



St. Elizabeth's Medical Center

A STEWARD FAMILY HOSPITAL



Community Health Needs Assessment 2018



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Executive Summary

This report is a comprehensive analysis of health indicators for the St. Elizabeth Medical Center (SEMC) service areas which include Brighton and its neighboring communities, those being Newton, Waltham, Watertown, Allston, Brookline, West Roxbury, Weston, Back Bay 02115, Back Bay 02116 and Back Bay 02215. 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 SEMC to investigate the resource requirements of the community in order to better streamline resources and inform community-based initiatives. The information from our 2018 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 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, SEMC 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.

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 supports 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 take away 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, SEMC 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

Part of the Steward Health Care System, SEMC is a full-service tertiary care hospital located in the Brighton neighborhood of Boston. Steward Health Care System is the largest for-profit private hospital operator in the United States and is a physician-led health care services organization committed to providing the highest quality of care in its communities.

SEMC is a 267-bed academic medical center affiliated with Tufts University School of Medicine. Its clinical strengths include family medicine, cardiovascular care, women and infants' health, oncology, neurology, and orthopedics. Located just west of downtown Boston, SEMC is accessible by the green line of the MBTA, by several local bus routes, and by car. The hospital primary service area includes the neighborhoods of Allston-Brighton, Back Bay and West Roxbury neighborhoods of Boston, Brookline, Newton, Waltham, Weston and Watertown.

SEMC maintains a Community Health department that focuses on integrating care across the spectrum of hospital, primary, and community-based care. The hospital hosts a quarterly Community Benefits Advisory Committee comprised of hospital leadership, representatives of local health and human services organizations, community centers, schools, and faith organizations, among others, which guides the planning and execution of the hospital's community health initiatives. The hospital is also an active member of the Allston Brighton Health Collaborative, a collaboration of organizations devoted to working together to promote and improve the health and wellbeing of the communities of Allston and Brighton.

This report presents the results of an examination of the health conditions and social factors affecting the people living in the neighborhoods and towns surrounding SEMC as well as the key issues the hospital needs to address to improve quality and decrease cost. 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.

Community Benefits Mission Statement

Steward Health Care is committed to serving the physical and spiritual needs of our community by delivering the highest quality care with compassion and respect. We dedicate ourselves to: Delivering affordable health care to all in the communities we serve; Being responsible partners in the communities we serve; Serving as advocates for the poor and underserved in the communities we serve.

Community Benefits Statement of Purpose

- SEMC is committed to serving the entire community, including the uninsured, underinsured, poor, and disadvantaged.
- SEMC is dedicated to providing accessible, high-quality health care services to all within its culturally-diverse community; particularly its host community of Allston-Brighton.
- SEMC is dedicated to maintaining the well-being of its community by providing excellence in health care through preventative health, education, and wellness services.
- SEMC is dedicated to collaborating with our community to identify and respond to issues by fulfilling the physical, spiritual, emotional, and social needs of the people it serves.

Methods

The 2018 SEMC Hospital Community Health Needs Assessment (CHNA) 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, SEMC engaged various community partners to ensure that varying perspectives on health and social topics were taken into account in order to complete this CHNA. Listed below is a brief description of the actions taken to gather community data.

Health Indicators and Demographics – Data Analysis

In order to get a broader view of the health and sociodemographic trends in the SEMC region, extensive public data was collected to enable key findings to be derived from the research of online data sources, in partnership with the Massachusetts Department of Public Health (MA DPH). Data sources used by the team included, U.S. Census Bureau, Department of Early and Secondary Education (DESE), Uniform Crime Reporting (UCR) Program of the Federal Bureau of Investigation and the Center for Disease Control and Prevention (CDC). Health indicator data, such as mortality, disease prevalence, hospitalizations, admissions to substance abuse programs and reproductive health was provided by MA DPH Office of the Commissioner MassCHIP staff.

Key Informant Survey

Two surveys, a community provider survey and a community member survey, were created and distributed by SEMC staff. The provider survey was distributed to all providers at SEMC as well as to community partners via the Community Benefits Advisory Committee, the Allston Brighton Health Collaborative, the Oak Square YMCA, Head Start/Allston Brighton ABCD, the Family Nurturing Center, the Veronica Smith Senior Center, the Charles River Community Health Center, Friendship Works, Allston Brighton Google Groups, and Facebook, among others. The community member survey was distributed both electronically and on paper via community organizations and via Facebook. In total 19 service providers completed the provider survey, and 129 community members completed the community member survey.

Focus Group

The SEMC team conducted a total of five focus groups with participants residing within the service area. The focus groups captured community perspectives on perceived health issues and explored barriers to health resources. Interpreters were available upon request for the Portuguese and Russian focus groups conducted by SEMC. In total of 37 local community members took part in the focus groups. The goal was to collect information from participants that could be used to inform population health improvement strategies. A detailed overview of the surveys is available in Appendices A through D.

Literature Review

Data was researched, analyzed and collected from various sources in order to create a literature review that was used to complement the quantitative and qualitative data collected to complete the Community Health Needs Assessment. Data sources included scholarly articles, public health reports and web-based databases.

Findings

Chronic Disease

According to the Massachusetts Department of Public Health (MDPH), prevention and treatment of chronic disease is a public health priority. Nutrition, physical activity, and tobacco use and exposure are three key risk factors that directly impact cancer, diabetes, chronic lower respiratory disease, and cardiovascular disease rates. These chronic conditions in turn contribute to 56% of all mortality in Massachusetts and over (53%) of all health care expenditures (\$30.9 billion a year (MDPH, 2014).

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 have 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).

Based on the Key Informant Survey conducted by SEMC among health professionals in which 19 health professionals participated, respondents agreed that chronic disease is a major issue in the community. When asked to identify the chronic diseases prevalent in their respective communities, participants noted that diabetes and cancer were most common. Respondents noted a higher level of concern with cancer. SEMC also conducted five focus groups within their service area to engage community members in the data collection process. In one of the focus groups, participants stated that cancer was a main concern among other chronic diseases. In response to the Community Member Survey, when asked to identify the top three health issues [in the community], respondents (n=129) noted (1) mental health issues (n=67) and, (2) substance abuse(n=57).

Mental Health

In 2015, the rate of mental health hospitalizations was higher in Allston/Brighton, Back Bay, Fenway, and the South End compared with the rest of Boston. However, data from 2015 reveal inequities across categories of age, sex, and race/ethnicity. The rate of mental health hospitalizations was higher for those ages 30-65 years compared with those 65 and older, males compared with females, and White residents compared with Asian, Black, and Latino residents. At the neighborhood level, elevated rates of mental health hospitalizations were observed for Allston/Brighton, Back Bay, Fenway, and the South End. (BPHC, 2017). Mental health intersects with many areas of public health, including addiction, cancer, cardiovascular disease, and HIV/AIDS, therefore requiring common services and resource mobilization effort. Integrated treatment is critical for treating people with co-occurring disorders and can ultimately help to achieve better health outcomes and reduce costs (MDPH, 2017).

To reduce the inequities of mental health conditions in Boston, interventions targeting subpopulations at higher risk of mental illness are needed. It is also necessary to educate the public about the availability of mental health services and to decrease the stigma of seeking such services. Work also needs to be done to stop

discrimination, which impacts the mental health of the person facing the discrimination. Additionally, as the World Health Organization (WHO) suggests, in order to reduce the inequities in the occurrence of mental disorders, the conditions of everyday life, which are the social determinants of health, must improve (BPHC, 2017).

Substance Abuse Disorder

In 2015, there were 1,637 opioid-related deaths in Massachusetts. Both Watertown and Waltham had the highest number of mortalities related to opioids with 10 mortality counts each. Newton uncovered the second highest counts with 7 opioid-related mortality followed by West Roxbury with 5 counts. At the time of this report, data for Opioid-Related Mortality Count (2015) were unavailable for Weston and Back Bay 02215. The rates of substance misuse deaths, unintentional drug overdose hospital patient encounters, and unique-person treatment admissions were higher for men than women. At the neighborhood level, the rate of overall substance misuse deaths (including alcohol misuse, drug misuse, and unintentional opioid overdose/poisoning deaths) during the five-year time period 2011-2015 was higher for Charlestown, Dorchester (zip codes 02122, 02124), and South Boston compared with the rest of Boston (BPHC, 2017).

Individual-level risk factors such as socioeconomic status, family history, incarceration, and stressful life events are associated with drug use. Increasingly, evidence suggests that the social determinants of health may contribute to one's decision to initiate drug use and shape other substance use behaviors. For example, the lack of a supportive social network or circumstances related to neighborhood poverty may influence substance use behaviors. Additionally, addiction is a chronic neurological disorder and needs to be treated as other chronic conditions (BPHC, 2017).

Housing Stability

Our data point out that race, ethnicity, and socio-economic factors are indicators of health outcomes within the region. To take this into consideration and enhance efficacy of SEMC programs, SEMC will focus its efforts toward individuals and families who are at greatest risk for health inequities due to socio-economic and/or sociodemographic status, lack of access to health and social services, and lack of chronic disease self-management support. Providing care coordination services and facilitating access to social services are essential components of a population health improvement strategy, as indicated by participants in the focus groups conducted in the SEMC service area, and in responses gathered through the Key Informant Surveys. Increasing awareness and building capacity in service systems are important in helping identify and treat co-occurring disorders. Treatment planning should be client-centered, addressing clients' goals and using agreed upon treatment strategies (MDPH, 2017).

Safe and stable housing provides personal security, reduces stress and exposure to disease, and provides a foundation for meeting basic hygienic, nutritional, and healthcare needs. Average income gains over the past decade have failed to keep pace with rising housing costs, pushing thousands of residents into unstable housing situations. Without consistent access to health care, homeless individuals are less likely to participate in preventive care and are much more likely to utilize the emergency department for non-emergencies. Such patterns of use are not only a burden on the healthcare system, but detrimental to personal health as well (BPHC, 2017).

Demographics

Who we are directly impacts how we interact with our community and society. Our race, gender identity, age, disability status, etc. influences the social environment that we experience. Our social environment impacts many mental and physical health outcomes, including: mental health, violence, risk behaviors (tobacco and drug use), physical health and well-being, and disease morbidity and mortality. We are influenced by the social environment on three levels: interpersonal, community, and society (MDPH, 2017).

Across all three levels, systems of oppression such as structural racism and gender bias lead to social isolation, social exclusion, poor mental health, increased risk of violence, increased rates of poverty, higher hospitalizations, longer recovery times, and higher mortality rates for many conditions. Social isolation, social exclusion, racism, discrimination and poverty disproportionately affect low-income communities and communities of color and all negatively impact many aspects of health. Communities of color are more likely to have lower levels of resources and connectedness with other neighborhoods and higher levels of racial segregation. They also face more challenges when engaging in group action in neighborhoods to shift these conditions (Hobson-Prater T, 2012).

Beyond geographic proximity to health services, which is already a benefit for Boston residents, improving access to health care today also means we consider language, education, the cost of medical insurance, and other social, economic, and environmental factors. A lack of consistent medical and preventative care leads to sicker individuals who require more resources. This contributes to rising healthcare costs and stressed emergency medical care systems. This pattern further contributes to health inequities (BPHC, 2017).

Medically Underserved Areas (MUAs) and Medically Underserved Populations (MUPs) identify geographic areas and populations with a lack of access to primary care services. MUPs are specific sub-groups of people living in a defined geographic area with a shortage of primary care health services. These groups may face economic, cultural, or linguistic barriers to health care. Examples include, but are not limited to, those who are: homeless; low-income; Medicaid-eligible; Native American; or migrant farmworkers (HRSA, 2018).

Data collected by SEMC via focus groups and surveys highlighted that some populations face challenges in accessing health care services. Community members such as minorities, elders, homeless residents, and those suffering with mental illness were particularly noted. Numerous participants stressed that more needs to be done to address the needs of undocumented residents, who were described as an essential part of the community. However, the inability of this group to obtain services threatens their health and raises costs for the overall system. As one focus group participant shared, *“There’s a lot of seasonal work in Massachusetts, and many workers come from other countries and are undocumented. They work very hard and often get injured but can’t seek medical care because of their status”* (MDPH, 2017).”

As noted in the *Health of Boston 2016-2017* report, during 2013 and 2015 combined, (9%) of Boston adult residents reported needing to see a doctor, but were unable to do so because of cost. The percentage of adults who could not afford a doctor was higher for the following groups:

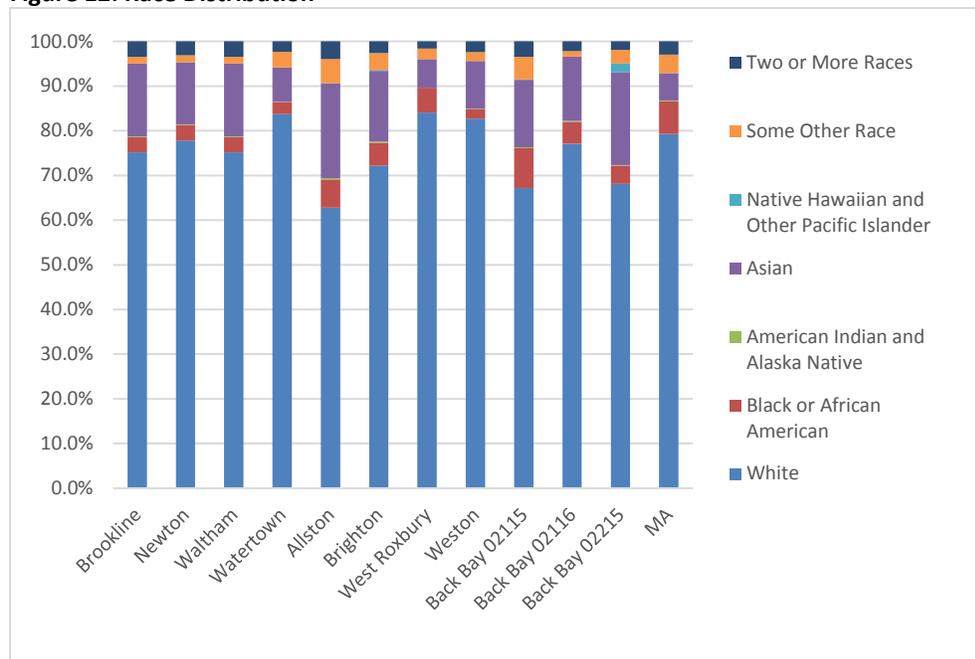
- Black (13%) and Latino (16%) adults compared with White adults (5%);
- Adults with less than a high school diploma (19%) or a high school diploma (10%) compared with adults with at least some college education (7%);
- Adults who were out of work (18%) compared with those who were employed (8%);
- Adults living in households with an annual income of less than \$25,000 (15%) or \$25,000-\$49,999 (14%) compared with adults living in households with an annual income of \$50,000 or more (4%);

- Adults who were Boston Housing Authority residents (14%), adults who received rental assistance (17%), adults who rented but did not receive rental assistance (10%), and those with other housing arrangements (12%) compared with home owners (5%); and
- Foreign-born adults who lived in the United States for 10 years or less (13%) and foreign-born adults who lived in the United States for over 10 years (14%) compared with U.S.-born adults (7%).

To reduce the inequities in being uninsured or faced with barriers to healthcare access, multi-sector interventions that target subpopulations at higher risk should address social determinants, (e.g. by improving employment opportunities and wage conditions among vulnerable subpopulations, and sources of structural racism that affect health care provider-patient interactions). Continued funding to support health insurance coverage in Massachusetts will also help maintain the low percentage of uninsured among Boston residents (BPHC, 2017).

It is worth noting that, although health care providers intend to provide equal treatment to all, bias among providers has been shown to negatively impact patients. For example, studies suggest that physicians unknowingly offer different treatment options based on the patient’s race, even when patients have similar symptoms. Patients are accessing care but being treated differently. These race-based differences may be reduced if physicians recognize they are susceptible to unconscious bias, especially when interacting with their patients and writing prescriptions. The bias among providers and the resulting differences in treatment may also contribute to health inequities (BPHC, 2017).

