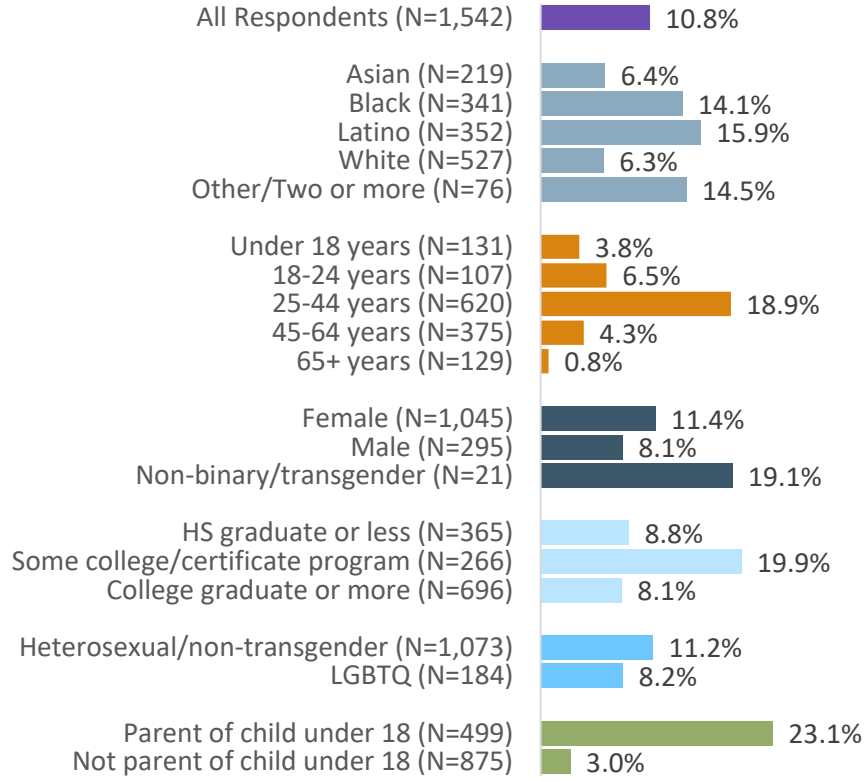
Childcare was discussed by interviewees and residents participating in focus groups for the Boston CHNA. For low-income working families, the cost of childcare was described as a substantial barrier to financial security and employment opportunities, especially for single parents. One interviewee summarized, "*The availability and affordability of childcare, especially for single parents where the vast majority are female-headed households, is almost impossible."* Focus group participants in East Boston and Dorchester described the need to work multiple jobs in order to afford childcare, which impacted their ability to be an engaged in their child's life. Key informants reported that children ages 0-5 were especially vulnerable to the long-standing impacts of poverty. One shared, "*Young children 0-5 are the most vulnerable in the city. With [poverty] comes trauma related issues just by virtue of their families being in a low- or lower-income status."* Among Boston CHNA survey respondents, nearly one-quarter (23.1%) of parents of children under 18 years old indicated that they had trouble paying for childcare.

Unaffordable and inconvenient childcare was mentioned as a significant concern among focus group participants. As one focus group participant remarked, *"People are always working and giving all of their money to childcare. I'm working my life away to pay someone else to take care of my children,"* a sentiment felt by many participants. The cost of child care was a major financial challenge for parents. However, not only was cost identified as a barrier for parents, but key informants also described long waitlists for childcare, especially for younger children who are under the age of 3 years old.

Key informants who identified as parents also expressed that childcare was especially difficult during the summer time and on school breaks. One shared, "*[Childcare especially bad in the summertime. I want my grandkid to be able to go to the Boys and Girls Club to be with other kids, but even that is $200 a week; I barely make that much."* Additionally, focus group participants who identified as grandparents in Dorchester frequently spoke of needing to help their children with childcare, often causing them to miss work. One resident shared, *"I have to watch my grandson because every Friday it's a half a day at school, and every month or so there's a day when they don't go. My daughter is trying to work to make a life for herself but how can she when she has to leave to get him at school in the middle of the day? So, I'm trying to help my daughter by taking care of him at those times, but it means that I can't work."*

Survey data confirm these themes. Of the Boston CHNA survey respondents, almost 11% indicated that they had trouble paying for childcare. Data by race/ethnicity show that 15.9% of Latino respondents and 14.1% of Black respondents report trouble paying for childcare (Figure 76).

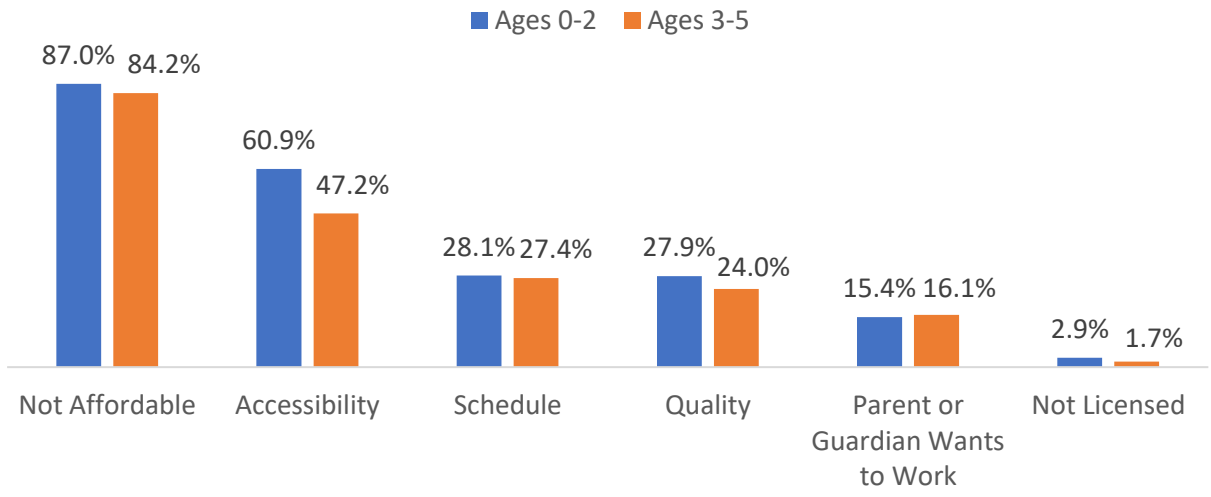
Figure 76. Percent Boston CHNA Survey Respondents Reporting Having Trouble Paying for Childcare, by All Respondents and Selected Indicators, 2019



DATA SOURCE: Boston CHNA Community Survey, 2019
NOTE: Chi-square analyses were conducted and there were statistically significant differences within the following groups ($p < 0.05$): race/ethnicity, age, educational attainment, and parent status

Surveillance data on the availability and access to child care are scant in Boston. Preliminary analyses of the 2019 Language, Disability, and Childcare Survey indicates that families of young children predominantly reported using center-based care. The most frequent childcare challenge reported by survey respondents was lack of affordability, followed by accessibility (Figure 77). Parents of children ages 0-2 were more likely to report these challenges than parents of children ages 3-5.

Figure 77. Childcare Challenges, Boston Childcare Survey, 2019 (N=715)



DATA SOURCE: City of Boston, Language, Disability, and Childcare Survey, 2019
DATA ANALYSIS: City of Boston, Mayor's Office of Women's Advancement and Economic Mobility Lab
NOTE: This is a preliminary analysis, final report to be published in October 2019.

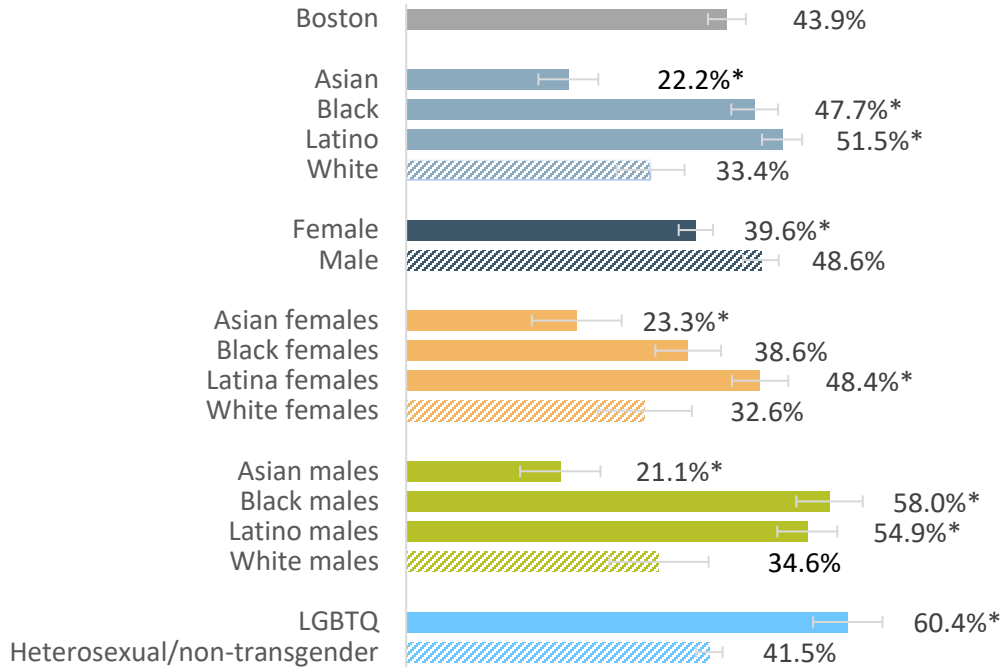
Sexual Health

Sexual health was not a prominent theme discussed across focus groups or interviews conducted for the Boston CHNA; however, a few key informants with expertise in the field of substance use and early childhood care expressed the need for more sexual health education as early as late elementary and middle school. They described concerns related to social media use and the impacts of unhealthy relationship models.

According to 2013-2017 Youth Risk Behavioral Survey results, 43.9% of Boston public high school students reported ever having sex (Figure 78). About half of Latino and Black students had ever had sex (51.5% and 47.7%, respectively), which was significantly higher than White students (33.4%). Latino and Black students were also twice as likely to report having sex before age 13. Nearly two-thirds of students who identified as LGBTQ had ever had sex, which was significantly higher than students who identified as heterosexual/non-transgender (41.5%); LGBTQ students were also more likely to report having sex before age 13 compared to heterosexual or non-transgender students. About one third of students (31%) reported that they were currently sexually active (have had sex in the past three months).

LGBTQ youth focus group participants perceived that sex work among LGBTQ young people was on the rise, especially for those who were housing insecure or homeless. One LGBTQ youth focus group participant expressed that the practice of sex work is sometimes normalized, which they described as detrimental to young people. *"I spent time as a prostitute and there was little sympathy for me in the older [LGBTQ] community; I don't think that these behaviors should be passed off [as normal]."*

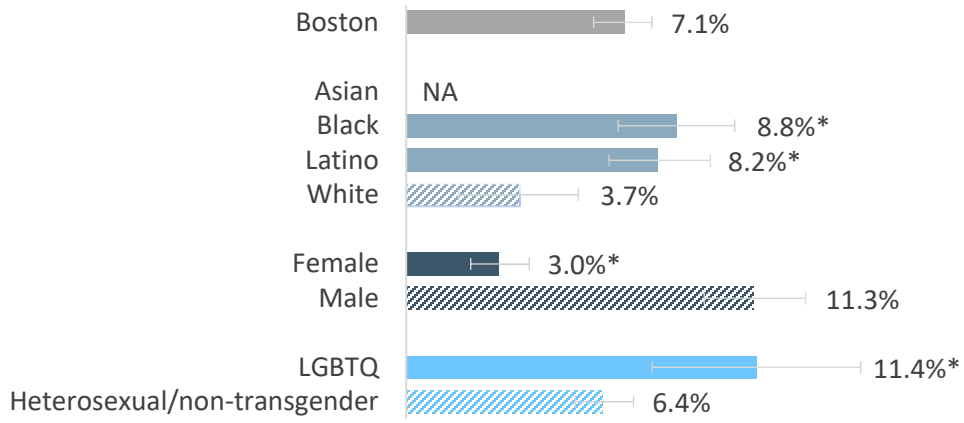
Figure 78. Percent Boston Public High School Youth Reporting Ever Having Sex, by Boston and Selected Indicators, 2013, 2015, and 2017 Combined



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2013, 2015, and 2017 Combined
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTE: Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category (p <0.05); Error bars show 95% confidence interval

About 7% of Boston public high school youth reported that they had sex before age 13, with higher proportions of Black, Latino, male and LGBTQ youth reporting this than other groups (Figure 79).

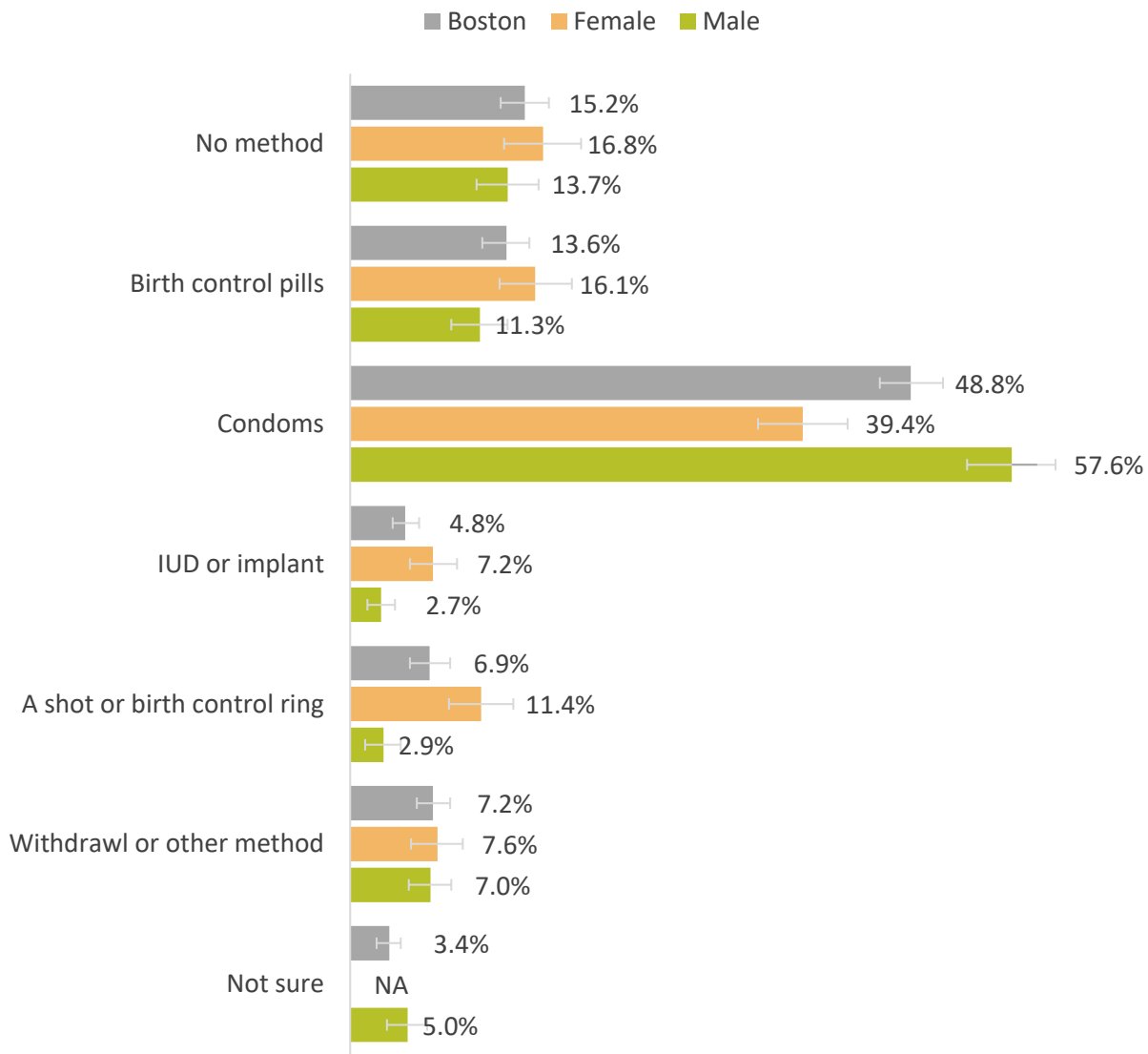
Figure 79. Percent Boston Public High School Youth Reporting Ever Having Sex Before Age 13, by Boston and Selected Indicators, 2013, 2015, and 2017 Combined



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2013, 2015, and 2017 Combined
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTE: Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category (p <0.05); Error bars show 95% confidence interval

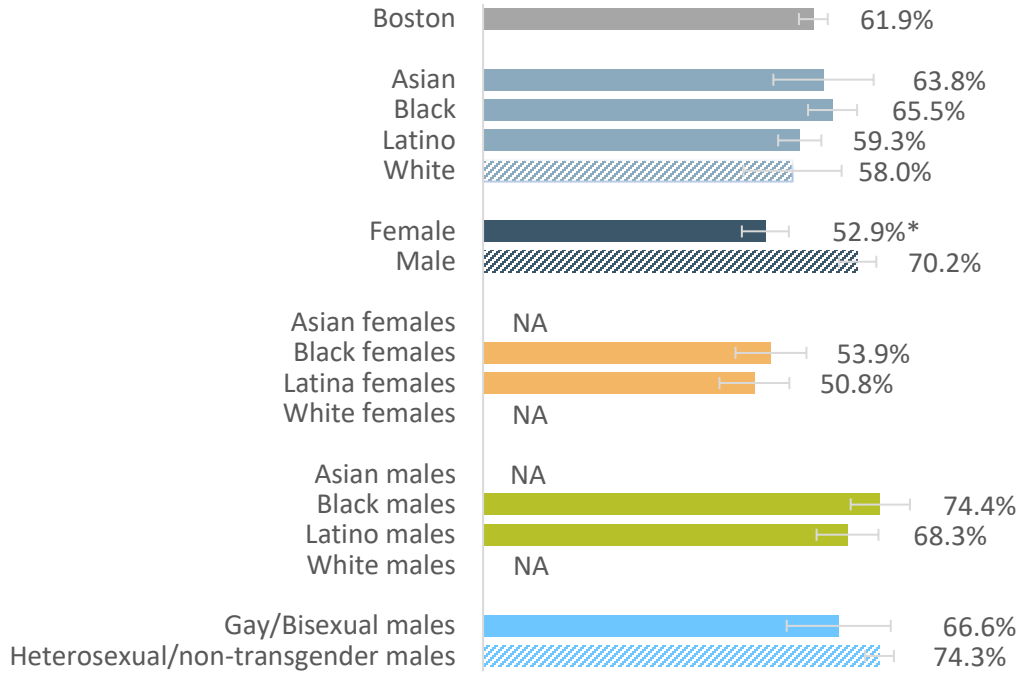
About 85% of Boston high school youth reported that they used some form of contraception during the last time they had sex (Figure 80). Condoms were by far the most frequently used form of birth control, with nearly half of Boston high school youth reporting that they used these. About 62% of Boston high school youth reported that they used a condom the last time they had sex (Figure 81).

Figure 80. Percent Boston Public High School Youth Reporting Contraception Use During Last Time They Had Sex, by Boston and Sex, 2013, 2015, and 2017 Combined



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2013, 2015, and 2017 combined
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTE: NA denotes where data are suppressed due to insufficient sample size; Error bars show 95% confidence interval

Figure 81. Percent Boston Public High School Youth Reporting Using Condom During Last Time They Had Sex, by Boston and Selected Indicators, 2013, 2015, and 2017 Combined



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2013, 2015, and 2017 combined
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTE: NA denotes where data are suppressed due to insufficient sample size; Data for gay/bisexual males and heterosexual/non-transgender males are 2009, 2011, 2013, 2015, and 2017 YRBS Combined; Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category ($p < 0.05$); Error bars show 95% confidence interval

Access to Care

Use and Perceptions of the Health Care System

Satisfaction and Use of Health Care Services

Boston CHNA survey respondents identified access to health care as an important factor in defining a healthy community and as a strength in their community. Mirroring these sentiments, most Boston CHNA survey respondents indicated that they were satisfied with the health care in their community: 71.2% said they strongly or somewhat agreed with the statement, "I am satisfied with the health care system in my community", while 86.7% agreed that they are "satisfied with my health care provider" and 87.3% agreed that they could "access health care services easily."

Similarly, focus group and interview participants spoke positively about local health services in Boston, citing close proximity to leading health care institutions. In the Community Assets section of this report, data show that there are numerous hospitals and health care centers in the city. When asked about where they go if they are sick or need advice about health, about half of respondents with children under 18 reported that they usually go to a doctor's office for healthcare, as do about 60% of respondents under 18. Nearly 20% of youth reported that the hospital emergency room is their usual source of care, while another 12.5% reported that they do not have a usual source of healthcare (complete data table in Appendix B). Overall, 50.9% of all respondents indicated that they went to a doctor's office, while 32.1% saw their public health clinic or community health center as their place of care (Table 13). However, nearly one in seven (12.7%) indicated that they viewed the hospital emergency room as their place for seeking care or advice.

Table 13. Percent Boston CHNA Survey Respondents Reporting Their Usual Place for Seeking Care, All Respondents, Respondents with Children Under 18, Youth, 2019

	All respondents (N=2,009)	Respondents with children under 18 (N=537)	Youth (N=192)
A doctor's office	50.9%	50.5%*	59.4%
A public health clinic or community health center	32.1%	46.4%*	32.8%*
Urgent care provider	16.9%	16.8%	14.1%*
A hospital emergency room	12.7%	13.6%	18.8%
A hospital outpatient department	11.5%	12.9%	5.2%*
No usual place	4.5%	2.1%*	12.5%*
Some other kind of place	2.7%	1.7%*	2.6%

DATA SOURCE: Boston CHNA Community Survey, 2019

NOTE: Question asked: When you are sick or need advice about your health, to which of the following places do you usually go?; Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Respondents were allowed to select multiple response options; therefore, percentages may not sum to 100%; Asterisk (*) denotes estimate for which there were differences between groups ($p < 0.05$)

Continuity of primary care has been shown to be associated with fewer emergency room visits and hospitalizations.[ix] The bi-annual Boston Behavioral Risk Factor Surveillance Survey asks residents about whether they have at least one person they view as their personal doctor or health care provider. Results have remained steady over the past several years, with approximately eight in ten respondents reporting having at least one person as their personal doctor. Asian and Latino residents were

significantly less likely than White residents to indicate having one person as that personal doctor or health care provider.

A similar question was asked on the Boston CHNA survey. While 66.1% of the Boston CHNA survey sample indicated that they had at least one person that they thought of as their personal doctor or health care provider, over 70% of respondents with children under 18 and youth reported this (Table 14).

Table 14. Percent of Boston CHNA Survey Respondents who Have Someone as Their Personal Doctor or Health Care Provider, All Respondents, Respondents with Children Under 18, Youth, 2019

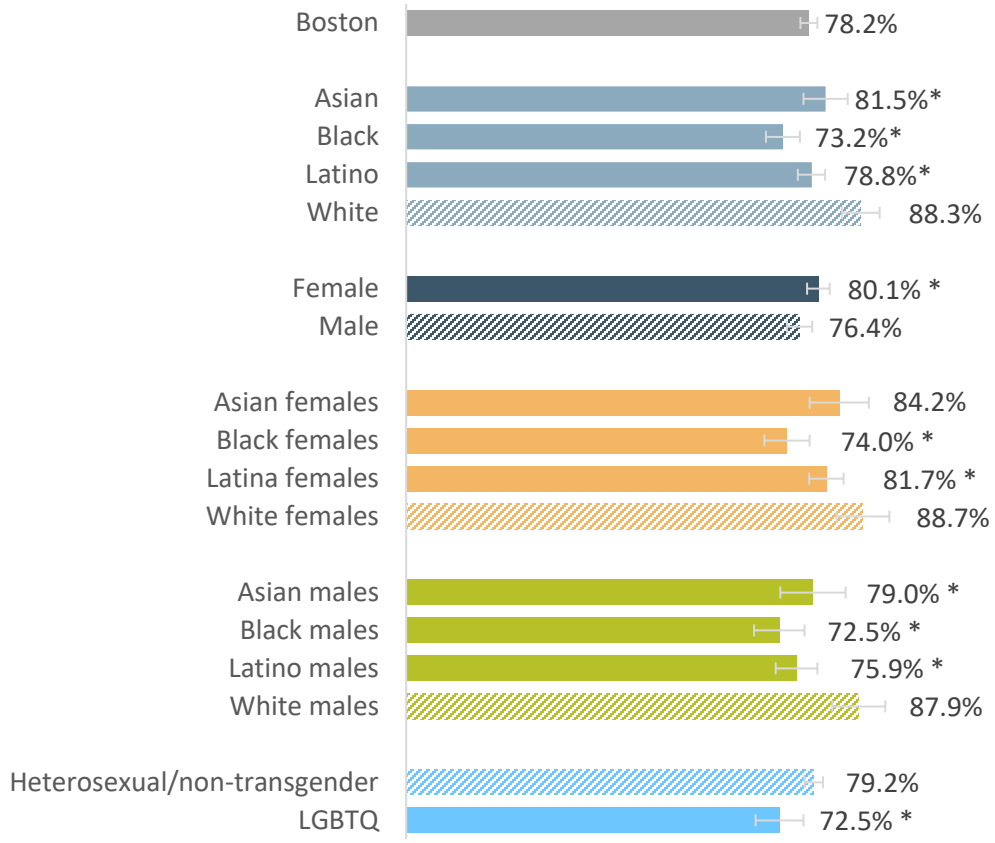
	All respondents (N=1,775)	Respondents with children under 18 (N=521)	Youth (N=189)
One person	66.1%	71.8%	70.4%
More than one person	21.5%	18.2%	18.5%
None	12.3%	10.0%	11.1%

DATA SOURCE: 2019 Boston CHNA Survey
NOTE: Question asked: Do you have one person you think of as your personal doctor or health care provider?; Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Respondents were allowed to select multiple response options; therefore, percentages may not sum to 100%; Chi-square analyses were conducted and there were statistically significant differences within the following groups ($p < 0.05$): respondents with and without children under 18 and age groups

Access to Dental Care

Results from the Youth Risk Behavior Survey completed by BPS high school students indicate that while nearly eight in ten (78.2%) Boston public high school students have reported seeing a dentist in the past year, this significantly differs by female and male students, and race/ethnicity within female and male students (Figure 82). Additionally, LGBTQ students were significantly less likely to report seeing a dentist in the past year than heterosexual or non-transgender students. Among CHNA community survey respondents, over 70% of all respondents and respondents with children under 18 reported that they had seen a dentist in the past year; a higher proportion of youth respondents (84.7%) reported this (Table 15).

Figure 82. Percent Boston Public High School Youth Reporting Seeing a Dentist in the Past Year by Selected Indicators, 2015 and 2017 Combined



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2013, 2015, and 2017 combined
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTE: Bars with pattern indicate reference group for its specific category; Asterisk (*) denotes where estimate was significantly different compared to reference group within specific category (p <0.05); Error bars show 95% confidence interval

Table 15. Percent of Boston CHNA Survey Respondents Reporting Last Visit to Dentist, All Respondents, Respondents with Children Under 18, Youth, 2019

	All respondents (N=1,806)	Respondent with children under 18 (N=536)	Youth (N=190)
Within the past year	72.3%	71.8%	84.7%
2 to 5 years ago	20.3%	21.6%	12.6%
5 or more years ago	6.0%	6.2%	1.6%
Never	1.4%	0.4%	1.1%

DATA SOURCE: 2019 Boston CHNA Survey
NOTE: Question asked: When was the last time you had a dental check-up?; Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Chi-square analyses were conducted and there were statistically significant differences within the following groups (p < 0.05): respondents by age groups

Barriers and Facilitators to Accessing Health Care Services

Barriers to Health Care Access

While focus group, interview, and survey participants were positive about the quality and proximity of health care in their community, they still cited several concerns over access. The biggest barriers to health care access discussed in the focus groups were: being under-insured; language and immigration status; navigation and care coordination challenges; transportation; and lack of culturally-sensitive approaches to care. Cost was not identified as a major barrier to care for the majority of participants; however, a few focus group participants discussed cost barriers in relation to affording medication for chronic diseases, and the challenge of competing costs on a fixed income.

Engagement with Health Care Providers and Staff

Unfriendly, uninterested, or rushed health care providers and office staff in health care settings were also issues that focus group participants mentioned. Some focus group participants described feeling "unseen" by their health care providers, citing feeling rushed or seeing providers who seemed disengaged. One East Boston resident shared, *"I went to the doctor, and no one looked me in the eyes; they sent me home with so many medicines, but no one asked me how I was…it's like they don't see the whole person."*

Navigating a Complex System

When discussing access to care, a prominent theme across focus groups and interviews was the challenge of navigating the complex health system. Focus group members spoke about the struggle understanding their health care benefits, reporting that they "*felt lost in the system."* Seniors were described as especially vulnerable to challenges navigating the health system. Several focus group participants emphasized that many simply do not know what resources are available to them or how to access them. One interviewee summarized, *"When you have to find services and then you have to go to them…when you've [experienced] trauma, coordinating all this stuff yourself is really hard; organizing and having to stay on top of it. We are not as good with coordination as a system; we've talked about it, but we don't really know what that looks like yet at the ground level."*

Participants identified a need for more navigation services that could help patients access services and resources across sectors. Multiple key informants and focus group participants identified peer navigators and community health workers as valuable resources. One focus group participant shared, "*Doctors only have a certain amount of time and you can't rely on them to talk to patients about everything. But there does need to be more navigators available to help patients understand and explain."* Key informants echoed the value of these services; however, reimbursement models and funding constraints appear to make it difficult for organizations to fund these positions, as some key informants noted.

Transportation Barriers

Transportation was also mentioned by assessment participants as a challenge to accessing health care. Some focus group participants noted that public transportation is limited for accessing services locally as well as for accessing specialty care. One parent shared, "*My son has to see a specialist, but I don't drive, and it can take up to 3 hours to get to the specialty care [he goes to outside the city]."* Another key informant echoed this sentiment, sharing, "*We need more resources within the community so [residents] don't have to travel through a bunch of different neighborhoods. Even getting to BMC from Mattapan or*

Dorchester is a trek for a lot of people; are you really going to counseling when you have to take two busses and a train to get there?"

