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Community Health Needs Assessment 2021

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Acknowledgements

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Executive Summary

This report is a comprehensive analysis of health indicators for Carney Hospital. The Carney Hospital service area includes Dorchester (02122), Dorchester (02124), Dorchester (02125), Mattapan, South Boston, Hyde Park, Quincy (02169), Quincy (02170), and Quincy (02171). Data was gathered by analyzing publicly available information, by reviewing community feedback gathered through focus groups, by conducting an extensive review of published literature on the health of the population residing in the region and in the Commonwealth of Massachusetts, and by surveying service providers. This data-driven methodology allows Carney Hospital to investigate the resource requirements of the community in order to better streamline resources and inform community-based initiatives. The information from our 2021 Community Health Needs Assessment highlights some of the needs identified within the community and may be used to develop targeted population health improvement strategies.

Our goal has been to learn from community residents, particularly those most at-risk for experiencing health disparities, and to implement programming that will give all individuals an opportunity to live a healthy life. This is particularly true for those persons at greatest risk for health inequities, defined by the World Health Organization as, "avoidable inequalities in health between groups of people within countries and between countries," herein identified as high-priority populations. Through community-oriented best practices, Carney Hospital collaborates with community partners to improve the health status of residents within our service area. We accomplish this by: addressing root causes of health disparities, educating community members on prevention and self-care, particularly for chronic diseases such as cancer, heart disease, diabetes, obesity, substance use disorder, and addressing social determinants of health.

This report provides the results of an examination of health conditions and social factors affecting the people living in the Carney Hospital primary service area. Evaluation of both the needs of the community and the strategic goals of the hospital furthers the prospect of working collectively to improve both the health delivery system and the health of the population. Opportunities are realized at the intersection of the hospital's strengths, the community's needs, and innovations in health care delivery.

Social determinants of health, including social, behavioral and environmental influences have become increasingly prevalent factors in addressing population health. Literature recommends linking health care and social service agencies in addressing social determinants of health to increase the efficacy of health promotion and chronic disease prevention programs. In particular, services related to housing, nutritional assistance, education, public safety, and income support are areas for cross sector collaboration with health services in the community. Multicultural communities face particularly complex issues when accessing and receiving treatment in their daily lives.

A key takeaway from this analysis is that collaboration on health promotion and chronic disease prevention among health and social services organizations is critical to the success of population health improvement strategies. From promoting access to affordable health care, creating a stable positive economic environment in the region, ensuring that those most at-risk have access to basic needs for better health outcomes such as stable affordable housing, low-cost nutritional food choices, and a healthy environment, Carney Hospital is well-positioned to implement community benefits programs that support a healthy and thriving community. The information and recommendations herein are offered as a tool for guidance for the hospital and the community to implement strategic actions to improve public health outcomes.

Introduction

Since 1863, Carney Hospital has served the City of Boston and neighboring communities. Carney Hospital has received the Joint Commission's Gold Seal of Approval for health care quality and safety and numerous other quality and safety awards, including being designated a Top Hospital for 2014 and 2015 by the Leapfrog Group. The 159-bed hospital has more than 400 physicians and delivers quality care to approximately 140,000 patients annually. Carney Hospital provides Dorchester and surrounding communities with convenient, local access to quality primary care, emergency medicine and a range of specialties and subspecialties including: critical care, family medicine, cardiology, neurology, oncology, orthopedics, ambulatory care and adolescent, adult and geriatric psychiatry. Carney Hospital is part of the Steward Health Care Network. To learn more, please visit www.carneyhospital.org.

Steward Health Care is the nation's largest private, for profit, physician-led health care network in the United States. Headquartered in Dallas, Texas, Steward operates 39 hospitals in the United States and the country of Malta that regularly receive top awards for quality and safety. The company employs over 40,000 health care professionals. The Steward network includes over 25 urgent care centers and 107 skilled nursing facilities, substantial behavioral health services, more than 7,900 beds under management, and attends to approximately 2.2 million people during more than 12 million physician and hospital visits annually.

Community Benefits Mission Statement

Carney Hospital is committed to collaborating with community partners to improve the health status of our community residents by addressing the root causes of health disparities and educating community members around prevention and self-care, as well as providing current and potential patients with a general introduction to health care options that are accessible in their community.

Community Benefits Statement of Purpose

The Carney Hospital community benefits purpose is to

- Improve the overall health status of people in our service area;
- Provide accessible, high quality care and services to all those in our community, regardless of their ability to pay;
- Collaborate with staff, providers and community representatives to deliver meaningful programs that address statewide health priorities and local health issues;
- Identify and prioritize unmet needs and select those that can most effectively be addressed with available resources;
- Contribute to the well-being of our community through outreach efforts including, but not limited to, reducing barriers to accessing health care, preventive health education, screenings, wellness programs and community-building

Methods

The 2021 Carney Hospital Community Health Needs Assessment was developed in full compliance of the Commonwealth of Massachusetts Office of Attorney General-The Attorney General's Community Benefits Guidelines for Non-Profit Hospitals released in February 2018. In order to accomplish this, a multi-dimensional approach to the collection of health and social demographic information from its primary service area was conducted. In accordance with this process, Carney Hospital engaged various community partners to ensure that varying perspectives on health and social topics were taken into account in order to complete this CHNA. Below is a brief description of the actions taken to gather community data.

Health Indicators and Demographics- Data Analysis

Demographic data was collected using publicly available databases maintained by the U.S. Census Bureau, the MA Department of Early and Secondary Education with some cross-referencing of Center for Disease Control and Prevention (CDC) databases. Health indicator data such as mortality, incidence, prevalence, and hospitalization rates were provided by the Massachusetts Department of Public Health, and by using other state, regional and national information sources (i.e. Uniform Crime Reporting (UCR) Program of the Federal Bureau of Investigation). Supplementary data on health indicators and demographics are available in Appendix A.

Key Informant Interviews

In the Spring of 2021, Carney conducted 4 key informant interviews. Key informants consisted of individuals involved in community partner organizations. Key informants were interviewed virtually through zoom. Questions asked of key informants can be found in Appendix B.

Focus Groups

In order to engage community partners in the data collection process, a focus group was conducted. The focus groups from Boston Home and Dorchester Lower Mills Civic Association captured community perspectives on perceived health issues and explored barriers to health resources. The goal was to collect information from participants that could be used to inform population health improvement strategies. A detailed overview of the focus group questions can be found in Appendix C.

Health Professionals Survey

A Health Professionals Survey was developed and distributed electronically to all Carney Hospital staff, affiliated medical providers, community partner organizations, and area health and human service organizations. In total, 150 individuals submitted responses to this survey. Questions asked in the survey can be found in Appendix

Literature Review

A literature review was conducted in order to gather information from recent governmental, public policy, and academic works. The relevant information was summarized and synthesized into a comprehensive literature review addressing the priority areas for community benefits, including: chronic disease, cardiovascular disease, cancer, diabetes, behavioral health, substance abuse disorders and housing stability/homelessness.

Findings

Mental Health

In the early stages of the COVID-19 pandemic, rates of depression and anxiety drastically increased, with 28.2% of Americans reporting symptoms of depression and 24.4% reporting symptoms for anxiety (NCHS, 2021). Health professionals surveyed indicated mental health was the largest obstacle to healthy living among their consumers and many of those in focus groups listed increased counseling and mental health services as the largest community need.

Substance Use Disorder

Substance abuse remains a major problem for Carney's service area. Massachusetts had one of the higher rates of opioid overdose deaths in the nation, at 32.8 deaths per 100,000 in population (CDC, 2020). Additionally, in 2019, the percentage of Massachusetts adults that reported binge drinking in the last 30 days was 21.3%, slightly higher than the national percentage of 18.6% (UHF, 2019). Key informants and focus group participants noted that substance use disorders are often the result of untreated mental health difficulties and continue to be a major barrier to healthy living.

Obesity

Rates of obesity are rising faster than rates seen for any other chronic illness. While the crude prevalence of obesity in Massachusetts is lower than the national average, Dorchester-02121 (32.9%) had especially high proportions of their community who are obese. Focus group members and key informants indicated special concern about obesity rates were on the rise during the pandemic.

Chronic Conditions

In 2017, approximately 49.8% of mortality in Massachusetts was due to cancer, heart disease, lower respiratory disease, and diabetes. Health professionals saw diabetes, high blood pressure, and heart health as particularly concerning chronic conditions within their service area.

COVID-19

COVID-19 was responsible for more than 300,000 deaths in the US and more than 10,000 deaths in Massachusetts in 2020 (National Center for Health Statistics, 2021). Certain racial and age groups were more susceptible to both having COVID-19 and dying from the disease. Despite accounting for 14.4% of cases, adults over the age of 65 accounted for 81% of all deaths (NCHS, 2021).

Homelessness

Homelessness is a growing issue in Massachusetts. From 2017 to 2018 the rate of homelessness increased by 14.2% (Jolicouer, 2020). Massachusetts has the highest rate of Hispanic/Latinx homelessness at 107 homeless residents per 10,000 population. However, Massachusetts currently houses 95% of its homeless population, one of the highest rates of any state. Despite this rate, focus group participants and key informants emphasized housing as a primary concern in their communities, noting that lack of housing can lead to mental health issues

such as stress, anxiety, and depression. Housing instability was also noted as amplifying health inequities, causing increased difficulty to find and retain health services.

Access to Care

Addressing access to care is one of the first steps that needs to be taken to address health equity. Although Massachusetts is a leader in healthcare services and access to care, there are still barriers of cost, transportation, childcare, language interpreters, etc. that may impact individuals' ability to access healthcare. In Massachusetts, there are 970 residents for every one primary care physician. Suffolk County and Norfolk County fare better than the rest of the state for primary care access, with the ratio of population to primary care physicians being 670:1 in Suffolk County and 790:1 in Norfolk County (RWJF, 2020). When surveyed, health professionals saw the cost of care, lack of access to mental health support, and lack of coordination services as the largest barriers to accessing care.

Demographics

Carney Hospital's service area encompasses cities and towns in Suffolk County, Norfolk County, & the City of Boston neighborhoods, primarily Dorchester (02121, 02122, 02125), Mattapan (02126), South Boston (02127), Hyde Park (02136), and Quincy (02169, 02170, 02171). In 2018, Suffolk County was home to 807,252 people. The median age of the population was 32.9 and the median household income was $69,985. The residents of Suffolk County are predominantly White (Non-Hispanic) (44.5%), followed by Black or African American (Non-Hispanic) (19.9%), White (Hispanic) (10.4%), Asian (Non-Hispanic) (8.66%), and other race (Hispanic) (6.31%). The city of Boston makes up the largest urban metro center in Suffolk County; Boston is a diverse city with 23% of residents identifying as Black, nearly 20% identifying as Latino, and nearly 10% identifying as Asian. Comparatively, in 2018 Norfolk County had a population of 705,000 people with a median age of 40.7 and a median household income of $100,356. The residents of Norfolk County are predominantly White (Non-Hispanic) (74%), followed by Asian (Non-Hispanic) (11.7%), Black or African American (Non-Hispanic) (7.07%), White (Hispanic) (2.56%), and two+ races (non-Hispanic) (1.85%).

Race and Ethnicity

Apart from South Boston, the communities that make up the Carney Hospital Service area were more racially diverse than the state. At the state level, approximately 78% of the population was White, 7.6% were Black or African American, 6.6% were Asian, 4.2% were some other race, 3.3% were two or more races, and 0.2% were American Indian/Alaska Native. Six service area communities had a larger proportion of the population that identified as Black or African American compared to the state average. The largest proportion was observed in Mattapan at 84.4%. Also notable was the larger than average proportion of Asian residents in the Quincy and Dorchester-02122 communities. The largest proportions were seen in the Quincy communities with percentages as high as 40.8%. (Table 1)

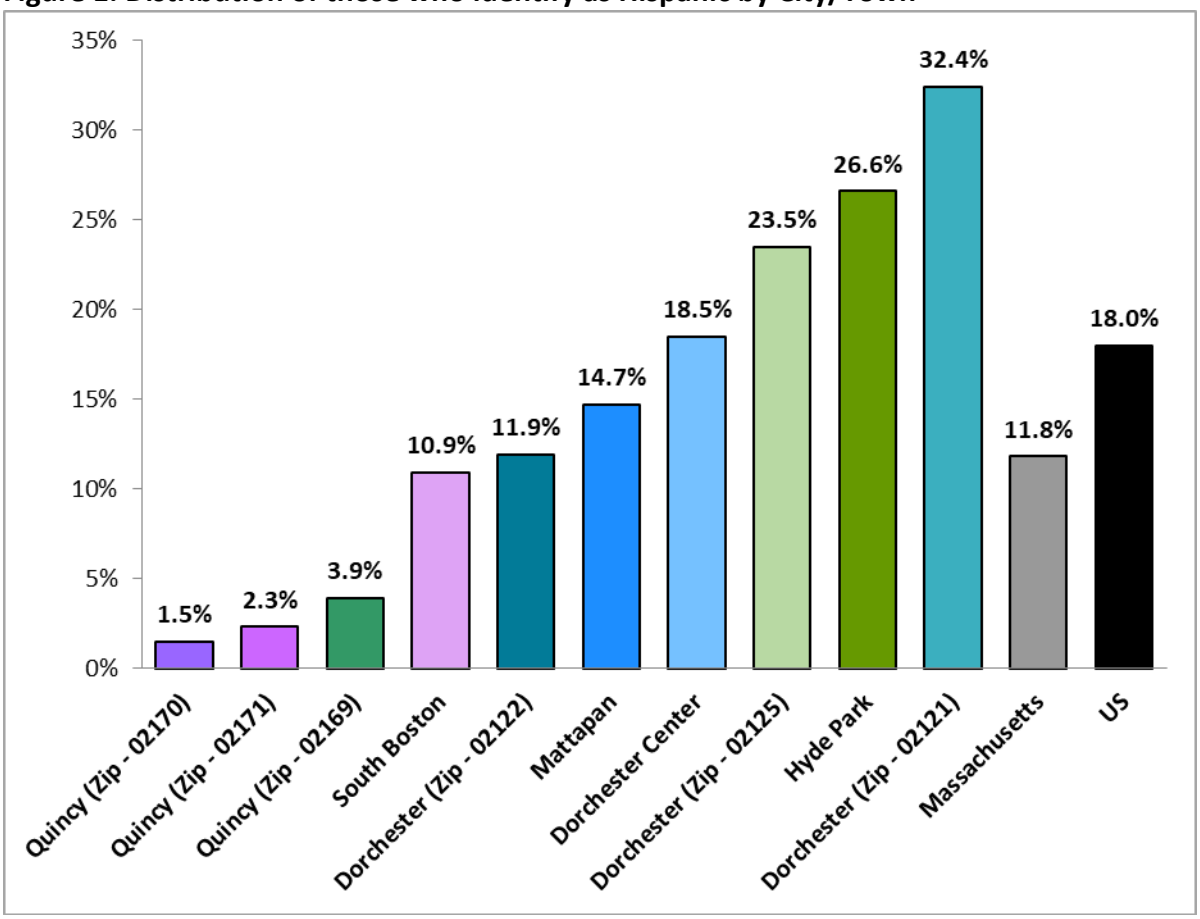
Table 1: Distribution of Race by City/Town - 2019

	White	Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Some Other Race	Two or More Races
Mattapan	6.8%	84.4%	0.1%	1.3%	0.0%	4.0%	3.5%
Dorchester Center	26.0%	58.5%	0.5%	6.6%	0.0%	4.5%	3.9%
Dorchester (Zip - 02121)	12.3%	65.8%	0.0%	0.4%	0.0%	13.6%	8.0%
Dorchester (Zip – 02122)	36.4%	31.5%	0.1%	21.3%	0.0%	7.9%	2.7%
Dorchester (Zip – 02125)	35.2%	36.1%	0.4%	10.9%	0.0%	12.6%	5.0%
Hyde Park	35.4%	47.4%	0.2%	2.2%	0.0%	9.6%	5.2%
Quincy (Zip – 02169)	64.9%	6.5%	0.0%	24.8%	0.0%	1.7%	2.1%
Quincy (Zip – 02170)	52.7%	3.7%	0.4%	40.8%	0.6%	0.4%	1.4%
Quincy (Zip – 02171)	58.5%	2.4%	0.1%	36.5%	0.0%	0.6%	1.9%
South Boston	81.6%	6.9%	0.0%	5.5%	0.0%	3.8%	2.2%
Massachusetts	78.1%	7.6%	0.2%	6.6%	0.0%	4.2%	3.3%
US	72.5%	12.7%	0.8%	5.5%	0.2%	4.9%	3.3%

Source: US Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Six service area communities had a higher percentage of the population that identified as Hispanic compared to the state average of 11.8%. Dorchester-02121 and Hyde Park each exceeded 25% at 32.4% and 26.6% respectively. Each of the Quincy communities had less than 5% of the population identifying as Hispanic. (Figure 1)

Figure 1: Distribution of those who identify as Hispanic by City/Town



Source: US Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

According to the Department of Elementary and Secondary Education (2018), the Massachusetts public school population is diverse, with 57.5% of public school students identifying as white (non-Hispanic), 21.9% Hispanic, 9.3% Black, 7.1% Asian, 3.9% multi-race (non-Hispanic), .2% Native American, and .1% Native Hawaiian or Pacific Islander. Public school data is not available for each individual Boston and Quincy zip code. In Boston public schools, the percentage of Black (30.2%) and Hispanic (42.7%) students was notably higher than the state average. In Quincy, the same was true for the Asian school population; Asian students made up 37.8% of the Quincy student population. (Table 2)

Table 2: Distribution of Race in Public School Population by City/Town (2019-20)

	White	Black or African American	Hispanic	Asian	Native American	Native Hawaiian, Pacific Islander	Multi-Race (Non-Hispanic)
Boston	14.6%	30.2%	42.7%	8.8%	0.3%	0.2%	3.2%
Quincy	46.3%	6.8%	5.5%	37.8%	0.2%	0.3%	2.9%
Massachusetts	57.5%	9.3%	21.9%	7.1%	0.2%	0.1%	3.9%
US	46.6%	15.1%	27.3%	5.4%	1.0%	0.4%	4.3%

Source: MA Dept. of Elementary and Secondary Education, 2019-2020, School and District Profiles

Age

In 2019, census data indicated that 5 communities in Carney's service area had a lower proportion of residents under the age of 24 than the Massachusetts state level (30.2%). Of these, South Boston (18.7%) had an especially low proportion of residents under the age of 24 (18.7%). South Boston also stands out as having a higher proportion of residents ages 25 to 44 (53.3%) and a lower proportion of residents ages 45 to 64 (19.2%) or 65 and older (8.7%) when compared to state and national levels. (Table 3)

Table 3: Age Distribution by City/Town - 2019

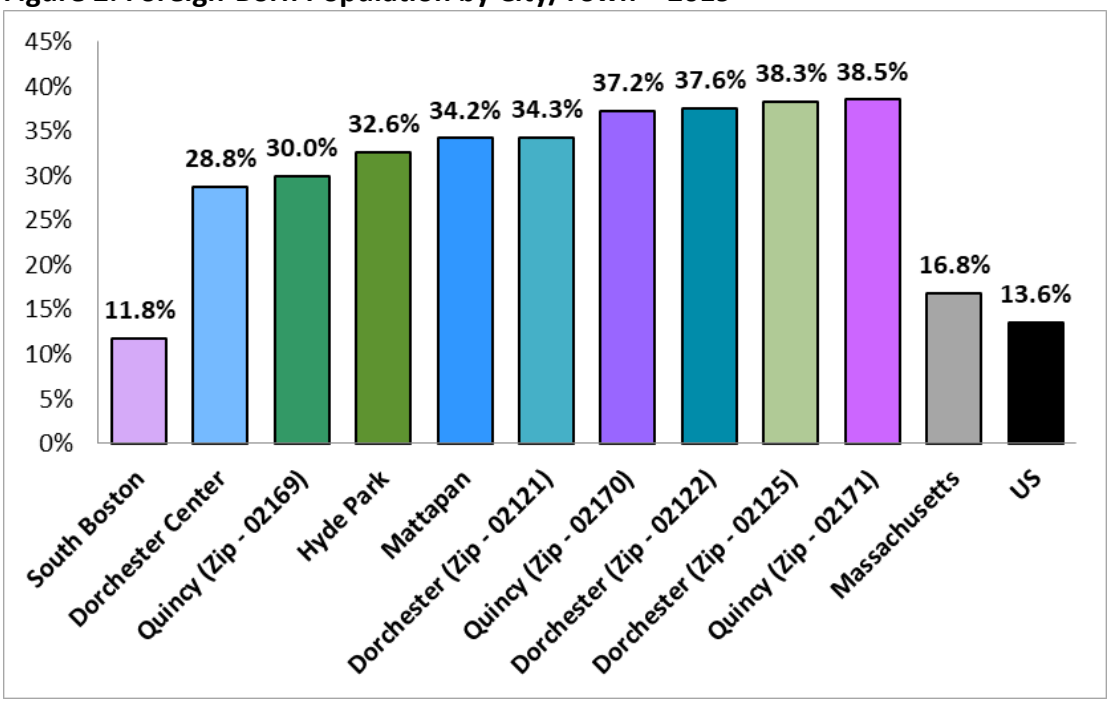
	24 and under	25 to 44	45 to 64	65 and older
Mattapan	31.4%	29.8%	25.0%	14.0%
Dorchester Center	32.9%	32.2%	21.7%	13.2%
Dorchester (Zip - 02121)	36.5%	28.3%	22.5%	12.6%
Dorchester (Zip – 02122)	27.7%	37.3%	24.6%	10.2%
Dorchester (Zip – 02125)	30.8%	36.5%	22.2%	10.5%
Hyde Park	32.8%	26.3%	28.2%	12.7%
Quincy (Zip – 02169)	22.5%	35.5%	25.9%	16.3%
Quincy (Zip – 02170)	23.9%	31.4%	28.6%	16.1%
Quincy (Zip – 02171)	20.9%	33.1%	27.4%	18.6%
South Boston	18.7%	53.3%	19.2%	8.7%
Massachusetts	30.2%	26.4%	27.3%	16.1%
US	32.0%	26.5%	25.9%	15.6%

Source: US Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Citizenship

All cities and towns in the service area except South Boston (11.8%) reported higher percentages of foreign-born populations when compared to the state (16.8%). The highest percentages were seen in Dorchester-02125 and Quincy-02171 at 38.3% and 38.5% respectively (Figure 2).