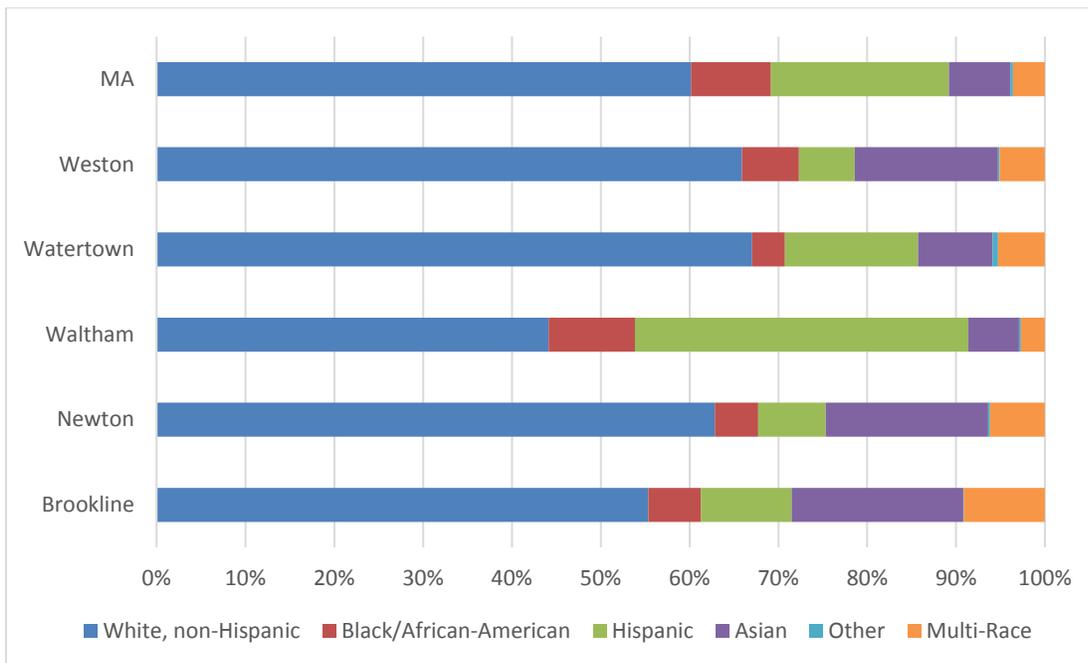
Figure 12: Race Distribution



SOURCE: US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates

From 2012 to 2016, it was estimated that the largest segment of the population in Massachusetts were White residents at (79.3%). West Roxbury estimated to have the highest percentage of white residents at (84.1%) and also the lowest percentage of “two or more races” at only (1.6%). Allston and Back bay 02215 were estimated to have had the highest percentage of Asian residents in the SEMC service area at (21.3%) and (20.8%) respectively. The highest percentage of Black or African American was seen in Back Bay 02115 at (8.9%) and the lowest percentage of Black or African American was seen in Weston where the Black population was estimated at (2.1%). Back Bay 02115 was estimated to have had the highest percentage of Hispanics at (13.2%).

Figure 13: Race Distribution in Public School Population - 2017

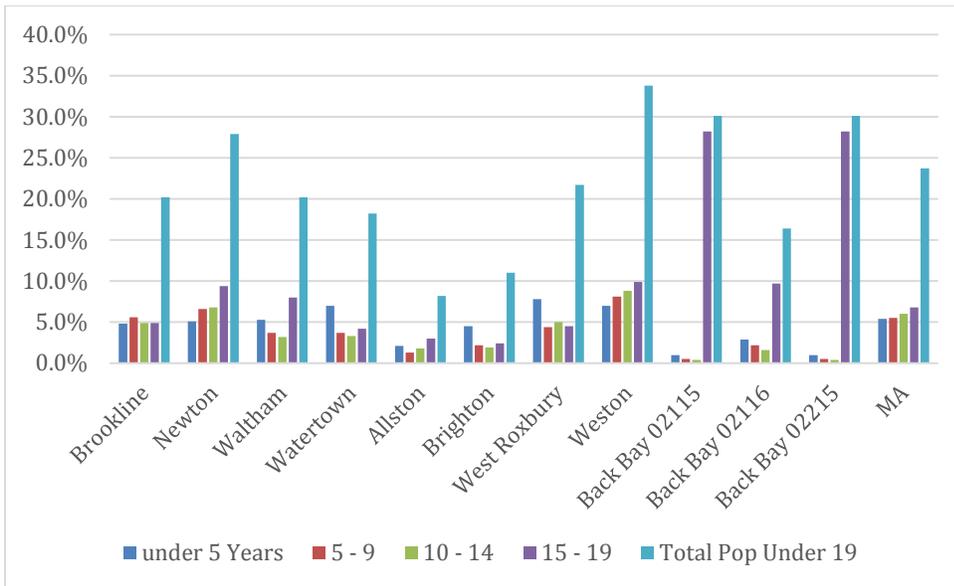


(Source: MA Dept. of Elementary and Secondary Education, Enrollment Report)

Based on the available data collected, according to the Department of Elementary and Secondary Education, in 2017, three of the five school districts within the SEMC service area had a higher percentage of students being identified as White (non-Hispanic) in the public-school population than the Commonwealth, which recorded (60%) of its public-school population identifying as being White. Watertown had the highest percentage with (67.1%) followed by Weston at (65.9%). The city of Newton was third among communities for which data was retrieved that recorded a higher percentage of students being identified as White at (62.9%) than the state. Waltham had the highest percentage of the public-school population being identified as Hispanic at (37.5%), versus other communities for which data was available and significantly higher than the state at (20%) for the same population category. The lowest percentage of students being identified as Hispanic was in Weston at (6.3%). The communities that had the largest percentage of public-school students identifying as Asian were Brookline (19.3%) and Newton (18.3%) both well above State which recorded (6.9%) of its population as having identified as Asian. Waltham had the lowest percentage of public-school students identifying as Asian in the school district at (5.7%). Waltham reported to have had the highest percentage of public-school students identifying as Black/ African American at (9.7%), within the communities for which data was readily available. Waltham held a slightly higher percentage than the state at (9%) of its public-school student body identifying as Black/ African American. The lowest percentage of students being identified as Black/ African American was in Watertown at (3.7%).

Although Boston is a racially and ethnically diverse city in which less than half of its residents are White, Boston was ranked among the top 20th percentile of highly segregated metropolitan areas in the United States in 2010, alongside Cincinnati, Ohio and Birmingham, Alabama. Racial residential segregation refers to the degree to which two or more racial/ethnic groups live separately from one another in a geographic area. Segregation affects health by creating different economic, physical, and social environments that shape the health behaviors and choices individuals make. Evidence suggests that segregation of people of color into poor, less resourced neighborhoods is associated with increased adult mortality. In the neighborhoods of Allston/Brighton, Back Bay, Charlestown, Fenway, Jamaica Plain, South Boston, the South End, and West Roxbury, White residents made up more than (50%) of the population in most census tracts (BPHC, 2017).

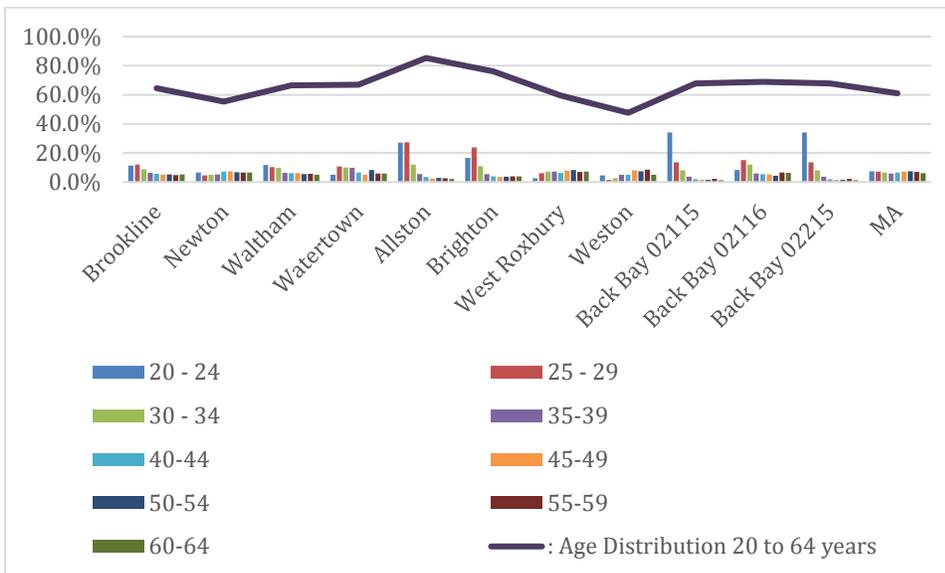
Figure 14: Age Distribution 19 and Under 2012-2016



(Source: US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates)

From 2012 to 2016, Weston had the highest estimated population under 19 years of age with the percentage of (33.8%). Back Bay 02115 and Back Bay 02215 had the second highest estimated population under 19 years of age with the percentage of (30.1%) respectively. Newton had the third highest estimated population at (27.9%) within the SEMC service area. All of the communities above recorded a larger estimated percentage of the population age between 15 to 19 years within the entire category of the population under 19 years of age.

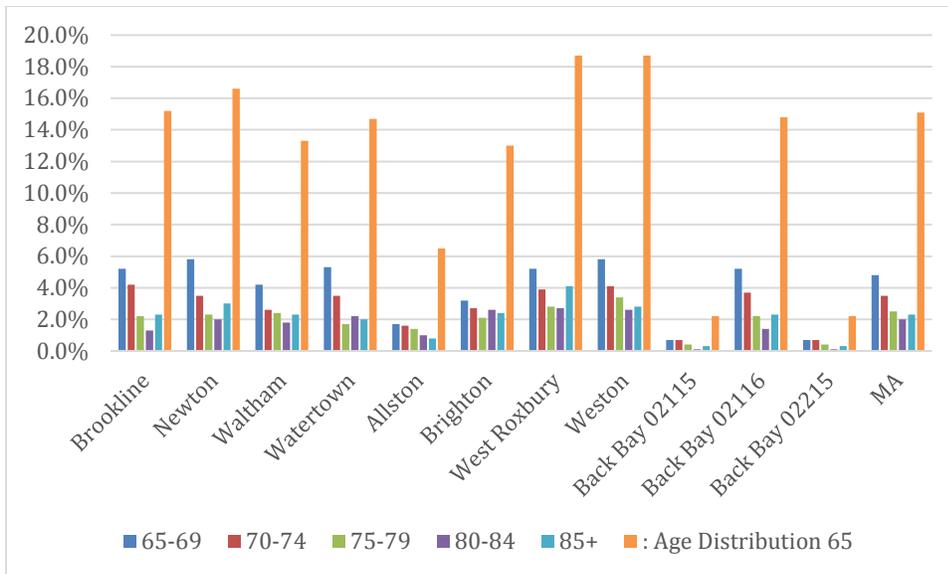
Figure 15: Age Distribution 20 to 64 years of age 2012-2016



(Source: US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates)

From 2012 to 2016, the state estimated population 20 to 64 of age was at (61.1%). Allston had the highest estimated population 20 to 64 of age with the percentage of (85.3%). Brighton had the second highest estimated population 20 to 64 of age with the percentage of (76%). Back Bay 02116 had the third highest estimated population at (68.9%) within the SEMC service area. All of the communities above recorded a larger estimated percentage of the population age between 20 to 24 years within the entire category of the population 20 to 64 of age.

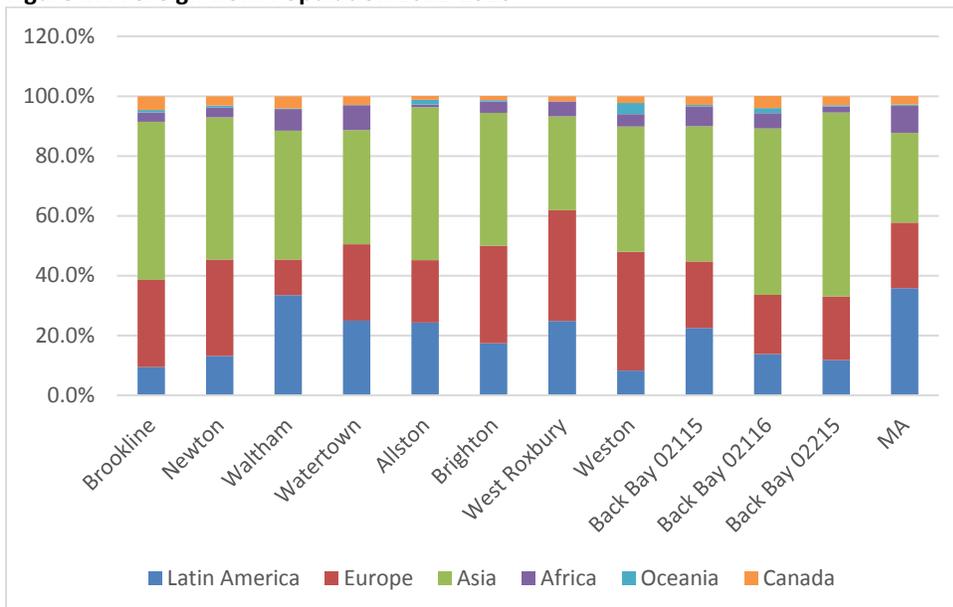
Figure16: Age Distribution 65 and over 2012-2016



(Source: US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates)

From 2012 to 2016, the state percentage of population 65 years and above was (15.1%). Both Weston and West Roxbury had the highest population over the age of 65 at (18.7%) respectively. Newton had the second highest population over the age of 65 at (16.6%) and followed by Brookline at (15.2%). When combining age distribution categories across the SEMC service area, those 65 to 69 years of age make up the largest estimated segment of the over 65 population, followed by those between 70 to 74 years of age.

Figure 17: Foreign-Born Population 2012-2016

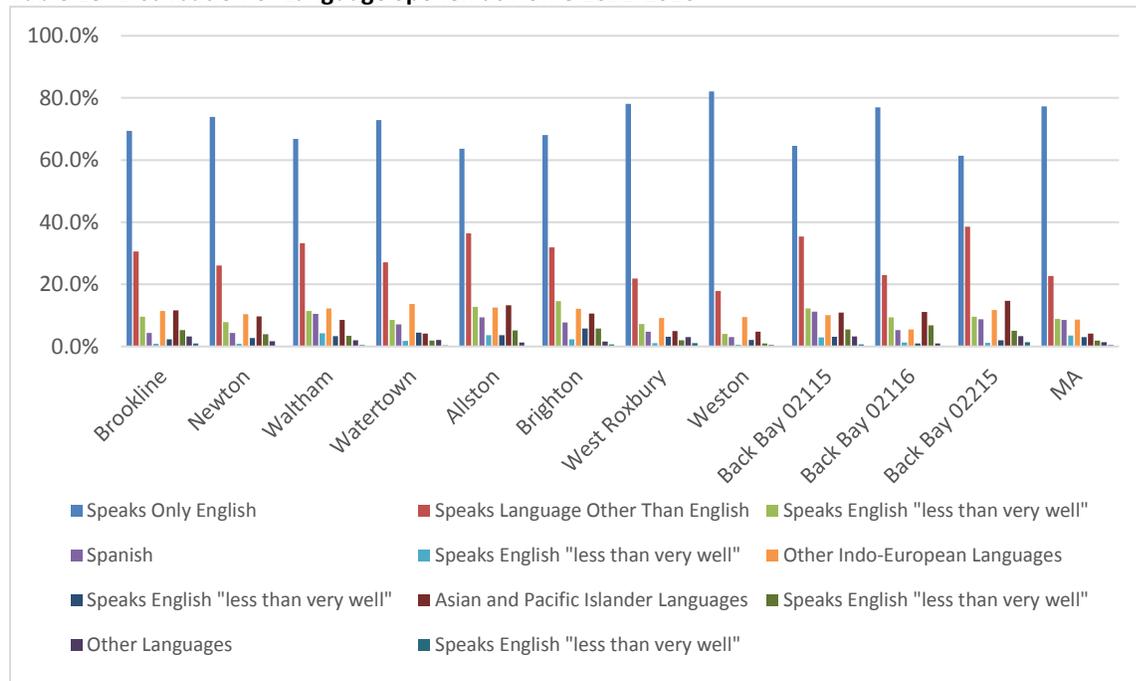


(Source: US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates)

Across the SEMC service area, Asia appears to be a predominant region of origin among foreign-born populations, most notably in Back Bay 02115 at (61.4%) and Back Bay 02116 at (55.65%). Europe was the second most frequent region of birth for the foreign-born population within the SEMC service area. In particular, West Roxbury stands out having (37%) of its foreign-born population originating from Europe. In Waltham, although Asia is the region of origin for the largest segment of the foreign population at (43%)

a significant portion of that communities' foreign-born population originates from Latin America at about (34%) of the foreign-born population.

Table 18: Distribution of Language Spoken at Home 2012-2016



(Source: US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates)

In 2013, the state average of households who spoke only English was estimated at (77.3%). Back Bay 02215 reported to have the highest percentage of the population that "speaks a language other than English" and "Speaking Asian and Pacific Islander languages" within the SEMC service area at (38.6%) and (14.7%) respectively. Additionally, only two cities and towns had a Spanish speaking rate higher than the Massachusetts average of (8.6%); Back Bay (zip 02115) at (11.2%) and Waltham at (10.5%).

Based on focus group 4 that was conducted in Russian, it is evident that the foreign-born population have difficulties to connect to people who do not share the same language and culture. Due to the language barrier, the foreign-born population tends to face challenges navigating the health system in America and has trouble identifying a "medical home".

During 2011-2015, (12%) of Boston households were considered limited-English-speaking households. Compared with Boston overall, a higher percentage of households in Dorchester (zip codes 02121, 02125), East Boston, Fenway, Roxbury, and the South End were limited-English-speaking households. A lower percentage of households in Back Bay, Charlestown, Jamaica Plain, Roslindale, South Boston, and West Roxbury were limited-English-speaking households compared with Boston overall (BPHC, 2017).

