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# Newton-Wellesley Hospital

## 2018 Community Health Needs Assessment

## Final Report

**Submitted to:**

NEWTON-WELLESLEY HOSPITAL

Health Resources in Action
*Advancing Public Health and Medical Research*

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# EXECUTIVE SUMMARY

**Background and Methods**

Newton-Wellesley Hospital (NWH) is a 265-bed comprehensive medical center affiliated with Partners Health Care. NWH's mission is to treat and care for all its patients and their families as they would a beloved family member. In January 2018, NWH engaged Health Resources in Action (HRiA), a non-profit public health organization in Boston, to conduct its triennial community health needs assessment (CHNA). In addition to fulfilling the requirement by the IRS Section H/Form 990 mandate, the NWH CHNA process was undertaken to:

- Identify and provide an update on the health needs and assets of the Newton-Wellesley service area (Natick, Needham, Newton, Waltham, Wellesley, and Weston)
- Identify the Newton-Wellesley service area community needs for cancer prevention and screening
- Understand how outreach activities can be more effectively coordinated and delivered across the institution and in collaboration with community partners

The CHNA used a participatory, collaborative approach and examined health in its broadest context. As part of this assessment, NWH sought input from its Community Benefits Committee to inform the methodology, including recommendation of secondary data sources, and identification of key informants and focus group segments. The assessment process included synthesizing existing data on social, economic, and health indicators from various sources, as well as, conducting eight interviews and six focus groups to explore perceptions of the community, health and social challenges for community members, and recommendations for how to address these concerns. **In total, over 50 individuals were engaged in the 2018 assessment process.**

**Findings**

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

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

The following section provides an overview of the population within the NWH service area.

***Demographic characteristics:***

- *Age:* Similar to the 2015 CHNA, according to the American Community Survey of the U.S. Census Bureau, with the exception of Waltham (14.0%), all of the towns in the NWH service area had a higher percentage of children under 18 years of age compared to Massachusetts (20.7%). Focus group participants and interviewees described the population served by NWH as a mix, with aging adults, young families, and middle-age persons.
- *Racial and Ethnic Diversity:* The diversity of the area was a characteristic named in almost every interview and focus group. Since the 2015 CHNA, the racial/ethnic composition of NWH's service area has remained similar. According to the most recent census data, Waltham had the

> *"The [Waltham] community prides itself of its immigrant history. It is already seasoned to newcomers, new languages, and building onto existing culture."*
> – Interview Participant

highest percent of Black (5.6%) and Hispanic/Latino (13.3%) residents in the NWH service area, relatively similar to the proportion of Black (6.6%) and Hispanic/Latino (10.9%) residents for Massachusetts overall. Since the 2015 CHNA, except for Newton, all towns experienced an increase in their immigrant population. According to the most recent census data, the towns of Newton (28.4%), Needham (22.4%), Natick (17.3%), and Waltham (16.9%) had a higher percent of residents born outside of the US than the state (16.5%),

- *Education:* The high quality of the area's school system was mentioned in most focus groups and interviews and was described as one of the primary reasons for living in the assessment communities. Similar to the 2015 CHNA, quantitative data indicate the six cities/towns in the NWH service area are very well educated.
- *Employment:* Since the 2015 CHNA, trends suggest an increase in the percent of residents unemployed in Waltham (4.8% to 5.3%), while there was little change in the percent unemployed for Newton (4.6% to 4.4%) and Needham (5.3% to 5.1%).

***Income and poverty:*** Focus group participants and interviewees reported that the economic status of residents in the NWH service area varies by community. Residents living in Newton, Needham, and Wellesley were described as largely affluent, while Natick was described as more middle class to upper middle class and Waltham was considered a more blue-collar community, with many lower income residents and a large proportion of students receiving free or reduced lunch. According to the most recent census data, Waltham (5.5%) and Weston (4.8%) had the highest percent of families living below the poverty level, though this prevalence was below that for the state (8.0%). According to the Massachusetts Department of Elementary and Secondary Education, within the service area cities and towns, Waltham had the highest proportion of students participating in free (35.5%) and reduced lunch (5.9%) programs, a prevalence that exceeded Massachusetts overall (33.6% and 4.7%, respectively).

***Housing:*** As in the 2015 CHNA, the high cost of housing and changing housing dynamics in the community were reported to be challenges. Residents spoke about rising rent, lack of affordable housing and long wait lists. Participants described overcrowding and homelessness as two consequences of high housing costs and limited options. According to the most recent census data, housing cost burden was highest for renter-occupied units in Newton (39.9%) and owner-occupied units in Weston (26.6%).

> *"With how real estate has sky rocketed, it's squeezing middle to low income people."*
> —Interview Participant

***Transportation:*** Perceptions about transportation in the service area varied. Transportation to Boston was generally reported to be easy and many residents from the NWH service area travel into the city. More locally, however, transportation options were reported to be less available, making travel from town to town difficult for those without personal vehicles. Reflecting patterns across Massachusetts, the majority of workers in each assessment community drove to work according to the most recent census data, a trend that was similar to the 2015 CHNA.

***Crime and safety:*** Overall, participants perceived their communities to be largely safe from crime. However, participants expressed concerns about personal safety in some communities. Several participants voiced concerns about the safety of immigrants and the fear of police in some communities. Similar to the previous CHNA, in 2016, according to the Federal Bureau of Investigations, the violent and property crime rates were highest in Waltham (155.6 violent crimes and 1,081.5 property crimes per 100,000 population) and Natick (157.7 violent crimes and 1,345.9 property crimes per 100,000 population).

Community Resources and Assets

Focus group and interview participants identified several strengths of their community which were similar to those reported in 2015 CHNA - including:

***Community amenities:*** Participants spoke highly of green spaces and recreational opportunities available to them, as well as access to libraries, faith organizations, higher education, shopping, and the availability of cultural events. Additionally, participants appreciated the variety and extensiveness of services in their communities, including healthcare, public health, and programming for children and youth.

***Collaboration:*** Collaboration across different organizations was also reported to be an asset in the NWH service area. Participants shared examples of partnerships in the community including those between local police and schools and youth services organizations, work between public health departments and those working in senior services.

> *"It is easy to get people to get together and work on issues"*
>
> – Interview participant

***Generosity:*** Generosity of residents was described as another important community asset. Participants shared that residents are active in their communities and generous with their time and financial resources. Residents look out for one another and desire to give back. Locally funded scholarships for graduating seniors were mentioned, as well as a high rate of volunteerism.

***Strong local infrastructure:*** Several participants shared that the area has a strong business base and effective local government, which they believed were substantial assets. Participants praised local police, fire departments, and school leadership.

Community Health Issues

The assessment identified several key health issues and concerns affecting NWH's service area, namely:

***Leading Causes of Mortality***: Similar to the 2015 CHNA, the leading causes of death in the NWH service area are heart disease and cancer, according to the Massachusetts Department of Public Health.

***Chronic Diseases and Related Risk Factors***: Chronic diseases were not heavily discussed as a pressing concern for the community. According to the Massachusetts Department of Public Health, most cities and towns in the NWH service area had lower rates of mortality due to heart disease as compared to the state (142.0 per 100,000 population), except for Natick (144.8 per 100,000 population) and Waltham (144.3 per 100,000 population). The asthma emergency department visit rate for Waltham residents (406.5 visits per 100,000 population) was more than twice the rate for Needham residents (181.7 visits per 100,000 population), according to the Center for Health Informatics and Analysis.

***Mental Health***: Among community health issues raised during the assessment process, mental health was the issue mentioned most frequently, particularly affecting the elderly, immigrants, and low-income residents. According to youth risk surveys, a higher percent of middle school youth in Waltham (14.8%), Natick (10.3%), and Wellesley (9.0%) reported suicide ideation than the average statewide (8.0%).

> *"Stories of getting across the border and the trauma, it is just horrifying, and they're coming to school and trying to concentrate."*
>
> - Focus Group Participant

***Substance Use***: Similar to the 2015 CHNA, substance use was also reported to be a substantial challenge for the community. Opioids were the substance of greatest concern to participants. Substance use among seniors was also reported to be an issue in the community, as well as use among youth. Participants working with youth reported that vaping has substantially increased among students in recent years.

***Reproductive and Maternal Health***: In interviews and focus groups, reproductive and maternal health was not discussed. However, quantitative data from the Massachusetts Department of Public Health demonstrates that similar to patterns across Massachusetts, from 2013 to 2015, the percent of mothers with inadequate prenatal care increased slightly in Needham (11.1% to 13.0%), Wellesley (12.8% to 16.2%), and Weston (12.8% to 19.2%).

***Communicable Disease***: Communicable diseases were not discussed in interview or focus groups. According to data from the Massachusetts Department of Public Health, the chlamydia case rate per 100,000 population for all cities and towns in the NWH service area are below the rate for Massachusetts. However, following patterns across the state, the chlamydia case rate increased for all assessment communities from 2013 to 2016, with the greatest percent increase in Newton (73.2%), Weston (50.0%), Waltham (47.9%), and Wellesley (43.5%).

Access to Care

Similar to the 2015 CHNA, access to health care was raised as a concern among interview and focus group participants; they identified several barriers to accessing care, including:

***Cost and Insurance***: The cost of care, including insurance, co-pays, and medication, was mentioned by participants as a barrier to access, especially for lower income residents, including seniors. Obtaining insurance was reported by participants to still be a challenge for residents, particularly those in the immigrant communities. According to the most recent census data, a higher proportion of Black residents in Needham (12.8%), Waltham (7.6%), and Wellesley (6.5%) lacked health insurance relative to the state (5.5%) and Middlesex (6.1%) and Norfolk Counties (4.4%).

> *"People are afraid to go to the doctor because they'll get an enormous bill."*
>
> – Focus Group Participant

***Navigating the Healthcare System:*** Navigating complex healthcare systems was reported to be difficult, especially for residents with chronic illnesses or multiple providers. Continuity of care after hospitalization was also mentioned as a challenge for cancer patients, frail seniors, and those with chronic illnesses. Participants reported a need for a strong network of community-based services as well as advocates/navigators to help patients navigate the healthcare system.

***Behavioral Health:*** Focus group and interview participants reported that mental health and substance use services are insufficient to meet demand. Some mentioned that many mental health providers don't accept insurance or MassHealth, so people with mental health concerns, especially those who are lower income residents are undiagnosed or untreated. Additionally, stigma around mental health and substance use was shared as a substantial barrier to accessing care.

***Cultural Competency:*** The lack of cultural competency of providers, as well as limited access to languages other than English were identified as barriers for some community participants to access healthcare. Miscommunication between providers and residents about health conditions and treatments was discussed, and according to one interviewee, led to improper use of medication. The lack of providers' knowledge and awareness of the unique needs of the LGBTQ population was also mentioned by participants as a barrier.

> *"The doctors explain things in ways that our clients don't understand. They are ashamed to ask if they don't understand. They don't feel comfortable even asking the interpreter."*
>
> – Interview Participant

***Transportation:*** According to participants, lack of cost-effective and convenient transportation options creates challenges to accessing health and other services in the NWH area, especially for lower income residents. While some options exist, long wait times, spotty service, and cost make it difficult for lower income residents and seniors to access medical care.

Community Suggestions for Future Programs, Services, and Initiatives

Participants shared several suggestions to improve the community issues they identified, including:

***Behavioral Health Services and Training***: Focus group and interview participants called for an increase in culturally competent services, and providing behavioral health training support for schools, providers, and institutions working with seniors.

***Prevention Programming and Education:*** Broader outreach of prevention programming and education was suggested by participants through expanding health fairs and screenings, providing education about healthy lifestyles, and creating a resource list of available services.

***Engagement with Schools***: Participants suggested continuing professional development for school staff on health issues like substance use, mental health, and sexual health, as well as student/family workshops on nutrition, fitness, and healthy relationships. Another way to engage schools is for physicians to periodically come to schools to do checkups and give free vaccines.

> *"For some kids it may be the only medical professional they're seeing – in the school because they're not going for annual checkups"*
>
> – Interview participant

***Services for Seniors***: Seniors and those working with seniors identified suggestions for this population including assistance with end-of-life planning and education about mental health to reduce stigma. Additional services were suggested such as adult day care, home-based supports, and technology-based approaches.

***Health Care Navigation Support***: Participants mentioned care coordination as an important strategy, so residents know how to navigate complex health systems, take care of themselves after a hospital stay, and effectively take medications. Participants recognized that seniors are less likely to have a strong system of informal supports and need additional navigation support.

***Cancer***: Increasing access to and awareness of cancer screening was a suggestion from participants, specifically more prostate screening programs for men of color and mobile mammograms. Participants recommended engaging with community institutions, including faith organizations. Care coordinators were mentioned by participants as helpful to enhance support for those with cancer.

***Workforce Development***: Some participants also suggested that NWH could play a role in improving workforce options for residents, especially as it relates to healthcare. Specific ideas included holding a job fair and providing career education and support for students.

> *"Our students want to enter the nursing field."*
> – Interview participant

***Domestic Violence Training***: A couple of participants stated that providers would benefit from more education about domestic violence and trauma to better engage patients in conversations about these issues and identify abuse.

***Transportation:*** Several participants recommended more community-level work on transportation, as they did in the previous CHNA, by offering more convenient and cost-effective public transportation options. One participant suggested the hospital re-institute the bus it once offered. Another mentioned the hospital developing strategies to connect residents to transportation through services like Uber.

**Key Themes and Conclusions**

This assessment report describes the social and economic context of NWH's service area, key health issues and concerns, and perceived assets and opportunities for addressing current needs and gaps. Several overarching themes and conclusions emerged:

- ***Community Strengths***: In focus groups and interviews, residents praised the vitality of their communities and saw diversity as a substantial asset. The high quality of the area's school system was described as an important strength in the region. Overall, participants reported that there are good healthcare facilities in the NWH service area.

- ***Identified Areas of Need***: Five areas of need were prominent in focus groups and interviews including:
    - ***Housing***: Lack of affordable housing in the area was a theme across focus groups and interviews. Participants expressed concern about increasing housing costs for the residential stability of residents of Waltham, lower income residents in the region, and seniors.
    - ***Transportation***: Limited transportation options and high costs were also a challenge, particularly for lower income residents and seniors. Even where public transportation exists, there are several barriers to using it, including wait times, cost, and language barriers.
    - ***Mental Health:*** This was the health concern mentioned most frequently in interviews and focus groups, with youth, seniors, and immigrants perceived as disproportionately affected. Participants cited high rates of anxiety and depression and often mentioned issues related to trauma. They also shared concerns about lack of access to mental health services. Participants noted that increasingly, those suffering from mental health concerns also engage in substance misuse.
    - ***Substance Use:*** A substantial challenge for the community is substance use, particularly opioids. Substance use admissions to DPH-funded treatment programs were highest for residents of Waltham and Natick. The prevalence of heroin-related treatment has increased in each of the NWH communities since the last assessment. Newton, Waltham, and Needham had the highest percent of patients admitted to DPH-funded treatment programs due to heroin as their primary substance of use. Participants working with youth reported that vaping has substantially increased among students in recent years.

- ***Access to Care:*** Residents reported challenges in meeting the social, economic, and health care needs of residents in the NWH service area, especially immigrants, low-income residents, and seniors. A few participants reported that obtaining health insurance was still a challenge for some residents, particularly those in immigrant communities. Participants reported that navigating healthcare and continuity of care after hospitalization can be challenging, particularly for residents with chronic illness or multiple providers. Cultural competency of providers, as well as language access, were also identified as barriers for some community participants to access healthcare. Those working with non-English speaking populations repeatedly noted a lack of bilingual providers, particularly in specialty services such as mental health.

# BACKGROUND

## Overview of Newton-Wellesley Hospital

Newton-Wellesley Hospital (NWH) is a 265-bed comprehensive medical center affiliated with Partners Health Care. NWH's mission is to treat and care for all its patients and their families as they would a beloved family member. NWH's compassionate and talented physicians, nurses, and staff and multiple centers of excellence contribute to their nationally-recognized quality health care.

## Summary of Previous Community Health Needs Assessment

In 2015, Newton-Wellesley Hospital completed a community health needs assessment (CHNA) of its primary service area (Natick, Needham, Newton, Waltham, Wellesley, and Weston) using a participatory, collaborative approach that examined health in its broadest context. The purpose of this CHNA was to provide an empirical foundation for future health planning of communities served by NWH. The 2015 CHNA also fulfilled the community health needs assessment mandate for non-profit institutions as put forth by the MA Attorney General and the IRS. The assessment process included synthesizing existing data on social, economic, and health indicators, as well as conducting five focus groups and twelve interviews with a range of diverse individuals to identify the perceived health needs of the community, challenges to addressing these needs, current strengths and assets, and opportunities for action. The 2015 assessment identified the following needs: cost of living and transportation, Waltham, and behavioral health. Previously collected information on these health issues, as well as community assets and resources, may be found in the 2015 assessment report available NWH's website:
https://www.nwh.org/media/file/NWH%20Draft%20CHNA%20Report_1%2021%2015%20TM%20FINAL.pdf

## Review of Initiatives

Based on the results of its 2015 CHNA process, NWH developed a plan to address the following priority areas: mental health, elder care, Waltham, access to care/transportation, and substance abuse. The 2016 plan is available on NWH's website:
https://www.nwh.org/media/file/Implementation%20Plan%202016.pdf. Since the 2015 CHNA, NWH has provided a variety of services and programming to address the identified key needs and issues (see Appendix A).

NWH included five priority areas in its 2016 implementation plan to address the needs of its service area and the table in Appendix A reviews the impact of that work. It is organized by priority area and includes a description of activities, services, and programs. The impact of these activities in FY2015, 2016, and 2017 is demonstrated by numbers of individuals served, services provided, and goals achieved.

## Purpose and Scope of 2018 CHNA

The purpose of the 2018 NWH CHNA was to build upon the 2015 CHNA and provide a comprehensive portrait of the service area's health, assets, and needs to inform future planning processes and to fulfill IRS requirements. The 2018 CHNA provides an update on the social, economic, and health patterns reported in the 2015 CHNA. Additionally, the 2018 report includes a focus on the cancer continuum, including cancer prevention and screening. NWH contracted Health Resources in Action (HRiA), a non-profit public health organization in Boston, MA, to collect and analyze data to develop the CHNA report.

The 2018 NWH community health needs assessment was conducted to fill several overarching goals, specifically to:

- Identify and provide an update on the health needs and assets of the Newton-Wellesley service area
- Identify the Newton-Wellesley service area community needs for cancer prevention and screening
- Understand how outreach activities can be more effectively coordinated and delivered across the institution and in collaboration with community partners

This report discusses the findings from the 2018 CHNA, which was conducted from January to June 2018.

### Definition of the Community Served

The 2018 NWH CHNA focused on the six cities and towns that comprise the Hospital's primary service area. These communities are Natick, Needham, Newton, Waltham, Wellesley, and Weston. While the CHNA process aimed to examine health concerns across the entire service area, there was a particular focus on identifying the needs of the most underserved population groups of the area and delving into the topical areas that arose during the previous CHNA.

# PROCESS AND METHODS

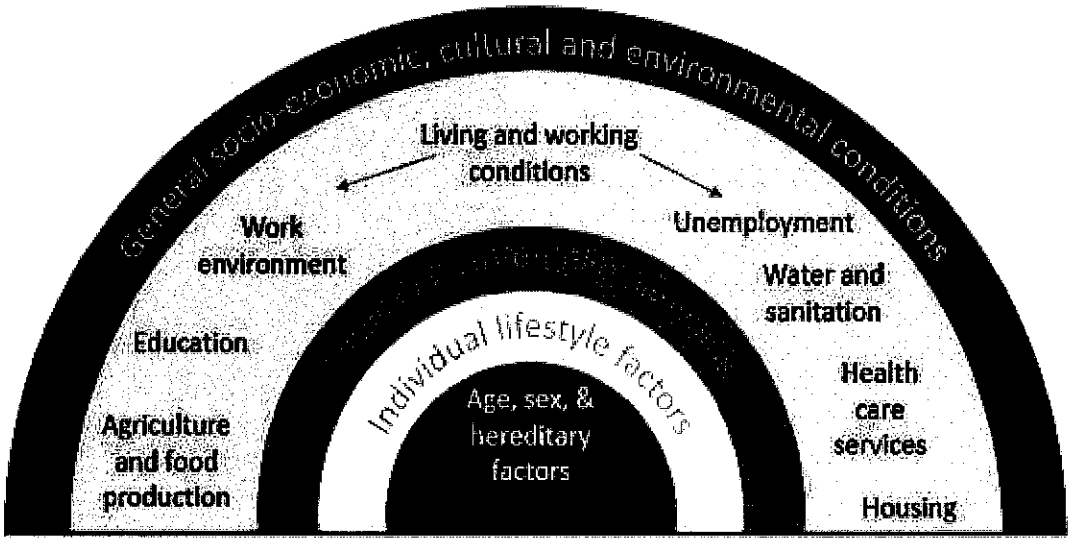
The following section describes how data for 2018 CHNA were collected and analyzed. This section also provides an overview of the health framework that guided this assessment process. This CHNA conceptualizes health in the broadest sense and recognizes that factors at multiple levels shape the community's health. These include, for example, lifestyle behaviors (e.g., physical activity and smoking), clinical care (e.g., access to medical services), social and economic factors (e.g., employment opportunities), and the physical environment (e.g., access to healthy food).

## Approach and Community Engagement Process

### Social Determinants of Health Framework

Figure 1, below, provides a visual depiction of the multiple factors that shape health. Individual lifestyle factors, located closest to health outcomes, are influenced by upstream social and economic factors such as housing, educational opportunities, and occupational factors. The beginning of the CHNA describes many of these social and economic factors, and reviews key health outcomes among residents of the Newton-Wellesley Hospital service area.

**Figure 1. Social Determinants of Health Framework**




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

Community Benefits Committee Engagement

The NWH Community Benefits Committee provided strategic oversight of the CHNA process. This committee is comprised of 40 members representing community stakeholders in the hospital service area and Newton-Wellesley Hospital staff and administrators involved in strategic planning and community benefits efforts. A list of members can be found in Appendix B. The committee provided guidance on each component of the assessment, including the CHNA methodology, recommendation of secondary data sources, and identification of key informants and focus group segments.

## Quantitative Data: Reviewing Existing Secondary Data

Secondary data provide information about social and economic indicators, as well as health behaviors and health outcomes along the cancer continuum, specifically prevention and screening. When possible, this CHNA compared indicators from the 2015 CHNA to most recent data for the NWH service area. Data sources included: the U.S. Census Bureau, American Community Surveys, County Health Rankings, the Massachusetts Behavioral Risk Factor Surveillance System (BRFSS), the Massachusetts Department of Public Health, MetroWest Health Foundation, the Massachusetts Department of Elementary and Secondary Education, and the Federal Bureau of Investigation.

## Qualitative Data: Focus Groups and Interviews

Focus Groups

In May 2018, six focus groups were conducted with 44 individuals from across the NWH service area. Focus groups were conducted with representatives of priority populations or sectors, including: faith-based community members, Haitian-creole speaking population, domestic violence frontline staff, school nurses, affordable housing residents, and Council on Aging staff. Focus group participant demographic characteristics can be found in Appendix C. While all NWH service area cities/towns were

represented in focus groups, focus group participants most often resided in Newton or Waltham (34.1% and 36.4%, respectively). The majority of participants were female (86.4%) and 45 years or older (77.3%). Almost half of participants self-identified as Black or African American (45.5%), followed by about a third of participants who self-identified as White (34.1%). Three-fourths of participants had at least some college education (75%).

Focus group discussions explored participants' perceptions of the community, priority health concerns, and suggestions for future programming and services to address these issues. A semi-structured moderator's guide was used across all focus groups to ensure consistency in the topics covered. The moderator's guide was translated to Haitian-Creole for one focus group. Each focus group was facilitated by a trained moderator, and detailed notes were taken during each discussion. On average, focus groups lasted 90 minutes and included 5-10 participants. As an incentive, focus group participants received a $30 stipend to compensate them for their time. (5ee Appendix D for a list of participating organizations).

### Key Informant Interviews

In April 2018, HRiA conducted eight interviews with community stakeholders to gauge their perceptions of the community, health concerns, and what programming, services, or initiatives are most needed to address these concerns. Interviews were conducted by phone with eight individuals representing a range of sectors including education, social services, and health care, among others (See Appendix D for a list of participating organizations). A semi-structured interview guide was used across all discussions to ensure consistency in the topics covered. Each interview was facilitated by a trained moderator, and detailed notes were taken during conversations. On average, interviews lasted approximately 30-60 minutes.

### Qualitative Analyses

The collected qualitative information was manually coded and then analyzed thematically for main categories and sub-themes. Data analysts identified key themes that emerged across all groups and interviews as well as the unique issues that were noted for specific populations. Frequency and intensity of discussions on a specific topic were key indicators used for extracting main themes. While town differences are noted where appropriate, analyses emphasized findings common across the NWH service area. Selected paraphrased quotes – without personal identifying information – are presented in the narrative of this report to further illustrate points within topic areas.

## Information Gaps

As with all assessment efforts, there are some information gaps related to the assessment methods that should be acknowledged. First, for quantitative (secondary) data sources, in several instances data for a given indicator could not be provided at the city/town level due to the small population size in the geographic region. Similarly, there were limited data available stratified by subgroup for the communities in the NWH service area. In many cases data were only available for Community Health Network Area 18 (CHNA 18), county or state level. CHNA 18 is a large geographic area comprised of Needham, Newton, Wellesley, Weston, and also includes Brookline and Dover, towns that are not part of NWH's primary service area. Middlesex County includes Natick, Newton, Waltham, and Wellesley; Norfolk County includes Needham and Wellesley. Additionally, several updated health outcomes for cities/towns in service area were not available because they are either no longer collected and or reported by the data source.

While examining data across multiple time points provides important information about health patterns over time, there were some indicators for which data may not have been available for the same geographic unit (e.g., county vs. community health network area 18; longitudinal data were not available for all towns) across multiple time points. There were also a few indicators that changed slightly since the 2015 CHNA. Accordingly, direct comparisons across time points should be interpreted conservatively or with caution. For example, the indicator of poor mental health for adults shifted from 15+ days of poor mental health in the past month to 14+ days of poor mental health. One indicator changed significantly in recent years, challenging the assessment of time trends. For example, in recent years there has been a shift in eligibility criteria for free/reduced lunch program participation, from assessments of an individual student's eligibility to determination of a school or school district's eligibility for free/reduced lunch for all students. In response, surveillance data have shifted from observing the percent of students needing free/reduced lunch to the percent of students experiencing economic disadvantage, as assessed by participation in state-based socioeconomic, nutritional, and health care services. Similarly, some data regarding patterns for middle school students were focused on different grade levels over time or across assessment communities (e.g., Grades 6-8 vs. Grades 7-8). Also, for students, data were not always available for the same year. Footnotes indicate any differences in the population or time period of focus across assessment communities.

Data based on self-reports should be interpreted with particular caution. In some instances, respondents may over- or underreport behaviors and illnesses based on fear of social stigma or misunderstanding the question being asked. In addition, respondents may be prone to recall bias—that is, they may attempt to answer accurately but remember incorrectly. In some surveys, reporting and recall bias may differ according to a risk factor or health outcome of interest. Despite these limitations, most of the self-report surveys analyzed in this CHNA benefit from large sample sizes and repeated administrations, enabling comparison over time.

Additionally, while the focus groups and interviews conducted for this CHNA provide valuable insights, results are not statistically representative of a larger population due to non-random recruiting techniques and a small sample size. Recruitment for focus groups was conducted by community organizations and participants were those individuals already involved in community programming. Because of this, it is possible that the responses received only provide one perspective of the issues discussed. Lastly, it is important to note that data were collected at one point in time, so findings, while directional and descriptive, should not be interpreted as definitive.

# FINDINGS

## Community Social and Economic Context

The health of a community is linked with numerous factors, including the resources and services that are available (e.g., access to healthy foods, transportation), and who lives in the community. The following section provides an overview of the population of the Newton-Wellesley Hospital service area. The demographics of a community are connected to the health behaviors and outcomes of that area. Age, race, and ethnicity are important factors that influence an individual's health, and the distribution of these characteristics in a community may shape the number and type of services and resources available.

### Demographic Characteristics

*Populatian*

As shown in Table 1, cities/towns in the NWH service area range widely in size, from 88,317 residents in Newton and 62,699 residents in Waltham, to 28,909 residents in Wellesley and 11,946 residents in Weston in 2012-2016. In interviews and focus groups, population growth was a common theme. As one focus group participant stated, *"they are building anywhere they can."* Quantitative data show that all of the cities/towns in the NWH service area experienced total population growth between 2000 and 2016. During this time period, the towns of Natick (10.0%) and Wellesley (8.6%) experienced a higher percent change in population than the state's overall population increase (6.2%), and that for Middlesex (7.0%) and Norfolk (6.3%) Counties. Compared to the 2015 CHNA, the percent change in the population from 2000 to 2016 was at least double the percent change in population from 2000 to 2012 across cities/towns in the NWH service area. The towns of Needham (0.3% to 4.3%) and Weston (-0.3% to 4.2%) experienced the greatest proportional increase in the percent growth of the population over this period, whereas population growth in Waltham increased from 2.6% from 2000 to 2012 to 5.9% population growth from 2000 to 2016 (data not shown).

**Table 1: Total Population by State, County, and City/Town, 2000, 2012-2016**

| Geography | 2000 | 2016 | % Change |
|---|---|---|---|
| Massachusetts | 6,349,097 | 6,742,143 | 6.2% |
| Middlesex County | 1,465,396 | 1,567,610 | 7.0% |
| Norfolk County | 650,308 | 691,218 | 6.3% |
| Natick | 32,170 | 35,385 | 10.0% |
| Needham | 28,911 | 30,167 | 4.3% |
| Newton | 83,829 | 88,317 | 5.4% |
| Waltham | 59,226 | 62,699 | 5.9% |
| Wellesley | 26,613 | 28,909 | 8.6% |
| Weston | 11,469 | 11,946 | 4.2% |

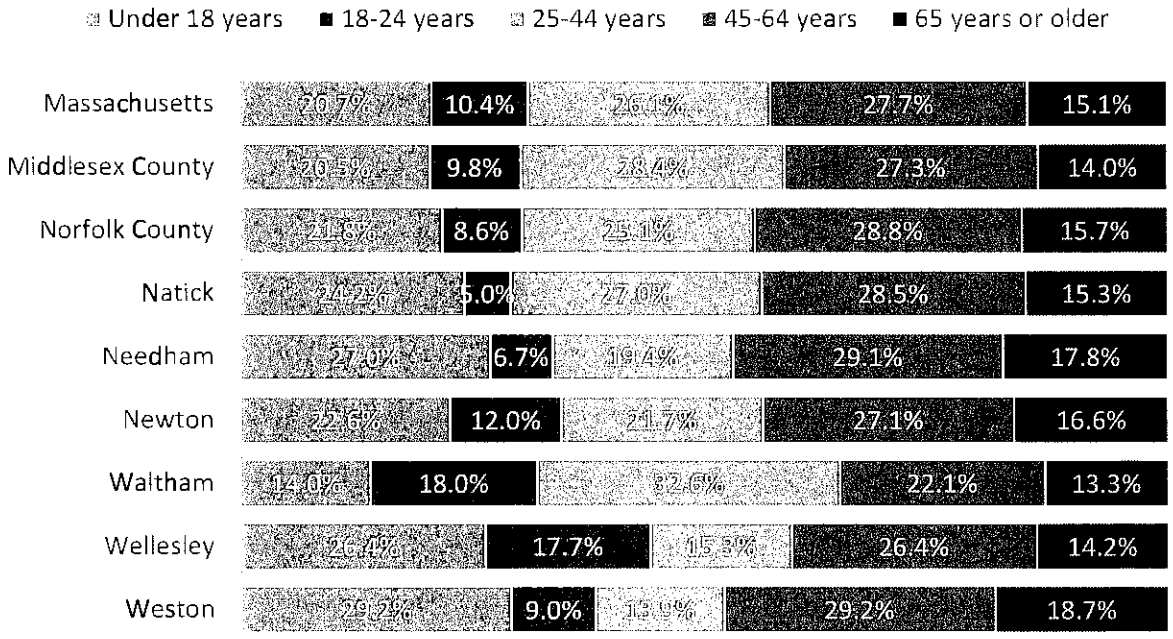
DATA SOURCE: U.S. Census Bureau, 2000 Census; and U.S. Census Bureau, American Community Survey 5-Year Estimates, 2012-2016.

*Age Distribution*

Similar to the 2015 CHNA, in 2012-2016, with the exception of Waltham (14.0%), all of the towns in the NWH service area had a higher percent of children under 18 years of age compared to the state (20.7%) (Figure 2). The proportion of residents 18-24 years of age in the towns of Waltham (18.0%) and Wellesley (17.7%) was nearly double that for Massachusetts (10.4%). The towns of Weston (18.7%), Needham (17.8%), Newton (16.6%), and Natick (15.3%) had a larger proportion of residents age 65 or over relative to the state (15.1%). These patterns generally reflect the age distribution across cities/towns in the NWH service area reported in the 2015 CHNA (data not shown).