Culturally-Sensitive Approaches to Care

For immigrant communities, participants described immigration status (e.g., undocumented vs. documented status) as a significant barrier to accessing health care. Key informants spoke of fear in undocumented or mixed status families which prevented residents from seeking care. One key informant explained, *"Immigrant populations face challenges [accessing care]. It is a hostile environment; even though we are a sanctuary city they do not feel safe."* Further, the need for increased linguistic capacity in the health care and social service landscape was also a common theme among qualitative conversations, particularly in non-English focus group and key informants who worked in health and social services.

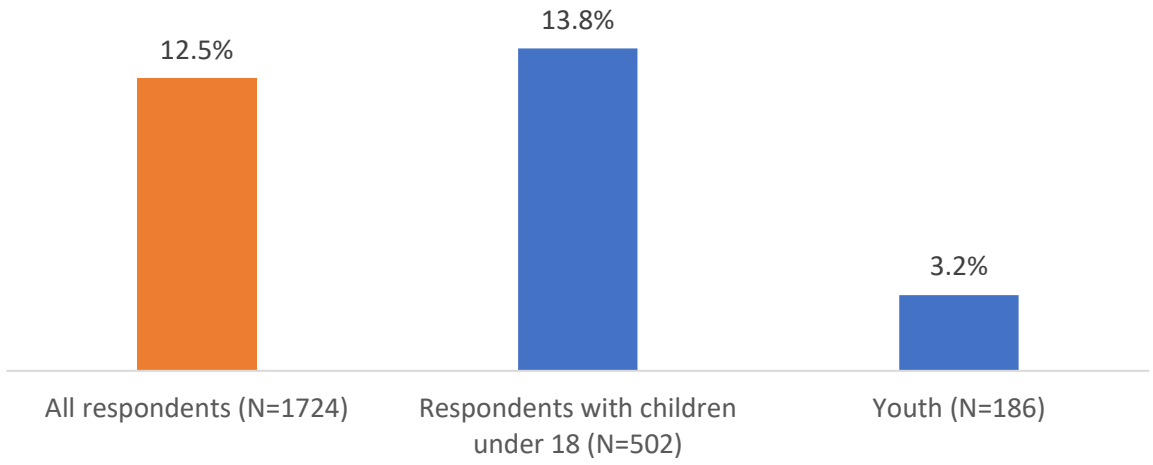
The importance of culturally-sensitive approaches to care were also discussed among multiple focus group and interviews. For example, some focus group participants spoke of cultural and gender norms of not seeking health care unless things are bad. Others spoke of preferences for non-Western approaches to care, with one interviewee sharing, *"Clients may have more stigmatized view of Western Medicine… may rely more heavily on natural healers that are more connected in the neighborhood."* These culturally-sensitive approaches to care were also described as imperative for religious minority groups, shared key informants. LGBTQ youth described the need for more LGBTQ-centric care but also stressed the importance of providers taking into considerations the many intersecting identifies that a patient could hold. For example, being a queer-identifying teenager who is also a person of color. As one young person described, *"We have to face a double whammy with already having the stigma of being LGBTQ and then adding race on top of that makes it even harder."*

Cost and Affordability of Care

While cost was not cited as the most critical barrier to health care access among focus group, interview, and survey respondents, specific questions on both the BRFSS and the Boston CHNA survey asked respondents if there was a time in the past 12 months when they needed to see a doctor or a dentist but could not because of the cost. Overall, cost is a much bigger barrier for dental care than it is for overall health care. According to combined BRFSS data for 2013, 2015, and 2017, 10% of adults did not see a doctor in the past 12 months due to cost. The dental question was only asked on the 2017 BRFSS, and results show that 17.4% of residents could not see a dentist in the past 12 months due to cost.

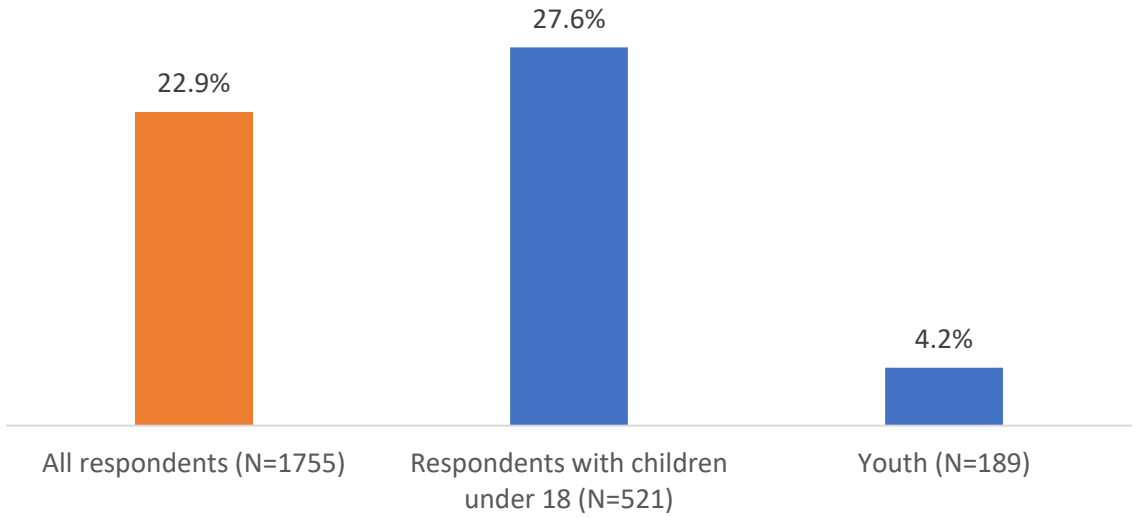
A similar question was asked on the 2019 Boston CHNA survey, and overall responses were slightly higher, with 12.5% of the sample indicating that they could not see a doctor in the past 12 months due to cost and 22.9% reporting this for a dentist (Figure 83 and Figure 84). A higher proportion of respondents with children under 18 reported cost challenges to accessing dental care than respondents overall. Fewer youth respondents reported cost to be an issue to accessing either healthcare or dental services than all respondents or parents of children under 18 (full data table in Appendix B).

Figure 83. Percent Boston CHNA Survey Respondents Reporting They Needed to See a Doctor but Could Not Because of Cost in Past 12 Months, All Respondents, Respondents with Children Under 18, Youth, 2019



DATA SOURCE: Boston CHNA Community Survey, 2019
NOTES: Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Statistically significant difference by respondents across age groups

Figure 84. Percent Boston CHNA Survey Respondents Reporting They Needed to See a Dentist but Could Not Because of Cost in Past 12 Months, All Respondents, Respondents with Children Under 18, Youth, 2019



DATA SOURCE: Boston CHNA Community Survey, 2019
NOTE: Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Statistically significant difference between respondents with and without children under 18 and respondents across age groups

Some of these themes were identified in the Boston CHNA survey, while survey respondents were also likely to cite wait times and availability of hours as issues to accessing care. When Boston CHNA survey respondents were asked about the factors that made it harder for them to get the health care services they needed in the past two years, those who have children under 18 and youth cited long wait for an appointment. However, in addition, for youth, fear of asking questions or talk to a doctor and lack of knowledge about what services are available were two of the top five barriers to accessing healthcare.

Parents of children under 18 cited lack of providers who accept their insurance as one of top five barriers, while those in other groups did not (data table in Appendix B). All respondents cited issues related to convenience (long wait for an appointment (43.6%), lack of evening/weekend services (38.0%), cost of care (33.7%), lack of transportation (18.9%), and office not accepting new patients (18.2%) (Table 16).

Table 16. Percent Boston CHNA Survey Respondents Reporting Factors That Made It Harder for Them to Get Health Care Services They Needed in Past Two Years, All Respondents, Respondents with Children Under 18, Youth, 2019

	All Respondents (N=1,014)	Respondents with Children Under 18 (N=295)	Youth (N=83)
1	Long wait for an appointment	Long wait for an appointment	Long wait for an appointment
2	Lack of evening or weekend services	Lack of evening or weekend services	Afraid to ask questions or talk to doctors/medical people
3	Cost of care	Cost of care	Lack of evening or weekend services
4	Lack of transportation	Lack of transportation	Don't know what types of services are available
5	Office not accepting new patients	Lack of providers who accept my insurance	Cost of care

DATA SOURCE: Boston CHNA Community Survey, 2019
NOTE: Data arranged in descending order and do not include respondents who selected "prefer not to answer/don't know" or "none of the above;" Respondents were allowed to select multiple response options

Facilitators to Health Care Access

While much of the discussions in the focus groups and interviews emphasized the challenges in accessing health care, having insurance and proximity to health care services were cited as factors that supported people's access to care. When Boston CHNA survey respondents were asked what factors made it easier for them to get the health care services they needed in the past two years, having a regular source of care (63.3%), having insurance cover what they needed (49.7%), providers taking their insurance (47.8%), having positive interactions with doctors, providers, or office staff (39.8%), and feeling comfortable asking questions (37.3%) were the top five factors cited (Table 17). Regular source of health care, insurance that covers need, and positive interactions with health care staff were among the top five factors for all respondents as well as for respondents with children under 18, and youth. Available public transportation was a facilitator for respondents with children under 18 and youth. Youth rated providers or staff who speak my language/understand my culture as one of the top five facilitators to accessing health care services.

Table 17. Percent Boson CHNA Survey Respondents Reporting Factors That Made It Easier for Them to Get Health Care Services They Needed in Past Two Years, All Respondents, Respondents with Children Under 18, Youth, 2019

	All Respondents (N=1,059)	Respondents with Children Under 18 (N=455)	Youth (N=140)
1	I have a regular source of health care	I have a regular source of health care	Insurance covers what I need
2	Insurance covers what I need	Providers take my insurance	I have a regular source of health care
3	Providers take my insurance	Insurance covers what I need	Positive interactions with doctors, providers, or office staff
4	Positive interactions with doctors, providers, or office staff	Positive interactions with doctors, providers, or office staff	Available public transportation to health care services
5	Felt comfortable asking questions or talking to doctors/medical people	Available public transportation to health care services	Providers or staff speak my language/ understand my culture

DATA SOURCE: Boston CHNA Community Survey, 2019
NOTE: Data arranged in descending order and do not include respondents who selected "prefer not to answer/don't know" or "none of the above;" Respondents were allowed to select multiple response options

COMMUNITY ASSETS

Perceptions of Community Strengths and Assets

When asked about community strengths, participants identified several assets including cultural diversity, collaborative social service organizations, and engaged community residents, among others. Many residents indicated belonging to a strong faith-based community that provides emotional and tangible supports for those who have unmet needs. Key informants who worked with children described an "*incredible resilience*" among children who have experienced trauma.

Proximity to health care services and educational institutions were also described as assets among focus group and interview participants. One focus group participant in Mattapan noted, *"There's so much that the city of Boston has to offer; it has some of the best colleges and universities, best teaching hospitals and traveling [health care]."* Similarly, residents in Chinatown described the close proximity to services as a strength in their neighborhood. One key informant shared, "*One of Chinatown's greatest strengths is that you have access to almost everything you need. You can go to restaurants, you can buy groceries, you can access services, you can get health care. As long as you know what you are looking for, you likely are able to find it in Chinatown."* Jamaica Plain was described as a neighborhood with ample green space, local business, and accessible transportation. One resident shared, *"In JP we are very lucky to have the pond and the Arboretum. There is good transportation and not a lot of fast food restaurants around. People are able to access primary care services without having to go too far…the neighborhood has a lot going for it."*

Diversity and multiculturalism were seen as strengths across the city. Focus group and interview participants described their communities as "tight-knit". Participants described an engaged community that is willing to help those who are struggling. One focus group participant shared, "*Regardless of the changing face of the community, there is still a real sense of community here. People looking out for each other…and the amount of services and variety of services is just incredible. We hope to keep that richness within the community."* Another key informant echoed this sentiment and shared, "*Every community in Boston has profound assets. We have a strong history of activism, strong connections to diverse communities and cultures, and close proximity to leading researchers and thinkers."* Focus group and interview participants described the strong work ethic and "*will to survive"* as a strength in immigrant communities. Residents who identified as LGBTQ indicated that Boston is making positive strides related to care for LGTBQ residents and cited Fenway Health and the Justice Resource Institute as strengths.

Survey data reinforce many of these themes from qualitative discussions. When Boston CHNA survey respondents were asked to mark the biggest strengths in their community, a majority of respondents noted "my community is close to medical services" (69.0%), "my community has people of many races and cultures" (67.5%), "people speak my language" (54.8%), and "my community has good access to resources" (54.6%) (Table 18). The top five community strengths chosen by all respondents, respondents with children under 18 and youth are largely similar, with all identifying racial and cultural diversity, proximity to medical services, access to resources, and residents who speak the same language as among the top five of their communities' strengths. Youth identified acceptance of differences as a top five strength, while all respondents and respondents with children under 18 identified the fact that people care about improving the community.

Table 18. Percent Boston CHNA Survey Respondents Reporting Strengths of Their Community or Neighborhood, All Respondents, Respondents with Children Under 18, Youth, 2019

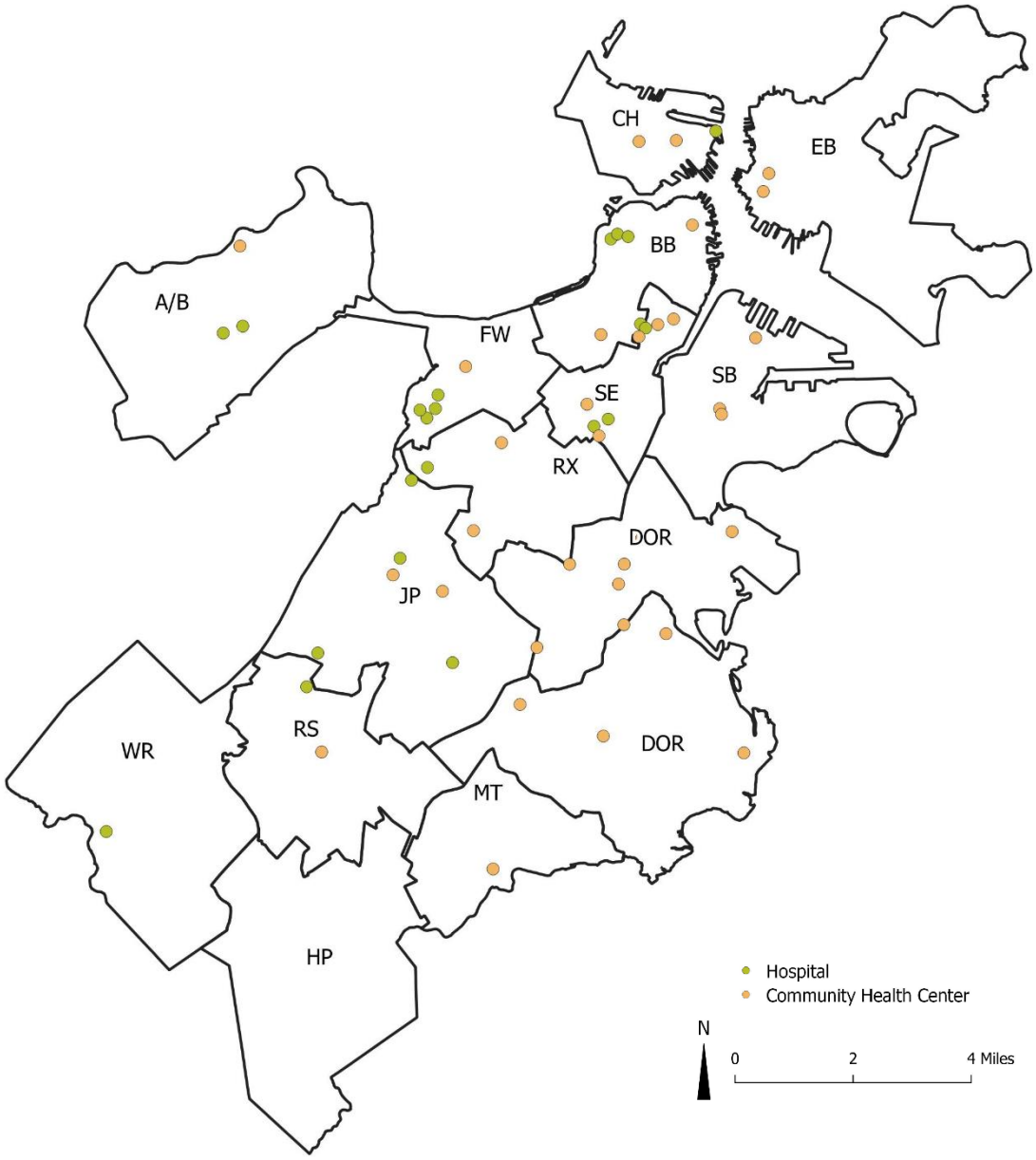
	All Respondents (N=2,022)	Respondents with Children Under 18 (N=538)	Youth (N=193)
1	My community is close to medical services	My community is close to medical services	People speak my language
2	My community has people of many races and cultures	My community has people of many races and cultures	My community has people of many races and cultures
3	People speak my language	My community has good access to resources	My community has good access to resources
4	My community has good access to resources	People speak my language	My community is close to medical services
5	People care about improving their community	People care about improving their community	People accept others who are different than themselves

DATA SOURCE: Boston CHNA Community Survey, 2019
NOTE: Data arranged in descending order and do not include respondents who selected "prefer not to answer/don't know" or "none of the above;" Respondents were allowed to select multiple response options

Services and Organizational Resources

Survey, focus group, and interview participants all noted proximity and abundance to health care services were major strengths of their community. Health care is the largest industry in Boston, and, as Figure 85 shows, there are 22 hospitals and 33 health center access sites in Boston, including 16 federally qualified health center organizations (with 28 sites as some have more than one location) and 5 hospital-licensed health center organizations.

Figure 85. Hospitals and Community Health Centers in Boston, by Neighborhood, 2019



DATA SOURCES: American Hospital Directory, https://www.ahd.com, 2019; Massachusetts League of Community Health Centers, http://www.massleague.org/, 2019
NOTES: Neighborhoods as defined by Boston Public Health Commission; Back Bay includes Back Bay, Beacon Hill, Downtown, North End, and West End; South End includes South End and Chinatown

As noted, focus group participants who identified as LGBTQ indicated that Boston is making positive strides related to care for LGTBQ residents. Specifically, BPS has made many inroads in this area for LGBTQ students. In the 2017-2018 school year, out of 74 BPS schools with grades 6-12 who responded to the School Health Profiles survey, 33 BPS schools reported there were Gay Straight Alliances (GSA) in the schools.[x]

Additionally, BPS offers various services and supports for different sub-populations, as reported in the School Health Profiles survey. As shown in Table 19, more than three-quarters of BPS schools offer additional supports for students experiencing trauma, students experiencing homelessness, and English Language Learners.

Table 19. Number of and Percent Boston Public Schools Offering Additional Supports for Sub-Populations, by Sub-Population, 2018

	Number	Percent
Expectant and parenting students	30	42.3%
Refugee, asylee, documented and undocumented immigrant students	63	56.3%
LGBTQ students	69	61.1%
Court-involved students	75	65.2%
ELL students and ELL students with disabilities	99	83.2%
Students experiencing homelessness	105	89.0%
Students experiencing trauma	110	94.0%

DATA SOURCE: Boston Public Schools, Health and Wellness Department, School Health Profiles Survey, 2018

Many focus group and interview participants, particularly those working for a variety of organizations across the city, described the city of Boston as having a strong network of social services with strong partnerships and collaborations. One key informant described, *"Generally Boston is deeply collaborative; even though there isn't a plan, there is a willingness and appetite to collaborate and pull together in ways that affect the common good."* However, there is still a need to reduce duplicative services and strengthen collaborations. One key informant summarized, *"Community connectedness matters. The more we are talking to each other, the more success we're going to have."* An important next step, suggested key informants, is to fix infrastructure challenges around data sharing. This includes strengthening data repositories to interact across systems and tracking health and environmental data.

COMMUNITY SUGGESTIONS FOR THE FUTURE: INITIATIVES, PROGRAMS, & SERVICES

Overview of Suggestions Identified in Boston CHNA

Participants in interview and focus group discussions for the Boston CHNA were asked for their suggestions to address identified needs. These include:

- ***Employment and Workforce-*** Focus group participants commonly discussed challenges securing well-paying jobs due to barriers that include educational requirements, hiring processes, technology skills, and having a criminal record. Community suggestions to address employment barriers include addressing minimum education requirements to be more inclusive of those with valuable lived experience; subsidizing the cost of childcare so low-income parents can work towards upward mobility through education and job training; and increasing meaningful employment opportunities for young people, especially during the summer and school breaks. Participants shared that it would be imperative that these efforts focus on "21st century skills" like technology, professional communication, information literacy, and critical thinking. Increasing access to trade professions like machine training, carpentry, and electrical work were also described as valuable.

- ***Income and Financial Security-*** These were often discussed in the context of access to employment and income inequality. Participants talked about the challenges making ends meet due to low-wage jobs with little room for advancement. Specific suggestions include investments that enhance access to careers for Boston youth that lead to stable employment and economic mobility, and pathways for immigrant communities and non-English speakers to professional advancement in order to engage a workforce that meets the needs of a diverse population.

- ***Education-*** Children with special needs, undocumented students, and those who have experienced trauma were identified as groups that needed more support in and outside of the classroom. Suggestions were made to focus resources on early childhood education, especially for children ages 0-5; increase social supports in public schools, particularly in communities of color; train educators on trauma-informed approaches to recognize trauma symptoms and respond accordingly; use restorative justice approaches to discipline and behavior issues; and address chronic absenteeism by bolstering wrap around services like in-home therapy, community field coordinators, and therapeutic mentors.

- ***Food Insecurity-*** Key informant interviews and low-income focus group participants across neighborhoods discussed the challenge of not having enough money to afford the food they and their families needed. Participants identified seniors and children as being especially vulnerable to being food insecure. Suggestions were made to increase opportunities to access healthy and affordable food through: urban farming and community gardens; farmer's markets that accept SNAP benefits; and strengthening initiatives that address food access from a clinical perspective, where practitioners can prescribe services and are reimbursed as part of the ACO plans.

- ***Housing-*** Focus group and interview participants stressed the importance of mitigating the negative impacts of gentrification and displacement by creating more opportunities for home ownership in non-White communities to build generational wealth; and pushing for long-term renewable leases for nonprofits and social services agencies that are being strained by rising costs to operate. Other specific suggestions include: exploring small property acquisitions to develop community affordable housing; supporting nonprofit developers; and increasing linkage fee programs—an alternative to

traditional inclusionary housing programs that attempt to link the production of market-rate real estate to the production of affordable housing. Key informant interviewees also noted ACO implementation as an opportunity to strengthen and coordinate the housing and health care sectors. Leveraging hospital community benefit funding with Medicaid flex service dollars may provide an opportunity for greater investment in housing stability. Additionally, moving these health care-housing partnerships to providing place-based/housing-based services for health care and social services would reach people where they live with the range of medical and ancillary services that they need in a coordinated way.

- ***Transportation-*** Some focus group participants reported being generally satisfied with transportation access in their neighborhoods, although some suggestions were provided. Specific suggestions include focusing on transportation equity in lower income communities that tend to have longer commuting times; be engaged in reducing traffic by investing in speedy bus lanes; continue making the city more bikeable; and exploring fee structures for ride share programs to generate revenue for operational costs at the local level.

- ***Chronic Disease-*** Interview participants indicated that there is a need to focus on prevention strategies and chronic disease management—particularly to prevent diabetes and obesity. Community residents indicated the need for more affordable gym and healthy food options, especially in the winter time and especially for young people during school breaks. Community residents suggested investing in exercise stations in public parks and within community health centers. There were also suggestions to invest in community outreach efforts to increase public knowledge about prevention of chronic diseases in trusted community spaces like faith-based organizations and in public schools.

- ***Mental Health***- Stress, anxiety, and depression were the most frequently-cited challenges among Boston residents. Community suggestions to address mental health issues include investing in more mental health supports in public schools—especially for young children who have experienced trauma and for underserved communities like non-English speakers, LGBTQ residents, and homebound seniors. Also stressed was the importance of reducing cultural stigma around mental health services and recruiting more clinicians who reflect the rich racial and ethnic diversity of Boston.

  According to community participants, it will be imperative to consider intersecting identities and social statuses that may be salient to mental health approaches, for example, those who identify as queer people of color or immigrant parents of children with special needs. In terms of careers in the field of mental health and substance use, participants stressed that it will be important to address systemic barriers that detract professionals from seeking careers in the field due low salaries, emotionally demanding work, and stringent certification requirements. Suggestions include: investing in micro degrees that allow residents to advance professionally in a less costly way; invest in student loan forgiveness initiatives; forging stronger connections between learning institutions and the job market; and addressing fee for service models and reporting requirements that limit service-delivery and creativity.

- ***Substance Use-*** Assessment participants mentioned a variety of substances including opioids, marijuana, and prescription drug use as issues in their communities. Participants were especially concerned about the impact of substance use disorders on young people and suggested focusing on

prevention efforts, especially related to marijuana use and prescription drug use among adolescents.

- ***Violence and Trauma-*** Community violence was reported as a frequent concern by focus group participants, with children and communities of color being disproportionately affected. Intimate partner violence was also mentioned by participants who identified non-English speaking immigrants as particularly vulnerable. Suggestions to address violence and trauma in the city include: restoring trust among government, police, and health care institutions by strengthening community linkages and improving community cohesion. Specific examples include intergenerational programs and services that are specific to diverse affinity groups; a multi-faceted approach to community safety that includes community-based policing, strengthening partnerships with community-based organizations and law enforcement, and transparency through venues like community share-outs. Hosting these events in familiar spaces like faith-based organizations, libraries, and community centers will be important. In terms of trauma, suggestions were made to: invest in trauma-informed approaches beginning in early childhood and continuing throughout high school; build on the work of local groups to avoid duplicative services; widen the trauma-informed care lens by expanding neighborhood trauma teams and bringing interdisciplinary groups together; and focusing on familial responses to trauma from a community-driven, grassroots approach. Also stressed was the importance of compensating community members for their participation and expertise in these efforts via a stipend.

- ***Maternal and Child Health***- A common theme that emerged among focus group with parents—many of whom identified as single mothers—was the need for more supports to learn positive parenting skills. Unaffordable and inconvenient childcare was also mentioned as a significant concern among focus group participants; suggestions were made to subsidize the cost of childcare for low-income families, especially for single-headed households. Additionally, a few key informants noted the lack of data on child health in the city, which made it difficult to enumerate a problem or track change. They saw the Boston Census survey supplement on child care and other new data initiatives starting to fill this gap, but would look forward to more robust and collaborative efforts on data gathering around child health.

- ***Health Care Access-*** The biggest barriers to health care access discussed in the focus groups were: being under-insured; language and immigration status; navigation and care coordination challenges; transportation; and lack of culturally-sensitive approaches to care. Suggestions related to health care access was to increase supports for navigating the complex health system and delivering culturally-sensitive care and linguistically appropriate services to diverse groups. Community residents shared that it will be essential to train staff from diverse communities for professional roles such as peer navigators and interpreters. Other areas to focus on according to assessment participants include bolstering oral health services for those on public insurance, addressing re-imbursement barriers for sustaining positions like peer navigators and community health workers; and mitigating transportation barriers by exploring alternatives such as ride share stipends for patients.

SATELLITE LOCATION PROFILES

Background

Boston Children's Hospital works with five satellite locations in Lexington, North Dartmouth, Peabody, Waltham, and Weymouth. These satellite locations offer a range of pediatric specialties and services for children and families who live outside of the immediate Boston area.

Methods

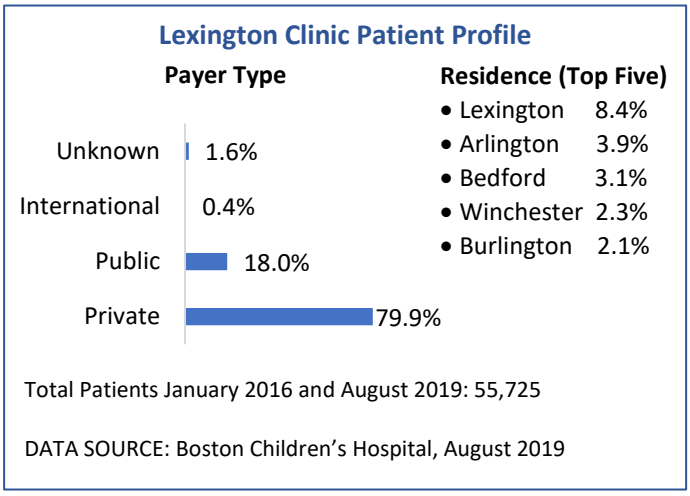
As part of the 2019 CHNA, Boston Children's collected and synthesized existing data on social, economic and health indicators related to satellite location patient populations as well as residents around satellite locations. Secondary data sources included: local reports, the Massachusetts Department of Public Health (MDPH), and the US Census. In addition, Boston Children's sought input via stakeholder interviews. Interviews were conducted with satellite location staff – such as practice administrators, social workers and other staff leaders – as well as community partners. Interviews explored perceptions of child and family health needs and strengths of BCH's satellite facility communities.

The following profiles present brief summaries for each satellite location comprised of secondary and qualitative data to provide an overview of the community's socioeconomic context and health needs. It is important to note that satellite locations serve a wide geography, beyond their local community, within and outside of Massachusetts, including internationally. Therefore, interviewee perspectives reflect needs of community residents as well as those of the wide range of patients served by satellite locations.

SATELLITE LOCATION: LEXINGTON

Background

Through its five satellite locations, Boston Children's Hospital reaches additional patients with pediatric specialties and services. About 20% of Lexington's patients come from five towns, including 8% from Lexington.



Methods

In addition to secondary data from public sources and encounter data, for the Lexington summary, Boston Children's staff interviewed two staff from the Lexington satellite site. It is important to note that perspectives shared in this summary reflect both perceived needs of community residents and those of the wide range of patients served by the Lexington clinic.

Community Social, Economic and Physical Context

Health is influenced by upstream factors. Where we are born, grow, live, work and age and the relationships among these factors are critical to consider when assessing community health needs.

Lexington is a diverse community, in which Asian residents make up over one quarter of the population, nearly four times that of the state, and Latinos comprise nearly 12%. (Table 20). A smaller proportion of Lexington residents are Black compared to the state overall.