Chronic Disease

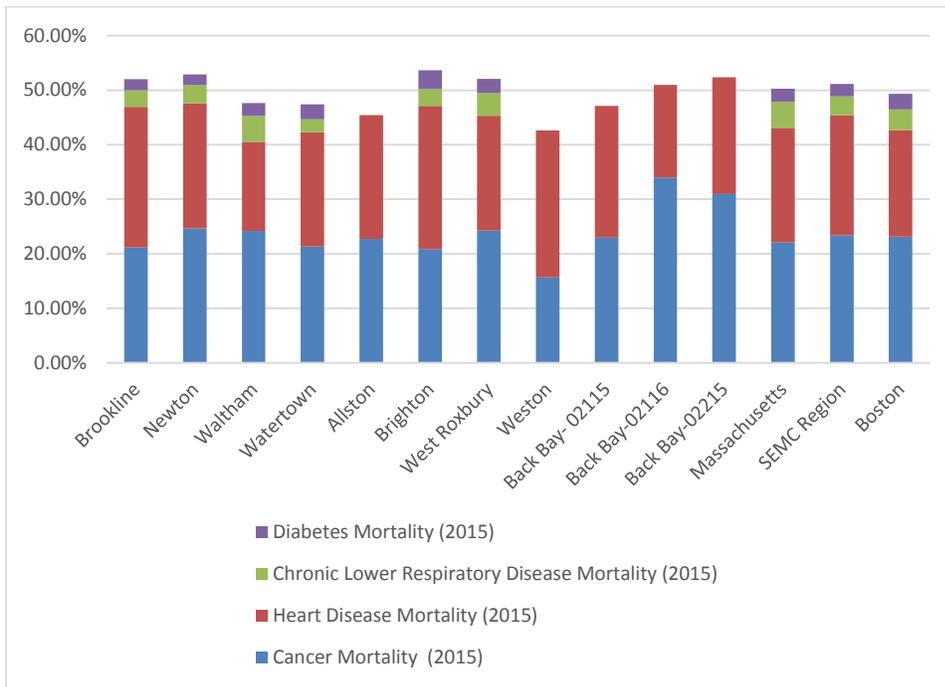
According to the Massachusetts Department of Public Health (MDPH), prevention and treatment of chronic disease is a public health priority. Nutrition, physical activity, and tobacco use and exposure are three key risk factors that directly impact cancer, diabetes, chronic lower respiratory disease, and cardiovascular disease rates. These chronic conditions in turn contribute to (56%) of all mortality in Massachusetts and over (53%) of all health care expenditures \$30.9 billion a year (MDPH, 2014).

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 have 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. 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 focusing on policies that ensure that all individuals have the ability to make healthy choices (MDPH, 2017).

By their very definition, chronic diseases are “managed” since cures are not available. Management practices extend life; therefore, chronic diseases continue to rise in prevalence. Methods of chronic disease management include medications, medical procedures, and lifestyle changes. Prevention is the key to reducing the burden of these diseases. To prevent chronic disease, people need opportunities to live a healthy lifestyle which includes, among other things, participating in adequate physical activity, eating a balanced diet, managing stress and limiting exposure to chronic stressors, refraining from tobacco use, and limiting alcohol consumption (Adler NE, 2002).

Unfortunately, the modern environment is often not supportive of these healthy habits, encouraging sedentary behavior, overeating, and alcohol consumption. Changing the environment to promote healthier behaviors requires strategic vision and planning. Implementing systems and policies that increase opportunities for physical activity, provide support to live tobacco free, and improve access to healthy foods, are strategies that have been used to create healthier environments. Systems and policies that address other social determinants by improving access to routine preventive medical care and increasing educational and employment opportunities will also contribute to healthy environments. A healthier environment can support an individual’s choice to walk or bike instead of drive, to quit smoking, or to limit sugary beverage consumption. Ultimately, building healthier environments will encourage residents to live a healthy lifestyle, greatly improving their health and longevity (BPHC, 2017).

Figure 1: Total Chronic Disease Mortality (Percentage of all mortality causes) 2015



(Source: Massachusetts Department of Public Health) Note: At the time of this report, data for Diabetes Mortality and Lower Respiratory Disease Mortality were unavailable for some of the communities in the SEMC service area. For this reason, such data is not reflected within the graph.

In 2015, total chronic disease mortality was highest in Brighton at about (52.5%) when accounting for all mortality causes. Newton had the second highest chronic disease mortality at about (51.5%) followed by Brookline and West Roxbury at just above (50%). Across the SEMC primary service area, noted in (Fig. 1) as SEMC region, cancer is the leading cause of chronic disease mortality accounting for (23.3%) of mortalities followed by heart disease at (22%). Chronic Lower Respiratory Disease (CLRD) was the third leading cause of chronic disease mortality at (3.4%). Diabetes was the fourth leading cause of chronic disease mortality at (2.2%). Total chronic disease mortality in Massachusetts was recorded at (50%) of all mortality causes during the same time period. In 2015, cancer was recorded as the leading cause of chronic disease mortality (22.1%) just slightly above heart disease at (21%). It is worth noting here, that for some Boston neighborhoods and Weston CLRD and diabetes mortality data was not available at the time of this report, therefore an absence of that data in the graph above does not indicate an absence of mortality due to those missing health conditions in the graph.

Based on the Key Informant Survey conducted by SEMC among health professionals, in which 19 health professionals participated, respondents agreed that chronic disease is a major issue in the community. When asked to identify the chronic diseases prevalent in their respective communities, participants noted that diabetes and cancer were most common. However, respondents noted a higher level of concern with cancer. SEMC also conducted five focus groups within their service area to engage community members in the data collection process. All focus groups were conducted in Brighton in partnership with various community organizations and a total of 37 community members participated. In one such focus group, participants stated that cancer was a main concern among other chronic diseases within the community.

Cancer

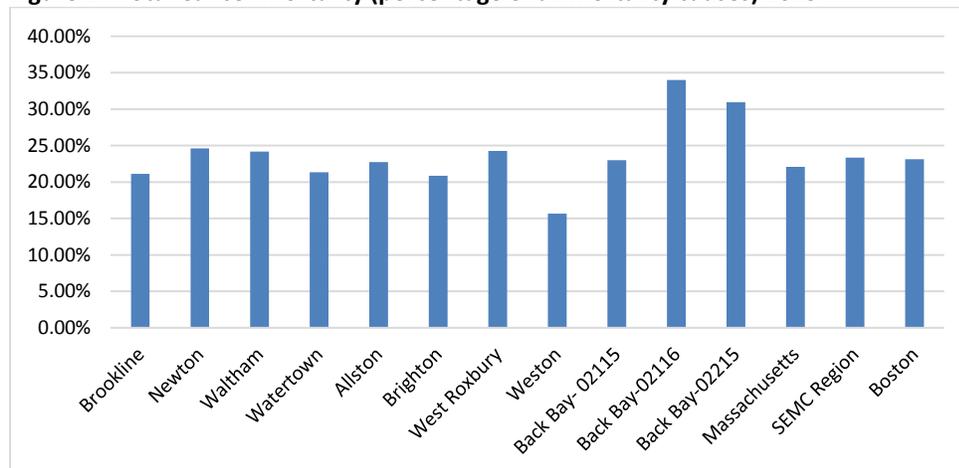
Since 2006, cancer surpassed heart disease as the leading cause of death in Massachusetts. Although cancer incidence and mortality rates decreased in Massachusetts from 2010 to 2014, there were still more than 36,000 new cancer cases diagnosed annually during this period. The age-adjusted cancer incidence rate in Massachusetts was (471.1 per 100,000) with men having a higher cancer incidence rate than women (505.7 versus 450.4 per 100,000). From 2010 to 2014, cancer incidence decreased (3.2%) annually among men (MDPH, 2017).

Inequities by race and ethnicity are observed for some types of cancer. For example, although the risk of getting breast cancer is comparable between Black and White women, in 2014 Black women died of breast cancer at a higher rate (28.1 per 100,000 women) than White women (20.1). In the past, studies have identified inequities in the utilization of mammography screening between Black and White women, which coincided with the difference in the breast cancer mortality rate between Black and White women. The mammography screening rates are now similar between Black and White women, but the inequity in the breast cancer mortality rate remains. Inequities by education and income are found for breast cancer screening. Similar inequities across education and income are found for colorectal cancer screening among U.S. men 50 years and older (BPHC, 2017).

The five leading types of cancer deaths among Boston residents were generally consistent with what is observed for the U.S. overall, with lung cancer as the top cause. Some patterns emerge for lung cancer mortality rates across sex and race/ethnicity. Lung cancer mortality rates are generally higher in men than women. Across race/ethnicity, rates were generally lowest among Latinos (BPHC, 2017). From 2011-2015 the cancer mortality rate decreased in Boston. Among all Boston residents this figure decreased by (12%) and among black residents by (18%). In 2015, the cancer mortality rate for women was (29%) lower than that of men. In 2015, 85% of women reported having received a mammogram in the past two years (BPHC, 2017).

According to the Boston Public Health Commission, prostate cancer is still very common in Boston, and among Black men, prostate cancer deaths are over 2 times that of White men. The racial inequity for Black men in Boston is the largest for any major cancer. In the United States, 1 in 23 Black men with prostate cancer will die from the disease compared to 1 in 42 White men. By talking with their healthcare providers, men can make more informed decisions about whether getting the PSA test makes sense for them based on their risk factors. Building on public health approaches, like shared decision-making, better addresses high-risk populations. Proper use of PSA testing supports tailored, evidence-based early detection in primary care (BPHC, 2017).

Figure 2: Total Cancer Mortality (percentage of all mortality causes) 2015



(SOURCE: Massachusetts Department of Public Health)

As noted in (Fig.2) the Boston neighborhood of Back-Bay zip code 02116, recorded the highest percentage of cancer mortality within the SEMC service area at (34%). The Back-Bay neighborhood with zip code 02215 had the second highest cancer mortality as a percentage of all mortality causes at about (31%). The Boston neighborhood of West Roxbury along with the city of Newton had the third highest cancer mortality percentages, both at just above (24%). As a whole, the SEMC service area recorded total cancer mortality of (23.3%) slightly above the state at (22%). The Boston neighborhood of Brighton, where SEMC is located and in which focus groups were conducted, cancer mortality was documented at (20.8%). Within the SEMC service area, Weston recorded the lowest percentage at (15.6%).

Inequities across age, race/ethnicity, insurance coverage, and income were also found for breast, cervical, and colon cancer screening tests. For breast, cervical, and colon cancer screening, inequities tend to disproportionately affect Asian adults as well as adults with no insurance coverage. Adults with household income less than \$25,000 were also less likely to report cervical and colon cancer screening. Across age categories, younger adults in the target population were less likely to report screening for breast (ages 40-49), cervical (ages 21-29), and colon cancer (ages 50-59) (BPHC, 2017).

In both the Key Informant Survey and focus groups, cancer was recognized as the primary concern out of all chronic diseases. Health professionals that responded to the key informant survey noted that most of those for whom they provide care, are not sufficiently educated on cancer as a chronic disease. In one of the focus groups, it was noted that in communities of color, people often do not discuss cancer openly as it is seen as taboo.

Heart Disease

Cardiovascular disease is a broad term that encompasses a number of adverse health outcomes, including congestive heart failure, myocardial infarction, and stroke. In Massachusetts, cardiovascular disease is the second leading cause of death after cancer (MDPH, 2017). Hypertension is a critical risk factor for adverse cardiovascular and cerebrovascular outcomes including stroke, heart attacks, and congestive heart failure. In 2014, hypertension contributed to \$19 million in total hospitalization costs in Massachusetts. Studies have shown that, hypertension disproportionately impacts people of color. These disparities are grounded in social and economic inequities such as access to health care and poverty (MDPH, 2017). In 2015, (29.6%) of Massachusetts adults said they had been diagnosed with hypertension, similar to previous years. A larger percentage of Black non-Hispanic adults were diagnosed with hypertension (39.4%) compared to White non-Hispanic adults (30.7%). Racial/ethnic disparities in hypertension are likely an important contributing factor to hospitalizations for congestive heart failure, myocardial infarction, and stroke. (MDPH, 2017)

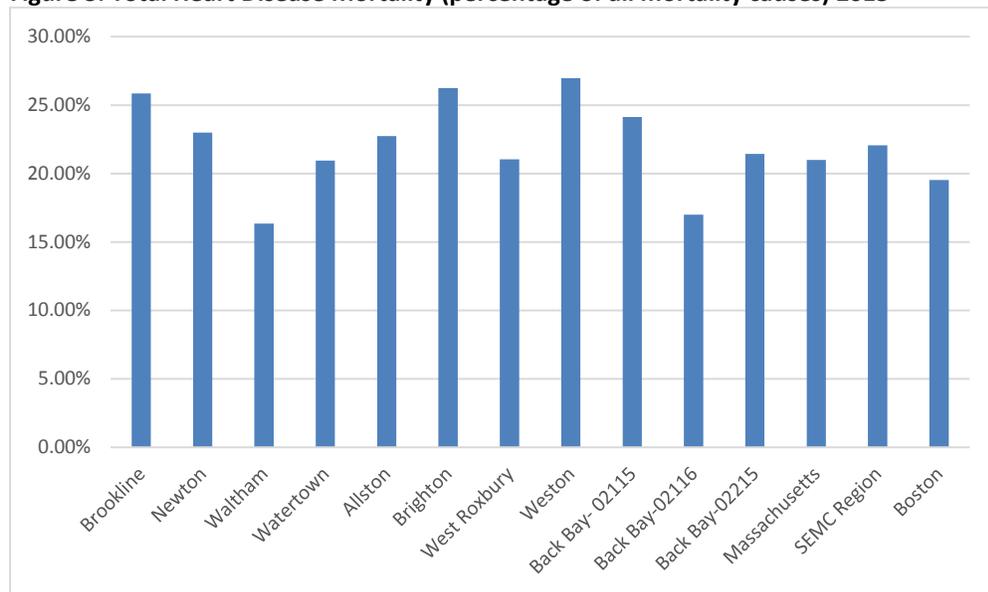
Congestive heart failure can be debilitating and challenging for patients to manage. It is also a costly disease, amounting to \$540 million in total hospitalization costs in Massachusetts in 2014 (Center for Health Information and Analysis, 2014). If not managed properly, congestive heart failure is associated with high readmission rates, poor quality of life, and high health care utilization (Krumholz H, 1997. 157(1):99-104.) (Heo S, 2009). In 2014, the rate of hospitalizations attributed to congestive heart failure for Black non-Hispanic residents (520.5 per 100,000 population) was more than twice as high than that for non-Hispanic White residents (248.4 per 100,000 population). Similarly, Hispanic residents (400.7 per 100,000 population) were hospitalized for congestive heart failure at a rate that was 1.6 times higher than that for non-Hispanic White residents (248.4 per 100,000 population) (MDPH, 2017).

The rate of myocardial infarction-related hospitalizations declined 9.5% from 2010 (169.9 per 100,000 population) to 2014 (153.7 per 100,000 population). In 2014, the myocardial infarction hospitalization rate for Hispanic residents in Massachusetts (182.5 per 100,000 population) and Black non-Hispanic residents (159.0 per 100,000 population) exceeded the state average (153.7 per 100,000 population) and the average for White non-Hispanic residents (145.6 per 100,000 population) (MDPH, 2017).

Strokes were responsible for \$613 million in total hospitalization costs in Massachusetts in 2014 (Center for Health Information and Analysis, 2014). These hospitalization costs do not include other economic costs of stroke, such as lost productivity or outpatient health care expenditures, nor loss of life, reduced quality of life, and increased disability (MDPH, 2017). Racial/ethnic disparities continue to exist in stroke-related hospitalizations. In 2014, Black non-Hispanic residents (368.1 per 100,000 population) experienced stroke-related hospitalization at a rate that was nearly twice as high as that for White non-Hispanic residents (201.5 per 100,000 population). Similarly, Hispanic residents (264.9 per 100,000 population) had a stroke hospitalization rate that was 1.3 times that for White non-Hispanic residents (201.5 per 100,000 population) (MDPH, 2017).

Heart disease is the leading cause of death for Black, Latino, and White individuals in the U.S., and it is the second leading cause of death for Asian individuals. In Boston, it is the second leading cause of death for these groups. Nearly half of Americans have at least one of the three key risk factors for developing Coronary Artery Disease (CAD): high blood pressure, high LDL cholesterol, or cigarette smoking. Other risk factors include diabetes, overweight/obesity, diet with few fruits and vegetables, physical inactivity, and excessive alcohol use. Educational attainment and household income are inversely related with CAD (BPHC, 2017).

Figure 3: Total Heart Disease Mortality (percentage of all mortality causes) 2015



(Source: Massachusetts Department of Public Health)

In 2015, six communities in the SEMC service area had a higher percentage of heart disease mortality than the service area as a whole at (22%); itself modestly above the state at (21%). Weston had the highest percentage of heart disease mortality at (26.96%) in 2015, followed by Brighton, Brookline at (26.25%) and (25.84%), respectively. Heart disease was the second leading cause of death in most towns within the SEMC service area.