In discussing the age of residents of the assessment communities, focus group participants and interviewees described the population served by NWH as a mix, with aging adults, young families, and middle age persons. Participants reported that Newton had a higher portion of elderly residents, while Waltham was described as younger, in part due to newcomers from other countries.

**Figure 2: Age Distribution by State, County, and City/Town, 2012-2016**




DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2012-2016

*Racial and Ethnic Diversity*

> *"Waltham is truly a melting pot. It's made up of a vast variety of people from different cultures and different income and a lot of different issues."* —Interview Participant

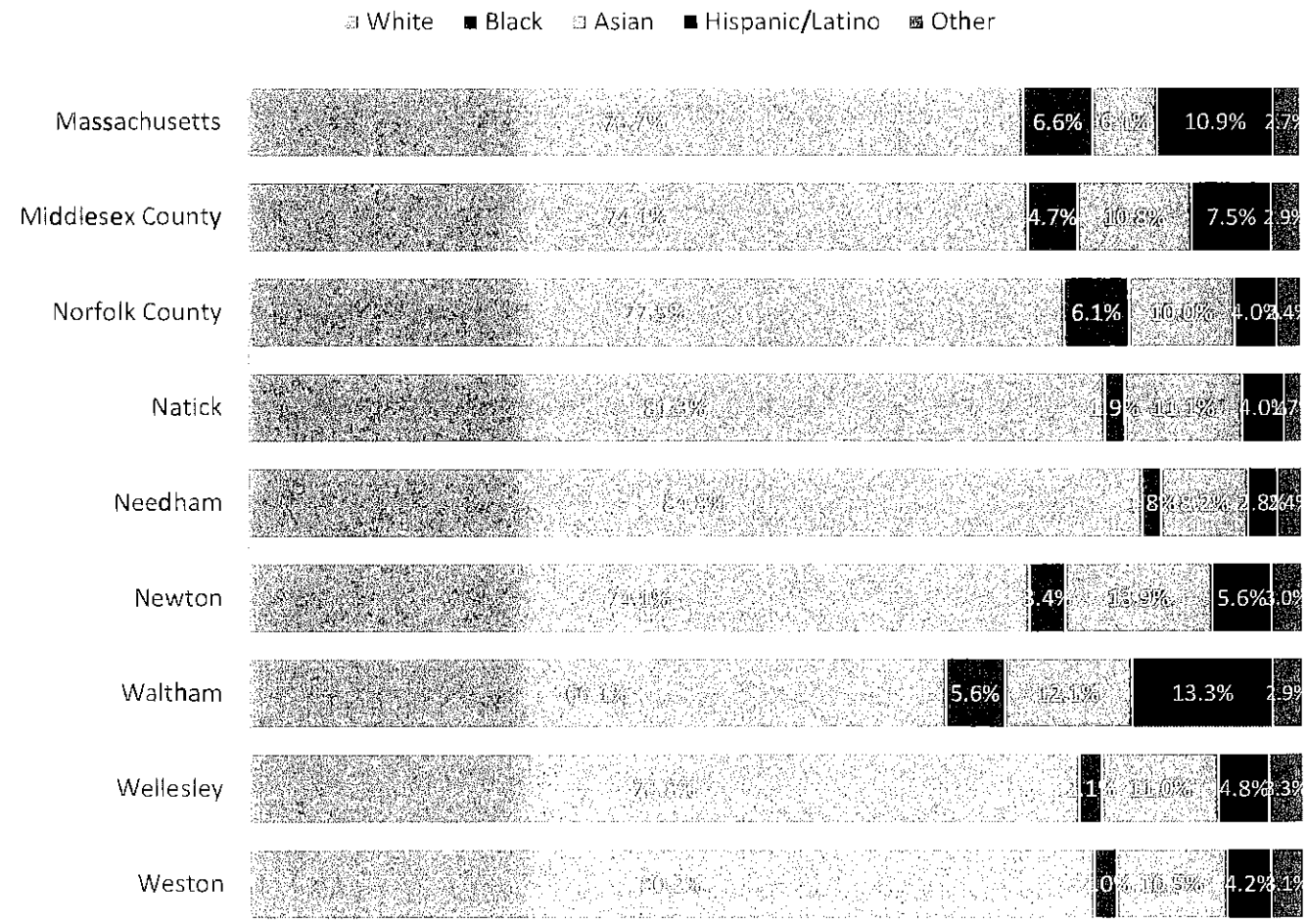
> *"This is a big, multicultural city."* —Focus Group Participant

The diversity of the area was a characteristic named in almost every interview and focus group. Residents described a richness of ethnic markets, restaurants, and cultural events in their communities. Communities differed in the cultural backgrounds of their residents. Weston and Wellesley were described as having a significant Asian population. Waltham was considered the most diverse

community in the NWH service area with a predominantly Spanish-speaking population but also an influx of new groups including a growing number of residents from Uganda. As one interviewee stated about Waltham, *"the community prides itself of its immigrant history. It is already seasoned to newcomers, new languages, and building onto existing culture."*

Since the 2015 CHNA, the racial/ethnic composition of NWH's service area has remained similar. As shown in Figure 3, in 2012-2016 Waltham had the highest percent of Black (5.6%) and Hispanic/Latino (13.3%) residents in the NWH service area, relatively similar to the proportion of Black (6.6%) and Hispanic/Latino (10.9%) residents for Massachusetts overall. The towns of Needham (84.8%), Natick (81.3%), Weston (80.2%), and Wellesley (78.8%) had a higher proportion of White residents than the average for the state (73.7%) in 2012-2016. Newton had the highest proportion of Asian (13.9%) residents in 2012-2016, similar to the 2015 CHNA. In 2012-2016, Wellesley had the highest percent of residents who identified as an "Other" racial/ethnic group (3.3%), whereas in the 2015 CHNA Waltham had the highest proportion of residents (5.4%) who identified as an "Other" racial/ethnic group (data not shown).

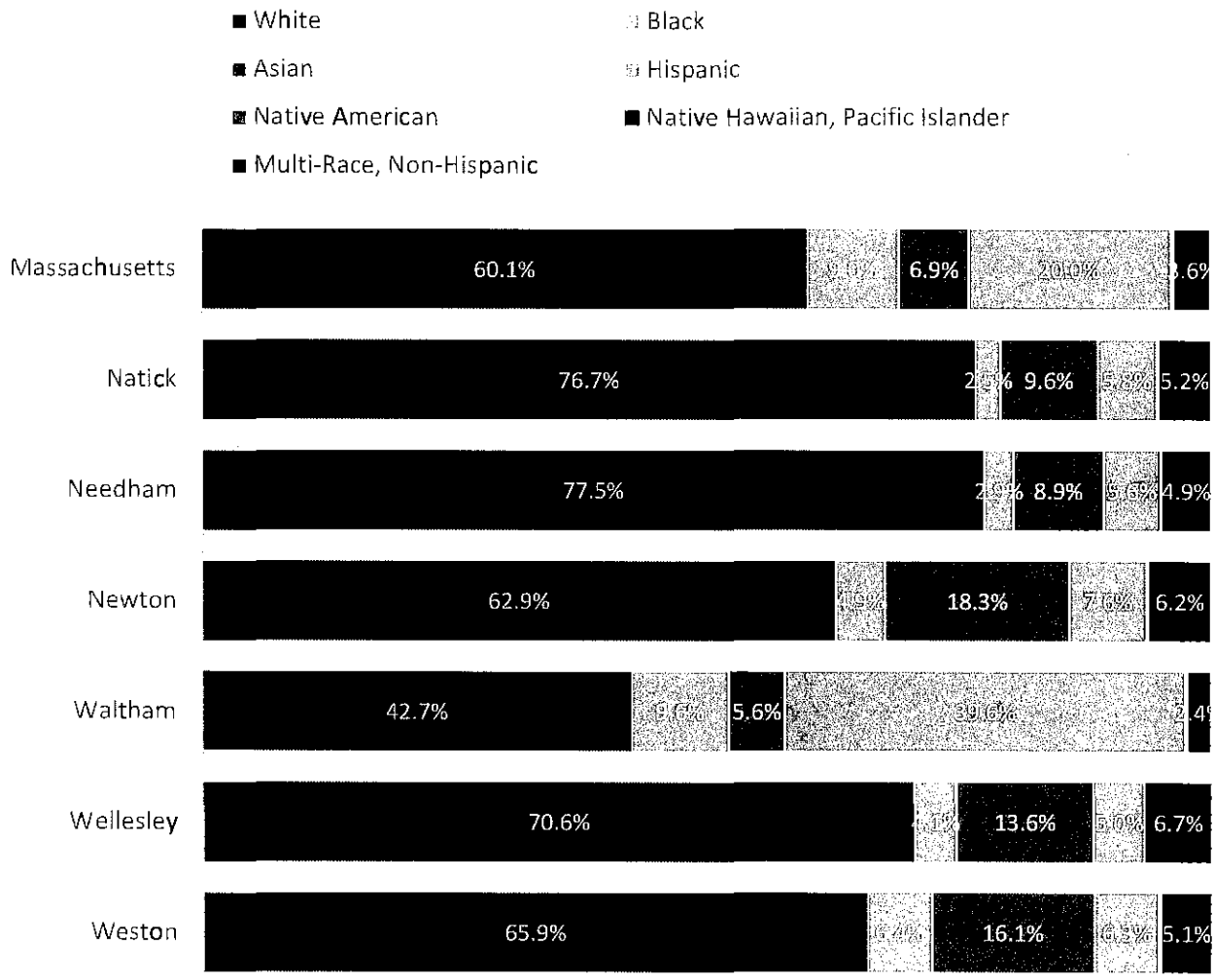
**Figure 3: Racial/Ethnic Composition by State, County, and City/Town, 2012-2016**




DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2012-2016

In 2017-2018, 57.4% of Waltham School District students represented racial/ethnic minority groups, reflecting greater racial/ethnic diversity than public school districts across Massachusetts (39.8%) (Figure 4). Waltham School District had double the proportion of Hispanic (39.6%) students enrolled than the state (20.0%), and a similar proportion of Black students (9.6%) as Massachusetts (9.0%). With the exception of Waltham (5.6%), the cities/towns in the NWH service area had a higher proportion of Asian students than the state (6.9%), with Newton (18.3%) and Weston (16.1%) having the highest percent of Asian students. Compared to the state overall (3.6%), with the exception of Waltham, cities/towns across the NWH service area had a higher proportion of students who identified as multi-racial.

**Figure 4: Racial Composition of Public School District Student Enrollment, by State and City/Town, 2017-2018**

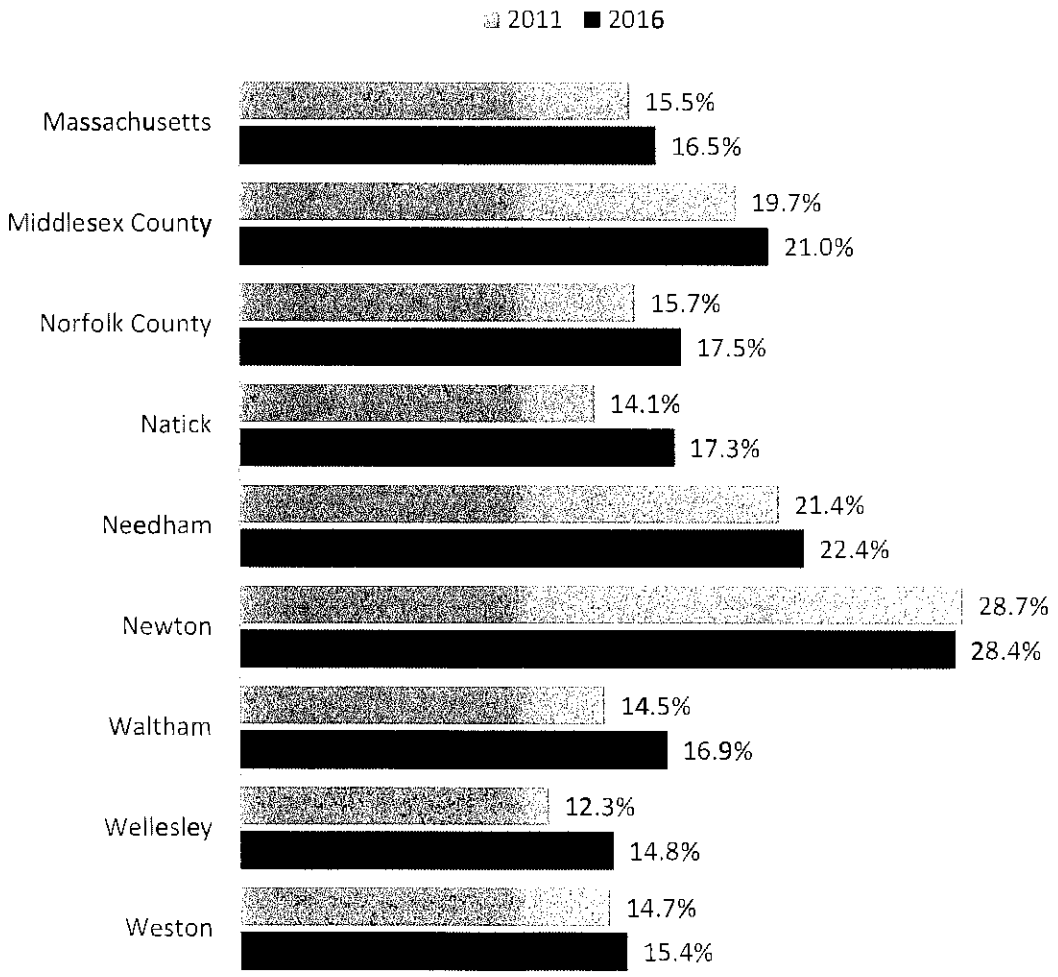



DATA SOURCE: School and District Profiles, Massachusetts Department of Elementary and Secondary Education, 2017-2018

As illustrated in Figure 5, from 2007-2011 to 2012-2016, with the exception of Newton, all towns experienced an increase in the immigrant population. In 2012-2016, the towns of Newton (28.4%), Needham (22.4%), Natick (17.3%), and Waltham (16.9%) had a higher percent of residents born outside of the US than the state (16.5%), while in 2007-2011 only Newton (28.7%) and Needham (21.4%) had a higher percent of immigrant residents than the state (15.5%).

While participants praised the vitality of their communities and saw diversity as a substantial asset, they also reported challenges in meeting the needs of all its residents, especially as newer groups come to the area. For example, they noted that schools have a large number of English language learners and their needs are sometimes difficult to adequately meet. While not mentioned as a prominent issue for the community, a couple of participants observed that racial tensions also exist.

**Figure 5: Percent of the Population 5 Years and Over Born Outside of the US by State, County, and City/Town, 2007-2011 and 2012-2016**

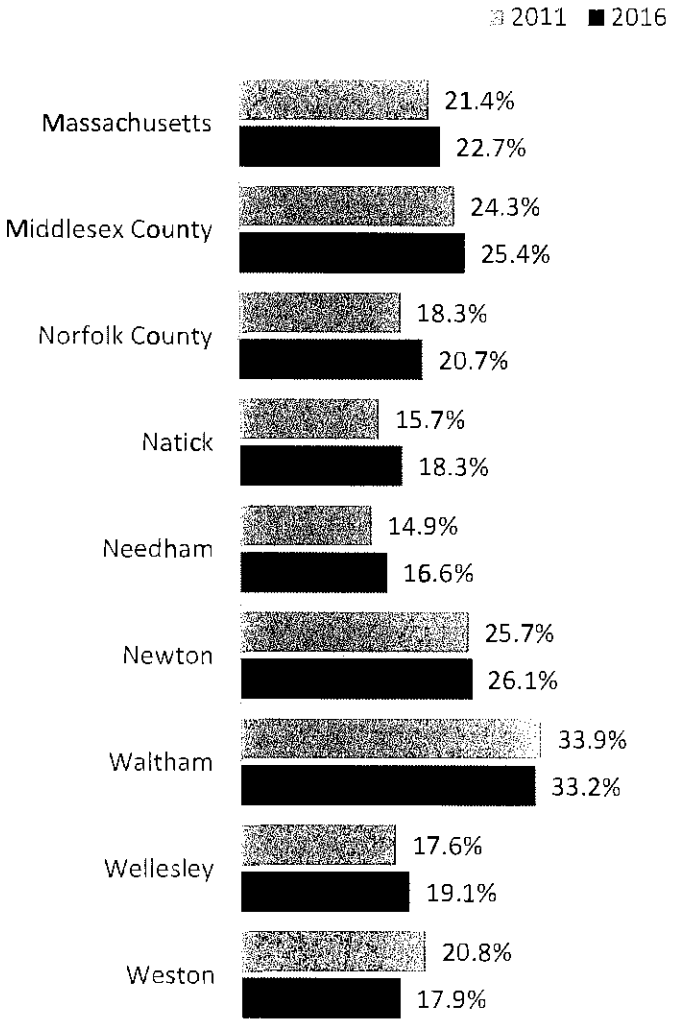



DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2007-2011 and 2012-2016

*Language*

In 2012-2016, more than a quarter of residents 5 years of age and older in Waltham (33.2%) and Newton (26.1%) spoke a language other than English at home, a percent that exceeded that for the state (22.7%) (Figure 6). From 2007-2011 to 2012-2016, with the exception of Waltham and Weston, cities/towns across the NWH service area experienced a slight increase in the percent of residents who spoke a language other than English at home, similar to patterns across Massachusetts and for Middlesex and Norfolk Counties.

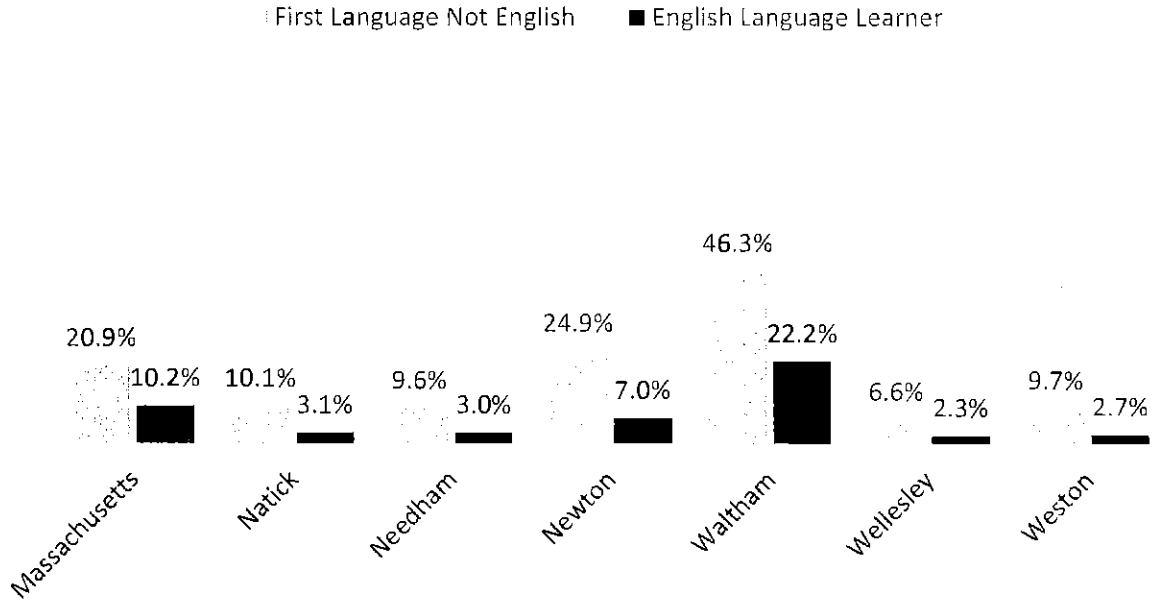
**Figure 6: Percent of Population Over 5 Years Who Speak Language Other than English by State, County, City/Town, 2007-2011 and 2012-2016**




DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2007-2011 and 2012-2016

In 2017-2018, Waltham (46.3% and 22.2%, respectively) had more than double the percent of public school district students whose first language was not English or who were English language learners compared to the state (20.9% and 10.2%, respectively) (Figure 7). Additionally, English was not the first language for one-quarter (24.9%) of Newton public school district students.

**Figure 7: Percent of Public School District Students whose First Language is Not English and who are English Language Learners by State and City/Town, 2017-2018**



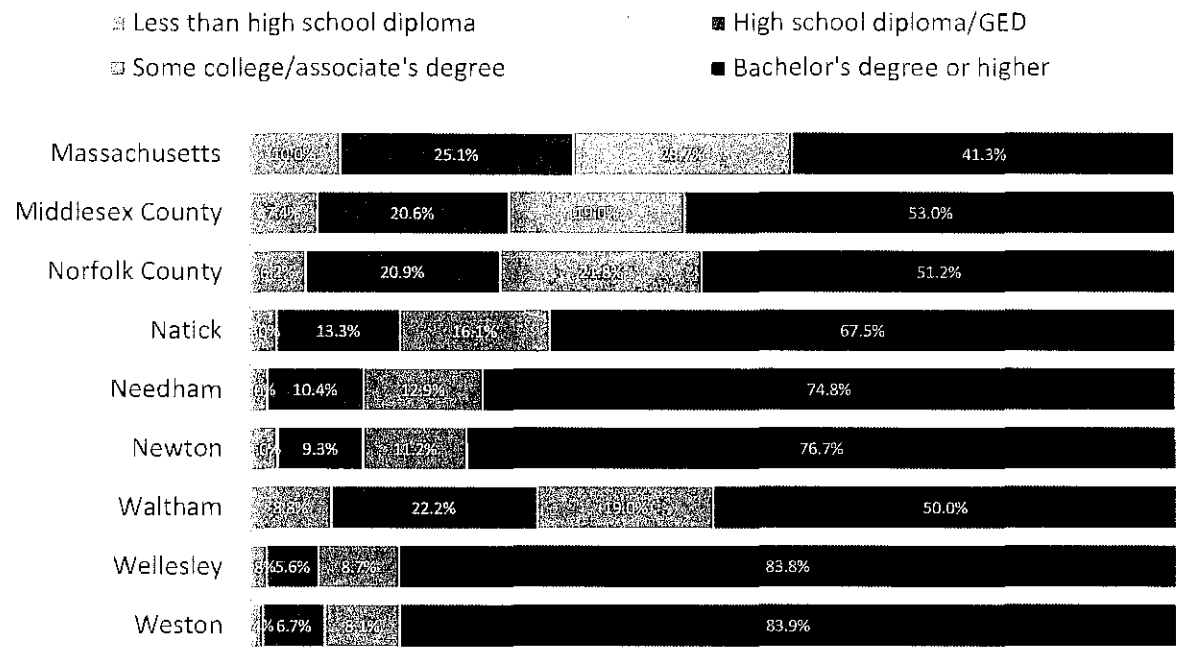

DATA SOURCE: School and District Profiles, Massachusetts Department of Elementary and Secondary Education, 2017-2018

*Education*

> *"[We have a] great education system here."* —Focus Group Participant
>
> *"We have a large influx of young adolescents from Latin America. They don't speak any English and are not staying within the school system. We are grappling with this."* —Interview Participant

The high quality of the area's school system was mentioned in most focus groups and interviews and was described as one of the primary reasons for living in the assessment community. Similar to the 2015 CHNA, quantitative data indicate the six cities/towns in the NWH service area are very well educated (Figure 8). Compared to the state, a higher proportion of adults aged 25 and older have earned a Bachelor's Degree or higher in all six assessment communities. Weston (83.9%) and Wellesley (83.8%) had the highest percent of residents who have earned a Bachelor's degree or higher. Waltham (8.8%) had the highest percent of residents who had less than a high school diploma. Of note, the proportion of Waltham adults 25 years of age and older with less than a high school education decreased from 10.7% in 2007-2011 to 8.8% in 2012-2016.

**Figure 8: Educational Attainment of Adults Aged 25 Years and Older, by State, County, and City/Town, 2012-2016**

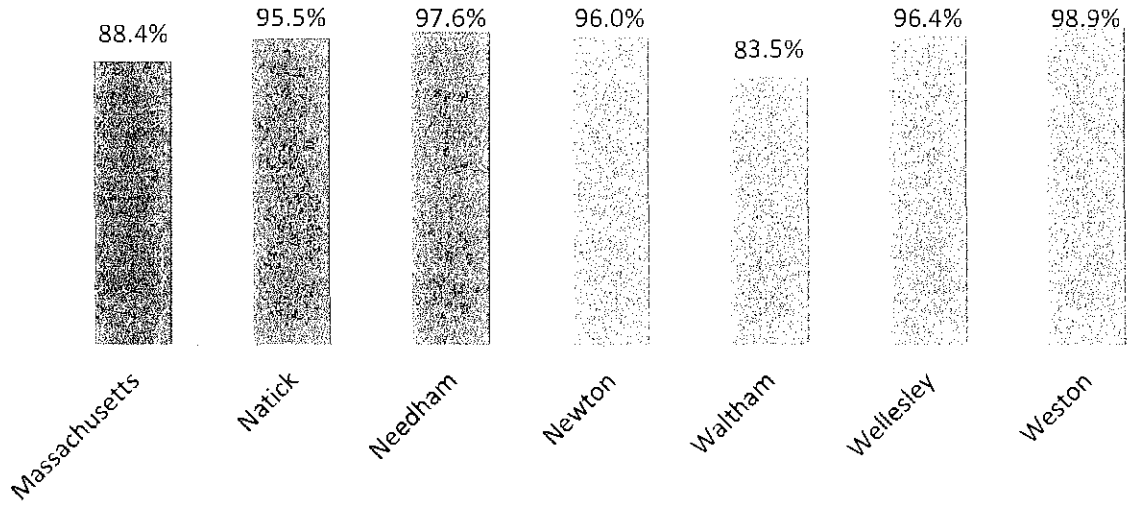



DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2012-2016

In 2017, Waltham (83.5%) had the lowest percent of students who graduated from high school within four years, below the state average (88.4%) (Figure 9). Among the other five towns in the NWH service area, at least 95% of high school students graduated within four years, higher than the percent for the state (88.4%).

Meeting the needs of a diverse student body was a challenge mentioned by many participants. They noted that English language learners, who often face pressure to support their families economically, are more likely to drop out of school. Language barriers were described as creating additional challenges to engaging students' families. Finally, according to participants, issues related to trauma and the current political climate for undocumented residents placed additional burdens on schools to provide enough support. Additionally, one person stated that a concern in the community is teen mothers tending not to come back to school after giving birth.

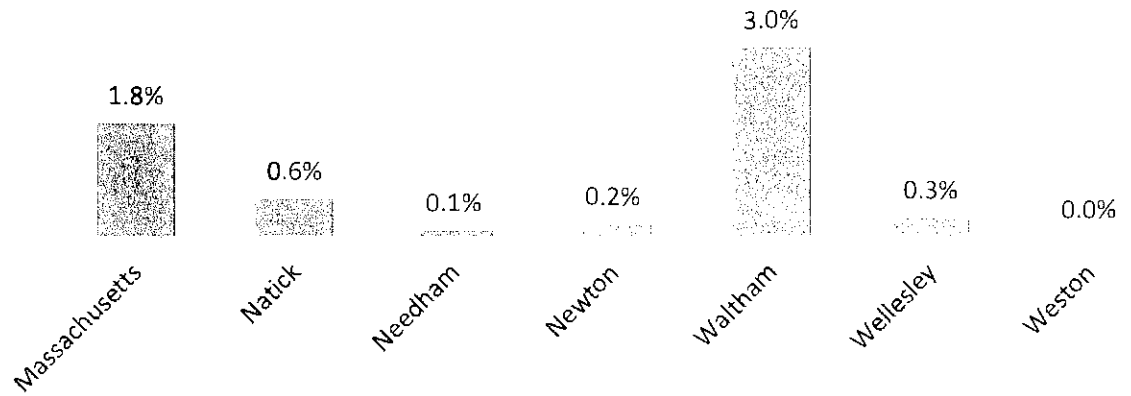
**Figure 9: Percent of Public School District High School Students Who Graduate in Four Years, by State and City/Town, 2017**




DATA SOURCE: School and District Profiles, Massachusetts Department of Elementary and Secondary Education, 2017

As shown in Figure 10, the proportion of Waltham public school district students who dropped out of high school (3.0%) was nearly double that of the state (1.8%) in 2017.

**Figure 10: Percent of Public School District High School Students who Dropped Out, by State and City/Town, 2016-2017**



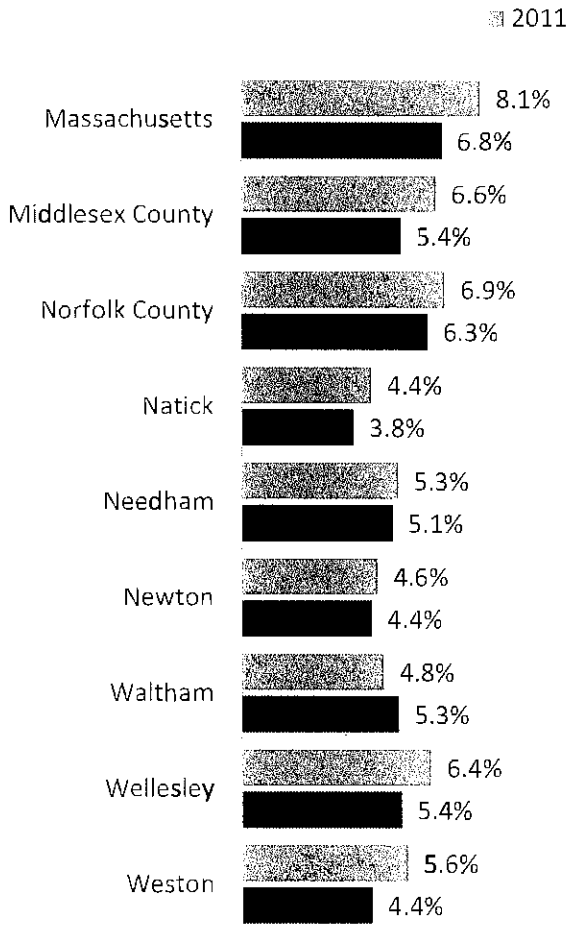

DATA SOURCE: School and District Profiles, Massachusetts Department of Elementary and Secondary Education, 2017

*Employment*

As illustrated in Figure 11, from 2007-2011 to 2012-2016 trends suggest an increase in the percent of residents unemployed in Waltham (4.8% to 5.3%), while there was little change in the percent unemployed for Newton (4.6% to 4.4%) and Needham (5.3% to 5.1%). During this same period, the percent of residents who were unemployed decreased slightly for the state and for three of the six assessment communities: Natick, Wellesley, and Weston. In the 2015 CHNA, the towns of Wellesley, Weston, and Needham had the highest proportion of unemployed residents, and in 2012-2016, Wellesley, Waltham, and Needham had the highest unemployment rate across the NWH service area.

Few participants commented on employment in the area. The few who did discuss employment reported that jobs were available, including for lower income residents and students in the summer. However, the expense of childcare was identified as posing a challenge for some residents. As one focus group participant stated, *"sometimes you get a job but childcare is very expensive. It costs almost the same as salary."*

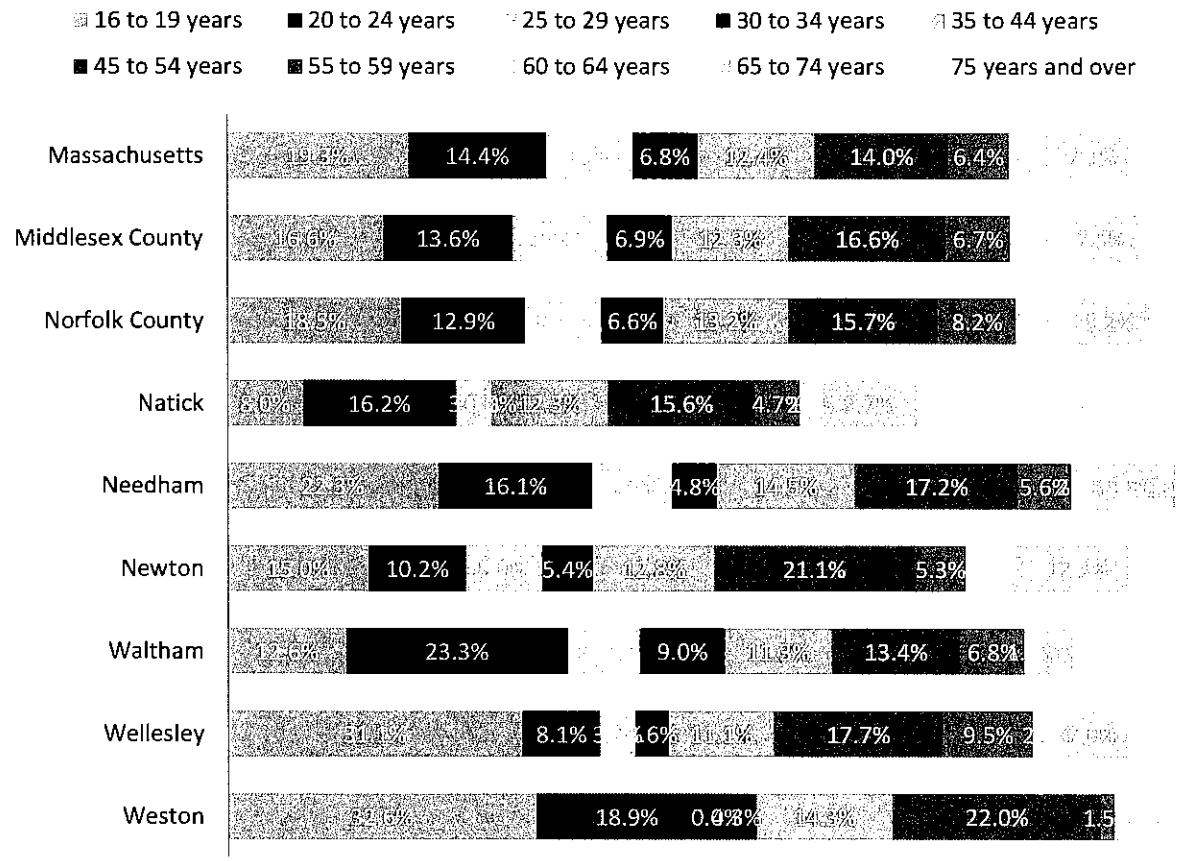
**Figure 11: Unemployment by State, County, and City/Town, 2007-2011 and 2012-2016**




DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2007-2011 and 2012-2016

Shown in Figure 12 is the age distribution of unemployed residents across each of the NWH service area communities. In Weston (32.6%), Wellesley (31.1%) and Needham (22.3%), a higher share of unemployed residents were 16-19 years of age. In 2012-2016, the largest unemployed age group among adults in cities and towns was generally residents 45-54 years of age, except for Natick (27.3% were 75+) and Waltham (23.3% were 20-24 years of age).