Table 20. Racial and Ethnic Distribution, Lexington and MA, 2013-2017

	Lexington	MA
White alone	68.3%	80.8%
White alone, not Hispanic/Latino	72.2%	71.4%
Hispanic/Latino	11.9%	12.3%
Asian alone	27.3%	7.1%
Black/African American alone	0.8%	8.9%
American Indian and Alaska Native Alone	0.1%	0.5%
Other	3.5%	2.6%

DATA SOURCE: U.S. Census Bureau (2019, July)

Compared to Massachusetts, Lexington is wealthier, better educated, and less financially burdened (Table 21). The median household income in Lexington ($162,083) is more than double that of the state ($74,167). Interviewees identified excellent schools and many community resources as key assets. Community residents were described by interviewees as *"very educated"* (98% have a high school diploma or higher), quite knowledgeable about health, and having high expectations for their health care. High socioeconomic status comes with challenges however: interviewees noted that there is substantial pressure to *"be the best,"* which creates stress and isolation for families with children who have special needs or face challenges. Quantitative data indicate that a smaller proportion of Lexington renters are housing cost-burdened compared to the state, and a slightly higher proportion of owners are cost-burdened.[xi] Interviewees

stated that housing is expensive in Lexington which means that many in public service, including teachers, cannot afford to live in the community.

Interviewees reported that a large portion of clinic patients come from outside of Lexington and are more likely to face socioeconomic challenges. They shared that these families experience greater economic stress including challenges such as homelessness (notably in Bedford) and transportation access. Interviewees also noted an increase in the number of non-English speaking families served by the clinic.

Table 21. Social Determinants of Health, Lexington and MA, 2013-2017

		Lexington	MA
Income	Median household income	$162,083	$74,167
	Poverty	3.6%	10.5%
Housing	Owner-Occupied households that are cost-burdened	28.0%	26.5%
	Renter-Occupied Households that are cost-burdened	40.0%	46.5%
Education	High school diploma or higher	97.9%	90.3%

DATA SOURCE: U.S. Census Bureau (2019, July). Metropolitan Area Planning Council (2014, March). Lexington Housing Production Plan.

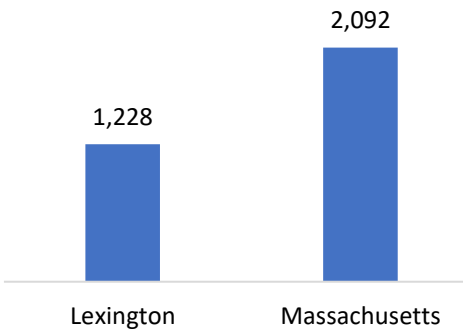
Community Health Needs

Community health needs were determined through secondary data sources like local community health needs assessments and interviews of staff.

Mental Health

The two interviewees identified mental health issues as a concern in Lexington. They mentioned school-related stress for students, especially those who struggle, as well as a rise in eating disorders among adolescents. They pointed to greater demand for mental health services at the clinic, and a growing number of children on anxiety medication. They also mentioned that at the clinic there has been a recent doubling of social worker hours to address demand for mental health services as well as the opening of a new clinic in gastroenterology department for children and youth who have food aversions and anxiety. Interviewees mentioned a need for extra services such as neuropsychiatry evaluations, speech, reading or processing evaluations. Lack of insurance coverage for mental health services was also identified as a challenge. Quantitative data indicate that mental health ED discharges in Lexington (1,228 ED discharges per 100,000 population) are lower than the state overall (2,092 ED discharges per 100,000 population) (Figure 86).

Figure 86. Mental Health ED Discharges (age-adjusted rate per 100,000 population),



DATA SOURCE: Lahey Hospital & Medical Center (2016). Community Health Needs Assessment. Lahey Hospital & Medical Center, Appendix A.

Interviewees also noted that there are a growing number of children with complex needs such as cerebral palsy in Lexington and that the clinic has begun to specialize to respond to this need. As one stated, "*the special needs population either goes to Boston or comes to Lexington.*" Interviewees noted a need for more services for these children and their families that are often identified by primary care providers (PCPs).

> *"There is an increased demand for services to support kids with multiple disabilities and complex care"*
> - Interviewee

Access to Care

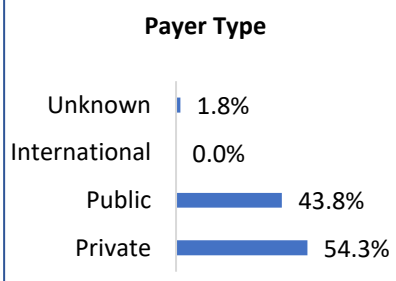
Interviewees reported good access to healthcare for Lexington residents, with strong primary care providers who are linked to Boston Children's and specialty care. As one interviewee stated, *"Lexington is a somewhat entitled community. Patients have good access to care and can be demanding."* Interviewees saw a need for continued connection between Boston Children's and primary care; they suggested more seminars or lectures by specialty providers in clinics for local PCPs to increase the role PCPs play in addressing common childhood health concerns and enhance the connection between primary care and Boston Children's. Interviewees also suggested exploring more educational programming for children, youth, and families around issues such as nutrition, sex education, and safety/active shooter, with specific outreach to the large number of students in the community who are homeschooled.

SATELLITE LOCATION: NORTH DARTMOUTH

Background

Through its five satellite locations, Boston Children's Hospital reaches additional patients with pediatric specialties and services. About 44% of North Dartmouth's patients come from five towns with one quarter coming from New Bedford.

North Dartmouth Clinic Patient Profile



Residence (Top Five)

- New Bedford 25.4%
- Fall River 8.6%
- Fairhaven 3.9%
- Taunton 2.8%
- Acushnet 2.8%

Total Patients January 2016 and August 2019: 12,751

DATA SOURCE: Boston Children's Hospital, August 2019

Methods

In addition to secondary data from public sources and encounter data, for the North Dartmouth summary, Boston Children's staff interviewed two staff from the clinic. It is important to note that perspectives shared in this summary reflect both perceived needs of community residents and those of the wide range of patients served by the North Dartmouth clinic.

Community Social, Economic and Physical Context

Health is influenced by upstream factors. Where we are born, grow, live, work and age and the relationships among these factors are critical to consider when assessing community health needs.

Dartmouth is less racially and ethnically diverse than the state overall, with almost 90% of residents who identify as non-Hispanic White (Table 22). New Bedford is far more racially and ethnically diverse than both Dartmouth and the state: about 20% of residents are Hispanic and about 25% identify as "other". Interviewees noted that the community has a large and close-knit Portuguese population.

Table 22. Racial and Ethnic Distribution, New Bedford, Dartmouth and MA, 2013-2017

	New Bedford	Dartmouth	MA
White alone	67.0%	89.8%	80.8%
White alone, not Hispanic/Latino	63.4%	88.3%	71.4%
Hispanic/Latino	20.0%	2.9%	12.3%
Asian alone	1.6%	3.0%	7.1%
Black/African American alone	6.1%	2.7%	8.9%
American Indian and Alaska Native Alone	0.3%	0.0%	0.5%
Other	24.8%	4.5%	2.6%

DATA SOURCE: U.S. Census Bureau (2019, July)

Median household income in Dartmouth ($74,742) is similar to that of the state overall ($74,167), and the proportion of residents in poverty is lower than the state (8.2% and 10.5%, respectively) (Table 23). Household income in New Bedford is lower than in Dartmouth and the state, and the poverty rate is more than double 23.1%. Interviewees reported that there is high unemployment and underemployment in the community and there are many families who struggle financially. Interviewees shared that the North Dartmouth satellite serves a high proportion of MassHealth and Medically Needy patients. The proportion of residents who have a high school diploma or higher is lower in both Dartmouth and New Bedford than the state overall (90.3%). Quantitative data indicate that a smaller proportion of Dartmouth owners and renters are cost-burdened compared to those statewide. However, interviewees reported that homelessness is increasing in the community. Interviewees shared that in addition to economic stress, many families in the community are involved with the Department of Children and Families and that children raised by grandparents and great-grandparents is becoming more common. Finally, interviewees mentioned that transportation can be challenging for patients, especially those who are referred from the clinic to the main Boston Children's campus.

Table 23. Social Determinants of Health, New Bedford, Dartmouth and MA, 2013-2017

		New Bedford	Dartmouth	MA
Income	Median household income	$40,626	$74,742	$74,167
	Poverty	23.1%	8.2%	10.5%
Housing	Owner-Occupied households that are cost-burdened	45.2% **	21.0%	26.5%
	Renter-Occupied Households that are cost-burdened		42.0%	46.5%
Education	High school diploma or higher	74.0%	84.5%	90.3%

DATA SOURCE: U.S. Census Bureau (2019, July). Town of Dartmouth (2018): Town of Dartmouth Housing Production Plan. City of New Bedford (2015, July). Consolidated Plan FY2015-FY2019
**Cost burden data not provided separately for renters and owners in New Bedford.

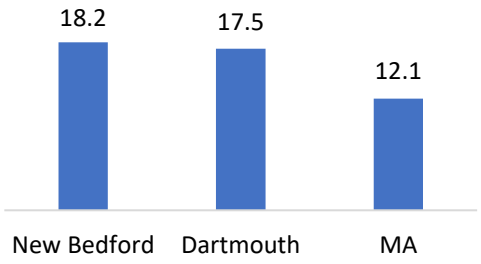
Community Health Needs

Community health needs were determined through secondary data sources like local community health needs assessments and interviews of staff.

Asthma

Interviewees reported high rates of severe pediatric asthma which they attributed to poor housing conditions, especially among rental housing. An increase in allergies was also noted. Quantitative data indicate that in 2016-2017 the pediatric asthma prevalence rate was higher in Dartmouth (17.5 cases per 100 students) than in the state (12.1 cases per 100 students) (**Figure** 87). More parent education about how to manage their children's asthma was cited as a need.

Figure 87. Pediatric Asthma Prevalence (per 100 students), 2016-2017



DATA SOURCE: Massachusetts Department of Public Health, Population Health Information Tool, 2014.

Obesity and Diabetes

Interviewees also identified obesity and diabetes among children and youth as a concern in North Dartmouth. They reported that there are a large number of teens with diabetes in the endocrine clinic; interviewees further noted that adolescents with diabetes can be hard to manage and often require substantial navigation support from the clinic social worker. Quantitative data indicate that in New

Bedford, 43.1% of students in grades 1, 4, 7, and 10 were obese or overweight in 2014-2015, compared to 32% statewide.[xii] Lack of parent education and knowledge about healthy behaviors, as well as excessive screen time, were cited as contributors to obesity and diabetes. Interviewees saw a need for more education around topics such as healthy eating. Local organizations, including the South Coast YMCA and the Boys and Girls Club, were reported to be active in addressing issues of healthy lifestyles and obesity. Interviewees saw closer partnerships between these organizations and other health care providers and Boston Children's as beneficial to addressing this important community health issue.

> *"Screen usage is a big public health issue."*
> - Interviewee

Substance Use

Substance use was also seen as a concern in North Dartmouth. Interviewees stated that opioids have had a substantial impact on families in North Dartmouth and quantitative data indicate that the number of opioid-related deaths in most South Coast communities, including Dartmouth, have risen from two deaths in 2013 to six deaths in 2017.[xiii] Interviewees shared that marijuana and vaping are also concerns for young people in the community; in 2015 North Dartmouth had a similar youth tobacco retail density rate (5.9 retailers per 1,000 individuals under 18 years) than Massachusetts overall (5.5 retailers per 1,000 individuals under 18 years); in New Bedford, youth tobacco retail density was higher, at 6.4 retailers per 1,000 individuals under 18 years old.[xiv] Finally, interviewees mentioned that the high prevalence of substance use on the Cape and South Coast also affects the region's youngest residents—local patients with neonatal abstinence syndrome are referred to Boston Children's North Dartmouth clinic.

Mental Health

The two interviewees also identified mental health issues among children and families as a growing concern in North Dartmouth, specifically noting a growing number of young residents with autism, ADHD, and oppositional defiance. They shared that both parents and schools are challenged to address these needs. Schools are stretched to provide these services; as one interviewee stated, "*many families need support in school, but without an autism diagnosis, they cannot receive this support from school systems."* Interviewees saw a need for more providers who can work with children with behavioral health dysregulation and manage medications for this population, as well as a need for more school-based services for developmental delays. Parent education about mental health was also seen as needed.

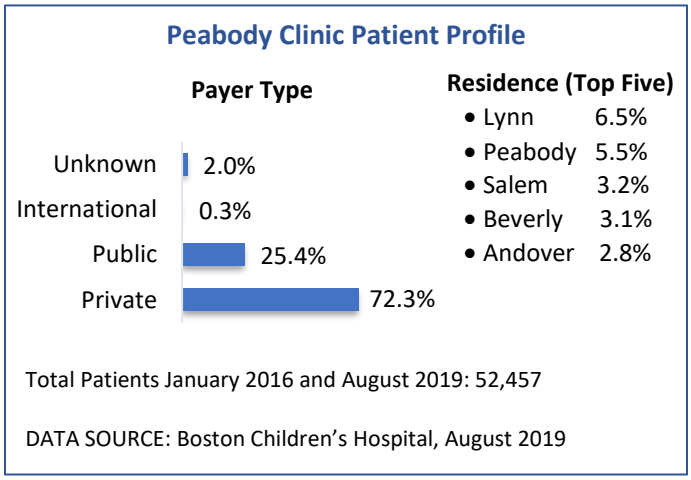
Access to Care

Challenges with access to health care were also mentioned by interviewees. In addition to challenges accessing behavioral health providers, interviewees specifically mentioned transportation challenges for some families to get to the main Boston Children's campus. While St. Luke's serves patients in the area, interviewees also noted a lack of tertiary providers in the community.

SATELLITE LOCATION: PEABODY

Background

Through its five satellite locations, Boston Children's Hospital reaches additional patients with pediatric specialties and services. In Peabody, slightly over 20% of clinic patients come from Peabody and surrounding towns.



Methods

In addition to secondary data from public sources and encounter data, for the Peabody summary, Boston Children's staff interviewed five stakeholders including satellite location staff and staff from a behavioral health and disability services provider and a school-based health center. It is important to note that perspectives shared in this summary reflect both perceived needs of community residents and those of the wide range of patients served by the Peabody clinic.

Community Social, Economic and Physical Context

Health is influenced by upstream factors. Where we are born, grow, live, work and age and the relationships among these factors are critical to consider when assessing community health needs.

Interviewees described Peabody as a community undergoing change; one in which racial and ethnic diversity is increasing as the community becomes home to immigrants from Brazil, Albania, and Spanish-speaking countries. Perspectives on the extent to which immigrants are welcome in the community were mixed, with one interviewee describing *"general acceptance of diversity"* while another stating *"there's an implicit bias against immigrants."* About 85% of the Peabody's residents are non-Hispanic White and overall, Peabody is less racially and ethnically diverse than the state overall; however, the community of Lynn is very diverse, with nearly 40% of the population identifying as Hispanic (Table 24).

Table 24. Racial and Ethnic Distribution, Lynn, Peabody and MA, 2013-2017

	Lynn	Peabody	MA
White alone	47.0%	89.7%	80.8%
White alone, not Hispanic/Latino	37.9%	84.4%	71.4%
Hispanic/Latino	38.9%	9.3%	12.3%
Asian alone	8.1%	1.4%	7.1%
Black/African American alone	13.3%	3.4%	8.9%
American Indian and Alaska Native Alone	0.3%	0.2%	0.5%
Other	31.4%	5.3%	2.6%

DATA SOURCE: U.S. Census Bureau (2019, July)

Economically, Peabody was described as an *"up and coming"* area, attributable in part to local government's efforts to develop the downtown. While median household income in Peabody ($65,085) and Lynn ($53,513) is lower than that of the state ($74,167), interviewees shared that the community has many wealthy residents (Table 25). However, interviewees noted a growing number of residents struggle to make ends meet which can affect their ability to access healthcare and food. The proportion

of residents who have a high school diploma or higher in Peabody (89.8%) is similar to the state (90.3%) but lower in Lynn (79.7%). Finding affordable housing was a substantial and growing concern in Peabody; as one interviewee stated, *"housing is the single biggest issue families may have."* Quantitative data indicate that a similar proportion of Peabody and Lynn renters are cost-burdened as renters statewide, yet a far higher proportion of homeowners are cost-burdened in Peabody (41.4%) and Lynn (52%) compared to the state (26.5%). A couple of interviewees also shared that transportation in Peabody can be challenging, especially for youth.

Table 25. Social Determinants of Health, Lynn, Peabody and MA, 2013-2017

		Lynn	Peabody	MA
Income	Median household income	$53,513	$65,085	$74,167
	Poverty	18.2%	9.8%	10.5%
Housing	Owner-Occupied households that are cost-burdened	52.0%	41.4%	26.5%
	Renter-Occupied Households that are cost-burdened	44.0%	49.7%	46.5%
Education	High school diploma or higher	79.7%	89.8%	90.3%

DATA SOURCE: U.S. Census Bureau (2019, July). Peabody Department of Community Development and Planning (2013, February). Housing Production Plan: City of Peabody, Massachusetts. Massachusetts Technology Collaborative (2018). Indicator 21: Housing Affordability. Lynn Housing Authority & Neighborhood Development (2016, June). Lynn

Additional trends observed by interviewees included changing family composition—more grandparents, aunts and uncles caring for children—and a growing number of families caring for children with developmental disorders. Lack of childcare and limited opportunities for developmental testing and services for families were seen as challenges.

Community Health Needs

Community health needs were determined through secondary data sources like local community health needs assessments and interviews of staff and community members.

Mental Health

Most interviewees identified mental health issues among children and families as a growing concern in Peabody; they stated that depression, anxiety, and ADHD are becoming more prevalent among children and youth, and are increasingly affecting younger children. Challenges with emotional regulation were noted among students, attributed in part to the *"plugged in"* culture. The rise in mental health issues and substance use within families was also seen as contributing to rising rates of childhood trauma. One interviewee noted that depression among parents of children with disabilities is common. Lack of mental health providers in Peabody, stigma, and lack of understanding about mental health and what is *"normal"* child behavior were all seen as factors that have made addressing the community's mental health challenges more difficult. Interviewees saw a need for more behavioral health services in the community, better coordination between mental health providers and primary care providers, as well as more support and education for parents about healthy child development and mental health disorders.

Substance Use

Substance use was also seen as a substantial and growing concern in Peabody. Interviewees noted a rise in use of opioids and benzodiapezene; a couple of interviewees mentioned a recent fentanyl overdose at the high school. According to vital statistics, opioid-related deaths in Peabody more than tripled from 3 deaths in 2012 to 11 deaths in 2016 while in Lynn it doubled from 23 to 49 deaths over that time

> *"A lot of children are affected by opioid use disorder – there's a lot of experimentation."*
> - Interviewee

period. Those working with students also expressed concern about the large number of students who vape and regularly use marijuana. Data indicate that in 2015 Peabody and Lynn had higher youth tobacco retail density rates (6.5 and 6.2 retailers per 1,000 individuals under 18 years, respectively) than Massachusetts overall (5.5 retailers per 1,000 individuals under 18 years).[xv] Interviewees noted that Boston Children's Adolescent Substance Abuse Program and the Healthy Peabody Collaborative have been working to educate about substance use; yet, they saw a need for more education of parents, children and youth about the risks of substance use.

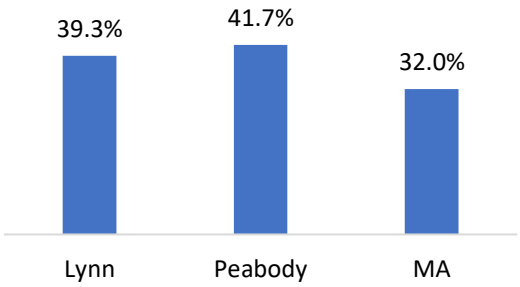
Access to Care

Numerous interviewees reported that accessing appropriate healthcare is challenging for some Peabody residents, specifically youth and families with children who have developmental disabilities. Interviewees saw school-based health centers as an effective and convenient way to address pediatric health needs; however, they indicated better coordination is needed between school-based health centers and primary care providers. Interviewees also described a need for more confidential reproductive health services and prevention education for children and youth. Another interviewee reported that families with children who have developmental disorders also face challenges accessing healthcare and need more services, including: support navigating health insurance, health providers who understand Autism Spectrum Disorder with no Intellectual Disability and the developmentally delayed population, and better care coordination. Interviewees also recommended more support services to help transitional youth (ages 18-25) with complex issues such as guardianship and coordinating care. Additional suggestions to improve access and quality of care included more holistic care such as mindfulness training and mind/body workshops. Noting that parents are often effective resources for each other, a couple of interviewees suggested more support groups for parents of teenagers and families with different diagnoses (e.g., autism).

Obesity and Diabetes

Several interviewees mentioned concerns about rising obesity among children and youth in Peabody; quantitative data indicate that a higher proportion of children in Peabody (41.7%) and Lynn (39.3%) are overweight or obese compared to the state (32%) (Figure 88). Closely related to this were concerns about type 2 diabetes among children and youth in the community. Lack of access to healthy foods, poor eating habits, and lack of recreational opportunities were seen as factors contributing to obesity. Additionally, one interviewee noted that medications taken by children with developmental disorders or mental health issues can cause weight gain. Interviewees saw a need for more educational programming around nutrition and more recreational programs—in and out of school—to address this health issue.

Figure 88. Percent of Overweight or Obese Students (Grades 1, 4, 7, 10), 2014-2015



DATA SOURCE: Body Mass Index Screening in Massachusetts Public School Districts, Massachusetts Department of Elementary and Secondary Education 2015 (2017, May).

Other Health Needs

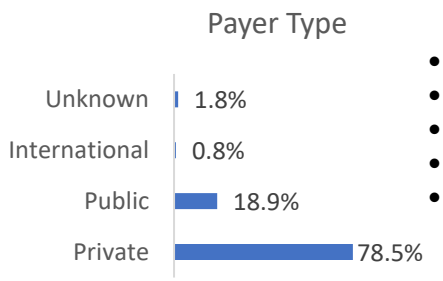
One interviewee reported that the number of children with asthma in the community appears to be increasing, noting that a growing number of students are now using their inhalers daily in school, rather than just for sports.

SATELLITE LOCATION: WALTHAM

Background

Through its five satellite locations, Boston Children's Hospital reaches additional patients with pediatric specialties and services. In Waltham, slightly over 10% of clinic patients come from Waltham and surrounding towns.

Waltham Clinic Patient Profile



Residence (Top Five)

- Newton 2.8%
- Waltham 2.4%
- Needham 2.2%
- Framingham 1.7%
- Lexington 1.7%

Total Patients January 2016 and August 2019: 177,113

DATA SOURCE: Boston Children's Hospital, August 2019

Methods

In addition to secondary data from public sources and encounter data, for the Waltham summary, Boston Children's staff interviewed five stakeholders including one satellite location staff and staff from three community-based early childhood and youth serving organizations. It is important to note that perspectives shared in this summary reflect both perceived needs of community residents and those of the wide range of patients served by the Waltham clinic.

Community Social, Economic and Physical Context

Health is influenced by upstream factors. Where we are born, grow, live, work and age and the relationships among these factors are critical to consider when assessing community health needs.

Waltham was described by interviewees as a very diverse and vibrant community. Hispanic residents comprise about 14% of population, followed Asian residents (12%), and Black residents (6%) (Table 26). Waltham's diversity is seen as a substantial strength, although interviewees reported that incidents of racism have increased in recent years. According to interviewees, immigrants in the community face additional challenges in the current political environment, which has led to their reluctance to seek out services, including health care.

Table 26. Racial and Ethnic Distribution, Waltham and MA, 2013-2017

	Waltham	MA
White alone	73.6%	80.8%
White alone, not Hispanic/Latino	65.5%	71.4%
Hispanic/Latino	13.9%	12.3%
Asian alone	12.0%	7.1%
Black/African American alone	6.4%	8.9%
American Indian and Alaska Native Alone	0.2%	0.5%
Other	7.8%	2.6%

DATA SOURCE: U.S. Census Bureau (2019, July)

Waltham is also economically diverse. Interviewees described active and generous local businesses and a community commitment to education. While median household income in Waltham is higher ($83,249) than statewide ($74,167), interviewees reported that the socioeconomic status of residents varies widely (Table 27). One interviewee described Waltham residents as ranging *"from richest of the rich to the poorest of the poor."* Another interviewee reported that there is also substantial segregation

in the community relative to background and class, which often leaves immigrant families isolated. Interviewees also shared that affordable housing is a challenge in Waltham as gentrification and demand for housing outside of Boston has led to high housing costs, as well as homelessness and overcrowding. According to quantitative data, while the proportion of renters in Waltham who are cost-burdened is lower than statewide, the proportion of owners who are cost-burdened (60.0%) more than double than that of the state (26.5%). According to interviewees, transportation and childcare are additional substantial challenges for low-income Waltham residents.

Table 27. Social Determinants of Health, Waltham and MA, 2013-2017

		Waltham	MA
Income	Median household income	$83,249	$74,167
	Poverty	9.8%	10.5%
Housing	Owner-Occupied households that are cost-burdened	60.0%	26.5%
	Renter-Occupied Households that are cost-burdened	32.0%	46.5%
Education	High school diploma or higher	91.0%	90.3%

DATA SOURCE: U.S. Census Bureau (2019, July). City of Waltham Planning Department (2015). City of Waltham DRAFT Consolidated Plan 2016-2020.

Community organizations were described by interviewees as a substantial strength in Waltham. Notably, local government and schools were praised by interviewees as were local organizations such as the Waltham Partnership for Youth and the Boys and Girls Club; the engagement of Brandeis University and the United Way in supporting the community was also noted.

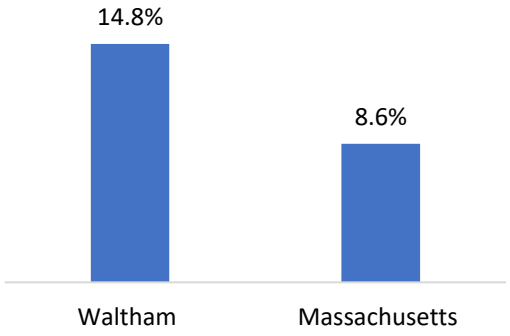
Community Health Needs

Community health needs were determined through secondary data sources like local community health needs assessments and interviews of staff and community members.

Mental Health

Interviewees identified mental health issues among children and youth as a substantial concern in Waltham, and a concern that cuts across all socioeconomic groups. They stated that depression, anxiety, stress, and anger issues are prevalent, contributing to self-harm and suicidality. As shown in Figure 89, a higher proportion of Waltham middle school youth (14.8%) than Massachusetts youth (8.6%) reported that they had ever seriously considered suicide. One interviewee attributed rising mental health needs to more community awareness that services are needed and treatment is helpful. Interviewees identified community challenges to addressing mental health concerns in Waltham, such lack of providers for children and youth - including bilingual providers, lack of coverage by some insurances, and few providers who take MassHealth. Stigma and denial were also considered substantial barriers to care. Interviewees reported that Waltham needs more mental health clinicians, especially those who are culturally and linguistically relevant, more psychiatric beds, and resources for community health centers, crisis teams, and others working on mental health issues. They also noted a need for more education and conversation about mental health issues in the community and schools to

Figure 89. Percent Middle School Youth Reporting Seriously Considering Suicide in the Past Year, 2017



DATA SOURCE: Waltham Partnership for Youth. (2018, August). Waltham Youth Behavior Risk Survey.

address stigma, and more support for young people through mentoring programs, such as the *Minding Your Mind* program offered by the Boys and Girls Club.

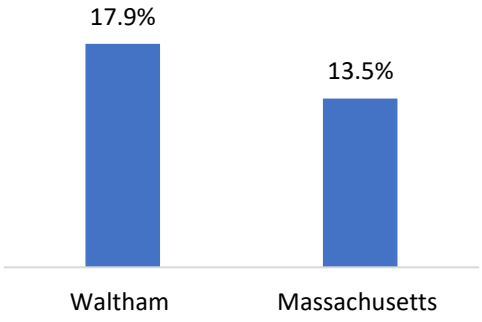
Developmental Delays/Special Needs

Interviewees also observed a growing number of children with speech and developmental delays and autism spectrum disorders. This has been especially challenging, interviewees reported, for bilingual children as schools, health and government services are less equipped to address their needs. To better serve children and families in the community with special needs, interviewees suggested more school-based services and additional services such as speech therapy for young children, Applied Behavior Analysis services, and In Home Therapy.

Substance Use

Interviewees reported that substance use is of substantial concern in Waltham, particularly alcohol and opioid use. Quantitative data indicate that a higher proportion of Waltham students (17.9%) reported ever drinking alcohol in 2017 than students statewide (13.5%) (). Easy access to alcohol in the community was noted. Interviewees shared that vaping has emerged as a substantial concern, as has marijuana use. As one interviewee described, *"kids went from vaping is 'goofy' and 'weird' and now everyone does it."* Data indicate that in 2015 Waltham had a higher youth tobacco retail density rate (9.7 retailers per 1,000 individuals under 18 years) than Massachusetts overall (5.5 retailers per 1,000 individuals under 18 years). As with mental health, lack of providers and stigma are seen as barriers to treatment for substance use issues. Interviewees shared some recent community education efforts to raise awareness of substance use, such as the *Not on our Watch* effort to educate about prescription drugs and alcohol and prevention efforts led by youth-led groups such as the Trailblazers. According to interviewees, more services and education are needed, especially about the dangers of marijuana use and vaping.

Figure 90. Percent Boston Middle School Youth Reporting Ever Drinking Alcohol, 2017

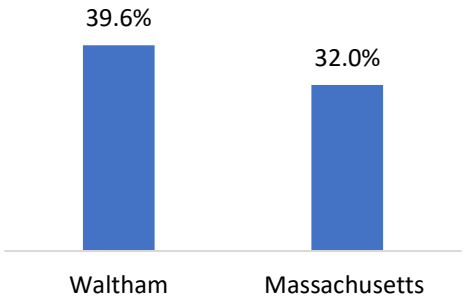


DATA SOURCE: Waltham Partnership for Youth. (2018, August 6). Waltham Youth Behavior Risk Survey.

Obesity

Obesity was also identified as a concern in Waltham. Quantitative data show that a higher proportion of students in Waltham (39.6%) are overweight or obese, compared to the statewide (32.0%) (Figure 91). Interviewees cited availability of fast food, consumption of high-sugar food and drinks, and the expense of healthier options as factors that contribute to obesity in the community; a sedentary lifestyle reinforced through extensive use of media was also cited. YRBS data indicate that 56% of middle school youth in Waltham reported that they spent three or more hours on an average school day using technology for activities that were not school-related, compared to 33.5% of Massachusetts middle schoolers. Interviewees cited a need for more education about the health impacts of eating choices and how to eat healthy.