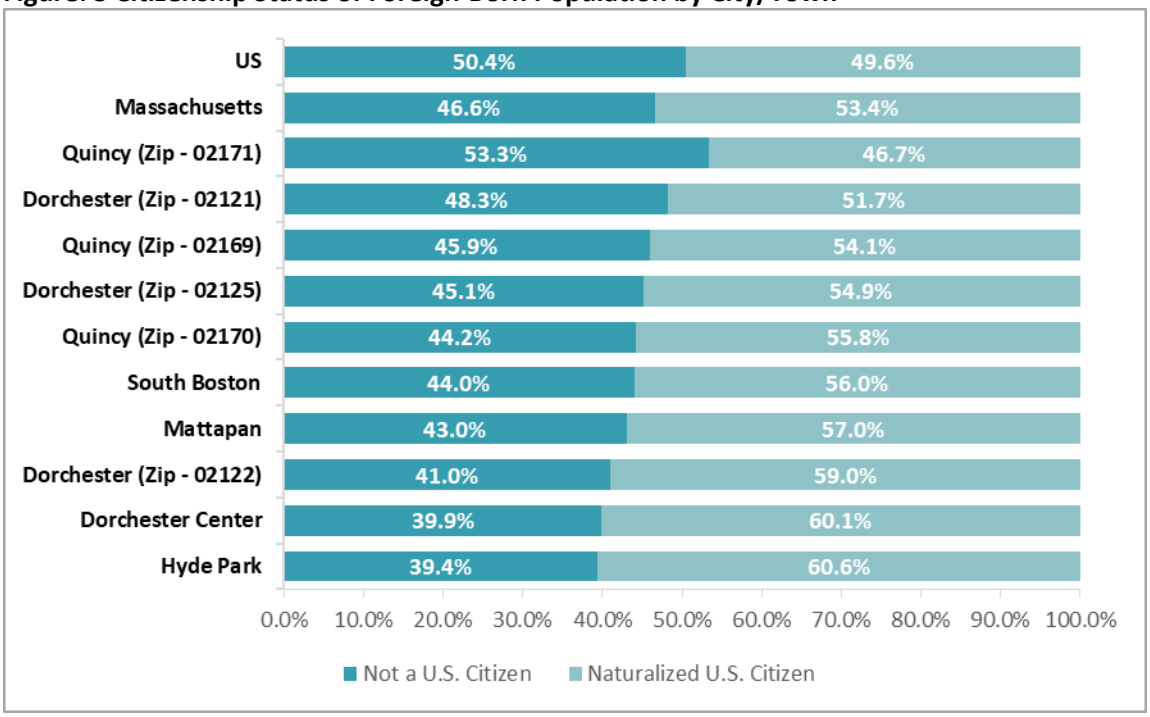
Figure 2: Foreign-Born Population by City/Town – 2019



Source: US Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Only two communities exceeded the state average for foreign-born population that were not U.S. citizens (46.6%). These communities were Dorchester-02121 and Quincy-02171 at 48.3% and 53.3% respectively (Figure 3).

Figure: 3 Citizenship Status of Foreign-Born Population by City/Town



Source: US Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Overall, the service area had a higher percentage of the foreign-born population originating from Asia and Latin America compared to the state average (Table 4).

Table 4: Country of Origin – Foreign Born Population by City/Town – 2019

	Latin America	Europe	Asia	Africa	Oceania	Canada
Service Area	42.9%	8.6%	35.0%	12.5%	0.0%	0.9%
Massachusetts	37.0%	20.4%	30.5%	9.1%	0.4%	2.6%
US	50.6%	10.8%	31.0%	5.1%	0.6%	1.9%

Source: US Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Language

Aside from South Boston (81.7%), the percentage of households that only spoke English at home was lower for all cities in the service area when compared to the state (76.2%) and national (78.4%) levels. Similarly, all cities in the service area—except South Boston (18.3%)—reported higher percentages of households that spoke a language other than English when compared to the state and national percentages of 23.8% and 21.6% respectively (Table 5).

Table 5: Distribution of Language Characteristics by Town/City –2019

	Speaks Only English	Speaks Language Other than English	Speaks English "less than very well"
Mattapan	66.4%	33.6%	17.8%
Dorchester Center	63.8%	36.2%	17.3%
Dorchester (Zip - 02121)	56.0%	44.0%	22.1%
Dorchester (Zip – 02122)	54.7%	45.3%	26.2%
Dorchester (Zip – 02125)	50.4%	49.6%	25.7%
Hyde Park	53.1%	46.9%	22.6%
Quincy (Zip – 02169)	64.5%	35.5%	16.8%
Quincy (Zip – 02170)	55.2%	44.8%	29.2%
Quincy (Zip – 02171)	58.0%	42.0%	24.9%
South Boston	81.7%	18.3%	9.5%
Massachusetts	76.2%	23.8%	9.2%
US	78.4%	21.6%	8.4%

Source: US Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Six cities in the service area reported higher percentages of households speaking Spanish at home when compared to the state (9.1%) and national (13.4%) averages. Dorchester (02121, 02125) and Hyde Park stand out with their percentages of households speaking Spanish exceeding 19%. Other Indo-European languages were most prominent in households in Hyde Park (20.3%), Dorchester-02125 (19.8%), and Mattapan (19.5%). Asian and Pacific islander languages were most prominently spoken at home in Quincy-02170 (37.8%) and Quincy-02171 (30.7%) (Table 6).

Table 6: Language Distribution (Other Than English) by Town/City – 2019

	Spanish	Other Indo-European Languages	Asian Pacific Islander Languages	Other languages
Mattapan	11.9%	19.5%	0.5%	1.8%
Dorchester Center	14.6%	13.3%	5.8%	2.5%
Dorchester (Zip - 02121)	29.7%	9.8%	0.3%	4.1%
Dorchester (Zip – 02122)	10.8%	13.9%	19.1%	1.4%
Dorchester (Zip – 02125)	19.4%	19.8%	8.8%	1.5%
Hyde Park	21.7%	20.3%	1.8%	3.2%
Quincy (Zip – 02169)	2.9%	10.9%	19.1%	2.6%
Quincy (Zip – 02170)	1.6%	4.7%	37.8%	0.7%
Quincy (Zip – 02171)	1.7%	9.8%	30.7%	2.5%
South Boston	8.9%	3.6%	4.9%	0.9%
Massachusetts	9.1%	9.0%	4.3%	1.4%
US	13.4%	3.7%	3.5%	1.1%

Source: US Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

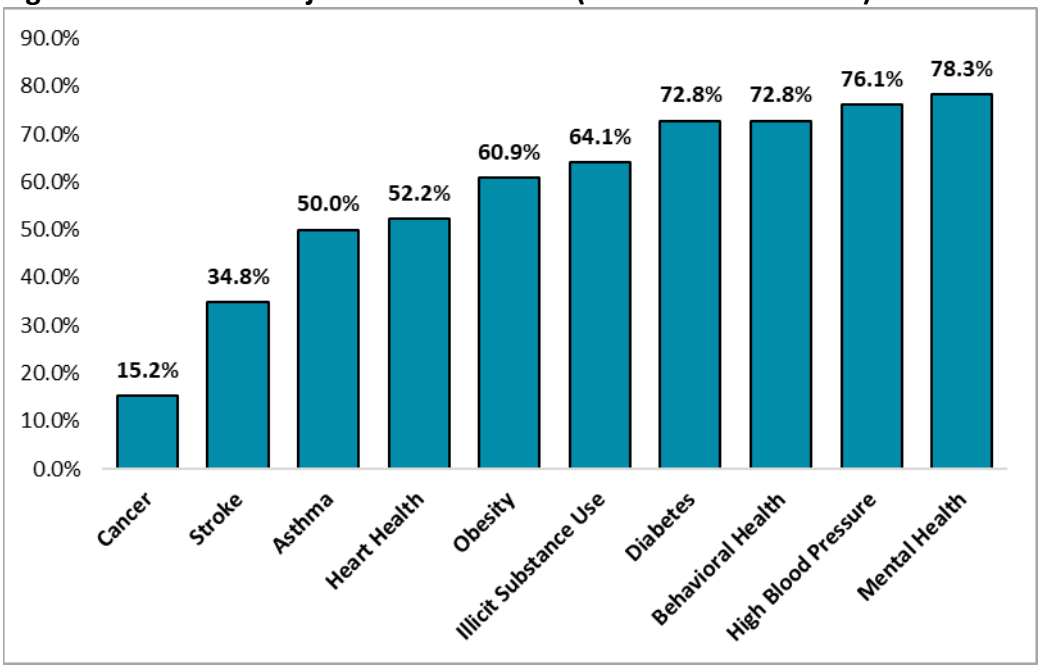
Prioritization of Community Health Needs

To identify the community's health needs, Carney Hospital surveyed health professionals in their service area, conducted focus groups with vulnerable citizens within the community, and interviewed key informants who serve those in the community. Issues that were most commonly identified by these groups served as the basis for Carney's prioritized health needs.

Health Professionals Survey

When asked what they perceived to be the greatest health issues impacting the community they serve, most health professionals selected issues pertaining to mental health (78.3%), high blood pressure (76.1%), diabetes (72.8%), and behavioral health (72.8%) (Figure 4). Issues related to illicit substance use (64.1%) and obesity (60.9%) were also moderately endorsed, followed by chronic conditions related to heart health (52.2%) and asthma (50.0%).

Figure 4: Perceived Major Health Concerns (other than COVID-19)



Source: Carney Community Health Needs Assessment Health Professional Survey, 2021

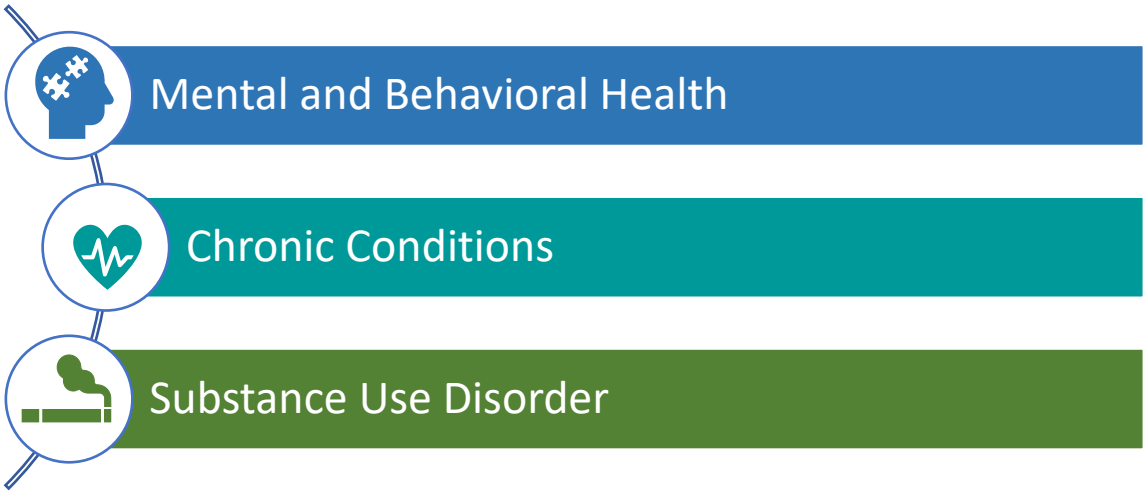
Interviews and Focus Groups

When asked to give the top three health and wellness issues within the community, the most common responses from key informants were COVID safety, obesity, access to and awareness of healthy food, and mental health. Chronic conditions, substance use, domestic violence, and general unhealthy behaviors (e.g., lack of sleep) were also discussed as issues within the community. Focus group participants echoed many of these concerns, reporting access to and knowledge of healthy food, asthma, and mental health as relevant issues affecting the

community. Both key informants and focus group participants also acknowledged a need for more affordable health care and transparent billing.

Rankings

Based on this feedback, the top 3 prioritized needs for Carney's service area are:



Mental Health

Mental and physical health are intricately connected, and mental illness is among one of the leading causes of disability in the United States. Impaired mental health is common in the United States general population. In 2018, approximately 15% of Americans suffered from any mental illness (AMI); nearly 1 in 4 of those (24%) also suffered from serious mental illness (SMI) (SAMHSA, 2019). These rates are expected to rise dramatically in the wake of COVID-19. Preliminary surveys, such as the National Health Interview Survey, have found that the rates of symptoms for anxiety and depression have risen between 2019 and 2020 (NCHS, 2020). Specifically in 2019, 6.6% of Americans reported having experienced symptoms of depression, and 8.2% experienced symptoms of anxiety. In the early stages of the COVID-19 pandemic, these rates already saw substantial growth, with 28.2% of Americans reporting symptoms of depression and 24.4% of Americans reporting symptoms for anxiety (NCHS, 2020). These rates are highest in the young adult population between the ages of 18 and 25, but it is worth noting that AMI and SMI occur in all age groups.

Health Professionals Survey

Among participants in the health professional survey, 78.3% listed mental health as a major area of concern, while 72.8% said the same for behavioral health. Health professionals also ranked lack of mental health support as the largest obstacle to healthy living among their constituents.

Interviews and Focus groups

Mental health is a major concern as it can lead to isolation, fear, and anxiety—especially among the youth and the elderly. Key informants mentioned that poor mental health is a significant problem facing the community. One key informant noted that stigma further complicates navigating mental health concerns. Informants discussed both individual (e.g., money worries, isolation) and community violence (e.g., increase in shootings, domestic violence) contributors to mental health issues in addition to the influence of COVID. Focus group members echoed similar themes, noting the intense impact of COVID on mental health as well as the relationship between isolation and mental health. Focus group members also discussed the need to remedy barriers to access; they advocated for more language options and for knowledge workshops on healthy living with the intention of increasing awareness and decreasing isolation.

Prevalence

In 2017, Suffolk County residents reported 4.4 mentally unhealthy days in the past 30 days at the time of survey completion. Norfolk County residents report 3.6 mentally unhealthy days in the past 30 days (RWJF, 2020). This compares to 4.0 overall average reported mentally unhealthy days in Massachusetts. While not an expansive measure of mental health, suicide rates can be an indication of poor mental health. Aggregating data from 2012-2016, the age-

adjusted suicide rate for Boston overall is 6.7 deaths per 100,000 residents (Boston CHNA-CHIP Collaborative, 2019).

Chronic Conditions

According to the Massachusetts Department of Public Health (MDPH), prevention and treatment of chronic illnesses are public health priorities (MDPH, 2017). Chronic illness is a broad term used to describe health conditions lasting longer than a year; these conditions require ongoing care and are leading causes of death and disability in the United States (CDC Wonder, 2021). The CDC estimates that chronic illness, including heart disease, cancer, and diabetes, combined with mental illness, accounts for 90% of the nations $3.8 trillion in annual healthcare expenditures. The leading drivers of death, disability, and monetary cost are heart disease, cancer, obesity, and diabetes. What is unique about these conditions is that they are often preventable if the underlying lifestyle behaviors behind so many of them are addressed; the CDC has estimated that up to 80% of heart disease, stroke, and type 2 diabetes; as well as 40% of cancer is likely preventable (NCHS, 2019).

One year before the onset of the COVID-19 pandemic (2019), there were approximately 2.8 million deaths in the United States (869.7 per 100,000 population) overall (CDC Wonder, 2021). Of these deaths, 58,630 occurred in Massachusetts (at a rate of 850.6 deaths per 100,000 population). Mortality from four of the top causes declined in 2019; these included cancer, unintentional injuries, chronic respiratory diseases, and heart disease (Kochanek et al., 2019). The cumulative decrease in mortality from these causes led to a modest increase in life expectancy to 78.8 years.

Health Professionals Survey

Chronic diseases represent a great area of concern among Carney's health professionals. When asked what they perceive as major health concerns among their constituents (other than COVID-19), high blood pressure (76.1%), diabetes (72.8%), obesity (60.9%), heart health (52.2%), asthma (50.0%), stroke (34.78%), and cancer (15.2%) emerged as major areas of concern.

Interviews and Focus Groups

Diabetes and stroke were among the top health concerns raised by key informants. Focus group members also discussed chronic conditions, asthma, and respiratory issues as specific health concerns in the community.

Prevalence

In 2017, approximately 50.0% of mortality in Massachusetts was due to cancer, heart disease, lower respiratory disease, and diabetes (Table 7). Chronic disease mortality rates were not available for the majority of service area communities or the US.

Table 7: Chronic Disease Mortality 2017 (percentage of all causes)

	Total Cancer Deaths	Total Heart Disease Deaths	Total Chronic Lower Respiratory Disease Deaths	Total Diabetes
Dorchester (02121)	21.4%	18.9%	4.0%	3.4%
Quincy (02169)	21.5%	20.2%	5.4%	2.4%
Massachusetts	22.0%	20.7%	4.8%	2.3%

Source: Massachusetts Deaths 2017, Massachusetts Department of Public Health

Cancer

In recent decades, the number of cancer diagnoses and deaths have declined both in Massachusetts and throughout the U.S. Advances in research prevention, early detection, and lasting treatment were part of the successful efforts by MA health practitioners, as well as officials across the U.S, to reduce the prevalence and morbidity of this disease. Despite these efforts, some cancers continue to rise in incidence and mortality (Dana-Farber/Harvard Cancer Center, 2018). As of 2020, the leading cause of death in Massachusetts is cancer (CDC, 2020).

Health Professionals Survey

15.2% of respondents identified cancer as a pressing health concern within the community.

Interviews and Focus Groups

Cancer was not a prevalent topic of discussion; however, it was noted as a health concern. Several of the socioeconomic factors that contribute to the prevalence of cancer were identified by respondents. Respondents highlighted a lack of access to healthy foods, limited access to physical activity, and challenges with chronic health disorders. These all represent leading risk factors in cancer or late-stage cancer diagnoses.