In 2015, the heart disease hospitalization rate (age-adjusted per 10,000) was higher for both Black females and males, and lower for Asian females and males compared with White females and males. The heart disease hospitalization rate was (49%) higher for Black females and (47%) lower for Asian females (36.2) compared with White females (68.3 hospitalizations per 10,000 residents). The rate was (45%) higher for Black males (139.5) and (62%) lower for Asian males (36.5) compared with White males (96.2). During the same year, the rate of heart disease hospitalizations was lower in Allston/Brighton, Back Bay, Fenway, Jamaica Plain, and West Roxbury compared with the rest of Boston (BPHC, 2017).

Diabetes

Nationwide, the prevalence of diabetes is projected to increase dramatically. The prevalence of type 1 and type 2 diabetes is anticipated to increase (54%) by 2030, affecting 54.9 million Americans. In Massachusetts, the prevalence of diagnosed diabetes has more than doubled over a 22-year period. For example, in 1993, an estimated (3.9%) of Massachusetts residents were told by a provider that they had diabetes. By 2015, an estimated (8.9%) of Massachusetts residents were told they had diabetes (MDPH, 2017).

Socioeconomic disparities exist in diabetes prevalence. In Massachusetts, adults with an annual household income of less than \$25,000 (15.6%) have three times the prevalence of diabetes as compared to those with an annual household income more than \$75,000 (5%). The prevalence of diabetes also decreases as educational attainment increases. A total of (14.5%) of adults without a high school degree were diagnosed with diabetes compared to (5%) of adults with four or more years of post-high school education. Diabetes prevalence and mortality in Massachusetts also differs by race/ethnicity. In 2015, a greater proportion of Black non-Hispanic (12.3%) and Hispanic (11.7%) adults reported being diagnosed with diabetes compared to White non-Hispanic adults (8.7%) (MDPH, 2017).

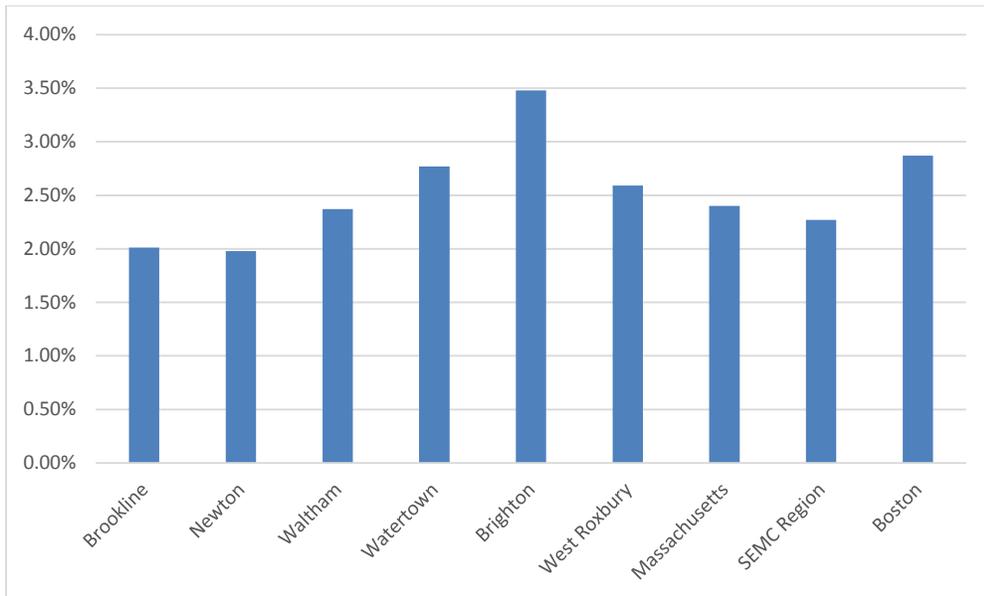
In 2014, Black non-Hispanic residents were more than 2.1 times more likely to die from diabetes than White non-Hispanic residents (29.5 versus 13.8 per 100,000 population) (MDPH, 2017). Black non-Hispanic residents had more than four times the rate for diabetes emergency department visits as White non-Hispanics (419.1 versus 99.3 per 100,000 population). Further, the diabetes emergency department visit rate among Hispanic residents was almost four times that for White non-Hispanics (376.5 versus 99.3 per 100,000 population) (MDPH, 2014).

People who are overweight or obese are at highest risk of developing type 2 diabetes. Among U.S. adults, people of color are more likely to be diagnosed with type 2 diabetes compared with White adults. Having a close family member with diabetes is also a risk factor for developing type 2 diabetes. Socioeconomic disadvantage at the individual and neighborhood level is also associated with higher risk of developing type 2 diabetes (BPHC, 2017).

According to the report *Health of Boston 2016-2017* prepared by the Boston Public Health Commission, in 2015, 8% of Boston adult residents reported having diabetes. There was a significant increase in the percentage of adults with diabetes between 2006 and 2015. The percentage of adults with diabetes was higher for the following groups:

- Black (15%) and Latino (11%) adults compared with White adults (5%)
- Adults ages 45-64 (16%) or 65 and older (24%) compared with adults ages 25-44 (2%)
- Adults with less than a high school diploma (18%) and adults with a high school diploma (11%) compared with adults with at least some college education (6%)
- Adults who were out of work (10%) or whose employment status was “other” (16%) compared with adults who were employed (5%)
- Adults living in households with an annual income of less than \$25,000 (14%) or \$25,000-\$49,999 (9%) compared with adults living in households with an annual income of \$50,000 or more (4%)
- Adults who were Boston Housing Authority residents (18%) and renters who received rental assistance (16%) compared with adults who owned a home (8%)
- Foreign-born adults who lived in the United States for over 10 years (15%) compared with those who were born in the United States (8%)

Figure 4: Diabetes Mortality (percentage of all mortality causes) 2015



(Source: Massachusetts Department of Public Health) Note: At the time of this report, data for Diabetes mortality was unavailable for some of the cities/towns and Boston zip code service areas. As a result, Boston city data was used to account for neighborhoods within Boston that encompass SEMC service area communities.

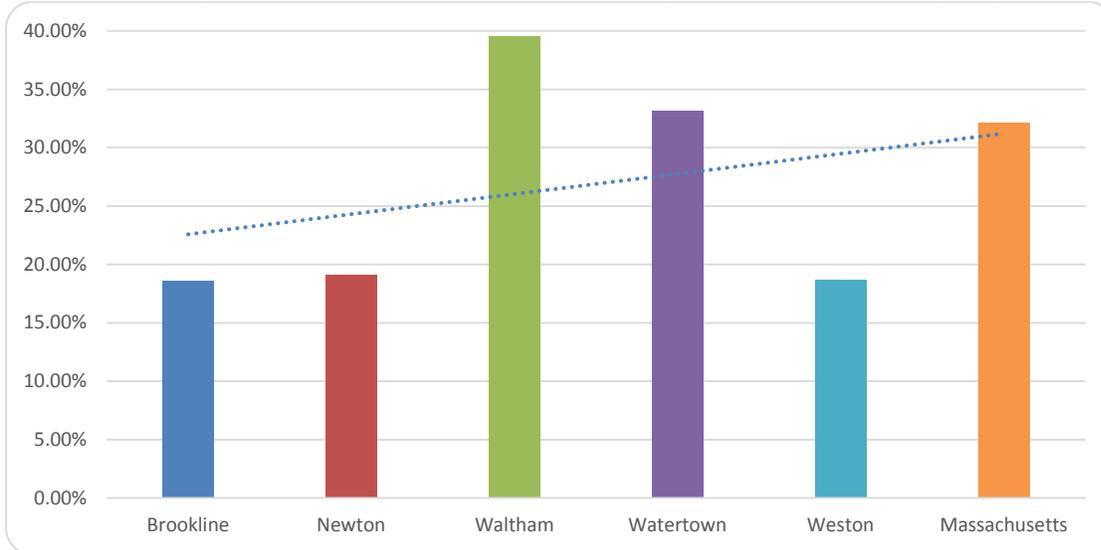
When considering diabetes mortality as a percentage of all deaths, we note that some of the cities and towns in the SEMC service area were above the state percentage of (2.4%) in 2015. The top three towns with the largest percentage of diabetes deaths were Brighton, at (3.48%), Boston (as a city) at (2.87%), and Watertown at (2.77%). The percentage of diabetes mortality for the SEMC service area at (2.27%) was slightly lower than the state at (2.4%). Given what has been reported in the literature, regarding populations most impacted by diabetes, there is an opportunity here to examine what can be done to work with high priority populations in the SEMC service area. Brighton in particular appears to have been a community in which diabetes mortality was a significant issue when compared to others within the service area.

Obesity

Overweight and obesity are categories of weight based on body mass index (BMI), which is a tool for comparing the weights of people of different heights. Obesity and being overweight occur when a person consumes more calories than they use. This surplus of calories leads to excess fat being stored in the body. For adults, BMI is calculated using a standard formula that incorporates an individual's height and weight. A BMI between (25.0) and (29.9) is classified as overweight and a BMI of (30.0) or higher is classified as obese. Being overweight or obese is a risk factor for many chronic diseases including coronary artery disease, type 2 diabetes, hypertension, cancer, sleep apnea and other respiratory problems, and liver and gallbladder disease. According to the 2015 BRFSS, approximately (36%) and (30%) of U.S. adults are overweight and obese, respectively (BPHC, 2017).

For children and adolescents (2-19 years), weight categories are determined using an age and sex specific percentile for BMI. The percentile indicates where the BMI falls relative to children or adolescents of the same sex and age. Youth with a BMI between the 85th and 95th percentile is considered overweight and those at the 95th percentile or higher are considered obese. Findings from the 2015 YRBSS indicates that approximately (14%) of U.S. high school students are obese (BPHC, 2017).

Figure 5: Overweight or Obese Males and Females Percentages: Grades 1, 4, 7, 10 (Age-adjusted) - 2015



(Source: Massachusetts Department of Public Health) Note: At the time of this report, data for was unavailable for specific Boston neighborhoods excluding Brighton.

In 2015, the percentage of overweight or obese male and female (grades one, four, seven and ten) was higher in two of the five cities/towns, for which data was available in the SEMC service area, and above the state level of (32.2%). Most notably, (39.6%) of Waltham youth in grades 1, 4, 7, 10 were reported to be overweight or obese. Brookline and Weston had the lowest levels at (18.6%) and (18.7%) respectively, among the communities for which data was available.

In 2015, (15%) of Boston public high school students were obese. There was no significant change in the percentage of students who were obese between 2007 and 2015. The percentage of obesity was higher for the following groups, Black students (17%) compared with White students (10%). The percentage of obesity was lower for the following groups, Females (12%) compared with males (17%). Foreign-born students who lived in the United States for six years or fewer (7%) compared with students who have always lived in the United States (16%). During 2011, 2013, and 2015 combined, a higher percentage of Latina female students (16%) were obese compared with White females (10%). Among male students, there were no significant differences in the percentage of obesity by race/ethnicity. A higher percentage of Latina female students (16%) were obese compared with White females (10%). Among male students, there were no significant differences in the percentage of obesity by race/ethnicity (BPHC, 2017).

It is worth noting that, during 2013 and 2015 combined, a lower percentage of Boston adult residents were obese in Allston/Brighton, Back Bay, Fenway, and Jamaica Plain compared with the rest of Boston (BPHC, 2017).

Mental Health

Impaired mental health is common in the United States general population. In 2015, nearly one in five adults suffered from a diagnosable mental illness such as depression or anxiety, and about 1 in 7 will have a major depressive episode in their lifetime. In 2015, (12%) of children ages 12-17 reported having a major depressive episode in the past year, higher than the percentages from 2004-2014. Between 1999 and 2014, the overall suicide rate in the U.S. rose by (24%) to 13.0 per 100,000 population. In 2015, the overall suicide rate was 13.3. In 2014, suicide was the tenth leading cause of death in the U.S. and more than 90% of patients who died because of suicide also had mental illness (BPHC, 2017).

The coexistence of both a mental disorder and a substance use disorder (SUD) is known as co-occurring disorders. People with mental health disorders are more likely to experience a SUD. Often, people 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, 2016).

Mental health intersects with many areas of public health, including addiction, cancer, cardiovascular disease, and HIV/AIDS, therefore requiring common services and resource mobilization effort. 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. Treatment planning should be client-centered, addressing clients' goals and using treatment strategies that are acceptable to them (MDPH, 2017).

Approximately one in four persons ages 11 and older in the MassHealth patient population were identified as having a serious mental illness. Of these individuals, roughly two in five have been homeless for some period of time between 2011 and 2015. The risk of fatal opioid-related overdose is six times for those with a serious mental illness (SMI) and three times higher for those diagnosed with depression compared to those without any mental health diagnosis (MDPH, 2017).

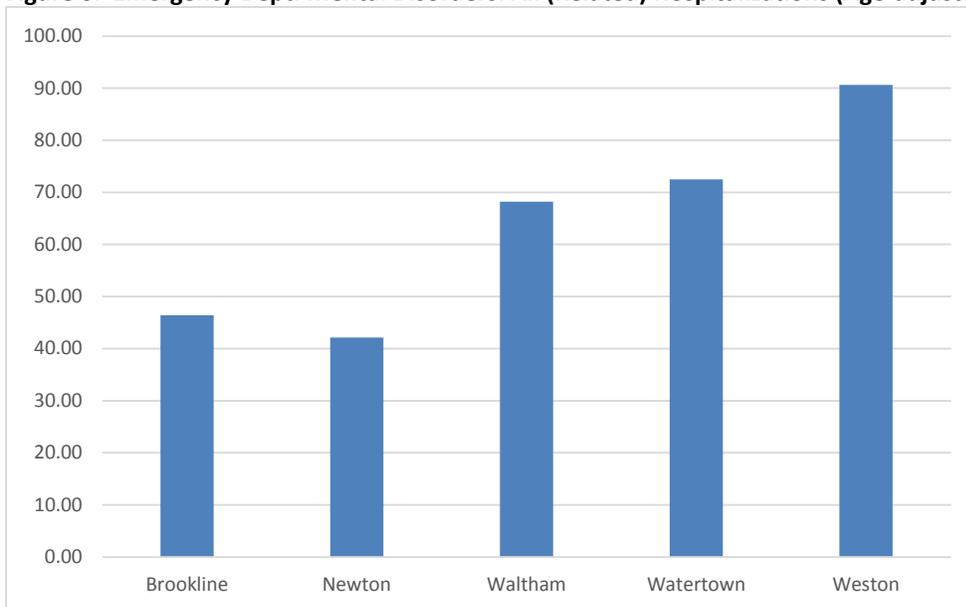
In 2015, the rate of mental health hospitalizations in Boston was (77.1 hospitalizations per 10,000) residents. The rate was (41%) lower for females (57.6) compared with males (97.6). The rate was (24%) and (68%) higher, respectively, for residents ages 30-44 (97.3) and 45-64 (131.7) compared with those ages 65 and older (78.2). The rate was (55%) and (45%) lower, respectively, for residents ages 0-17 (35.2) and 18-29 (43.3) compared with those ages 65 and older (BPHC, 2017).

The rate of mental health hospitalizations among all Boston residents decreased by (5%) from 2011 to 2015. In 2015, the rate of mental health hospitalizations was higher in Allston/Brighton, Back Bay, Fenway, and the South End compared with the rest of Boston. However, data from 2015 reveal inequities across categories of age, sex, and race/ethnicity. The rate of mental health hospitalizations was higher for those ages 30-65 years compared with those 65 and older, males compared with females, and White residents compared with Asian, Black, and Latino residents. At the neighborhood level, elevated rates of mental health hospitalizations were observed for Allston/Brighton, Back Bay, Fenway, and the South End. (BPHC, 2017).

Table 1: Emergency Dept.: Mental Disorders: All Related Hospitalizations (Age-adjusted per 100,000) 2013

Community	ED: Mental Disorders: All Related Hospitalizations (Age-adjusted rates)
Brookline	46.40
Newton	42.15
Waltham	68.23
Watertown	72.51
Weston	90.67
Allston-02134	NA
West Roxbury-02132	NA
Back Bay- 02115	NA
Back Bay-02116	NA
Back Bay-02215	NA
Massachusetts	NA
SEMC Region	NA

Figure 6: Emergency Dept. Mental Disorders: All (Related) Hospitalizations (Age-adjusted per 100,000) 2013



(Source: Massachusetts Department of Public Health) Note: At the time of this report DPH data was unavailable for the majority of cities/towns and Boston zip code service areas.

In 2013, both Weston and Watertown had the highest age-adjusted rates at (90.67) and (72.51) of mental health related hospitalizations, within the communities in the SEMC service area for which data was available. Newton had the lowest prevalence of mental health hospitalizations at (42.15 per 100,000) among the communities observed.

In data collected through the Key Informant Survey, 67 of 129 community members and 12 of 19 health providers indicated that mental health was one of the top health issues in the community. Focus group participants at one of the community gatherings offered by SEMC indicated that cultural and language differences, lack of access to treatments, mental health facilities, and the absence of prevention information were the barriers to better mental health outcomes.

In one other focus group conducted by SEMC, mental health was noted as one of the main concerns in the community. Participants stated that “lack of access and availability of services” were the main issues impacting the community and restricting community members’ access to treatment. Most of the participants in all four focus groups conducted in Brighton, expressed that international students, victims of gang violence and domestic abuse are more likely to suffer mental health illness. Participants in a focus group conducted in the Russian community, in partnership with the Covenant House in Brighton, those

Russian community members noted that the elderly within the community also suffered from depression and anxiety.