Figure 91. Percent of Overweight or Obese Students (Grades 1, 4, 7, 10), 2014-2015



DATA SOURCE: Massachusetts Department of Elementary and Secondary Education 2015 (2017, May).

Access to Care

> *"Families are afraid of accepting different services because they're not sure if it'll impact their immigration status."*
>
> - Interviewee

Interviewees reported several barriers to accessing health care for Waltham's most vulnerable residents. Transportation was mentioned as a challenge, one that affects not only access to health care but also access to activities and products that support healthy lifestyles. Immigrants, who have traditionally faced financial, transportation and linguistic barriers to care, now face challenges due to immigration status, which has resulted in fewer seeking care. Cost barriers such as co-pays and deductibles, and expensive medications and dental care were also reported by interviewees. While many families have MassHealth, understanding coverage was reported to be difficult. Interviewees cited a need for more culturally and linguistically competent care as well as better referral and care coordination among organizations working with the most vulnerable residents of Waltham. They also shared that greater partnership between Boston Children's Waltham and local community organizations would be beneficial.

SATELLITE LOCATION: WEYMOUTH

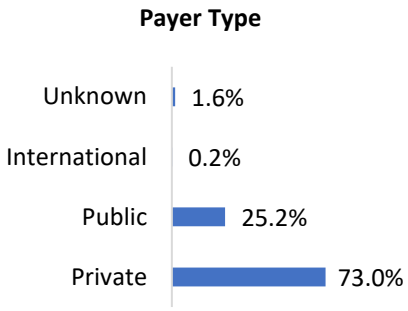
Background

Through its five satellite locations, Boston Children's Hospital reaches additional patients with pediatric specialties and services. In Weymouth, about 23% of clinic patients come from Weymouth and surrounding towns.

Methods

In addition to secondary data from public sources and encounter data, for the Weymouth summary, a social worker from the clinic was interviewed. It is important to note that perspectives shared in this summary reflect both perceived needs of community residents and those of the wide range of patients served by the Weymouth clinic.

Weymouth Clinic Patient Profile



Residence (Top Five)

- Quincy 5.4%
- Braintree 4.6%
- Brockton 4.4%
- Plymouth 4.3%
- Weymouth 4.0%

Total Patients January 2016 and August 2019: 50,075

DATA SOURCE: Boston Children's Hospital, August 2019

Community Social, Economic and Physical Context

Health is influenced by upstream factors. Where we are born, grow, live, work and age and the relationships among these factors are critical to consider when assessing community health needs.

Weymouth is less racially and ethnically diverse than the state overall; about 84% of residents identify as non-Hispanic White (Table 28). Asian residents comprise about 7% of the community. The community has a smaller proportion of Latino and Black residents than statewide. The interviewee noted that the community has a large Cape Verdean population that was seen as largely underserved.

Median household income in Weymouth is about the same as the state overall ($75,892 and $74,167, respectively), while the proportion of residents in poverty is lower than that of the state (6.6% and 10.5%, respectively) (Table 29). However, the interviewee described the community as *"economically challenged"* largely because of high housing costs; quantitative data indicate that the cost

Table 28. Racial and Ethnic Distribution, Weymouth and MA, 2013-2017

	Weymouth	MA
White alone	86%	80.8%
White alone, not Hispanic/Latino	83.9%	71.4%
Hispanic/Latino	3.3%	12.3%
Asian alone	6.9%	7.1%
Black/African American alone	5.1%	8.9%
American Indian and Alaska Native Alone	0.1%	0.5%
Other	1.9%	2.6%

DATA SOURCE: U.S. Census Bureau (2019, July)

Table 29. Social Determinants of Health, Weymouth and MA, 2013-2017

		Weymouth	MA
Income	Median household income	$75,892	$74,167
	Poverty	6.6%	10.5%
Housing	Owner-Occupied households that are cost-burdened	31.0%	26.5%
	Renter-Occupied Households that are cost-burdened	44.0%	46.5%
Education	High school diploma or higher	93.4%	90.3%

DATA SOURCE: U.S. Census Bureau (2019, July). RKG Associates Inc. (2018). Town of Weymouth Housing Production Plan

burden of renters in Weymouth is slightly lower than statewide, while the burden for owners is higher. As this interviewee explained, *"more money going towards housing trickles down to not being able to access a lot of other services such as healthy food and recreation."*

Community Health Needs

Community health needs were determined through secondary data sources like local community health needs assessments and interviews of staff.

Substance Use

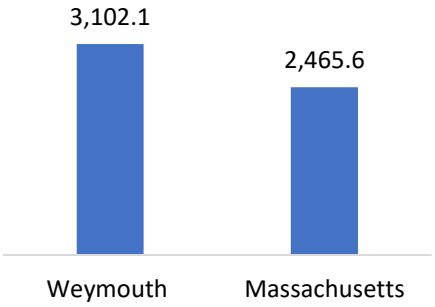
> *"As more and more kids vape, that'll be a problem. This is hidden and this is also true for marijuana."*
> - Interviewee

As in many communities, substance use—particularly opioids and alcohol—is affecting residents in Weymouth. The interviewee noted that this is touching families across generations as grandparents and great grandparents are increasingly called on to care for children because of parents' substance use disorders. The interviewee suggested more was needed to support older residents caring for their grandchildren as well as more staffing at Department of Children and Families (Braintree) to support families in need. Substance use among youth was also mentioned as concerning: alcohol was reported as a persistent problem and increased use of marijuana and electronic cigarettes among youth in the community was also noted. Data indicate that in 2015 Weymouth had a higher youth tobacco retail density rate (8.3 retailers per 1,000 individuals under 18 years) than Massachusetts (5.5 retailers per 1,000 individuals under 18 years).[xvi]

Mental Health

Quantitative data indicate that in 2014, Weymouth had a higher number of ED visits for mental health (3,102.1 visits per 100,000 population) than the state overall (2,465.6 visits per 100,000 population) (Figure 92). Concerns about mental health issues in the community were also noted by the interviewee who stated that there has been an increase in behavioral issues among adolescents. While organizations such as ASPIRE provide mental health support, more services were seen as needed, especially child psychiatry services and mental health providers who will accept MassHealth.

Figure 92. Mental Health ED Visits (age-adjusted rate per 100,000 population), 2014



DATA SOURCE: Massachusetts Department of Public Health, Population Health Information Tool, 2014.

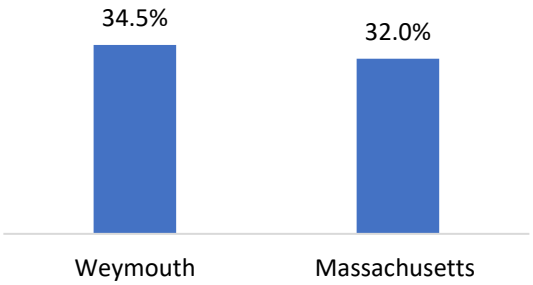
Developmental delays/special needs

Autism, developmental delays and learning disabilities were also noted as concerns for Weymouth families by the interviewee who observed that the number of children and youth with multiple special needs is increasing and getting services is difficult. Families whose children require additional assistance face substantial challenges according to the interviewee, including getting the right IEP at school, limited access to Applied Behavior Analysis, and limited coverage by MassHealth. According to the interviewee, lack of sufficient services also means wait lists and substantial delays in accessing needed services for children with neuropsychiatric development issues.

Obesity

An increase in obesity over the last several years was noted by the interviewee. This was supported by quantitative data that show that the proportion of overweight or obese children and youth in Weymouth in 2014-2015 (34.5%) is higher than statewide (32.0%) (Figure 93). The interviewee reported that the Weymouth clinic is receiving more referrals for diabetes management services, both Type I and II, which has led the clinic to hire a new diabetes social worker to address demand. Access to healthy foods through grocery stores and farmer's markets was reported to have increased in recent years, yet access was considered limited for some families as were recreational opportunities and green space, which varies across Weymouth neighborhoods. Additionally, heavy use of media was seen as a contributor to poor nutrition and sedentary habits. The interviewee saw a need for expansion of healthy food distribution programs; Fair Foods, a local non-profit, was specifically mentioned.

Figure 93. Percent Youth Reporting Obesity or Overweight (Grades 1, 4, 7, 10), 2014-2015



DATA SOURCE: Weymouth: Body Mass Index Screening in Massachusetts Public School Districts, Massachusetts Department of Elementary and Secondary Education 2015 (2017, May).

Asthma

Asthma was identified as health issue in Weymouth as well; the interviewee noted that poor quality housing contributes to asthma issues among babies, children, and youth. For the 2016-2017 school year, the MDPH Pediatric Asthma Surveillance Program reported that in Weymouth the prevalence of asthma is 11.4% among students in grades K-8, compared to 12.1% statewide. According to the interviewee, it has recently been particularly challenging to get landlords to take remedial steps to decrease environmental household triggers; more programming in this area, including by the housing authority, was suggested.

Access to Care

Transportation barriers were reported as a challenge for some Weymouth families, affecting their ability to access health services. Additionally, it was suggested that having a position for satellite social workers to float would help to provide coverage during vacation and greatly improve access.

KEY THEMES AND CONCLUSIONS

Through a review of secondary data, a community survey, and key informant and focus group data collected as part of the larger Boston CHNA process, this assessment report describes the social and economic context of Boston Children's priority neighborhoods, key health issues and concerns, and perceptions of assets and opportunities for addressing current needs and gaps. The data indicate that Boston Children's current priority areas – obesity, asthma, mental health and substance use, early childhood and access to care – continue to remain areas of high concern for community residents and other stakeholders.

Several overarching themes and conclusions emerged from this synthesis:

- **Boston is a young and diverse city, and one that continues to experience population growth across all neighborhoods, including Boston Children's priority communities.** About 20% of Boston's residents are 19 years old or younger, with about 5% under 5 years old. Roxbury has the largest proportion of children and teenagers among the priority neighborhoods. Boston also has substantial racial, ethnic and language diversity, with greater diversity among younger residents; furthermore, the city experienced an 8% increase in population over the past decade, with greater growth among people of color. The city's wide-ranging diversity presents challenges when delivering health and social services that aim to meet the multitude of needs across the city.

- **Boston has a well-educated population although opportunities and outcomes differ across groups.** Nearly half of Boston adults hold a college degree or higher, although the proportion of Asian and White residents who are well-educated is substantially higher than residents who are Black or Latino. High school graduation rates are higher among Asian and White youth than among Latino or Black students. Addressing issues of educational equity across Boston neighborhoods and the needs of specific population groups—including those with special needs, undocumented students, and those who have experienced trauma—were seen as needing more attention.

- **There are substantial differences in financial security across Boston neighborhoods and racial and ethnic groups, factors that affect the overall well-being of children and families.** The median household income in Boston is $62,021, yet ranges from $27,964 in Dorchester to $170,152 in South Boston. In Dorchester and Roxbury, over one in four families live below the federal poverty level. Boston CHNA survey respondents identified saving money as their most common financial challenge. Focus group and interview participants discussed the challenges of making ends meet and affording those goods and services that promote good health.

- **Lack of affordable housing emerged as a particular challenge for children and families.** As noted in the 2016 CHNA, the high cost of housing is a substantial challenge for Boston residents, particularly those most vulnerable. Of all social determinants identified as imperative to health and well-being, housing stability emerged as a top priority among focus group members, interviewees, and Boston CHNA survey respondents. More than half of those in renter-occupied units across the city are housing cost-burdened, meaning they spend more than 30% of their income on housing. Additionally, about one-third of homeless households in Boston have at least one child. Residents frequently discussed issues of gentrification, long wait lists for Section 8 housing, housing discrimination, overcrowding, and poor housing quality as consequences of a tight and expensive housing market.

- **Behavioral health, specifically mental health and drug addiction among young people are growing concerns among residents, especially opioids, prescription medication, and marijuana use**. Co-occurring mental health and substance use issues were frequently discussed among key informants, as well as the interrelationship between trauma, mental health, and substance use. Among youth CHNA survey respondents, alcohol/drug use, followed by smoking, was identified as the highest community concern. Use of alcohol and tobacco among Boston youth has declined over time; however, focus group and interview participants expressed concern about rising rates of vaping and marijuana use among young people. Quantitative data show that about one-third of Boston high school youth report persistent sadness and this rate has risen over time. A need for expanded mental health services as well as broader trauma-informed programs for youth was identified.

- **Chronic disease, including asthma and obesity, remain a concern for children and families.** As in 2016, obesity and asthma continue to be top health concerns in the community. One in four BPS students are overweight or obese. YRBS data indicate low rates of fruit and vegetable consumption and regular physical activity among Boston high school youth. Access to healthy food was described as a concern in some Boston neighborhoods, including Jamaica Plain, portions of Roxbury, and Dorchester. Food security likewise is a concern, especially among those with children under age 18. Participants described a need for programs and services at multiple levels, from providing health education to addressing safety concerns that may be a barrier to physical activity. One in four Boston high school youth reported an asthma diagnosis; emergency department data indicate that asthma is of concern in Boston, with highest rates among 3-5 year-olds and significantly higher rates of visits among Black and Latino children and youth than White across all age groups.

- **Violence-based trauma was identified as a major factor of negative community health outcomes, and there is a need for more trauma-informed approaches to care, particularly for children and communities of color.** One in four Boston CHNA community survey respondents described their neighborhoods as unsafe or extremely unsafe, with Black and Latino respondents more likely to describe their communities this way. The proportion of Boston high school youth reporting that they have been in a physical fight or have been bullied on school grounds has declined over time, while the proportion reporting that they have been bullied electronically has remained steady. Exposure of children and youth to unhealthy relationships and violence (adverse childhood experiences) is also of concern and focus group and interview participants saw a need to integrate more trauma-informed care in health services and early childhood education.

- **Boston's birth rates have declined over time, while the proportion of babies both low birth weight or preterm has remained steady.** Rates of low birth weight and preterm births were significantly higher among Black and Latino mothers, compared to White mothers. About 83% of Boston women received adequate or adequate plus prenatal care and rates have increased over time, rates of access to prenatal care are lower among Asian, Black, and Latino women compared to White women. Accessing affordable childcare is a challenge for families with young children.

- **Boston has many health care and social service assets that can be leveraged, but access to those services is a challenge for some residents**. Proximity of health care services and education institutions, diversity and multiculturalism, and engaged residents were noted as key strengths among Bostonians that can be leveraged in future planning. Barriers to care were multifaceted and included underinsurance, language and immigration status, navigation and care coordination challenges, transportation, and lack of culturally-sensitive approaches to care.

PRIORITY HEALTH NEEDS OF THE COMMUNTY

Boston Children's Office of Community Health staff cross-walked the needs identified through the needs assessment with (1) input from Boston Children's Community Advisory Board (CAB), (2) input from stakeholders and residents during a community meeting, and (3) alignment with the Boston CHNA-CHIP priority areas. This section describes the process and outcomes of the Boston Children's needs assessment prioritization process.

Needs identified though the Boston Children's CHNA (*Cross-cutting inequities)***:**

- Education
- Financial security
- Affordable housing
- Behavioral health: mental health and substance misuse
- Chronic disease: asthma and obesity
- Violence-based trauma
- Birth outcomes: low birth weight, preterm births
- Access to care: including prenatal care and child care

Given BCH's focus on children and families, the prioritization process was particularly informed by the community health concerns identified among Boston CHNA survey respondents with children under 18 and respondents under 18:

- Housing quality or affordability
- Alcohol/drug abuse
- Mental health
- Community violence
- Obesity
- Employment/job opportunities
- Smoking

The top four concerns among all respondents and respondents with children under 18 were the same: housing quality and affordability, alcohol/drug abuse, mental health, and community violence. Parents or caregivers of children under age 18 identified obesity as a top five health concern. While housing, mental health, and substance abuse were also top five concerns among youth, these respondents identified smoking and employment and job opportunities as two other top concerns.

Boston Children's Community Health Priorities

Informed by previous assessments, Boston Children's has typically focused on four primary areas of:

1. Asthma
2. Obesity
3. Mental and behavioral health
4. Early childhood/child development – foundational for preventing harmful behaviors in the future

These areas are affected by social determinants of health that BCH addresses through community partnerships, including: food, recreation, and physical activity, family housing stability, family economic

opportunity, access to health care and social support, community resource development, community trauma response, health education, and youth workforce development and engagement.

Boston CHNA-CHIP Priorities
During May-June 2019, an engagement process was undertaken through an online survey, small group discussions with residents and organizational staff across the city, and a large inclusive prioritization meeting to identify the priorities for collaborative action. The final priorities selected were:

1. Housing: Affordability, quality, homelessness, ownership, gentrification and displacement
2. Financial Security and Mobility: Jobs, income, employment, education and workforce training
3. Behavioral Health: Mental health and substance use
4. Accessing Services: Healthcare, childcare, and social services

There is substantial overlap between Boston CHNA-CHIP priorities and BCH's work, including: mental and behavioral health, family housing stability, family economic opportunity, and access to health care and social supports.

August 12th BCH Community Advisory Board (CAB) Meeting
On August 12, 2019, four members of the CAB participated in a facilitated conversation to provide input on the assessment and priorities, as well as prepare for the August 21st community meeting described below. Informed by the crosswalk exercise, Boston Children's Office of Community Health staff presented assessment findings, current priority areas, and areas of overlap with the Boston CHNA-CHIP priorities. Following this presentation, the CAB participated in a facilitated discussion focused on the following questions, while considering Boston Children's areas of focus in the last few years:

- Should we continue and deepen our work in these specific areas?
    - Which areas?
- Are there new areas of focus we should consider?
    - Which areas?
    - What areas of current work should we de-emphasize?

The result of this conversation was general consensus that BCH's current work should continue. There was also support for the meeting on August 21st focusing on community strengths and assets rather than details of the data.

August 21st Community Meeting
On August 21st, 2019, 52 stakeholders and residents participated in a community meeting to learn about the hospital's community health efforts and help define priorities for the future. Following a brief presentation, participants were invited to provide input on health needs and priorities through small group breakout discussions organized by the following topic areas:

- Family housing/homelessness
- Alcohol and substance use/health education
- Mental health
- Community violence/trauma response
- Youth workforce development
- Obesity/Food Security

Discussion questions included:

- What is working to address the topic(s)?

    - Locally and systemically
- Where should we focus our work in this area?
- Are there new ideas or solutions we can try?

Discussions were productive and provided clear and authentic feedback and strategies to address the topics. The initial members of the youth workforce development group dispersed to other groups based on their interests in other topics and a desire to include youth in those strategy discussions. A theme that came up across multiple groups included health education, both in regard to more comprehensive general health education in schools and communities, as well as specific education around mental health issues. In addition, the opportunity for capacity building, especially regarding cultural competency skills, was highlighted in several group discussions as a method to systemically change health outcomes. Other themes included: 1) the importance of collaboration across sectors and within communities (including in the faith-based sector) and 2) the need for more specialized supportive services based in communities.

Based on the aforementioned activities and after further definition and refinement, Boston Children's identified the following priority areas for its 2019-2021 implementation strategy:

1. Family housing stability and affordability
2. Mental/behavioral health and trauma
3. Youth engagement, workforce development, and promoting healthy living
4. Chronic disease: asthma and obesity/food security
5. Early childhood/Child development

APPENDIX A. BOSTON CHILDREN'S HOSPITAL 2016-2018 REVIEW OF INITIATIVES

Programs listed in Implementation Strategy	Description of Activity, Service and/or Program (e.g., collaborations, partnerships, successes, etc.)	Impact: Number of Individuals Served, goals achieved etc.		
		FY 2016	FY 2017	FY 2018
Priority Area: Obesity				
Fitness in the City (FIC)	A community-based approach to weight management and reducing health disparities at 11 Boston-based community health centers including Boston Children's at Martha Eliot Health Center. Provides case management support and nutrition/physical activity resources to overweight/obese pediatric patients. Program continues to evolve with greater focus on prevention and family engagement.	1) Completed 1,112 intakes, 476 3-month follow-up visits, 445 6-month follow-ups and 377 12-month follow-ups. 2) 59.2% of children decreased their BMI over the year. 3) Positive health behavior changes measured after involvement in program including increased exercise and fruit/vegetable intake, and decreased screen time, fast food consumption and soda/juice intake.	1) Completed 991 intakes, 498 3-month follow-up visits, 486 6-month follow-ups and 475 12-month follow-ups. 2) 60.8% of children decreased their BMI over the year. 3) Positive health behavior changes measured after involvement in program including increased exercise and fruit/vegetable intake, and decreased screen time, fast food consumption and soda/juice intake.	1) Completed 701 intakes, 357 3-month follow-up visits, 334 6-month follow-ups and 402 12-month follow-ups. 2) 65.1% of children decreased their BMI over the year. 3) Positive health behavior changes measured after involvement in program including increased exercise and fruit/vegetable intake, and decreased screen time, fast food consumption and soda/juice intake. 4) Conducted 20 key informant interviews to evaluate program implementation and best practices.
Kohl's Healthy Family Fun Program	Promotes fun and family-oriented activities and neighborhood resources that make it easier for families to be active. Boston Children's has been collaborating with the Boston Public Schools to implement Healthy Family Fun events at selected schools.	1) Ongoing development of website and Facebook page. Health and Wellness Guide made available for families in Boston Public Schools and in the community. 2) 30 schools selected as Healthy Family Fun sites and held 30 events.	1) Website and Facebook page are ongoing. Completed collaboration with BPS. 2) 30 school sites participated in the Kohl's Healthy Family Fun Program.	1) Implemented learning opportunities (cooking classes) about nutrition and how to prepare healthy meals. 2) Encouraged community engagement/public awareness about positive health messages and role models. 3) Supported children and families by providing resources and referrals.

The New Balance Foundation Optimal Weight for Life on the Road Program	The New Balance Foundation Optimal Weight for Life on the Road (OOTR) Program provides a multi-disciplinary group-based approach to the evaluation and management of children who are overweight or obese.	1) In FY2016, 31 participants enrolled, average attendance rate 90% and 80% of children demonstrated reduction in BMI. All patients reduced consumption of sugar-sweetened beverages, 90% of patients surveyed began eating breakfast more frequently. 2) Completed assessing service delivery and make program modifications to improve care and health outcomes 3) Completed bringing education and expertise on obesity related medical and behavioral issues to the health center practitioners and community population. 4) Achieved bringing free clinic services to a population that may not be able to access these services otherwise.		
Collaboration for Community Health Community Physical Activity, Recreation and Food Access Initiative	The initiative will provide 3 years of grant funding to organizations, coalitions or agencies undertaking projects that a) increase opportunities for children's participation and engagement in physical activity or recreation and b) increase access to, and consumption of, healthy and nutritious foods.	The initiative launched in 2018 with ten funded partners implementing projects to increase access to physical activity and consumption of healthy and nutritious foods. These projects work across greater Boston with efforts to make positive impact in the areas of policy, systems and environmental change.		
Healthy Kids, Healthy Futures (HKHF)	HKHF is a partnership between Boston Children's and Northeastern University. It is a community-based, early childhood initiative that works to alter the preschool and community environments to make it easier for children, families and early childcare staff to eat more healthful foods and be physically active.In2017 HKHF phased into the Family Gym adding Boston Centers for Youth and Families to the partnership and focusing on obesity by supporting health-promoting environments where young	1) Continued Head Start teacher training on healthy habits 2) Completed analysis of data from Farm to Family pilot study and disseminated to key stakeholders. 3) 382 children and caregivers participated in Family Gym.	1) In Spring 2017, 310 children and caregivers participated in Family Gym across 3 sites. 2) In Fall 2017, 240 children and caregivers participated in Family Gym.	1) In Spring 2018, 284 children and caregivers participated in Family Gym across three sites. 65 of these families are returners. 2) In Fall 2018, 285 children and caregivers participated. 58 of these families are returners.

	children learn (preschool) and play (community)			
Priority Area: Asthma				
Community Asthma Initiative (CAI)	CAI is a program providing support services such as case-management, home visits and advocacy efforts to children and families with high-risk or uncontrolled asthma.	1) Provided education and training for 68 community meetings, 2 community events, and 57 trainings/talks, and 20 insurance/policy meetings. 2) 169 new patients, 101 completed at least one home visit; 190 visits total. 3) Reduced percent of patients with any hospitalizations by 80% and any emergency department visits by 58%.	1) Provided education and training for 93 community meetings, 2 community events, and 55 trainings/talks, and 20 insurance/policy meetings. 2) 177 new patients, 110 completed at least one home visit; 277 visits total. 3) Reduced percent of patients with any hospitalizations by 81% and any emergency department visits by 57%.	1) Provided education and training for 56 community meetings, 6 community events, 71 trainings/talks, and 16 insurance/policy meetings. 2) 163 new patients, 91 completing at least one home visit; 185 visits total. 3) percent of patients with any hospitalizations by 81% and any emergency department visits by 56%.
Primary Care Asthma Program	The Children's Hospital Primary Care asthma program utilizes a chronic disease management framework to provide comprehensive, population-based asthma care. The integrated multidisciplinary team provides an innovative approach to health care delivery that maximizes quality, supports increased patient knowledge of disease self-management, improve patient engagement and enhance care coordination across the health system and communities in which patients live. The asthma program provides services to over 3000 patients with asthma, who also	The asthma team has implemented several key initiatives to care for patient families. These included: **Preventative Management:** Developed and implemented clinic-wide standardized preventative asthma visit care plan for all patients with asthma. **Enhanced Patient Identification/Tracking:** The hospital-wide asthma registry is utilized to monitor the population of asthma patients (3000). **Care Coordination/Case Management**: Inter-visit nursing telephone calls were implemented by the team's certified nurse educator to patients with low ACT scores (<19) as identified at office visits. The model is being disseminated across the primary care asthma sites at Boston Children's Hospital. Additionally, the team has developed relationships with clinical leaders at four Boston Community Health Centers to support the implementation and integration of new innovative strategies for asthma care across their clinics. The asthma program is also engaged with the Boston Health Commission and the Boston Public Schools leadership to support and further develop collaborative asthma initiatives and outreach across the city of Boston.		

	receive their primary care services at Boston Children's Hospital.			
Priority Area: Mental and Behavioral Health				
Boston Children's Hospital Neighborhood Partnerships Program (BCHNP)	BCHNP places clinicians in Boston area schools and CHCs to provide an array of mental health services. BCHNP also is partnering on the design and implementation of a district-wide behavioral health plan for Boston Public Schools (BPS). *SEL- social-emotional learning	1) Provided > 876 hours of training and consultation to school staff and families. Provided 20 social, emotional and behavioral health workshops. 2) Clinicians intervened in 204 crisis situations with a wait time of ~5.3 minutes. Provided behavioral health services to >1,400 students. 3) Provided depression awareness curriculum to 12,774 youth. Provided 850 BPS students with classroom interventions focused on SEL and community building. 4) Continued ongoing partnership with the BPS to strengthen the Comprehensive Behavioral Health Model, adding 10 schools. Launched the Training and Access Project (TAP) with 5 schools.	1) Provided 1,191 hours of consultation to school staff and families. Provided 20 social, emotional and behavioral health workshops. 2) Clinicians intervened in 268 crisis situations with a wait time of ~7 minutes and provided care coordination services to 144 students. Provided behavioral health services to 1,034 students. 3) Provided >700 BPS students with classroom interventions focused on SEL and community building. 4) Continued ongoing partnership with BPS to strengthen the Comprehensive Behavioral Health Model, adding 10 schools. Added 5 schools to BCHNP TAP (10 schools in total). 5) Average satisfaction ratings across all stakeholders and services were >80%.	1) Provided 1500 hours of consultation to school staff and families. Provided 40 social, emotional and behavioral health workshops. 2) Clinicians intervened in 178 crisis situations with a wait time of ~6 minutes, and provided behavioral health services to 1,051 students. 3) Provided 25 BPS students with classroom interventions focused on SEL and community building. 4) Continued ongoing partnership with the BPS to strengthen the Comprehensive Behavioral Health Model, adding 10 schools. Added 5 schools to BCHNP TAP(15 schools in total). 5) Average satisfaction ratings across all stakeholders and services were >80%.
Collaboration for Community Health Mental Health and Youth Supports	This funding opportunity will provide three years of grant funding to schools, organizations, coalitions, or agencies undertaking projects three strategic areas that increase access and engagement with	The initiative launched in 2018 with eleven funded partners implementing projects that 1) improve access to mental health assessment and treatment;2) develop models to expand and diversify the mental health workforce and advance knowledge in this area; and 3) increase the engagement of underserved young people in experiences that support their development as learners and leaders. These projects work across greater Boston with efforts to make a positive impact in the areas of policy, systems and environmental change.		

	mental health services for children and youth.			
Priority Area: Violence and Trauma				
Child Protection Program/Services	The Child Protection Program (CPP) provides clinical, advocacy, teaching and consultation services to clinicians working with families affected by interpersonal violence and/ or child maltreatment. The Foster Care Clinic offers developmental and behavioral screening, medical assessment, dental screening, psychosocial assessment and referrals to children newly entering foster care.	1) 193 referrals made to AWAKE. 76 new clients served. 2) 19 children received follow up skeletal surveys post discharge from the hospital. Triage of 68 new cases of possible sexual and/or physical abuse was provided in FY16. 3) 59 Foster Care Clinic intakes completed during this time period.	1) 238 referrals made to AWAKE. 92 clients served, 24 referred to Legal Clinic 2) 27 children received follow up skeletal surveys post discharge from the hospital. Triage of 59 new cases of possible sexual and/or physical abuse was provided in FY16. 3) 71 Foster Care Clinic intakes completed during this time period.	1) 275 referrals made to AWAKE. 100 clients served, 20 referred to Legal Clinic 2) 21 children received follow up skeletal surveys post discharge from the hospital. Triage of 50 new cases of possible sexual and/or physical abuse was provided in FY16. 3) 52 Foster Care Clinic intakes completed during this time period.
Collaboration for Community Health Community Trauma Response Initiative	This funding opportunity will provide 3 years of grant funding to schools, community health centers, community-based organizations, coalitions, or agencies undertaking projects that address children and adolescent exposure to trauma and traumatic events.	The initiative launched in 2018 with four funded partners implementing projects to address child and adolescent exposure to trauma and traumatic events. Projects will serve underserved children and adolescents including children of color, children of low-income background, and children of immigrant or refuge backgrounds. These projects work across greater Boston with efforts to make positive impact in the areas of policy, systems and environmental change.		
Neighborhood Trauma Team (BPHC)	Support the Boston Public Health Commission to establish Neighborhood Trauma Teams in at-risk communities	Boston Children's Hospital's funding, along with funds from the City of Boston and Brigham and Women's Hospital, supports six neighborhood-based trauma teams to respond to violence in the community. Community Health Centers and Community Based Organizations provide teams of social workers, family and community advocates, and residents to respond to incidents meeting specific criteria in their catchment area (geographic neighborhood). Incidents include: homicide, suicide, domestic violence, unintentional injury and other trauma affecting large portions of the community.		
Priority Area: Early Childhood/ Child development				