Prevalence

Of the reported deaths due to certain types of cancer, lung cancer appeared to have the highest level of mortalities in every town/service area, followed by breast cancer and colorectal (Table 8). Information on cancer rates in Dorchester-02125, the state, and the nation was not available.

Table 8: Total Cancer Deaths by Diagnosis (observed and expected case counts)

	Breast	Lung	Cervix	Colorectal	Melanoma	Oral
Mattapan	8	3	0	6	0	3
Dorchester Center	3	10	2	4	1	2
Dorchester (Zip - 02121)	3	14	0	5	0	1
Dorchester (Zip – 02122)	1	10	0	1	1	1
Hyde Park	9	8	1	1	0	0
Quincy (Zip – 02169)	12	32	1	13	1	2
Quincy (Zip – 02170)	3	5	0	1	0	0
Quincy (Zip – 02171)	2	4	0	1	0	0
South Boston	5	12	0	2	0	4

Source: MDPH, "2017 State Health Assessment," 2017 State Health Assessment, 03 11 2017

Cardiovascular disease

Cardiovascular disease is a broad term used to refer to congestive heart failure, myocardial infarction, and stroke. After cancer, heart disease is the leading cause of death in Massachusetts as well as in the cities of Boston and Quincy. Cardiovascular diseases are the most common causes of death in men, women, and most racial and ethnic groups in the United States. It's estimated that 655,000 Americans die annually from cardiovascular disease, approximately one in every four deaths (CDC, 2021). Research also suggests that heart disease will become an even more pressing concern in the coming years because of COVID-19. This is due to the impact that the virus has on the cardiovascular system and lifestyle behaviors during and following the pandemic (AHA, 2021).

In Massachusetts, mortality rates from cardiovascular disease are low compared to other states. Massachusetts had the third-lowest rate of death from cardiovascular disease at just 127.2 deaths per 100,000 residents (CDC Wonder, 2021). The national trend of higher rates of cardiovascular disease among Black (Non-Hispanic) individuals compared to White (Non-Hispanic) individuals was also observed in Massachusetts. However, the difference in mortality rate between these two races in Massachusetts is not significant. In Suffolk County, there were 157.8 deaths from cardiovascular disease per 100,000 population; comparatively, in Norfolk County, there were 161.3 deaths from cardiovascular disease per 100,000 population (RWJF, 2020).

Health Professionals Survey

52.2% of health professionals cited heart health, and another 76.1% cited high blood pressure as major health concerns within their communities.

Interviews and Focus Groups

While heart and cardiovascular health was not a prominent topic of discussion, focus group and key informants did discuss the need for improved public spaces for exercise and fitness in the community as well as increased access to and knowledge of healthy food.

Prevalence

Dorchester-02121 (18.9%) and Quincy-02169 (20.2%) both reported lower total heart disease deaths when compared to the state (20.7%) (Table 7).

Respiratory Disease

Chronic lower respiratory diseases are diseases of the airways and other structures of the lung and include asthma, chronic obstructive pulmonary disease (COPD), emphysema, and bronchitis. Risk factors for such diseases can include environmental exposures such as tobacco smoke, air pollution, dust, fumes, and mold (MDPH, 2017). Because of this, those in less healthy environments are at a greater risk for prevalence and severity of asthma symptoms.

Health Professionals Survey

50.0% of health care professionals cited asthma as a major health concern of their community.

Interviews and Focus Groups

Focus group members discussed asthma as a prevalent issue within the service area. Additionally, focus group members highlighted the relationship between poor air quality and respiratory issues. Key informants mentioned both contributors to respiratory issues (e.g., smoking) and difficulties with accessing resources aimed at promoting healthier lifestyles (e.g., language barriers, lack of affordable options).

Prevalence

Dorchester-02121 (4.0%) reported lower levels of total chronic lower respiratory disease deaths when compared to the state (4.8%), while Quincy-02169 (5.4%) reported higher levels when compared to the state (Table 7).

Diabetes

Diabetes is growing at an epidemic rate in the United States. It is estimated that 10.5% of the US population has diabetes, and 13.0% of all US adults (CDC, 2020). According to recent data from the CDC, around 8.4% of Massachusetts residents had diabetes in 2019, 2.4% less than the national rate (UHF, 2019). In Massachusetts, Black non-Hispanics (13.1%) and Hispanics (10.6%) had higher rates of diabetes compared to White non-Hispanics (7.8%), and similar trends were seen at the national level. Studies show that the onset of type 2 diabetes can be largely prevented through weight loss as well as increasing physical activity and improving dietary choices. Socioeconomic disparities exist in diabetes prevalence. In Massachusetts, adults with an annual household income of less than $25,000 (16.2%) have more than two times the prevalence of diabetes as compared to those with an annual household income of more than

$75,000 (5.8%) (UHF, 2019). The prevalence of diabetes also decreases as educational attainment increases. A total of 17.9% of adults without a high school degree were diagnosed with diabetes compared to 5.6% of adults with four or more years of post-high school education.

Health Professionals Survey

72.8% of participants in the health professional survey listed diabetes as a major area of concern.

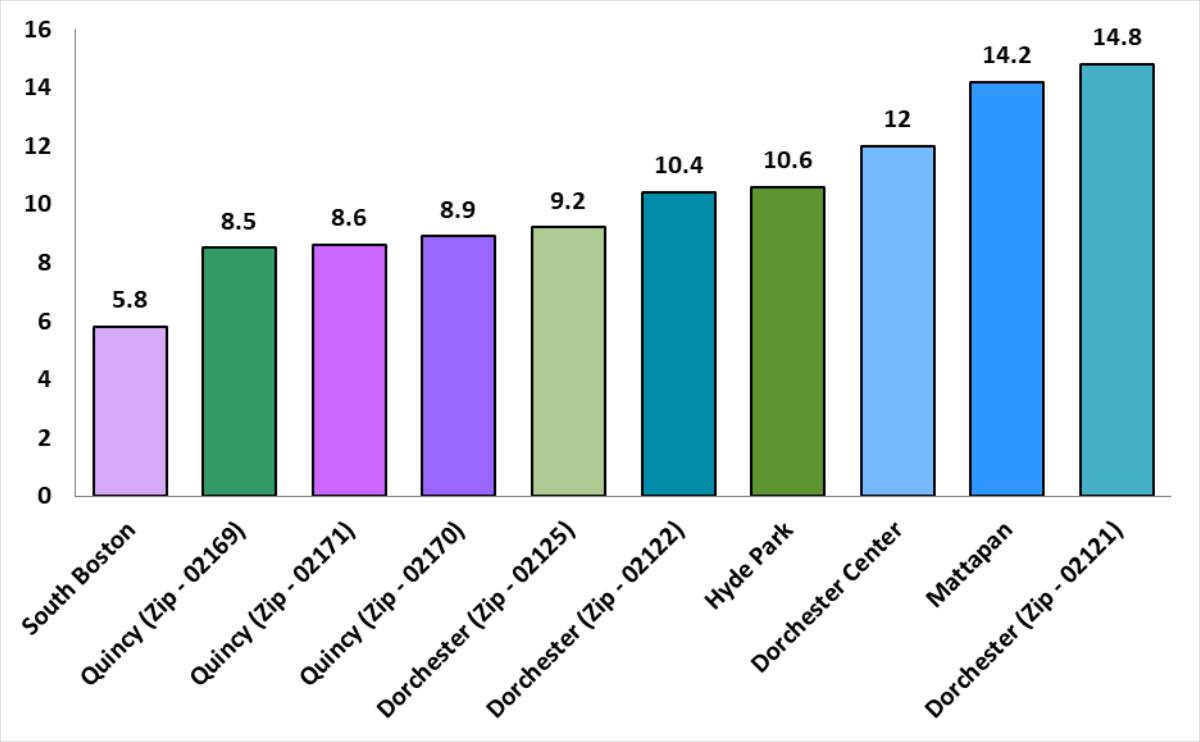
Interviews and Focus Groups

Diabetes was identified as a significant health concern within the services area. Lack of community education and limited access to healthy and nutritious food were discussed at length as potential factors that exacerbate this issue. Focus group participants and key informants suggested multiple methods for increasing knowledge of and access to healthy foods, such as farmer's markets and knowledge workshops.

Prevalence

While mortality rates due to diabetes were not available for individual cities/towns in the Carney Hospital service area, the level for the state of Massachusetts as of 2017 was 2.3%. Dorchester-02121 (14.8) and Mattapan (14.2) reported the highest crude prevalence of diabetes diagnoses among adults. South Boston (5.8) reported the lowest crude prevalence of diabetes diagnosed adults in the service area (Figure 5).

Figure 5: Diagnosed diabetes among adults aged >=18 years crude prevalence



Source: Behavioral Risk Factor Surveillance System (BRFSS) - (2018)

Obesity

Given that cancer and heart disease are the leading causes of death in the U.S.—including in Boston and Quincy—it is critical to examine the pervasiveness of their risk factors, such as obesity, nutrition, and physical activity. Rates of obesity are rising faster than rates seen for any other chronic illness. In 2019, the Massachusetts rate for adults with obesity was 25%, nearly 7% less than the rate seen nationally (UHF, 2019). These rates are significantly higher for demographic groups such as women, middle-aged to older adults, and Black (non-Hispanic) adults, and for low-income individuals.

In Suffolk County, the obesity rate was 21% in 2016 (RWJF, 2020). Physical inactivity was also measured, with approximately 19% of all adults in Suffolk County predicted to be physically inactive. Additionally, 14% of Suffolk County residents lack adequate food access (RWJF, 2020). More than half of Boston adults (57%) reported being overweight or obese; at the neighborhood level, the percentage of adults in Mattapan (71%), Hyde Park (65%), Dorchester (63-65%), who were obese or overweight was significantly higher than the rest of Boston (56.8%) (Boston CHNA-CHIP Collaborative, 2019). In Norfolk County, the obesity rate was 23% in 2016 (RWJF, 2020). Approximately 20% of all adults in Norfolk County were predicted to be physically inactive, and 7% of Norfolk County residents lack adequate food access (RWJF, 2020).

Health Professionals Survey

Among participants in the health professional survey, 60.9% listed obesity as a major area of concern.

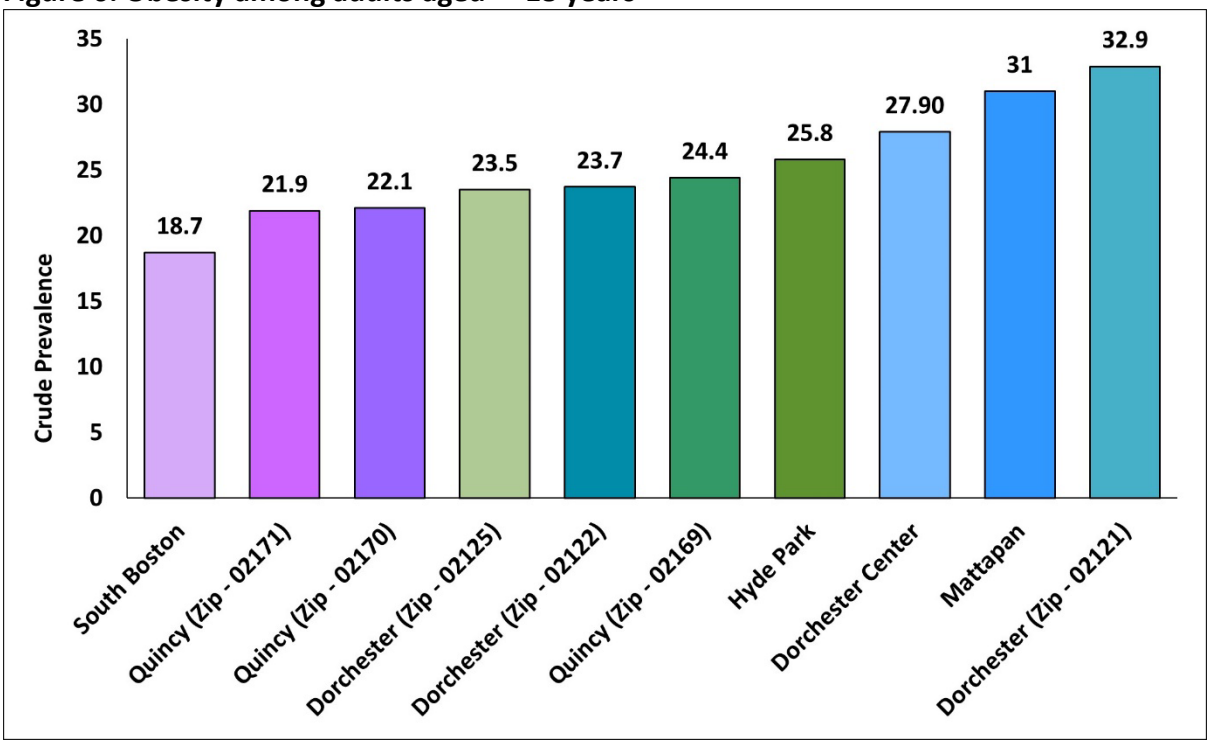
Interviews and Focus groups

Focus group and key informants discussed obesity as a top health concern within the community. Members identified social and environmental challenges that may exacerbate the rate of obesity within the service area, including the lack of access to nutritional food, difficulty engaging older residents in fitness and wellness activities, and social isolation. Barriers to nutrition were discussed *extensively*, as well as potential methods for combating these barriers such as farmer's markets, local food co-ops, and knowledge workshops.

Prevalence

Dorchester-02121 (32.9) and Mattapan (31.0) had the highest prevalence of obesity among adults in the service area. South Boston (18.7) and Quincy-02171 (21.9) reported the lowest prevalence of obesity (Figure 6).

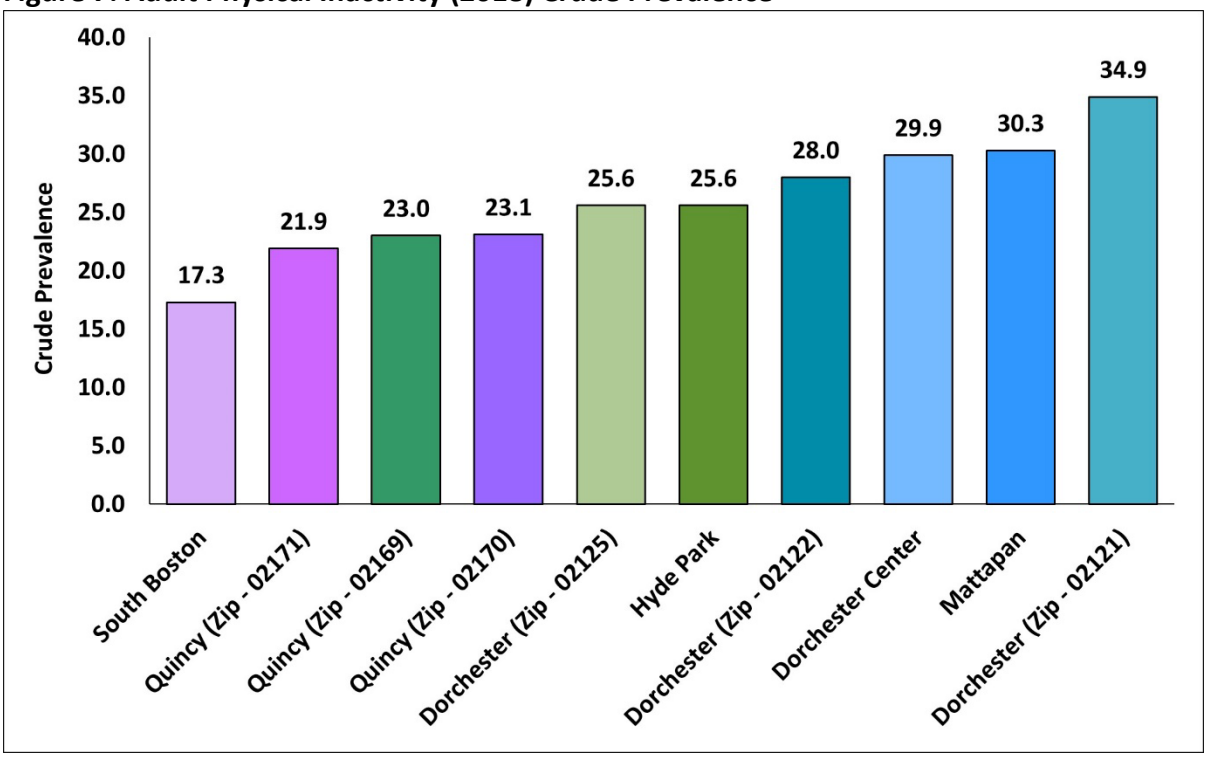
Figure 6: Obesity among adults aged >=18 years



Source: Behavioral Risk Factor Surveillance System (BRFSS) - (2018)

Among the towns/cities in the services area, Dorchester-02121 (34.9) and Mattapan (30.3) report the highest rate of no leisure-time physical activity. South Boston (17.3) and Quincy-02171 (21.9) report the lowest prevalence of no leisure-time physical activity (Figure 7).

Figure 7: Adult Physical Inactivity (2018) Crude Prevalence



Source: Behavioral Risk Factor Surveillance System (BRFSS) - (2018)

Substance Use Disorder

According to the National Survey on Drug Use and Health (NSDUH) in 2015, an estimated 53.2 million people in the US aged 12 and older used illicit drugs in the past year, approximately 19% of the population (SAMHSA, 2019). This rate was nearly twice as high for the 18 to 25-year-old population (39.4%). Of these, a majority (43.5 million) reported using marijuana, and 5.5 million misused prescription painkillers. During the same survey period, an estimated 21.2 million people needed substance use treatment (i.e., treatment for problems related to the use of alcohol or illicit drugs) in the past year. Of this population, just 11.1% received treatment.

Health Professionals Survey

Among participants in the health professional survey, 64.1% listed illicit substance use as a major area of concern.

Interviews and Focus groups

Focus group participants did not discuss illicit substance use, but key informants mentioned substance use as one of the major health and wellness issues within their community. Of particular emphasis was the difficulty in accessing social services for illicit substance use. Key informants identified many contributors to illicit substance use: lack of social services, language barriers, difficulties accessing services (i.e., transportation, using virtual services), lack of

education on healthy living, navigating stigma, and issues with mental health including isolation and stress from food and housing insecurity.

Alcohol

The most widely misused substance in the United States is alcohol. Alcohol is the third leading cause of preventable death nationally (United Health Foundation, 2019). Each year in the US, 95,000 deaths are attributed to alcohol-related causes. In 2019, the percentage of Massachusetts adults that reported binge drinking in the last 30 days was 21.3%, slightly higher than the national percentage of 18.6%. Alcohol misuse is most prevalent in younger age groups both nationally and at the state level. The most recent national data shows that about 5% of adolescents age 12 and over and 10% of adults age 18-25 have misused alcohol in the past year (SAMHSA, 2019). According to the Massachusetts Youth Health Survey, in 2017, 56.2% of high school students reported ever using alcohol, while 31.4% reported using alcohol in the past 30 days (MDPH, 2018). These values represent a 5% and 3% decrease from 2015, respectively. However, the number of BSAS clients who identified as veterans increased 12.1% from Fiscal Year 2011 (5,095 clients) to Fiscal Year 2016 (5,713 clients). Historically, rates in Massachusetts have been higher than those seen at the national level, although 2018 data is not yet available for the state. It is important to note the rates have been declining for all age groups since 2002 (SAMHSA, 2019).

In 2017, 24% of Suffolk County residents and 24% of Norfolk County residents reported excessive drinking, compared to the state average of 21% (RWJF, 2020). Alcohol mortality data over time indicate that the alcohol mortality rate for Boston overall has significantly increased over time from 19.2 deaths per 100,000 residents in 2013 to 25.5 deaths per 100,000 residents in 2016 (Boston CHNA-CHIP Collaborative, 2019). Examining deaths by race/ethnicity, Latino residents had a significant increase in alcohol mortality rate, with 10.1 deaths per 100,000 in 2013 to 36.9 deaths per 100,000 residents in 2016.