To reduce the inequities of mental health conditions in Boston, interventions targeting subpopulations at higher risk of mental illness are needed. It is also necessary to educate the public about the availability of mental health services and to decrease the stigma of seeking such services. Work also needs to be done to stop discrimination, which impacts the mental health of the person facing the discrimination. Additionally, as the World Health Organization (WHO) suggests, in order to reduce the inequities in the occurrence of mental disorders, the conditions of everyday life, which are the social determinants of health, must improve (BPHC, 2017).

Substance Use Disorder

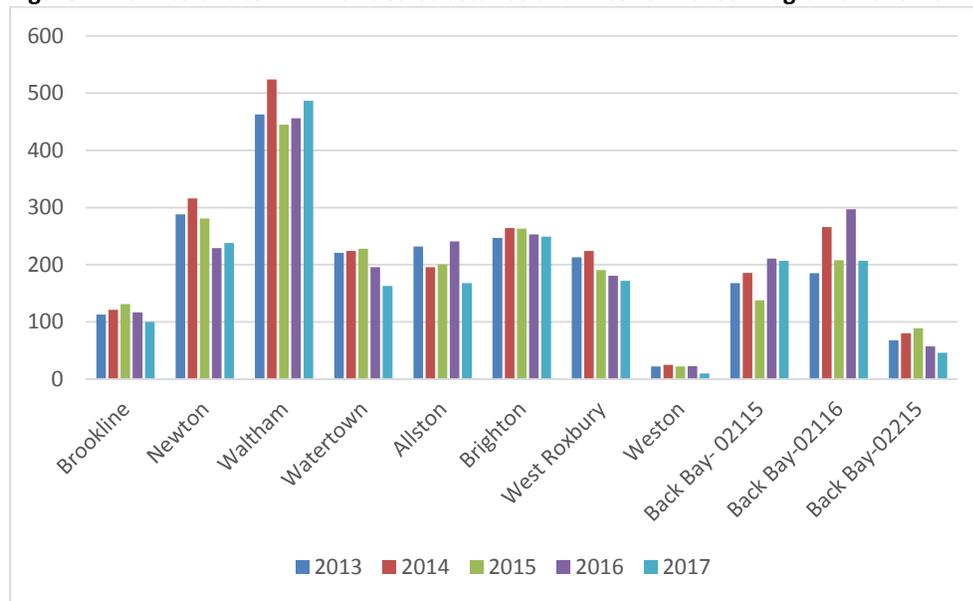
According to the National Survey on Drug Use and Health (NSDUH) in 2015, an estimated 27.1 million people in the US aged 12 and older used illicit drugs in the past month. Of these, a majority (22.2 million) reported using marijuana and 3.8 million misused prescription opioids (SAMHSA, 2015). During the same survey period, an estimated 20.8 million, approximately 1 in 10 people needed substance use treatment (i.e., treatment for problems related to the use of alcohol or illicit drugs). Of this population, 10.8 percent received treatment (SAMHSA, 2016). According to the 2013-2014 NSDUH, (6.7%) of Massachusetts residents 12 years of age or older met the criteria for dependence or abuse of alcohol and 3% met the criteria for dependence or abuse of illicit drugs. From 2002 to 2015 there was a 2.2-fold national increase in the total number of deaths from all drug overdoses (National Institute on Drug Abuse, 2017).

Drug overdose deaths also occur as a result of the illicit manufacturing and distribution of synthetic opioids, such as fentanyl, and the illegal distribution of prescription opioids. Illicit fentanyl, for example, is often combined with heroin or counterfeit prescription drugs or sold as heroin, and may be contributing to recent increases in drug overdose deaths. In 2014, there were 17,465 overdoses from illicit drugs and 25,760 overdoses from prescription drugs in the US. For opioid specific-related deaths, there was a 2.8-fold increase in the total number of opioid-related overdose deaths during this time period. In 2015, US overdose deaths totaled 52,404, including 33,091 (63.1%) that involved an opioid (CDC, 2016).

Misuse of alcohol or other drugs over time can lead to physical and/or psychological dependence on these substances, despite negative consequences. Substance misuse alters judgment, perception, attention, and physical control, which can lead to the repeated failure to fulfill responsibilities and can increase social and interpersonal problems. There is a substantially increased risk of morbidity and death associated with alcohol and drug misuse. The effects of substance misuse are cumulative, significantly contributing to costly social, physical, mental, and public health challenges. Examples of these include domestic violence, child abuse, motor vehicle crashes, physical fights, crime, homicide, suicide, human immunodeficiency virus/ acquired immunodeficiency syndrome (HIV/AIDS), and other sexually transmitted infections (6). Substance misuse can also impact one's social determinants of health, such as employment, income, social network, and housing (BPHC, 2017).

For substance misuse indicators evaluated for 2015, inequities across categories of race/ethnicity, sex, and neighborhood were found. The rates of mortality and hospital patient encounters for substance misuse and unintentional overdoses tended to disproportionately affect White residents. However, the overall substance misuse death rate increased almost two-fold from 2011 to 2015 for Black and Latino residents and to a lesser extent for White residents, which suggests the impact of fentanyl was experienced by all three of these racial/ ethnic groups and lessened relative inequities as rates increased. Racial/ethnic differences in unique-person treatment admissions varied across drug type. For example, the rates of unique-person treatment admissions for heroin and prescription drugs were higher for White residents compared with Black and Latino residents. For marijuana, the rate was higher for Black and Latino residents compared with White residents. Across most drug types, the rate of unique-person treatment admissions was lowest among Asian residents (BPHC, 2017).

Figure 7: Admissions to DPH-Funded Substance and Alcohol Abuse Programs 2013-2017



Source: Massachusetts Department of Public Health

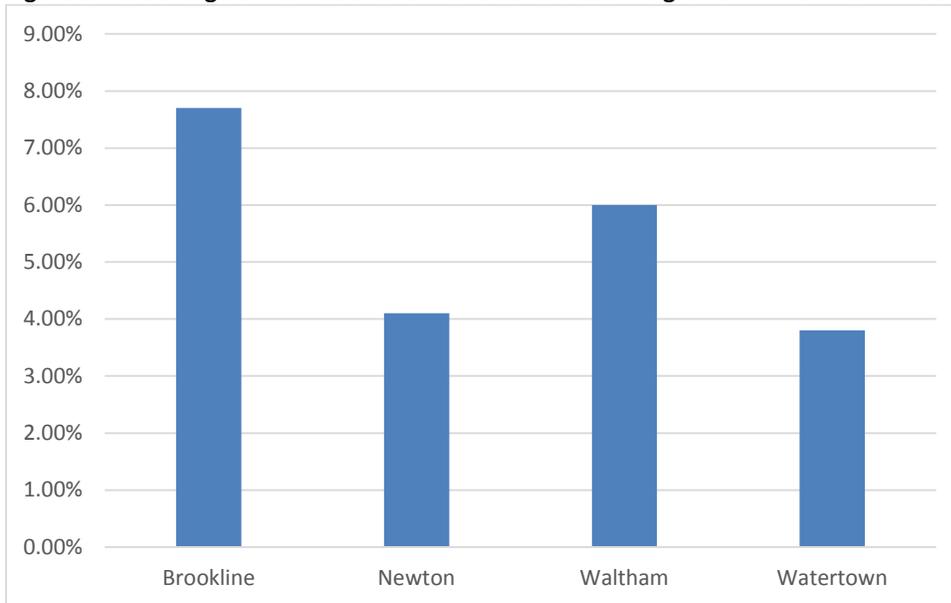
Looking at the DPH-funded substance and alcohol abuse programs from 2013 to 2017, Waltham had the highest numbers of individuals attending DPH funded programs. In 2017, Waltham led with the highest number of admissions across all eleven communities with 487 admissions respectively followed by Brighton with 249 admissions and Newton with 238 admissions. Moreover, Waltham recorded an upward trend from 2015 to 2017 in the number of those admitted to DPH funded substance and alcohol abuse programs, this after a sharp decline from 524 admissions in 2014 to 445 admissions in 2015. As may be noted in the (Fig.7) all other communities, with the exception of Newton which also reported a slight increase from 2016 to 2017 of 9 admissions, noted a downward trend in admissions. Weston recorded the least number of admissions to DPH funded programs with only 10 admissions in 2017.

The rates of substance misuse deaths, unintentional drug overdose hospital patient encounters, and unique-person treatment admissions were higher for men than women. At the neighborhood level, the rate of overall substance misuse deaths (including alcohol misuse, drug misuse, and unintentional opioid overdose/poisoning deaths) during the five-year time period 2011-2015 was higher for Charlestown, Dorchester (zip codes 02122, 02124), and South Boston compared with the rest of Boston (BPHC, 2017).

Table 2: All Other Opioids Admissions to BSAS Contracted Program (FY 2014)

	All other Opioid Admissions FY 2014
Brookline	7.70%
Newton	4.10%
Waltham	6.00%
Watertown	3.80%
Allston-02134	NA
Brighton-02135	NA
West Roxbury-02132	NA
Weston	NA
Back Bay- 02115	NA
Back Bay-02116	NA
Back Bay-02215	NA
Massachusetts	NA
SEMC Region	NA

Figure 8: Percentage of Admissions for BSAS Contracted Programs - FY 2014 for All Other Opioids



SOURCE: (Bureau of Substance Addiction Services) Note: At the time of this report, data for All Other Opioids Admissions to BSAS Contracted Program (FY 2014) were unavailable for most of the cities/towns and Boston zip code service areas. All Other Opioids includes PCP, Other Hallucinogens, Methamphetamine, Other Amphetamines, Other Stimulants, Benzodiazepines, Other Tranquilizers, Barbiturates, Other Sedatives, Inhalants, OTC, Club Drugs, Other All Other Opioids include Non – Rx Methadone, Other Opiates, Oxycodone, Non-Rx Suboxone, Rx Opiates, Non-Rx Opiates

In the 2014 fiscal year, Brookline had the highest percentage of admissions to BSAS Contacted Programs for all Other Opioids Admissions at (7.70%) followed by Waltham at (6%) in the communities for which data was available. Watertown experienced the lowest percentage of opioid-related admissions of all service area cities/towns for which data was available. In Watertown, there was only (3.80%) of all other opioid admissions to BSAS Contracted Programs in FY 2014. Newton had the second lowest percentage of admissions to BSAS Contracted Programs at (4.1%) for all other opioids.

Table 3: Opioid Related Mortality Count - 2015

	Opioid Related Mortality Count (2015)
Brookline	3
Newton	7
Waltham	10
Watertown	10
Allston	1
Brighton	2
West Roxbury	5
Back Bay- 02115	3
Back Bay-02116	3
Massachusetts	1,637
SEMC Region	44
Weston	NA
Back Bay-02215	NA

In 2015, there were 1,637 opioid-related deaths in Massachusetts. Both Watertown and Waltham had the highest number of mortalities related to opioids with 10 mortality counts each. Newton reported the second highest counts with 7 opioid related deaths followed by West Roxbury with 5 counts. At the time of this report, data for Opioid-Related Mortality Count (2015) were unavailable for Weston and Back Bay 02215.

The rates of substance misuse deaths, unintentional drug overdose hospital patient encounters, and unique-person treatment admissions were higher for men than women. At the neighborhood level, the rate of overall substance misuse deaths (including alcohol misuse, drug misuse, and unintentional opioid overdose/poisoning deaths) during the five-year time period 2011-2015 was higher for Charlestown, Dorchester (zip codes 02122, 02124), and South Boston compared with the rest of Boston (BPHC, 2017).

From 2011 to 2015, Boston and Massachusetts experienced similar levels of and significant increases in unintentional opioid overdose mortality (from 11.6 and 9.3 deaths per 100,000 residents ages 12 and older, respectively, in 2011 to 25.8 per 100,00) for both in 2015. The increase in unintentional opioid overdose mortality appears to be attributable to fentanyl, a highly potent opioid often used as an adulterant (i.e., mixed with street-level heroin, cocaine, and other drugs). In Boston, increases in all of the substance misuse mortality indicators (including alcohol misuse mortality) appear to be attributable to fentanyl, often found to have been used in combination with other drugs and alcohol. The number of fentanyl-related unintentional overdose deaths increased from fewer than 10 per year during the three-year period 2011-2013 to 43 deaths in 2014 and 83 deaths in 2015. For 2011 to 2015, the unintentional opioid overdose mortality rate was higher for Dorchester (zip codes 02122, 02124) compared with the rest of Boston. The rate was lower in Allston/Brighton and Fenway compared with the rest of Boston. (BPHC, 2017).

Individual-level risk factors such as socioeconomic status, family history, incarceration, and stressful life events are associated with drug use. Increasingly, evidence suggests that the social determinants of health may contribute to one's decision to initiate drug use and shape other substance use behaviors. For example, the lack of a supportive social network or circumstances related to neighborhood poverty may influence substance use behaviors. Additionally, addiction is a chronic neurological disorder and needs to be treated as other chronic conditions (BPHC, 2017).

Housing Stability

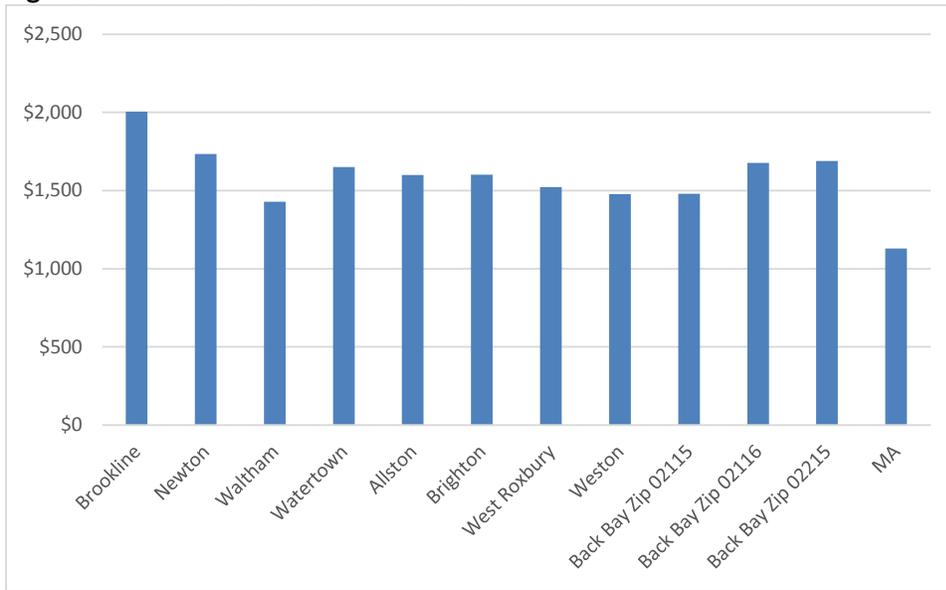
Massachusetts is currently dealing with a severe housing crisis due in large part to a low rate of housing production which has not kept pace with population growth and needs, soaring rents that have outpaced wages, and the lingering effects of the foreclosure crisis. As a result, there is a shortage of suitable and affordable units for young workers, growing families, and the increasing senior population. Overcoming these barriers will require addressing a variety of causes, including high development costs and exclusionary and restrictive zoning, which have made it difficult to keep up with the housing demand, among other factors (MA Legislature, 2016).

As our population grows older, our world class educational institutions and thriving technology companies continue to attract young professionals while simultaneously leaving the state ill prepared to meet the housing needs of a rapidly changing demographic. Baby Boomers (those born between 1946 and 1964) made up (50%) of the state's labor force in 2010. In coming decades, 1.4 million boomers are expected to retire or move away by 2030, depleting the supply of our most critical asset: a skilled, well-educated workforce. Thus, housing production is an economic imperative for the Commonwealth (MA Legislature, 2016).

Average rental prices in Boston are among the highest in the U.S., just behind New York, San Francisco, and Silicon Valley, with almost (40%) of residents paying more than \$1,500 a month. Subsidized housing is available on a limited basis to those with incomes ranging from less than (30-80%) of the city-wide median income level depending on the program. Programs have a wait ranging from 10 weeks to more than 5 years depending on the application and housing availability. Meanwhile, over half of Boston renters pay more than (30%) of their income toward rent, meaning finances can't go to other necessities such as childcare and food. The benefits of home ownership, including tax deductions, cost savings over time compared to renting, and the ability to build equity, are reserved for higher-income individuals. Lower-income individuals who cannot afford home ownership often struggle with the negative impact that residential instability has on crime, mental health, and social capital. Compared with Boston overall, a higher percentage of renter-occupied households in Allston/Brighton, Fenway, and Roxbury paid at least (30%) of their income toward rent (BPHC, 2017).