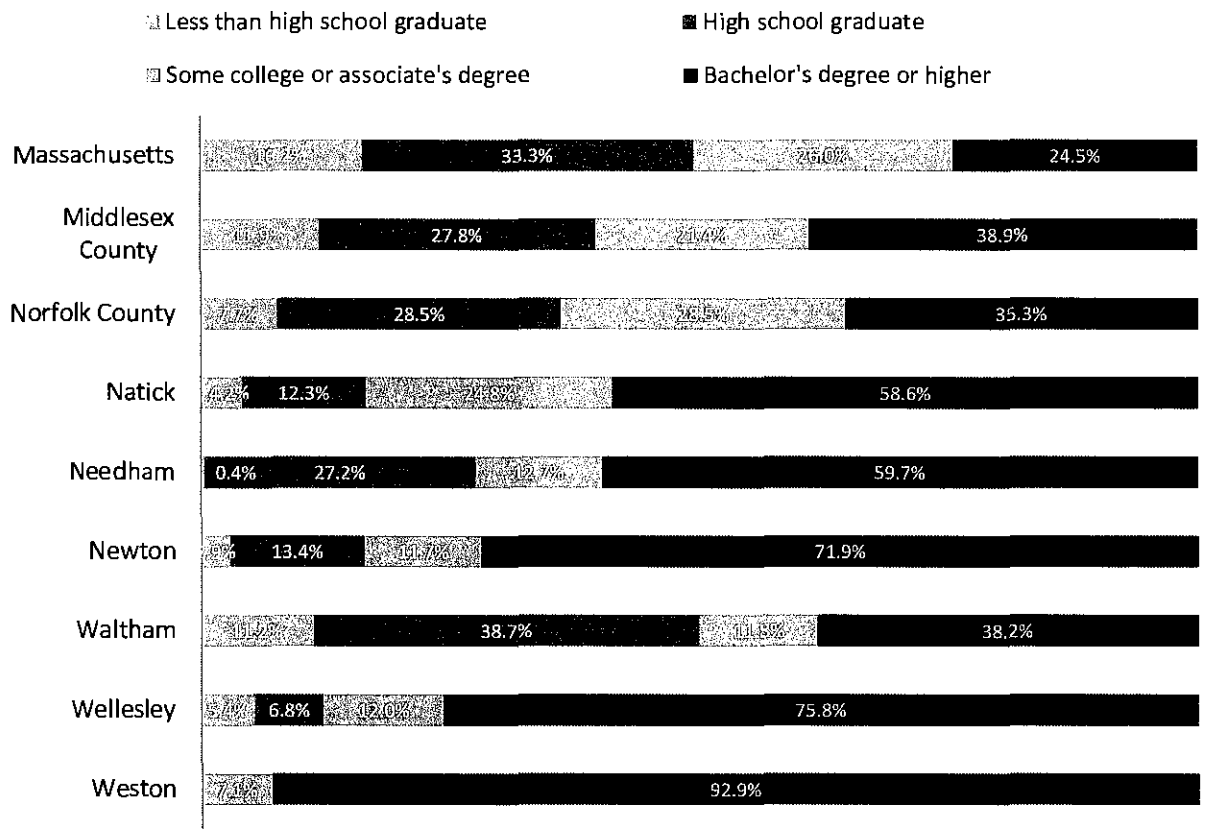
**Figure 12: Age Distribution of Unemployed Adults, by State, County, and City/Town, 2012-2016**




DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2012-2016
NOTE: Data are for persons 16 years of age or older.

The educational attainment of unemployed residents across each of the NWH service area communities in 2012-2016 is presented in Figure 13. In Waltham, 38.7% of unemployed residents were high school graduates, a prevalence that exceeded the other NWH assessment communities and Massachusetts overall (33.3%). With the exception of Waltham, across the majority of NWH service area towns, adults with a bachelor's degree or higher were more likely to be unemployed.

**Figure 13: Educational Attainment of Unemployed Residents, by State, County, City/Town, 2012-2016**




DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2012-2016
NOTE: Data are for persons 25-64 years of age.

## Income and Poverty

> *"We [Waltham] are economically diverse—there are more young professionals moving from Boston city-proper buying luxury condos while 30% of our student body are considered economically disadvantaged."* —Interview Participant

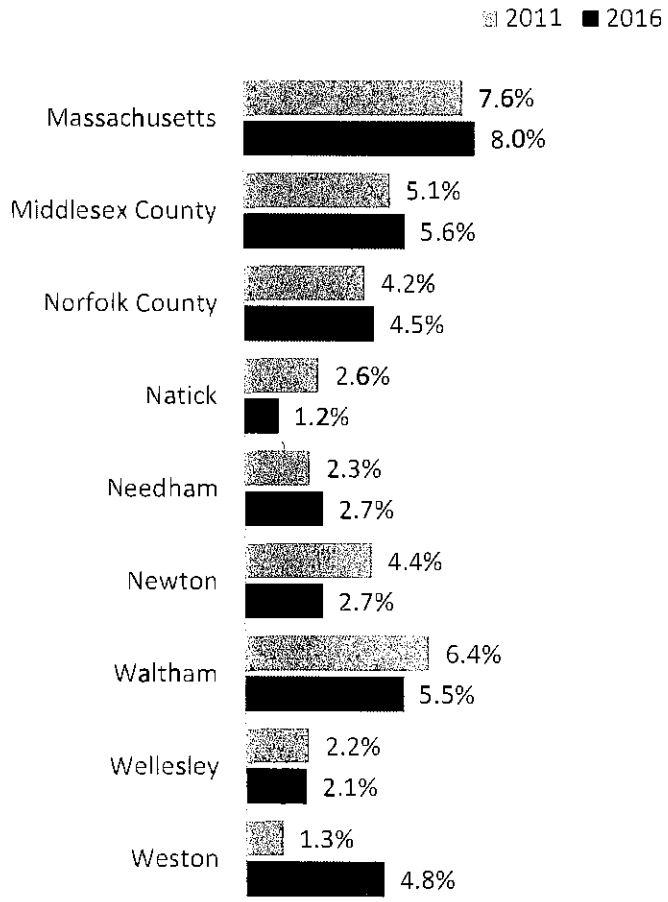
> *"There are persistent inequities in our community and schools."* —Interview Participant

Focus group participants and interviewees reported that the economic status of residents in the NWH service area varies by community. Residents living in Newton, Needham, and Wellesley were described as largely affluent, while Natick was described as more middle class to upper middle class. However, each of these communities was noted as having residents who struggle. Waltham was considered a

more blue-collar community, with many lower income residents and a large proportion of students receiving free or reduced lunch. Residents also highlighted economic diversity across Waltham, and an increase in young professionals. The high cost of living, including high taxes and housing costs, was reported to be a concern in the area, affecting the ability of families to meet basic needs, such as housing and healthcare.

In 2012-2016, Waltham (5.5%) and Weston (4.8%) had the highest percent of families living below the poverty level, though this prevalence was below that for the state (8.0%) (Figure 14). In 2007-2011, Waltham (6.4%) and Newton (4.4%) had the highest percent of families living in poverty among the six assessment communities. Of note, during 2007-2011 and 2012-2016 all six cities/town had a lower percent of families whose income in the past year was below the poverty level compared to the state.

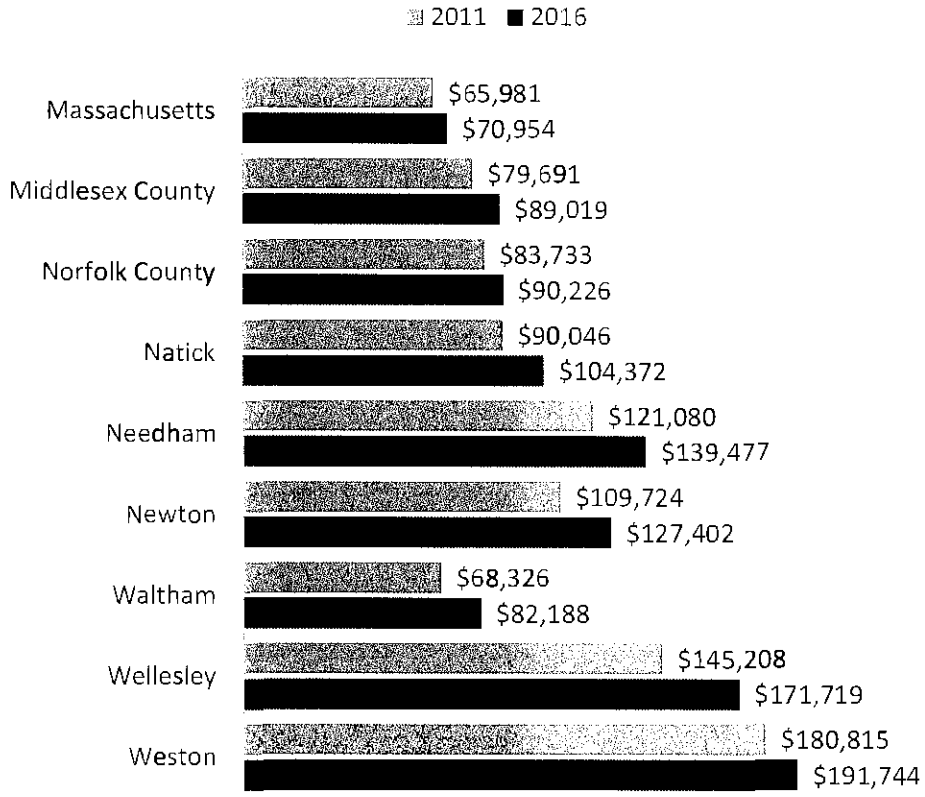
**Figure 14: Percent of Families whose Income in the Past 12 Months is Below Poverty Level by State, County, and City/Town, 2007-2011 and 2012-2016**




DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2007-2011 and 2012-2016

As shown in Figure 15, across the NWH service area towns, similar to the 2015 CHNA the median household income was lowest in Waltham in 2007-2011 ($68,326) and 2012-2016 ($82,188). The median household income increased across all six assessment communities from 2007-2011 to 2012-2016. The towns of Wellesley ($26,511), Needham ($18,397), and Newton ($17,678) experienced the greatest increase in median household income over this period. Of note, the increase in median household income for each NWH service area town was more than double the household income increase seen across Massachusetts and also exceeded patterns Middlesex and Norfolk Counties during this period.

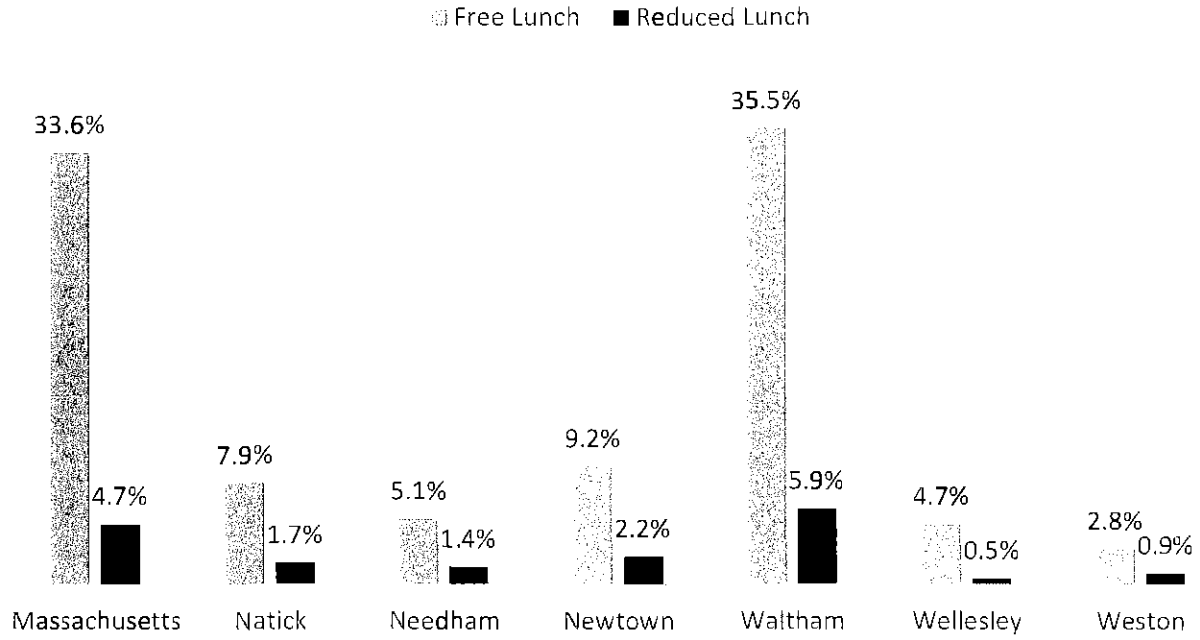
**Figure 15: Median Household Income by State, County, and City/Town 2007-2011 and 2012-2016**




DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2007-2011 and 2012-2016

As shown in Figure 16, across the NWH service area, participation in free and reduced lunch programs for public school district students was highest in Waltham (35.5% and 5.9%, respectively), a prevalence that exceeded Massachusetts overall (33.6% and 4.7%, respectively).

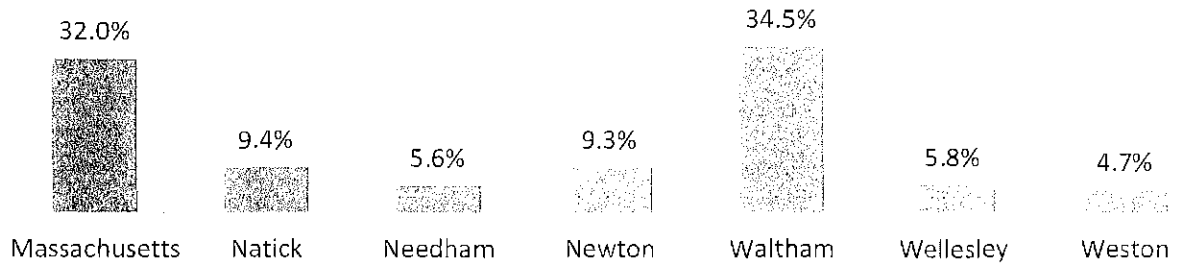
**Figure 16: Percent of Public School District Students Who Participated in Free and Reduced Lunch Programs, by State and City/Town, 2013-2014**




DATA SOURCE: Massachusetts Department of Elementary and Secondary Education, 2013-2014 (Selected populations)
NOTE: Since 2014, students in school districts and schools with a high concentration of low-income students are entitled to receive free meals under the school nutrition program. This shift in free and reduced lunch programs from focusing on individual students to schools and school districts eliminated the free and reduced lunch data for many school districts. In turn, the "economically disadvantaged" metric was developed so that consistent metrics could be used throughout the state.

Economic disadvantage among public school students is assessed by whether students participate in at least one of the following programs: Supplemental Nutrition Assistance Program (SNAP), Transitional Assistance for Families with Dependent Children (TAFDC); Department of Children and Families' (DCF) foster care program; and/or MassHealth (Medicaid). In 2017-2018, 34.5% of public school district students in Waltham met the criteria for being economically disadvantaged, a percent that slightly exceeded that for the state (32.0%) (Figure 17). Among the other assessment communities, the percent of the public school district students who were economically disadvantaged ranged from 4.7% in Weston to 9.4% in Natick.

**Figure 17: Percent of Public School District Students who are Economically Disadvantaged, by State and City/Town, 2017-2018**




DATA SOURCE: School and District Profiles, Massachusetts Department of Elementary and Secondary Education, 2017-2018

## Housing

> *"With how reol estate has sky rocketed, it's squeezing middle to low income people."* —Interview Participant
>
> *"Landlords are raising the rent – they get their money, but they don't know how many people live in the apartment – which is a safety concern."* —Interview Participant

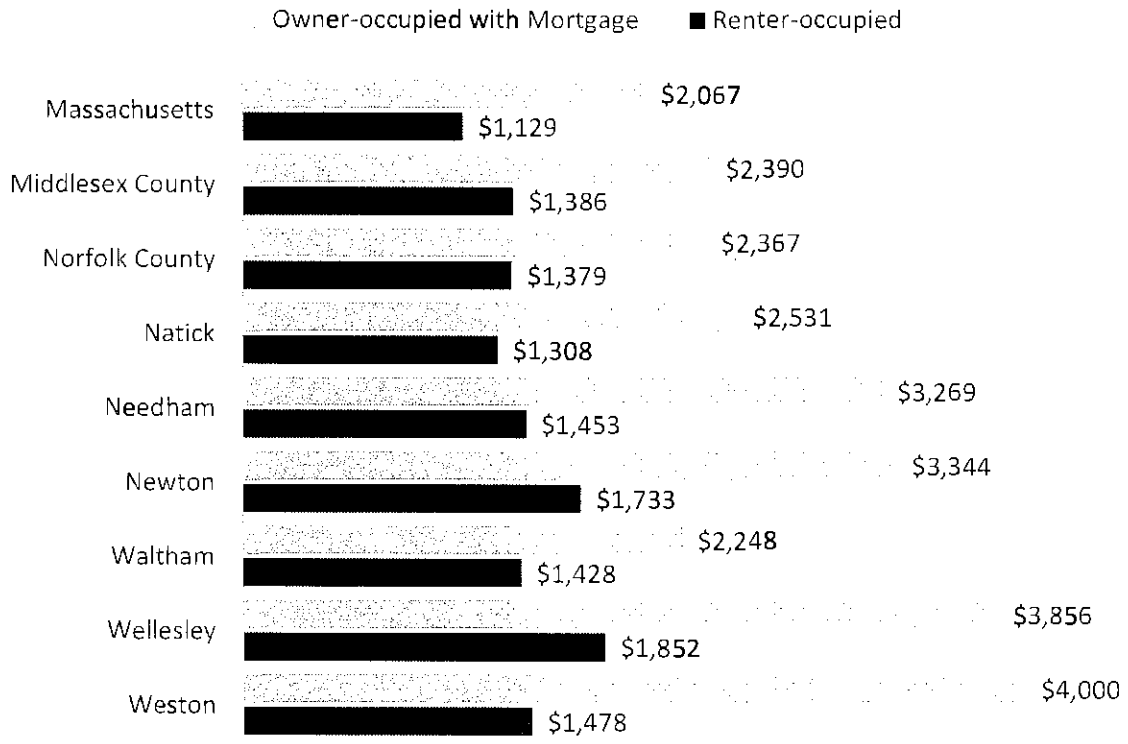
As in 2015 CHNA, the high cost of housing and changing housing dynamics in the community were reported to be challenges. Housing was a topic discussed in most interviews and focus groups. Residents spoke about rising rent, attributed in part to demand for housing from wealthier people who are moving to the area. According to participants, the residents of Waltham in particular continue to experience economic pressure as more expensive housing is built and people from more expensive surrounding towns are moving in, attracted by high quality schools and lower housing costs. Participants expressed concern about some lower income residents, including seniors, being able to remain in the community.

Lack of affordable housing in the area was a theme across focus groups and interviews. As one interviewee stated, *"a lot of building is going on in our communities, but they are very high-rent type places."* While more affordable housing options, including public housing, exist, participants shared the wait lists for these can be long. Additionally, according to several participants, affordable housing options are often not located close to public transportation, creating further challenges for lower income residents.

The housing challenges of seniors was a substantial topic of conversation, as it was in the 2015 CHNA. Participants from more affluent areas of the NWH service area expressed concern that they would not be able to remain in their communities if they downsized. As one focus group participant stated, *"seniors cannot afford market value."* Participants reported long wait lists for an apartment or home in an affordable senior living development. Recent policy changes, specifically restrictions on accessory apartments, have further constrained housing options for seniors, according to one participant.

In 2012-2016, of the six NWH service area towns, median monthly housing costs for owner-occupied units were lowest in Waltham ($2,248), though these housing costs exceeded the average across Massachusetts ($2,067) (Figure 18). The towns of Natick ($1,308) and Waltham ($1,428) had the lowest renter-occupied housing costs across the assessment communities, yet these costs were higher than the state average ($1,129). Monthly housing costs for renter-occupied units were highest in Wellesley ($1,852) and Newton ($1,733) and lowest in Natick ($1,308). Monthly mortgage costs were highest in Wellesley ($3,856) and Weston ($4,000). Similar to the 2015 CHNA, in 2012-2016 the median monthly housing costs in each of the six assessment communities exceeded those for the state for both owner-occupied and renter-occupied units.

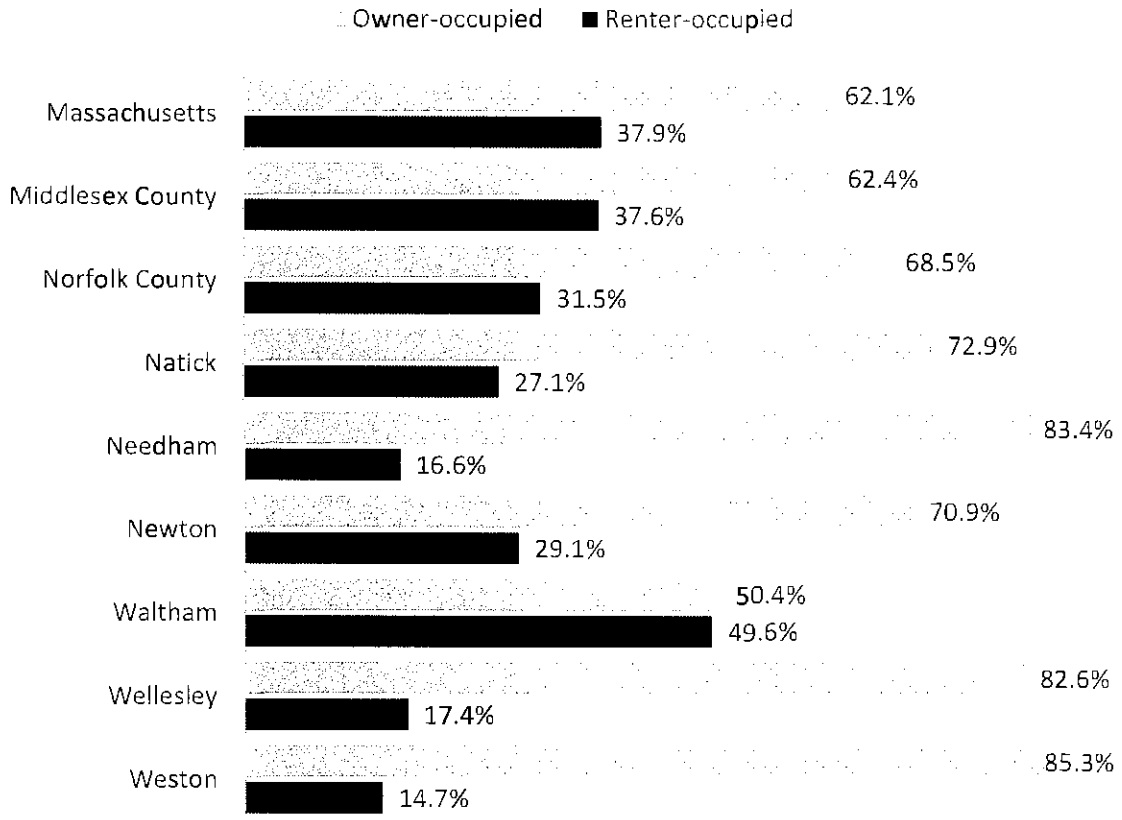
**Figure 18: Median Monthly Housing Costs by Tenure and State, County, and City/Town, 2012-2016**




DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2012-2016

Similar to patterns in the 2015 CHNA, with the exception of Waltham (50.4%), towns across the NWH service area had a higher percent of owner-occupied housing units than the state average (62.1%) in 2012-2016 (Figure 19). Half (49.6%) of Waltham housing units were renter-occupied, compared to approximately one-third of Massachusetts units (37.9%). The towns of Weston (85.3%), Needham (83.4%), and Wellesley (82.6%) had the highest percent of owner-occupied housing units, mirroring patterns in the 2015 CHNA.

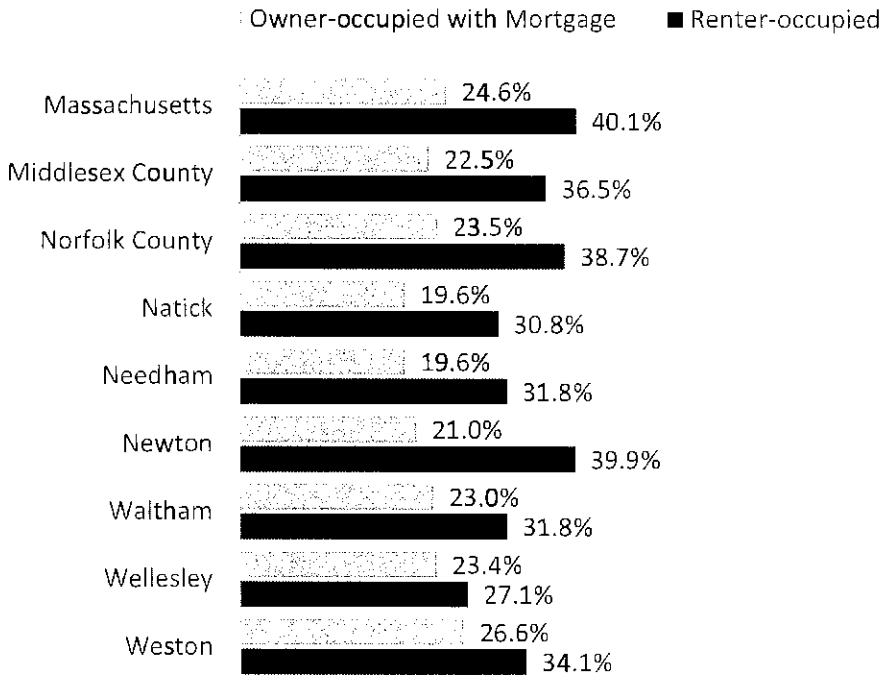
**Figure 19: Percent of Owner-Occupied and Renter-Occupied Housing Units by State, County, and City/Town, 2012-2016**




DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2012-2016

As illustrated in Figure 20, in Waltham 23.0% of residents in owner-occupied units and 31.8% of residents in renter-occupied units spent more than 35% of their household income on housing costs, similar to most towns across the NWH service area in 2012-2016. Following state patterns, across each of the six assessment communities housing costs comprised 35% or more of household income for a higher percent of renter-occupied housing units than owner-occupied housing units – a pattern that was also seen in the 2015 CHNA. Housing cost burden was highest for renter-occupied units in Newton (39.9%) and owner-occupied units in Weston (26.6%). Of note, similar to the 2015 CHNA, the percent of renter-occupied units with housing costs of 35% or more across all six assessment communities was lower than that for the state (40.1%). With the exception of Weston (26.6%), among owner-occupied units, the proportion of residents with housing costs of 35% or more was lower than the state average for all towns in the NWH service area towns.

**Figure 20: Percent of Housing Units Where Residents Whose Housing Costs are 35% or More of Household Income by State, County and City/Town, 2012-2016**

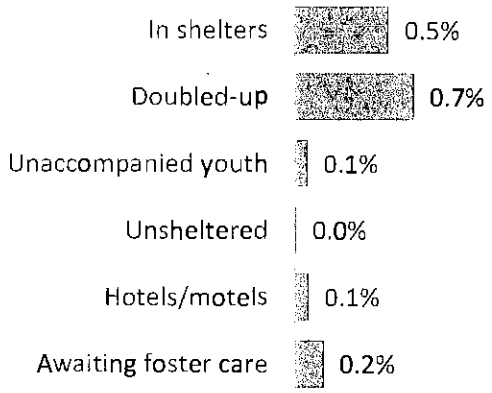



DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2012-2016
NOTE: Owner costs for owners with a mortgage

Participants described overcrowding and homelessness as two consequences of high housing costs and limited options. Interviewees reported seeing multiple families living in housing meant for one, creating safety issues, which was further exacerbated by lack of enforcement by landlords. As one interviewee explained, *"when you rent an apartment to a couple – you have to keep tracking to make sure there aren't seven or eight people living in the property."* According to participants, the high cost of housing has contributed to homelessness, especially among undocumented individuals. Health and social service providers shared the challenges they face in delivering services to a growing population of homeless residents who not only often suffer from physical ailments, but also mental health and substance use issues. Lack of tracking of the homeless population makes it hard to coordinate services to them, according to one participant.

In 2016-2017, there were 21,112 homeless students across Massachusetts public schools. As illustrated in Figure 21, a higher proportion of youth (<18 years of age) who were experiencing homelessness reported "doubling up" (e.g., sharing a room) (0.7%) or shelters (0.5%) as their primary nighttime residence in 2016-2017.

**Figure 21: Total Number of Homeless Youth by Primary Nighttime Residence in Massachusetts, 2016-2017**




DATA SOURCE: Massachusetts Department of Elementary and Secondary Education, Homeless Student Program, School District Data, 2016-2017
NOTE: Denominator of Massachusetts statewide population under age 18 in 2016 (Source: US Department of Commerce, Bureau of the Census, S year estimate American Community Survey, 2012-2016)

## Transportation

> *"[Transportation is] pretty accessible if you're going into Boston. It's hard to go from town to town."* —Focus Group Participant

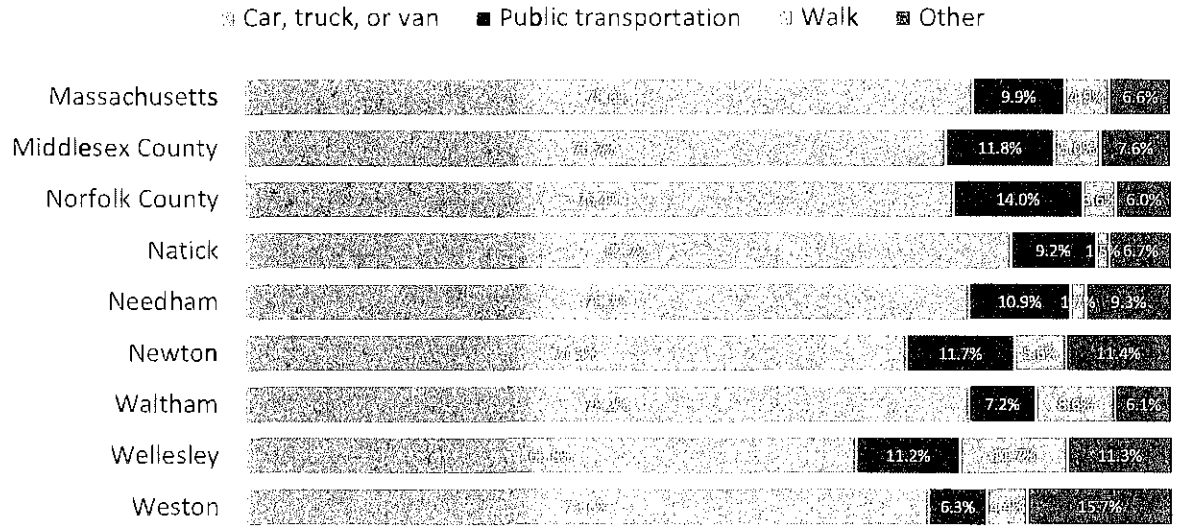
Perceptions about transportation in the service area varied. Transportation to Boston was generally reported to be easy and many residents from the NWH service area travel into the city. However, as stated previously, some public housing developments were described as far from public transportation, creating challenges for lower income residents.