Health Professionals Survey

Alcohol use did not emerge as a theme in the health professionals survey.

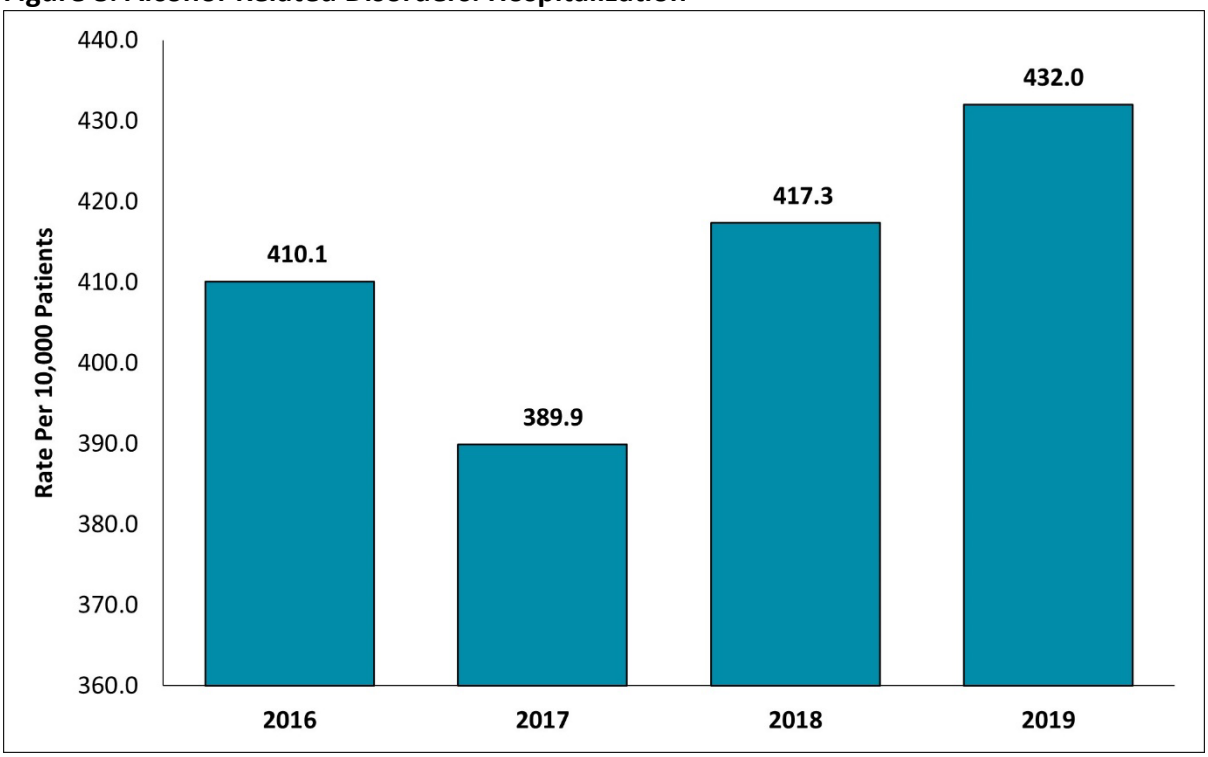
Interviews and Focus groups

Though key informants typically spoke broadly about substance use, binge drinking did arise in discussion. Focus group participants did not note alcohol as a pressing concern within the community.

Prevalence

Hospitalization rates for alcohol-related disorders dipped in 2017 before rising in 2018 and 2019 (Figure 8).

Figure 8: Alcohol-Related Disorders: Hospitalization



Source: MA Inpatient Hospital Discharge Database, Center for Health Information and Analysis (CHIA)

Opioids

Opioids were involved in 46,802 overdose deaths across the U.S. in 2018; this is nearly 70% of all drug overdose deaths in 2018 (CDC, 2020). Massachusetts had one of the higher rates of opioid overdose deaths in the nation, at 32.8 deaths per 100,000 population. Nationally, more than two-thirds of opioid-related overdose deaths involved synthetic opioids, such as fentanyl or tramadol. A Massachusetts Centers for Disease Control and Prevention (CDC) collaborative epidemiologic investigation identified that the proportion of opioid overdose deaths in the state involving fentanyl increased from 32% during 2013–2014 to 74% in the first half of 2016 (MDPH, 2017). After peaking in 2017, the number of opioid-related deaths in Massachusetts has remained relatively stable through 2019, decreasing by just about 1% between 2017 (1,993) and 2019 (1,967) (MDPH, 2020).

In Suffolk County from 2016-2018, there were 32 drug poisoning deaths per 100,000 population and 28 per 100,000 in Norfolk County. In both counties the highest overdose mortality rates occurred for white individuals, followed by Hispanic and then Black individuals (RWJF, 2021). Accidents are the third leading cause of death in the city of Boston, where unintentional overdoses accounted for 55% of all deaths due to accidents (Boston CHNA-CHIP Collaborative, 2019). The rate of opioid overdose deaths in Boston has significantly increased since 2013 and was highest among Latino residents (50.5 deaths per 100,000 residents), followed by White residents (45.1 deaths per 100,000 residents) in 2016.

Health Professionals Survey

Opioid use did not emerge as a theme in the health professionals survey.

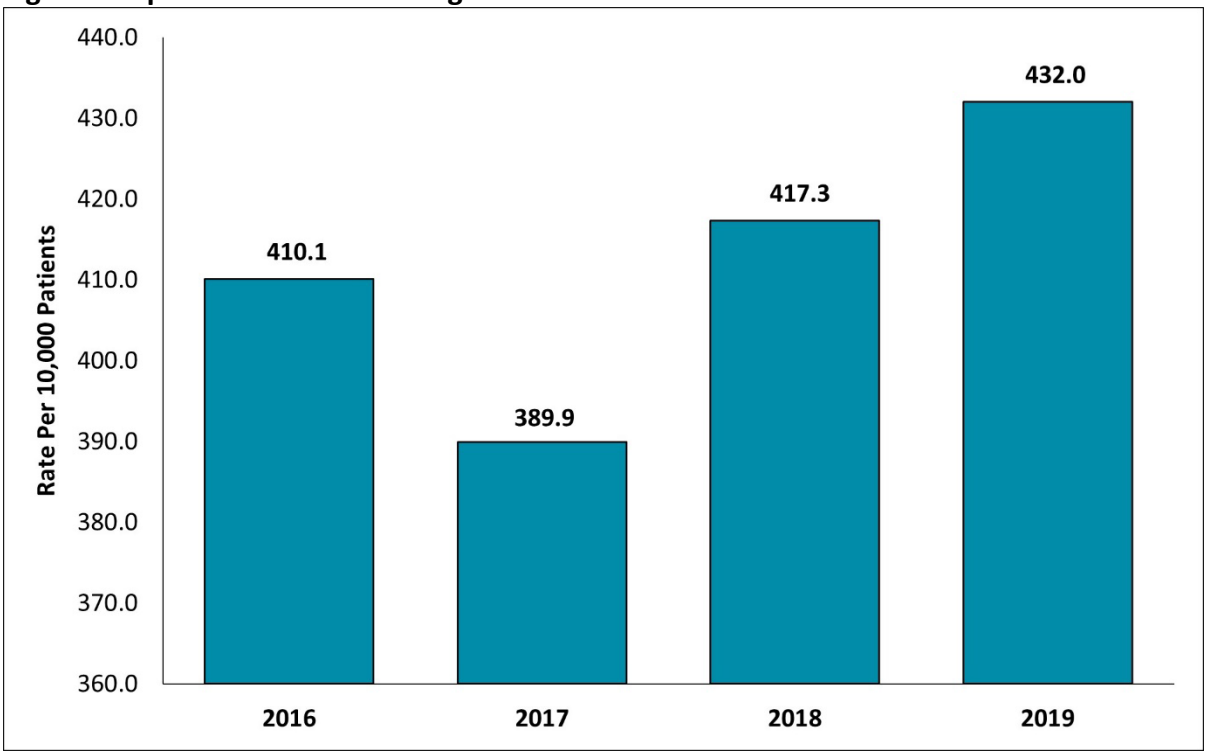
Interviews and Focus groups

While key informants and focus group members did not mention opioids, with the prevalence of the opioid epidemic, it is highly likely opioids were one of the main substances that came to mind when they mentioned the issue of illicit substance use.

Prevalence

Since 2016, rates of opioid-related poisonings dipped in 2017 before rising in 2018 and 2019 (Figure 9).

Figure 9: Opioid-Related Poisonings in Massachusetts



Source: MA Inpatient Hospital Discharge Database, Center for Health Information and Analysis (CHIA)

Smoking

Smoking, like other risky behaviors, is strongly influenced by one's social environment (MDPH, 2017). However, smoking is one of the leading preventable causes of a host of chronic illnesses (C.NCCDPHP, 2021). While Boston has seen a statistically significant decrease in smoking since 2010, nearly one in six adults (15.0%) reported being a current smoker in 2017.2 Dorchester (zip codes 02122, 02124) has significantly higher rates of smoking than the rest of Boston, with over 20% of their adult population reporting being a current smoker (Boston CHNA-CHIP Collaborative, 2019).

Youth cigarette smoking rates in Boston have also significantly declined over time, from 10% of Boston high school students reporting being a current smoker in 2011 to only 3.1% of high school students in 2017 (Boston CHNA-CHIP Collaborative, 2019). However, 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 reporting any e-cigarette use in the past 30 days as of 2019. 18.5% of Boston adults reported using marijuana in the past 30 days; similar to patterns of adult marijuana use, LGBTQ youth (39.2%) were more likely than heterosexual/non-transgender youth to be current marijuana users (21.7%).

Health Professionals Survey

Smoking did not emerge as a theme in the health professionals survey.

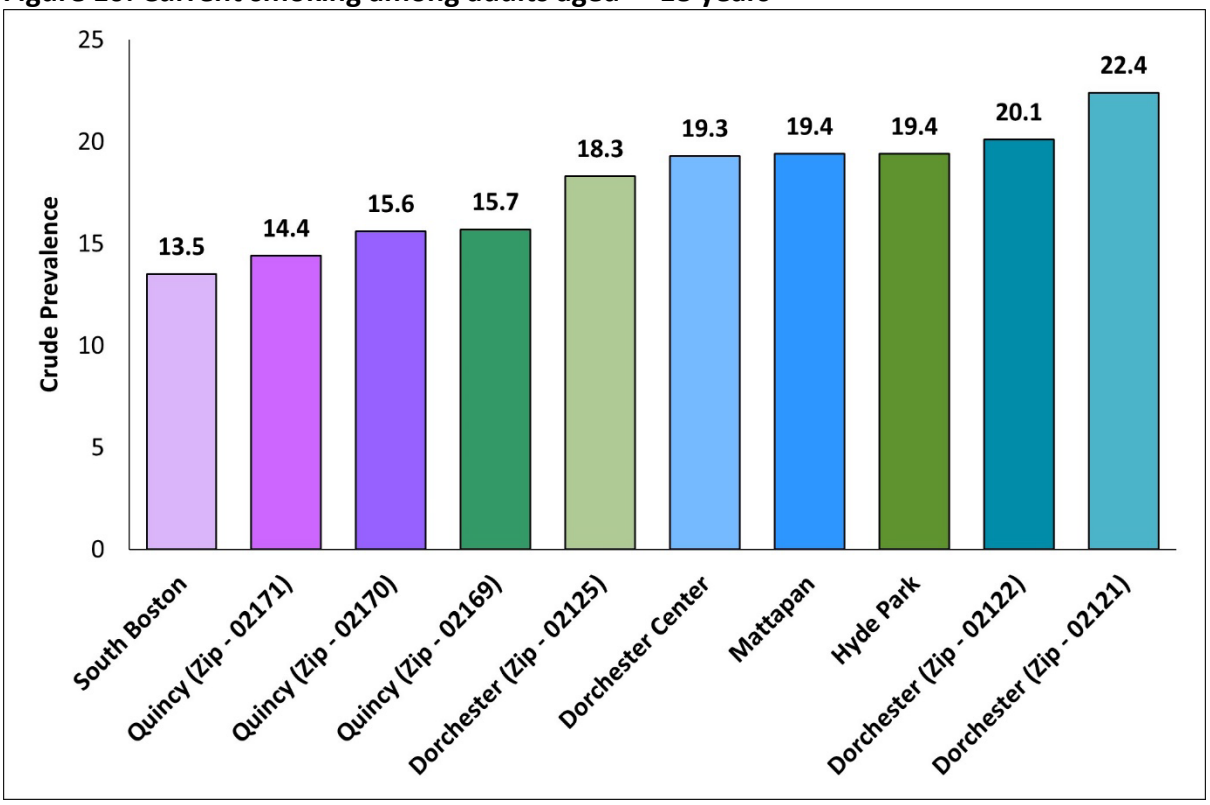
Interviews and Focus groups

While smoking was not a topic of discussion among focus group members, key informants identified smoking as a significant health concern in their community.

Prevalence

South Boston (13.5) had the lowest reported prevalence of smoking among adults (Figure 10). Dorchester-02121 (22.4) reported the highest prevalence of smoking.

Figure 10: Current smoking among adults aged >=18 years



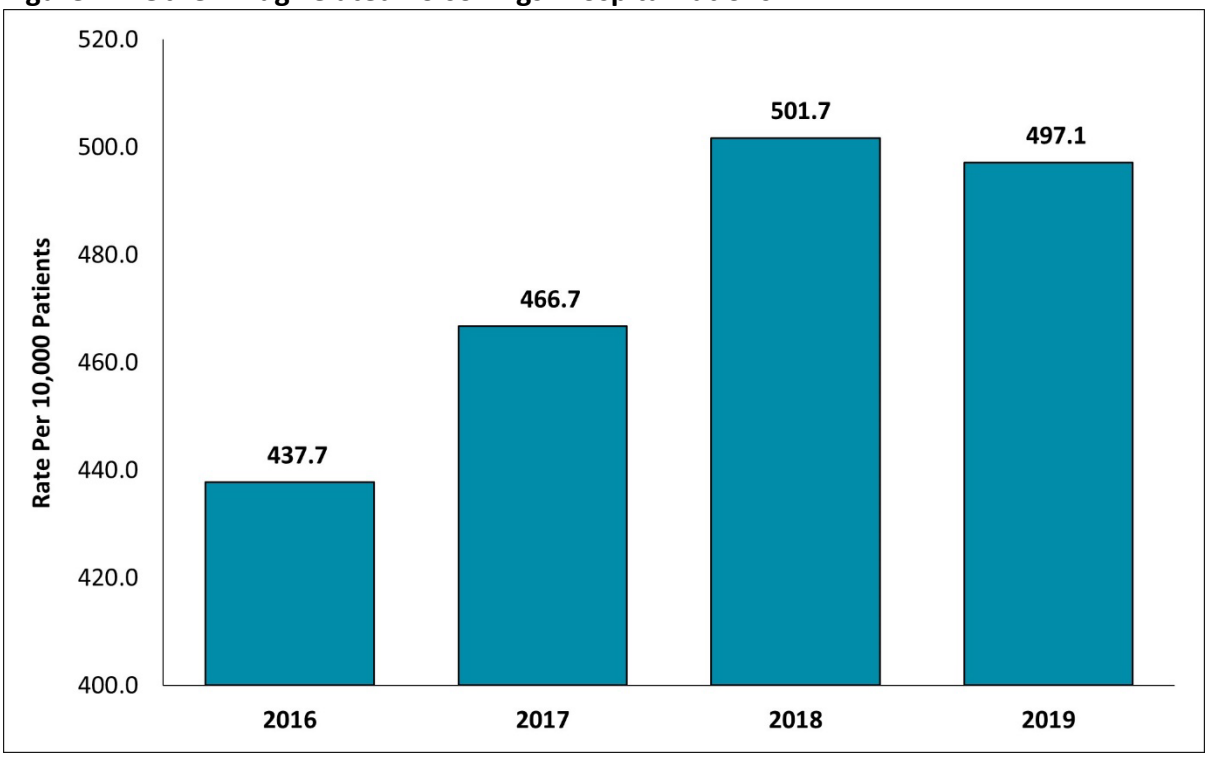
Source: Behavioral Risk Factor Surveillance System (BRFSS) - (2018)

Other Drug-related Poisonings

Prevalence

Other drug-related poisonings in Massachusetts have fluctuated since 2016, peaking in 2018 at a rate of 373.3 per 10,000 patients (Figure 11).

Figure 11: Other Drug-related Poisonings: Hospitalizations



Source: MA Inpatient Hospital Discharge Database, Center for Health Information and Analysis (CHIA)

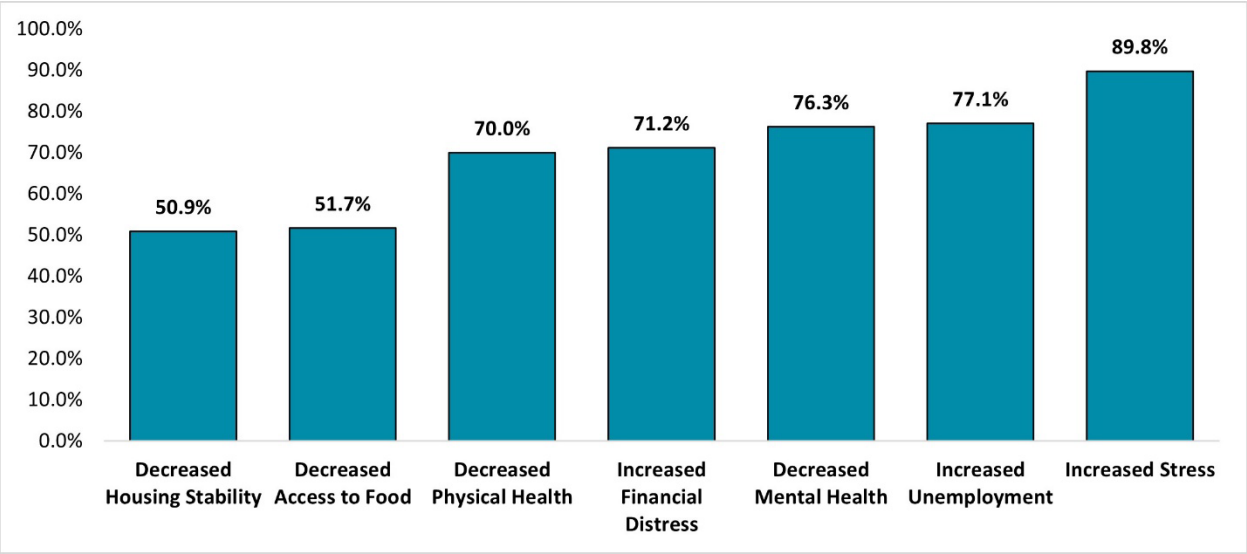
COVID-19

COVID-19 was responsible for more than 300,000 deaths in the US and more than 10,000 deaths in Massachusetts in 2020 (NCHS, 2021). Certain racial and age groups were more susceptible to both having COVID-19 and dying from the disease. Despite accounting for 14.4% of cases, adults over the age of 65 accounted for 81% of all deaths (NCHS, 2021). While these trends were not as drastic when examined by race, it is still important to note that when including all age groups Asian, Black and White individuals had higher rates of death compared to rates of cases (NCHS, 2021). However, when looking at individuals under the age of 65, the rates of death for Black and Hispanic/Latino individuals far exceed the rate of cases (NCHS, 2021). COVID-19 further exacerbated gaps in the healthcare system, as the chronic conditions that increase mortality from COVID-19 were more prevalent among those who identify as Black or Hispanic.

Health Professionals Survey

When asked what impact the COVID-19 pandemic had on their consumers, most health professionals within Carney Hospital's service area noted the stress brought on by the pandemic with increased stress (89.8%), increased unemployment (77.1%), decreased mental health (76.3%), increased financial distress (71.2%), and decreased physical health (70.0%). Health professionals also mentioned housing and food insecurity, lack of respite for caregivers, and increased substance abuse and violence as other COVID-related impacts (Figure 12).