Advocating Success for Kids (ASK)	ASK provides services for families with children experiencing school-functioning problems and learning delays. Services are focused on diverse, urban populations in community-based pediatric practices—Children's Hospital Primary Care and 2 Boston CHCs.	1) 482 children were seen in the ASK program. 143 within two community health centers. 2) Attended 82 school meetings and observed 10 patient classrooms to support schools and patients. 3) Training provided to 881 participants including medical providers, parents, volunteers and graduate education students.	1) 561 children were seen in the ASK program. 184 within two community health centers. 2) Attended 87 school meetings and observed 5 patient classrooms to support schools and patients. 3) Training provided to 642 participants including medical providers, parents, volunteers and graduate education students.	1) 777 children were seen in the ASK program. 308 within two community health centers. 2) Attended 80 school meetings and observed 5 patient classrooms to support schools and patients. 3) Training provided to 642 participants including medical providers, parents, volunteers and graduate education students.
Collaboration for Community Health 0-5 Child Health and Development Initiative	This funding opportunity will provide 3 years of grant funding to organizations that benefit the well-being of children birth to 5 years old, including training of early childhood educators, strengthening the quality of early education and increasing access to parenting resources and support services.	The initiative launched in 2018 with twelve funded partners implementing projects to address early childhood development and kindergarten readiness. The three focus areas of the projects are early childcare provider professional development, parenting education/family engagement, and systems changing supports. These projects work across greater Boston with efforts to make positive impact in the areas of policy, systems and environmental change.		
Priority Area: Access to Care				
10 Boston community health centers (CHCs)	Boston Children's supports Boston CHCs to: 1) build capacity to provide a full range of services providing an effective medical home for children; 2) provide pediatric services that address the most pressing health issues; and 3) demonstrate their value through effective assessment and reporting of quality outcomes.	1) Administered questionnaires to providers to identify what knowledge and resources they would like to improve delivery of health care services. 2) Continued to facilitate connections between health centers and local community organizations. 3) Increased ability of health centers to offer nutrition and physical activity resources. 4) 2 community health centers have been actively involved in developing a pediatric asthma	1) Began planning for a free continuing education and networking event available to all health care providers at Boston-based community health centers. 2) In collaboration with City agencies and Jamaica Plain-based health centers, strengthened a neighborhood trauma team to support Jamaica Plain residents affected by violence. 3) Continued to connect health centers with local nutrition and	1) Launched the Community Health Learning Series, a free continuing education series on primary care topics and a networking space for community health center nurses and providers. Attended by 13 providers representing 8 organizations. 2) In collaboration with City agencies and Jamaica Plain-based health centers, strengthened a neighborhood trauma team to support Jamaica Plain residents affected by violence. 3) Continued to connect health

		population health management system. 2 additional health centers have been introduced to the process.	physical activity resources. 4) Continued to work with 4 community health centers to integrate pediatric asthma population health management systems into their clinical workflows. 5) Applied to Commonwealth Corps to bring resources to community health centers.	centers with local nutrition and physical activity resources. 4) Hosted a motivational interviewing workshop with 16 case managers attending from 7 CHCs. 5) Expanded the network of community health centers from 10 to 11.
Boston Children's at Adolescent Medicine - Boston HAPPENS	Boston HAPPENS (HIV Adolescent Provider & Peer Education Network for Services) provides accessible, confidential HIV, STD and Hepatitis screening, risk reduction counseling and supported referrals to adolescents and young adults.	1) Continued efforts to ensure prompt treatment and expanded partner treatment for youth with STIs. Collaborated with other youth-serving community partners. 2) Conducted outreach in schools and community spaces of high risk and homeless youth. Provided LGBTQ specific safer sex products and educational materials. 3) Provided medical case management to HIV+ clients and high-risk testing patients. 4) Offered PrEP counseling and referrals to all high-risk testing patients. In process of increasing staff and clinical provider education of risk reduction counseling and PrEP.		
Children's Hospital Primary Care Center (CHPCC) - Young Parents Program (YPP)	The Young Parents Program (YPP), a specialty clinic within Boston Children's Hospital's Primary Care Center, was launched in 1980 to provide comprehensive medical care, mental health services and advocacy to high risk, inner city teen parents and their young children through a teen-tot model. In addition to receiving primary care, all program participants receive individual health care education, mental health care, case management and referrals to community services.	1) 89% of children received all recommended immunizations by 24 months of age. Continued use of tracking system to ensure well-child checks are scheduled and completed. 2) 37% of mothers were utilizing LARC (long-acting reversible contraception). Continued to work closely with OB/GYN at the Brigham. 3) Implemented social work tracking system which assigns priorities to families based on level of risk and need. 4) 11.1% of mothers engaged in program became pregnant in the year following their child's birth, a decrease in 2% from prior year.	1) Continued use of tracking system to ensure well-child checks are scheduled and completed. Stopped collecting immunization data individually. 2) 37% of mothers are utilizing LARC. We continue to with family planning/OB partners at both Brigham and Women's Hospital and the Beth Israel Deaconess Medical Center. 3) The program was unable to collect accurate data on repeat pregnancies in 2017.	1) 45% of mothers are utilizing LARC (increase of 8% from the prior year). We have created a direct connection to the adolescent clinic to facilitate placement of LARC methods for women desiring these. We continue to with family planning/OB partners at both Brigham and Women's Hospital and the Beth Israel Deaconess Medical Center. 2) 16% of mothers engaged in the program became pregnant in the year following their child's birth, which represents a slight increase. We are continuing to work to reduce early repeat pregnancies, which are particularly high risk in some of our youngest mothers.
Priority Area: Health Education				

Asthma	Provide asthma education, workshops and resources for parents and families, summer camps, and health care providers	Asthma education trainings provide by nurse specialist: • 2 at BCYF • 1 at Dorchester YMCA • 1 at Boys and Girls Club Roxbury (15-20 attendees)	Conducted 4 asthma trainings for camp and child care staff at YMCAs and BCYF sites for 65 total attendees CAI conducted 1 workshop for families with asthma at Roxbury Tenants of Harvard with 20 participants, and attended one Roxbury Tenants of Harvard Health and Safety Committee meeting OCH hosted an asthma resource table at the Mattapan Health Care Revival	Co-presentation with the Community Asthma Initiative and Breathe Easy at Home for providers and staff at Mattapan Community Health Center on 2/28/19 Conducted 2 asthma, EpiPen, and allergy trainings for summer camp staff at the Dorchester Boys and Girls Club (7/1/19) and the BCYF Shelburne (6/27/19)
Professional Development for Community Health Centers	Plan and host continuing education and professional development opportunities to community health center providers and nurses to improve pediatric primary care.		May 19, 2018: Hosted the first Community Health Learning Series CME event for CHC providers with 13 attendees from 8 organizations. Topics included asthma care and management, and dermatology conditions commonly seen in primary care. Conducted 6 Visiting Specialist rounds at community health centers	December 2, 2018: Hosted the first Community Health Learning Series CEU event for community health center nurses with 36 attendees from 17 organizations. The session covered phone triage. May 11, 2019: Hosted the second Community Health Learning Series CME event for CHC providers with 23 attendees from 12 organizations. Topics included headaches, concussion, and common sports injuries of the knee.
Early Childhood and Development		1. Boston Basics Champions training for primary care providers on how to share the parenting toolkit with community partners, providers, and patients 2. ABCD Head Start teachers trained in Social Emotional Learning techniques through professional development series in April and August 2017 and 2017 3. 11/4/17: playgroup training at Fenway Community Center led by Christine Dumais 4. 11/7/17: ASK program led a workshop for parents of the Fenway Family Coalition on working with schools to support children with learning and developmental needs.		

Food and Nutrition	Continued to provide nutrition and physical activity resources to community health centers in the Fitness in the City program and community partners.	1. Conducted 4 large batch cooking classed for the Family Exchange with approximately 10-12 participants per class. 2. Led a quick, healthy meal demo for 13 residents at Roxbury Tenants of Harvard 3. Hosted a Motivational Interviewing workshop for 16 Fitness in the City case managers from 7 health centers		
Martha Eliot Health Center	Developed community engagement and program strategy particularly within their immediate neighborhood of the Mildred C. Hailey Apartments.(was Bromley Heath in 2013-15)	1. MEHC health and Safety Fair, approximately 300 participants 2. Continued collaboration with Fair Foods 3. 9/21/17, 9/28/17 UMass Extension nutrition education series at MEHC for 9-12 year olds, about 4-5 participants per session	4. MEHC health and Safety Fair, approximately 300 participants 5. Continued collaboration with Fair Foods 6. 10/5/17, 10/12/17, 11/2/18, 11/9/18 UMass Extension nutrition education series at MEHC for 9-12 year olds, about 4-5 participants per session 7. Offered Cooking Matters cooking classes to parents and families	8. MEHC health and Safety Fair, approximately 300 participants 9. Continued collaboration with Fair Foods 10. Offered Cooking Matters cooking classes to parents and families 11. Worked with BPHC's Mayor's Health Line to host 2 health insurance enrollment workshops at Martha Eliot Health Center (2/28/19 and 4/11/19)
Priority Area: Youth Development and Engagement				
COACH Summer Jobs Program	The COACH Summer Jobs Program is a Boston area, community-based youth summer jobs development program. The mission of the COACH program is to provide summer employment opportunities to enable youth to explore health careers, build a pipeline of diverse, qualified health professionals for the healthcare field, and to give youth a safe and meaningful way to spend the summer.	1) On-site college fair offered as well as financial aid and public speaking workshops. 2) 34 former COACH interns hired into permanent, per diem, temporary and internship positions. 3) 55 youth hired for summer jobs.	1) Several workshops were offered including a career panel, a college panel, college workshop, communication workshop, public speaking workshop, and new in 2017, a hands on medical simulation experience at BCH SimPEDS. 2) Hired 40 former COACH interns into permanent, per diem, temporary and internship positions. 3) 57 youth were hired for summer jobs.	1) Several workshops were offered including a career panel, a college panel, Excel skills workshop, advocacy workshop, public speaking workshop, community service project, and a hands on medical simulation experience at BCH SimPEDS. 2) Hired 46 former COACH interns into permanent, per diem, temporary and internship positions. 3) 7 college interns and 52 Boston youth were hired for summer jobs.
Center for Young Women's Health (CYWH)	The Center for Young Women's Health (CYWH) provides health educational materials to young women 9-22, their parents,	1) CYWH website reached >1.8 million unique visitors each month and provided >400 individual health guides.	1) CYWH website reached >1.8 million unique visitors/month and provided >400 individual health guides.	1) CYWH website reached >2.5 million unique visitors each month and provided > 400+ individual health guides.

	educators, and health care providers around the world via youngwomenshealth.org. The Boston Children's Hospital Youth Advisory Program employs 3 youth advisors from local high schools who complete a leadership training program and provide health presentations to youth in the community. In addition, the youth advisors host tables at local health fairs and provide print materials and health guides from youngwomenshealth.org.	2) 4 medical chats were held each month for teens/parents with endometriosis, PCOS, and MRKH. 3) Hosted 2 conferences for teens and their families (endometriosis and MRKH). Hosted conference with DPH on effective interviewing for School-based Nurse Practitioners. 4) 4 high school students completed a Leadership Training. Youth Advisors attended 4 workshops on LGBT-Q awareness.	2) 4-5 medical chats were held each month for teens/parents with endometriosis, PCOS, POI and MRKH. 3) Hosted 2 conferences for teens and their families (endometriosis and MRKH). Hosted conference with DPH on effective interviewing for School-based Nurse Practitioners. 4) 4 high school students completed a Leadership Training. Youth Advisors attended a leadership training including workshops on LGBT-Q awareness.	2) Conducted two workshops for 3 peer leaders to increase awareness about what it means to be an ally. 3) Created a new interactive "Eating Disorder Toolkit" with 22 handouts for providers to use with their patients to help teens understand eating disorders, what treatment looks like, and how to work towards recovery.
Student Career Opportunity Outreach Program (SCOOP)	SCOOP was created in 2003 to reach out to high school students about career opportunities in the field of nursing. SCOOP is composed of a three-pronged approach: hosting monthly field trips in our hospital, visits to local schools, and our internship programs.	1) Held five panels on different roles and professions within Nursing and Patient Care Services. Between 30 to 45 students attended each panel. 2) 12 students participated in the summer internship program.	1) Held quarterly panels focused on different roles and professions within Nursing and Patient Care Services. Between 30 to 45 students each panel in the Folkman Auditorium. 2) 10 students participated in the summer internship program.	1) Held two panels focused on different roles and professions within Nursing and Patient Care Services. About 50 students attended each panel. 2) 15 students participated in the summer internship program.
Priority Area: Community Resource Development				
Community Partnership Fund (CPF)	CPF supports community-based programs that improve the health of children and families in our priority neighborhoods. The Boyan Award for Excellence in Community Heath	1) Continue making Community Partnership Fund and Boyan Award grants to support innovative community-based health and youth/family support initiatives. 8 mini grants were awarded to organizations within these targeted communities	1) Continue making Community Partnership Fund and Boyan Award grants to support innovative community-based health and youth/family support initiatives. 8 mini grants were awarded to organizations within communities in Boston.	1) Continue making Community Partnership Fund and Boyan Award grants to support innovative community-based health and youth/family support initiatives. 10 mini grants were awarded to organizations within communities in Boston. 2) Build on collaborative efforts of Campus of Care organizations that are

	DoN Community Health Initiative Process			anchored in and around Mildred C. Hailey Apartments to coordinate and identify gaps in services, identify families in need of those services, and work with incoming families to connect them with services
Priority Area: Affordable Housing/Homelessness				
Collaboration for Community Health Family Housing Stability and Economic Opportunity	This funding opportunity will provide 3 years of grant funding to organizations undertaking activities that keep children and families in their homes and/or foster youth and family economic stability and mobility	The initiative launched in 2018 with eight funded partners implementing projects to address family housing and economic opportunity. These projects work across greater Boston with efforts to make positive impact in the areas of policy, systems and environmental change.		
Priority Area: Legal Assistance				
Medical Legal Partnership (MLP)	MLP | Boston trains providers and staff on best practices for detecting and referring health-harming legal problems. MLP | Boston provides on-call "legal triage" consultations and some on-site consults to conduct a legal intake interview and facilitate ongoing legal representation.	1) Identified and met with potential legal service agencies and pro bono panel members. 2) Maintained or grew referral volume from Children's Hospital Primary Care Center and Martha Eliot Health Center. 3) Supported and strengthened relationship with Advisory Committee members. 4) Worked with Medical-Legal Partnership lead to transition legal intake clinics to Novick Fellow by 1/1/2016.	1) Identified and met with potential legal service agencies, law school clinical programs, and pro bono panel members to continue to build outside network. 2) Maintained or grew referral volume from Children's Hospital Primary Care Center and Martha Eliot Health Center. 3) Supported and strengthened relationship with Advisory Committee members.	1) Identified and met with potential legal service agencies, law school clinical programs, and pro bono panel members to continue to build outside network. 2) Maintained or grew referral volume from across the Children's Hospital Enterprise including Primary Care Longwood, Martha Eliot Health Center, and PPOC practices. 3) Supported and strengthened relationship with Advisory Committee members and Pro bono Panel.

APPENDIX B. ADDITIONAL DATA

Income and Financial Security

Table 30: Boston CHNA Survey Respondents Self-Reported Income, All Respondents, Respondents with and without Children Under 18, Respondents by Age, 2019

	All respondents (N=1,624)	With children under 18 (N=491)	Without children under 18 (N=959)	Under 18 years (N=88)	18-24 years (N=120)	25-44 years (N=677)
Less than $10,000	12.2%	12.4%	11.1%	18.2%	20.0%	8.7%
$10,000 to $14,999	8.1%	8.8%	7.7%	8.0%	8.3%	5.8%
$15,000 to $24,999	8.5%	9.8%	7.6%	6.8%	5.8%	7.2%
$25,000 to $34,999	9.3%	13.2%	7.2%	10.2%	12.5%	9.5%
$35,000 to $49,999	14.9%	14.5%	15.0%	13.6%	22.5%	16.7%
$50,000 to $74,999	15.8%	12.6%	17.9%	19.3%	13.3%	18.8%
$75,000 to $99,999	10.3%	6.1%	12.6%	13.6%	11.7%	9.8%
$100,000 to $149,999	10.3%	10.2%	11.3%	5.7%	4.2%	11.4%
$150,000 to $199,999	4.9%	5.5%	4.5%	3.4%	0.0%	5.8%
$200,000 or more	5.6%	6.9%	5.1%	1.1%	1.7%	6.5%

DATA SOURCE: Boston CHNA Community Survey, 2019

NOTE: Question asked: What is your annual household income from all sources (e.g., income earned, alimony received, etc.)?; Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Chi-square analyses were conducted and there were statistically significant differences within the following groups ($p < 0.05$): respondents with and without children under 18 and age groups

Table 31: Boston CHNA Survey Respondents Number of Household Members Supported by Total Combined Household Income, All Respondents, Respondents with and without Children Under 18, Respondents by Age, 2019

	All respondents (N=1,871)	With children under 18 (N=530)	Without children under 18 (N=1,126)	Under 18 years (N=186)	18-24 years (N=124)	25-44 years (N=702)
1	30.3%	6.8%	41.0%	3.2%	30.7%	30.8%
2	24.1%	14.9%	28.9%	8.6%	23.4%	24.4%
3	17.6%	34.2%	10.1%	17.2%	13.7%	20.7%
4	14.4%	23.2%	9.9%	36.6%	11.3%	12.0%
5	8.2%	14.3%	5.5%	17.7%	12.1%	8.6%
6	3.2%	4.2%	2.7%	9.1%	5.7%	1.6%
7 or more	2.2%	2.5%	2.0%	7.5%	3.2%	2.1%

NOTE: Question asked: How many household members are supported by your total combined household income (including yourself)?; Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Chi-square analyses were conducted and there were statistically significant differences within the following groups ($p < 0.05$): respondents with and without children under 18 and age groups

Table 32. Boston CHNA Survey Respondents Reported Financial Challenges, All Respondents, Respondents with and without Children Under 18, 2019

	All Respondents	With Children Under 18	Without Children Under 18
Saving money*	56.5%	64.2%	52.6%
Paying credit card bills*	24.2%	30.1%	20.1%
Buying groceries*	22.9%	32.6%	17.4%
Paying your monthly utilities*	21.7%	30.6%	16.5%
Paying your rent/mortgage*	19.5%	23.7%	16.1%
Paying medical bills	19.3%	21.8%	17.8%
Paying for transportation*	16.7%	23.4%	12.8%
Paying for medication*	14.6%	17.1%	12.6%
Paying for child care*	10.8%	23.1%	3.5%

DATA SOURCE: Boston CHNA Community Survey, 2019
NOTE: Question asked: Do you have trouble? (Please check all that apply.); Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Respondents were allowed to select multiple response options; therefore, percentages may not sum to 100%; Asterisk (*) denotes statistically significant differences across groups for question item ($p < 0.05$)

Table 33. Boston CHNA Survey Respondents Reported Financial Challenges, All Respondents, Respondents by Age, 2019

	All Respondents	Under 18 Years	18-24 Years	25-44 Years	45-64 Years	65+ Years
Saving money*	56.5%	38.0%	58.3%	61.8%	56.2%	46.3%
Paying credit card bills*	24.2%	10.5%	18.6%	31.2%	20.2%	10.7%
Buying groceries*	22.9%	10.8%	20.0%	26.2%	21.0%	17.3%
Paying your monthly utilities*	21.7%	13.5%	20.3%	25.5%	19.3%	10.7%
Paying your rent/ mortgage*	19.5%	12.3%	18.1%	25.0%	15.0%	9.4%
Paying medical bills*	19.3%	5.3%	18.1%	23.8%	19.6%	9.1%
Paying for transportation*	16.7%	10.7%	19.4%	20.0%	13.9%	6.4%
Paying for medication*	14.6%	7.1%	12.3%	14.7%	17.1%	9.7%
Paying for child care*	10.8%	3.8%	6.5%	18.9%	4.3%	0.8%

DATA SOURCE: Boston CHNA Community Survey, 2019
NOTE: Question asked: Do you have trouble? (Please check all that apply.); Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Respondents were allowed to select multiple response options; therefore, percentages may not sum to 100%; Asterisk (*) denotes statistically significant differences across groups for question item ($p < 0.05$)

Table 34. Boston CHNA Survey Respondents Reported Assistance Received, All Respondents, Respondents with and without Children Under 18, 2019

	All Respondents (N=1,773)	With children under 18 (N=526)	Without children under 18 (N=1,104)
Have not received assistance/Not applicable*	48.5%	50.4%	64.4%
Food*	16.1%	28.1%	14.6%
Housing*	9.8%	15.6%	9.6%
Transportation	7.8%	8.6%	9.6%
Medications*	7.5%	6.3%	9.9%
Utility Bills*	7.1%	12.7%	6.5%
Education	5.4%	7.4%	6.3%
Childcare*	3.4%	9.3%	2.0%
Job search or training	3.4%	3.4%	4.7%
Translation/interpretation	2.3%	2.3%	3.0%
Care for elder or disabled	2.3%	1.7%	3.1%
Legal Issues*	2.1%	4.4%	1.5%
Immigration issues*	1.0%	2.1%	0.6%

DATA SOURCE: Boston CHNA Community Survey, 2019

NOTE: Question asked in the last 12 months, have you received assistance from an organization or program to help you with any of the following? (Please check all that apply.); Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Respondents were allowed to select multiple response options; therefore, percentages may not sum to 100%; Asterisk (*) denotes statistically significant differences across groups for question item ($p < 0.05$)

Table 35. Boston CHNA Survey Respondents Reported Assistance Received, All Respondents, Respondents by Age, 2019

	All Respondents (N=1,773)	Under 18 years (N=135)	18-24 years (N=125)	25-44 years (N=713)	45-64 years (N=449)	65+ years (N=202)
Have not received assistance/Not applicable*	48.5%	48.9%	55.2%	62.3%	66.8%	41.1%
Food*	16.1%	20.0%	16.8%	18.4%	16.0%	31.2%
Housing*	9.8%	11.9%	5.6%	12.1%	6.9%	27.7%
Transportation*	7.8%	14.1%	10.4%	7.3%	6.0%	20.8%
Medications*	7.5%	10.4%	4.8%	6.3%	6.7%	24.3%
Utility Bills*	7.1%	5.2%	8.0%	8.7%	7.8%	14.4%
Education*	5.4%	9.6%	16.8%	7.2%	3.3%	2.5%
Childcare*	3.4%	5.2%	3.2%	7.3%	1.3%	0.0%
Job search or training*	3.4%	15.6%	8.8%	3.9%	1.6%	1.0%
Translation/ interpretation*	2.3%	1.5%	0.8%	1.8%	2.0%	10.9%
Care for elder or disabled*	2.3%	2.2%	1.6%	1.1%	3.6%	8.9%
Legal Issues	2.1%	0.7%	0.0%	1.4%	2.0%	2.5%

Immigration issues	1.0%	0.7%	0.8%	2.0%	0.2%	0.5%

DATA SOURCE: Boston CHNA Community Survey, 2019

NOTE: Question asked in the last 12 months, have you received assistance from an organization or program to help you with any of the following? (Please check all that apply.); Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Respondents were allowed to select multiple response options; therefore, percentages may not sum to 100%; Asterisk (*) denotes statistically significant differences across groups for question item ($p < 0.05$)

Housing

Table 36. Boston CHNA Survey Respondents Current Living Arrangement, All Respondents, Respondents with and without Children Under 18, 2019

	All respondents (N=2,018)	With children under 18 (N=541)	Without children under 18 (N=1,187)
Living in a house/apartment that I rent	52.0%	30.9%	32.6%
Living in a house/apartment that I own	31.1%	57.3%	49.1%
Staying with family	8.9%	5.6%	9.9%
Living in a room that I rent	4.3%	2.8%	4.9%
Living in a homeless shelter or transitional housing program	0.9%	1.7%	0.5%
Staying with friends	0.5%	0.4%	0.5%
Living in a hotel or motel that the government pays for	0.5%	0.6%	0.4%
Living in my car, on the streets, in an abandoned building, or another place not meant for people to sleep in	0.3%	0.0%	0.4%
Other	1.4%	0.9%	1.7%

DATA SOURCE: Boston CHNA Community Survey, 2019

NOTE: Question asked: What best describes your current living arrangement? (Please check one.); Chi-square analyses were conducted and there were statistically significant differences within the following groups ($p < 0.05$): respondents with and without children under 18

Table 37. Boston CHNA Survey Respondents Current Living Arrangement, All Respondents, Respondents by Age, 2019

	All respondents (N=2,018)	Under 18 years (N=194)	18-24 years (N=142)	25-44 years (N=719)	45-64 years (N=465)	65+ years (N=203)
Living in a house/apartment that I rent	52.0%	35.6%	12.0%	22.0%	48.6%	38.4%
Living in a house/apartment that I own	31.1%	36.6%	58.5%	60.2%	42.4%	54.2%
Staying with family	8.9%	25.8%	19.7%	7.1%	3.2%	1.5%
Living in a room that I rent	4.3%	0.0%	6.3%	7.5%	1.5%	1.5%
Living in a homeless shelter or transitional housing program	0.9%	0.5%	1.4%	1.0%	1.1%	0.0%
Staying with friends	0.5%	0.0%	0.7%	0.1%	1.5%	0.0%
Living in a hotel or motel that the government pays for	0.5%	0.0%	0.0%	0.4%	0.0%	2.5%
Living in my car, on the streets, in an abandoned building, or	0.3%	0.0%	0.7%	0.4%	0.2%	0.0%

another place not meant for people to sleep in						
Other	1.4%	1.6%	0.7%	1.3%	1.5%	2.0%

DATA SOURCE: Boston CHNA Community Survey, 2019
NOTE: Question asked: What best describes your current living arrangement? (Please check one.; Chi-square analyses were conducted and there were statistically significant differences within the following groups ($p < 0.05$): respondents by age groups

Transportation

Table 38. Boston CHNA Survey Respondents Reported Transportation Barriers, All Respondents, Respondents with and without Children Under 18, 2019

	All Respondents (N=2,012)	With children under 18 (N=532)	Without children under 18 (N=1,194)
None of the above*	55.8%	52.4%	58.3%
Limited street parking, traffic-related noise, or traffic	23.1%	25.2%	21.9%
Availability of public transportation (e.g., commuter rail, MBTA buses or subway)*	19.2%	15.4%	19.9%
Cost of transportation*	15.5%	19.9%	13.2%
Limited opportunities for safe bicycle riding (e.g., unprotected bicycle lanes, places to lock your bike)	8.5%	8.1%	9.1%
Clear and understandable transportation signs and directions	4.0%	3.4%	4.4%

DATA SOURCE: Boston CHNA Community Survey, 2019
NOTE: Question asked: In the past 12 months, have any of the following transportation barriers kept you from medical appointments, meetings, work, or from getting things needed for daily living? (Please check all that apply.); Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Respondents were allowed to select multiple response options; therefore, percentages may not sum to 100%; Asterisk (*) denotes statistically significant differences across groups for question item ($p < 0.05$)

Table 39. Boston CHNA Survey Respondents Reported Transportation Barriers, All Respondents, Respondents by Age, 2019

	All Respondents (N=2,012)	Under 18 years (N=200)	18-24 years (N=140)	25-44 years (N=714)	45-64 years (N=459)	65+ years (N=199)
None of the above*	55.8%	57.0%	45.0%	50.0%	62.8%	71.4%
Limited street parking, traffic-related noise, or traffic*	23.1%	20.5%	32.9%	25.8%	19.6%	14.6%
Availability of public transportation (e.g., commuter rail, MBTA buses or subway)*	19.2%	21.5%	22.9%	22.0%	13.7%	13.6%
Cost of transportation*	15.5%	10.0%	22.1%	19.2%	12.2%	9.1%
Limited opportunities for safe bicycle riding (e.g., unprotected bicycle lanes, places to lock your bike)*	8.5%	5.5%	5.7%	12.6%	6.8%	4.0%

Clear and understandable transportation signs and directions	4.0%	4.0%	3.6%	4.5%	3.1%	5.5%

DATA SOURCE: Boston CHNA Community Survey, 2019
NOTE: Question asked: In the past 12 months, have any of the following transportation barriers kept you from medical appointments, meetings, work, or from getting things needed for daily living? (Please check all that apply.); Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Respondents were allowed to select multiple response options; therefore, percentages may not sum to 100%; Asterisk (*) denotes statistically significant differences across groups for question item ($p < 0.05$)

Social Environment and Discrimination

Table 40. Boston CHNA Survey Respondents Who Strongly or Somewhat Agree about Neighborhood Characteristics, All Respondents, Respondents with and without Children Under 18, 2019

	All Respondents	With children Under 18	Without Children Under 18
I can recognize most of the people who live in my neighborhood. *	56.0%	64.0%	51.5%
People in my neighborhood help each other out.	67.6%	68.6%	66.9%
My neighbors and I want the same thing for our neighborhood. *	77.2%	80.9%	74.8%
I have a lot of influence over what my neighborhood is like.*	35.3%	46.0%	29.7%
I expect to live in my neighborhood for a long time.*	72.7%	77.3%	71.5%

DATA SOURCE: Boston CHNA Community Survey, 2019
NOTE: Question asked How much do you agree or disagree with the following statements about your neighborhood?; Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Asterisk (*) denotes statistically significant differences across groups for question item ($p < 0.05$)

Table 41. Boston CHNA Survey Respondents Who Strongly or Somewhat Agree about Neighborhood Characteristics, All Respondents, Respondents by Age, 2019