More locally, however, transportation options were reported to be less available, making travel from town to town difficult for those without private vehicles. Weston, for example, was considered to have no access to public transportation while communities such as Waltham do. Although, participants shared, even where public transportation exists, there are several barriers to using it. For example, as participants of one focus group reported, bus stops in Waltham are not located near the high school so families cannot take the bus to school-based events. Long wait times for buses and short operating hours (ending in early evening) were noted as additional challenges. As one focus group participant remarked, *"some people rely on the bus, it doesn't always run on time. I do have a license, but I don't have a car. I know what it's like to wait on a bus."* Cost, language barriers, and lack of knowledge about transportation services were also identified as making transportation difficult for some residents to access.

Seniors and those who work with seniors reported that several additional transportation options are available to elderly residents. The RIDE program, for seniors and those with disabilities who cannot independently use public transportation was mentioned, although was noted to be difficult to use for transfers.[1] Additionally, participants shared that rides for both medical and nonmedical purposes are provided through local councils on aging and senior centers. While senior centers provide vans, growing demand was described as putting a strain on these services and participants generally saw a need for more transportation options. For seniors, another identified transportation challenge was that some services provide curb-to-curb pick up and seniors, especially those who are frailer, require door-to-door service. According to participants, while services such as Uber and Lyft were noted as expanding transportation options for residents without a private vehicle, these options can be expensive and require the ability to use the service apps, which can be a constraint for some.

In 2012-2016, similar to state patterns (78.6%), nearly eight in ten (78.2%) Waltham residents drove to work (Figure 22). In contrast, fewer Waltham residents took public transportation (7.2%) and more walked (8.6%) to work compared to patterns across Massachusetts (9.9% and 4.9%, respectively). Reflecting patterns across Massachusetts, the majority of workers in each assessment community drove to work in 2012-2016, a trend that was similar to the 2015 CHNA. Newton (11.7%), Wellesley (11.2%), and Needham (10.9%) had a higher percent of residents who commuted to work via public transportation as compared to the state (9.9%). Across the six assessment communities, Weston (6.3%) had the lowest percent of public transportation commuting. A higher percent of residents walked to work in Wellesley (11.7%) than the other towns in the assessment area and the state overall (4.9%).

**Figure 22: Mode of Transportation to Work for Workers Aged 16+ Years by State, County, and City/Town, 2012-2016**




DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2012-2016
NOTE: Car, truck, or van includes both driving alone and carpooling; public transportation does not include taxi; other includes other means and working from home

[1] https://www.mbta.com/accessibility/the-ride

## Crime and Safety

> *"We're doing pretty good on violence. We're not overrun with crime. With any city, we're a fairly safe city."* —Interview Participant

Overall, participants perceived their communities to be largely safe from crime. As one focus group participant stated, *"Waltham is a quiet place and safe. We see police presence and that makes us feel safe."* However, participants expressed concerns about personal safety in some communities. Several participants described the prevalence of concerns about immigration and fear of police in some communities. Participants from social service agencies reported a rise in domestic violence, yet noted a reluctance of victims to report incidents due to fear of involving the police. Bullying and other forms of violence were mentioned as an issue in the LGBTQ community.

In 2012 and 2016, the violent crime rate was highest in Waltham (236.5 and 155.6 crimes per 100,000 population, respectively) and Natick (181.3 and 157.7 crimes per 100,000 population, respectively) (Figure 23). During this same period, the violent crime rate was lowest in Needham (6.8 crimes and 19.5 crimes per 100,000 population, respectively). The violent crime rate across all six assessment communities was lower than that for Massachusetts overall in both 2012 and 2016, similar to the 2015 CHNA. Mirroring state patterns, from 2012 to 2016 the violent crime rate declined in Natick, Newton, and Waltham, while the violent crime rate increased in Needham, Wellesley, and Weston. Of note, there was a ten-fold increase in the violent crime rate for Weston from 2012 (8.7 crimes per 100,000 population) to 2016 (82.3 crimes per 100,000 population).

**Figure 23: Violent Crime Rate per 100,000 Population, by State, County, and City/Town, 2012 and 2016**


DATA SOURCE: Federal Bureau of Investigation, Offenses Known to Law Enforcement, 2012 and 2016
NOTE: violent crime includes murder and non-negligent manslaughter, rape, robbery, and aggravated assault;

As shown in Figure 24, among the NWH service area towns, the property crime rate was highest in Natick and Waltham in both 2012 (2,353.9 and 1,375.5 crimes per 100,000 population, respectively) and 2016 (1,345.9 and 1,081.5 crimes per 100,000 population, respectively). In 2016, the property crime rate was lower than the state average (1,561.1 crimes per 100,000 population) for all six assessment communities, whereas in 2012 the property crime rate in Natick (2,353.9 crimes per 100,000 population) exceeded the rate for Massachusetts (2,153.0 crimes per 100,000 population. From 2012 to 2016, following state patterns, the property crime rate declined across all six assessment communities. Notably, from 2012 to 2016, the property crime rate declined by 42.8% in Natick and by 38.8% in Needham.

**Figure 24: Property Crime Rate per 100,000 Population, by State, County, and City/Town, 2012 and 2016**


DATA SOURCE: Federal Bureau of Investigation, Offenses Known to Law Enforcement, 2012 and 2016
NOTE: property crime includes burglary, larceny-theft, and motor vehicle theft

## Community Resources and Assets

Participants were also asked about strengths and assets of their communities and several themes emerged, which were like those reported in 2015 CHNA, including community amenities, collaboration, generosity, and local infrastructure.

### Community Amenities

Overall, people reported that they liked their communities and described them as wonderful places to live and raise their families. As one focus group participant stated, *"[Newton is] a nice city to raise family; I've been here for the last 40 years."* Some participants, such as one interviewee from Waltham, reported that they enjoyed the closeness of the community: *"we are a city with small tawn feel."* Participants spoke highly of green spaces and recreational opportunities available to them, as well as access to libraries, faith organizations, higher education, shopping, and the availability of cultural events. Participants also spoke about the important role played by senior centers and local councils on aging in providing programming and reducing the isolation that often accompanies aging.

Additionally, participants appreciated the variety and extensiveness of services in their communities, including healthcare, public health, and programming for children and youth. They also mentioned services that work to address the needs of lower income residents including community health centers, food programs, and shelters. Participants praised the range and commitment of social service organizations; as one interviewee stated, *"Waltham has a great wealth of grass raats, non-for-profit organizations that are all working with bare bones to try and do outreach, so supportive."*

### Collaboration

Collaboration across different organizations was also reported to be an asset in the NWH service area. Participants shared examples of partnerships in the community including those between local police and schools and youth services organizations, work between public health departments and those working in senior services around interventions related to hoarding and evictions of seniors, and the initiative being led by the Boston Food Bank and Waltham Public Schools to develop a mobile food pantry. The Healthy Waltham collaborative initiative and Healthy Aging Initiative work in several communities were cited as examples of successful, multi-agency efforts.

### Generosity

Generosity of residents was described as another important community asset. Participants shared that the residents are active in their communities and generous with their time and financial resources. They described communities where people *"look out for each other"* and desire *"to give back."* They pointed to locally-funded scholarships given out to graduating seniors, funding events for neighbors experiencing crisis *("there's always a GoFundMe page"*), and a high rate of volunteerism. As one interviewee stated, *"it is easy to get people to get together and work on issues."*

### Strong Local Infrastructure

Several participants shared that the area has a strong business base and effective local government, which they believed were substantial assets. Numerous residents mentioned the new Mayor of Waltham who they saw as accessible and supportive of their issues and concerns. The Mayor of Newton was also reported to be taking the lead on key community issues. Other participants praised local police and fire departments and school leadership. As one interviewee from Waltham stated, *"our current superintendent and mayor are strengths to our community – especially around youth."*

## Community Health Issues

Leading Causes of Mortality

As shown in Table 2, similar to the 2015 CHNA, the leading causes of death in the NWH service area in 2014 were heart disease and cancer. These patterns were consistent with those for Massachusetts in 2014. In the 2015 CHNA, cerebrovascular disease emerged as the third leading cause of death for Needham and Weston, whereas in 2014 cerebrovascular disease was the third leading cause of death in Newton, Wellesley, and Weston. In 2014, as with Massachusetts, injuries and poisoning were the third leading cause of death in Natick, Needham, and Waltham. Of note, in the 2015 CHNA patterns for total cancer and lung cancer were presented separately, limiting further comparisons of leading causes of death across the 2015 and 2018 CHNAs.

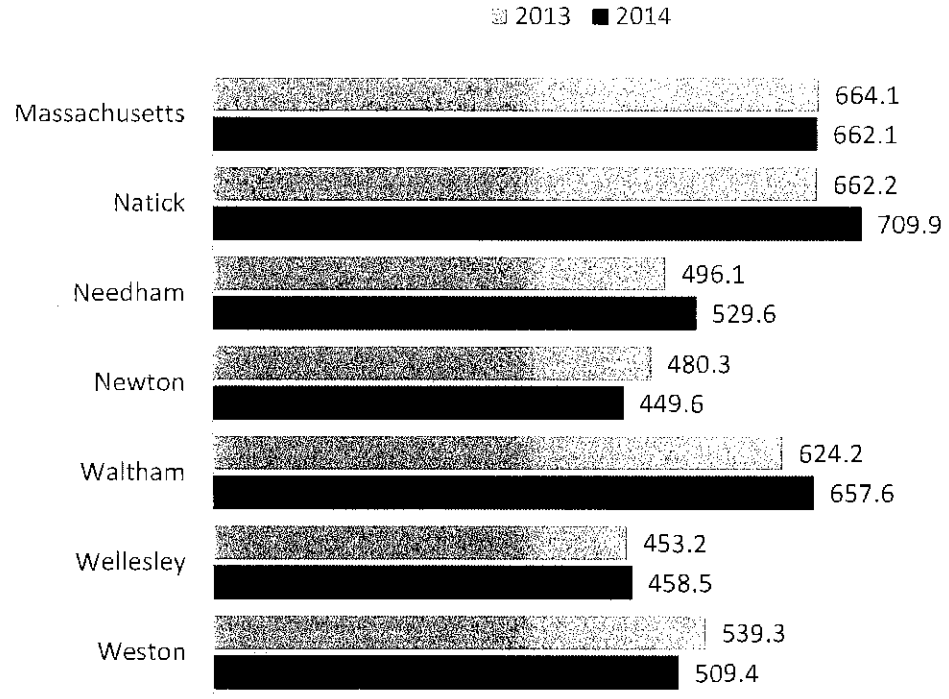
**Table 2: Leading Causes of Death, by State and City/Town, 2014**

| Rank | Massachusetts | Natick | Needham | Newton | Waltham | Wellesley | Weston |
|---|---|---|---|---|---|---|---|
| 1 | All-Site Cancer | Heart Disease | All-Site Cancer | All-Site Cancer | All-Site Cancer | Heart Disease | All-Site Cancer |
| 2 | Heart Disease | All-Site Cancer | Heart Disease | Heart Disease | Heart Disease | All-Site Cancer | Heart Disease |
| 3 | Injuries and Poisoning | Injuries and Poisoning | Injuries and Poisoning | Cerebrovascular Disease | Injuries and Poisoning | Cerebrovascular Disease | Cerebrovascular Disease |

DATA SOURCE: Massachusetts Department of Public Health, Registry of Vital Records and Statistics, 2014

In 2013 and 2014, across five of the six assessment communities the age-adjusted mortality rate was lower than that of the state; however, rates varied by town (Figure 25). Waltham had the second highest mortality rate in both 2013 (624.2 deaths per 100,000 population) and 2014 (657.6 deaths per 100,000 population), whereas in the 2015 CHNA the mortality rate in Waltham (612.2 deaths per 100,000 population) in 2010 was higher than the mortality rate for other towns in the NWH service area. In 2013 and 2014, the mortality rate in Natick (662.2 and 709.9 deaths per 100,000 population, respectively) exceeded that for Massachusetts (664.1 and 662.1 deaths per 100,000 population, respectively). In the 2015 CHNA, Natick had the second highest mortality rate (574.8 deaths per 100,000 population) in 2010. In 2013-2014, the mortality rate declined in Newton and Weston, and increased in Natick, Needham, and Waltham.

**Figure 25: Age-Adjusted Mortality Rate per 100,000 Population, by State and City/Town, 2013-2014**




DATA SOURCE: Massachusetts Department of Public Health, Registry of Vital Records and Statistics, 2013-2014

## Chronic Diseases and Related Risk Factors

As in the 2015 CHNA, chronic disease and related health issues such as obesity, were not extensively discussed. Those from or serving immigrant groups were most likely to mention chronic disease in conversations; participants specifically identified diabetes, hypertension, and childhood obesity as concerns in their community.

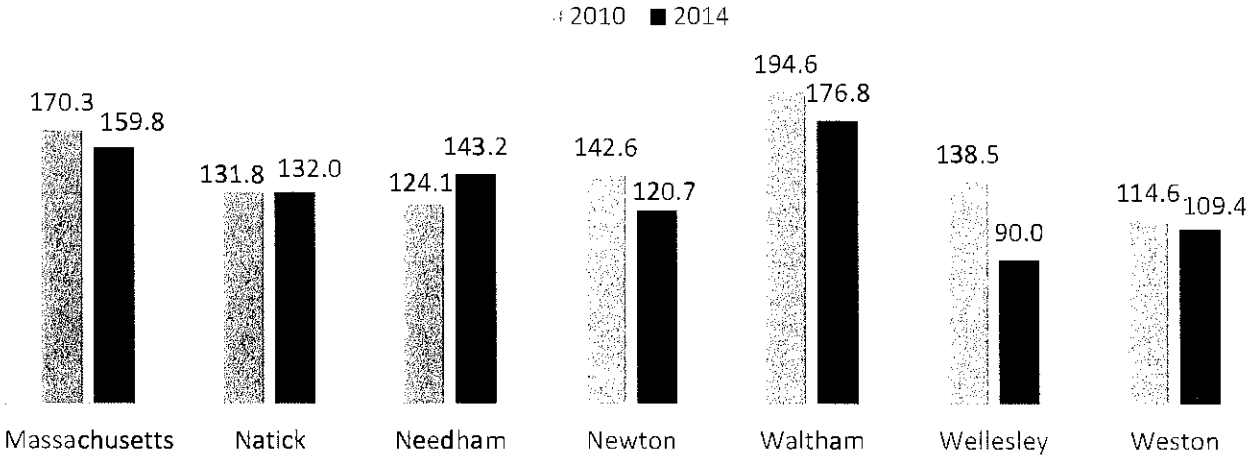
*Cancer*

> *"Cancer is a huge worry, it couses o lot of stress."* —Focus Group Participant
>
> *"Cancer is not 'if you're going to get it', it's 'when you're going to get it."* —Focus Group Participant

Cancer was the leading cause of death across the State and in Needham, Newton, Waltham, and Weston in 2014 (Table 2). Cancer was identified as a specific area of focus for the 2018 CHNA and thus was discussed in several interviews and focus groups. There was a sense among participants that cancer was prevalent—and also inevitable. When asked about the types of cancer they saw in their communities, participants most often mentioned breast cancer. As one focus group participant stated, *"breost concer is an epidemic."* Among seniors, pancreatic and stomach cancer were considered to be more common.

Since the 2015 CHNA, from 2010 to 2014 the cancer mortality rate decreased by 35.0% in Wellesley, 15.4% in Newton, and 9.1% in Waltham, while it increased by 15.4% in Needham (Figure 26). In 2010 and 2014 Waltham had the highest age-adjusted cancer mortality rate due to all cancers, the only town in the assessment area that had a higher cancer mortality rate than Massachusetts overall.

**Figure 26: Age-Adjusted Mortality due to Cancer per 100,000 Population, by State and City/Town, 2010 and 2014**




DATA SOURCE: Massachusetts Department of Public Health, MassCHIP, 2010; and Massachusetts Department of Public Health, Registry of Vital Records and Statistics, 2014

As shown in Table 3, in 2014 the lung cancer mortality rate in Needham (44.0 deaths per 100,000 population), and the prostate cancer mortality rate in Weston (28.3 deaths per 100,000 population) and Waltham (9.1 deaths per 100,000 population) each exceeded the average for Massachusetts. One year prior, in 2013 (data not shown), cancer mortality rates also varied by site and city/town. In 2013, Weston (59.6 deaths per 100,000 population), Natick (48.0 deaths per 100,000 population), and Waltham (44.2 deaths per 100,000 population) had lung cancer mortality rates that exceeded the state average (41.4 deaths per 100,000 population). In 2013, breast cancer mortality rates exceeded the state average (10.5 deaths per 100,000 population) in Newton (13.9 deaths per 100,000 population) and Natick (12.6 deaths per 100,000 population). The prostate cancer mortality rate in Waltham (10.0 deaths per 100,000 population) was greater than the average for the state (7.3 deaths per 100,000 population) in 2013.

**Table 3: Age-Adjusted Mortality due to Cancer per 100,000 Population, by State and City/Town, 2014**

| Geography | Breast | Cervical | Colorectal | Lung | Prostate |
|---|---|---|---|---|---|
| Massachusetts | 10.8 | 0.6 | 12.9 | 42.5 | 7.2 |
| Natick | - | 0.0 | 18.1 | 31.2 | - |
| Needham | - | 0.0 | - | 44.0 | - |
| Newton | 4.5 | - | 8.8 | 24.1 | 3.6 |
| Waltham | 10.5 | 0.0 | 8.5 | 40.6 | 9.1 |
| Wellesley | - | 0.0 | - | 20.7 | - |
| Weston | 0.0 | 0.0 | 0.0 | - | 28.3 |

DATA SOURCE: Massachusetts Department of Public Health, Registry of Vital Records and Statistics, 2014
NOTE: Dash (-) denotes where rates were not calculated due to small counts

In 2010-2014, the cancer incidence rate for all cancers was higher than the state average (470.8 cases per 100,000 population) for Norfolk County (485.9 cases per 100,000 population), and below the state average for Middlesex County (459.6 cases per 100,000 population) (Table 4). Notably, the breast cancer incidence rate in Middlesex (140.7 cases per 100,000 population) and Norfolk (147.1 cases per 100,000 population) Counties exceeded the breast cancer incidence rate for Massachusetts overall (136.1 cases per 100,000 population). Norfolk County had a higher incidence rate for colorectal cancer (38.6 cases per 100,000 population) and prostate cancer (120.2 cases per 100,000 population) than the state average (37.8 and 114.3 cases per 100,000 population, respectively). In Middlesex and Norfolk Counties, the incidence rate for cancer of the cervix and lung was slightly lower than that for Massachusetts overall.

**Table 4: Age-Adjusted Cancer Incidence Rate, by State and County, 2010-2014**

| Geography | All-Site | Breast | Cervical | Colorectal | Lung | Prostate |
|---|---|---|---|---|---|---|
| Massachusetts | 470.8 | 136.1 | 5.2 | 37.8 | 64.6 | 114.3 |
| Middlesex County | 459.6 | 140.7 | 5.0 | 37.0 | 60.3 | 109.0 |
| Norfolk County | 485.9 | 147.1 | 4.5 | 38.6 | 61.7 | 120.2 |

DATA SOURCE: Massachusetts Cancer Registry, https://www.cancer-rates.info/ma/, 2010-2014

In 2009-2013, across five of the six assessment communities the cancer incidence rate was highest for breast cancer (Table 5), while in Weston cancer incidence was highest for prostate cancer. Breast cancer incidence was highest in Needham (536.9 cases per 100,000 population), cervical cancer incidence was highest in Waltham (14.7 cases per 100,000 population), colorectal cancer incidence was highest in Natick (243.8 cases per 100,000 population), and Weston had the highest incidence rate of cancer of the lung (364.0 cases per 100,000 population) and prostate (476.7 cases per 100,000 population)

**Table 5: Age-Adjusted Cancer Incidence Rate per 100,000 Population, by City/Town, 2009-2013**

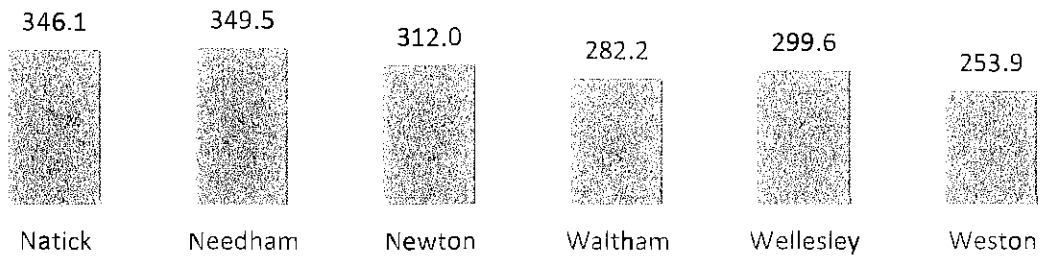
| Geography | Breast | Cervical | Colorectal | Lung | Prostate |
|---|---|---|---|---|---|
| Natick | 457.9 | 3.0 | 243.8 | 338.9 | 327.1 |
| Needham | 536.9 | 10.3 | 218.9 | 273.6 | 458.3 |
| Newton | 506.7 | 11.6 | 201.8 | 333.9 | 395.4 |
| Waltham | 381.6 | 14.7 | 189.2 | 329.4 | 238.1 |
| Wellesley | 470.1 | 7.0 | 157.9 | 175.4 | 428.0 |
| Weston | 433.4 | 0.0 | 216.7 | 364.0 | 476.7 |

DATA SOURCE: Massachusetts Department of Public Health, Massachusetts Cancer Registry, Cancer Incidence City & Town Supplement, 2009-2013
NOTE: MA data not provided

As shown in Figure 27, in 2013 the cancer hospitalization rate was lowest in Weston (253.9 hospitalizations per 100,000 population) and Waltham (282.2 hospitalizations per 100,000 population). The cancer hospitalization rate was highest in Needham (349.5 hospitalizations per 100,000 population) and Natick (346.1 hospitalizations per 100,000 population).

Cancer services were reported to be available in the community, including at NWH. Cancer care in the area, including at NWH, was perceived to be good, although provider participants noted that patients often have difficulty understanding and navigating cancer care options. Navigating cancer care was identified as a challenge for seniors, in particular, who were also considered more likely to have cancer and to not have families nearby or informal supports. Engaging in cancer treatment was also reported to be a challenge for some people, especially lower income residents. For example, those who are unable to access transportation were described as having difficulty regularly obtaining radiation and chemotherapy. Ensuring cancer survivors have access to healthy food and social support was also reported to be challenging for some.

**Figure 27: Cancer Hospitalization Rates per 100,000 Population, by State and City/Town, 2013**




DATA SOURCE: Center for Health Information and Analysis (CHIA), as cited by Massachusetts Department of Public Health, 2013
NOTE: MA data not available

In focus groups, some participants indicated they were aware of the importance of cancer screening tests. When asked about cancer prevention and screening programs, participants mentioned a partnership between the City of Waltham and Charles River Community Health to enhance access to screening for lower income residents, and cited several examples of partnerships with local community organizations that are focused on screening. As one interviewee stated, *"there's a health care ministry in the Church. They do a great job alerting us about things going on...like breost cancer awareness month and so forth."* Focus group participants mentioned that they usually relied on their doctors to tell them about different tests.

According to participants, there are barriers to accessing screening, including lack of awareness of what to expect and fear of the outcome. As one participant of a focus group stated, *"the internet has created more fear...people are just looking up so much information on the internet."* Lack of insurance coverage

was also mentioned: *"most plans will cover the basics, but if there's an additional procedure, I won't know if it's covered."* Those working with immigrants stressed that health care and prevention are low priorities. As one focus group participant explained, *"they live day by day—they are worried about rent, jabs, kids."* Providers reported that misconceptions about the HPV vaccine means not all young people who could benefit from it are immunized. Participants saw a need for more awareness campaigns around cancer screening.

As illustrated in Figure 28, in 2014 three-quarters (75.5%) of female residents 50 to 74 years of age in Newton reported receiving a mammogram in the past two years, a prevalence that was much lower than breast cancer screening among female residents across Massachusetts (88.1%) for that same year.

**Figure 28: Percent of Female Adults (50-74 Years) who Reported Receiving a Mammogram within Past 2 Years, by State and Newton, 2014**


DATA SOURCE: Centers for Disease Control and Prevention, 500 Cities Project, 2014
NOTE: Age-adjusted; Data for the other assessment communities were not available

In 2014, eight in ten (81.1%) female residents 21 to 65 years of age in Newton reported receiving a pap test within the past three years, a percent that was below the average prevalence of cervical cancer screening across the state (87.8%) (Figure 29).

**Figure 29: Percent of Female Adults (21-65 years) who Reported Pap Test within Past 3 Years, by State and Newton, 2014**


DATA SOURCE: Centers for Disease Control and Prevention, 500 Cities Project, 2014
NOTE: Age-adjusted; Data for the other assessment communities were not available

In 2014, fewer than two-thirds (64.0%) of Newton residents 50-75 years of age reported receipt of colon cancer screening within the time frames recommended by the US Preventive Services Task Force (Figure 30). In contrast, in 2014 three-quarters (76.7%) of Massachusetts residents reported colon cancer screening within the recommended schedule.

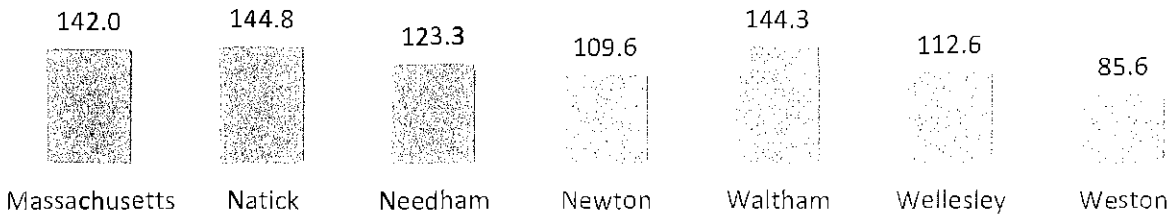
**Figure 30: Percent of Adults (50-75 years) who Reported FOBT within Past Year, Sigmoidoscopy within Past 5 Years and FOBT within Past 3 Years, or Colonoscopy within Past 10 Years, by State and Newton, 2014**


DATA SOURCE: Centers for Disease Control and Prevention, 500 Cities Project, 2014
NOTE: Age-adjusted; Data for the other assessment communities were not available

*Heart Disease*

In 2014, the age-adjusted heart disease mortality rate in Natick (144.8 deaths per 100,000 population) and Waltham (144.3 deaths per 100,000 population) was greater than the state average (142.0 deaths per 100,000 population). Weston (85.6 deaths per 100,000 population) had the lowest heart disease mortality rate in the NWH service area (Figure 31).

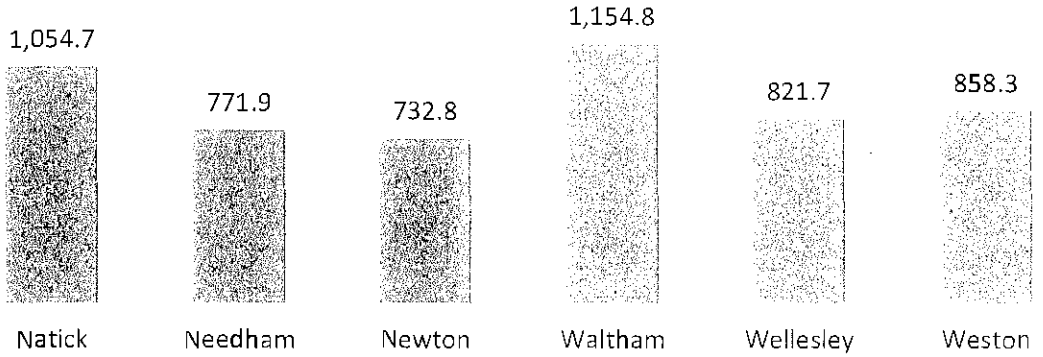
**Figure 31: Age-Adjusted Mortality due to Heart Disease per 100,000 Population, by State and City/Town, 2014**




DATA SOURCE: Massachusetts Department of Public Health, Registry of Vital Records and Statistics, 2014

In 2013, Waltham (1,154.8 hospitalizations per 100,000 population) and Natick (1,054.7 hospitalizations per 100,000 population) had the highest cardiovascular disease hospitalization rate across the six assessment communities (Figure 32). The cardiovascular disease hospitalization rate was lowest in Newton (732.8 hospitalizations per 100,000 population) and Needham (771.9 hospitalizations per 100,000 population) in 2013.

**Figure 32: Cardiovascular Disease Hospitalization Rates per 100,000 population, by City/Town, 2013**




DATA SOURCE: Center for Health Information and Analysis (CHIA), as cited by Massachusetts Department of Public Health, 2013
NOTE: MA data not available

While local data on heart disease prevalence among adults are not available, in 2012 and 2016, 3.6% of adults reported a coronary heart disease diagnosis (Figure 33). In 2015, 5.6% of adults in Newton reported a heart disease diagnosis, similar to the prevalence for the CHNA 18 region in 2007 (5.6%) as reported in the 2015 CHNA (data not shown).

**Figure 33: Percent of Adults Ever Reported Coronary Heart Disease Diagnosis, Massachusetts, 2012 and 2016**


DATA SOURCE: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2012 and 2016

As shown in Figure 34, approximately one quarter of Massachusetts adults reported a high blood pressure diagnosis in 2013 and 2015 (27.2% and 27.1%, respectively). In 2015, a slightly higher proportion of Newton adults (29.4%) reported being told by a health care provider that they had high blood pressure, a prevalence that was higher than that for CHNA 18 in 2007 (20.8%) as reported in the 2015 CHNA (data not shown).

**Figure 34: Percent of Adults Ever Reported High Blood Pressure, Massachusetts, 2013 and 2015**


DATA SOURCE: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2013 and 2015

In 2013 and 2015, nearly one-third of Massachusetts adults reported a high cholesterol diagnosis (32.5% and 30.1%, respectively) (Figure 35). In 2015, the prevalence of high cholesterol diagnoses among Newton adults (31.1%) was similar to that for the state (30.1%) (data not shown).

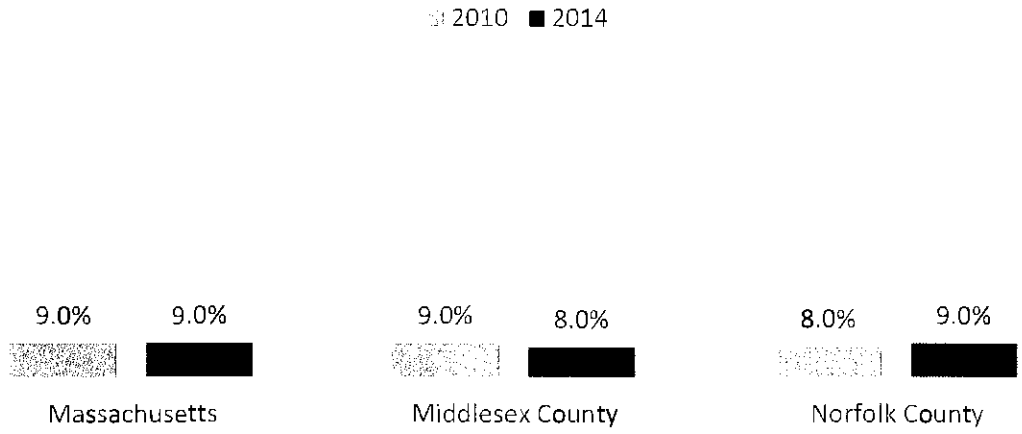
**Figure 35: Percent of Adults Ever Reported High Cholesterol, Massachusetts, 2013 and 2015**


DATA SOURCE: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2013 and 2015

*Diabetes*

From 2010 to 2014, the prevalence of diagnosed diabetes remained stable among adults across Massachusetts, Middlesex County, and Norfolk County, with 8.0% to 9.0% of residents reporting a diabetes diagnosis (Figure 36). This prevalence was slightly higher than that reported in the 2015 CHNA, in which in 2007 6.8% of CHNA 18 residents and 7.5% of Massachusetts residents reported being diagnosed with diabetes. In 2015, 9.5% of Newton adults reported being diagnosed with diabetes, compared to 8.0% of adults across Massachusetts (data not shown).