Figure 12: Health Professional's perceived impact of COVID-19 on consumers



Source: Carney Community Health Needs Assessment Health Professional Survey, 2021

Interviews and Focus groups

The major impact of COVID-19 discussed by key informants and focus group members centered on vulnerability of marginalized groups, economic fallout, mental health, misinformation/stigma, and social isolation. The elderly were seen as particularly vulnerable to COVID-19, and one key informant emphasized related difficulties with transportation and using virtual services. Another key informant noted the vulnerability of essential workers. Others noted that families are struggling more since COVID-19 because of job loss or other economic impacts. One key informant discussed the lack of knowledge and trust with the COVID-19 vaccine, recognizing that there were many people in the community who did not want to get vaccinated. In focus groups, members discussed the loss of community after COVID and the resulting social isolation. The impact on mental health was also a major concern, especially in its relation to many of the other factors listed here. Overall, key informants and focus group members praised the resources (e.g., eviction protection) made available through COVID.

Social Determinants of Health

Education

Educational engagement often helps individuals have access to resources that promote good health, such as physical activity breaks, school lunches, after-school programs, and health-based resources such as screenings and management of chronic conditions. These programs have been shown to improve health outcomes, like childhood obesity, and mental health as well as school performance and learning outcomes (MDPH, 2017). Even after leaving the education system, educational attainment continues to impact individuals' health. Education is associated with better jobs, higher incomes, and economic stability. Education can also provide a greater sense of control over one's life and stronger social networks, which, again, are linked to the ability to engage in healthy behaviors and better overall health (MDPH, 2017). Unfortunately, educational attainment in Massachusetts is not equitable. Students from low-income communities and communities of color may face challenges in getting to school, differential public-school resources, inequitable discipline practices, resources, and afterschool programming.

Census data from 2019 indicates that 87.9% of the adult population in Suffolk County has a high school education or higher, which is a little less than the rate in Massachusetts (91.3%). 48.2% of Suffolk County adults have a bachelor's degree or higher, which is about 10 percent higher than the rate in Massachusetts. In 2019 in Norfolk County, 93.8% of the adult population had a high school education or higher, which is higher than the rate in Massachusetts (91.3%). 55.1% of Norfolk County adults have a bachelor's degree or higher, which is about 25 percent higher than the rate in Massachusetts (U.S. Census Bureau, 2021).

Overall, Boston is a highly educated city with nearly half of adults (48.2%) ages 25 years old or older holding a college degree or more. However, there are stark differences by race/ethnicity and by neighborhood. Nearly seven in ten White residents hold a college degree, while only two in ten Black and Latino residents do. Nearly six in ten Asian residents hold a college degree. With 26.1%, Latino adult residents are most likely to not have a high school diploma. Only 4% of White adult residents do not hold a high school diploma, while the figure is 18% among Asian adult residents and 15% among Black residents (Boston CHNA-CHIP Collaborative, 2019).

Interviews and Focus groups

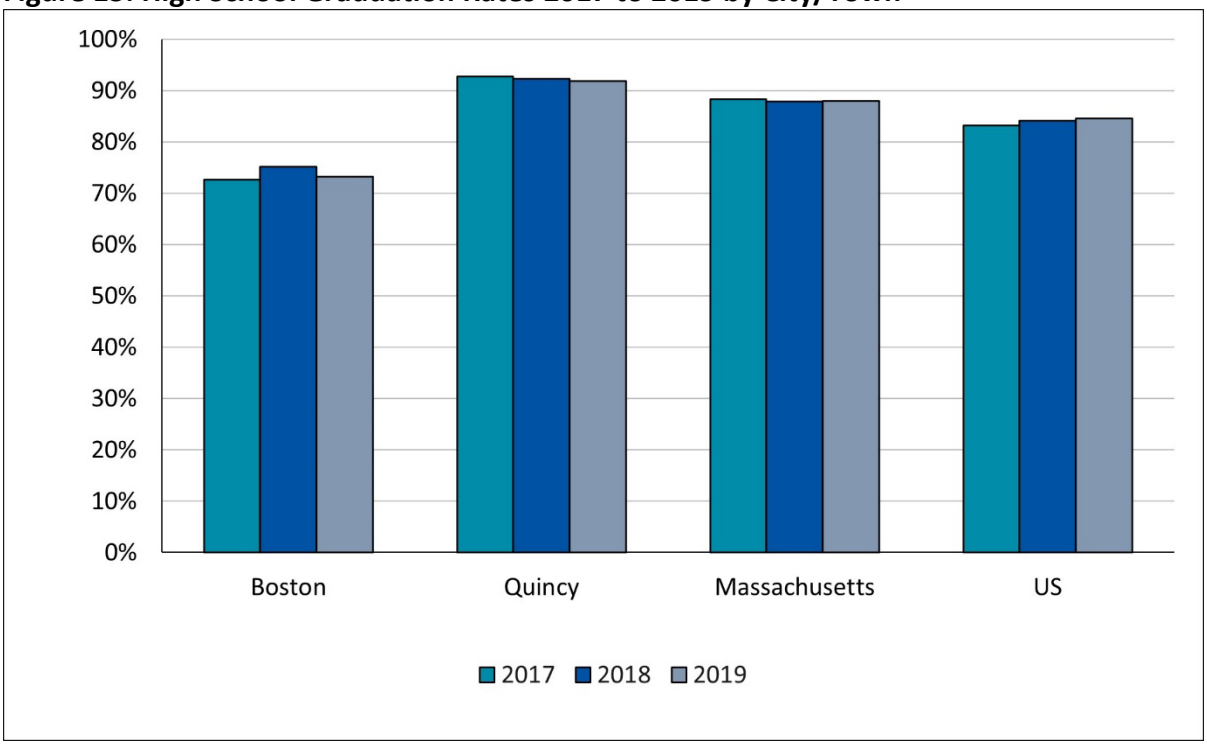
While focus group participants and key informants both advocated for more educational programs related to health, they did not bring up the condition of school systems or in the area. Discussions around education centered largely on increasing community involvement and making information on healthy living readily accessible.

Prevalence

High school graduation rates have improved or remained fairly constant in all service areas over time (Figure 13). However, high school graduation rates exceeded the state and national

averages in Quincy. In Boston, high school graduation rates fell below state and national averages.

Figure 13: High School Graduation Rates 2017 to 2019 by City/Town



Source: MA Dept. of Elementary and Secondary Education, 2019-2020, School and District Profiles

In 2019, the proportion of those with high school education or less in Dorchester-02121 (57.9%), Mattapan (50.0%), Dorchester-02122 (48.2%), Dorchester Center (46.4%), Dorchester-02125 (43.3%), and Hyde Park (40.9%), exceeded both the state (33.3%) and national (39.0%) levels (Table 9). South Boston (22.0%) and Quincy-02171 (21.3%) reported higher proportions of residents with graduate or professional degrees when compared to the state (19.6%) and national (12.4%) levels.

Table 9: Highest Educational Attainment (age 25 years and over) by City/Town

	Less than High School	High School Graduate (Includes Equivalency)	Some College, Associate Degree	Bachelor's Degree or Higher
Mattapan	15.4%	34.6%	31.4%	18.8%
Dorchester Center	16.6%	29.8%	25.4%	28.3%
Dorchester (Zip - 02121)	19.7%	38.2%	25.3%	16.8%
Dorchester (Zip – 02122)	19.7%	28.5%	21.2%	30.6%
Dorchester (Zip – 02125)	17.7%	25.6%	19.8%	36.8%
Hyde Park	13.9%	27.0%	30.5%	28.5%
Quincy (Zip – 02169)	9.9%	25.3%	20.3%	44.5%
Quincy (Zip – 02170)	17.4%	18.8%	21.8%	42.1%
Quincy (Zip – 02171)	11.9%	18.8%	18.9%	50.4%
South Boston	8.0%	14.5%	12.2%	65.4%
Massachusetts	9.3%	24.0%	23.0%	43.7%
US	12.0%	27.0%	28.9%	32.2%

Source: US Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Employment

While being employed is important for economic stability, employment also affects health through more than economic drivers alone. Physical workspace, employer policies, and employee benefits all directly impact an individual's health through the stress and working conditions they create. Job benefits such as health insurance, sick and personal leave, child and elder services, and wellness programs can impact the ability of both the worker and their family to achieve good health (MDPH, 2017).

The proportion of unemployed Massachusetts residents declined from 5.8% in 2015 to 2.8% in 2019, reflecting a 70% decrease over this period (MA Department of Unemployment Assistance, 2021). From 2015 to 2019, the percentage of Massachusetts residents who were unemployed was lower than the national average of 3.7% (MA Department of Unemployment Assistance, 2021). With the economic slowdown associated with COVID-19, unemployment rates increased dramatically. In Massachusetts, unemployment peaked at 17.7% in June 2020 and was above 16% from April to July. From March 2020 through the end of the year, Massachusetts had a higher unemployment rate than the national average. Underemployment is linked to chronic disease, lower positive self-concept, and depression. Workers with incomes below the poverty line are part of the working poor, who are more likely to have low paying, unstable jobs, have health constraints, and lack health insurance. Discriminatory hiring practices have limited the ability of people of color to secure employment. Those who have been arrested, have a conviction, felony, or have been incarcerated are severely limited in their ability to find employment due to policies placing limitations on individuals who have interacted with the criminal justice system (MDPH, 2017).

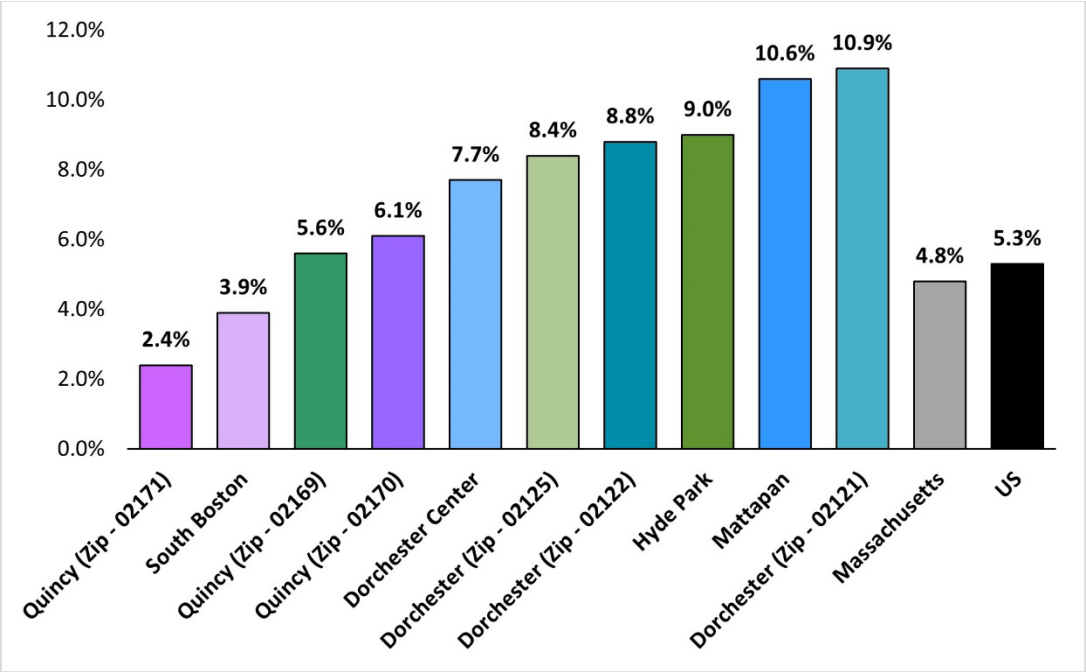
Interviews and Focus groups

Key informant and focus group members noted employment as a major obstacle to good health in the community. Focus group members discussed the strain on some families who have lost a job or struggled financially during COVID. Key informants echoed and expanded upon this, noting that unemployment due to COVID as well as low-paying, unstable jobs as major health concerns in their community.

Prevalence

In 2019, all service area communities except South Boston (3.9%) and Quincy-02171 (2.4%) reported higher percentages of unemployment when compared to the state (4.8%) and national (5.3%) averages (Figure 14).

Figure 14: 2019 Unemployment Rate



Source: US Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Poverty

Income influences where people choose to live, purchase healthy foods, participate in physical and leisure activities, and access health care and screening services. Having a job and job-related income provides individuals the opportunities to make healthy choices, engage in healthy behaviors, access necessary health care services, and enjoy a long life (MDPH, 2017). In Massachusetts, 9.4% of the population lives below the Federal Poverty Line, this is the 8th lowest poverty rate in the nation and is approximately 2% lower than the national rate for 2020 (Talk Poverty, 2020). Before 2015, a greater percentage of children lived in poverty in Massachusetts as compared to the United States; as of 2020 this rate has dropped to 11.3%. Massachusetts ranks among the worst states when it comes to income inequality. In 2020 Massachusetts had an income inequality ratio of 18.2 out of 20, the 47th poorest ratio of all

states. Stark racial disparities exist in poverty rates across Massachusetts. In 2020 nearly one-third of all Native American Massachusetts residents had incomes below the poverty line. This was followed by approximately one in five (19.6%) Hispanic residents and 17.6% of Black non-Hispanic residents (Talk Poverty, 2020). These rates stand in dramatic contrast to less than one in 10 (6.5%) White non-Hispanic and one in ten (10.6%) Asian non-Hispanic residents with incomes below the federal poverty level.

In Suffolk County, 19.3% of the population for whom poverty status is determined (145k out of 748k people) live below the poverty line, which is higher than the national average of 13.1%. The largest demographic living in poverty are women ages 25 - 34 (10.2%). The most common racial or ethnic group living below the poverty line in Suffolk County is White (29.3%), followed by Hispanic (24.8%) and Black (21.0%) (RWJF, 2020). Across all indicators of income and financial security, there are substantial differences across Boston neighborhoods and racial and ethnic groups. Approximately 25%-37% of residents live below the federal poverty level in Dorchester (Boston CHNA-CHIP Collaborative, 2019). In Norfolk County, 6.47% of the population for whom poverty status is determined (44k out of 680k people) live below the poverty line, which is lower than the national average of 13.1%. The largest demographic living in poverty are women ages 18 - 24 (7.92%). The most common racial or ethnic group living below the poverty line in Norfolk County, MA is White (59.7%), followed by Asian (14.6%) and Black (11.7%).

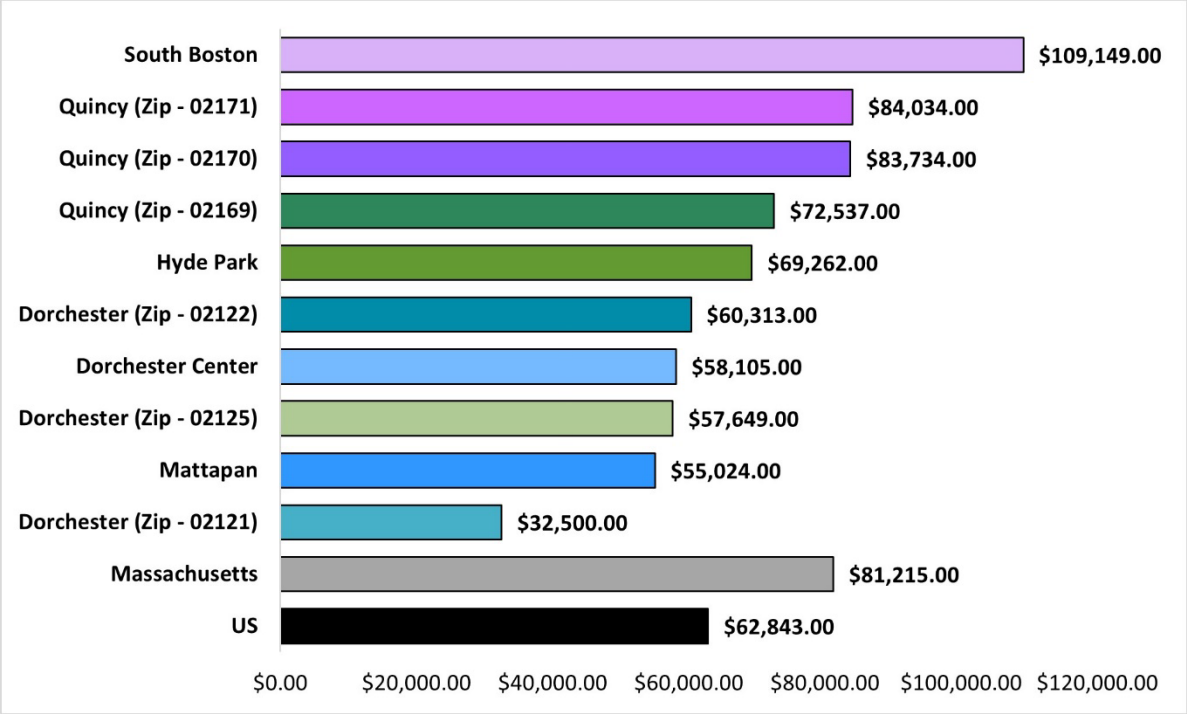
Interviews and Focus groups

Key informants and focus group participants highlighted poverty and related restrictions to accessing healthy food, stable housing, and healthcare as a major health concern in the community. Both groups also acknowledged the role of COVID in amplifying these issues. Key informants discussed how marginalized groups are disproportionately affected by health concerns related to poverty.

Prevalence

Three service area communities—South Boston ($109,149), Quincy-02171 ($84,034), and Quincy-02170 ($83,734)—had higher median household incomes than the Massachusetts average of about $81,000 per year (Figure 15).

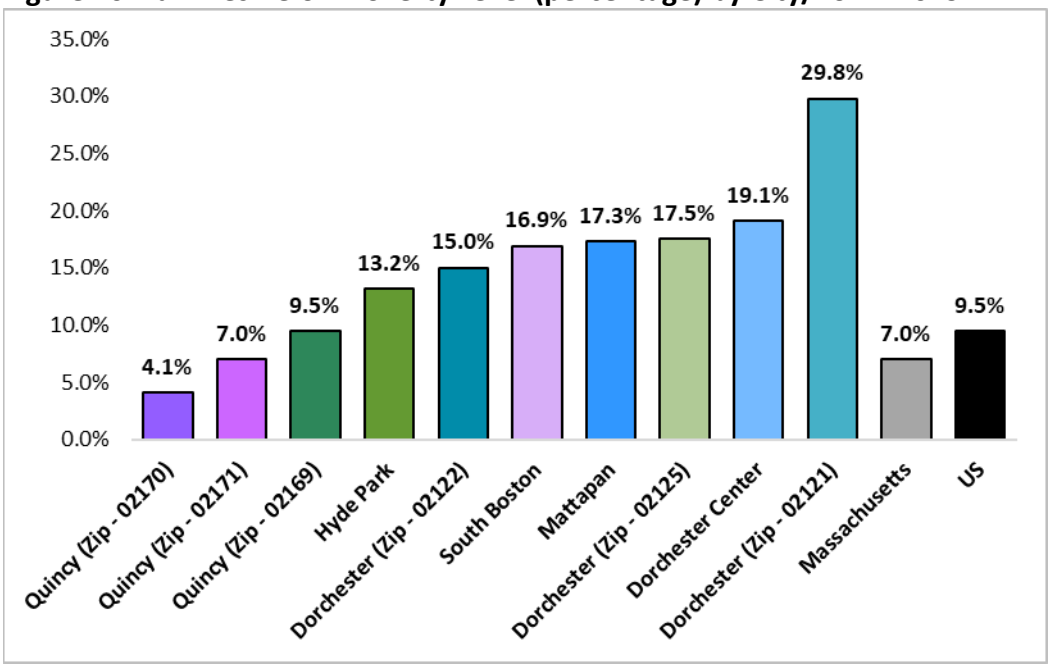
Figure 15: Median Household Income by City/Town -2019



Source: US Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Only two communities had poverty levels equal to or less than the state level (7.0%): Quincy-02170 (4.1%) and Quincy-02171 (7.0%). Dorchester-02121 stands out with the highest poverty level at 29.8% (Figure 16).