Boston has a higher percentage of renter-occupied units and a lower percentage of owner-occupied housing units compared with Massachusetts overall. We identified differences in housing occupancy by race/ethnicity, neighborhood, and education level. Compared with White residents, a higher percentage of Asian, Black, and Latino residents lived in renter-occupied units. During 2011-2015, a higher percentage of housing units in Allston/Brighton, Dorchester (zip codes 02121, 02125), East Boston, Fenway, and Roxbury were renter-occupied compared with Boston overall, while a lower percentage of housing units were renter-occupied in Charlestown, Dorchester (zip codes 02122, 02124), Hyde Park, Jamaica Plain, Mattapan, Roslindale, South Boston, and West Roxbury compared with Boston overall. In 2015, a higher percentage of Boston residents living in renter-occupied units had less than a high school education and a higher percentage paid about one-third of their income towards housing compared with residents in owner-occupied units. Those putting more than 30% of their income towards housing are considered "cost burdened" by the U.S. Department of Housing and Urban Development, and may have difficulty affording necessities such as food, clothing, and transportation (BPHC, 2017).

Figure 9: Median Gross Rent - 2012-2016



(Source: US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates)

According to US Census Bureau, 2012-2016 American Community Survey 5-Year estimates, the median gross rent in Massachusetts was \$1,129. Within the SEMC service area, the median gross rent was generally higher than the state level. Brookline had the highest estimated median gross rent during that time period at \$2,005 followed by Newton at \$1,733 and Back Bay 02215 at \$1,690. During the same time period Waltham was estimated to have had the lowest median gross rent at \$1,428.

After adjusting for differences in age, race/ethnicity, and sex, we found differences in several health outcomes by housing status. Compared with homeowners, a higher percentage of Boston Housing Authority (BHA) residents and renters receiving rental assistance had asthma, diabetes, hypertension, obesity, persistent anxiety, and persistent sadness. A higher percentage of renters who did not receive assistance had persistent anxiety and persistent sadness than homeowners. Lastly, a higher percentage of those who had housing arrangements other than renting (with and without rental assistance), being a homeowner, or being a BHA resident, had hypertension and persistent sadness than homeowners (BPHC, 2017).

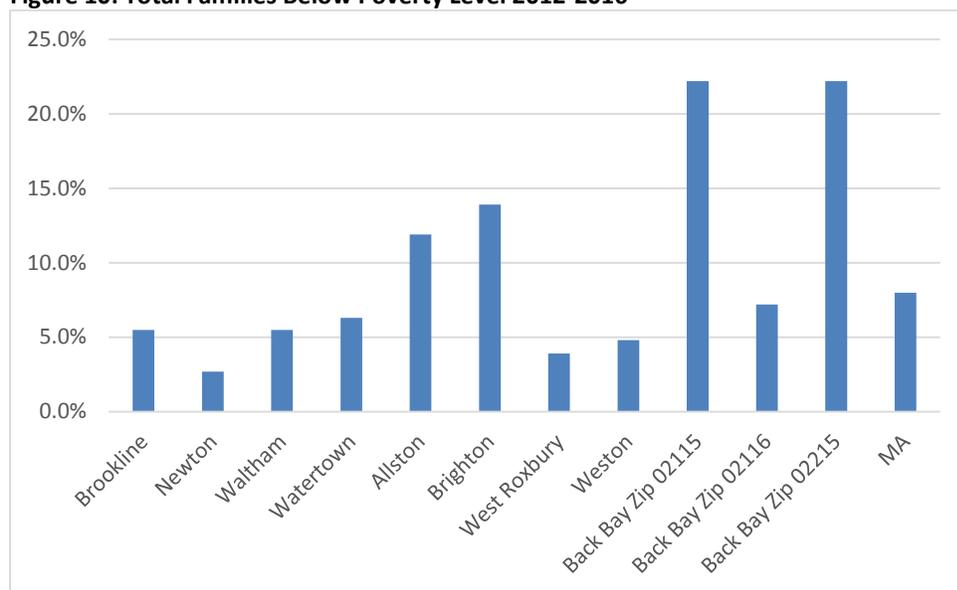
Homelessness

In FY 2018, the Commonwealth will spend, from its own resources, a total of \$432 million on a series of housing programs plus initiatives aimed at combating homelessness. Of the total, \$183 million goes to the former with the larger share \$249 million going to homeless programs. However, this amount represents the second annual funding cut in a row. The state budget for housing related spending is now \$71 million below the amount it was in the FY 2016 budget, a (14%) reduction. What makes this cut in state funding even more serious is that it is coming on top of a sharp reduction in federal funding for housing in the Commonwealth. Fiscal year 2018 estimated funds for federal housing programs in Massachusetts are expected to be \$71 million less than in FY 2017. Together, the state and federal cuts in the current fiscal year alone amount to more than \$100 million (The Boston Foundation, 2017).

In 2013, 5,881 homeless individuals were counted in Boston during the annual homeless census, while in 2017, there were 6,135 homeless individuals counted. (48%) percent were female, (33%) were under the age of 18, (17%) identified as more than one race, and (38%) identified as Latino (BPHC, 2017).

Safe and stable housing provides personal security, reduces stress and exposure to disease, and provides a foundation for meeting basic hygienic, nutritional, and healthcare needs. Average income gains over the past decade have failed to keep pace with rising housing costs, pushing thousands of residents into unstable housing situations. Without consistent access to health care, homeless individuals are less likely to participate in preventive care and are much more likely to utilize the emergency department for non-emergencies. Such patterns of use are not only a burden on the healthcare system, but detrimental to personal health as well (BPHC, 2017).

Figure 10: Total Families Below Poverty Level 2012-2016



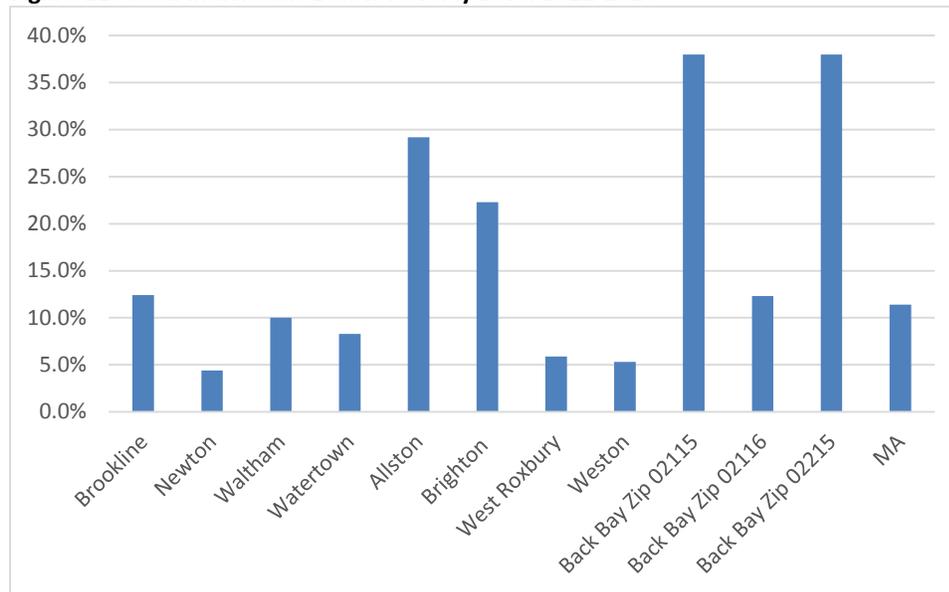
(Source: US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates)

According to the 2012-2016 American Community Survey 5-Year estimates, the percentage of families living below the poverty level in Massachusetts was (8.0%). Within the SEMC primary service area, Back Bay 02115 and 02215 are estimated to have had the highest percentage of families living below poverty level at (22.2%). The communities of Allston (11.9%) and Brighton (13.9%) reported a significantly higher level of families living below the poverty level when compared to the state. Newton reported having the lowest percentage of families living below poverty at only (2.7%). West Roxbury had the estimated second lowest percentage of families living below poverty at (3.9%). It appears that within the SEMC service area there are concentrated neighborhoods with families living below the federal poverty level standards.

According to the *Health of Boston 2016-2017* report, in 2015 an estimated (21%) of Boston residents were living below the poverty level. The percentages of Asian (30%), Black (21%), and Latino (32%) residents

living below the poverty level were higher compared with White residents (13%). In 2015, an estimated (21%) of Boston residents lived below the poverty level. A higher percentage of the following groups lived below the poverty level: Females (23%) compared with males (18%), Children under the age of 18 (30%) compared with adults ages 18-64 (18%). A lower percentage of the following groups lived below the poverty level: Residents with a high school diploma or GED (19%), some college education or an associate degree (20%), or a bachelor's degree or higher (8%) compared with those with less than a high school education (34%) (BPHC, 2017).

Figure 11: Total Individuals Below Poverty Level 2012-2016



(Source: US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates)

According to the 2012-2016 American Community Survey 5-Year estimates, the total estimates of individuals below the poverty level in Massachusetts was (11.4%). The majority of the cities/towns within the SEMC service area had a higher percentage of total individuals below poverty above the state average. The highest percentage of total individuals below poverty was seen in Back Bay 02215 and Back Bay 02115 at (38%), followed by Allston at (29.2%). The lowest percentage of total individuals below the poverty level was seen in Newton at (4.4%).

A report by the *National Low-Income Housing Coalition* details how low wages and high rents lock renters out in Massachusetts and all across the country. For 2017, the Massachusetts statewide housing wage is \$27.39/hour, meaning that a worker would have to earn that amount per hour in order to afford the fair market rent for a 2-bedroom apartment (\$1,424/month), without having to pay more than 30% of their income toward rent. The housing wage is based on a worker working 40 hours/week, 52 weeks/year. For 2016, it was \$25.91 and for 2015, it was \$24.64/hour. Massachusetts ranked as the 6th least affordable area state in the country, when looking at the 50 states and Washington, D.C. (MCH, 2018).

Poverty contributes heavily to homelessness. According to the U.S. Census Bureau's 2015 American Community Survey report (released in October 2016), the overall poverty rate in Massachusetts was just under 11.5% in 2015. This includes an estimated 752,071 people in Massachusetts living in households that fell below the poverty threshold. This estimate includes 202,513 children under the age of 18 and 92,468 elders age 65 and older. 355,730 people were living in households with incomes under 50% of the federal poverty guidelines (MCH, 2018).

Recommendations

The St. Elizabeth Medical Center is well positioned to partner with other community-based organizations and coalitions to address the following key strategic priorities to improve health outcomes and wellness in the region:

1. Chronic Diseases
 - a. Cancer
 - b. Heart Disease
 - c. Diabetes
2. Mental Health
3. Substance Use Disorders
4. Housing Stability
 - a. Homelessness

In recognition of the need for further investments in the social determinants of health, SEMC will also consider these six priorities in Community Benefits planning:

- Built Environment
 - The built environment encompasses the physical parts of where we live, work, travel and play, including transportation, buildings, streets, and open spaces.
- Social Environment
 - The social environment consists of a community's social conditions and cultural dynamics.
- Housing
 - Housing includes the development and maintenance of safe, quality, affordable living accommodations for all people.
- Violence
 - Violence is the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, with the behavior likely to cause physical or psychological harm.
- Education
 - Education refers to a person's educational attainment – the years or level of overall schooling a person has.
- Employment
 - Employment refers to the availability of safe, stable, quality, well-compensated work for all people.

SEMC will continue to foster collaborative partnerships with other community-based organizations whose services align with addressing the aforementioned priorities and focus issues. Particular consideration will be given as to how strategies impact the lives of the underserved populations identified within the SEMC service area. SEMC recognizes the effectiveness of the collective impact that comes from constructive approach associated with both medical and social partnerships, working together towards a common goal of improving health outcomes among all community members, particularly for underserved populations. Where it is deemed appropriate SEMC will coordinate with regional public health organizations to ensure our success in addressing community health issues. Our data reveals that race, ethnicity and socio-economic factors are indicators of health outcome within the region. SEMC will focus efforts toward individuals and families who are facing critical challenges that perpetuate health inequity.

Chronic Diseases

Cancer

Both focus group participants and the key informant survey respondents stated that the lack of knowledge and access to the facilities for cancer was one of the main concerns of the overall population in the SEMC region. The cost of treatments and the access of transportation to the medical appointments were addressed as well. Hence, providing partnership with the American Cancer Society and other cancer education to the community is crucial as it could potentially advance the cancer disease prevention and management.

Community-Wide Recommendations

- Pursue partnerships with the American Cancer Society and/or other cancer education and prevention organizations in the community to advance disease prevention and management.
- Partner with civic and/or faith-based community organizations to reach underserved populations and provide appropriate screenings and prevention education.

Health System Recommendations

- Provide free cancer screening programs in communities more susceptible to cancer and with higher disease burden and mortality rates in order to increase early diagnosis of cancers and treatment with particular attention to Lung, Prostate and Breast Cancer.
- Offer a smoking cessation program support group and consider expanding cessation support groups to community center.
- Offer cancer prevention education and/or informational materials to high priority populations.
- Participate in community-based cancer awareness campaigns in the region.
- Offer cancer support groups.

Cardiovascular Disease

SEMC should continue to leverage its resources and medical staff to provide heart disease prevention education to community members. When appropriate, SEMC should provide blood pressure screenings in the community and promote heart health and stroke prevention through partnerships with community-based organizations providing services to target populations in the SEMC service area. SEMC should seek to partner with appropriate health care networks and primary care offices to implement chronic disease self-management program to assist community members in learning how to manage their health condition and improve quality of life.

Community-Wide Recommendations

- Pursue partnerships with the American Heart Association and/or other cardiovascular disease education and prevention organizations in the community to advance disease prevention and management.
- Partner with civic and/or faith-based community organizations to reach high priority populations and provide appropriate screenings and prevention education.
- Collaborate with the Charles River Community Health Center.
- SEMC to be represented at the Workforce & Economic Development Committee of Harvard Ed Portal.
- Partner with more schools, elderly groups, sponsor sports teams, health fairs, summer jobs.

Health System Recommendations

- Provide free blood pressure screening programs in communities more susceptible to heart disease and with higher disease burden and mortality rates in order to increase early diagnosis and treatment.
- Offer heart attack and stroke prevention education and/or informational materials in target communities.
- Participate in community-based heart health and stroke awareness campaigns in the region.
- Serve as a Community Training Center using American Heart Association standards for employees, physicians, and community professional healthcare workers for cardiac education and CPR certification.
- Provide easier accessibility to central pharmacy and health-screenings on-site and off-site.

Diabetes

Most cities and towns in the SEMC service area recorded higher mortality percentage than the state level. In particular, Brighton, Watertown and West Roxbury stand out with a large margin over the SEMC service area and state level. To best address this, SEMC should seek to increase awareness among primary care providers for the diabetes management programs in the community. Working together with the American Diabetes Association, SEMC should promote the use of diabetes type 2 screening tools to foster awareness and prevention. Through the implementation of a chronic disease self-management program, SEMC will be able to assist community members learn how best to manage their health and avoid health complications and decrease costly Emergency Department utilization. Lifestyle changes can prevent or delay the onset of diabetes and help control diabetes once diagnosed. Eating a healthy diet, maintaining a healthy weight, exercising regularly, and avoiding smoking can help prevent diabetes. SEMC should continue to make available diabetes management information in various languages and through various media channels, as appropriate.

Community-Wide Recommendations

- Pursue partnerships with the American Diabetes Association (ADA) and/or other diabetes education and prevention organizations in the community to advance disease prevention and management.
- Partner with civic and/or faith-based community organizations to reach high priority populations and provide appropriate screenings and prevention education.

Health System Recommendations

- Promote use of the ADA and/or CDC diabetes type 2 and prediabetes screening tools within high priority populations.
- Offer diabetes type 2 prevention and self-management programs in communities more susceptible to diabetes type 2 and with higher disease burden and mortality rates in order to increase early diagnosis and management.
- Participate in community-based diabetes awareness campaigns in the region.

Mental Health

Mental health was the major concern among the focus group participants and key informant survey respondents. Both highlighted a lack of sufficient specialized services in the SEMC service area. Many reported that the financial burden is a deterrent to accessing mental health services. SEMC should continue to collaborate with community-based organizations that can provide services to mentally ill patients. SEMC should serve as a host site for support groups for community members and caregivers. SEMC should promote the creation and availability of an inter-agency comprehensive care plan for this population.

Community-Wide Recommendations

- Disseminate educational materials outlining signs of mental health issues (particularly depression and anxiety) at strategic locations targeting high priority populations.
- Provide family members and/or caregivers with educational information on mental health so as to assist caregivers understand warning signs of mental illness.
- Advocate for inclusion of screenings for mental illness within school system to foster early intervention and access to treatment.
- Promote awareness of mental illness and work to decrease stigma surrounding seeking support.
- Pursue collaboration with the National Alliance on Mental Illness, health insurers, and/or other mental health education organizations in the community to advance disease management.

Health System Recommendations

- Collaborate with health and human service organizations to develop a comprehensive care plan that would be accessible to providers at all points of care.
- Implement strategic partnerships with community organizations that are able to provide services to community members, particularly high priority populations.
- Maintain Behavioral Health Navigator program in the Emergency Department.
- Engage community-based service providers to learn of and promote services that may be available to community members in need of services.
- Implement strategic partnerships with community organizations that are able to provide services to community members, particularly high priority populations.