**Figure 36: Percent of Adults Aged 20+ Years with Diagnosed Diabetes by State and County, 2010 and 2014**

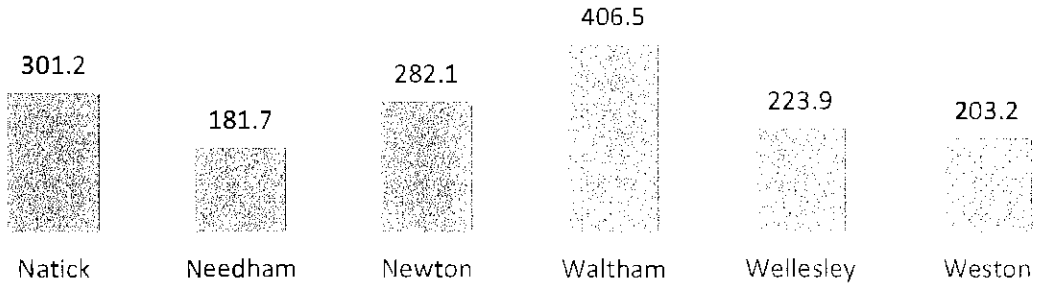



DATA SOURCE: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, as reported by National Diabetes Surveillance System, as cited by County Health Rankings, 2010 and 2014

*Asthma*

In 2013, the asthma emergency department visit rate for Waltham residents (406.5 ED visits per 100,000 population) was more than twice the rate for Needham residents (181.7 ED visits per 100,000 population) (Figure 37). The asthma emergency department visit rate was also high in Natick (301.2 ED visits per 100,000 population) and Newton (282.1 ED visits per 100,000 population).

**Figure 37: Asthma Emergency Department (ED) Visit Rates per 100,000 Population, by State and City/Town, 2013**

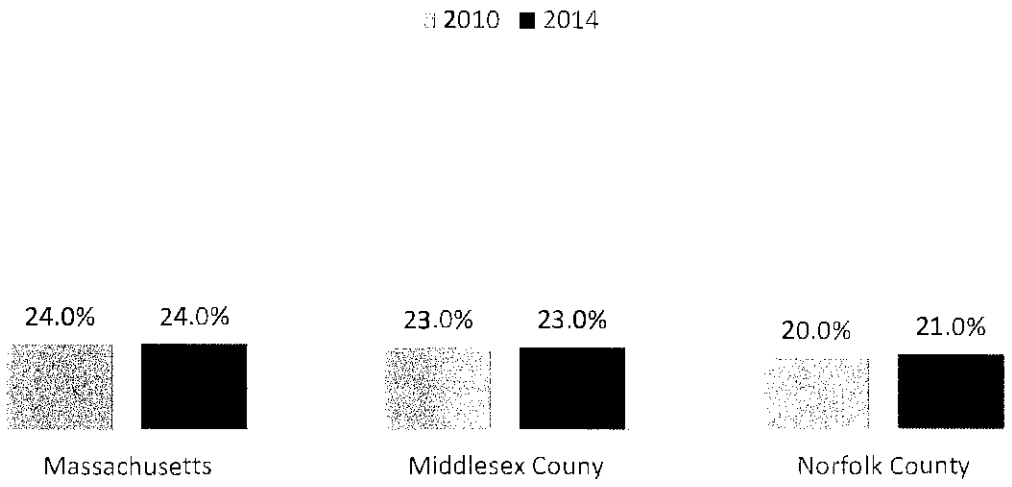



DATA SOURCE: Center for Health Information and Analysis (CHIA), as cited by Massachusetts Department of Public Health, 2013
NOTE: MA data not available

*Obesity*

The prevalence of obesity among adults 20 years of age and older remained stable from 2010 to 2014 for Massachusetts overall and for Middlesex and Norfolk Counties (Figure 38). In 2014, a smaller percent of Norfolk County (21.0%) residents were obese compared to Middlesex County (23.0%) and the state (24.0%). As shown in Figure 39, in 2015 the prevalence of obesity among Newton (28.7%) adults was greater than that for Massachusetts overall (23.5%).

**Figure 38: Percent of Adults 20 Years and Over who Are Obese, by State and County, 2010 and 2014**



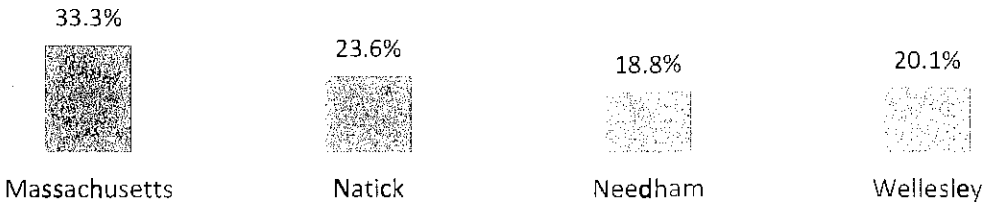

DATA SOURCE: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, as reported by National Diabetes Surveillance System, as cited by County Health Rankings, 2010 and 2014
NOTE: Obese includes adults that report a BMI >=30

**Figure 39: Percent of Adults who are Obese, by State and Newton, 2015**


DATA SOURCE: Centers for Disease Control and Prevention, 500 Cities Project, 2015
NOTE: Age-adjusted

Amongst seventh grade students, the prevalence of overweight or obesity in Natick (23.6%), Needham (18.8%), and Wellesley (20.1%) was lower than the state prevalence (33.3%) in 2012-2014 (Figure 40). Data for the other assessment communities were not available. Compared to the 2015 CHNA, the prevalence of obesity and overweight for seventh grade students increased slightly since 2010, when 22.1% of Natick students and 17.4% of Needham students were overweight or obese (data not shown).

**Figure 40: Percent of Students (Grade 7) who are Overweight or Obese, by State and Select City/Town, 2012-2014**

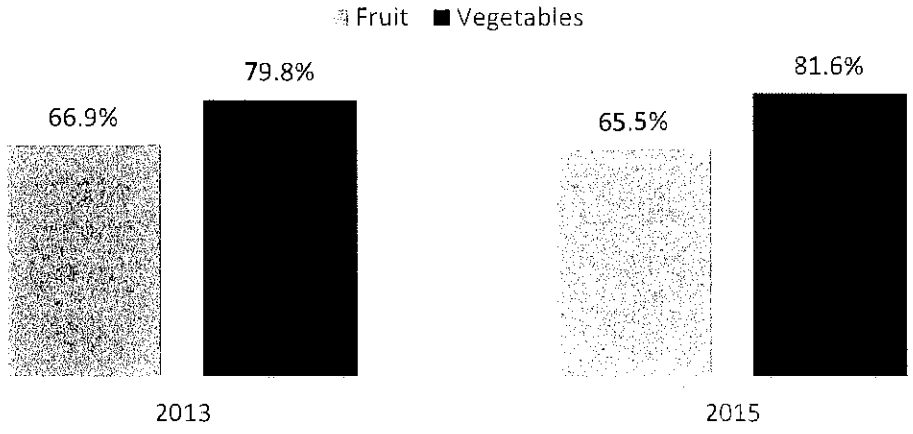



DATA SOURCE: MetroWest Health Foundation, Health Data Search, 2018
NOTE: Data for the other assessment communities were not available

*Healthy Eating and Physical Activity*

In 2015, approximately 80% of Massachusetts adults reported consuming fruits (79.8%) and vegetables (81.6%) at least once daily, an increase over patterns in 2013 (66.9% and 65.5%, respectively) (Figure 41). In 2015, one-fifth (19.6%) of Massachusetts adults reported consuming 5 or more servings of fruits and vegetables daily, below patterns for Massachusetts adults in the 2015 CHNA (26.2% in 2009) (data not shown).

**Figure 41: Percent of Adult Population Consuming Fruits and Vegetables At least One Time per Day, Massachusetts, 2013 and 2015**

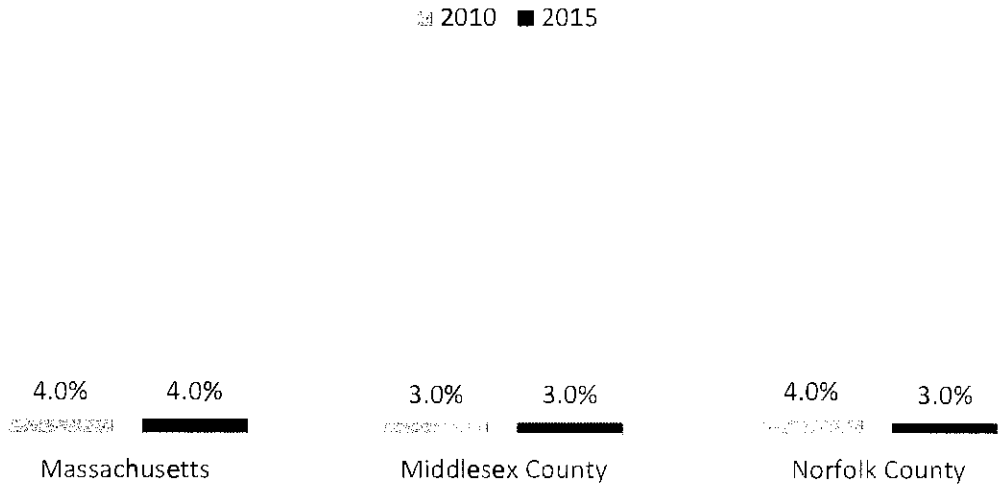



DATA SOURCE: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2013 and 2015
NOTE: Age-adjusted

As shown in Figure 42, in 2015 4.0% of low-income Massachusetts residents and 3.0% of Middlesex and Norfolk County low-income residents did not live close to a grocery store. From 2010 to 2015, these trends remained similar.

Accessing healthy food was identified as a challenge for some groups in the community. While fresh food options were considered available in the NWH service area, participants noted cost and transportation as barriers to accessing these healthier food options. Participants reported that there are food pantries and community nutrition programs to support lower income residents, although some participants expressed concerns about meals in the summertime for students who receive free and reduced lunch. Lack of knowledge about how to purchase and prepare healthy meals, especially among newcomer groups, was also identified as a barrier to healthy eating. One focus group participant suggested classes to address this barrier: *"training around eating healthy on a budget is needed. You need to know what to buy when you go to a supermarket."*

**Figure 42: Percent of Population Who are Low-Income and Do Not Live Close to a Grocery Store, by State and County, 2010 and 2015**

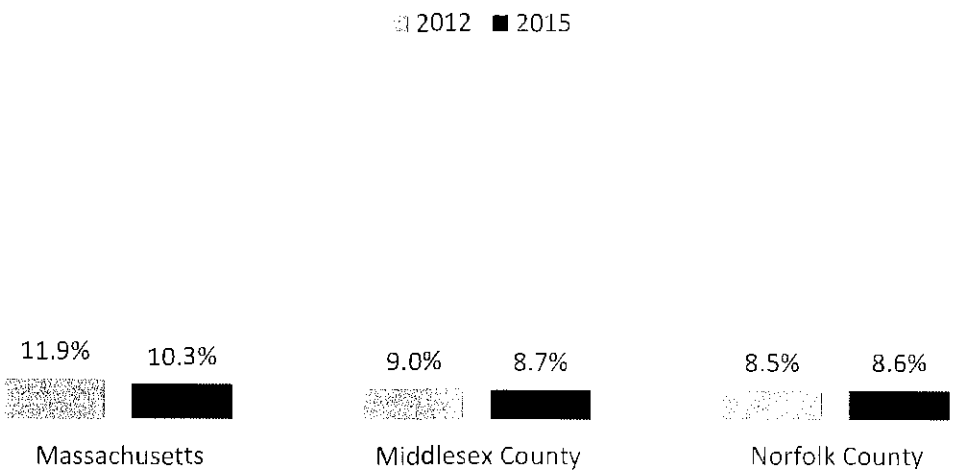



DATA SOURCE: United States Department of Agriculture (USDA) 2010, as cited by County Health Rankings

In 2012 and 2015, a lower percent of residents in Middlesex and Norfolk Counties did not have access to a reliable source of food in the past year, compared to the state overall (Figure 43). From 2012 to 2015, these patterns remained relatively stable for Middlesex (9.0% and 8.7%, respectively) and Norfolk (8.5% and 8.6%, respectively) Counties.

A couple of participants stated that food insecurity is a concern for some in the area and pointed to rising participation rates at local food pantries. For example, a mobile school pantry program at the Waltham Public Schools has seen a substantial increase in the number of people registered since it opened in November 2017.

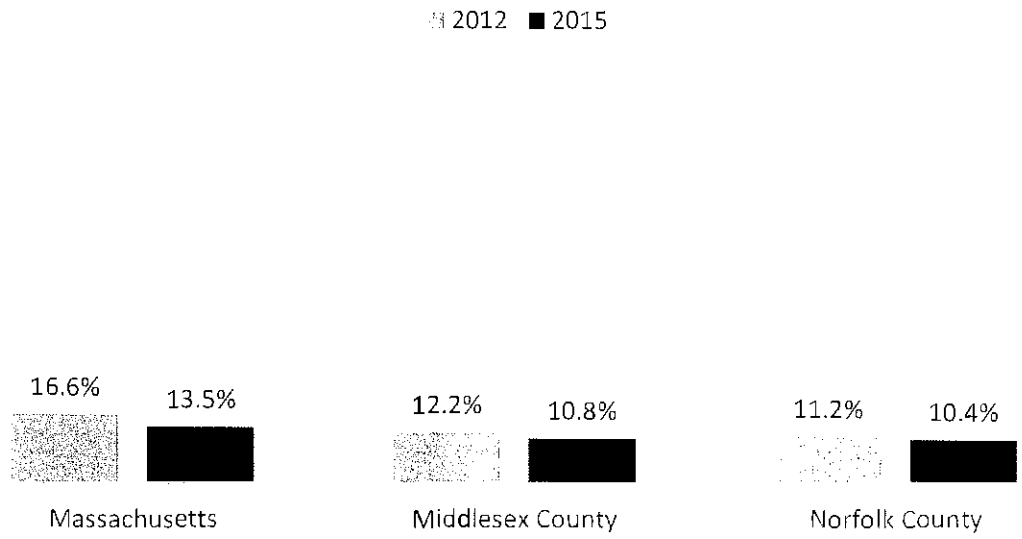
**Figure 43: Percent of Total Population that Did Not Have Access to a Reliable Source of Food During Past Year, by State and County, 2012 and 2015**




DATA SOURCE: Feeding America, Map the Meal Gap, 2012 and 2015

Among residents younger than 18 years of age, a lower percent of Middlesex and Norfolk County residents did not have access to a reliable source of food in the past year compared to the state average in both 2012 and 2015 (Figure 44). In 2015, 10.8% and 10.4% of Middlesex and Norfolk County residents <18 years of age, respectively experienced food insecurity. Trends suggest a slight decline in food insecurity from 2012 to 2015.

**Figure 44: Percent of Population Under 18 Years that Did Not Have Access to a Reliable Source of Food in Past Year, by State and County, 2012 and 2015**




DATA SOURCE: Feeding America, Map the Meal Gap, 2012 and 2015

As shown in Figure 45, one fifth (20.0%) of adults in Middlesex and Norfolk Counties reported no leisure time physical activity in 2014 compared to 22.0% of adults across Massachusetts. While patterns for Massachusetts and Norfolk Counties remained relatively stable from 2010 to 2014, trends suggest a slight decrease in no leisure time physical activity reported in Middlesex County (22.0% to 20.0%) over this period. In 2015, one quarter (25.5%) of Newton adults reported no leisure time physical activity (data not shown). Statewide, physical activity trends in 2014 were similar to the 2015 CHNA, when 21.3% of Massachusetts adults reported no leisure time physical activity in 2007-2009. However, a smaller proportion of adults in CHNA 18 (14.8%) reported no leisure time physical activity in 2007-2009 (data not shown), compared to patterns for Middlesex and Norfolk Counties in 2014.

Additionally, half (51.8%) of Massachusetts adults met the guidelines for weekly aerobic exercise, and nearly one-third (31.5%) met the guidelines for strength training in 2015 (data not shown). According to participants, there are numerous community resources to support a healthy lifestyle. Residents mentioned tennis courts and golf courses, bike paths and hiking trails, as well as gyms and fitness centers. Fitness programs offered through local parks and recreation departments and at senior centers were also mentioned as options. One focus group participant described, *"Newton is an active city, you can do a lot of things around. I see people walking around all the time...there are also a lot of walking groups."* However, participants acknowledged that cost, especially for gyms and exercise programs, can be a barrier for lower income residents.

**Figure 45: Percent of Adult Population Over 20 Years Reported No Leisure Time Physical Activity, by State and County, 2010 and 2014**


DATA SOURCE: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, as reported by National Diabetes Surveillance System, as cited by County Health Rankings, 2010 and 2014

## Mental Health and Substance Use

*Mental Health*

> *"Elderly population is totally underserved with their mental health needs."* —Interview Participant

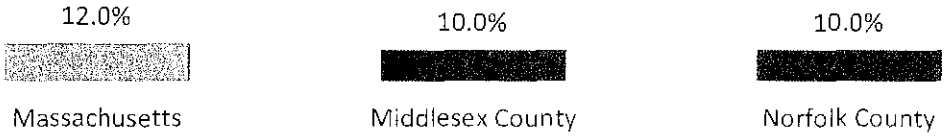
> *"Mental health is not a good term for us. Mental health is crazy in the Latino community."* —Interview Participant

The following section illustrates the prevalence of behaviors and mental health outcomes among youth in the NWH service area. As in the 2015 CHNA, mental health was the community health concern mentioned most frequently in interviews and focus groups, with children and youth, seniors, and immigrant groups perceived as disproportionately affected. Participants cited high rates of anxiety and depression, and noted that increasingly, some of those suffering from mental health concerns also engage in substance misuse. They also shared concerns about lack of access to mental health services. A couple of providers pointed out that patients with medical issues are increasingly presenting with behavioral health issues as well, which creates challenges for the health care system.

Among seniors in the NWH service area, depression and cognitive decline were identified as the prominent mental health concerns. Hoarding was also reported to be an issue, as it was in the 2015 CHNA. Social isolation of seniors was seen as a cause for depression and participants praised local institutions such as senior centers for their role in enhancing socialization for the community's seniors. Fear of getting Alzheimer's disease was also mentioned by numerous participants. Participants acknowledged that an increasing number of seniors have serious health issues and/or dementia but no family support, which creates substantial pressure on local institutions. As one provider explained, *"we've had a lot of elders come in who came into our radar who do not know what to do, they are declining in a way that they need support; their kids have their own lives and I can't bother them."* The stigma of mental illness and memory decline among seniors was reported to be strong, resulting in a reluctance among elders to seek out care. As one focus group participant stated, *"[seniors] will not admit it, they will not seek help."*

To assess mental health status among adults, the Behavioral Risk Factor Surveillance System survey asks respondents whether they experienced poor mental health, or feelings of sadness and depression at least 14 days in the past month. As shown in Figure 46, Middlesex (10.0%) and Norfolk (10.0%) County adults were slightly less likely to report experiencing poor mental health than residents statewide (12.0%). In the 2015 CHNA, 5.6% of residents in CHNA 18 reported 15 or more poor mental health days in the past month in 2002-2007 (data not shown). This suggests an increase in the percent of NWH service area adults experiencing poor mental health days in since the 2015 CHNA. Importantly, the geographic units (CHNA 18 in 2002-2007 and Counties in 2016) and slight decrease in number of poor mental health days reported (from 15 days to 14 days in the past month) necessitates cautious interpretations of that time trends for this indicator.

**Figure 46: Percent of Adults Reporting 14 or More Days of Poor Mental Health per Month, by State and County, 2016**




DATA SOURCE: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, as cited by County Health Rankings

As shown in Figure 47, from 2013 to 2014, the suicide rate in Massachusetts ranged from 8.5 to 9.8 deaths per 100,000 population. In Newton, the suicide rate in 2013 (9.5 deaths per 100,000 population) was nearly double that in 2010 (4.7 deaths per 100,000 population) as reported in the 2015 CHNA. While more recent data were not available for all NWH assessment communities, in 2010 the suicide rate was highest in Natick (9.1 deaths per 100,000 population) and Weston (8.9 deaths per 100,000 population), and lowest in Needham (<1 death per 100,000 population) and Wellesley (3.6 death per 100,000 population) (data not shown).

**Figure 47: Suicide Mortality per 100,000 Population, by State and City/Town, 2013 and 2014**


DATA SOURCE: Massachusetts Department of Public Health, Registry of Vital Records and Statistics, 2013 and 2014
NOTE: Data for the other assessment communities were not available; * indicates data not available

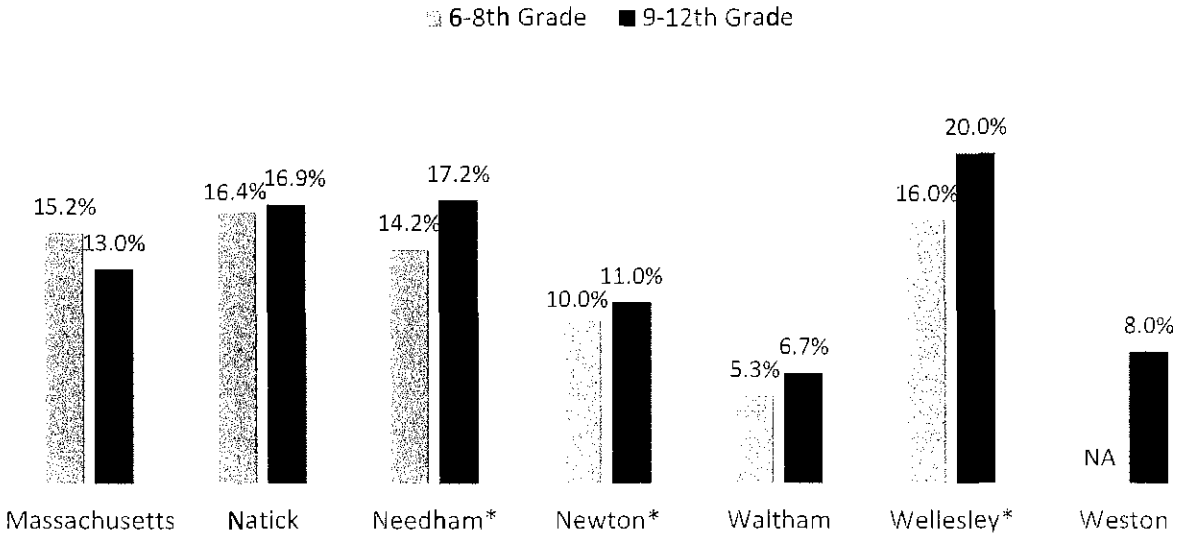
Mental health concerns among students was mentioned in many conversations, similar to the 2015 CHNA. Participants reported high rates of depression and anxiety among children and youth; they noted that these issues manifest themselves in classroom outbursts, eating disorders, and suicide or suicidal ideation. While academic pressure was identified as one factor—as in the 2015 CHNA—participants more often mentioned issues related to trauma, especially among newly immigrating young people. As

one focus group participant stated, *"stories of getting across the border and the trauma, it is just horrifying, and they're coming to school and trying to concentrate."* Participants also noted that children of increasingly younger ages are experiencing mental health issues. As one interviewee commented, *"kids in elementary school have suicidal ideation."* School-based therapists or counselors were described as having very high caseloads, making it difficult to establish needed connections with students so they can voice their concerns and seek help.

While bullying in and out of school was not a prominent theme in discussions, it was identified as a cause of distress among LGBTQ youth. A couple of interviewees also reported that the number of children with autism and developmental delays is increasing.

In 2015-2017, youth experiences of electronic bullying varied across the NWH assessment communities (Figure 48). Waltham had a lower prevalence of electronic bullying amongst middle (5.3%) and high (6.7%) school students than other assessment communities and the state (15.2% and 13.0%, respectively). Notably, compared to the 2015 CHNA, reports of electronic bullying for both middle and high school youth declined substantially in Waltham from 2012 (18.1% and 25.1%, respectively) to 2015-2017 (5.3% and 6.7%, respectively) (2012 data not shown). In 2015-2017, Natick (16.4%) and Wellesley (16.0%) had a higher prevalence of electronic bullying among middle school students compared to surrounding towns and youth statewide (15.2%), while in the 2015 CHNA this prevalence was highest in Waltham (18.1%) (data not shown). Among high school students, one fifth (20.0%) of Wellesley students reported being bullied electronically, a prevalence that was higher than other NWH service area towns and the state (13.0%) average for 2015-2017. In the 2015 CHNA, 22.0% of Wellesley high school students reported electronic bullying in 2012, suggesting relatively similar trends over this period for Wellesley.

**Figure 48: Percent of Students (Grades 6-8 & 9-12) Bullied Electronically by State and City/Town, 2015-2017**

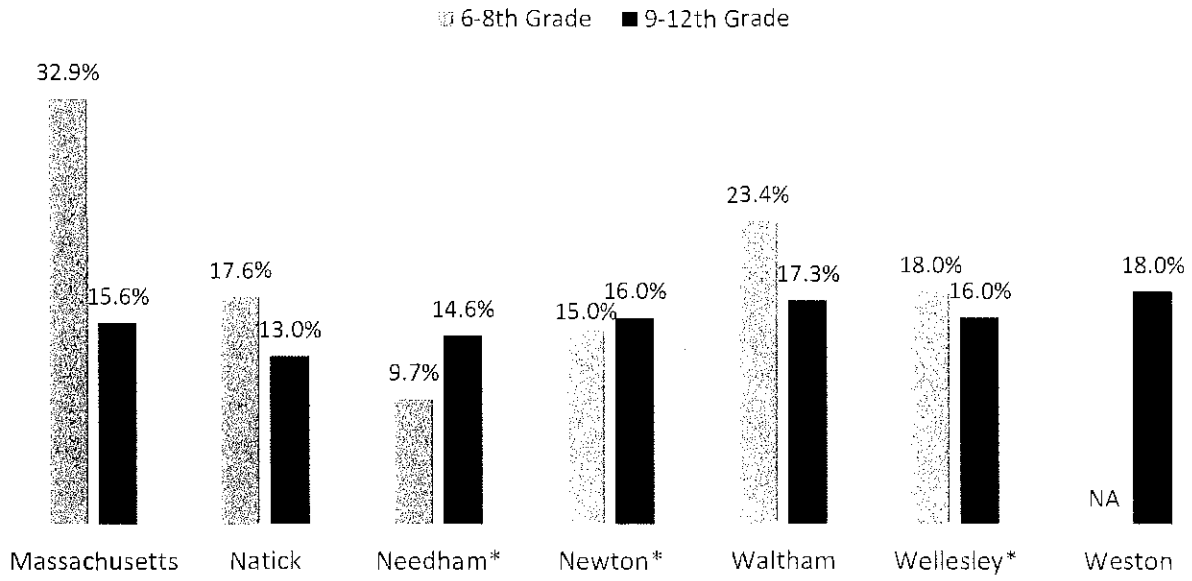



DATA SOURCE: Massachusetts Youth Health Risk Report, 2015; Natick High School and Middle School Adolescent Health Survey 2016; Needham High School and Middle School Adolescent Health Survey, 2016; Newton Youth Risk Behavior Survey, 2017; Waltham Public Schools Youth Risk Behavior Survey, 2017; Wellesley High School and Middle School Adolescent Health Survey, 2016, Weston Youth Health Assessment, 2015.
NOTE: NA indicates data were not available; * indicates grades 7-8

As shown in Figure 49, nearly one quarter (23.4%) of middle school youth in Waltham reported that they experienced bullying on school campuses, a prevalence that was higher than the other assessment communities in 2015-2017, but below the state average (32.9%). Of note, compared to the 2015 CHNA, the prevalence of bullying on school property amongst middle school youth declined for all four of the assessment communities for which 2012 data were available, with the towns of Needham, Waltham, and Wellesley experiencing a decline of at least 40% over this period (data not shown).

Among high school students, on-campus bullying was highest for students in Weston (18.0%) and Waltham (17.3%), while high school students in Natick (13.0%) and Needham (14.6%) reported a lower prevalence of in-school bulling compared to their peers in other assessment communities and statewide (15.6%). Compared to the 2015 CHNA, bullying on school property declined by at least 25% for high school youth in Needham, Waltham, Wellesley, and Weston, while the prevalence increased slightly in Newton (14.0% to 16.0%, respectively) (data not shown; 2012 data not available for Natick).

**Figure 49: Percent of Students (Grades 6-8 & 9-12) Bullied on School Property by State and City/Town, 2015-2017**

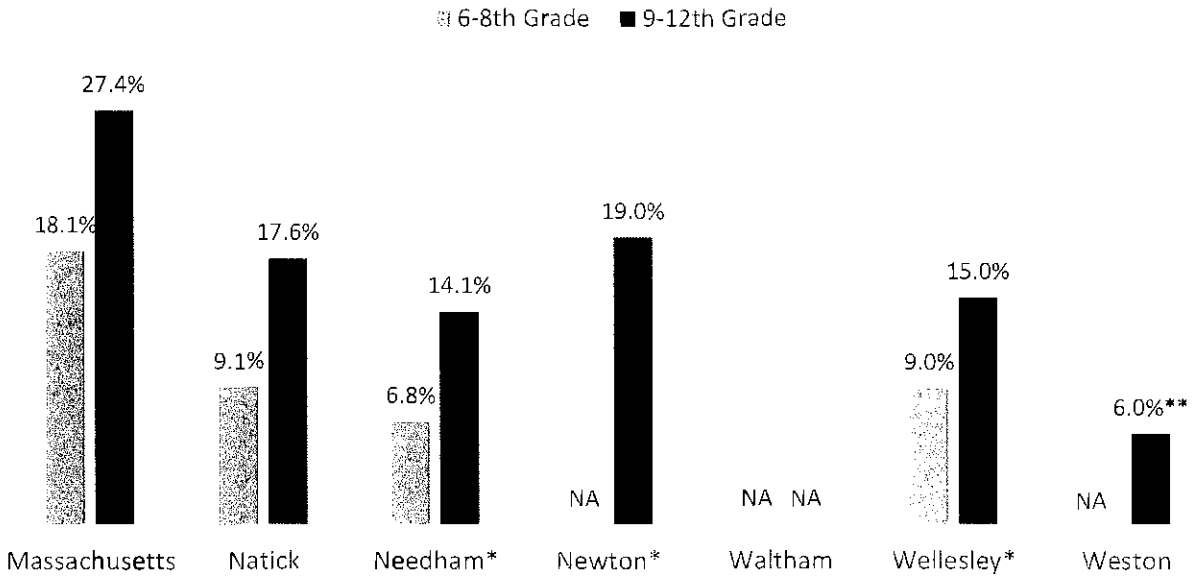



DATA SOURCE: Massachusetts Youth Health Risk Report, 2015; Natick High School and Middle School Adolescent Health Survey 2016; Needham High School and Middle School Adolescent Health Survey, 2016; Newton Youth Risk Behavior Survey, 2017; Waltham Public Schools Youth Risk Behavior Survey, 2017; Wellesley High School and Middle School Adolescent Health Survey, 2016, Weston Youth Health Assessment, 2015.
NOTE: NA indicates data were not available; *indicates grades 7-8

In 2015-2017, the percent of middle and high school students reporting symptoms of depression was substantially lower for the assessment communities for which data were available, compared to the state overall (Figure 50). While nearly one-fifth of middle school youth across Massachusetts reported symptoms of depression in 2015-2017, fewer than 10.0% of middle school youth in the assessment communities for whom data were available reported symptoms of depression. One fifth (19.0%) of Newton high school students reported depressive symptoms in 2015-2017. Though this percent was higher than other assessment communities, it was lower than that for high school students across Massachusetts (27.4%).

Compared to the 2015 CHNA, the prevalence of symptoms of depression among middle school youth declined across each of the assessment communities for which comparative data were available. Longitudinal patterns among high school youth varied across cities/towns in the NWH service area. Relative to the 2015 CHNA, patterns suggest a slight decline in depressive symptoms for high school youth in Needham (16.6% to 14.1%) and Wellesley (16.0% to 15.0%), a three-fold decrease in Weston (18.0% to 6.0%), and a slight increase in Newton (17.8% to 19.0%).