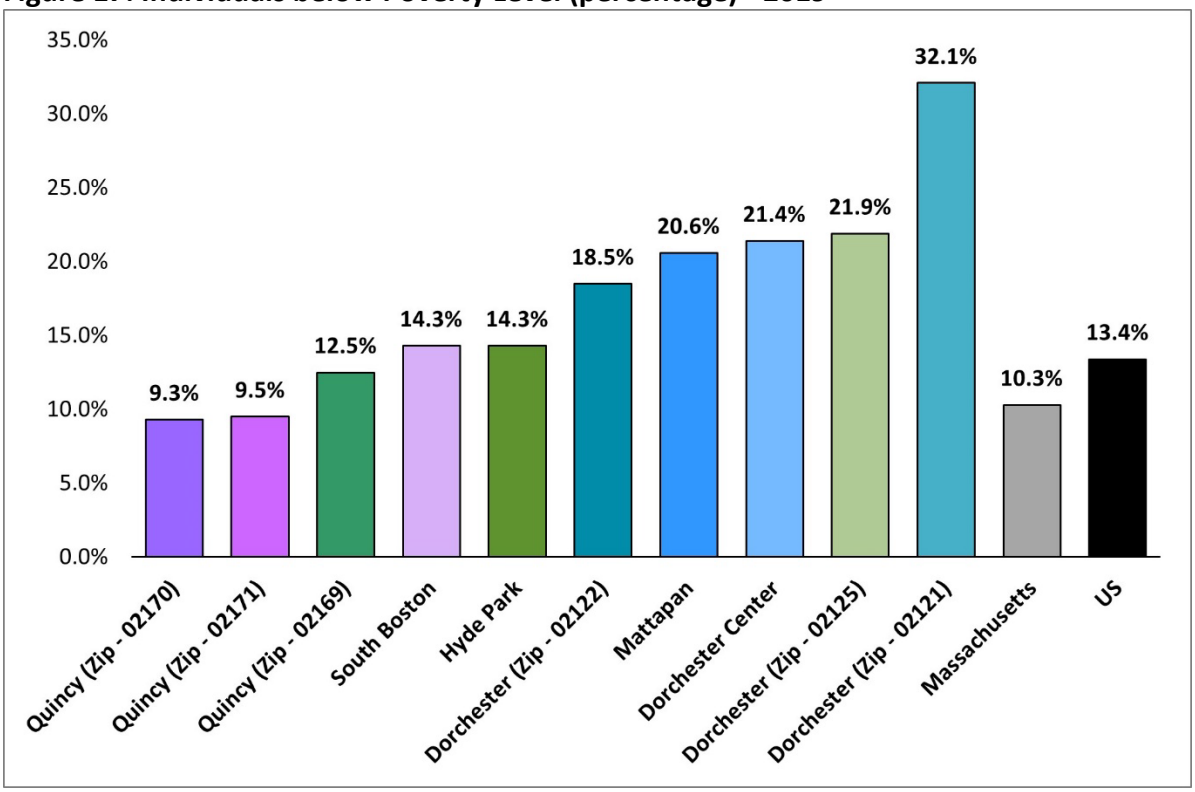
Figure 16: Families Below Poverty Level (percentage) by City/Town 2019



Source: US Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Individual poverty rates followed a similar trend to that seen when examining families below poverty level (Figure 17). Quincy-02170 (9.3%) and Quincy-02171 (9.5%) were the only areas with individual poverty rates below the state (10.3%) and national (13.4%) levels. Quincy-02169 (12.5%) reported rates below national levels but above state levels. All other areas reported individual poverty rates that exceed both state and national levels, with Dorchester-02121 (32.1%) standing out as having the highest individual poverty rate.

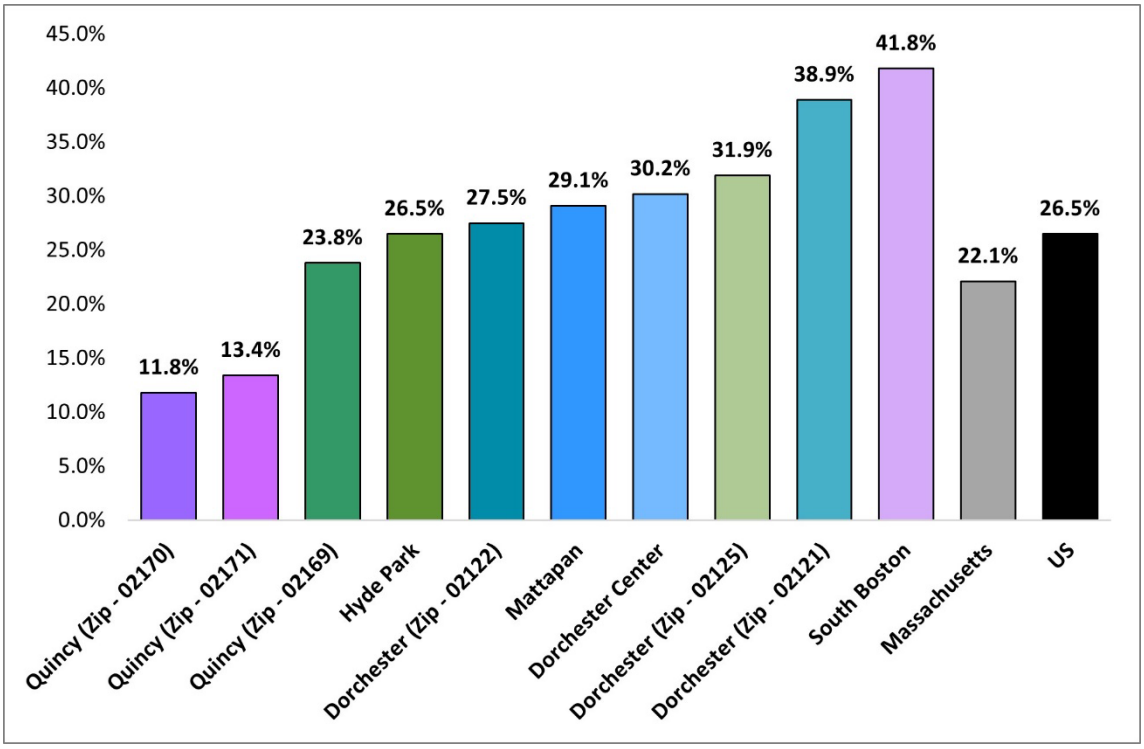
Figure 17: Individuals below Poverty Level (percentage) - 2019



Source: US Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Two areas reported poverty rates for female heads of household under the state (22.1%) and national (26.5%) levels: Quincy-02170 (11.8%) and Quincy-02171 (13.4%). Seven areas reported poverty rates for female heads of household that were equal to or greater than state and national levels, with Dorchester-02121 (38.9%) and South Boston (41.8%) reporting the highest levels (Figure 18).

Figure 18: Female Heads of Household Below the Poverty Line (percentage) - 2019



Source: US Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Food Insecurity

For those dealing with low household incomes or below the poverty level, access to healthy food is a major area of concern. Research has shown that food insecurity is harmful to physical and mental health in adults and children. Food-secure adults are in better physical, mental, and emotional health than those who are food insecure, and thus better prepared to achieve their potential and fulfill their various responsibilities. Young children living in food-secure households are more likely than those in food-insecure households to be healthy and to successfully attain important developmental and behavioral milestones, and thus enter school well-prepared to learn and succeed academically. Living in a food swamp can also increase your risk of obesity. What food deserts lack in healthy options, food swamps make up for in fast food and junk food; what's available is high in calories, sodium and sugar. Research suggests food swamps may be better at predicting local obesity patterns than food deserts (Fanous et al., 2016).

A 2017 data analysis found that 2.8 million people living in low-income areas in Massachusetts lack access to grocery stores, including more than 700,000 children and 523,000 older adults (Fanous et al., 2016). Many of these same communities are struggling economically and lack job opportunities for local residents. Given population-level data for Massachusetts, we know that a significant proportion of residents living with low incomes and experiencing food insecurity are immigrants and people of color. Massachusetts has experienced the largest relative increase of food-insecure individuals in the nation due to COVID-19. As of November 2020, a

staggering 21.8% of households with children in them in Massachusetts are food insecure (Massachusetts Food Trust Program, 2020)

Compared to Massachusetts overall (13%), the percentage of households receiving Food Stamps/SNAP benefits was higher in Suffolk (17.2%) and was significantly lower in Norfolk County (6.6% of households) (Food Research Action Center, 2019). In 2018, Food insecurity rates were 13.7% in Suffolk County and 7.2% in Norfolk County (RWJF, 2020). According to the Boston Behavioral Risk Factor Surveillance Survey, the proportion of Boston adults experiencing food insecurity has declined from 2010 to 2017 (25% compared to 17%); however, food insecurity experiences varied across sub-groups, with Latino (39%), Black (35%), and foreign-born (26-27%) residents being more likely to experience food insecurity (Boston CHNA-CHIP Collaborative, 2019). Rates of residents receiving benefits from the Supplementation Nutrition Assistance Program (SNAP) are significantly higher among Dorchester, Roxbury, Mattapan, and the South End than Boston overall.

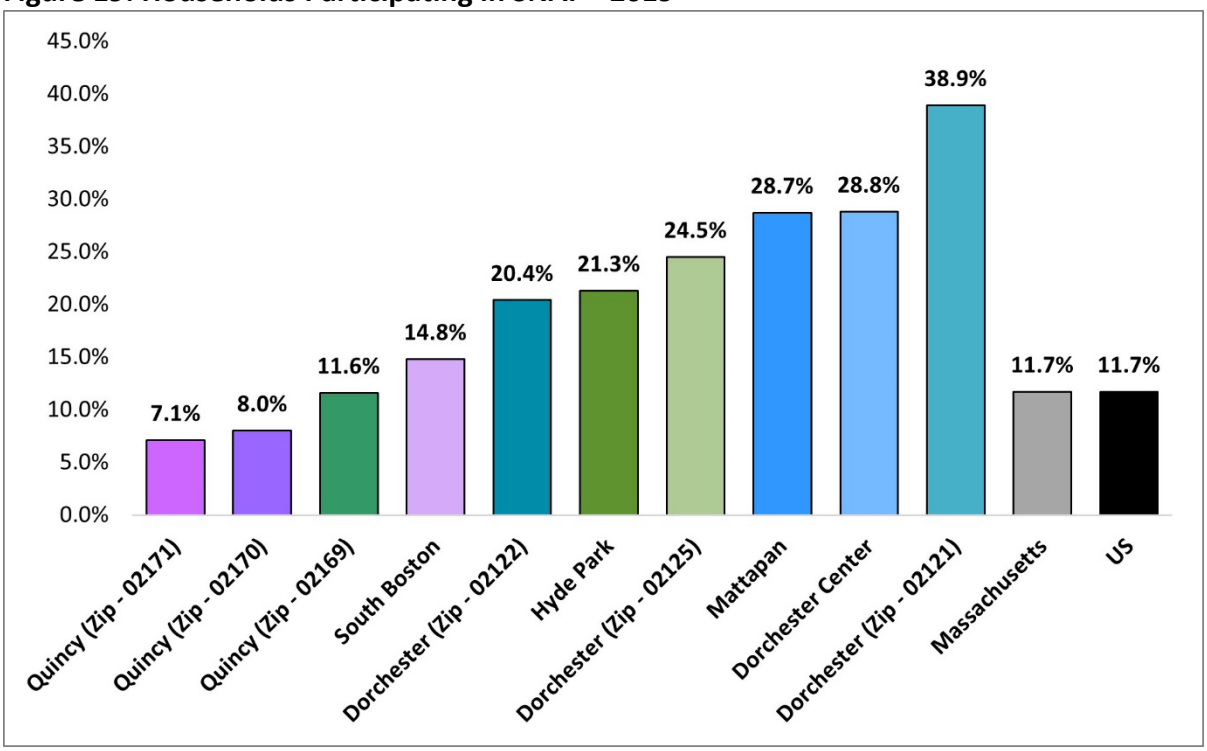
Interviews and Focus groups

Focus group members noted access to healthy foods as a key health concern in the community. Food was noted to be very expensive, and many are unable to afford it. Those without reliable transportation are also unable to access grocery stores, and may have to rely on convenience stores, paying a premium for food. Key informants discussed a lack of nutritional food available in the service area, speaking specifically of a prevalence of food deserts and food swamps. Convenience is also a limitation as many may opt to get fast food or order pizza rather than make meals at home. As one key informant remarked, “A single mom after a full day of work is tired, McDonalds has a dollar menu... she doesn’t have to cook and her kids get fed all for less than $5.” There is also a lack of education on healthy eating, and both focus group participants and key informants called for more healthy living education in the community.

Prevalence

In 2019, 11.7% of all households in Massachusetts participated in SNAP (Figure 19). Over a third of households in Dorchester-02121 (38.9%) participated in SNAP. Only Quincy (Zip-02171 (7.1%), Zip-02170 (8.0%), and Zip-02169 (11.6%)) reported lower percentages of households participating in SNAP than the state or national (11.7%) levels.

Figure 19: Households Participating in SNAP - 2019



Source: US Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Housing and Transportation

Housing costs

Massachusetts is currently dealing with two independent sets of housing crises. The first is due in large part to a low rate of housing production which has not kept pace with population growth and needs, leading to rising prices that have outpaced wages. As a result, there is a shortage of suitable and affordable accommodations for most young workers, growing families, and the increasing senior population. More than 70% of the region's Latino households and 66% of Black households resided in just 10 municipalities in 2017 and Boston remains one of the most segregated of the nation's 50 largest metropolitan areas. The second set of housing crises is linked to the economic slowdown associated with COVID-19. In the summer of 2020, more than 654,000 Massachusetts residents either missed their July rent or mortgage payment or feared they wouldn't pay August, according to the U.S. Census Bureau (Healy & Rios, 2020).

In 2017 in Suffolk County, an estimated 35% of owner households and 50% of rental households experienced a housing cost burden, meaning residents spend more than 30 percent of their income on housing. In Norfolk County, nearly 30% of owner households and 45% of rental households experienced housing cost burden (RWJF, 2020).

Prevalence

Over the three-year period between 2017 and 2019, housing prices have risen in all service area communities (Table 10). The cost of owning a home in Massachusetts is substantially more expensive than the national level, with median prices being over $150,000 more than the national median price.

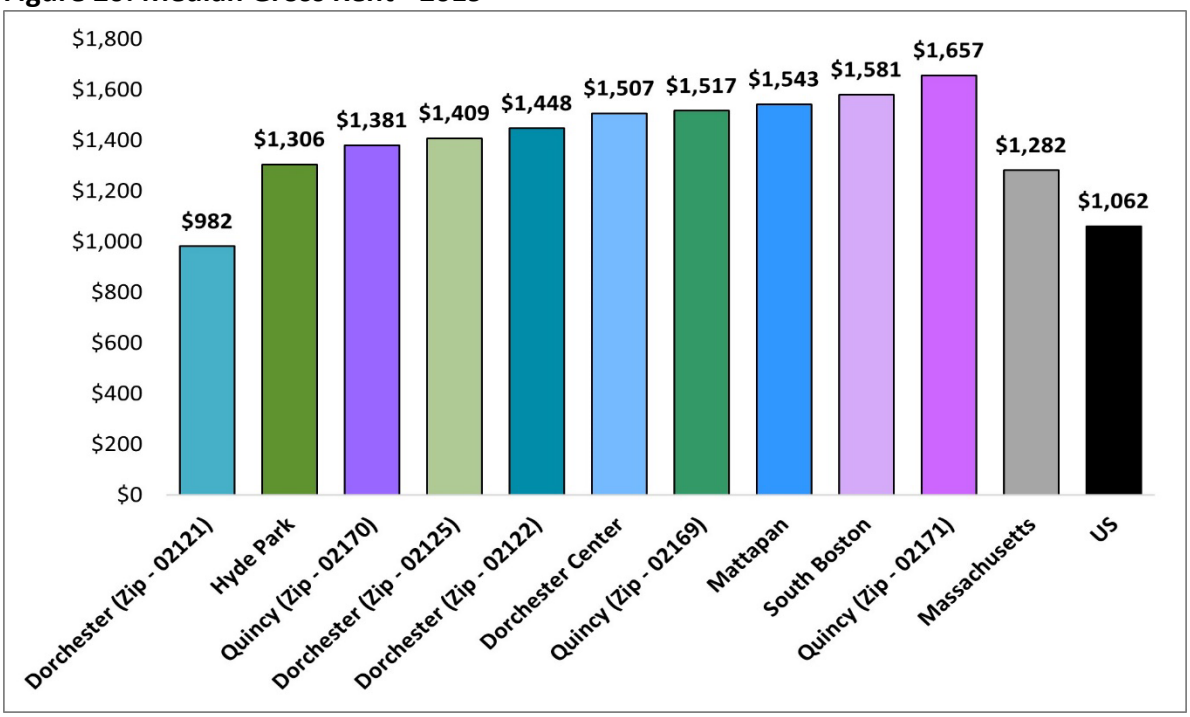
Table 10: Median Housing Price (Owner Occupied Units)

	2017	2018	2019
Mattapan	$316,300	$349,700	$377,700
Dorchester Center	$362,500	$385,200	$423,600
Dorchester (Zip - 02121)	$417,500	$455,900	$500,100
Dorchester (Zip – 02122)	$398,800	$443,900	$476,900
Dorchester (Zip – 02125)	$375,800	$408,900	$468,200
Hyde Park	$361,100	$381,900	$404,100
Quincy (Zip – 02169)	$365,100	$383,300	$399,100
Quincy (Zip – 02170)	$408,000	$437,900	$454,200
Quincy (Zip – 02171)	$416,900	$439,500	$457,200
South Boston	$533,200	$591,000	$644,200
Massachusetts	$352,600	$366,800	$381,600
US	$193,500	$204,900	$217,500

Source: US Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Like housing, the median gross rent is also higher in the state of Massachusetts compared to the national level (Figure 20). Quincy-02171 ($1,657) and South Boston ($1,581) have especially expensive levels of rent. Except for Dorchester-02121 ($982), all other towns/cities in the service area have a higher median rent than the state.

Figure 20: Median Gross Rent - 2019



Source: US Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Homelessness

Homelessness is a growing issue in Massachusetts. From 2017 to 2018 the rate of homelessness increased by 14.2% (Jolicoeur, 2020). It is estimated that during this time, more than 3,400 families were homeless; additionally, in Boston public schools alone more than 3,500 students were reported as homeless. Homelessness is yet another issue that affects certain races more dramatically than others. Massachusetts has the highest rate of Hispanic/Latinx homelessness at 107 homeless residents per 10,000 population. Over the past decade, the number of homeless families in Greater Boston increased by 27% and the number of homeless individuals by 45%, with a spike in 2018 driven by an influx of displaced residents of Puerto Rico (Modestino et al., 2019). However, Massachusetts currently houses 95% of its homeless population, one of the highest rates of any state (Jolicoeur, 2020).

Interviews and Focus groups

Key informants emphasized housing as a primary concern in their communities, noting the lack of resources available to homeless individuals and those living in poverty. It can be especially challenging for homeless individuals to access regular and predictable healthcare, yet homeless individuals may be more likely to experience mental illness and substance abuse. Focus group participants specifically noted lack of transportation, cultural competence, and insurance as major barriers to accessing health care. Both focus group participants and key informants advocated for more programs and resources to help people live safer, healthier lives.

Transportation

Transportation barriers are often cited as barriers to healthcare access. Transportation barriers lead to rescheduled or missed appointments, delayed care, and missed or delayed medication use. These consequences may lead to poorer management of chronic illness and thus poorer health outcomes. Chronic disease care requires clinician visits, medication access, and changes to treatment plans in order to provide evidence-based care. However, without transportation, delays in clinical interventions result. Such delays in care may lead to a lack of appropriate medical treatment, chronic disease exacerbations or unmet health care needs, which can accumulate and worsen health outcomes. A review of studies conducted in 2013 found evidence which supports that transportation barriers are an important barrier to healthcare access, particularly for those with lower incomes or the under/uninsured (Syed, Gerber, & Sharp, 2013). Across Massachusetts communities, issues of transportation cost, timeliness, and accessibility, are of top concern, especially for older adults, those with limited English proficiency, and residents of neighborhoods with limited access to transportation.