	All Respondents	Under 18	18-24 Years	25-44 Years	45-64 Years	65+ Years
I can recognize most of the people who live in my neighborhood.*	56.0%	49.0%	37.4%	47.7%	68.0%	70.1%
People in my neighborhood help each other out.*	67.6%	66.9%	54.8%	62.7%	71.7%	81.7%
My neighbors and I want the same thing for our neighborhood.*	77.2%	77.3%	72.3%	73.0%	81.1%	84.1%
I have a lot of influence over what my neighborhood is like.*	35.3%	18.8%	28.2%	31.5%	45.2%	40.9%
I expect to live in my neighborhood for a long time.*	72.7%	64.7%	53.0%	66.6%	84.5%	91.0%

DATA SOURCE: Boston CHNA Community Survey, 2019
NOTE: Question asked How much do you agree or disagree with the following statements about your neighborhood?; Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Asterisk (*) denotes statistically significant differences across groups for question item ($p < 0.05$)

Community Health Concerns

Table 42. Boston CHNA Survey Respondents Top Five Most Important Community Concerns, All Respondents, Respondents with and without Children Under 18, 2019

	All Respondents (N=2,053)	With children under 18 (N=544)	Without children under 18 (N=1,211)
Housing quality or affordability	50.5%	53.1%	50.7%
Alcohol/drug abuse	49.0%	50.7%	48.4%
Mental health (suicide, anxiety, depression, etc.)	42.1%	40.6%	42.6%
Community violence*	31.1%	40.3%	27.7%
Environment (e.g., air quality, traffic, noise, climate change)*	27.7%	23.2%	31.5%
Obesity*	24.5%	30.2%	20.9%
Homelessness	24.1%	25.0%	23.1%
Smoking	23.1%	24.1%	21.1%
Poverty	22.8%	20.4%	24.6%
Diabetes*	22.8%	25.4%	21.1%
Employment/job opportunities	22.3%	23.9%	22.6%
Elder/aging health issues (e.g., falls, dementia)*	22.1%	17.5%	24.3%
Cancer	19.8%	20.4%	19.7%
Hunger/food insecurity*	19.0%	22.2%	18.2%
Heart disease and stroke	17.7%	16.4%	17.6%
Asthma*	15.6%	19.5%	12.6%
Access to healthcare or other services	11.6%	9.9%	13.1%
Domestic violence*	8.8%	10.7%	7.8%
Vaping	8.0%	6.3%	8.6%
Sexually transmitted infections (STIs) (e.g., Chlamydia, HPV)	7.0%	6.3%	6.2%
Rape/sexual assault	5.6%	4.6%	5.5%
Teenage pregnancy	4.6%	4.4%	3.8%
Other	4.6%	3.1%	5.3%
Infant and child health (e.g., premature birth, developmental delays)*	4.4%	6.8%	3.0%
Child abuse and neglect*	3.9%	5.5%	3.1%

DATA SOURCE: Boston CHNA Community Survey, 2019

NOTE: Question asked: From the following list, what are the top 5 most important concerns in your community or neighborhood that affect your community's health the most? (Please check top 5.); Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Respondents were allowed to select multiple response options; therefore, percentages may not sum to 100%; Asterisk (*) denotes statistically significant differences across groups for question item ($p < 0.05$)

Table 43. Boston CHNA Survey Respondents Top Five Most Important Community Concerns, All Respondents, Respondents by Age, 2019

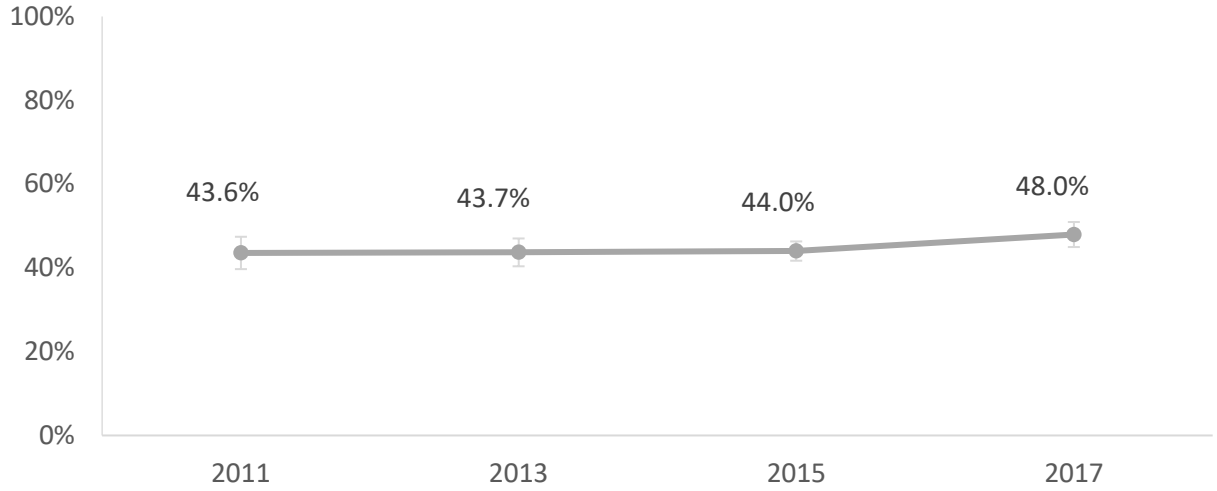
	All Respondents (N=2,053)	Under 18 years (N=197)	18-24 years (N=143)	25-44 years (N=725)	45-64 years (N=470)	65+ years (N=207)
Housing quality or affordability*	50.5%	37.1%	46.9%	57.7%	53.2%	39.6%
Alcohol/drug abuse*	49.0%	44.7%	55.9%	52.8%	48.5%	36.7%
Mental health (suicide, anxiety, depression, etc.)*	42.1%	38.6%	42.0%	46.9%	40.9%	28.5%
Community violence*	31.1%	30.0%	25.9%	37.4%	28.7%	20.3%
Environment (e.g., air quality, traffic, noise, climate change)*	27.7%	23.4%	22.4%	27.2%	31.3%	37.7%
Obesity*	24.5%	13.7%	28.0%	26.8%	26.4%	14.5%
Homelessness*	24.1%	23.4%	29.4%	25.4%	22.6%	15.5%
Smoking*	23.1%	42.1%	25.2%	21.5%	17.5%	18.4%
Poverty*	22.8%	31.0%	29.4%	27.7%	16.4%	13.0%
Diabetes*	22.8%	18.3%	25.2%	19.5%	24.5%	30.4%
Employment/job opportunities*	22.3%	31.5%	18.2%	24.4%	22.3%	14.5%
Elder/aging health issues (e.g., falls, dementia)*	22.1%	14.2%	10.5%	13.8%	31.1%	49.8%
Cancer*	19.8%	21.8%	15.4%	13.5%	28.1%	27.5%
Hunger/food insecurity*	19.0%	14.2%	30.1%	20.7%	19.8%	11.6%
Heart disease and stroke*	17.7%	10.2%	16.8%	11.9%	22.3%	34.8%
Asthma	15.6%	15.7%	11.2%	12.7%	16.8%	18.4%
Access to healthcare or other services	11.6%	12.7%	11.2%	10.6%	12.1%	15.9%
Domestic violence	8.8%	5.1%	10.5%	10.1%	7.9%	5.8%
Vaping*	8.0%	25.4%	9.8%	5.1%	5.7%	2.9%
Sexually transmitted infections (STIs) (e.g., Chlamydia, HPV)*	7.0%	4.6%	14.0%	6.1%	5.3%	4.8%
Rape/sexual assault*	5.6%	7.1%	9.8%	5.4%	3.8%	2.9%
Teenage pregnancy*	4.6%	5.6%	8.4%	3.0%	3.8%	2.4%
Other	4.6%	3.6%	2.8%	4.0%	6.0%	6.8%
Infant and child health (e.g., premature birth, developmental delays)	4.4%	2.0%	3.5%	5.2%	4.3%	3.4%
Child abuse and neglect	3.9%	3.1%	3.5%	4.0%	4.5%	1.5%

DATA SOURCE: Boston CHNA Community Survey, 2019

NOTE: Question asked: From the following list, what are the top 5 most important concerns in your community or neighborhood that affect your community's health the most? (Please check top 5.); Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Respondents were allowed to select multiple response options; therefore, percentages may not sum to 100%; Asterisk (*) denotes statistically significant differences across groups for question item ($p < 0.05$)

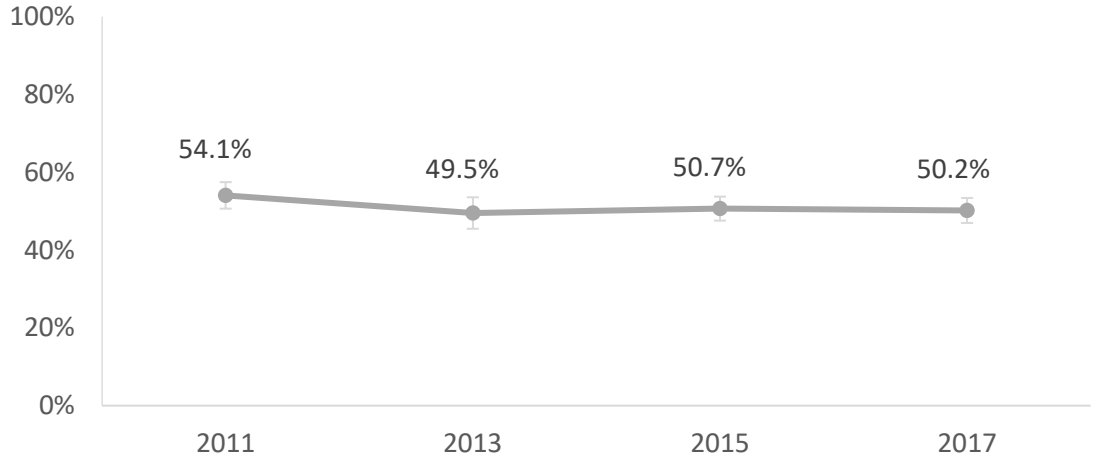
Obesity and Related Risk Factors

Figure 94. Percent Boston Public High School Youth Reporting Fruit Consumption Less Than Once per Day, by Boston and Over Time, 2011-2017



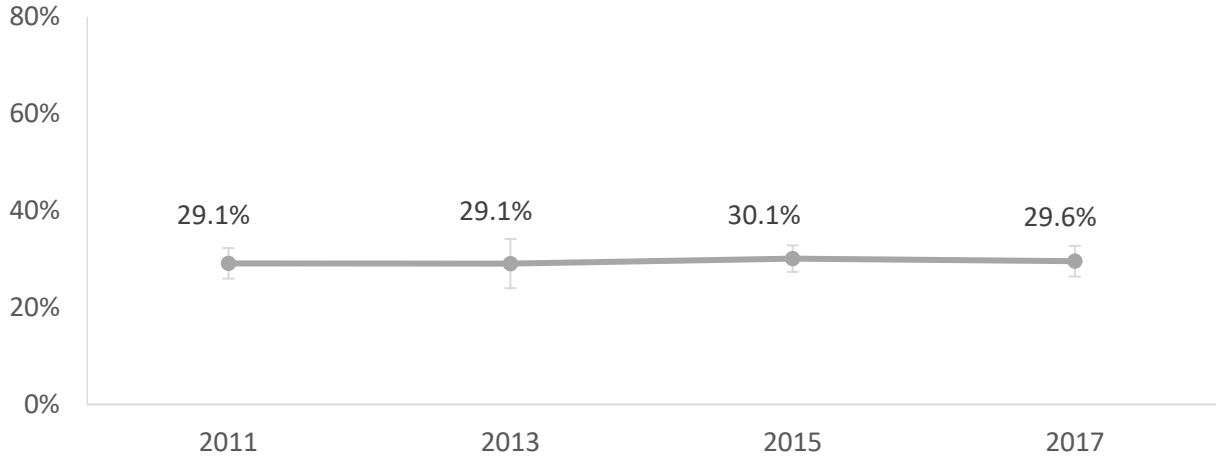
DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2011, 2013, 2015, and 2017
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTE: Error bars show 95% confidence interval; Change over time was not statistically significant

Figure 95. Percent Boston Public High School Youth Reporting Vegetable Consumption Less Than Once per Day, by Boston and Over Time, 2011-2017



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2011, 2013, 2015, and 2017
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTE: Error bars show 95% confidence interval

Figure 96. Percent Boston Public High School Youth Reporting Engagement in Regular Physical Activity, by Boston and Over Time, 2011-2017



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2011, 2013, 2015, and 2017
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTE: Regular physical activity is defined as at least 60 minutes per day for at least 5 of the past 7 days; Error bars show 95% confidence interval; Change over time was not statistically significant

Table 44: Boston CHNA Survey Respondents Self-Reported Food Security, All Respondents, Respondents with and without Children Under 18, 2019

	All respondents (N=1,983)	Respondents with children under 18 (N=518)	Respondents without children under 18 (N=1,162)
Often true	7.2%	11.6%	4.8%
Sometimes true	25.4%	34.2%	20.3%
Never true	67.4%	54.3%	74.9%

NOTE: Question asked: In the last 12 months, have you worried that your food would run out before you got money to buy more?; Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Chi-square analyses were conducted and there were statistically significant differences within the following groups ($p < 0.05$): respondents with and without children under 18

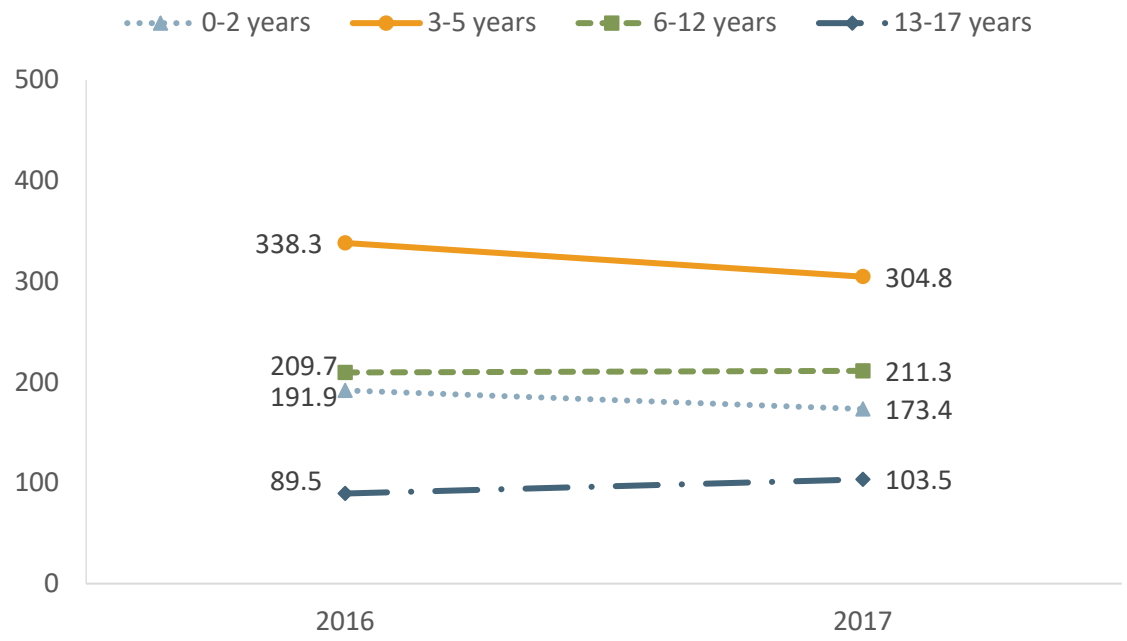
Table 45: Boston CHNA Survey Respondents Self-Reported Food Security, All Respondents, Respondents by Age, 2019

	All respondents (N=1,983)	Under 18 years (N=180)	18-24 years (N=133)	25-44 years (N=708)	45-64 years (N=443)	65+ years (N=203)
Often true	7.2%	3.3%	8.3%	8.5%	6.6%	4.4%
Sometimes true	25.4%	21.7%	25.6%	27.7%	24.2%	17.2%
Never true	67.4%	75.0%	66.2%	63.8%	69.3%	78.3%

NOTE: Question asked: In the last 12 months, have you worried that your food would run out before you got money to buy more?; Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Chi-square analyses were conducted and there were statistically significant differences within the following groups ($p < 0.05$): respondents by age groups

Asthma

Figure 97. Asthma Emergency Department Rate in Boston, by Age and Over Time, Age-Specific Rate per 10,000 Residents, 2016-2017



DATA SOURCE: Massachusetts Center for Health Information and Analysis, Acute Hospital Case Mix Databases, 2016 and 2017
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTE: Change over time was not statistically significant for any of the age groups

Table 46. Asthma Hospital Patient Encounters by Race/Ethnicity and Neighborhood, Age-specific Rates per 10,000 Residents, Ages 0-12, 2016 and 2017 Combined

Boston	268.0	N/A
		Comparison to White Residents
Asian	78.4	Similar
Black	441.3	Higher
Latino	282.8	Higher
White	92.2	Reference
		Comparison to Rest of Boston
Allston/Brighton	159.6	Lower
Back Bay, Beacon Hill Downtown, North End, West End	101.9	Lower
Charlestown	257.5	Similar
Dorchester 02121 02125	400.8	Higher
Dorchester 02122 02124	361.5	Higher
East Boston	83.4	Lower
Fenway	226.3	Similar
Hyde Park	315.7	Higher
Jamaica Plain	211.1	Lower
Mattapan	452.1	Higher

Roslindale	186.4	Lower
Roxbury	467.5	Higher
South Boston	176.0	Lower
South End	207.5	Lower
West Roxbury	66.9	Lower

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis
DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
* Rates based on 20 or fewer cases and should be interpreted with caution
*** Data suppressed due to too few cases (n<11)
NOTE: Hospital Patient Encounters include any emergency department, hospitalization, or observational encounter with primary diagnosis of a primary diagnosis of asthma.

Table 47. Asthma Hospital Patient Encounters by Race/Ethnicity and Neighborhood, Age-specific Rates per 10,000 Residents, Ages 13-18, 2016 and 2017 Combined

Boston	88.3	N/A
		Comparison to White Residents
Asian	24.3*	Similar
Black	150.7	Higher
Latino	95.2	Higher
White	24.9	Reference
		Comparison to Rest of Boston
Allston/Brighton	91.7	Similar
Back Bay, Beacon Hill Downtown, North End, West End		***
Charlestown	124.1	Similar
Dorchester 02121 02125	119.8	Higher
Dorchester 02122 02124	153.1	Higher
East Boston	47.0	Lower
Fenway	11.9	Lower
Hyde Park	58.1	Lower
Jamaica Plain	66.8	Similar
Mattapan	158.4	Higher
Roslindale	106.8	Similar
Roxbury	117.1	Higher
South Boston	74.9	Similar
South End	94.0	Similar
West Roxbury		***

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis
DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
* Rates based on 20 or fewer cases and should be interpreted with caution
*** Data suppressed due to too few cases (n<11)
NOTE: Hospital Patient Encounters include any emergency department, hospitalization, or observational encounter with primary diagnosis of a primary diagnosis of asthma.

Table 48. Asthma Hospital Patient Encounters by Race/Ethnicity and Neighborhood, Age-specific Rates per 10,000 Residents, Ages 0-18, 2016 and 2017 Combined

Boston	200.2	N/A
		Comparison to White Residents
Asian	53.5	Similar
Black	320.3	Higher
Latino	218.5	Higher
White	67.3	Reference
		Comparison to Rest of Boston
Allston/Brighton	137.3	Lower
Back Bay, Beacon Hill Downtown, North End, West End	74.5	Lower
Charlestown	228.1	Higher
Dorchester 02121 02125	294.7	Higher
Dorchester 02122 02124	284.1	Higher
East Boston	72.9	Lower
Fenway	51.9	Lower
Hyde Park	222.8	Higher
Jamaica Plain	173.3	Lower
Mattapan	330.6	Higher
Roslindale	159.4	Lower
Roxbury	320.2	Higher
South Boston	143.0	Lower
South End	173.1	Lower
West Roxbury	52.9	Lower

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis
DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
* Rates based on 20 or fewer cases and should be interpreted with caution
*** Data suppressed due to too few cases (n<11)
NOTE: Hospital Patient Encounters include any emergency department, hospitalization, or observational encounter with primary diagnosis of a primary diagnosis of asthma.

Mental Health

Table 49: Boston CHNA Survey Respondents Reported Days of Feeling Worried, Tense, or Anxious in Past 30 Days, All Respondents, Respondents with and without Children Under 18, 2019

	All respondents (N=1711)	With children under 18 (N=494)	Without children under 18 (N=1,104)
0 days	19.7%	19.0%	19.5%
1-3 days	30.5%	34.8%	29.0%
4-9 days	20.5%	19.6%	21.0%
10 days or more	29.3%	26.5%	30.5%

NOTE: Question asked: During the past 30 days, for about how many days have you felt worried, tense, or anxious?; Percentage calculations do not include respondents who selected “prefer not to answer/don’t know;” No statistical difference between groups.

Table 50: Boston CHNA Survey Respondents Reported Days of Feeling Worried, Tense, or Anxious in Past 30 Days, All Respondents, Respondents by Age, 2019

	All respondents (N=1711)	Under 18 Years (N=185)	18-24 years (N=135)	25-44 years (N=684)	45-64 years (N=429)	65+ years (N=198)
0 days	19.7%	17.3%	17.8%	12.9%	22.8%	40.4%
1-3 days	30.5%	29.2%	25.9%	30.3%	31.9%	31.8%
4-9 days	20.5%	26.5%	21.5%	23.3%	16.6%	12.1%
10 days or more	29.3%	27.0%	34.8%	33.6%	28.7%	15.7%

NOTE: Question asked: During the past 30 days, for about how many days have you felt worried, tense, or anxious?; Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Chi-square analyses were conducted and there were statistically significant differences within the following groups ($p < 0.05$): respondents by age groups

Table 51: Boston CHNA Survey Respondents Reported Days of Feeling Sad, Blue, or Depressed in Past 30 Days, All Respondents, Respondents with and without Children Under 18, 2019

	All respondents (N= 1712)	With children under 18 (N=497)	Without children under 18 (N=1,099)
0 days	30.6%	32.2%	30.1%
1-3 days	35.9%	38.0%	35.9%
4-9 days	16.5%	16.1%	16.2%
10 days or more	17.0%	13.7%	17.8%

NOTE: Question asked: During the past 30 days, for about how many days have you felt sad, blue, or depressed?; Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" No statistical difference between groups

Table 52: Boston CHNA Survey Respondents Reported Days of Feeling Sad, Blue, or Depressed in Past 30 Days, All Respondents, Respondents by Age, 2019

	All respondents (N= 1712)	Under 18 years (N=190)	18-24 years (N=134)	25-44 years (N=686)	45-64 years (N=428)	65+ years (N=193)
0 days	30.6%	24.7%	23.9%	27.3%	35.1%	44.6%
1-3 days	35.9%	31.6%	38.1%	34.7%	38.6%	35.8%
4-9 days	16.5%	20.5%	19.4%	19.1%	11.9%	10.9%
10 days or more	17.0%	23.2%	18.7%	19.0%	14.5%	8.8%

NOTE: Question asked: During the past 30 days, for about how many days have you felt sad, blue, or depressed?; Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Chi-square analyses were conducted and there were statistically significant differences within the following groups ($p < 0.05$): respondents by age groups

Table 53. Depression Hospital Patient Encounters by Race/Ethnicity and Neighborhood, Age-specific Rates per 10,000 Residents, Ages 13-18, 2016 and 2017 Combined

Boston	127.0	N/A
		Comparison to White Residents
Asian	72.8	Lower
Black	143.9	Higher
Latino	115.5	Similar
White	120.0	Reference

		Comparison to Rest of Boston
Allston/Brighton	186.2	Higher
Back Bay, Beacon Hill Downtown, North End, West End	69.0	Lower
Charlestown	99.3	Similar
Dorchester 02121 02125	158.0	Higher
Dorchester 02122 02124	155.6	Higher
East Boston	126.6	Similar
Fenway	35.7	Lower
Hyde Park	141.7	Similar
Jamaica Plain	170.7	Higher
Mattapan	145.2	Similar
Roslindale	189.3	Higher
Roxbury	138.1	Similar
South Boston	78.4	Lower
South End	118.3	Similar
West Roxbury	110.1	Similar

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis
DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
* Rates based on 20 or fewer cases and should be interpreted with caution
*** Data suppressed due to too few cases (n<11)
NOTE: Hospital Patient Encounters include any emergency department, hospitalization, or observational encounter with primary diagnosis of mood (affective) disorder.

Table 54. Depression Hospital Patient Encounters by Race/Ethnicity and Neighborhood, Age-specific Rates per 10,000 Residents, Ages 0-18, 2016 and 2017 Combined

Boston	56.9	N/A
		Comparison to White Residents
Asian	39.4	Similar
Black	70.7	Higher
Latino	46.9	Similar
White	51.3	Reference
		Comparison to Rest of Boston
Allston/Brighton	64.0	Similar
Back Bay, Beacon Hill Downtown, North End, West End	28.5	Lower
Charlestown	31.0	Lower
Dorchester 02121 02125	69.3	Higher
Dorchester 02122 02124	68.9	Higher
East Boston	49.0	Similar
Fenway	31.1	Lower
Hyde Park	59.0	Similar
Jamaica Plain	65.2	Similar
Mattapan	65.6	Similar
Roslindale	74.0	Higher

Roxbury	70.2	Higher
South Boston	34.9	Lower
South End	41.4	Lower
West Roxbury	38.2	Lower

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis
DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
* Rates based on 20 or fewer cases and should be interpreted with caution
*** Data suppressed due to too few cases (n<11)
NOTE: Hospital Patient Encounters include any emergency department, hospitalization, or observational encounter with primary diagnosis of mood (affective) disorder.

Table 55. Anxiety Hospital Patient Encounters by Race/Ethnicity and Neighborhood, Age-specific Rates per 10,000 Residents, Ages 13-18, 2016 and 2017 Combined

Boston	75.8	N/A
		Comparison to White Residents
Asian	35.8	Similar
Black	87.6	Higher
Latino	79.8	Higher
White	53.0	Reference
		Comparison to Rest of Boston
Allston/Brighton	77.4	Similar
Back Bay, Beacon Hill Downtown, North End, West End	45.0*	Lower
Charlestown	***	***
Dorchester 02121 02125	102.1	Higher
Dorchester 02122 02124	112.6	Higher
East Boston	81.4	Similar
Fenway	21.3	Lower
Hyde Park	74.5	Similar
Jamaica Plain	89.1	Similar
Mattapan	59.4	Similar
Roslindale	53.4	Similar
Roxbury	92.1	Similar
South Boston	89.1	Similar
South End	100.1	Similar
West Roxbury	49.2*	Similar

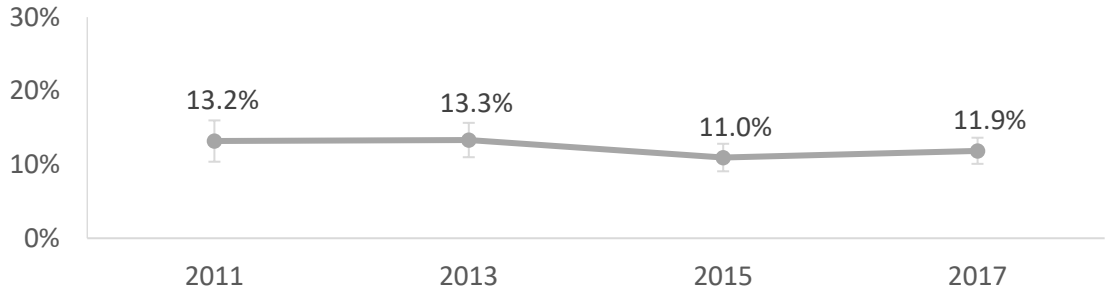
DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis
DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
* Rates based on 20 or fewer cases and should be interpreted with caution
*** Data suppressed due to too few cases (n<11)
NOTE: Hospital Patient Encounters include any emergency department, hospitalization, or observational encounter primary diagnosis of anxiety, dissociative, stress-related, somatoform and other nonpsychotic mental disorders.

Table 56. Anxiety Hospital Patient Encounters by Race/Ethnicity and Neighborhood, Age-specific Rates per 10,000 Residents, Ages 0-18, 2016 and 2017 Combined

Boston	44.6	N/A
		Comparison to White Residents
Asian	19.4	Similar
Black	62.8	Higher
Latino	42.2	Higher
White	25.2	Reference
		Comparison to Rest of Boston
Allston/Brighton	32.0	Lower
Back Bay, Beacon Hill Downtown, North End, West End	24.1	Lower
Charlestown	***	***
Dorchester 02121 02125	61.6	Higher
Dorchester 02122 02124	63.7	Higher
East Boston	28.1	Lower
Fenway	20.8	Lower
Hyde Park	39.3	Similar
Jamaica Plain	57.4	Higher
Mattapan	46.4	Similar
Roslindale	24.7	Lower
Roxbury	72.4	Higher
South Boston	40.7	Similar
South End	38.7	Similar
West Roxbury	24.3	Lower

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis
DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
* Rates based on 20 or fewer cases and should be interpreted with caution
*** Data suppressed due to too few cases (n<11)
NOTE: Hospital Patient Encounters include any emergency department, hospitalization, or observational encounter primary diagnosis of anxiety, dissociative, stress-related, somatoform and other nonpsychotic mental disorders.

Figure 98. Boston Public High School Youth Reporting Seriously Considering Suicide in the Past Year, by Boston and Over Time, 2011-2017



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2011, 2013, 2015, and 2017
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTES: Students were asked if during the past 12 months, did they seriously consider attempting suicide; Error bars show 95% confidence interval; Change over time was not statistically significant

Table 57. Intentional Self-harm and Suicide Attempts Hospital Patient Encounters by Race/Ethnicity and Neighborhood, Age-specific Rates per 10,000 Residents, Ages 13-18, 2016 and 2017 Combined

Boston	35.7	N/A
		Comparison to White Residents
Asian	***	***
Black	36.9	Similar
Latino	44.2	Higher
White	30.1	Reference
		Comparison to Rest of Boston
Allston/Brighton	51.6*	Similar
Back Bay, Beacon Hill Downtown, North End, West End	***	***
Charlestown	***	***
Dorchester 02121 02125	39.9	Similar
Dorchester 02122 02124	36.4	Similar
East Boston	65.1	Higher
Fenway	9.4*	Lower
Hyde Park	25.4*	Similar
Jamaica Plain	59.4*	Higher
Mattapan	22.0*	Similar
Roslindale	34.0*	Similar
Roxbury	53.9	Higher
South Boston	46.3*	Similar
South End	48.5*	Similar
West Roxbury	***	***

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis
DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
* Rates based on 20 or fewer cases and should be interpreted with caution
*** Data suppressed due to too few cases (n<11)
NOTE: Hospital Patient Encounters include any emergency department, hospitalization, or observational encounter for intentional self-harm, including non-fatal suicide attempts.