**Figure 50: Percent of Students Symptoms of Depression Issues by State and City/Town, 2015-2017**

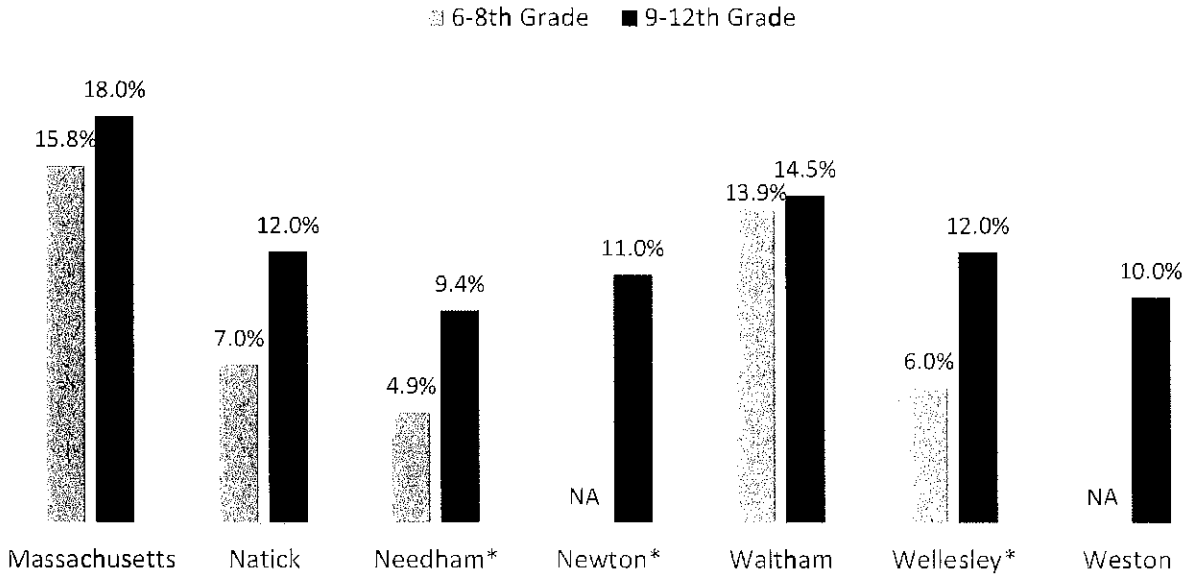



DATA SOURCE: Massachusetts Youth Health Risk Report, 2015; Natick High School and Middle School Adolescent Health Survey 2016; Needham High School and Middle School Adolescent Health Survey, 2016; Newton Youth Risk Behavior Survey, 2017; Waltham Public Schools Youth Risk Behavior Survey, 2017; Wellesley High School and Middle School Adolescent Health Survey, 2016, Weston Youth Health Assessment, 2015.
NOTE: NA indicates data were not available; * indicates grades 7-8; ** indicates reported diagnosis

In 2015-2017, middle and high school youth in Waltham (13.9% and 14.5%, respectively) had the highest prevalence of reported self-harm compared to the other assessment communities for which data were available (Figure 51). However, compared to their peers statewide (15.8% and 18.0%, respectively), there was a lower percent of middle and high school youth indicating self-harm for each of the assessment communities for which data were available.

Since the 2015 CHNA, the prevalence of self-harm among Waltham middle school youth declined since 2012 (19.4% to 13.9%), while patterns remained relatively similar for Natick (7.3% to 7.0%) and Wellesley (7.0% to 6.0%) over this period (data not shown; comparative data for other cities/towns not available). Similarly, since the 2015 CHNA the prevalence of self-harm reported by high school students declined in Waltham from 20.1% in 2012 to 14.5% in 2017. Needham, Newton, Wellesley, and Weston also experienced a decrease in the percent of high school students reporting self-harm from 2012 to 2015-2017 (data not shown).

**Figure 51: Percent of Students (Grades 6-8 & 9-12) Reporting Self Harm, by State and City/Town, 2015-2017**

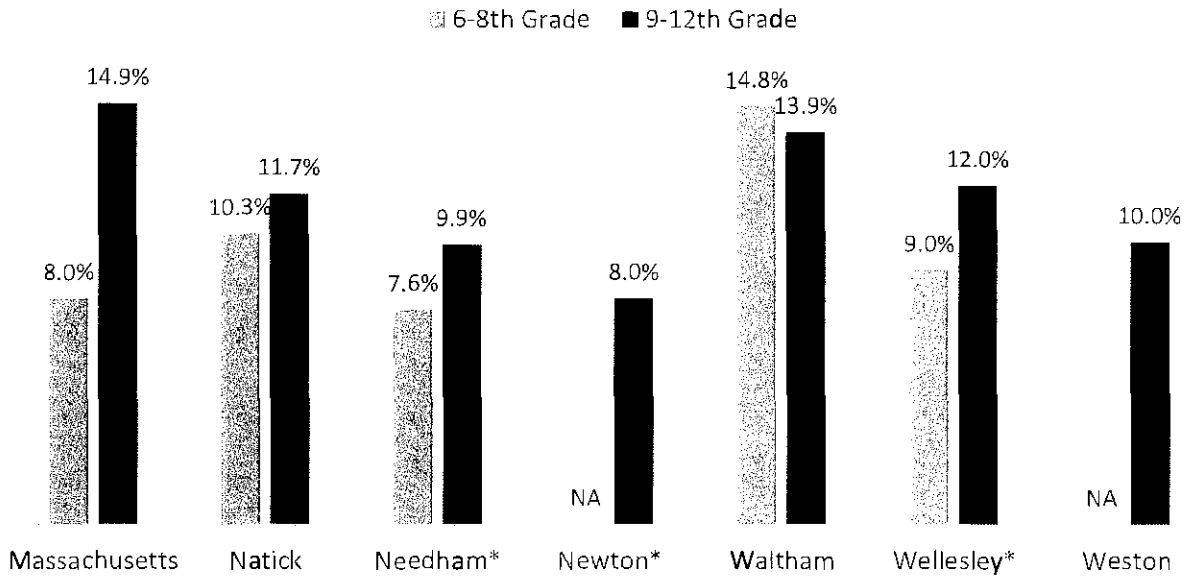



DATA SOURCE: Massachusetts Youth Health Risk Report, 2015; Natick High School and Middle School Adolescent Health Survey 2016; Needham High School and Middle School Adolescent Health Survey, 2016; Newton Youth Risk Behavior Survey, 2017; Waltham Public Schools Youth Risk Behavior Survey, 2017; Wellesley High School and Middle School Adolescent Health Survey, 2016, Weston Youth Health Assessment, 2015.
NOTE: NA indicates data were not available; * indicates grades 7-8

As shown in Figure 52, a higher percent of middle school youth in Waltham (14.8%), Wellesley (12.0%), and Natick (11.7%) reported suicide ideation than the average statewide (8.0%) in 2015-2017. Among high school youth, suicide ideation was also more prevalent in Waltham (13.9%), Wellesley (12.0%), and Natick (11.7%) and lowest in Newton (8.0%). The prevalence of suicide ideation among high school youth across the NWH service area was lower than for youth across Massachusetts overall.

Compared to the 2015 CHNA, the prevalence of suicide ideation amongst middle school youth decreased from 2012 to 2015-2107 in Waltham (18.9% to 14.8%) and Wellesley (12.0% to 9.0%) and patterns remained similar for Natick (data not shown; comparative data for other cities/towns not available). Among high school students, since the 2015 CHNA the prevalence of suicide ideation increased in Natick (8.3% to 11.7%) and Weston (8.5% to 10.0%). Patterns increased slightly in Newton and Waltham and remained similar over time for Wellesley (data not shown).

**Figure 52: Percent of Students (Grades 6-8 & 9-12) Reporting Suicide Ideation, by State and City/Town, 2015-2017**

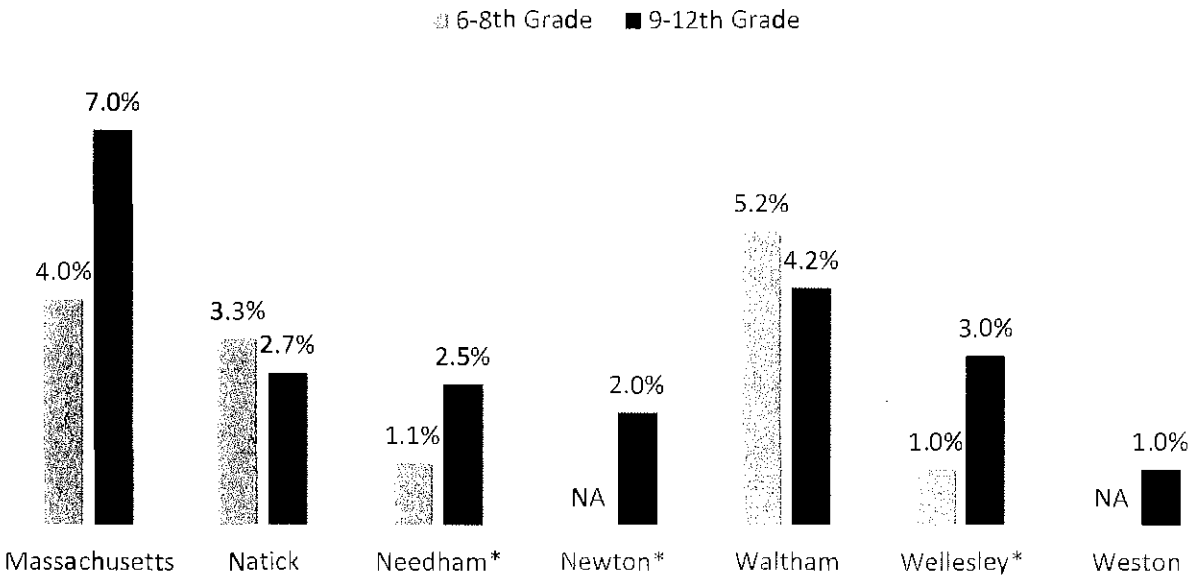



DATA SOURCE: Massachusetts Youth Health Risk Report, 2015; Natick High School and Middle School Adolescent Health Survey 2016; Needham High School and Middle School Adolescent Health Survey, 2016; Newton Youth Risk Behavior Survey, 2017; Waltham Public Schools Youth Risk Behavior Survey, 2017; Wellesley High School and Middle School Adolescent Health Survey, 2016, Weston Youth Health Assessment, 2015.
NOTE: seriously considered attempting suicide; NA indicates data were not available; * indicates grades 7-8

In 2015-2017, middle school student reports of a past suicide attempt were highest in Waltham (5.2%) and lowest in Needham (1.1%) and Wellesley (1.0%) (Figure 53). Among the NWH assessment communities, only Waltham had a higher prevalence of suicide attempts among middle school youth than patterns for Massachusetts overall (4.0%). For high school youth, the prevalence of suicide attempts was highest in Waltham (4.2%) and lowest in Weston (1.0%) and was below the state average (7.0%) for all the assessment communities.

Longitudinal patterns since the 2015 CHNA indicate a slight increase in the percent of middle school students reporting suicide attempt in Natick (1.8% to 3.3%), and a slight decrease in Wellesley (3.0% to 1.0%) from 2012 to 2015-2017 (data not shown). Since the 2015 CHNA, the prevalence of suicide attempts among high school students decreased slightly in Newton (3.6% to 2.0%), and decreased more than three-fold in Waltham (15.1% to 4.2%) from 2012 to 2017 (data not shown). Since the 2015 CHNA, suicide attempt patterns remained similar for high school students across the other assessment communities (data not shown).

**Figure 53: Percent of Students Reporting Suicide Attempt, by State and City/Town, 2015-2017**




DATA SOURCE: Massachusetts Youth Health Risk Report, 2015; Natick High School and Middle School Adolescent Health Survey 2016; Needham High School and Middle School Adolescent Health Survey, 2016; Newton Youth Risk Behavior Survey, 2017; Waltham Public Schools Youth Risk Behavior Survey, 2017; Wellesley High School and Middle School Adolescent Health Survey, 2016, Weston Youth Health Assessment, 2015.
NOTE: NA indicates data were not available; * indicates grades 7-8

*Substance Use*

> *"Navigating what is available in the community (substance use services) is a challenge. There is so much stigma asking for help, and it can be really intimidating to ask for help."* —Interview Participant

> *"We're playing catch up – we're so behind where we need to be in terms of resources and rehab, detox."* —Interview Participant

Similar to the 2015 CHNA, substance use was also reported to be a substantial challenge for the community. Opioids were the substance of greatest concern to participants. Participants shared that overdoses have occurred throughout the NWH service area, linked to prescription drug misuse and the availability of cheaper heroin and more dangerous fentanyl. Overprescribing of pain medication and mental health issues were identified as causes of substance use addiction. Substance misuse was not seen as more prevalent in a particular group; in fact, several participants spoke about its wide-ranging nature. As one interviewee stated, *"substance use can occur in any community, rich or poor. You can have an addict on heroin that is a doctor or a lawyer."* Substance use has also contributed to other community issues, according to participants, specifically to a rise in petty crime and homelessness.

Substance use among seniors was also reported to be an issue in the community. Participants described that among seniors, lifelong smoking is prevalent, contributing to long-term health consequences. Others noted that social isolation contributes to drinking problems among seniors.
At the policy and systems levels, participants reported some progress in addressing substance misuse, but also shared a sense that more needs to be done. Participants noted that Waltham, for example, recently hired a substance use case manager for the city who works with community partners, including police departments and hospitals, to strengthen relationships and increase education and outreach in the community. Yet, participants commented that there is more to be done; for example, as one interviewee noted, in Waltham, of five recommended tobacco regulations, the city has only adopted one: raising the age to buy tobacco to 21.

Presented in Table 6

Table 6 are the rates of admissions to Bureau of Substance Abuse Services (BSAS)-funded and licensed treatment programs. In FY 2017, admissions were highest for residents of Waltham (770.3 admissions per 100,000 population) and Natick (658.5 admissions per 100,000 population). Intravenous drug use admissions were also highest in Waltham (263.2 admissions per 100,000 population) and Natick (197.8 admissions per 100,000 population). In the 2015 CHNA (2009-2011), Waltham and Natick also had the highest rate of admissions to DPH-funded treatment programs and admissions for injection drug use. Since the 2015 CHNA, with the exception of Natick (567.5 to 658.5 admissions per 100,000 population, respectively), treatment admissions decreased across the NWH service area. Since the 2015 CHNA, treatment admissions for intravenous drug use increased for residents of Natick (125.3 to 197.8 admissions per 100,000 population) and Waltham (238.4 to 263.2 admissions per 100,000 population).

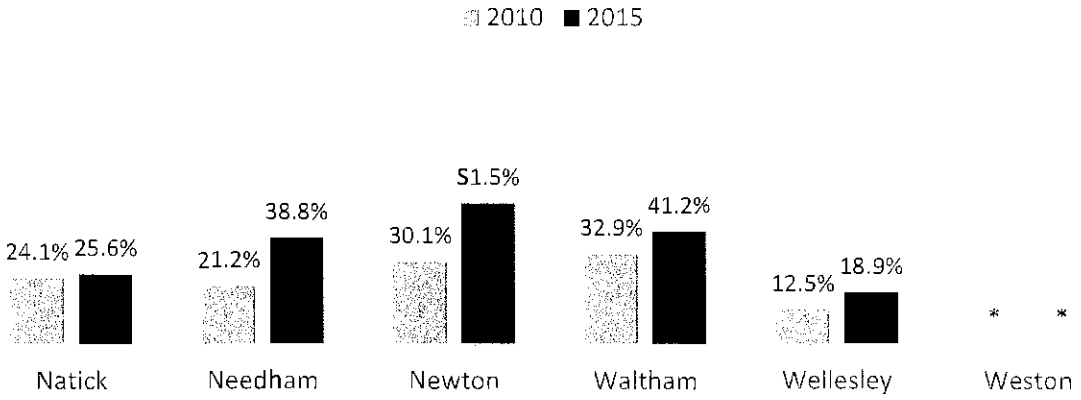
**Table 6: Rate of Admissions to DPH Funded Treatment Programs per 100,000 Population, by State, County, and City/Town, FY 2017**

| Geography | Admissions to BSAS Funded/Licensed Treatment Programs | Intravenous Drug User Admissions to BSAS Funded/Licensed Treatment Program |
|---|---|---|
| MA | 1,651.9 | 707.4 |
| Middlesex County | 870.6 | 364.5 |
| Norfolk County | 903.2 | 396.0 |
| Natick | 658.5 | 197.8 |
| Needham | 202.2 | 53.0 |
| Newton | 270.6 | 113.2 |
| Waltham | 770.3 | 263.2 |
| Wellesley | 162.6 | 24.2 |
| Weston | 83.7 | * |

DATA SOURCE: Office of Statistics and Evaluation, Bureau of Substance Addiction Services, Massachusetts Department of Public Health, FY2017
Note: * indicates n<5

In 2015, among patients admitted for substance use treatment, Newton (51.5%), Waltham (41.2%), and Needham (38.8%) had the highest percent of patients admitted due to heroin as their primary substance of use (Figure 54). From 2010 to 2015, the prevalence of heroin-related treatment increased in each of the NWH assessment communities. One-quarter or less of patients from Natick (25.6%) and Wellesley (18.9%) were seeking treatment for heroin use in 2010 and 2015.

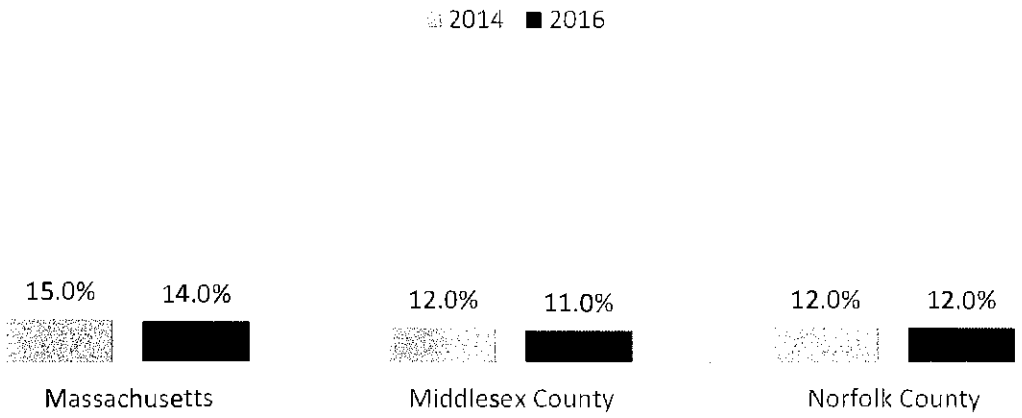
**Figure 54: Percent of Patients in Treatment Listing Heroin as Their Primary Substance of Use, by City/Town, 2010 and 2015**




DATA SOURCE: Massachusetts Department of Public Health, Bureau of Substance Abuse Services, The Massachusetts Opioid Epidemic: A visualization of findings from the Chapter 55 report, 2010-2015
NOTE: * indicates data not available for Weston

In 2014 and 2016, approximately one in ten adults in Middlesex and Norfolk Counties reported that they currently smoked, a prevalence that as slightly lower than Massachusetts overall (15.0% and 14.0%, respectively) (Figure 55). This prevalence of current smoking was similar to patterns in 2006-2012 (data not shown) as reported in the 2015 CHNA. In 2015, 17.1% of Newton adults reported currently smoking, higher than the state average (14.2%) that same year (Figure 56).

**Figure 55: Percent of Adults Who Report Current Smoking Status, by State and County, 2016**



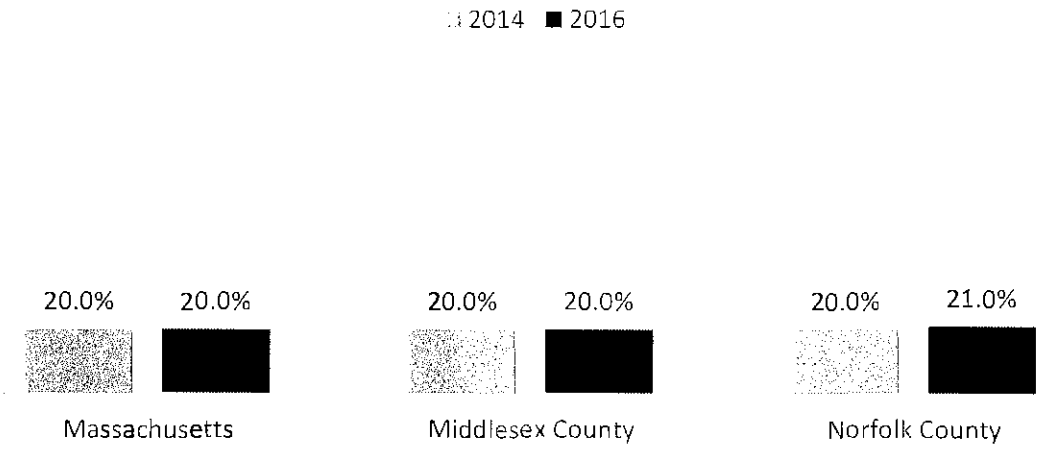

DATA SOURCE: Centers for Diseases Control and Prevention, Behavioral Risk Factor Surveillance System, as cited by County Health Rankings, 2014 and 2016

**Figure 56: Percent of Adults Who Reported Current Smoking, by State and Newton, 2015**


DATA SOURCE: Centers for Disease Control and Prevention, 500 Cities Project, 2015

In 2014 and 2016, one-fifth of adults in Middlesex and Norfolk Counties reported excessive drinking, similar to patters for Massachusetts (Figure 57). In the 2015 CHNA, the prevalence of excessive drinking was slightly lower in Middlesex (18.0%) and Norfolk (19.0%) Counties in 2006-2012 (data not shown). In 2015, 17.2% of Newton adults reported excessive drinking, below the statewide (19.1%) average that same year (Figure 58).

**Figure 57: Percent of Adults Who Report Excessive Drinking, by State and County, 2014 and 2016**




DATA SOURCE: Centers for Diseases Control and Prevention, Behavioral Risk Factor Surveillance System, as cited by County Health Rankings, 2014 and 2016
NOTE: Excessive drinking includes those who reported binge drinking or heavy drinking

**Figure 58: Percent of Adults Who Reported Binge Drinking, by State and Newton, 2015**

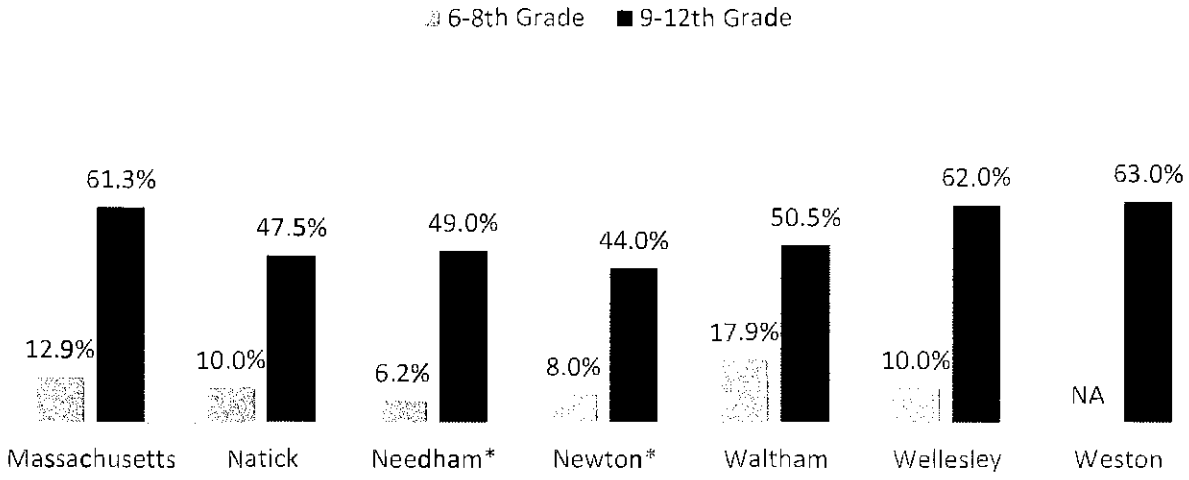

DATA SOURCE: Centers for Disease Control and Prevention, 500 Cities Project, 2015

In focus groups and interviews, use of marijuana and alcohol among students was reported, as in the 2015 CHNA. This was in part attributed to school pressures. As one interviewee observed, *"those reporting higher levels of anxiety and depression are also reporting high rates of substance use. There seems to be a correlation with substance use and grades."* Participants also reported that the rise in marijuana use is linked to legalization and a sense among students that use of the drug is safe for young people. Problematic as well, according to participants, is lack of parent enforcement and intervention in their children's substance use. This was summed up by one focus group participant who said, *"parents think [substance use] is a rite of passage—they're teenagers."*

Among youth middle school youth, lifetime alcohol use was highest in Waltham (17.9%), followed by Natick (10.0%) and Wellesley (10.0%) (Figure 59). Of the six NWH service area cities/towns, only Waltham had a lifetime alcohol use prevalence among middle school students that exceeded the prevalence for the state (12.9%). Mirroring state patterns, since the 2015 CHNA, lifetime alcohol use among middle school students declined for four of the five assessment communities for which data were available, with the greatest decrease in Waltham (30.4% to 17.9%) and Needham (14.8% to 6.2%; data not shown).

Among high school students, similar to statewide (61.3%) patterns, six in ten high school students in Wellesley (62.0%) and Weston (63.0%) reported alcohol use in their lifetime in 2015-2017. Half of high school students in Waltham (50.5%) and Needham (49.0%) reported lifetime alcohol use. Since the 2015 CHNA (2012 estimates), the prevalence of lifetime alcohol use declined for five of the six assessment communities, with the exception of Weston (59.4% to 63.0%; data not shown).

**Figure 59: Percent of Students Reporting Lifetime Alcohol Use, by State and City/Town, 2015, 2016, 2017**

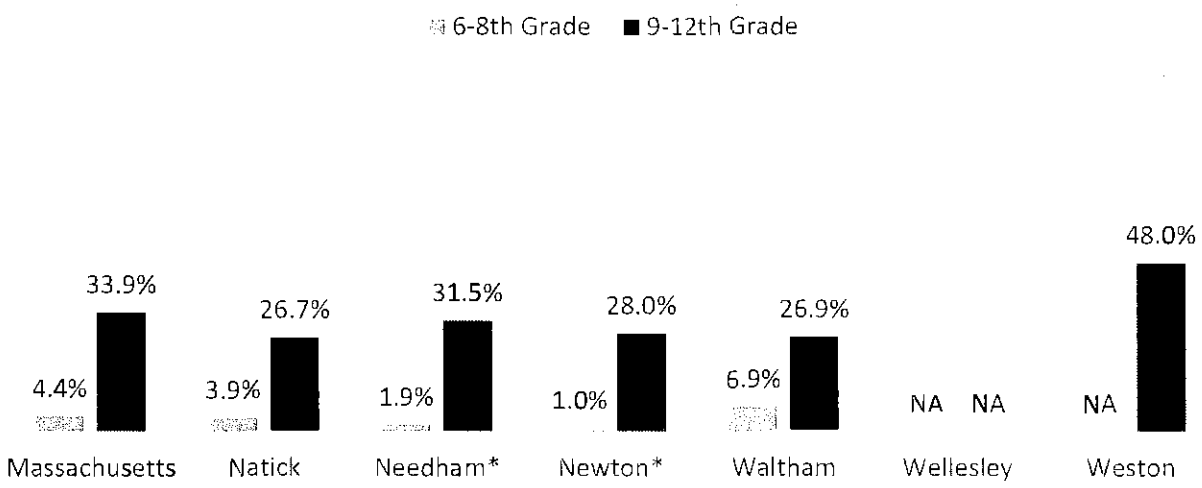



DATA SOURCE: Massachusetts Youth Health Risk Report, 2015; Natick High School and Middle School Adolescent Health Survey 2016; Needham High School and Middle School Adolescent Health Survey, 2016; Newton Youth Risk Behavior Survey, 2016; Waltham Public Schools Youth Risk Behavior Survey, 2017; Wellesley High School and Middle School Adolescent Health Survey, 2016, Weston Youth Health Assessment, 2015.
NOTE: Years of data vary by geography; NA indicates data were not available; * indicates grades 7-8

During the 2015 to 2017 period, with the exception of Waltham (6.9%), current alcohol use among middle school youth was below the state average (4.4%) (Figure 60). Since the 2015 CHNA, current alcohol use among middle school youth declined across for each of the assessment communities for which data at both time points were available. Notably, current alcohol use among middle school youth in Waltham declined from 14.5% in 2012 to 6.9% in 2017 (data not shown).

The prevalence of current alcohol use among high school students ranged from a low of one-quarter in Waltham (26.9%) to half of students in Weston (48.0%) during the 2015 to 2017 period. Weston was the only assessment community where current alcohol use among high school youth exceeded the prevalence for Massachusetts youth overall (33.9%). Compared to the 2015 CHNA, current alcohol use among high school youth increased in Weston from 2012 (44.4%) to 2015 (48.0%). Current smoking prevalence among high school youth declined across the other four assessment communities for whom 2012 data were available, with more than a 25% decline in Natick and Waltham (data not shown).

**Figure 60: Percent of Students Reporting Current Alcohol Use, by State and City/Town, 201S, 2016, 2017**

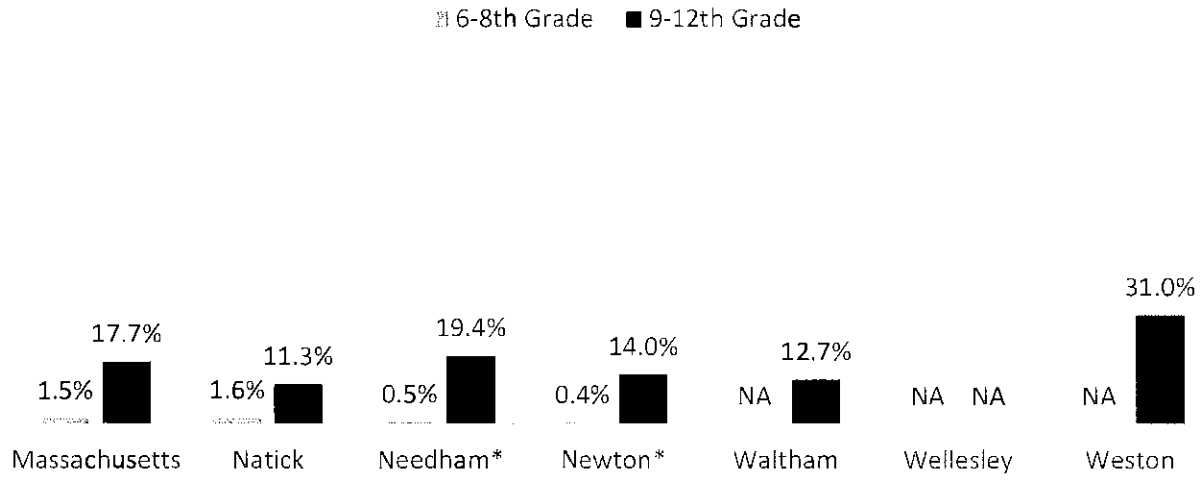



DATA SOURCE: Massachusetts Youth Health Risk Report, 2015; Natick High School and Middle School Adolescent Health Survey 2016; Needham High School and Middle School Adolescent Health Survey, 2016; Newton Youth Risk Behavior Survey, 2016; Waltham Public Schools Youth Risk Behavior Survey, 2017; Wellesley High School and Middle School Adolescent Health Survey, 2016, Weston Youth Health Assessment, 2015.
NOTE: NA indicates data were not available; * indicates grades 7-8

Following patterns for lifetime and current alcohol use, in 2015-2017 nearly one-third (31.0%) of high school students in Weston reported binge drinking, a prevalence that was nearly double that for Massachusetts overall (17.7%) and exceeded the prevalence across the other NWH service area cities/towns for which data were available (Figure 61). Compared to the 2015 CHNA, the percent of high school students reporting binge drinking in 2012 declined by approximately half in Natick (22.0% to 11.3%) and Waltham (26.3% to 12.7%) (data not shown). Binge drinking also declined among high school students in Newton (17.8% to 14.0%) (data not shown). In contrast, since the 2015 CHNA, the prevalence of binge drinking increased in Weston (29.7% to 31.0%) (data not shown).

Among middle school students, reported binge drinking among Natick (1.6%) was similar to patterns for Massachusetts overall (1.5%) during the 2015 to 2017 period. Since the 2015 CHNA (2012 estimates), binge drinking among middle school students declined slightly across Massachusetts (3.0% to 1.5%) and in Natick (2.2% to 1.6%).

**Figure 61: Percent of Students Reporting Current Binge Alcohol Use, by State and City/Town, 2015, 2016, 2017**

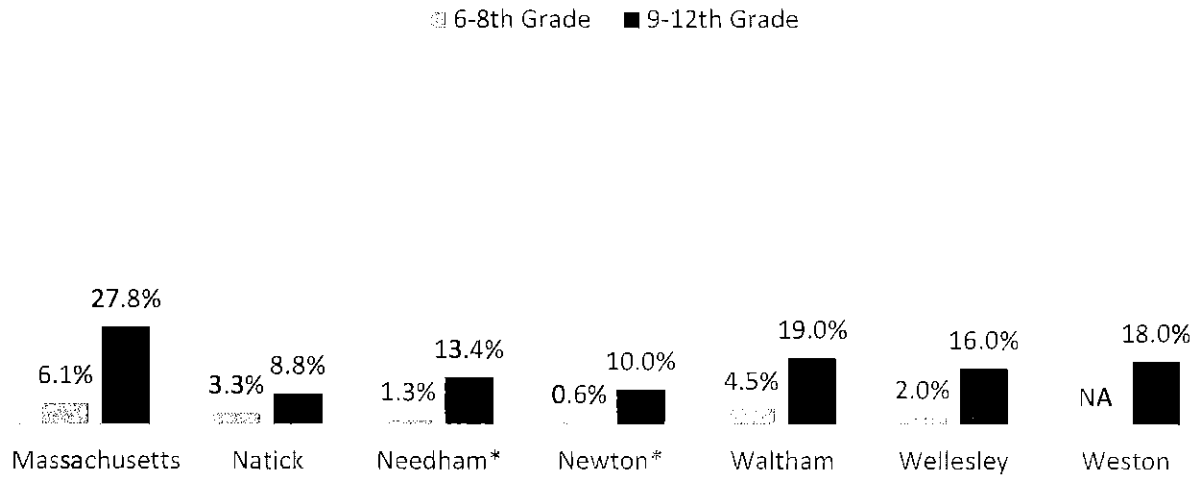



DATA SOURCE: Massachusetts Youth Health Risk Report, 2015; Natick High School and Middle School Adolescent Health Survey 2016; Needham High School and Middle School Adolescent Health Survey, 2016; Newton Youth Risk Behavior Survey, 2016; Waltham Public Schools Youth Risk Behavior Survey, 2017; Wellesley High School and Middle School Adolescent Health Survey, 2016, Weston Youth Health Assessment, 2015.
NOTE: NA indicates data were not available; *indicates grades 7-8

Over the 2015 to 2017 period, a lower percent of middle school youth in each of the five assessment communities for which data were available reported lifetime cigarette use compared to their peers statewide (6.1%) (Figure 62). Among middle school youth, the prevalence of lifetime cigarette use was highest in Waltham (4.5%). Since the 2015 CHNA, there was a substantial decline in lifetime cigarette use for middle school youth in Waltham (19.4% to 4.5%) and a slight decrease in Natick (5.4% to 3.3%), Needham (5.7% to 1.3%), and Newton (1.2% to 0.6%) (2012 data not shown).