Interviews and Focus groups

Key informants identified the access and affordability of transportation as one the biggest missing community services in the area, and one of the biggest obstacles to healthy living in the community. Focus group members discussed the difficulty of transportation for getting to doctor's appointments, grocery stores, and convenience stores. Elderly individuals are particularly vulnerable, as they may lack easy access to transportation and may struggle with digital literacy.

Access to Care

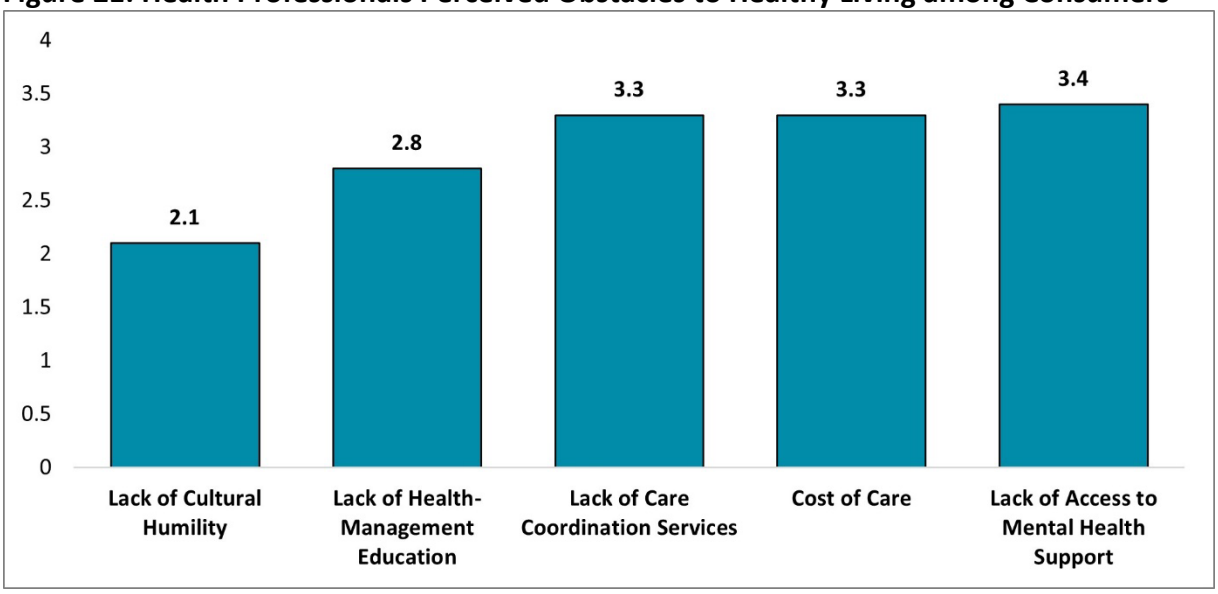
Access to healthcare is one of the most important issues facing high-risk communities and vulnerable populations. Addressing access to care is one of the first steps that need to be taken to address health equity. Inequity and inequality in the United States healthcare system have been widespread since its inception. Due to current societal issues including the COVID-19 pandemic, these broad inequities have been largely exposed while also highlighting how granular and targeted certain equity issues can be. Patients from underserved minority populations find it a challenge to access quality health care. Although Massachusetts is a leader in healthcare services and access to care, there are still barriers of cost, transportation, childcare, language interpreters, etc. that may impact individuals' ability to access healthcare.

Patients from underserved minority populations find it a challenge to access quality health care. The cost was the main factor for not receiving healthcare coverage. In 2016, 45% of uninsured adults in the city of Boston did not have access to adequate healthcare due to its cost (Boston CHNA-CHIP Collaborative, 2019). Additionally, healthcare professionals are not equally distributed throughout the state; for example, in Massachusetts, there are 970 residents for every one primary care physician (RWJF, 2020). Suffolk County and Norfolk County fare better than the rest of the state for primary care access, with the ratio of population to primary care physicians being 670:1 in Suffolk County and 790:1 in Norfolk County (RWJF, 2020).

Health Professionals Survey

When asked to rank the largest obstacles to healthy living among their consumers, health professionals saw cost of care, lack of access to mental health support, and lack of coordination services as the largest barriers (Figure 21). This indicates a great need to address mental health services, as it is also a large and prevalent need in the community.

Figure 21: Health Professionals Perceived Obstacles to Healthy Living among Consumers



Source: Carney Community Health Needs Assessment Health Professional Survey, 2021

Insurance Coverage

Cost was the main reason for not receiving healthcare coverage. In 2016, 45% of uninsured adults did not have access to adequate healthcare due to its cost. While the Affordable Care Act (ACA) has provided millions of Americans with affordable health care services, there are still 27.6 million more without coverage nationwide. This issue is not nearly as widespread in Massachusetts which has one of the highest health insurance coverage rates in the nation at about 97% (RWJF, 2020). While Massachusetts has one of the highest health insurance coverage rates in the U.S., there are still pockets of individuals without coverage, including young people, immigrants and refugees, and those who are unemployed.

Interviews and Focus groups

Focus group participants saw the affordability of healthcare as a major issue; they noted the connection between employment and access to quality insurance. Key informants stressed that information on healthy living and on insurance may not be easily accessible and called for both more affordable healthcare as well as education on healthcare options.

Culturally Competent Care

Cultural competence is defined as the ability of providers and organizations to effectively deliver health care services that meet the social, cultural, and linguistic needs of patients. A culturally competent health care system can help improve health outcomes and quality of care and can contribute to the elimination of racial and ethnic health disparities. Of the more than 37 million adults in the U.S. who speak a language other than English, some 18 million people—48%—report that they speak English less than "very well." Language and communication barriers can affect the amount and quality of health care received. For example, Spanish-speaking Latinos are less likely than Whites to visit a physician or mental health provider, or receive preventive care (Georgetown University Health Policy Institute, 2021). If the providers, organizations, and systems are not working together to provide culturally competent care, patients are at higher risk of having negative health consequences, receiving poor quality care, or being dissatisfied with their care. African Americans and other ethnic minorities report less partnership with physicians, less participation in medical decisions, and lower levels of satisfaction with care. The quality of patient-physician interactions is lower among non-White patients, particularly Latinos and Asian Americans. Lower quality patient-physician interactions are associated with lower overall satisfaction with health care.

Interviews and Focus groups

Key informants highlighted language barriers and a lack of cultural competence as major obstacles to accessing health care. Access to healthy food was a main topic of conversation; one key informant noted the interactions between food and culture as a potential area of interest for health professionals. Focus group members similarly discussed the need for healthcare providers to understand the culture of the people they are serving because this may shape the patient's communication and health literacy. Beyond advocating for more bilingual health professionals, focus groups also commented on the protective quality of cultural competency concerning social isolation and stigma.

Recommendations

Many of the risk factors that lead to poor health in the communities are modifiable, as such many cases of chronic illnesses are considered preventable. Prevention requires a comprehensive approach that not only treats the symptoms but also addresses the underlying lifestyle behaviors behind so many of these chronic conditions. These approaches must also address access to healthcare at different levels of the socio-economic model to generate the largest impact. Various studies have shown that, although the three leading risk factors are modifiable, the conditions in which people live, learn, work, and play do not offer equal access or opportunity to make this possible. For example, a history of policies rooted in structural racism has resulted in environments in which there are inequities in access to healthy foods, safe spaces for physical activity, walkable communities, quality education, housing, employment, and health care services. The health implications of this are evident in the fact that Black and Hispanic residents of Massachusetts are consistently and disproportionately impacted by the high prevalence of all chronic diseases, as well as the related deaths and high acute care service utilization (MDPH, 2017).

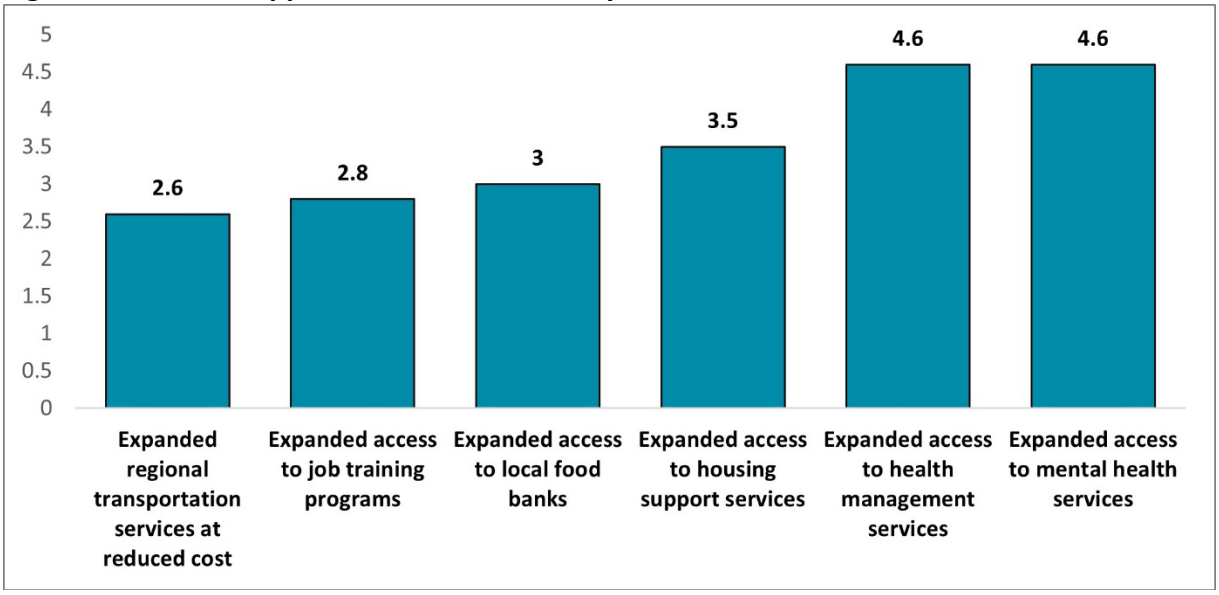
More must be done to ensure that vulnerable populations are protected from social constraints that negatively impact health outcomes. It has been noted that communities of lower socioeconomic status, minorities, the disabled, and immigrant groups within Suffolk County do not have equitable access to services that may remediate health disparities. Focusing resources on addressing social determinants of health and providing health education programs to such individuals appear to be a promising practice in improving health outcomes for the most vulnerable within Suffolk and Norfolk Counties.

Carney Hospital continues to serve alongside several community-based organizations who share the mission of addressing the health needs of those in their communities. It is through working together with partners devoted to the same cause that Carney Hospital can have the greatest impact, especially within underserved populations. When considering priorities, Carney Hospital will look for ways projects will improve the built environment, social environment, housing, violence, education, and employment.

Health Professional Perspectives

When asked what they believed would most benefit consumers, the three largest areas of need according to health professionals within Carney's service area were expanded access to mental health, health management services, and housing support (Figure 22). As mental health and health management are large areas of concern within the community, it follows programs addressing these needs are also seen as most necessary in the community. As such, many health professionals see a need in the community for Carney to be involved in expanding care in these areas.

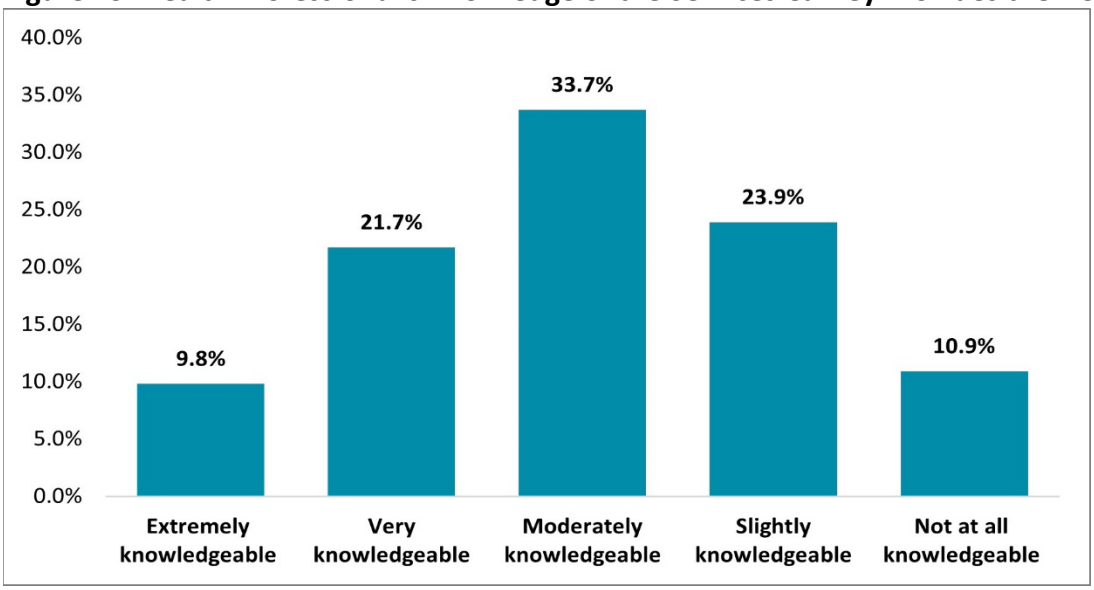
Figure 22: Health Support Services Believed by Health Professions to Most Benefit Consumers



Source: Carney Community Health Needs Assessment Health Professional Survey, 2021

Of the health professionals surveyed, the majority felt as if they were moderately knowledgeable (33.7%) of the community health services Carney provides their community, followed by slightly knowledgeable (23.9%) and very knowledgeable (21.7%) (Figure 23).

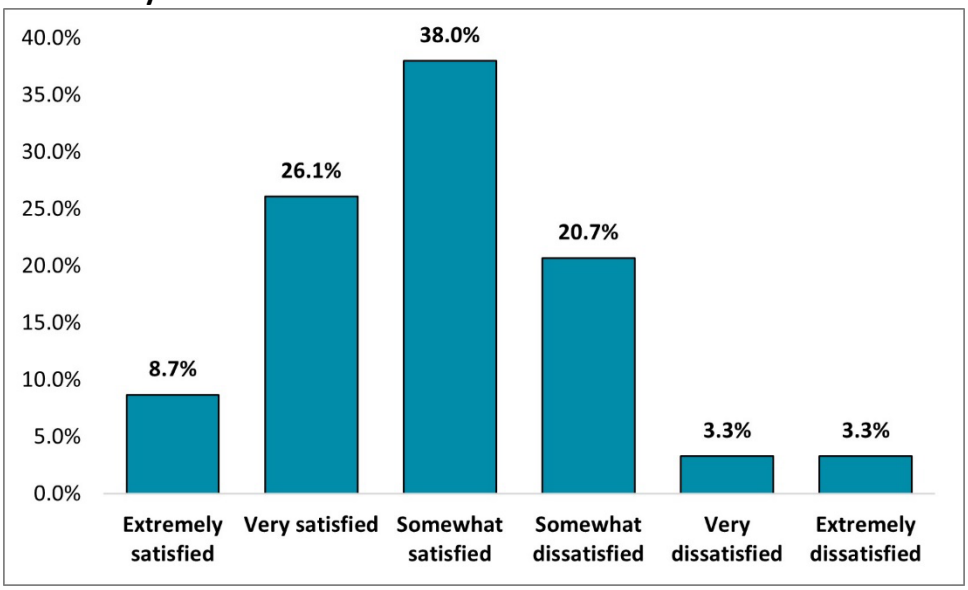
Figure 23: Health Professional's Knowledge of the Services Carney Provides their Community



Source: Carney Community Health Needs Assessment Health Professional Survey, 2021

Community health professionals also indicate moderate levels of satisfaction with Carney's role in addressing community health, with the majority indicating they are somewhat satisfied (38.0%%) (Figure 24). Multiple health professionals commented that they'd like to see Carney involved in more community outreach programs.

Figure 24: Health Professionals Satisfaction with how Carney Hospital is Addressing Community Health



Source: Carney Community Health Needs Assessment Health Professional Survey, 2021

Mental Health

Mental health intersects with many areas of public health, such as addiction, cancer, and cardiovascular disease. Integrated treatment is critical for treating people with co-occurring disorders and can ultimately achieve better health outcomes and reduce costs. Increasing awareness and building capacity in service systems are important in helping identify and treat co-occurring disorders. Such treatment should be client-centered, integrating client's goals and desired treatment strategies (MDPH, 2017). Many residents noted that mental health needs, especially those of youth, have been exacerbated by COVID.

Community wide recommendations

- Coordinate community events to support needs in domains like housing opportunities, transportation, job training, and healthy living.
- Facilitate dialogues and discussions on mental health to reduce stigma and improve support.
- Provide options for community engagement to decrease feelings of social isolation; options that align with services that Carney provides would include walking groups, lessons on virtual literacy through nearby libraries, and knowledge workshops on healthy eating.
- Use social media, virtual chat rooms, and livestreams to reach out to individuals, especially younger individuals since they are very active online.

Health system recommendations

- Host events in the community to increase mental health awareness and decrease stigma (e.g., Community Health Fairs).
- Develop a referral network between the hospital and outpatient care, like shelters and substance use facilities, to streamline access to mental health services while also ensuring that patient needs are met holistically.
- Meet residents where they are, including medical and non-medical home visit programs for residents who face barriers with going to the hospital.
- Interact more with the community through marketing and through sponsoring community events like farmer's markets to increase the community's trust in Carney Hospital.
- Invest in increasing culturally competent care and decreasing language barriers between providers and patients.

Substance Use Disorder

People with mental health disorders are more likely to experience a substance use disorder, as the two are often co-occurring disorders. People tend to receive treatment for one disorder while the other disorder remains untreated. Undiagnosed, untreated, or undertreated co-occurring disorders can lead to a higher likelihood of experiencing negative outcomes, such as homelessness, incarceration, medical illnesses, suicide, or even early death (SAMHSA, 2020).

Community wide recommendations

- Create more treatment facilities for substance misuse in the area.
- Partner with local schools to create curriculum and programs centering around substance use prevention.
- Partner with housing services and community centers to create programs aimed at addressing substance use and encouraging healthy coping mechanisms.
- Sponsor community events (e.g., job fairs) to increase the resources available to vulnerable populations and to decrease feelings of social isolation and stress due to financial insecurity.

Health system recommendations

- Coordinate more comprehensive follow-up services, enabling residents to address pain without turning to addictive substances.
- Make it easier to access addiction services by decreasing wait times and providing multiple avenues of interaction.
- Collaborate with local schools, community centers, housing units, substance use programs, and clinics to provide resources to stay abreast of evolving needs.
- Clarify internal communication between staff and encourage more communication between the staff and the community at large.

Chronic Conditions

Various studies have shown that although the three leading risk factors are modifiable, the conditions in which people live, learn, work, and play do not offer equal access or opportunity

to health. For example, a history of policies rooted in structural racism has resulted in environments in which there are inequities in access to healthy foods, safe spaces for physical activities, walkable communities, quality education, housing, employment, and healthcare services (MDPH, 2017). The health implications of this are evident in the fact that Black and Hispanic residents of Massachusetts are consistently and disproportionately impacted by the high prevalence of all chronic diseases, as well as related deaths and high acute care service utilization. Healthy people cannot exist in unhealthy environments. Because of this MDPH frames its chronic disease prevention and wellness efforts around addressing the social determinants of health and focuses on policies that ensure that all individuals can make healthy choices.

Community wide recommendations

- Offer community classes on chronic conditions, to expand public awareness of signs and symptoms.
- Provide pain management services for those whose chronic conditions cause daily pain.
- Improve transportation options to make consistent health management more accessible.

Health system recommendations

- Provide more diagnostic services and up-to-date technology for early detection of chronic conditions.
- Offer clinics within service area communities to address chronic needs, such as diabetes foot checks.
- Sponsor more patient education programs on disease management.
- Enhance marketing initiatives detailing available community health services.