Table 58. Intentional Self-harm and Suicide Attempts Hospital Patient Encounters by Race/Ethnicity and Neighborhood, Age-specific Rates per 10,000 Residents, Ages 0-18, 2016 and 2017 Combined

Boston	14.6	N/A
		Comparison to White Residents
Asian	***	***
Black	17.1	Higher
Latino	16.2	Higher
White	11.5	Reference
		Comparison to Rest of Boston
Allston/Brighton	17.9*	Similar
Back Bay, Beacon Hill Downtown, North End, West End	***	***

Charlestown	***	***
Dorchester 02121 02125	16.1	Similar
Dorchester 02122 02124	16.0	Similar
East Boston	20.8	Higher
Fenway	8.3*	Lower
Hyde Park	9.8*	Similar
Jamaica Plain	15.6*	Similar
Mattapan	10.0*	Similar
Roslindale	12.3*	Similar
Roxbury	23.8	Higher
South Boston	16.3*	Similar
South End	14.7*	Similar
West Roxbury	***	***

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis
DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
* Rates based on 20 or fewer cases and should be interpreted with caution
*** Data suppressed due to too few cases (n<11)
NOTE: Hospital Patient Encounters include any emergency department, hospitalization, or observational encounter for intentional self-harm, including non-fatal suicide attempts.

Table 59: Boston CHNA Survey Respondents Reported Ability to Access Mental Health Services, All Respondents, Respondents with and without Children Under 18, 2019

	All respondents (N=1,584)	With children under 18 (N=469)	Without children under 18 (N=1,052)
Needed mental health services and/or treatment but could not access them	13.8%	13.0%	13.8%
Needed mental health services and/or treatment and was able to access them	21.2%	21.1%	21.2%
Did not need mental health services and/or treatment	65.0%	65.9%	65.0%

NOTE: Question asked: Was there a time in the past 12 months when you needed services and/or treatment for depression, anxiety, or other mental health concerns but could not access them?; Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" No statistical difference between groups

Table 60: Boston CHNA Survey Respondents Reported Ability to Access Mental Health Services, All Respondents, Respondents by Age, 2019

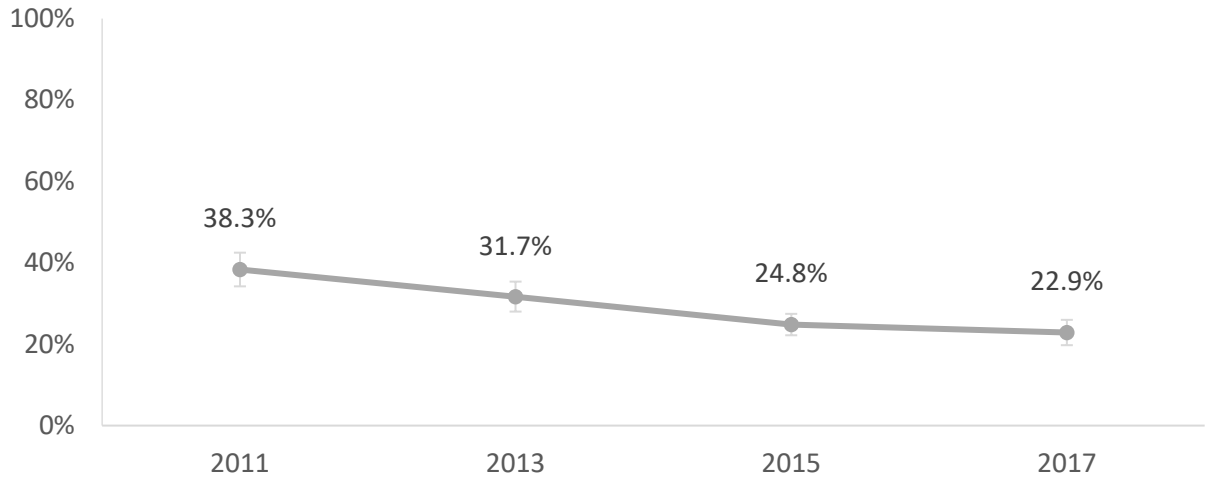
	All respondents (N=1,584)	Under 18 years (N=161)	18-24 years (N=117)	25-44 years (N=643)	45-64 years (N=407)	65+ years (N=191)
Needed mental health services and/or treatment but could not access them	13.8%	7.5%	15.4%	20.4%	10.1%	3.7%
Needed mental health services and/or treatment and was able to access them	21.2%	11.8%	19.7%	25.2%	20.9%	15.2%

Did not need mental health services and/or treatment	65.0%	80.8%	65.0%	54.4%	69.0%	81.2%

NOTE: Question asked: Was there a time in the past 12 months when you needed services and/or treatment for depression, anxiety, or other mental health concerns but could not access them?; Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Chi-square analyses were conducted and there were statistically significant differences within the following groups ($p < 0.05$): respondents by age groups

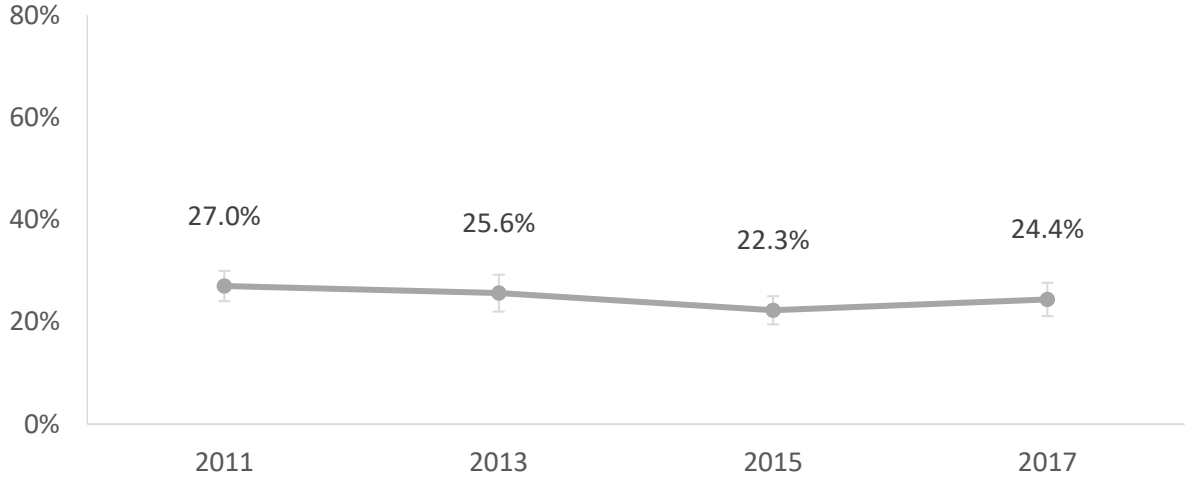
Substance Use

Figure 99. Percent Boston High School Youth Reporting Current Alcohol Consumption, by Boston and Over Time, 2011-2017



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2011, 2013, 2015, and 2017
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTE: Current alcohol consumption is defined as having an alcohol in the past 30 days; Error bars show 95% confidence interval; Change over time was not statistically significant

Figure 100. Percent Boston Public High School Youth Reporting Current Marijuana Use, by Boston and Over Time, 2011-2017



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2011, 2013, 2015, and 2017
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTE: Error bars show 95% confidence interval; Change over time was not statistically significant

Table 61. Marijuana Dependence and Misuse Hospital Patient Encounters by Race/Ethnicity and Neighborhood, Age-specific Rates per 10,000 Residents, Ages 13-18, 2016 and 2017 Combined

Boston	32.8	N/A
		Comparison to White Residents
Asian	***	***
Black	41.9	Higher
Latino	32.0	Similar
White	29.6	Reference
		Comparison to Rest of Boston
Allston/Brighton	68.8	Higher
Back Bay, Beacon Hill Downtown, North End, West End	***	***
Charlestown	***	***
Dorchester 02121 02125	39.0	Similar
Dorchester 02122 02124	62.1	Higher
East Boston	30.7*	***
Fenway	***	***
Hyde Park	23.6*	Similar
Jamaica Plain	29.7*	Similar
Mattapan	41.8*	Similar
Roslindale	26.7*	Similar
Roxbury	26.3*	Similar
South Boston	39.2*	Similar
South End	***	***
West Roxbury	26.1*	Similar

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis
DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
* Rates based on 20 or fewer cases and should be interpreted with caution
*** Data suppressed due to too few cases (n<11)
NOTE: Hospital Patient Encounters include any emergency department, hospitalization, or observational encounter for marijuana dependence or misuse.

Violence

Table 62: Boston CHNA Survey Respondents Perceptions of Neighborhood Safety, All Respondents, Respondents with and without Children Under 18, 2019

	All Respondents (N=1920)	With children under 18 (N=500)	Without children under 18 (N=1,137)
Extremely safe	9.7%	6.2%	11.2%
Safe	65.3%	61.8%	67.7%
Unsafe	21.4%	25.6%	18.5%
Extremely unsafe	3.6%	6.4%	2.6%
Unsafe/Extremely unsafe	25.0%	32.0%	21.1%

NOTE: Question asked: How safe from crime do you consider your neighborhood to be? Would you say….; Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Chi-square analyses were conducted and there were statistically significant differences within the following groups ($p < 0.05$): respondents with and without children under 18

Table 63: Boston CHNA Survey Respondents Perceptions of Neighborhood Safety, All Respondents, Respondents by Age, 2019

	All Respondents (N=1920)	Under 18 years (N=187)	18-24 years (N=129)	25-44 years (N=674)	45-64 years (N=445)	65+ years (N=196)
Extremely safe	9.7%	10.2%	7.0%	7.4%	10.6%	20.4%
Safe	65.3%	62.6%	66.7%	64.8%	66.7%	68.9%
Unsafe	21.4%	24.1%	21.7%	23.0%	19.3%	10.2%
Extremely unsafe	3.6%	3.2%	4.7%	4.8%	3.4%	0.5%
Unsafe/Extremely unsafe	25.0%	27.3%	26.4%	27.8%	22.7%	10.7%

NOTE: Question asked: How safe from crime do you consider your neighborhood to be? Would you say….; Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Chi-square analyses were conducted and there were statistically significant differences within the following groups ($p < 0.05$): respondents by age groups

Table 64: Boston CHNA Survey Respondents Perceptions of Serious Safety Issues, All Respondents, Respondents with and without Children Under 18, 2019

	All respondents	With Children Under 18	Without Children Under 18
Feeling unsafe while alone on your street during the day?*	5.2%	6.1%	4.4%
Feeling unsafe while alone on your street at night?*	19.3%	16.1%	16.8%
Feeling unsafe in your home?	2.9%	3.5%	2.4%
Gunshots in your neighborhood?*	21.5%	31.6%	16.0%
Feeling unsafe in public places in your neighborhood? (e.g., parks, bus stops)*	10.7%	13.9%	7.5%
Feeling unsafe while riding a bike in your neighborhood?	14.0%	16.3%	3.1%

NOTE: Question asked: Please note if any of these issues were not a problem, a minor problem, or a serious problem for you in the last 12 months.; Percentage calculations are respondents who selected "a serious problem"; Asterisk (*) denotes statistically significant differences across groups for question item ($p < 0.05$)

Table 65: Boston CHNA Survey Respondents Perceptions of Serious Safety Issues, All Respondents, Respondents by Age, 2019

	All respondents	Under 18	18-24 Years	25-44 Years	45-64 Years	65+ Years
Feeling unsafe while alone on your street during the day?*	5.2%	4.0%	4.4%	5.0%	5.7%	3.5%
Feeling unsafe while alone on your street at night?*	19.3%	23.7%	22.5%	19.4%	15.8%	14.4%
Feeling unsafe in your home?*	2.9%	2.1%	2.2%	3.1%	2.3%	2.6%
Gunshots in your neighborhood?*	21.5%	14.4%	18.2%	24.4%	21.7%	13.3%
Feeling unsafe in public places in your neighborhood? (e.g., parks, bus stops)*	10.7%	7.5%	11.4%	12.3%	8.2%	5.5%

Feeling unsafe while riding a bike in your neighborhood?*	14.0%	3.1%	9.3%	18.9%	12.5%	16.9%

NOTE: Question asked: Please note if any of these issues were not a problem, a minor problem, or a serious problem for you in the last 12 months.; Percentage calculations are respondents who selected "a serious problem"; Asterisk (*) denotes statistically significant differences across groups for question item ($p < 0.05$)

Table 66. Unintentional Fall Injury Hospital Patient Encounters by Race/Ethnicity and Neighborhood, Age-specific Rates per 10,000 Residents, Ages 0-12, 2016 and 2017 Combined

Boston	336.4	N/A
		Comparison to White Residents
Asian	217.9	Lower
Black	381.8	Similar
Latino	268.7	Lower
White	383.8	Reference
		Comparison to Rest of Boston
Allston/Brighton	365.5	Similar
Back Bay, Beacon Hill Downtown, North End, West End	369.5	Similar
Charlestown	559.5	Higher
Dorchester 02121 02125	349.7	Similar
Dorchester 02122 02124	396.3	Higher
East Boston	185.8	Lower
Fenway	282.0	Similar
Hyde Park	319.8	Similar
Jamaica Plain	232.2	Lower
Mattapan	383.7	Higher
Roslindale	282.0	Lower
Roxbury	392.1	Higher
South Boston	424.6	Higher
South End	375.4	Similar
West Roxbury	222.9	Lower

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis
DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
* Rates based on 20 or fewer cases and should be interpreted with caution
*** Data suppressed due to too few cases (n<11)
NOTE: Hospital Patient Encounters include any emergency department or hospitalization encounter for an injury caused by unintentional fall.

Table 67. Unintentional Fall Injury Hospital Patient Encounters by Race/Ethnicity and Neighborhood, Age-specific Rates per 10,000 Residents, Ages 13-18, 2016 and 2017 Combined

Boston	166.8	N/A
		Comparison to White Residents
Asian	75.4	Lower
Black	208.6	Higher
Latino	139.4	Similar
White	154.3	Reference
		Comparison to Rest of Boston

Allston/Brighton	206.3	Similar
Back Bay, Beacon Hill Downtown, North End, West End	90.0	Lower
Charlestown	331.0	Higher
Dorchester 02121 02125	223.6	Higher
Dorchester 02122 02124	227.7	Higher
East Boston	97.6	Lower
Fenway	41.7	Lower
Hyde Park	152.6	Similar
Jamaica Plain	159.6	Similar
Mattapan	224.5	Higher
Roslindale	155.3	Similar
Roxbury	157.8	Similar
South Boston	231.7	Higher
South End	224.4	Higher
West Roxbury	159.3	Similar

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis
DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
* Rates based on 20 or fewer cases and should be interpreted with caution
*** Data suppressed due to too few cases (n<11)
NOTE: Hospital Patient Encounters include any emergency department or hospitalization encounter for an injury caused by unintentional fall.

Table 68. Unintentional Fall Injury Hospital Patient Encounters by Race/Ethnicity and Neighborhood, Age-specific Rates per 10,000 Residents, Ages 0-18, 2016 and 2017 Combined

Boston	272.4	N/A
		Comparison to White Residents
Asian	152.3	Lower
Black	309.7	Similar
Latino	224.4	Lower
White	298.8	Reference
		Comparison to Rest of Boston
Allston/Brighton	313.2	Higher
Back Bay, Beacon Hill Downtown, North End, West End	267.5	Similar
Charlestown	509.1	Higher
Dorchester 02121 02125	302.1	Higher
Dorchester 02122 02124	333.6	Higher
East Boston	160.4	Lower
Fenway	86.5	Lower
Hyde Park	259.5	Similar
Jamaica Plain	213.2	Lower
Mattapan	317.8	Higher
Roslindale	239.1	Lower
Roxbury	293.6	Similar

South Boston	361.6	Higher
South End	329.5	Higher
West Roxbury	203.8	Lower

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis
DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
* Rates based on 20 or fewer cases and should be interpreted with caution
*** Data suppressed due to too few cases (n<11)
NOTE: Hospital Patient Encounters include any emergency department or hospitalization encounter for an injury caused by unintentional fall.

Table 69. Concussion Hospital Patient Encounters by Race/Ethnicity and Neighborhood, Age-specific Rates per 10,000 Residents, Ages 0-12, 2016 and 2017 Combined

Boston	25.1	N/A
		Comparison to White Residents
Asian	***	***
Black	29.6	Similar
Latino	21.9	Similar
White	26.0	Reference
		Comparison to Rest of Boston
Allston/Brighton	***	***
Back Bay, Beacon Hill Downtown, North End, West End	24.2*	Similar
Charlestown	44.5*	Higher
Dorchester 02121 02125	19.9	Similar
Dorchester 02122 02124	29.4	Similar
East Boston	16.1*	Lower
Fenway	55.7*	Higher
Hyde Park	34.8	Similar
Jamaica Plain	14.5*	Similar
Mattapan	29.5	Similar
Roslindale	24.8	Similar
Roxbury	24.8	Similar
South Boston	22.4	Similar
South End	27.8*	Similar
West Roxbury	29.7*	Similar

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis
DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
* Rates based on 20 or fewer cases and should be interpreted with caution
*** Data suppressed due to too few cases (n<11)
NOTE: Hospital Patient Encounters include any emergency department, hospitalization, or observational encounter with primary diagnosis of Traumatic Brain Injury as defined by National Center for Health Statistics.

Table 70. Concussion Hospital Patient Encounters by Race/Ethnicity and Neighborhood, Age-specific Rates per 10,000 Residents, Ages 13-18, 2016 and 2017 Combined

Boston	49.3	N/A
		Comparison to White Residents
Asian	***	***
Black	62.8	Higher
Latino	41.3	Similar
White	47.8	Reference
		Comparison to Rest of Boston
Allston/Brighton	65.9	Similar
Back Bay, Beacon Hill Downtown, North End, West End	42.0*	Similar
Charlestown	***	***
Dorchester 02121 02125	69.2	Higher
Dorchester 02122 02124	68.7	Higher
East Boston	27.1*	Lower
Fenway	10.2*	Lower
Hyde Park	58.1	Similar
Jamaica Plain	44.5	Similar
Mattapan	52.8	Similar
Roslindale	77.7	Higher
Roxbury	50.0	Similar
South Boston	***	****
South End	36.4*	Similar
West Roxbury	43.4*	Similar

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis
DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
* Rates based on 20 or fewer cases and should be interpreted with caution
*** Data suppressed due to too few cases (n<11)
NOTE: Hospital Patient Encounters include any emergency department, hospitalization, or observational encounter with primary diagnosis of Traumatic Brain Injury as defined by National Center for Health Statistics.

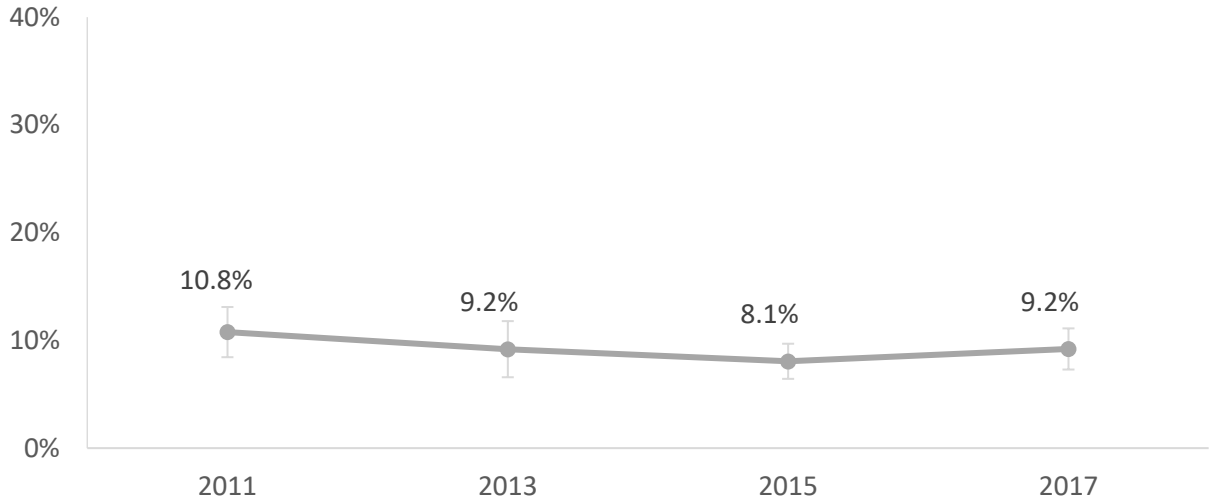
Table 71. Concussion Hospital Patient Encounters by Race/Ethnicity and Neighborhood, Age-specific Rates per 10,000 Residents, Ages 0-18, 2016 and 2017 Combined

Boston	34.2	N/A
		Comparison to White Residents
Asian	10.0*	Lower
Black	43.4	Higher
Latino	28.6	Similar
White	34.0	Reference
		Comparison to Rest of Boston
Allston/Brighton	28.2	Similar
Back Bay, Beacon Hill Downtown, North End, West End	30.7	Similar
Charlestown	51.1	Higher

Dorchester 02121 02125	38.5	Similar
Dorchester 02122 02124	44.0	Higher
East Boston	19.3	Lower
Fenway	18.7	Lower
Hyde Park	43.2	Higher
Jamaica Plain	22.4	Similar
Mattapan	39.2	Similar
Roslindale	42.7	Similar
Roxbury	35.4	Similar
South Boston	25.6	Similar
South End	30.4	Similar
West Roxbury	33.8	Similar

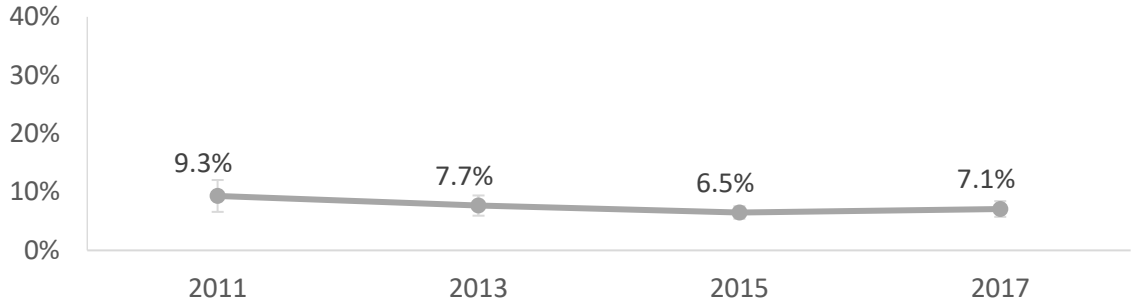
DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis
DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
* Rates based on 20 or fewer cases and should be interpreted with caution
*** Data suppressed due to too few cases (n<11)
NOTE: Hospital Patient Encounters include any emergency department, hospitalization, or observational encounter with primary diagnosis of Traumatic Brain Injury as defined by National Center for Health Statistics.

Figure 101. Boston Public High School Youth Reporting Being Electronically Bullied in the Past Year, by Boston and Over Time, 2011-2017



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2011, 2013, 2015, and 2017
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTES: Students were asked if during the past 12 months, they had been electronically bullied (including through texting, Instagram, Facebook, or other social media); Error bars show 95% confidence interval; Change over time was not statistically significant

Figure 102. Percent Boston Public High School Youth Reporting Being Bullied Because of Sexual Orientation in the Past Year, by Boston and Over Time, 2011-2017



DATA SOURCE: Centers for Disease Control and Prevention and Boston Public Schools, Youth Risk Behavior Survey, 2011, 2013, 2015, and 2017
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTES: Students were asked if during the past 12 months, they had been electronically bullied (including through texting, Instagram, Facebook, or other social media); Error bars show 95% confidence interval; Change over time was not statistically significant

Table 72. Boston CHNA Survey Respondents Who Reported Their Children Experiencing Adversity, Somewhat Often or Very Often, All Respondents, Respondents with and without Children Under 18, 2019

	All Respondents	With Children Under 18	Without Children Under 18
Has it been very hard to get by on your family's income – hard to cover the basics like food or housing?*	35.1%	38.7%	29.5%
Did your child ever live with a parent or guardian who got divorced or separated after your child was born?*	17.3%	17.4%	17.8%
Has your child ever been bullied online, at school or in the neighborhood?*	14.5%	4.0%	7.1%
Did your child ever witness any violence in [his/her] neighborhood?*	14.2%	3.1%	7.7%
Did your child ever live with anyone who was mentally ill or suicidal, or severely depressed for more than a couple of weeks?	12.3%	6.1%	8.8%
Did your child live with anyone who had a problem with alcohol or drugs?	8.2%	12.8%	15.7%
Did your child ever see or hear any parents or adults in [his/her] home slap, hit, kick, punch, or beat each other up?*	7.1%	9.4%	16.4%
Did your child ever live with a parent or guardian who died?*	5.4%	4.4%	13.6%
Did your child ever live with a parent or guardian who served time in jail or prison after your child was born?	5.2%	13.8%	14.7%

DATA SOURCE: Boston CHNA Community Survey, 2019
NOTE: Question asked: For parents of children of any age: Since your child was born, how often…. (If you have more than one child, please answer these questions for your oldest child.); Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Asterisk (*) denotes statistically significant differences across groups for question item ($p < 0.05$)

Table 73. Boston CHNA Survey Respondents Who Reported Their Children Experiencing Adversity, Somewhat Often or Very Often, All Respondents, Respondents by Age, 2019

	All Respondents	Under 18 Years	18-24 Years	25-44 Years	45-64 Years	65+ Years
Has it been very hard to get by on your family's income – hard to cover the basics like food or housing?*	35.1%	16.7%	43.3%	43.3%	27.8%	28.4%
Did your child ever live with a parent or guardian who got divorced or separated after your child was born?	17.3%	20.5%	12.5%	19.3%	15.4%	17.9%
Has your child ever been bullied online, at school or in the neighborhood?*	14.5%	11.6%	4.0%	5.3%	4.6%	4.7%
Did your child ever witness any violence in [his/her] neighborhood?	14.2%	7.0%	4.0%	5.3%	4.6%	2.4%
Did your child ever live with anyone who was mentally ill or suicidal, or severely depressed for more than a couple of weeks?	12.3%	6.7%	11.5%	9.9%	3.0%	6.9%
Did your child live with anyone who had a problem with alcohol or drugs?	8.2%	23.3%	7.7%	11.1%	15.4%	14.1%
Did your child ever see or hear any parents or adults in [his/her] home slap, hit, kick, punch, or beat each other up?	7.1%	16.7%	3.9%	12.2%	10.8%	15.5%
Did your child ever live with a parent or guardian who died?	5.4%	9.1%	7.7%	6.0%	8.7%	14.0%
Did your child ever live with a parent or guardian who served time in jail or prison after your child was born?	5.2%	10.9%	15.4%	14.7%	14.7%	12.2%

DATA SOURCE: Boston CHNA Community Survey, 2019

NOTE: Question asked: For parents of children of any age: Since your child was born, how often…. (If you have more than one child, please answer these questions for your oldest child.); Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Asterisk (*) denotes statistically significant differences across groups for question item ($p < 0.05$)

Table 74. Abuse Hospital Patient Encounters by Race/Ethnicity and Neighborhood, Age-specific Rates per 10,000 Residents, Ages 0-12, 2016 and 2017 Combined

Boston	19.0	N/A
		Comparison to White Residents
Asian	***	***
Black	31.8	Higher
Latino	16.5	Higher
White	7.9	Reference
		Comparison to Rest of Boston
Allston/Brighton	21.0*	Similar
Back Bay, Beacon Hill Downtown, North End, West End	***	***
Charlestown	***	***
Dorchester 02121 02125	32.8	Higher
Dorchester 02122 02124	23.0	Similar
East Boston	***	***
Fenway	***	***
Hyde Park	19.5*	Similar
Jamaica Plain	***	***
Mattapan	21.7*	Similar
Roslindale	13.7*	***
Roxbury	39.1	Higher
South Boston	****	****
South End	15.9	***
West Roxbury	***	***

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis
DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
* Rates based on 20 or fewer cases and should be interpreted with caution
*** Data suppressed due to too few cases (n<11)
NOTE: Hospital Patient Encounters include any emergency department, hospitalization, or observational encounter with any diagnosis of Child Abuse or Adult Abuse.

Table 75. Abuse Hospital Patient Encounters by Race/Ethnicity and Neighborhood, Age-specific Rates per 10,000 Residents, Ages 13-18, 2016 and 2017 Combined

Boston	17.9	N/A
		Comparison to White Residents
Asian	***	***
Black	24.7	Higher
Latino	21.1	Higher
White	8.8*	Reference
		Comparison to Rest of Boston
Allston/Brighton	***	***
Back Bay, Beacon Hill Downtown, North End, West End	***	***
Charlestown	***	***

Dorchester 02121 02125	24.0	Similar
Dorchester 02122 02124	31.5	Higher
East Boston	***	***
Fenway	9.4*	Lower
Hyde Park	21.8*	Similar
Jamaica Plain	***	***
Mattapan	28.6*	Similar
Roslindale	***	***
Roxbury	23.7*	Similar
South Boston	****	****
South End	***	***
West Roxbury	***	***

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis
DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
* Rates based on 20 or fewer cases and should be interpreted with caution
*** Data suppressed due to too few cases (n<11)
NOTE: Hospital Patient Encounters include any emergency department, hospitalization, or observational encounter with any diagnosis of Child Abuse or Adult Abuse.