The prevalence of lifetime cigarette use among high school youth was also lower in each of the six assessment communities compared to Massachusetts overall (27.8%) during the 2015 to 2017 period. Lifetime cigarette use was highest for high school youth in Waltham (19.0%) and Weston (18.0%) and lowest in Natick (8.8%). Following state patterns, since the 2015 CHNA the percent of high school youth reporting lifetime cigarette use declined by at least 25% across the assessment communities from 2012 to the 2015 to 2017 period.

**Figure 62: Percent of Students Reporting Lifetime Cigarette Use, by State and City/Town, 2015, 2016, 2017**

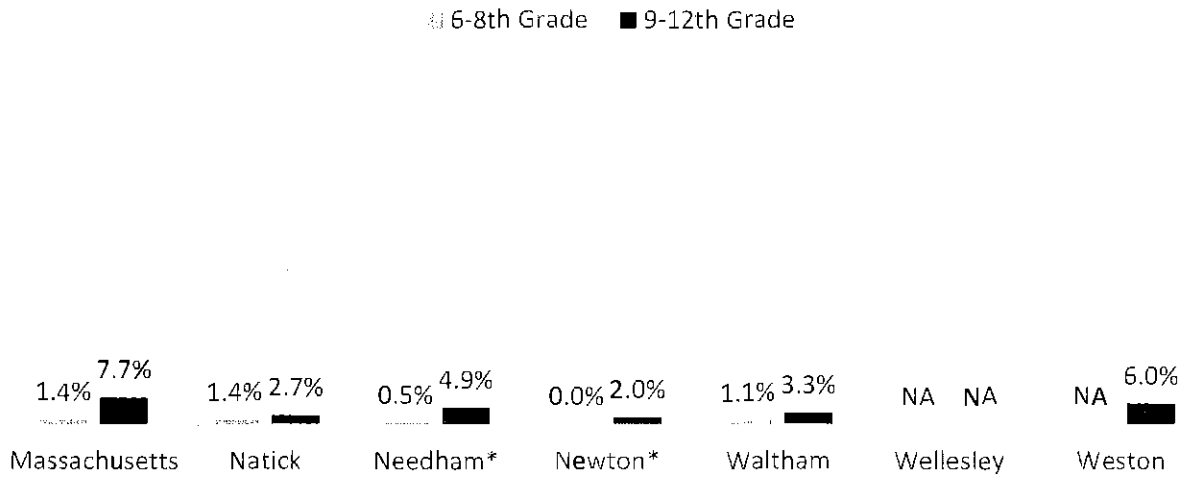



DATA SOURCE: Massachusetts Youth Health Risk Report, 2015; Natick High School and Middle School Adolescent Health Survey 2016; Needham High School and Middle School Adolescent Health Survey, 2016; Newton Youth Risk Behavior Survey, 2016; Waltham Public Schools Youth Risk Behavior Survey, 2017; Wellesley High School and Middle School Adolescent Health Survey, 2016, Weston Youth Health Assessment, 2015.
NOTES: NA indicates data were not available; * indicates grades 7-8

As shown in Figure 63, during the 2015 to 2017 period current cigarette among middle school youth in Newton, Needham, and Waltham was lower than for Massachusetts overall, while the prevalence of current cigarette use among middle school students in Natick was similar to state levels. From 2012 to 2015-2017, current cigarette use among middle school youth declined for each of the assessment communities for which data are available over both time points, with Waltham experiencing the greatest decline (5.7% to 1.1%; data not shown).

In the five assessment communities for which data are available, a lower percent of high school youth reported current cigarette use than their peers statewide. Current cigarette use among high school students was highest in Weston and Needham and lowest in Newton. Reflecting state patterns, current cigarette use among high school youth declined across each of the four assessment communities for which data were available from 2012 to 2015-2017 (data not shown).

**Figure 63: Percent of Students Reporting Current Cigarette Use, by State and City/Town, 2015, 2016, 2017**

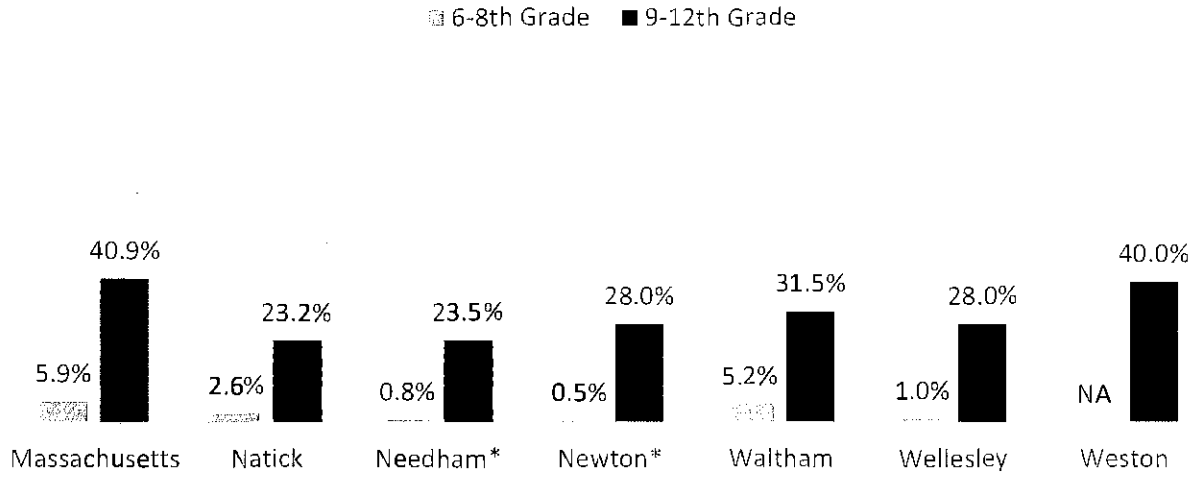



DATA SOURCE: Massachusetts Youth Health Risk Report, 2015; Natick High School and Middle School Adolescent Health Survey 2016; Needham High School and Middle School Adolescent Health Survey, 2016; Newton Youth Risk Behavior Survey, 2016; Waltham Public Schools Youth Risk Behavior Survey, 2017; Wellesley High School and Middle School Adolescent Health Survey, 2016, Weston Youth Health Assessment, 2015.
NOTES: NA indicates data were not available; * indicates grades 7-8

As shown in Figure 64, during the 2015-2017 period, a smaller proportion of middle school youth reported lifetime use of marijuana than those in high school. Among middle school students, lifetime marijuana use was highest in Waltham (5.2%), followed by Natick (2.6%), and did not exceed the state average (5.9%) for any of the cities/towns in the assessment region. Lifetime marijuana use amongst middle school students in 2015-2017 was lower than patterns in the 2015 CHNA for all assessment communities for which comparative data were available. Notably, lifetime marijuana use declined by more than 50% in Waltham (11.4% to 5.2%) and Needham (4.3% to 0.8%), and declined slightly in Newton (1.2% to 0.5%) (data not shown).

Among high school students, for each of the NWH service area cities/towns the prevalence of lifetime marijuana use was lower than Massachusetts overall (40.9%). In the assessment region, lifetime marijuana use was highest in Weston (40.0%) and Waltham (31.5%) and lowest in Needham (23.5%) and Natick (23.2%). Lifetime marijuana use among high school students was lower in 2015-2017 than 2012 with the exception of Newton, which remained constant at 28% over both time periods (data not shown).

**Figure 64: Percent of Students Reporting Lifetime Marijuana Use, by State and City/Town, 2015, 2016, 2017**

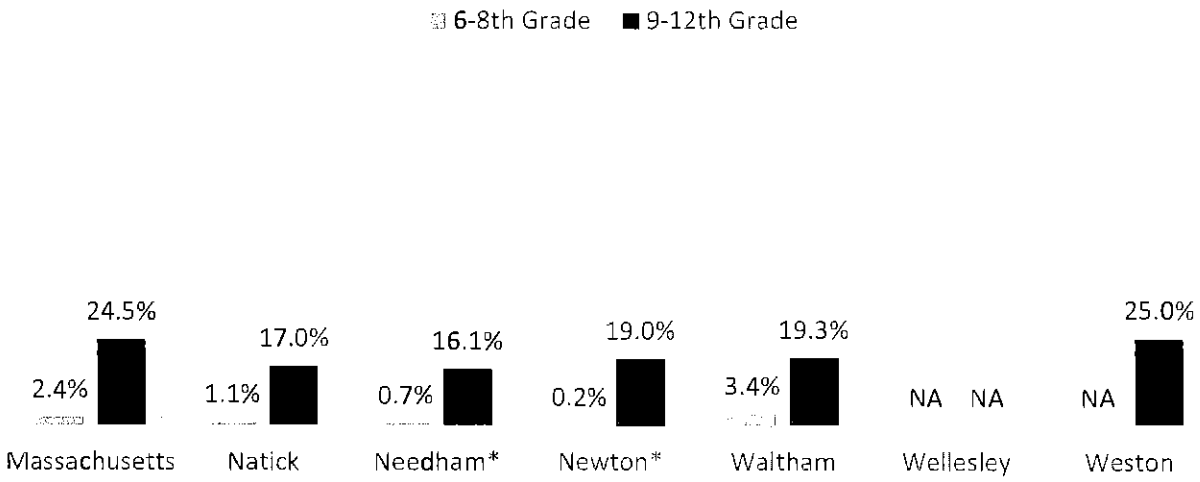



DATA SOURCE: Massachusetts Youth Health Risk Report, 2015; Natick High School and Middle School Adolescent Health Survey 2016; Needham High School and Middle School Adolescent Health Survey, 2016; Newton Youth Risk Behavior Survey, 2016; Waltham Public Schools Youth Risk Behavior Survey, 2017; Wellesley High School and Middle School Adolescent Health Survey, 2016, Weston Youth Health Assessment, 2015.
NOTES: NA indicates data were not available; * indicates grades 7-8

Shown in Figure 65, current marijuana use among middle school students in Waltham (3.4%) was slightly higher than the state average (2.4%) and exceeded the prevalence across the NWH service area cities/towns for which data were available in the 2015 to 2017 period. Since the 2015 CHNA, current marijuana use among middle school students declined across all assessment communities for which data were available, with a sizable decrease in Waltham (7.7% to 3.4%) (data not shown).

During the 2015 to 2017 period, one-quarter of Weston (25.0%) high school students reported current marijuana use, similar to the statewide prevalence (24.5%). Nearly one fifth of high school students reported current marijuana use in Waltham (19.3%), Newton (19.0%), and Natick (17.0%). Compared to the 2015 CHNA, current marijuana use among high school students declined slightly in Natick (19.0% to 17.0%), Waltham (22.7% to 19.3%), and Weston (28.2% to 25.0%). In contrast, since the 2015 CHNA the prevalence of current marijuana use increased slightly for high school students in Newton (17.0% to 19.0%) (data not shown).

**Figure 65: Percent of Students Reporting Current Marijuana Use, by State and City/Town, 2015, 2016, 2017**




DATA SOURCE: Massachusetts Youth Health Risk Report, 2015; Natick High School and Middle School Adolescent Health Survey 2016; Needham High School and Middle School Adolescent Health Survey, 2016; Newton Youth Risk Behavior Survey, 2016; Waltham Public Schools Youth Risk Behavior Survey, 2017; Wellesley High School and Middle School Adolescent Health Survey, 2016, Weston Youth Health Assessment, 2015.
NOTES: NA indicates data were not available; * indicates grades 7-8

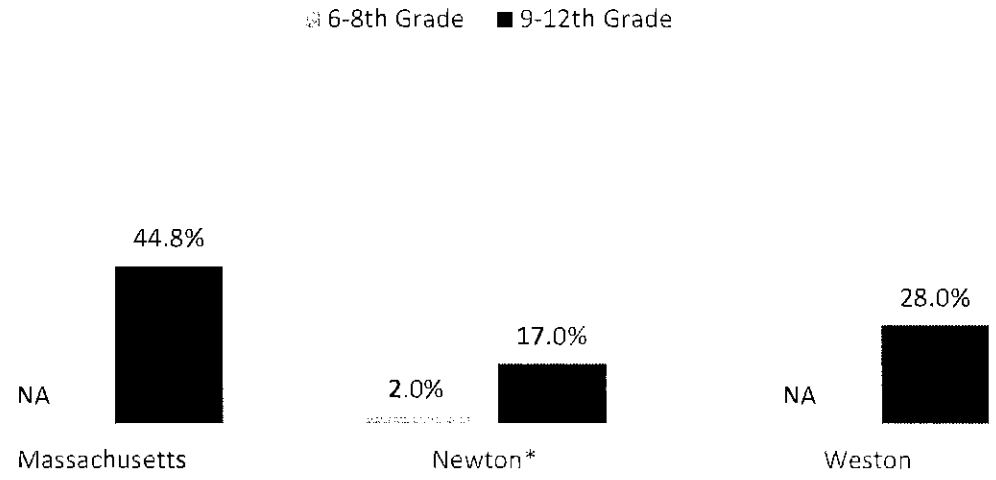
Emerging as a concern in the NWH service area in 2018 is vaping. Participants working with youth reported that vaping has substantially increased among students in recent years and that it happens both within and outside of school. The accessibility of vaping products, which can be purchased online, as well as lack of understanding about the health consequences of vaping were seen as factors contributing to its prevalence. According to participants, the ability to address this growing public health issue is hampered by its newness. As one interviewee explained, *"for vaping, the barriers are it's so new that we're learning about it; it's non-regulated, youth receive contradictory messages, school and board of health policies and regulations are just now under review."*

Relative to vaping, participants shared that the state of Massachusetts recently raised the age to purchase tobacco and vaping products to 21. However, those working in schools reported challenges in

trying to establish school-based policies about vaping. Participants stated that schools in the NWH service area have also begun adopting the Screening, Brief Intervention, and Referral to Treatment (SBIRT) program to address substance use by middle and high school students.[2]

During the 2015 to 2017 period, lifetime electronic cigarette use ranged from a high of 28.0% in Weston and a low of 17.0% in Newton, well below the prevalence for high school students across Massachusetts (44.8%) (Figure 66). Data regarding the prevalence of lifetime electronic cigarette use for middle school students were not available for most assessment communities, though estimates indicate that 2.0% of middle school students in Newton reported electronic cigarette use in their lifetime.

**Figure 66: Percent of Students Reporting Lifetime Electronic Cigarette Use by State and City/Town, 2015, 2016, 2017**

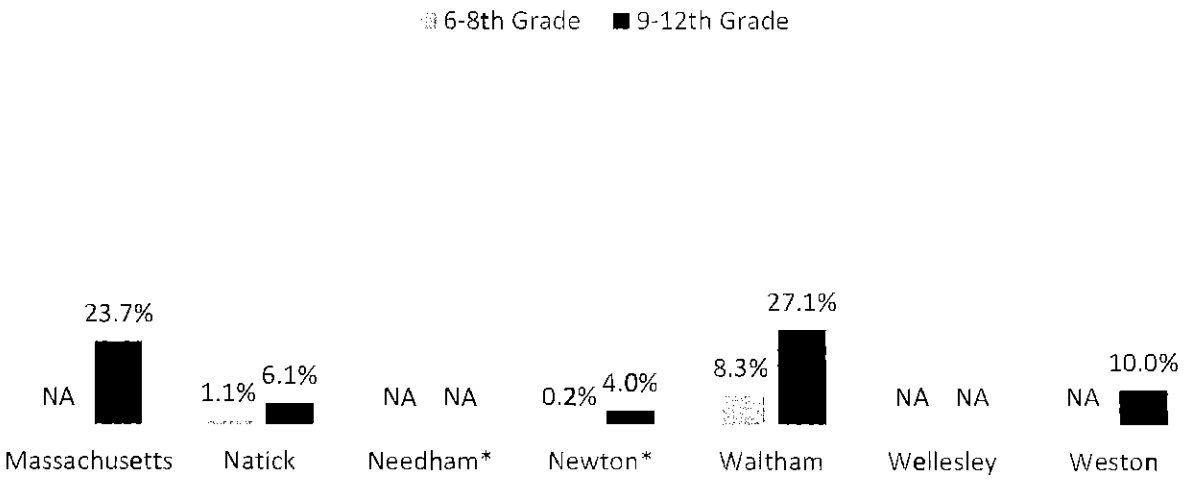



DATA SOURCE: Massachusetts Youth Health Risk Report, 2015; Natick High School and Middle School Adolescent Health Survey 2016; Needham High School and Middle School Adolescent Health Survey, 2016; Newton Youth Risk Behavior Survey, 2016; Waltham Public Schools Youth Risk Behavior Survey, 2017; Wellesley High School and Middle School Adolescent Health Survey, 2016, Weston Youth Health Assessment, 2015.
NOTES: NA indicates data were not available; * indicates grades 7-8

[2] https://www.mass.gov/service-details/screening-brief-intervention-and-referral-to-treatment-sbirt

As shown in Figure 67, during the 2015 to 2017 period current electronic cigarette use among middle school students was highest in Waltham (8.3%). Among high school students, the prevalence of current electronic cigarette use in Waltham (27.1%) exceeded the state average (23.7%), and was lowest in Newton (4.0%).

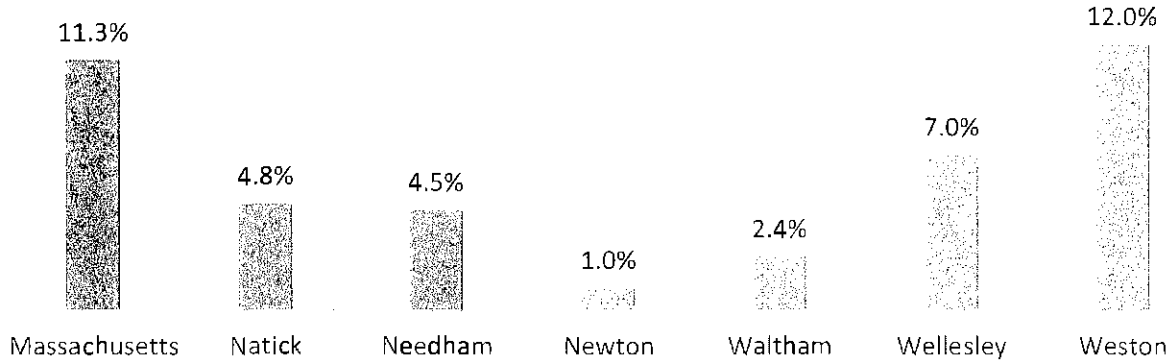
**Figure 67: Percent of Students Reporting Current Electronic Cigarette Use by State and City/Town, 2015, 2016, and 2017**




DATA SOURCE: Massachusetts Youth Health Risk Report, 2015; Natick High School and Middle School Adolescent Health Survey 2016; Needham High School and Middle School Adolescent Health Survey, 2016; Newton Youth Risk Behavior Survey, 2016; Waltham Public Schools Youth Risk Behavior Survey, 2017; Wellesley High School and Middle School Adolescent Health Survey, 2016, Weston Youth Health Assessment, 2015.
NOTES: NA indicates data were not available; * indicates Grades 7-8

During the 2015-2017 period, lifetime prescription drug misuse reported by high school students exceeded the state average (11.3%) in Weston (12.0%), and was lowest in Newton (1.0%) and Waltham (2.4%) (Figure 68). Following patterns for Massachusetts, across the assessment communities, the prevalence of lifetime prescription drug misuse among high school students was lower in 2015-2017 than 2012 (data not shown). Since the 2015 CHNA, the greatest decrease in life prescription drug misuse was seen in Waltham (17.0% to 2.4%) (data not shown).

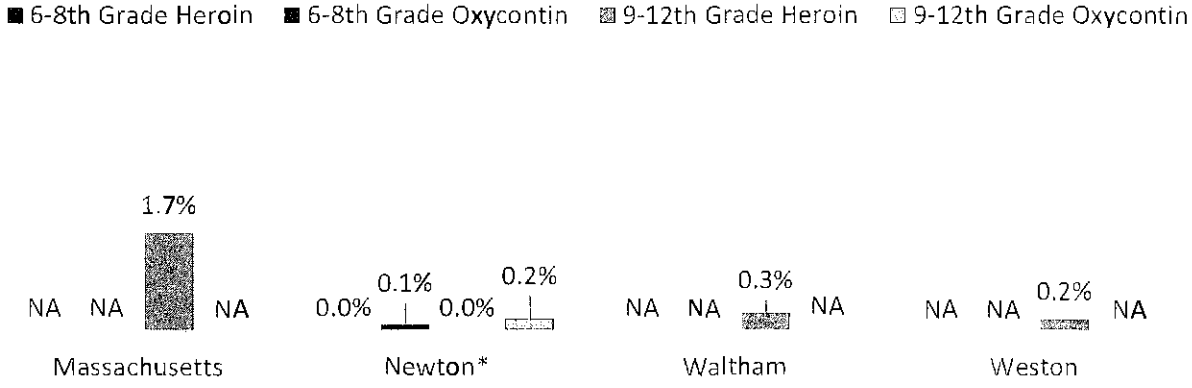
**Figure 68: Percent of High School Students (Grades 9-12) Lifetime Misuse of Someone Else's Prescription, by State and City/Town, 2015, 2016, 2017**




DATA SOURCE: Massachusetts Youth Health Risk Report, 2015; Natick High School and Middle School Adolescent Health Survey 2016; Needham High School and Middle School Adolescent Health Survey, 2016; Newton Youth Risk Behavior Survey, 2016; Waltham Public Schools Youth Risk Behavior Survey, 2017; Wellesley High School and Middle School Adolescent Health Survey, 2016, Weston Youth Health Assessment, 2015.
NOTES: NA indicates data were not available; *During the 12 months prior to survey administration

Among both middle and high school students in the NWH service area cities/towns for which data were available, current opioid use was lower than the average across Massachusetts (Figure 69).

**Figure 69: Percent of Students Reporting Current Opioid Use by State and City/Town, 2015, 2016, 2017**

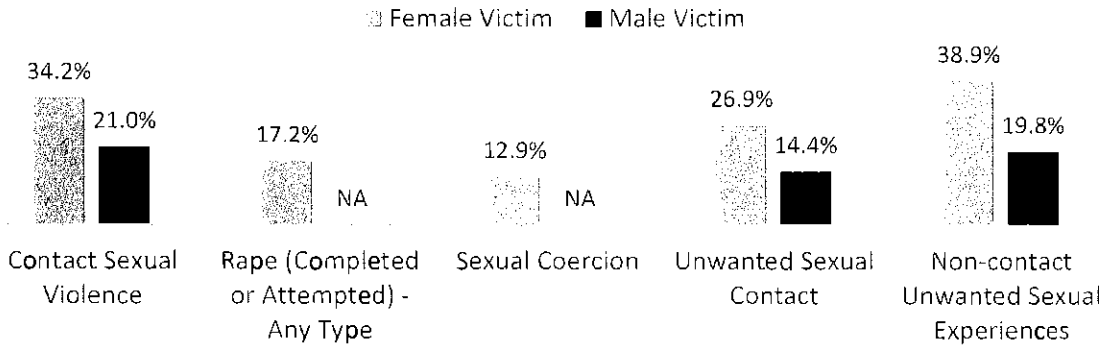



DATA SOURCE: Massachusetts Youth Health Risk Report, 2015; Natick High School and Middle School Adolescent Health Survey 2016; Needham High School and Middle School Adolescent Health Survey, 2016; Newton Youth Risk Behavior Survey, 2016; Waltham Public Schools Youth Risk Behavior Survey, 2017; Wellesley High School and Middle School Adolescent Health Survey, 2016, Weston Youth Health Assessment, 2015.
NOTES: NA indicates data were not available; * indicates grades 7-8; data not available for all assessment communities

## Violence, Abuse, and Neglect

Beyond discussions of crime and safety generally, violence, abuse, and neglect was not discussed in focus groups and interviews. Across Massachusetts, the prevalence of reported lifetime experiences of sexual violence was highest for female victims (Figure 70). In 2010-2012, more than one-third of women reported non-contact unwanted sexual experiences (38.9%) or sexual violence (34.2%). One-quarter of women reported unwanted sexual contact (26.9%), and 17.2% reported rape, with nearly one in ten reporting sexual coercion (12.9%). Among men, one fifth reported contact sexual violence (21.0%) and non-contact unwanted sexual experiences (19.8%), and 14.4% reported unwanted sexual contact.

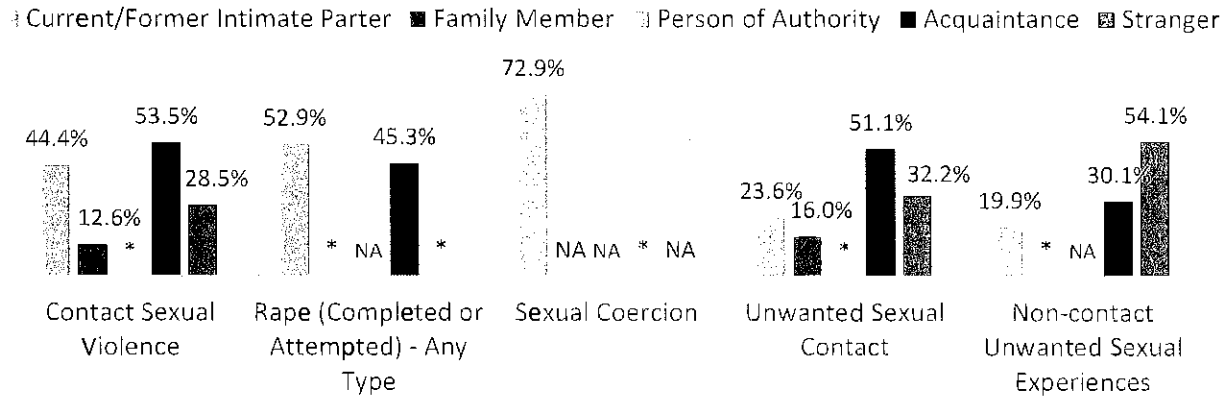
**Figure 70: Lifetime Prevalence of Sexual Violence Victimization in the State of Massachusetts, 2010-2012**




DATA SOURCE: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Division of Violence Prevention, The National Intimate Partner and Sexual Violence Survey, 2010-2012 State Report

Shown in Figure 71 is the type of perpetrator for lifetime sexual violence victimization reported by women in 2010-2012. Intimate partners were the most common perpetrators of sexual coercion (72.9%) and rape (52.9%) for women. An acquaintance was the most common perpetrator of contact sexual violence (53.5%) and unwanted sexual contact (51.1%) for women. Strangers (54.1%) more commonly perpetrated non-contact unwanted sexual experiences.

**Figure 71: Lifetime Prevalence of Sexual Violence Victimization, by Type of Perpetrator, among Women, Massachusetts, 2010-2012**




DATA SOURCE: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Division of Violence Prevention, The National Intimate Partner and Sexual Violence Survey, 2010-2012 State Report
NOTES: Asterisk (*) denotes where rates were not calculated due to small counts; NA denotes where victimization by type of perpetrator were not reported.

Among men, an equal percent of perpetrators of lifetime contact sexual violence were acquaintances (50.3%) or intimate partners (49.6%) in 2010-2012 (Figure 72). Nearly one half of non-contact unwanted sexual experiences reported by men in 2010-2012 were committed by acquaintances (48.5%), followed by strangers (35.1%).

**Figure 72: Lifetime Prevalence of Sexual Violence Victimization by Type of Perpetrator, among Men, Massachusetts, 2010-2012**


DATA SOURCE: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Division of Violence Prevention, The National Intimate Partner and Sexual Violence Survey, 2010-2012 State Report
NOTES: Asterisk (*) denotes where rates were not calculated due to small counts; NA denotes where victimization by type of perpetrator were not reported.

In 2014, across Massachusetts child maltreatment victimization was most commonly perpetrated by parents, followed by unmarried partner(s) of the parent and other relatives (Table 7).

**Table 7: Count of Child Maltreatment Victimization by Relation to the Child, Massachusetts, 2014**

| Perpetrator | Count |
|---|---|
| Parent | 20,946 |
| Multiple Relationships | 1,457 |
| Unmarried Partner of Parent | 1,357 |
| Other Relative | 960 |
| Other | 456 |
| Legal Guardian | 125 |
| Unknown | 203 |
| Child Daycare Provider | 66 |
| Foster Parent | 61 |
| Other Professional | 54 |
| Group Home and Residential Facility Staff | 36 |

DATA SOURCE: U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau. *Child maltreatment* 2014, 2010-2012

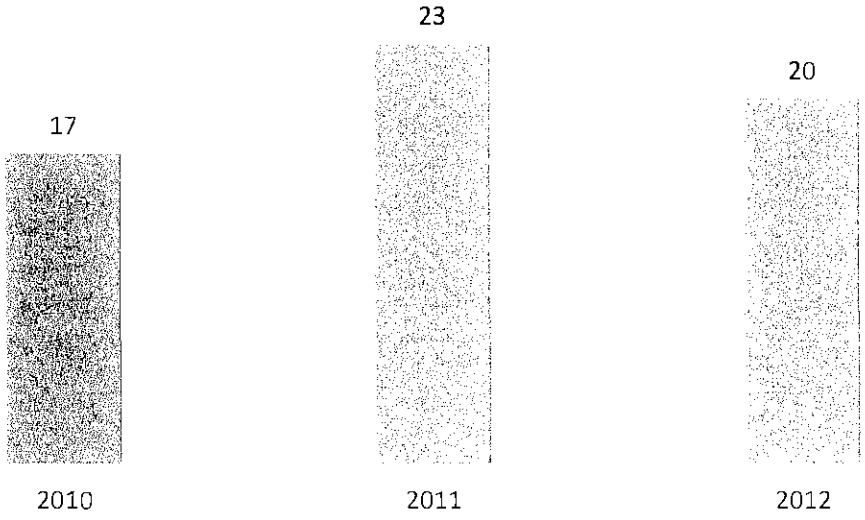
As shown in Figure 73, the rate of child maltreatment victimization increased from 17.2 cases per 1,000 children in 2010 to 22.9 cases of victimization per 1,000 children in 2014.

**Figure 73: Rate of Child Maltreatment Victimization per 1,000 Children, Massachusetts, 2010 to 2014**


DATA SOURCE: U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau. *Child maltreatment* 2014, 2010-2012

From 2010 to 2012, the number of child maltreatment fatalities across Massachusetts ranged from 17 deaths in 2010 to 23 deaths in 2012 (Figure 74).