Obesity

Obesity is a largely preventable chronic illness defined as having a body mass index over 30. Obesity is considered a key risk factor for cardiovascular disease, diabetes mellitus, and certain cancers; additionally, it was mentioned far more than any other chronic condition within focus groups, key informant interviews, and the health professional survey. The main risk factors for obesity are physical inactivity and poor diet. Independent of all other demographic factors, lower socio-economic status is strongly correlated with higher rates of obesity (UHF, 2019). This is often believed to be due to unfavorable environmental conditions (both physical and societal) such as the presence of food deserts and food swamps as well as a lack of opportunity to engage in physical activity. As COVID-19 has both impacted an individual's ability to be active in the community and increased financial troubles, addressing obesity is of critical importance.

Community wide recommendations

- Support events to get families involved in exercise-based activities.
- Hold exercise classes and activities when safe to gather.
- Increase opportunities for healthy living in the community, such as bike paths and sidewalks.
- Increase public knowledge of parks and green spaces available.

- Supplement access to affordable, healthy food for those experiencing poverty or joblessness due to COVID-19.
- Support food security initiatives, such as Fair Foods, to provide produce to the community.
- Provide better options for fresh food and groceries locally through sponsoring farmer's markets, healthy cooking classes, and other community events.

Health system recommendations

- Increase hospital involvement in the community through talks, seminars, and wellness activities, with special attention paid to cultural humility and language barriers.
- Sponsor talks to the community about the importance of staying active and healthy.
- Collaborate with food security initiatives to help residents access healthy foods.
- Provide accessible spaces for activity as well as transportation to these areas.

COVID-19

Aside from being responsible for over 100,000 deaths in Massachusetts in 2020 (National Center for Health Statistics, 2021), COVID-19 is also responsible for lower quality of life and limited access to care for many residents. COVID-19 has had a stark impact on mental health, obesity, substance use, cardiovascular health, and economic wellbeing. COVID-19 presents a unique challenge, as it both poses a major threat to public health and has exacerbated several other threats.

During the pandemic, health professionals have been largely satisfied with Carney's efforts to educate the community about COVID-19, with 76.2% of health professionals indicating being moderately satisfied or higher. However, despite these positive ratings, health professionals also indicated the pandemic had a negative impact on their mental health. When asked to rate the impact of COVID on their mental health, 66.3% of health professionals indicated it had moderately negative impact, or worse. Further, one key informant commented that there was "a lot of misinformation regarding COVID-19 and the vaccine."

Community wide recommendations

- Distribute the vaccines to vulnerable areas.
- Aid those who have encountered financial difficulties as a result of the pandemic.
- Disseminate knowledge about COVID into the community through multiple platforms.
- Provide online social gatherings for individuals who are feeling isolated.
- Offer transportation services for those unable to use public transport due to health concerns.

Health system recommendations

- Offer vaccines to long-term inpatient groups like the inpatient psychiatric population.
- Partner with community organizations to increase access to mental health services, both in-person and online.
- Disseminate information on COVID and the vaccine to increase awareness and decrease stigma or misinformation.

- Partner with community organizations that provide pandemic assistance to vulnerable populations.

Homelessness

Massachusetts is currently dealing with two independent sets of housing crises, the first is due in large part to a low rate of housing production which has not kept pace with population growth and needs, leading to rising prices that have outpaced wages. As a result, there is a shortage of suitable and affordable accommodations for most young workers, growing families, and the increasing senior population. Studies show that individuals who are unhoused, including those who are homeless or living in unstable or transient housing situations are more likely to delay medical care and have mortality rates up to four times higher than those who have secure housing (Kottke et al., 2018). Adults who are homeless or living in unstable situations are more likely to experience mental health issues, substance use, intimate partner violence, and trauma; children in similar situations have difficulty in school and are more likely to exhibit antisocial behavior.

Community wide recommendations

- Provide affordable housing options, temporary housing, and resources that protect homeless individuals from extreme heat or cold.
- Offer access to basic hygiene needs such as laundry, showers, and bathrooms.
- Supply resources for unhoused individuals to access fresh foods as well as safe spaces to cook and eat.
- Provide mental health counseling for homeless individuals.

Health system recommendations

- Offer mobile clinics to homeless communities.
- Designate more funding for food available within the hospital, particularly in the ER.
- Encourage homeless individuals to sign up for insurance, such as Mass Health.
- Partner with local organizations, like libraries, to increase access to technology (a major barrier to accessing insurance and other information) and digital literacy.
- Coordinate with homeless organizations to get them more comfortable with Carney.

Access and Involvement

Access to healthcare is one of the most important issues facing high-risk communities and vulnerable populations. Addressing access to care is one of the first steps that needs to be taken to address health equity. Inequity and inequality in the United States healthcare system have been widespread since its inception. Due to current societal issues including the COVID-19 pandemic, these broad inequities have been largely exposed while also highlighting how granular and targeted certain equity issues can be. Overall, focus group participants noted that they have had positive interactions with Carney Hospital, however Carney could improve their outreach to more vulnerable sectors of the community. Broad suggestions from focus group participants included having more open communication with all community members about the availability of various services available.

Community wide recommendations

- Increase partnerships between community organizations to create or enhance the referral network.
- Disseminate information in the community using different platforms, languages, and reading levels.
- Supply information on and assistance with accessing health insurance.
- Offer access to tools needed for telehealth appointments; libraries were noted as a good resource for access to technology and increasing digital literacy.
- Increase community events focused on health education.
- Improve existing methods of transportation and consider new, more reliable options.

Health system recommendations

- Provide more community education and outreach.
- Offer health fairs for those who are homeless and most vulnerable.
- Host events that provide services for seniors and disabled citizens.
- Offer homecare services.
- Expand services in all languages.
- Offer remote healthcare options that don't require a personal phone or computer.
- Supply services to help the elderly navigate the healthcare system.

Other Suggestions

Community wide recommendations

- Offer community-wide initiatives to increase awareness of healthy lifestyles.
- Provide events and services in multiple languages.
- Create community gardens and safe, accessible places for people to gather and exercise.

Health system recommendations

- Expand to more homecare services.
- Provide more community education and outreach - help build connection between social determinants of health and poor health outcomes.
- Engage with community centers like local libraries and the YMCA to publicize events and to increase trust in Carney.

Limitations

Data collected for analysis were derived from publicly accessible, governmental sources. Some data sources lacked information on certain towns. Data gathered for this report is the most recent available at the time of the report. As such, some of the relative changes, though classified as increases or decreases, are qualitative evaluations relative to state values. Though it would have been preferable to have more recent data with statistical evaluation for significance (p-value) and correlation (r-value), we were limited to currently available datasets.

Researchers relied on datasets provided by the Accreditation Coordinator/Director MassCHIP, Office of the Commissioner, Massachusetts Department of Public Health and guidance provided by the same in order to collect data used to compile this CHNA.

Although the community focus groups and key informant interviews provide valuable information, serving as important tools for data collection and community engagement, there are some limitations to consider. Focus group data is qualitative in nature and reflects only the views and opinions of a small sample. Focus groups are limited to the views and opinions of the participants and are not all-inclusive of the various perspectives of the larger populations; they do not constitute complete data for the communities in which focus groups were held.

Though the intent of this project was to capture the views and opinions of all or most health and human service providers within the Carney Hospital service area, there were also limitations to the survey distribution. The survey was distributed via email to Carney Hospital staff and to community partner organizations that encompass cities and towns in the Carney Hospital service area, to be circulated to its local affiliates. Some providers had a longer period of time to access and respond to the survey as the survey distribution was ultimately at the control and discretion of the Carney Hospital staff and the respective community organization leadership.

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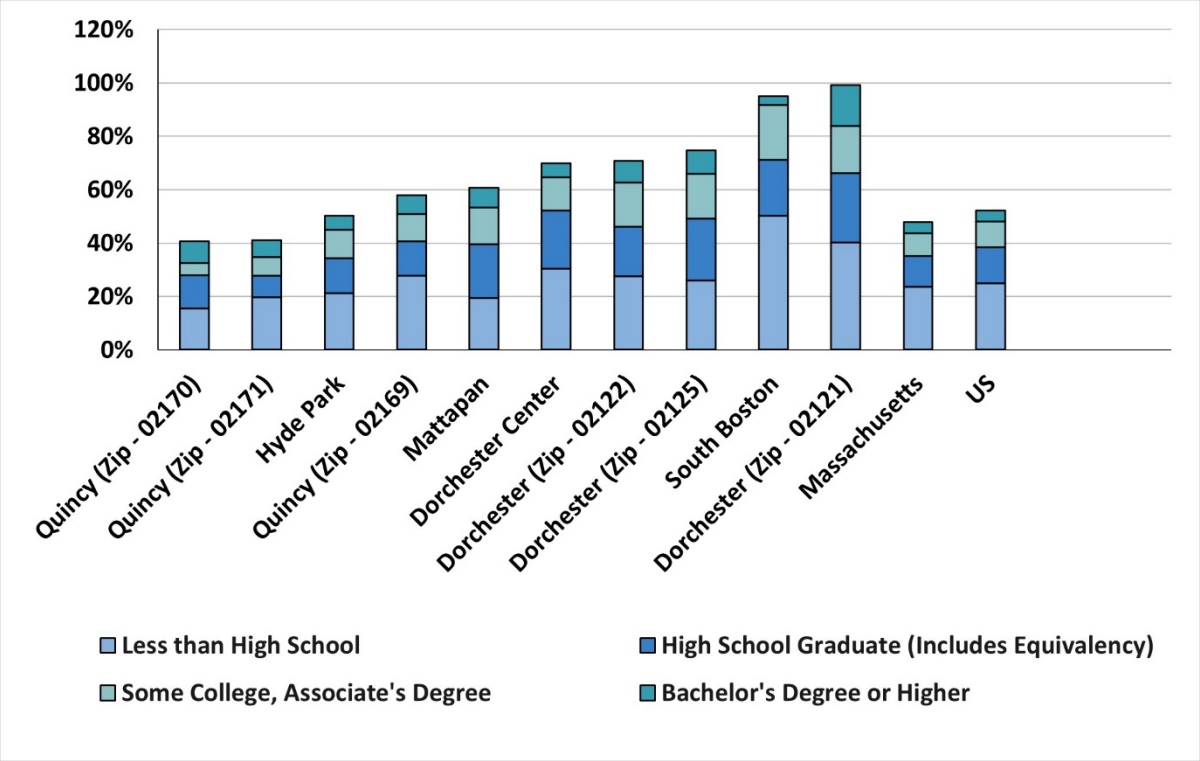
Appendices

Appendix A: Supplemental Health Indicators and Demographic Data

Poverty Status by Educational Attainment

The educational distribution of those in poverty within the service area communities followed a similar distribution compared to the state. While certain communities had a larger proportion of the population in poverty, the pattern of lower levels of education accounting for a larger proportion of the population in poverty was generally consistent. There was an exception in Quincy (02170) where those with a bachelor's degree (8.1%) were more likely to be in poverty than those with an associate's degree or some college education (4.4%) (Figure 25).

Figure 25: Poverty Status by Educational Attainment (Age 25+) by City/Town



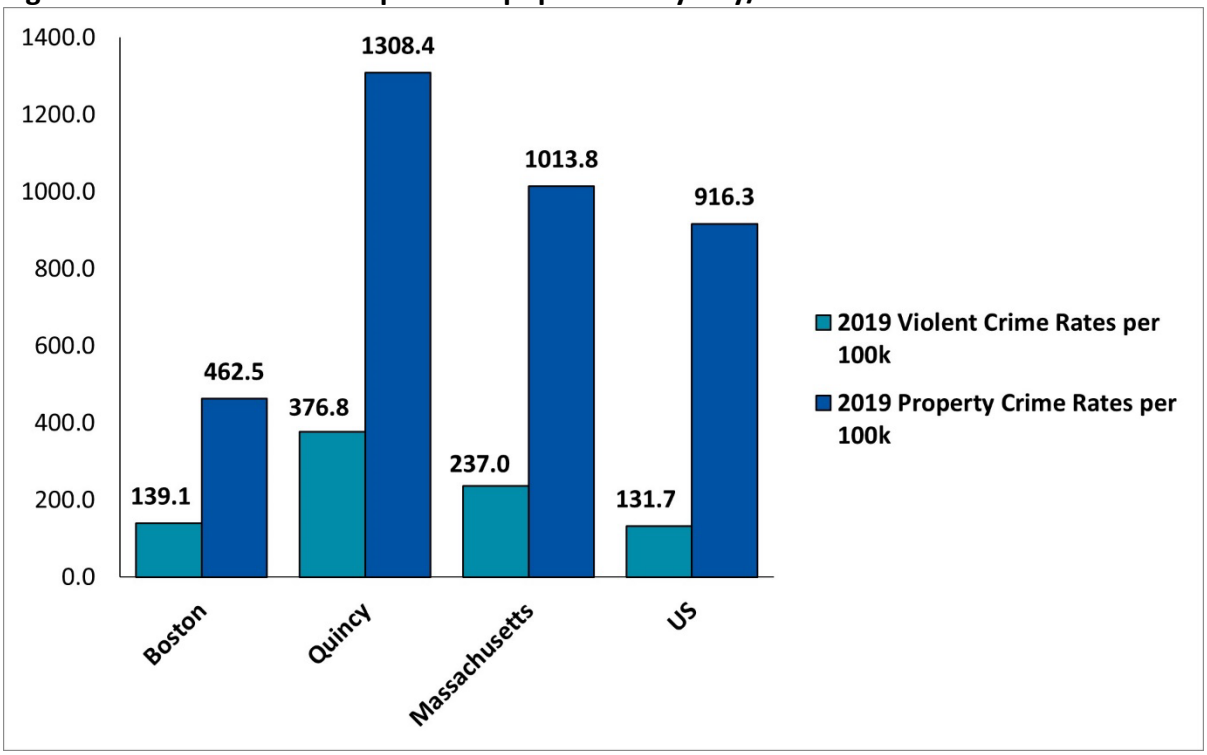
Source: US Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Crime Rates

In 2019, Massachusetts reported higher rates of violent (237.0) and property (1013.8) crime per 100k population when compared to the national levels of 131.7 and 916.3 respectively. Boston reported lower rates of violent (139.1) and property (462.5) crime compared to the state.

However, Quincy reported higher rates of violent (376.8) and property (1308.4) crime when compared to the state (Figure 26).

Figure 26: 2019 Crime Rates per 100k population by City/Town

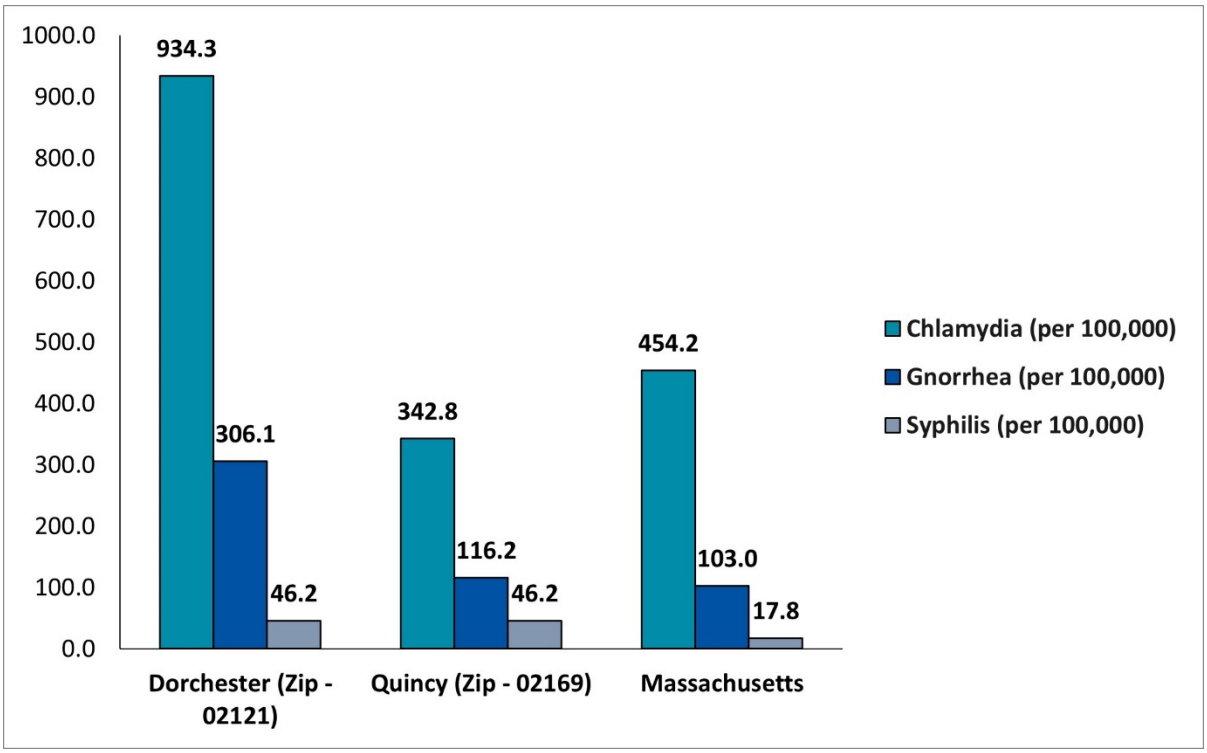


Source: US Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Reproductive and Sexual Health

In 2019, crude rates of sexually transmitted infections varied by type across service area communities. Dorchester-02121 (934.3) reported particularly high levels of chlamydia when compared to the state (454.2) (Figure 27).

Figure 27: Sexual Transmitted Infections (Area Crude Rate) by Town/City - 2019



Source: US Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Appendix B: Key Informant Interview Questions

1. In your view, what are the top three health and wellness issues within the community?
2. What are some strategies that could address these issues and how could the hospital partner in these strategies?
3. What kinds of health and community services do you feel are missing and would be beneficial in the community?
4. What segments of the population endure the most health inequities or are more likely to have the worse health outcomes?
5. What do you feel are the biggest obstacles to good health in general? (e.g., housing, transportation, employment/workforce, poverty)
6. What do you believe to be the cause of poor health that you see in your community?
7. The COVID-19 pandemic has had profound impacts on community health. What needs do you see in the community that must be met for successful COVID recovery and resiliency?

Appendix C: Focus Group Questions

1. Is there a sense of community where you live? Why or why not?
2. What do you envision when you think of a healthy community?
3. In your view, are there specific health concerns within your community?
4. What are some strategies that could address concerns, if any?
5. What groups of people would you consider have less access to services and support in your community?
6. What do you believe to be the biggest challenges to healthy living in your community?
7. What services do you see as being most needed in your community?
8. The COVID-19 pandemic has had a huge impact on community health & wellness. What support do you view as necessary for your community to recover from the impact of the pandemic?
9. In what ways is Carney serving the community well?
10. In what ways could Carney serve the community better?

Appendix D: Health Professionals Survey

1. In what county(ies) does your organization primarily provide services?
2. In what community does your organization provide the majority of its services?
3. What kind of services does your organization primarily provide?
4. Name of the organization you work for?
5. To the best of your knowledge, from what county(ies) do the majority of your consumers come from?
6. To the best of your knowledge, in what community do the majority of your consumers reside?
7. In general, what are the social demographics of consumers served by your organization?
8. The COVID-19 pandemic has been one of the most prevalent health concerns in both 2020 and 2021. What impact has the COVID-19 pandemic had on your consumers?
9. We would also like to learn about health issues (other than COVID-19) that are impacting the community you serve. What do you perceive as major health concerns of your consumers?
10. Based on the options provided, please rank the obstacles to healthy living among your consumers (1 being the greatest obstacle).
11. Based on the options provided, please rank what health support services would most benefit your consumers (1 being of greatest benefit)
12. Given state regulatory mandates governing Carney Hospital's response to the COVID-19 pandemic, how satisfied are you with how Carney Hospital has engaged with the community to offer COVID-19 education?
13. Since the start of the COVID-19 pandemic, how would you rate its impact on your mental health?
14. How knowledgeable are you of the community health services Carney Hospital provides in your community?
15. Overall, how satisfied are you with the way Carney Hospital is addressing community health in your community?
16. Please provide any suggestions you may have as to how Carney Hospital could best address community health issues.

Appendix E: Note on Data Accuracy

We reported the data as it appears in the report provided by Carney Hospital. This report is accurate insofar as the data provided was accurate.