Table 76. Abuse Hospital Patient Encounters by Race/Ethnicity and Neighborhood, Age-specific Rates per 10,000 Residents, Ages 0-18, 2016 and 2017 Combined

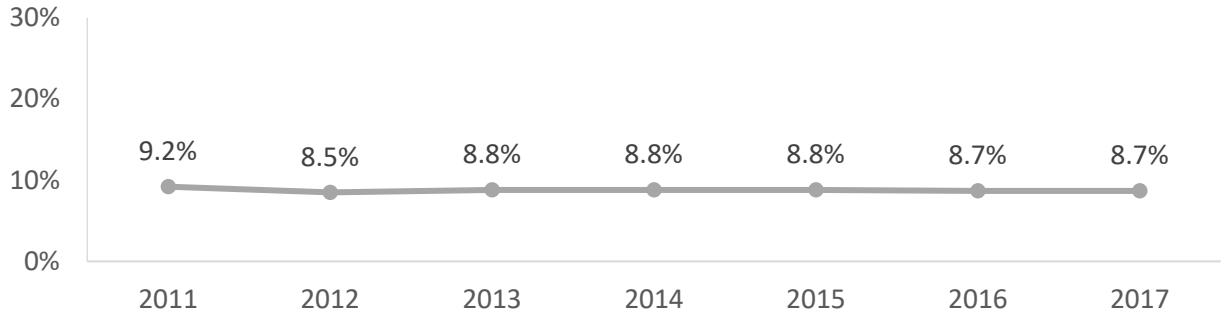
Boston	18.9	N/A
		Comparison to White Residents
Asian	***	***
Black	18.2	Higher
Latino	29.6	Higher
White	8.7	Reference
		Comparison to Rest of Boston
Allston/Brighton	17.9*	Similar
Back Bay, Beacon Hill Downtown, North End, West End	***	***
Charlestown	***	***
Dorchester 02121 02125	29.5	Higher
Dorchester 02122 02124	26.1	Higher
East Boston	9.4*	Similar
Fenway	11.1*	Lower
Hyde Park	20.3	Similar
Jamaica Plain	13.6*	Similar
Mattapan	24.6	Similar
Roslindale	13.1*	Similar
Roxbury	32.6	Higher
South Boston	***	***
South End	12.9*	Similar
West Roxbury	***	***

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
* Rates based on 20 or fewer cases and should be interpreted with caution
*** Data suppressed due to too few cases (n<11)
NOTE: Hospital Patient Encounters include any emergency department, hospitalization, or observational encounter with any diagnosis of Child Abuse or Adult Abuse.

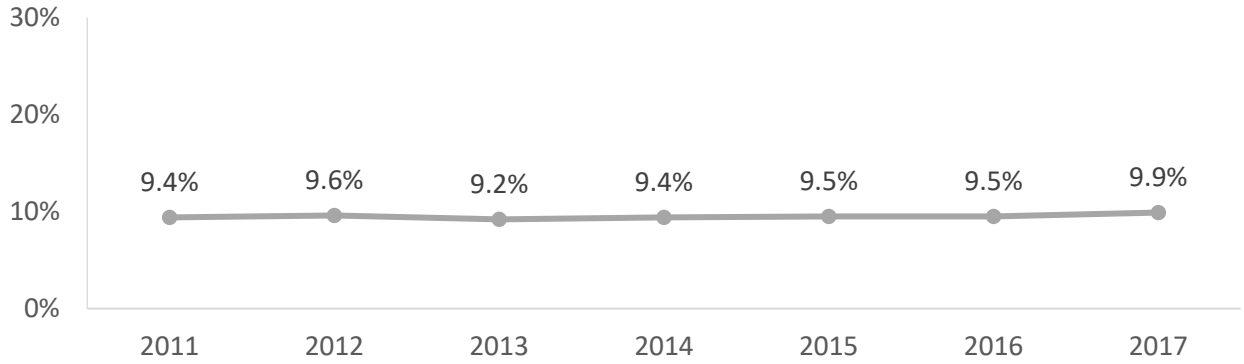
Maternal and Child Health

Figure 103. Percent Low Birthweight Births, by Boston and Over Time, 2011-2017



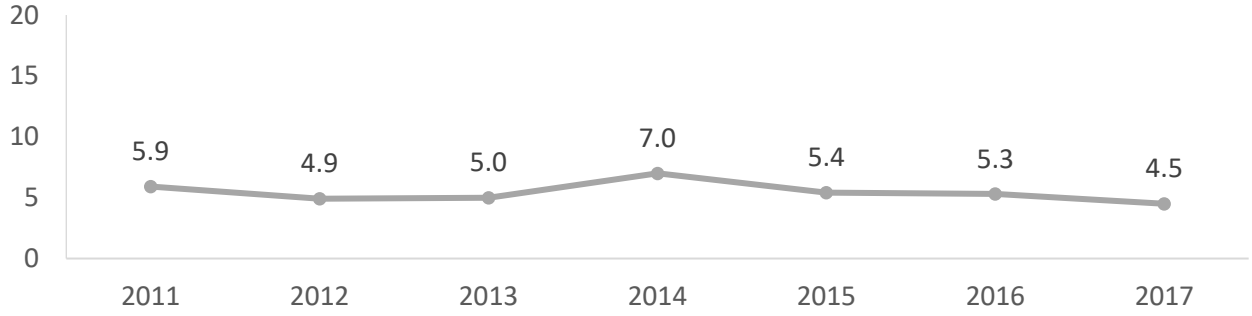
DATA SOURCE: Massachusetts Department of Public Health, Boston Resident Live Births, 2017
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTES: Low birth weight is defined as weighing less than 5 pounds, 8 ounces; Change over time was not statistically significant

Figure 104. Percent Preterm Births, by Boston and Over Time, 2011-2017



DATA SOURCE: Massachusetts Department of Public Health, Boston Resident Live Births, 2011-2017
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTES: Preterm birth is defined as being born before 37 weeks of gestation; Change over time was not statistically significant

Figure 105. Infant Mortality Rate, by Boston and Over Time, Rate per 1,000 Live Births, 2011-2017



DATA SOURCE: Massachusetts Department of Public Health, Boston Resident Live Births, 2011-2017
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office
NOTE: Change over time was not statistically significant

Boston Children's Encounter Data for Other Health Issues

Table 77. Failure to Thrive Hospital Patient Encounters by Race/Ethnicity and Neighborhood, Age-specific Rates per 10,000 Residents, Ages 0-12, 2016 and 2017 Combined

Boston	17.2	N/A
		Comparison to White Residents
Asian	***	***
Black	21.2	Higher
Latino	14.6	Similar
White	12.5	Reference
		Comparison to Rest of Boston
Allston/Brighton	***	***
Back Bay, Beacon Hill Downtown, North End, West End	***	***
Charlestown	***	***
Dorchester 02121 02125	5.9*	Lower
Dorchester 02122 02124	28.4	Higher
East Boston	18.3	Similar
Fenway	51.9	Higher
Hyde Park	24.6	Similar
Jamaica Plain	18.5*	Similar
Mattapan	18.6*	Similar
Roslindale	***	***
Roxbury	20.0	Similar
South Boston	***	***
South End	***	***
West Roxbury	17.3*	Similar

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis
DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
* Rates based on 20 or fewer cases and should be interpreted with caution
*** Data suppressed due to too few cases (n<11)
NOTE: Hospital Patient Encounters include any emergency department, hospitalization, or observational encounter with any diagnosis of failure to thrive.

Table 78. Failure to Thrive Hospital Patient Encounters by Race/Ethnicity and Neighborhood, Age-specific Rates per 10,000 Residents, Ages 0-18, 2016 and 2017 Combined

Boston	11.4	N/A
		Comparison to White Residents
Asian	***	***
Black	13.3	Similar
Latino	10.5	Similar
White	7.9	Reference
		Comparison to Rest of Boston
Allston/Brighton	32.0	Similar

Back Bay, Beacon Hill Downtown, North End, West End	24.1	Similar
Charlestown	***	***
Dorchester 02121 02125	5.0*	Lower
Dorchester 02122 02124	19.1	Higher
East Boston	13	Similar
Fenway	10.4*	Similar
Hyde Park	15.7*	Similar
Jamaica Plain	13.6*	Similar
Mattapan	10.9*	Similar
Roslindale	9.0*	Similar
Roxbury	11.6	Similar
South Boston	***	***
South End	***	***
West Roxbury	12.1*	Similar

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis
DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
* Rates based on 20 or fewer cases and should be interpreted with caution
*** Data suppressed due to too few cases (n<11)
NOTE: Hospital Patient Encounters include any emergency department, hospitalization, or observational encounter with any diagnosis of failure to thrive.

Table 79. Unintentional Fire/Burn Injury Hospital Patient Encounters by Race/Ethnicity and Neighborhood, Age-specific Rates per 10,000 Residents, Ages 0-12, 2016 and 2017 Combined

Boston	19.1	N/A
		Comparison to White Residents
Asian	***	***
Black	25.3	Higher
Latino	18.4	Similar
White	12.8	Reference
		Comparison to Rest of Boston
Allston/Brighton	***	***
Back Bay, Beacon Hill Downtown, North End, West End	24.2*	Similar
Charlestown	***	***
Dorchester 02121 02125	19.9	Similar
Dorchester 02122 02124	24.5	Similar
East Boston	14.6	Similar
Fenway	***	***
Hyde Park	23.6	Similar
Jamaica Plain	14.5*	Similar
Mattapan	38.8	Higher
Roslindale	***	***
Roxbury	18.1*	Similar

South Boston	29.3*	Similar
South End	17.2*	Similar
West Roxbury	***	***

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis
DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
* Rates based on 20 or fewer cases and should be interpreted with caution
*** Data suppressed due to too few cases (n<11)
NOTE: Hospital Patient Encounters include any emergency department or hospitalization encounter for an injury caused by unintentional contact with fire or other burn.

Table 80. Unintentional Fire/Burn Injury Hospital Patient Encounters by Race/Ethnicity and Neighborhood, Age-specific Rates per 10,000 Residents, Ages 13-18, 2016 and 2017 Combined

Boston	7.7	N/A
		Comparison to White Residents
Asian	***	***
Black	12.6	***
Latino	5.3*	***
White	***	***
		Comparison to Rest of Boston
Allston/Brighton	***	***
Back Bay, Beacon Hill Downtown, North End, West End	***	***
Charlestown	***	***
Dorchester 02121 02125	***	***
Dorchester 02122 02124	9.1	Similar
East Boston	***	***
Fenway	***	***
Hyde Park	***	***
Jamaica Plain	***	***
Mattapan	***	***
Roslindale	***	***
Roxbury	***	***
South Boston	****	****
South End	***	***
West Roxbury	***	***

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis
DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
* Rates based on 20 or fewer cases and should be interpreted with caution
*** Data suppressed due to too few cases (n<11)
NOTE: Hospital Patient Encounters include any emergency department or hospitalization encounter for an injury caused by unintentional contact with fire or other burn.

Table 81. Unintentional Fire/Burn Injury Hospital Patient Encounters by Race/Ethnicity and Neighborhood, Age-specific Rates per 10,000 Residents, Ages 0-18, 2016 and 2017 Combined

Boston	14.8	N/A
		Comparison to White Residents
Asian	6.5*	Similar

Black	20.0	Higher
Latino	13.9	Higher
White	9.6	Reference
		Comparison to Rest of Boston
Allston/Brighton	13.2*	Similar
Back Bay, Beacon Hill Downtown, North End, West End	16.4*	Similar
Charlestown	***	***
Dorchester 02121 02125	15.4	Similar
Dorchester 02122 02124	18.8	Similar
East Boston	10.9	Similar
Fenway	***	***
Hyde Park	16.4	Similar
Jamaica Plain	16.5*	Similar
Mattapan	28.2	Higher
Roslindale	11.5*	Similar
Roxbury	13.8	Similar
South Boston	23.3	Higher
South End	15.6*	Similar
West Roxbury	***	***

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis
DATA ANALYSIS: Research and Evaluation Office, Boston Public Health Commission
* Rates based on 20 or fewer cases and should be interpreted with caution
*** Data suppressed due to too few cases (n<11)
NOTE: Hospital Patient Encounters include any emergency department or hospitalization encounter for an injury caused by unintentional contact with fire or other burn.

Access to Care

Table 82. Boston CHNA Survey Respondents Source of Healthcare, All Respondents, Respondents with and without Children Under 18, 2019

	All respondents (N=2,009)	With children under 18 (N=537)	Without children under 18 (N=1,146)
A doctor's office*	50.9%	50.5%	61.2%
A public health clinic or community health center*	32.1%	46.4%	31.5%
Urgent care provider	16.9%	16.8%	20.0%
A hospital emergency room	12.7%	13.6%	13.9%
A hospital outpatient department	11.5%	12.9%	12.4%
No usual place*	4.5%	2.1%	6.5%
Some other kind of place*	2.7%	1.7%	3.7%

DATA SOURCE: Boston CHNA Community Survey, 2019
NOTE: Question asked: When you are sick or need advice about your health, to which of the following places do you usually go? (Please check all that apply.); Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Respondents were allowed to select multiple response options; therefore, percentages may not sum to 100%; Asterisk (*) denotes statistically significant differences across groups for question item ($p < 0.05$)

Table 83. Boston CHNA Survey Respondents Source of Healthcare, All Respondents, Respondents by Age, 2019

	All respondents	Under 18 years (N=192)	18-24 years (N=135)	25-44 years (N=720)	45-64 years (N=464)	65+ years (N=207)
A doctor's office	50.9%	59.4%	53.3%	56.5%	59.3%	58.9%
A public health clinic or community health center*	32.1%	32.8%	44.4%	39.6%	32.8%	30.0%
Urgent care provider*	16.9%	14.1%	23.7%	22.1%	16.8%	15.9%
A hospital emergency room	12.7%	18.8%	15.6%	11.4%	14.7%	15.5%
A hospital outpatient department*	11.5%	5.2%	5.9%	11.1%	15.7%	23.7%
No usual place*	4.5%	12.5%	11.1%	5.3%	1.3%	2.4%
Some other kind of place	2.7%	2.6%	5.2%	3.3%	2.4%	1.9%

DATA SOURCE: Boston CHNA Community Survey, 2019

NOTE: Question asked: When you are sick or need advice about your health, to which of the following places do you usually go? (Please check all that apply.); Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Respondents were allowed to select multiple response options; therefore, percentages may not sum to 100%; Asterisk (*) denotes statistically significant differences across groups for question item ($p < 0.05$)

Table 84: Boston CHNA Survey Respondents Healthcare Providers, All Respondents, Respondents with and without Children Under 18, 2019

	All respondents (N=1775)	Respondents with children under 18 (N=521)	Respondents without children under 18 (N=1,170)
Yes, only one	66.1%	71.8%	64.1%
More than one	21.5%	18.2%	22.6%
No	12.3%	10.0%	13.3%

NOTE: Question asked: Do you have one person you think of as your personal doctor or health care provider? ; Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Chi-square analyses were conducted and there were statistically significant differences within the following groups ($p < 0.05$): respondents with and without children under 18

Table 85: Boston CHNA Survey Respondents Healthcare Providers, All Respondents, Respondents by Age, 2019

	All respondents (N=1775)	Under 18 years (N=189)	18-24 years (N=135)	25-44 years (N=700)	45-64 years (N=455)	65+ years (N=204)
Yes, only one	66.1%	70.4%	62.2%	64.1%	71.4%	65.2%
More than one	21.5%	18.5%	17.0%	19.0%	22.9%	27.9%
No	12.3%	11.1%	20.7%	16.9%	5.7%	6.9%

NOTE: Question asked: Do you have one person you think of as your personal doctor or health care provider? ; Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Chi-square analyses were conducted and there were statistically significant differences within the following groups ($p < 0.05$): respondents across age groups

Table 86: Boston CHNA Survey Respondents Last Dental Checkup, All Respondents, Respondents with and without Children Under 18, 2019

	All respondents (N=1806)	With children under 18 (N=536)	Without children under 18 (N=1,184)
Within the past year	72.3%	71.8%	73.1%
2 to 5 years ago	20.3%	21.6%	19.2%

5 or more years ago	6.0%	6.2%	5.9%
Never	1.4%	0.4%	1.9%

NOTE: Question asked: When was the last time you had a dental check-up?; Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" No statistical difference between respondents with or without children under 18

Table 87: Boston CHNA Survey Respondents Last Dental Checkup, All Respondents, Respondents by Age, 2019

	All respondents (N=1806)	Under 18 years (N=190)	18-24 years (N=137)	25-44 years (N=718)	45-64 years (N=462)	65+ years (N=203)
Within the past year	72.3%	84.7%	73.0%	69.5%	73.4%	74.4%
2 to 5 years ago	20.3%	12.6%	24.1%	22.4%	19.1%	16.3%
5 or more years ago	6.0%	1.6%	2.2%	6.7%	7.1%	7.4%
Never	1.4%	1.1%	0.7%	1.4%	0.4%	2.0%

NOTE: Question asked: When was the last time you had a dental check-up?; Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Chi-square analyses were conducted and there were statistically significant differences within the following groups ($p < 0.05$): respondents by age groups

Table 88: Boston CHNA Survey Respondents Reporting Cost Barriers to Accessing Healthcare, All Respondents, Respondents with and without Children Under 18, 2019

	All respondents (N=1724)	With children under 18 (N=502)	Without children under 18 (N=1,142)
Yes	12.5%	13.8%	12.0%
No	87.5%	86.3%	88.0%

NOTE: Question asked: Was there a time in the past 12 months when you needed to see a doctor but could not because of the cost?; Percentage calculations do not include respondents who selected "prefer not to answer/don't know. No statistically significant difference between groups

Table 89: Boston CHNA Survey Respondents Reporting Cost Barriers to Accessing Healthcare, All Respondents, Respondents by Age, 2019

	All respondents (N=1724)	Under 18 years (N=186)	18-24 years (N=133)	25-44 years (N=687)	45-64 years (N=435)	65+ years (N=195)
Yes	12.5%	3.2%	15.0%	17.5%	11.0%	2.6%
No	87.5%	96.8%	85.0%	82.5%	89.0%	97.4%

NOTE: Question asked: Was there a time in the past 12 months when you needed to see a doctor but could not because of the cost?; Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Chi-square analyses were conducted and there were statistically significant differences within the following groups ($p < 0.05$): respondents by age groups

Table 90: Boston CHNA Survey Respondents Reporting Cost Barriers to Accessing Dental Care, All Respondents, Respondents with and without Children Under 18, 2019

	All respondents (N=1755)	With children under 18 (N=521)	Without children under 18 (N=1,151)
Yes	22.9%	27.6%	20.8%
No	77.1%	72.4%	79.2%

NOTE: Question asked: Was there a time in the past 12 months when you needed to see a dentist but could not because of the cost?; Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Chi-square analyses were conducted and there were statistically significant differences within the following groups ($p < 0.05$): respondents with and without children under 18

Table 91: Boston CHNA Survey Respondents Reporting Cost Barriers to Accessing Dental Care, All Respondents, Respondents by Age, 2019

	All respondents (N=1755)	Under 18 years (N=189)	18-24 years (N=137)	25-44 years (N=692)	45-64 years (N=453)	65+ years (N=196)
Yes	22.9%	4.2%	22.6%	27.9%	24.1%	19.4%
No	77.1%	95.8%	77.4%	72.1%	75.9%	80.6%

NOTE: Question asked: Was there a time in the past 12 months when you needed to see a dentist but could not because of the cost?; Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Chi-square analyses were conducted and there were statistically significant differences within the following groups ($p < 0.05$): respondents by age groups

Table 92. Boston CHNA Survey Respondents Reported Factors That Make it Harder to Get Healthcare, All Respondents, Respondents with and without Children Under 18, 2019

	All Respondents (N=1,014)	With children under 18 (N=295)	Without children under 18 (N=676)
Long wait for an appointment	43.6%	40.7%	46.0%
Lack of evening or weekend services	38.0%	35.3%	39.6%
Cost of care, including high deductibles, co-pays, etc.	33.7%	32.9%	34.5%
Lack of transportation	18.9%	17.6%	19.1%
Office not accepting new patients	18.2%	14.9%	19.5%
Lack of providers who accept my insurance	15.0%	15.9%	15.1%
Unfriendly doctors, providers, or office staff	12.9%	15.3%	12.7%
Don't have health insurance that covers what I need (no insurance or problems with insurance)	12.3%	13.2%	12.0%
Don't know what types of services are available	11.1%	7.5%	13.0%
Afraid to ask questions or talk to doctors/medical people*	10.8%	6.1%	12.7%
Afraid if I take the time off to get care, I'll lose my job*	10.1%	12.9%	8.7%
I have no regular source of health care (primary care physician or clinic)	8.8%	8.1%	9.3%
Felt discriminated against	7.0%	7.8%	6.5%
Language problems/could not communicate with health provider or office staff	4.1%	3.4%	4.1%
Instruction/directions are not in my language	2.5%	2.0%	1.9%

Health information is not kept confidential	1.9%	1.7%	1.9%

DATA SOURCE: Boston CHNA Community Survey, 2019
NOTE: Question asked: Have any of these factors made it harder for you to get the health care services you needed over the past 2 years? (Please check all that apply.); Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Respondents were allowed to select multiple response options; therefore, percentages may not sum to 100%; Asterisk (*) denotes statistically significant differences across groups for question item ($p < 0.05$)

Table 93. Boston CHNA Survey Respondents Reported Factors That Make it Harder to Get Healthcare, All Respondents, Respondents by Age, 2019

	All Respondents (N=1,014)	Under 18 years (N=83)	18-24 years (N=82)	25-44 years (N=502)	45-64 years (N=222)	65+ years (N=77)
Long wait for an appointment*	43.6%	39.8%	34.2%	47.2%	44.6%	40.3%
Lack of evening or weekend services*	38.0%	22.9%	45.1%	46.0%	27.9%	24.7%
Cost of care, including high deductibles, co-pays, etc.*	33.7%	18.1%	29.3%	36.9%	38.7%	23.4%
Lack of transportation*	18.9%	14.5%	25.6%	16.7%	17.1%	29.9%
Office not accepting new patients*	18.2%	6.0%	18.3%	22.7%	14.9%	10.4%
Lack of providers who accept my insurance*	15.0%	13.3%	9.8%	18.3%	14.4%	2.6%
Unfriendly doctors, providers, or office staff*	12.9%	8.4%	12.2%	16.5%	10.8%	6.5%
Don't have health insurance that covers what I need (no insurance or problems with insurance)*	12.3%	6.0%	17.1%	13.9%	9.5%	11.7%
Don't know what types of services are available*	11.1%	21.7%	17.1%	11.0%	8.1%	5.2%
Afraid to ask questions or talk to doctors/medical people*	10.8%	26.5%	17.1%	10.8%	6.3%	1.3%
Afraid if I take the time off to get care, I'll lose my job*	10.1%	3.6%	7.3%	13.8%	6.8%	2.6%
I have no regular source of health care (primary care physician or clinic)*	8.8%	2.4%	18.3%	11.4%	4.5%	3.9%
Felt discriminated against*	7.0%	1.2%	8.5%	8.4%	6.3%	5.2%
Language problems/could not communicate with health provider or office staff*	4.1%	0.0%	1.2%	2.0%	1.8%	22.1%
Instruction/directions are not in my language*	2.5%	2.4%	0.0%	1.4%	0.9%	13.0%
Health information is not kept confidential*	1.9%	3.6%	1.2%	3.0%	0.9%	0.0%

DATA SOURCE: Boston CHNA Community Survey, 2019
NOTE: Question asked: Have any of these factors made it harder for you to get the health care services you needed over the past 2 years? (Please check all that apply.); Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Respondents were allowed to select multiple response options; therefore, percentages may not sum to 100%; Asterisk (*) denotes statistically significant differences across groups for question item ($p < 0.05$)

Table 94. Boston CHNA Survey Respondents Reported Factors That Make it Easier to Get Healthcare, All Respondents, Respondents with and without Children Under 18, 2019

	All Respondents (N=1,509)	With children under 18 (N=455)	Without children under 18 (N=986)
I have a regular source of health care (primary care physician or clinic)*	63.3%	59.3%	64.9%
Insurance covers what I need*	49.7%	43.3%	52.9%
Providers take my insurance	47.8%	45.3%	49.6%
Positive interactions with doctors, providers, or office staff	39.8%	38.0%	40.2%
Felt comfortable asking questions or talking to doctors/medical people*	37.3%	31.0%	40.4%
Available public transportation to health care services*	36.7%	32.5%	38.5%
Able to take time off from my job to seek care	30.4%	28.4%	32.5%
Affordable care (low deductibles and copays)*	30.2%	24.6%	33.0%
Providers or staff speak my language/understand my culture	28.2%	26.6%	29.4%
Health information is kept confidential*	27.1%	23.7%	28.8%
Felt like I would not be discriminated against*	25.8%	21.3%	28.0%
Instruction/directions are in my language*	23.7%	21.3%	24.4%
I know the types of services are available*	21.9%	19.8%	22.7%
Little/no wait time for an appointment	21.2%	21.5%	21.2%
Extended or convenient service hours in health facilities	18.7%	21.8%	17.6%
Office accepting new patients*	13.9%	11.4%	15.5%

DATA SOURCE: Boston CHNA Community Survey, 2019
NOTE: Question asked: Have any of these factors made it easier for you to get the health care services you needed over the past two years? (Please check all that apply.); Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Respondents were allowed to select multiple response options; therefore, percentages may not sum to 100 Asterisk (*) denotes statistically significant differences across groups for question item ($p < 0.05$)

Table 95. Boston CHNA Survey Respondents Reported Factors That Make it Easier to Get Healthcare, All Respondents, Respondents by Age, 2019

	All Respondents (N=1,509)	Under 18 years (N=140)	18-24 years (N=110)	25-44 years (N=620)	45-64 years (N=382)	65+ years (N=185)
I have a regular source of health care (primary care physician or clinic)*	63.3%	53.6%	51.8%	59.5%	67.3%	82.2%
Insurance covers what I need*	49.7%	54.3%	56.4%	46.5%	47.6%	58.9%
Providers take my insurance*	47.8%	30.0%	53.6%	50.8%	47.9%	49.7%
Positive interactions with doctors, providers, or office staff*	39.8%	39.3%	34.6%	38.2%	38.2%	50.3%
Felt comfortable asking questions or talking to doctors/medical people*	37.3%	34.3%	34.6%	34.0%	38.2%	51.4%
Available public transportation to health care services	36.7%	37.1%	40.9%	36.9%	35.1%	38.4%
Able to take time off from my job to seek care*	30.4%	15.0%	25.5%	37.6%	34.0%	18.4%
Affordable care (low deductibles and copays)*	30.2%	27.9%	29.1%	31.0%	27.8%	40.5%
Providers or staff speak my language/understand my culture	28.2%	35.7%	27.3%	26.9%	26.2%	35.1%
Health information is kept confidential	27.1%	32.1%	29.1%	25.8%	25.7%	31.9%
Felt like I would not be discriminated against*	25.8%	31.4%	26.4%	23.6%	23.6%	34.6%
Instruction/directions are in my language*	23.7%	27.9%	30.0%	23.7%	18.9%	29.7%
I know the types of services are available	21.9%	20.7%	19.1%	21.1%	23.0%	24.3%
Little/no wait time for an appointment*	21.2%	18.6%	12.7%	21.9%	23.0%	23.8%
Extended or convenient service hours in health facilities*	18.7%	10.7%	11.8%	20.7%	21.5%	17.8%
Office accepting new patients	13.9%	12.9%	14.6%	15.7%	13.4%	11.4%

DATA SOURCE: Boston CHNA Community Survey, 2019

NOTE: Question asked: Have any of these factors made it easier for you to get the health care services you needed over the past two years? (Please check all that apply.); Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Respondents were allowed to select multiple response options; therefore, percentages may not sum to 100%; Asterisk (*) denotes statistically significant differences across groups for question item ($p < 0.05$)

Table 96. Boston CHNA Survey Respondents Reported Strengths of Community, All Respondents, Respondents with and without Children Under 18, 2019

	All Respondents (N=2,022)	With children under 18 (N=538)	Without children under 18 (N=1,189)
My community is close to medical services	69.0%	73.1%	68.7%
My community has people of many races and cultures	67.5%	69.0%	67.5%
People speak my language	54.8%	54.3%	56.4%
My community has good access to resources	54.6%	55.8%	56.3%
People care about improving their community	48.4%	49.1%	48.2%
People are proud of their community	45.0%	42.6%	47.3%
People accept others who are different than themselves	44.8%	43.1%	46.3%
People feel like they belong in this community	38.8%	37.4%	41.3%
People like to work together in this community	34.5%	36.4%	33.9%
People can deal with challenges in this community	28.1%	27.1%	29.1%
There are innovation and new ideas in my community	27.9%	25.3%	29.7%

DATA SOURCE: Boston CHNA Community Survey, 2019

NOTE: Question asked: What do you see as the strengths of your community or neighborhood? (Please check all that apply.); Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Respondents were allowed to select multiple response options; therefore, percentages may not sum to 100%; No statistically significant differences across any question item by respondents with and without children under 18

Table 97. Boston CHNA Survey Respondents Reported Strengths of Community, All Respondents, Respondents by Age, 2019

	All Respondents (N=2,022)	Under 18 years (N=193)	18-24 years (N=141)	25-44 years (N=708)	45-64 years (N=465)	65+ years (N=206)
My community is close to medical services*	69.0%	48.7%	60.3%	72.7%	72.7%	81.6%
My community has people of many races and cultures	67.5%	63.7%	63.8%	69.4%	69.3%	70.4%
People speak my language*	54.8%	68.9%	63.8%	55.1%	47.3%	61.2%
My community has good access to resources	54.6%	49.2%	55.3%	54.4%	59.6%	58.7%
People care about improving their community*	48.4%	33.7%	24.8%	47.6%	57.2%	63.6%
People are proud of their community*	45.0%	40.9%	33.3%	42.9%	52.7%	53.9%
People accept others who are different than themselves*	44.8%	42.5%	35.5%	42.8%	47.7%	59.2%
People feel like they belong in this community*	38.8%	37.8%	27.0%	36.4%	44.7%	53.4%

People like to work together in this community*	34.5%	31.6%	23.4%	31.6%	40.7%	43.7%
People can deal with challenges in this community*	28.1%	32.1%	14.9%	25.9%	31.4%	35.4%
There are innovation and new ideas in my community*	27.9%	21.8%	18.4%	26.4%	32.5%	39.3%

DATA SOURCE: Boston CHNA Community Survey, 2019

NOTE: Question asked: What do you see as the strengths of your community or neighborhood? (Please check all that apply.); Percentage calculations do not include respondents who selected "prefer not to answer/don't know;" Respondents were allowed to select multiple response options; therefore, percentages may not sum to 100%; Asterisk (*) denotes statistically significant differences across groups for question item ($p < 0.05$)

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[xi] Cost burden is defined by the US Department of Housing and Urban Development as those who pay more than 30 percent of their income for housing.

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[xiii] Massachusetts Department of Public Health, Current Opioid Statistics.

[xiv] Massachusetts Department of Public Health, Population Health Information Tool, 2015.

[xv] Massachusetts Department of Public Health, Population Health Information Tool, 2014.

[xvi] Massachusetts Department of Public Health, Population Health Information Tool, 2015.