Substance Use

Substance Use was the second main concern among the focus group participants and key informant survey respondents. Both indicated a lack of availability of addiction center/ rehab services in the SEMC service area. SEMC should promote the use of substance use disorder treatment best practices. SEMC should continue to partner with community organizations to promote increased access to screening for potential substance abuse. In addition to collaborating with community-based service providers working in various local settings, SEMC should also continue to offer free use of hospital space for a wide variety of support groups including Alcoholics Anonymous and Narcotics Anonymous.

Community-Wide Recommendations

- Advocate for increasing availability of detox and long-term treatment facilities, particularly to high priority populations in the region.
- Implement marketing campaign to increase perception of harm of adolescent substance use.
- Collaborate with schools and other organizations to incorporate an evidence-based curriculum that addresses substance use and mental health.
- Implement and promote substance use prevention and harm reduction programs.
- Support community-based substance abuse prevention coalitions.

Health System Recommendations

- Provide support resources for patients for whom illness can cause significant stress and anxiety.
- Promote evidence-based best practices in substance use disorder treatment across the continuum of care.
- Engage community-based service providers to learn of and promote services that may be available to community members in need of services.
- Continue collaborations and expand access to support groups for patients and caregivers.

Housing Stability

Housing stability was noted to be one of the concerns of the community as the majority of the population in the SEMC service area are minorities. SEMC should consider working closely with organizations with a goal of improving housing stability. A partnership with an organization like Boston Housing Authority could provide opportunities for individuals and families who are facing challenges in housing.

Community-Wide Recommendations

- Advocate for and support Housing Authority initiatives aimed at keeping low-income individuals and families housed.
- Partner with community organizations working to stabilize housing and/or rental pricing so as to support high priority populations that have been historically marginalized due to the high cost of housing.
- Challenge housing policies that foster segregation in communities in which segregation has historically contributed to unequal access to health and social supports and perpetuate poverty.

Health System Recommendations

- Partner with community organizations such as Housing Authorities and Shelters to identify ways to support housing first models.
- Consider adopting a housing screening process with patients prior to discharge to ensure patients are discharged to housing that is safe and support recovery.

Homelessness

In most of the SEMC service area, the poverty level has surpassed the state level. It is crucial to encounter this problem as there is a strong correlation between poverty level and homelessness. SEMC should strengthen their partnership with local shelters and address the housing shortage and cost of housing.

Community-Wide Recommendations

- Advocate for and support public policies aimed at addressing housing shortage and the cost of housing.
- Partner with local shelters to support programs aimed at keeping low-income individuals housed.

Health System Recommendations

- Develop and/or maintain partnerships with service agencies that are able to provide assistance to those who may present at the hospital with a need for stable housing.

Underserved Populations

As noted above, several social obstacles stand in the way for members of the underserved populations to achieve better health outcomes. Based on feedback collected via the focus groups conducted and key informant survey respondents, access to primary care is a significant issue faced by many due to language/cultural barriers and insurance coverage. SEMC should leverage its physician relations and communication resources to address the identified needs of underserved populations. Wherever possible, informational and/or educational materials should be translated and community engagement efforts should include various civic venues paying close attention to the social environment.

Community-Wide Recommendations

- Support efforts to improve the health care delivery system through reform.
- Collaborate with organizations working to remove barriers to care for underserved populations.

Health System Recommendations

- Engage members of high priority populations such as low-income individuals, immigrants and minorities to identify needs and priorities for improved service delivery.
- Provide accessible central pharmacy and increase availability of health-screenings to high priority populations.
- Provide assistance to community members seeking to apply for public health insurance coverage provided through public health plans.
- Screen individuals for primary care provider, where appropriate, assist community members enroll with primary care provider of their choice.

Limitations

Data collected for analysis was derived from publicly accessible, governmental sources. Some data sources lacked information on certain towns. Data presented in this report is the most recently available at the time of the creation of this report. As such, some of the relative changes, though classified as increases or decreases, are qualitative valuations 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. In previous versions of this CHNA, data had been collected through use of the Massachusetts Community Health Information Profile (MassCHIP). However, at the time of data collection, this resource was unavailable to researchers. Researchers instead 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.

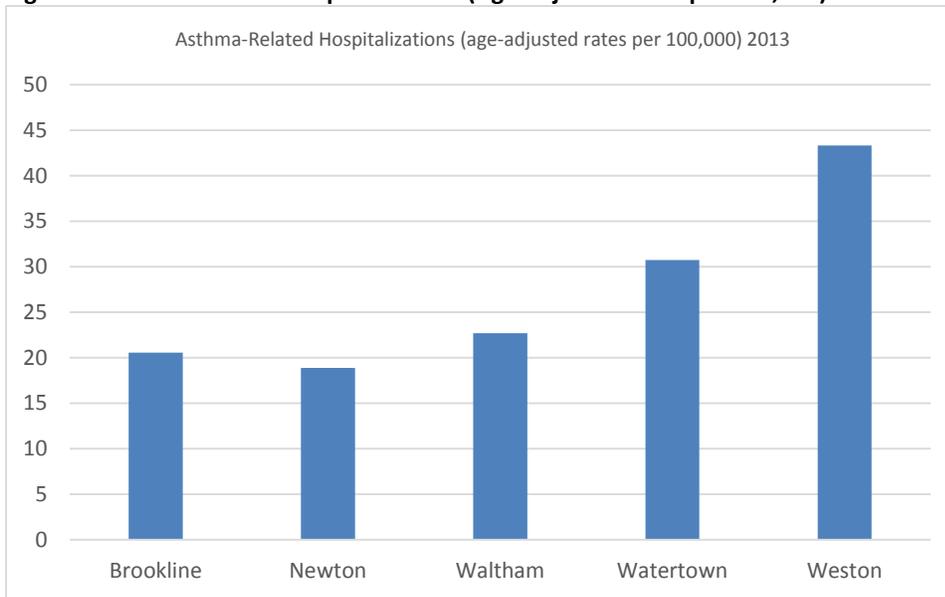
Although the community focus group provide valuable information, serving as important tools for data collection and community engagement, there are some limitations to consider. Focus group data is qualitative in nature and reflect only the views and opinions of a small sample. Focus groups are limited 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. Furthermore, all five focus groups were conducted within the same Boston neighborhood. It would have been advantageous to have conducted focus groups in different communities so as to engage a larger segment of the population within the hospital service area, as this may have garnered more diversified data unique to other communities.

Though the intent of this project was to capture the views and opinions of a broad range of health and human service providers within the SEMC service area, there were also limitations to the survey distribution methodology for the survey. The survey was distributed via email some providers may have been excluded due to a lack of access to computer-based technology. It is reasonable to assume that 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 SEMC staff. Furthermore, the survey was distributed to service providers within the SEMC email database. In total, 19 health service providers responded to the Health Provider Survey, this number is likely not to provide a representative sample of service providers in the service area. A Community Member Survey was also circulated which presented community members with 29 survey questions. Given the length of the survey and complexity of questions survey accuracy may have been compromised due to survey fatigue. A total of 129 individuals responded to this survey.

Appendix A.

Supplemental Health Indicators and Demographic Data

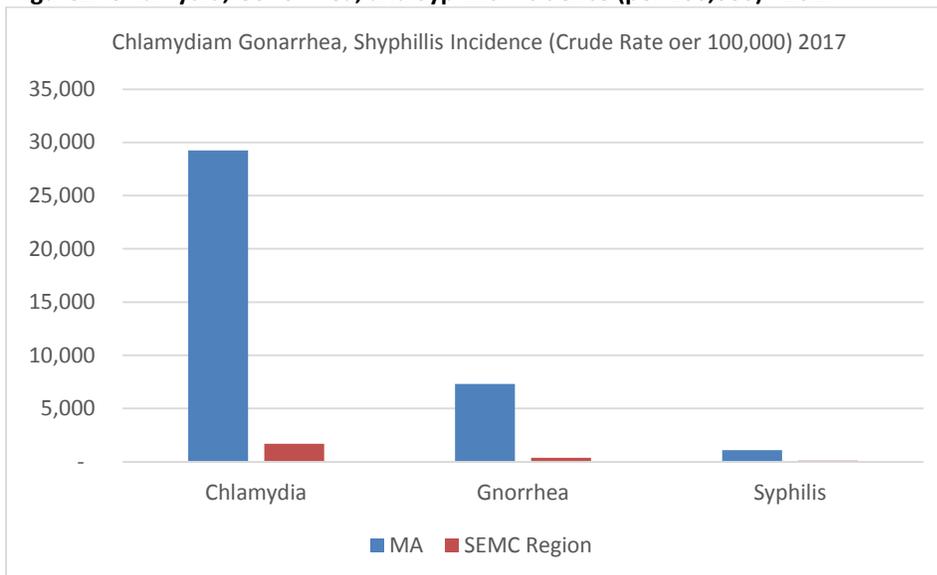
Figure 1: Asthma-related Hospitalizations (Age-adjusted rates per 100,000) 2013



(Source: Massachusetts Department of Public Health) Note: Data for other communities in the SEMC service area was not available at the time of this report.

Reproductive and Sexual Health

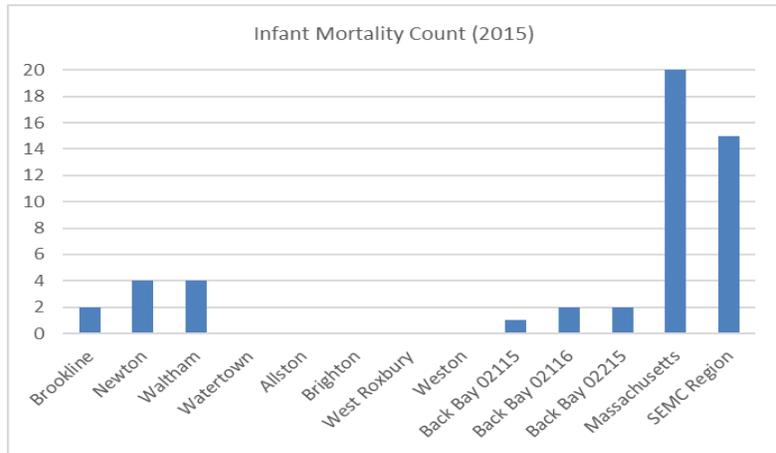
Figure 2: Chlamydia, Gonorrhea, and Syphilis Incidence (per 100,000) - 2017



(Source: Bureau of Infectious Disease and Laboratory Sciences 2015)

Figure 3: Infant Mortality Count – 2015

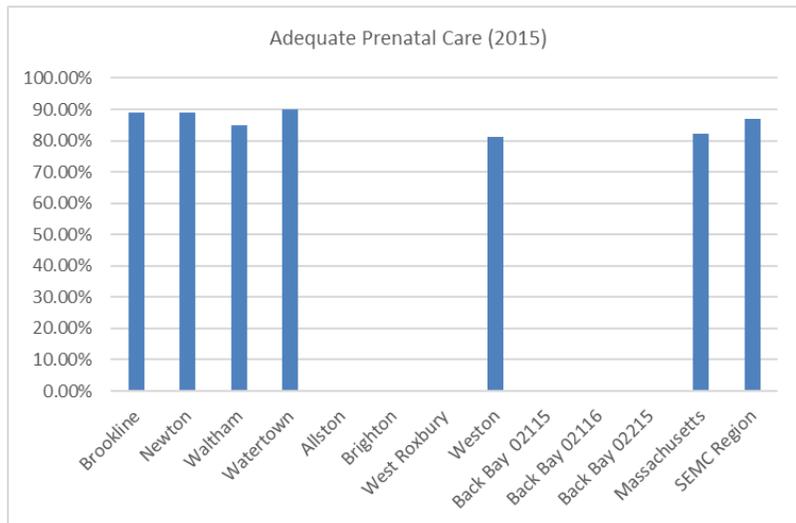
	Infant Mortality Count (2015)
Brookline	2
Newton	4
Waltham	4
Watertown	0
Allston	0
Brighton	0
West Roxbury	0
Weston	0
Back Bay 02115	1
Back Bay 02116	2
Back Bay 02215	2
Massachusetts	310
SEMC Region	15



(Source: Massachusetts Department of Public Health) Note: 0 value indicates no infant mortality for that city/town or neighborhood within the service area.

Figure 4: Percent Adequate Prenatal Care - 2015

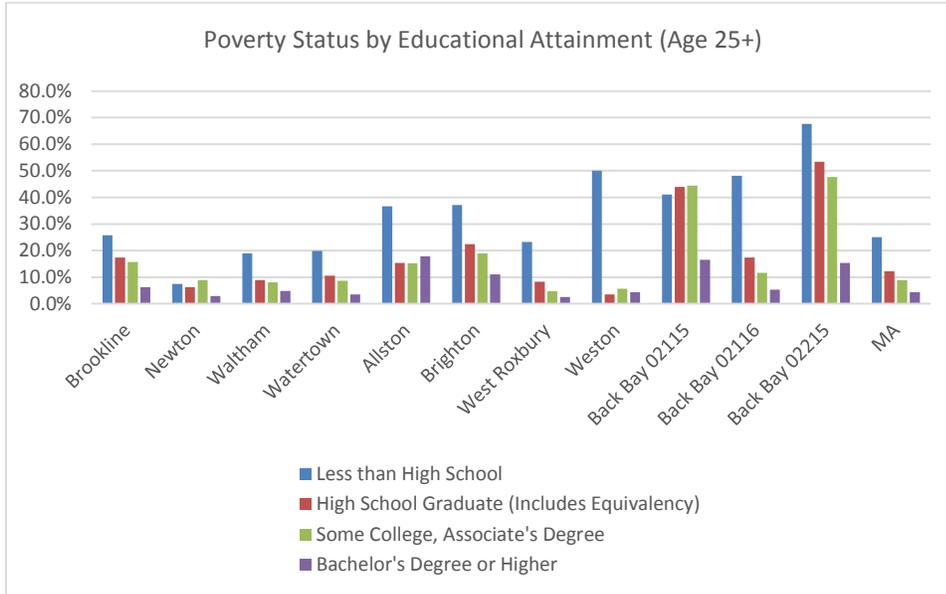
	Adequate Prenatal Care (2015)
Brookline	89.00%
Newton	89.00%
Waltham	85.00%
Watertown	90.00%
Allston	NA
Brighton	NA
West Roxbury	NA
Weston	81.08%
Back Bay 02115	NA
Back Bay 02116	NA
Back Bay 02215	NA
Massachusetts	82.30%
SEMC Region	86.84%



(Source: Kessner Index) Note: Data for other communities in the SEMC service area was not available at the time of this report.

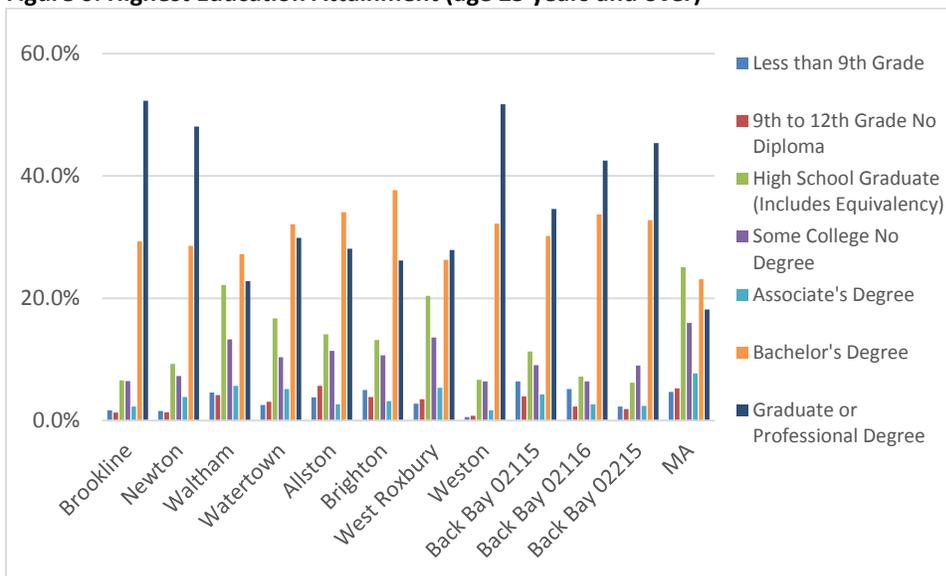
Demographic Data

Figure 5: Poverty Status by Educational Attainment (Age 25+) 2012-2016



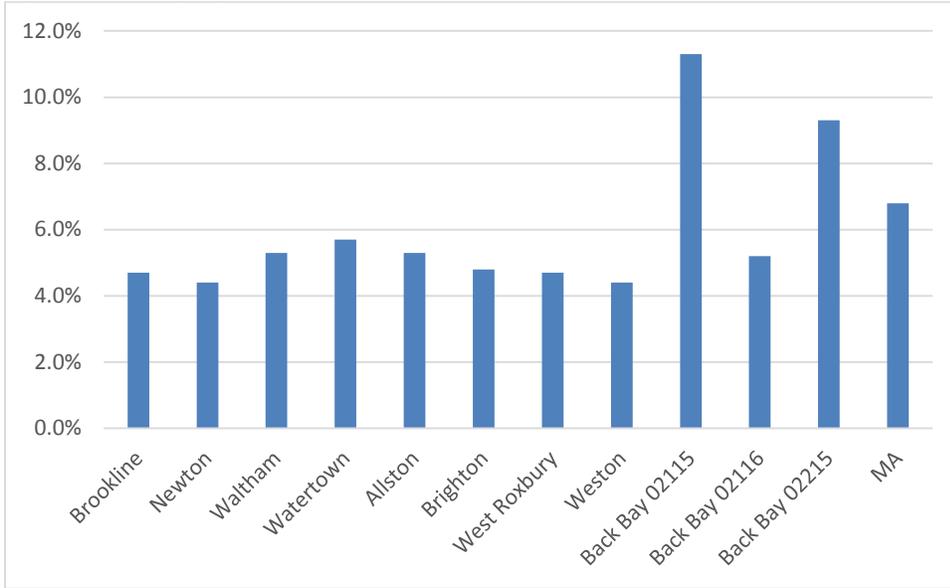
Source: US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates

Figure 6: Highest Education Attainment (age 25 years and over)



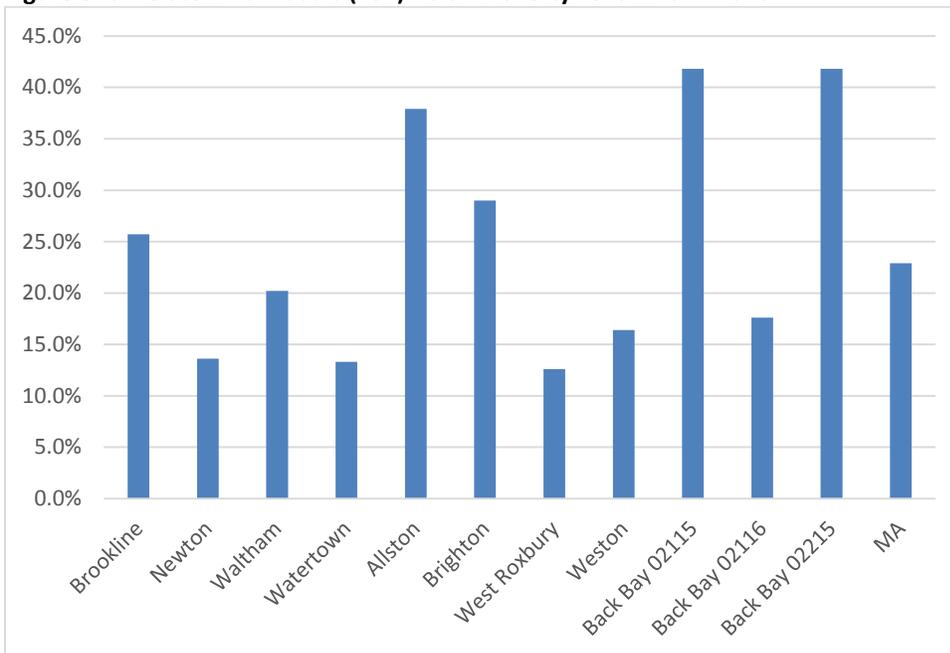
Source: US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates

Figure 7: Unemployment Rate (16+) 2012-2016



(Source: US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates)

Figure 8: Unrelated Individuals (15+) Below Poverty Level - 2012-2016



(Source: US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates)

Appendix B.

Community Member Health Care Needs Informant Survey

Introduction

St. Elizabeth's Medical Center is currently in the process of conducting a Community Health Needs Assessment to inform our community benefits programs. Through this survey, we hope to reach out to community members in order to solicit feedback about some of the strengths and weaknesses in our community in terms of addressing health.

This survey is intended for residents of Allston, Back Bay, Brighton, Brookline, Newton, West Newton, Waltham, Watertown, West Roxbury and Roslindale, and for those receiving health-related services in those areas. Please call Nina DiNunzio at 617-789-3147 with any questions.

Thank you for providing feedback to help with this important assessment!

The survey is also available at:

<https://www.surveymonkey.com/r/PPNTJQP>

The survey can be returned back to:

Nina DiNunzio

Community Relations

St. Elizabeth's Medical Center

736 Cambridge St.

Brighton, MA 02135

This survey is being collected for the St. Elizabeth's Medical Center 2018 Community Health Needs Assessment and aims to identify the needs of the community from the perspective of community members.

Demographics

1. Gender

- Male
- Female
- Other
- Prefer Not to Answer

2. Age

- <18
- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65-74
- 75-84
- 85+



Prefer Not to Answer

3. Language(s) spoken at home (check all that apply)



English



Spanish



Portuguese



Russian



Mandarin



Cantonese



Italian



Greek



Arabic



Haitian Creole



Cape Verdean Creole



French



American Sign Language



Other (please specify) _____



Prefer not to answer

4. Race (select all that apply)



White



Hispanic or Latino



Black or African American



American Indian or Alaska Native



Chinese



Japanese



Vietnamese



Native Hawaiian or Pacific Islander



Other Asian



Other (please specify) _____



Prefer not to answer

5. What is your zip code? _____

6. What type of health insurance do you have?



Private/Managed Care (HMO/PPO)



MassHealth (Medicaid)



Medicare



Tricare

- Unsure
- Other (please specify) _____

7. What is your current employment Status?

- Employed Full-Time
- Employed Part-Time
- Student Full-Time
- Student Part-Time
- Homemaker Full-Time
- Retired
- Unemployed

8. What is your highest level of Education Completed?

- Less than 12 years
- High School/GED
- Associates Degree
- Bachelor's Degree
- Post Graduate Degree

Access to Resources

9. Where do you turn to access reliable health information? (Check all that apply)

- Church groups
- Day care
- Doctor/health care provider
- Educational groups
- Family/Friends
- Health center
- Health department
- Hospital
- Internet/Online
- Library
- Newspaper/Magazine
- Social media
- Radio
- TV
- Other (please specify) _____

10. Do you have a primary care physician?

- Yes

- No
- Not sure

11. When was your last routine doctor's visit?

- Within the last 12 months
- Between 1-2 years ago
- Between 2-5 years ago
- Longer than 5 years

12. Are there barriers to accessing primary and preventative care in this community?

- Yes
- No
- Not Sure

If yes, what are they and how might they be addressed?

13. In general, do you feel you have good access to healthcare? If not, why not?

- Yes
 - No
-

Community Overall

14. What do you feel is the biggest strength of your community?

15. What do you think are the top 3 health issues in this community (please select 3 only)?

- Access to Health Care
- Cancer
- Diabetes
- Heart Disease
- High Blood Pressure
- Lack of Preventative Care
- Lung Disease/Asthma
- Mental Health Issues
- Oral/Dental Health
- Overweight/Obesity
- Smoking/Tobacco Use
- Substance Abuse
- Other (please specify) _____

16. Are there any other issues in your community that you want to identify?

17. What can St. Elizabeth's Medical Center do specifically to help address these top concerns?

18. In what ways is St. Elizabeth's Medical Center serving the community well?

19. What could St. Elizabeth's Medical Center be doing to serve the community better?

20. What improvements/services should be made/added for a healthier community? (check all that apply)

- Access to healthier food
- Increased disability services
- Mental health services
- More health education
- More support groups and classes
- Safe places to work and play
- Substance abuse services
- Transportation
- Other (please specify) _____

21. How satisfied are you with healthcare received in general?

- Very satisfied
- Somewhat satisfied
- Somewhat dissatisfied
- Very dissatisfied

Specific Conditions

22. Are you or someone in your household in need of assistance or services related to any of the following (check all that apply)?

- Adult Diagnosed with Disability
- AIDS/HIV Risk
- Cancer
- Child Diagnosed with Disability
- Diabetes
- Heart Disease
- Hypertension
- Mental health
- Obesity/Overweight
- Prosthesis
- Pulmonary Disease (COPD, Asthma, etc.)
- Sexually Transmitted Diseases
- Substance Abuse
- Teen Pregnancy
- Sleep Problems
- None

Other (please specify) _____

23. What are some barriers to being physically active?

- Time
- Access to recreational spaces
- Cost of recreational activities
- Other (please specify) _____

24. Do you feel your community is safe for recreation?

- Yes
- No
- Sometimes

25. Where do you usually get your food (check all that apply)?

- Convenience stores
- Farmers markets
- Food pantry
- Grocery store/supermarket
- Home grown
- Restaurants/fast food
- Soup kitchen
- I'm currently having trouble accessing food
- Other (please specify) _____

26. What are some barriers to healthy eating? (check all that apply)

- Transportation
- Affordability
- Lack of nutrition education
- Preparing meals (don't have time, don't know how, etc.)
- Other (please specify) _____

27. Do you need to learn how to cook for any of these special diets? (check all that apply)

- Diabetes
- HIV/AIDS
- Heart Disease
- Hypertension
- Gluten Free
- No, I don't need that information
- Other (please specify) _____

28. Do you believe access to food and nutrition is a concern in your community (please specify below)?

- Yes
- No

29. Do you believe mental health access is a concern in the community (please specify below)?

- Yes
- No

30. What are the top 3 concerns for cancer patients

- Transportation to treatment/appointments
- Timeliness of appointments
- Child care/Elder care/Home care
- Financial concerns/lack of insurance
- Time off from employment
- Emotional support from family/patient
- Access to treatment/information
- I don't know/not applicable
- Other (please specify) _____

31. Are there resources readily available to address these concerns for cancer patients in the community (please specify below)?

- Yes
- No

Any additional feedback:

Appendix C.

Provider Health Care Needs Survey

Introduction

St. Elizabeth's Medical Center is currently in the process of conducting a Community Health Needs Assessment to inform our community benefits programs. Through this survey, we hope to reach out to providers in order to solicit feedback about some of the strengths and weaknesses in our community in terms of addressing health.

This survey is intended for providers of geographic services areas Allston, Back Bay, Brighton, Brookline, Newton, West Newton, Waltham, Watertown, West Roxbury and Roslindale. Please call Nina DiNunzio at 617-789-3147 with any questions.

Thank you for providing feedback to help with this important assessment!

The survey is also available at:

<https://www.surveymonkey.com/r/PWWTPMG>

The survey can be returned back to:

Nina DiNunzio

Community Relations

St. Elizabeth's Medical Center

736 Cambridge St.

Brighton, MA 02135

This survey is being collected for the St. Elizabeth's Medical Center 2018 Community Health Needs Assessment and aims to identify the needs of the community from the perspective of providers in the community.

1. How would you identify your geographic service area (town, city, zip code, etc.)?

- Allston
- Brighton
- Brookline
- Newton
- West Newton
- Waltham
- Watertown
- West Roxbury
- Roslindale
- Other (please specify): _____

2. Describe the organization for which you work?

- For-profit business
- Non-profit organization (excluding hospital providers)
- Health and human services agency

- Trade organization
- Health care provider (i.e. hospital, clinic, physician or dental practice, pharmacy)
- Municipal department (i.e. schools, police/fire)
- Other (please specify): _____

3. How would you identify the community that you work with? (ex: Youth, Elderly Population, Specific Minority Population, etc.)

4. What are the top three areas of general concern within the community that you work with?

5. What are the top 5 health issues in the community?

- Asthma
- Alcoholism
- Cancer
- Diabetes
- Domestic Violence
- Drug Addiction/Use
- Heart Disease
- Mental Health Issues
- Oral/Dental Hygiene
- Overweight/Obesity
- Prenatal Care
- Smoking
- Stroke
- Suicide
- I Don't Know
- Other (please specify): _____

6. What do you feel are the biggest obstacles to health access within the community you work with?

7. What populations would you identify as undeserved or underrepresented within the community?

8. What services do you perceive as being the most needed within the community?

8a.) Which population would most benefit from this service?

9. In what ways is St. Elizabeth's Medical Center serving the community well?

10. In what ways could St. Elizabeth's Medical Center serve the community better?

11. What three improvements/services should be made for a healthier community?

- Access to Healthier Food

- Mental Health Services
- Safe Places to Walk and Play
- Substance Abuse Rehabilitation Services
- Transportation
- Wellness Programs
- Other (please specify): _____

12. Is mental health a primary concern within the community? If it is, what about mental health is a concern?

13. Is nutrition a primary concern within the community? If it is, what about nutrition is a concern?

14. Is cancer care a primary concern within the community? If it is, what about cancer care is a concern?

15. Are there any other concerns that you would like to address?

** For a complete copy of aggregated survey responses contact St. Elizabeth Medical Center*

Appendix D.

Focus Group Questions

Overall Community

1. Is there a sense of community where you live? Why or why not?
2. What kinds of health and human services are: Easily accessible in the community? Missing and are needed in the community?
3. What are the top three areas of health concern within the community and how could they be addressed?
4. What populations would you identify as underserved within the community?
5. What do you feel are the biggest obstacles to health access for your community?

Substance Abuse/Mental Health

6. Is behavioral health a major issue within your community?
7. Have you noticed any trends in the use of drugs and alcohol in this area?
8. Is there anything about this community that makes it more likely for youth to use alcohol and other drugs?
9. Is there anything that you think is working well to keep youth from using alcohol and other drugs?
10. Can you think of anything that could be done to prevent substance use among youth?

Cancer Specific Questions

11. What are the top three concerns for Cancer patients?
12. Are there resources readily available to address these concerns for cancer patients in the community?

Chronic Disease

13. Are chronic diseases a major issue in your community, among friends and neighbors?

Chronic disease = health issues that people live with every day like diabetes, hypertension, obesity)

- a. How do these issues affect the way you live work play? (i.e. asthma preventing school attendance, diabetes hindering job prospects)

St Elizabeth's

14. In what ways is St Elizabeth's Medical Center serving the community well? Could be serving the community better?
15. What is the number one thing that the St Elizabeth's Medical Center can do to improve the health and quality of life of the community?

** For a complete copy of aggregated survey responses contact Saint Elizabeth Medical Center*

References

- Adler NE, N. K. (2002). Socioeconomic Pathways in Health: Pathways and Policies. *Health Affairs*, 21.
- BPHC. (2017). *Boston Public Health Commission*. Retrieved from Health of Boston 2016-2017: http://www.bphc.org/healthdata/health-of-boston-report/Documents/_HOB_16-17_FINAL_SINGLE%20PAGES.pdf
- CDC. (2016). *Morbidity and Mortality Weekly Report (MMWR)* . Retrieved from Increases in Drug and Opioid-Involved Overdose Deaths — United States, 2010–2015: <https://www.cdc.gov/mmwr/volumes/65/wr/mm65051e1.htm>
- Center for Health Information and Analysis. (2014). *Center for Health Information and Analysis (2014). Case Mix Hospitalization Data*. Retrieved from <http://www.chiamass.gov/>
- Data USA. (2018, September 22). Retrieved 2018, from Data USA: <https://datausa.io/profile/geo/boston-ma/>
- Heo S, L. T. (2009). Quality of Life in Patients With Heart Failure: Ask the Patients. . *Heart & Lung: The Journal of Acute and Critical Care*, 38(2):100–108.
- Hobson-Prater T, L. T. (2012). The Significance of Race for Neighborhood Social Cohesion: Perceived Difficulty of Collective Action in Majority Black Neighborhoods. *Journal of Sociology, Social Welfare*, XXXIX(1): 89-109.
- HRSA. (2018). *HRSA Workforce*. Retrieved from Medically Underserved Areas and Populations (MUA/Ps): <https://bhwhrsa.gov/shortage-designation/muap>
- Krumholz H, P. E. (1997. 157(1):99-104.). Readmission After Hospitalization for Congestive Heart Failure Among Medicare Beneficiaries. *Archives of Internal Medicine*. January, 157(1):99-104.
- MA Legislature. (2016). *Facing the Massachusetts Housing Crisis*. Retrieved from <https://malegislature.gov/CC/WhatsNext/Attachment/1>
- MDPH. (2014). *Massachusetts Deaths*. Retrieved from Death Data: <https://www.mass.gov/files/documents/2016/12/uv/death-report-2014.pdf>
- MDPH. (2017). *Commonwealth of Massachusetts*. Retrieved from Mass.gov: www.mass.gov/dph/2017statehealthassessment
- National Institute on Drug Abuse. (2017). Retrieved from <https://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates>
- Robert Wood Johnson Foundation. (2011). *How Social Factors Shape Health: The Role of Stress*. Retrieved from http://www.nmpha.org/Resources/Documents/RWJF%20Issue%20Brief%20-%20Stress%20_%20Health.pdf
- SAMHSA. (2015). *Key Substance Use and Mental Health Indicators in the United States: Results from the 2015 National Survey on Drug Use and Health*. Retrieved from SAMHSA.Gov: <https://www.samhsa.gov/data/sites/default/files/NSDUH-FFR1-2015/NSDUH-FFR1-2015/NSDUH-FFR1-2015.htm>
- SAMHSA. (2016). *America's Need for and Receipt of Substance Use Treatment in 2015*. Retrieved from SAMHSA.gov: https://www.samhsa.gov/data/sites/default/files/report_2716/ShortReport-2716.html
- SAMHSA. (2016). *SAMSHA*. Retrieved from SAMSHA.gov: <https://www.samhsa.gov/disorders/co-occurring>
- The Boston Foundation. (2017). *The Greater Boston Housing Report Card 2017*. Boston: Northeastern University. Retrieved from <https://www.tbf.org/-/media/tbf/reports-and-covers/2017/2017-housingreportcard.pdf>