**Figure 74: Count of Child Maltreatment Fatalities, Massachusetts, 2010-2012**

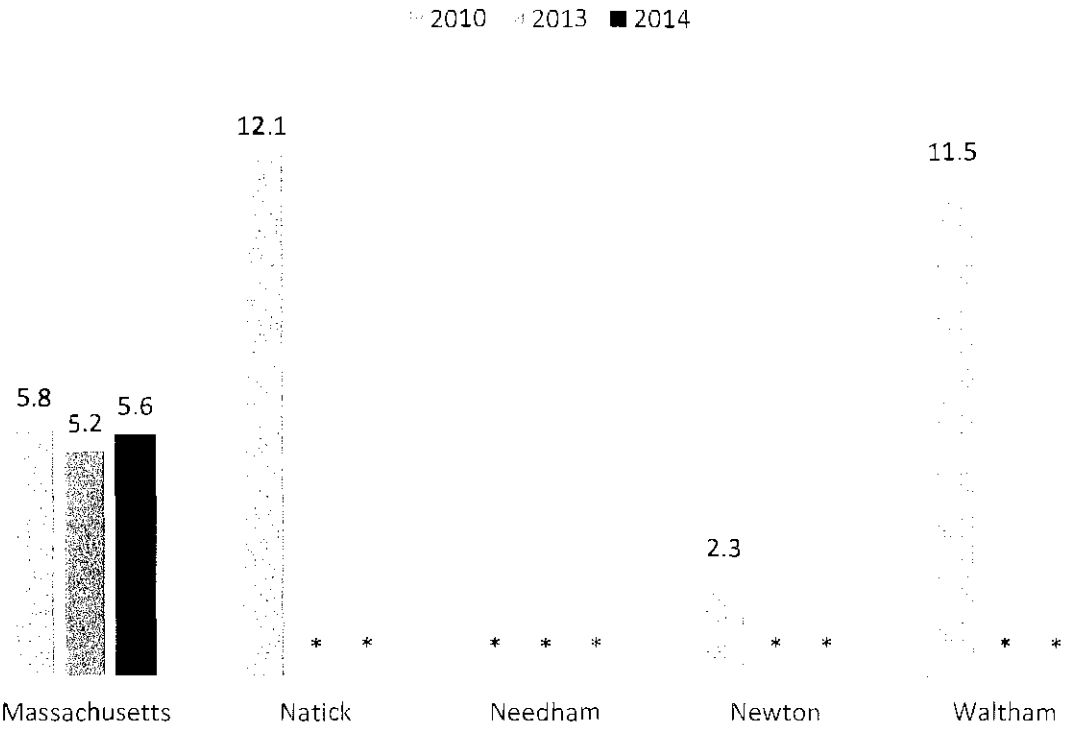



DATA SOURCE: U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau. *Child maltreatment* 2014, 2010-2012

*Injury-Related Behaviors*

While falls among elderly residents was a concern that emerged in the 2015 CHNA, injury-related behaviors did not come up in focus groups and interviews. In 2010, the age-adjusted mortality rate due to motor vehicle accidents in Natick (12.1 deaths per 100,000 population) and Waltham (11.5 deaths per 100,000 population) was double that for Massachusetts (5.8 deaths per 100,000 population) (Figure 75). While more recent data were not available for the NWH service area cities/towns, trends across Massachusetts suggest that the motor vehicle-related mortality rate remained stable from 2010 to 2014.

**Figure 75: Age-Adjusted Motor Vehicle-Related Death Rate per 100,000 Population, by State and Select City/Town, 2010, 2013, and 2014**



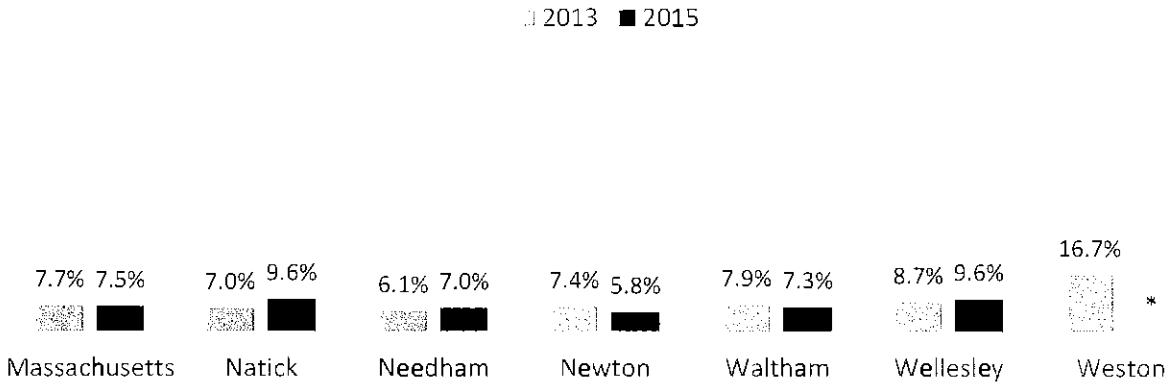

DATA SOURCE: Massachusetts Department of Public Health, Registry of Vital Records and Statistics, 2010, 2013, and 2014

NOTE: Data not available for all assessment communities; * indicates data not available.

## Reproductive and Maternal Health

In interviews and focus groups, reproductive and maternal health was not discussed. In 2015, the proportion of low birthweights births was highest in Natick (9.6%) and Wellesley (9.6%), a prevalence that exceeded patterns across Massachusetts (7.5%) (Figure 76). In 2013, Weston (16.7%), Wellesley (8.7%), and Waltham (7.9%) had a prevalence of low birthweight that was higher than the state overall (7.7%). From 2013 to 2015, the percent of low birthweight births increased slightly in Natick (7.0% to 9.6%), Needham (6.1% to 7.0%), and Wellesley (8.7% to 9.6%), while this prevalence decreased for Newton (7.4% to 5.8%).

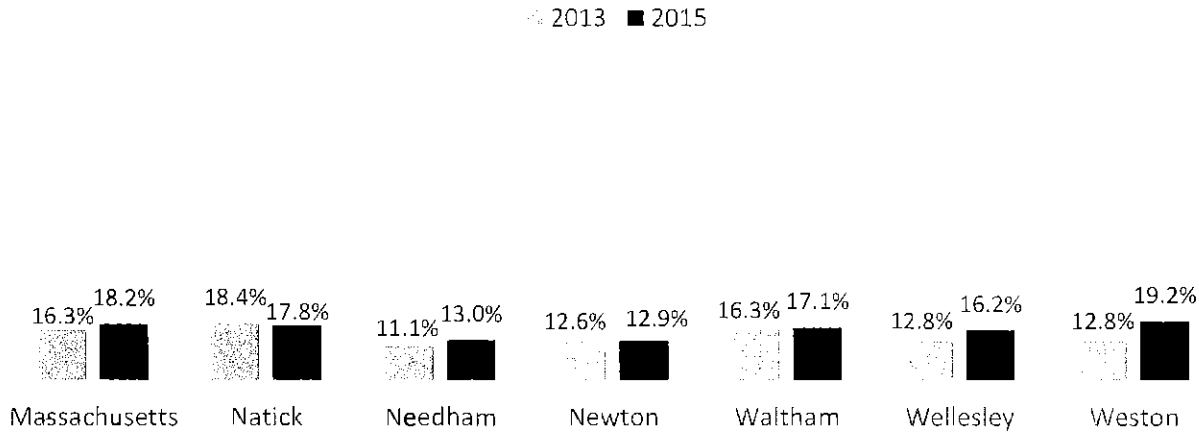
**Figure 76: Percent of Low Birthweight Births, by State and City/Town, 2013 and 2015**




DATA SOURCE: Massachusetts Department of Public Health, Registry of Vital Records and Statistics, 2013-2015
NOTE: * indicates data suppressed due to small numbers

Similar to patterns across Massachusetts, from 2013 to 2015, the percent of mothers with inadequate prenatal care increased slightly in Needham (11.1% to 13.0%), Wellesley (12.8% to 16.2%), and Weston (12.8% to 19.2%) (Figure 77). In 2015, the percent of mothers with inadequate prenatal care was highest in Weston (19.2%), a prevalence that exceeded the state average (18.2%). Natick (18.4%) and Waltham (16.3%) had the highest percent of mothers receiving inadequate prenatal care in 2013. From 2013 to 2015, inadequate prenatal care increased notably in Wellesley (12.8% to 16.2%) and Weston (12.8% to 19.2%).

**Figure 77: Percent of Mothers with Inadequate Prenatal Care, by State and City/Town, 2013 and 2015**




DATA SOURCE: Massachusetts Department of Public Health, Registry of Vital Records and Statistics, 2013-2015

As shown in Table 8, among the NWH service area cities/towns for which data were available, the rate of births to adolescent mothers was highest in Waltham in 2013 (6.8 births per 1,000 population) and 2014 (8.5 births per 1,000 population), but was below the state average.

**Table 8: Rate of Births to Adolescent Mothers per 1,000, by State and City/Town, 2013-2014**

| | 2013 | 2014 |
|---|---|---|
| Massachusetts | 12.0 | 10.6 |
| Newton | 1.2 | 1.9 |
| Waltham | 6.8 | 8.5 |

DATA SOURCE: Massachusetts Department of Public Health, Registry of Vital Records and Statistics, 2013-2014
NOTE: Data not available for other assessment communities

## Communicable Disease

Communicable diseases were not discussed in interview or focus group discussions. The section below presents quantitative data for cases of HIV, Hepatitis C, tuberculosis, syphilis, gonorrhea, and chlamydia in the NWH service area.

*HIV*

From 2013 to 2015, Waltham had the highest number of residents diagnosed with HIV, followed by Newton (Table 9). Trends suggest a slight decline in the population diagnosed with HIV in Waltham (12 cases in 2013 to 7 cases in 2016).

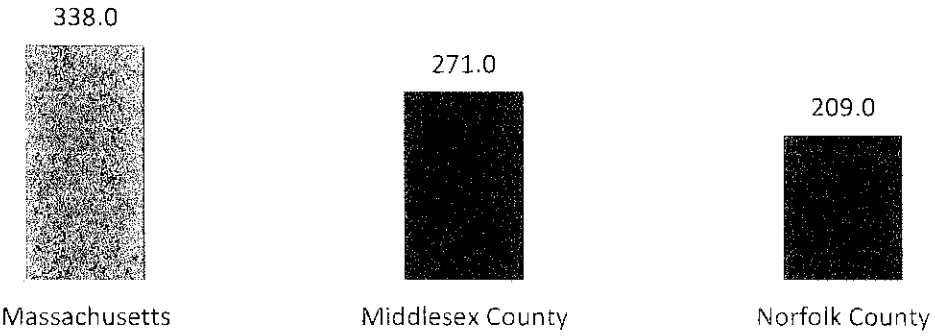
**Table 9: Number of Individuals Diagnosed with HIV, by State and City/Town, 2013-2016**

| Geography | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|
| Massachusetts | 696 | 653 | 605 | 641 |
| Natick | <5 | 5 | 0 | <5 |
| Needham | 0 | <5 | 0 | 0 |
| Newton | <5 | <5 | 7 | <5 |
| Waltham | 12 | 12 | 7 | 7 |
| Wellesley | 0 | 0 | 0 | 0 |
| Weston | <5 | 0 | 0 | 0 |

DATA SOURCE: Massachusetts Department of Public Health, Bureau of Infectious Disease and Laboratory Sciences, HIV/AIDS, 2013-2016
NOTE: Does not include prisoners

The rate of persons living with an HIV diagnoses who were 13 years of age or older was 38.2% below the rate for Massachusetts overall (338.0 cases per 100,000 population) for Norfolk County (209.0 cases per 100,000 population) and 19.8% below the state average for Middlesex County (271.0 cases per 100,000 population).

**Figure 78: Rate of Persons Aged 13+ Years Living with a Diagnosis of HIV per 100,000 Population, by State and County, 2015**




DATA SOURCE: National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, as reported by County Health Rankings, 2015

*Hepatitis C*

From 2013-2015, the number of confirmed and probable cases of Hepatitis C were highest in Waltham, followed by Newton, compared to the other assessment communities.

**Table 10: Number of Confirmed and Probable Cases of Hepatitis C, by State and City/Town, 2013-2015**

| Geography | 2013 | 2014 | 2015 |
|---|---|---|---|
| Massachusetts | 8,177 | 8,899 | 8,994 |
| Natick | 20 | 24 | 24 |
| Needham | 10 | 6 | 11 |
| Newton | 46 | 42 | 37 |
| Waltham | 52 | 52 | 50 |
| Weston | <5 | <5 | 0 |

DATA SOURCE: Massachusetts Department of Public Health, Bureau of Infectious Disease and Laboratory Sciences, HIV/AIDS, 2013-2015

*Tuberculosis*

From 2013 to 2016, the number of confirmed and probable cases of tuberculosis were highest in Newton (6 cases) in 2013 and Waltham (5 cases) in 2014 (Table 11).

**Table 11: Number of Confirmed and Probable Counts of Tuberculosis, by State and City/Town, 2013-2016**

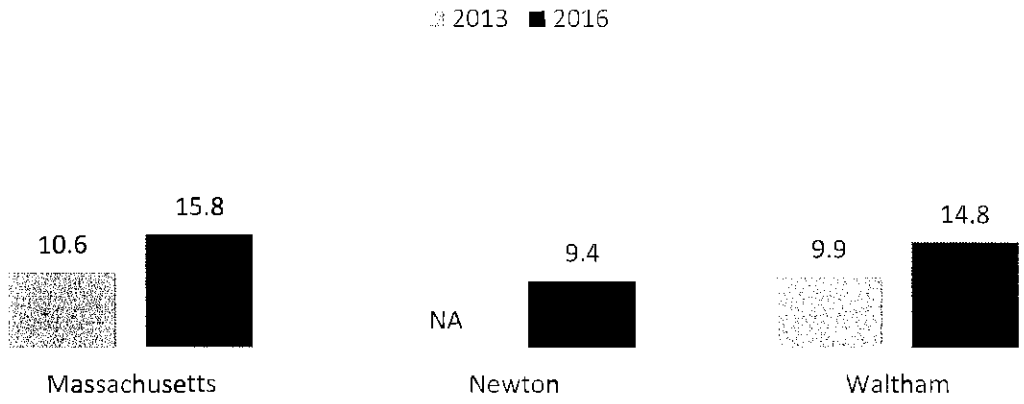
| Geography | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|
| Massachusetts | 201 | 199 | 192 | 190 |
| Natick | 0 | <5 | 0 | <5 |
| Needham | 0 | 0 | 0 | 0 |
| Newton | 6 | 3 | 1 | 2 |
| Waltham | 3 | 5 | 2 | 1 |
| Wellesley | 0 | 0 | 0 | 0 |
| Weston | <5 | 0 | 0 | 0 |

DATA SOURCE: Massachusetts Department of Public Health, Bureau of Infectious Disease and Laboratory Sciences, HIV/AIDS, 2013-2016

*Syphilis*

Similar to state patterns, in Waltham the syphilis case rate increased from 9.9 cases per 100,000 residents in 2013 to 14.8 cases per 100,000 residents in 2016 (Figure 79). In 2016, the syphilis case rate in Newton (9.4 cases per 100,000 residents) was 68.1% below the rate for Massachusetts overall (15.8 cases per 100,000 residents).

**Figure 79: Syphilis Case Rate per 100,000 Population, by State and City/Town, 2013 and 2016**



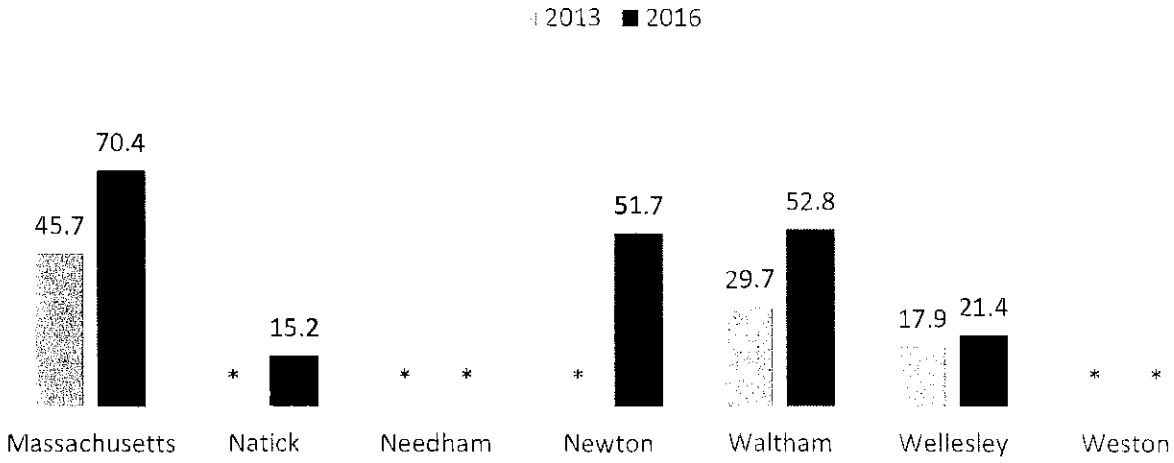

DATA SOURCE: Massachusetts Department of Public Health, Bureau of Infectious Disease and Laboratory Sciences, Division of STD Prevention, 2013 and 2016

NOTE: NA indicates that rates were not calculated due to small number of cases

*Gonorrhea*

Among the cities/towns in the NWH service region for which data were available, the gonorrhea case rate was below the state rate in both 2013 and 2016 (Figure 80). In 2016, the gonorrhea case rate was highest in Waltham (52.8 cases per 100,000 population) and Newton (51.7 cases per 100,000 population), and lowest in Natick (15.2 cases per 100,000 residents).

**Figure 80: Gonorrhea Case Rate per 100,000 Population, by State and City/Town, 2013 and 2016**



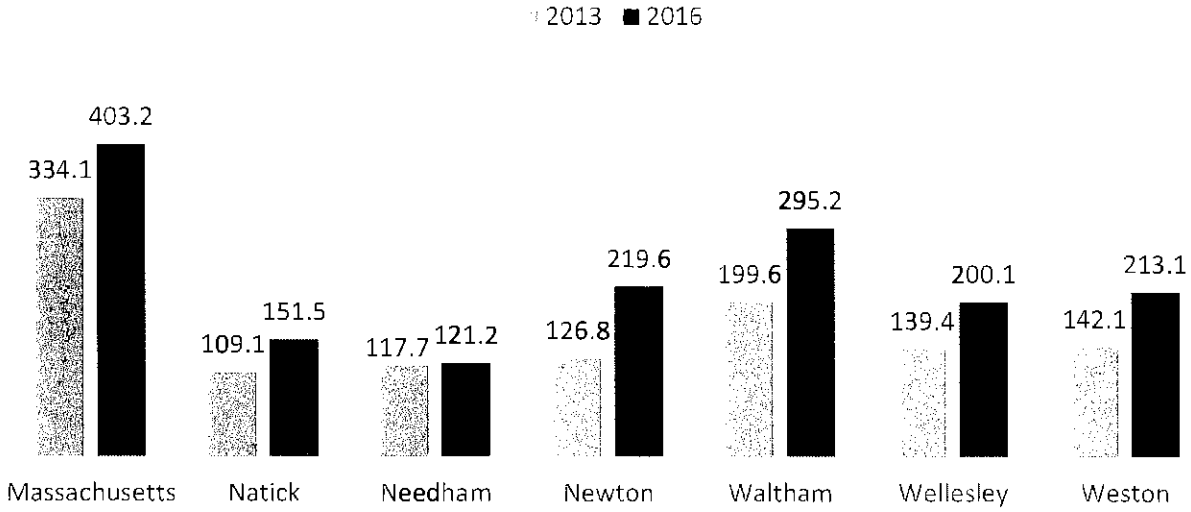

DATA SOURCE: Massachusetts Department of Public Health, Bureau of Infectious Disease and Laboratory Sciences, Division of STD Prevention, 2013 and 2016

NOTE: NA indicates that rates were not calculated due to small number of cases

*Chlamydia*

As shown in Figure 81, the chlamydia case rate was below the rate for Massachusetts overall for all cities/towns in the NWH service area. However, following patterns across the state, the chlamydia case rate increased for all assessment communities from 2013 to 2016, with the greatest percent increase in Newton, Weston, Waltham, and Wellesley. In both 2013 and 2016, the chlamydia case rate was highest in Waltham (199.6 and 295.2 cases per 100,000 population, respectively). The chlamydia case rate was lowest in Natick (109.1 cases per 100,000 population) in 2013 and Needham (121.2 cases per 100,000 population) in 2016.

**Figure 81: Chlamydia Case Rate per 100,000 Population, by State and City/Town, 2013 and 2016**




DATA SOURCE: Massachusetts Department of Public Health, Bureau of Infectious Disease and Laboratory Sciences, Division of STD Prevention, 2013 and 2016

NOTE: NA indicates that rates were not calculated due to small number of cases

## Access to Care

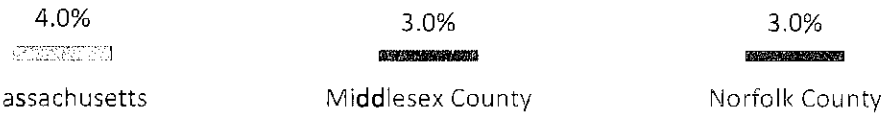
Overall, participants reported that there are good healthcare facilities in the NWH service area. They mentioned local hospitals as well as primary care providers. Charles River Community Health was praised by numerous participants for its care of lower income residents, its bilingual staff, and its strong prevention programming. At the same time, a couple of participants identified the absence of a hospital in Waltham as a barrier to accessing care. Focus group participants and interviewees cited additional barriers to accessing healthcare in the community which were similar to those identified in 2014 including cost and insurance, navigating healthcare, cultural competency, and transportation. Health care providers shared challenges in ensuring culturally competent health services, addressing the trauma experienced by some patients, and connecting non-English speaking individuals to appropriate services. Numerous participants expressed concern about the community's many undocumented residents, who face substantial barriers to accessing health and other resources.

### Cost and Insurance

A few participants reported that obtaining health insurance was still a challenge for some residents, particularly those in immigrant communities. This was attributed to a lack of knowledge about how to obtain health insurance as well as the cost. An additional challenge identified by participants for residents of all income levels was understanding insurance, including knowing which providers accept which insurances, and what services are covered by insurance. The cost of care—including insurance premiums and deductibles, co-pays, and medication—was mentioned as a barrier to access as well, especially for lower income residents, including seniors. As one participant of a focus group commented, *"people are afraid to go to the doctor because they'll get an enormous bill."*

As shown in Figure 82, in 2014 3.0% of adults younger than 65 years of age across Middlesex and Norfolk Counties did not have health insurance, slightly below the prevalence across Massachusetts (4.0%).

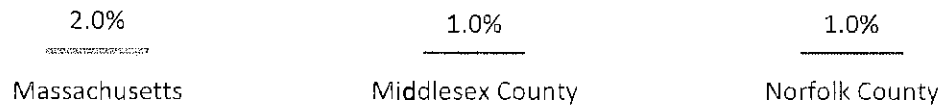
**Figure 82: Percent of Adults under Age 65 without Health Insurance, by State and County, 2014**




DATA SOURCE: U.S. Census Bureau, Small Area Health Insurance Estimates, as reported by County Health Rankings, 2014

In 2014, 1.0% of children under 19 years of age in Middlesex and Norfolk Counties did not have health insurance, slightly below the state average (2.0%) (Figure 83).

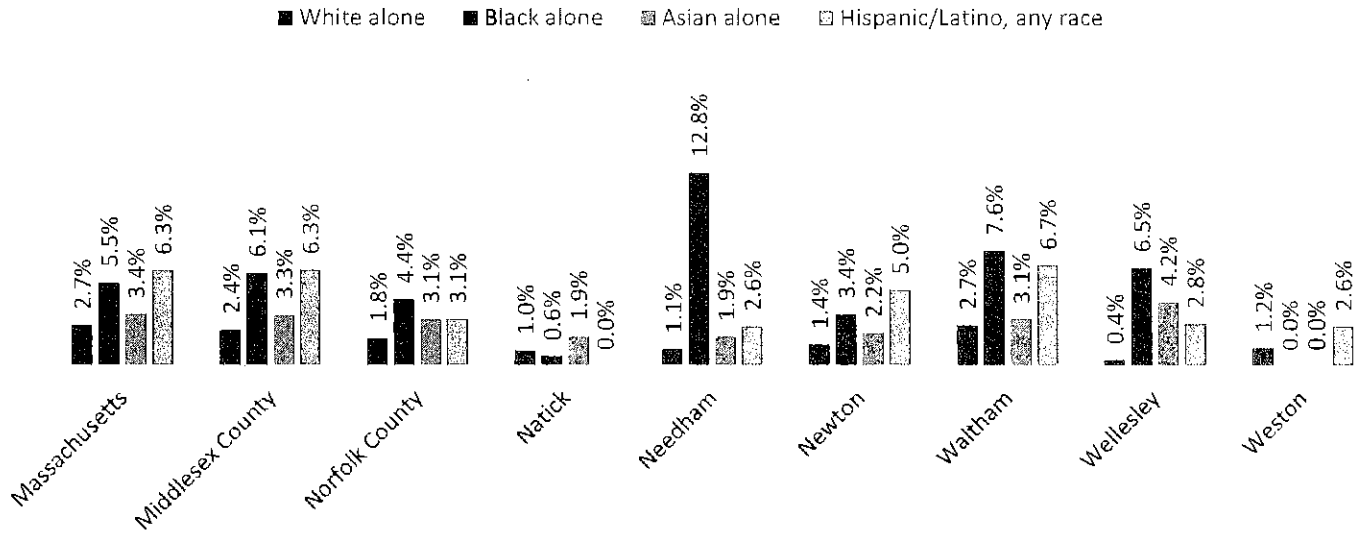
**Figure 83: Percent of Children under Age 19 without Health Insurance, by State and County, 2014**




DATA SOURCE: U.S. Census Bureau, Small Area Health Insurance Estimates, as reported by County Health Rankings, 2014

In 2012-2016, approximately 6% of Black and Hispanic/Latino Middlesex County residents did not have health insurance, compared to approximately 2% of White residents and 3% of Asian residents( Figure 84). During this period, a higher proportion of Black residents in Needham (12.8%), Waltham (7.6%), and Wellesley (6.5%) lacked health insurance relative to the state and Middlesex and Norfolk Counties overall. In Newton, a higher percent of Hispanic/Latino (5.0%) residents lacked health insurance than any other racial group in the city. In Wellesley, 4.2% of Asian residents lacked health insurance, a proportion that exceeded the state average (3.4%). Notably, the percent of residents without health insurance increased for each racial/ethnic group from 2008-2012 to 2012-2016, with the greatest increase in lack of health insurance seen for Asian residents across both Middlesex and Norfolk Counties, followed by Hispanic/Latino residents of Middlesex County, Black residents of Middlesex County, and Black residents of Norfolk County.

**Figure 84: Racial Composition of Population without Health Insurance, by State, County, and City/Town, 2012-2016**




DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2012-2016

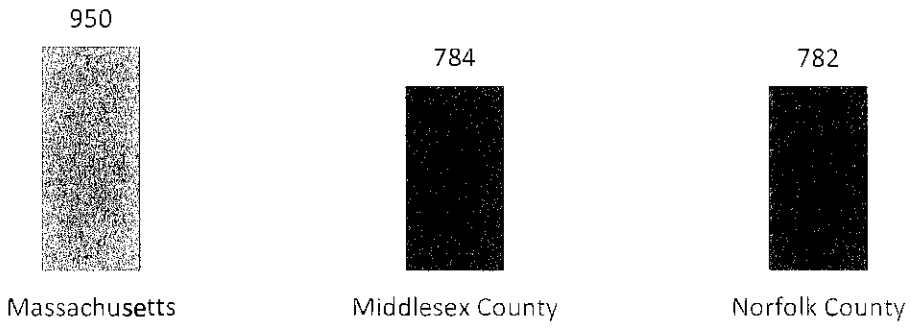
## Navigating the Healthcare System

As in the 2015 CHNA, participants reported that navigating healthcare can be challenging. They described the complexity of the healthcare system, a system that is especially difficult for those with chronic illnesses or multiple providers to effectively manage. A related challenge, according to both residents and providers, was continuity of care after hospitalization. For example, one focus group participant explained, *"my sister-in-law is struggling with cancer – she just went home last night – left [the hospital] at 8pm at night. How does she get her meds? Her husband is blind and she can't drive. All these transition issues -who is going to make sure of medication reconciliation?"* Continuity of care was identified as a particular concern for frail seniors and those with chronic illnesses who require a set of supports upon returning to their homes. Participants reported a need for a strong network of community-based services as well as advocates/navigators to help patients navigate the healthcare system.

## Physician Access

As shown in Figure 85, in 2014 there was one primary care physician per 784 Middlesex County residents and per 782 Norfolk County residents, a ratio that was approximately 17% lower than the ratio for Massachusetts (950:1) overall.

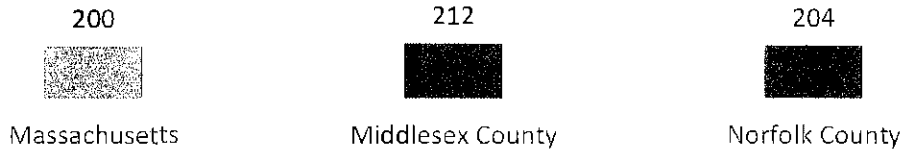
**Figure 85: Ratio of Population per One Primary Care Physician, by State and County, 2014**




DATA SOURCE: American Medical Association, Area Health Resource File, as reported by County Health Rankings, 2014

In 2016, the ratio of Middlesex (212:1) and Norfolk (204:1) County population to mental health providers was slightly less favorable than the ratio for the state (200:1) (Figure 86). That is, for every 212 Middlesex county residents and every 204 Norfolk County residents, there was one mental health provider available, while on average a mental health provider was available per 200 Massachusetts residents.

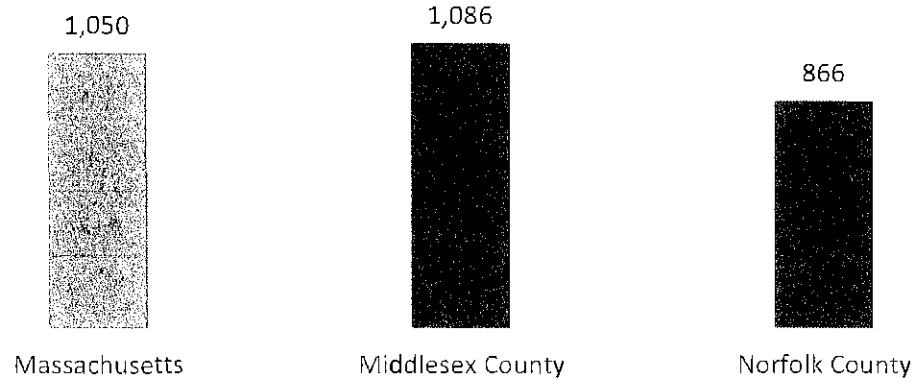
**Figure 86: Ratio of Population per One Mental Health Provider, by State and County, 2016**




DATA SOURCE: National Provider Identification Registry, Centers for Medicare and Medicaid Services, as reported by County Health Rankings, 2016

In 2015, there were 1,086 Middlesex County residents per dentist, a ratio that was 3.4% above the state average (1,050:1) (Figure 87). In contrast, there were more dentists available per capita in Norfolk County (886:1), a ratio that was 17.5% below the ratio for Massachusetts overall.

**Figure 87: Ratio of Population per One Dentist, by State and County, 2015**




DATA SOURCE: National Provider Identification file, Centers for Medicare and Medicaid Services, Area Health Resource File, as reported by County Health Rankings, 2015

Behavioral Health

Participants reported that there are some mental health services available in the area; one noted that Massachusetts has one of the highest rates of mental health providers per population. Numerous local services were named including Springwell, Riverside Mental Health, Advocates in Framingham, Jewish Family Services, and mental health services at some hospitals. Project Interface, a referral program for mental health, was reported to be working well. PrideSide at Wayside Youth and Family Support Network was described as providing mental health supports to LGBTQ individuals. However, existing mental health services were seen as insufficient to meet demand. As an interviewee claimed, *"everyone is overextended."* Services for children and youth, including pediatric beds for psychological issues, were noted as particularly lacking. Additional workforce challenges cited by participants included a lack of providers who are culturally competent or who have expertise in trauma-informed care. Several participants shared that ongoing care after intense treatment was also lacking but critical in helping to support patients once they leave a hospital. As one focus group participant explained, *"there is high intensity case management and then—boom—it goes away."*

An additional barrier to accessing mental health services, according to participants, is that many mental health providers do not accept insurance or MassHealth; as a result, many with mental health concerns, especially those of lower income, are undiagnosed or go untreated. As one interviewee stated, *"we don't have enough programs that accept all insurance or have enough programs that have availability for patients in general."* Limits on the number of mental health visits covered by insurance were also identified as posing additional barriers to proper care.

One costly consequence of lack of sufficient mental health services, participants noted, is use of the hospital emergency room for mental health care. Participants also described that primary care providers and pediatricians, as well as school staff and senior center staff, are increasingly finding themselves intervening on mental health issues, a role for which they report lack of expertise; thus, participants noted a need for more training.

According to focus group participants and interviewees, stigma about mental health is a substantial barrier to accessing care. As one focus group participant observed, *"it's societal, the stigma prevents people from getting help earlier in life."* Stigma and misunderstanding about mental illness was described as particularly prevalent among seniors and within immigrant groups. As one focus group participant shared, *"we need support... but the culture is that only crazy people go to mental health support."*

Like mental health services, substance use services were reported to be available in the area, although insufficient to meet the need for these services. Focus group participants and interviewees mentioned Genesis House and the role of Boston Medical Center on substance use issues. Waltham was reported to have good services. However, participants shared that the NWH service area still lacks sufficient providers and existing providers have high caseloads. High workforce turnover and lack of bilingual providers were identified as additional challenges. Participants indicated that some substance use services, including a local methadone clinic, are not accessible by public transportation. One participant perceived that lack of coordination and information sharing across agencies addressing substance use in Waltham has contributed to challenges in making sure people are served.

As with mental health, participants noted that primary care providers, pediatricians, schools, and senior centers are playing an increasing role in addressing substance use, but find they lack training and staff to

do this work. According to participants, stigma about substance use treatment creates additional barriers to accessing care.

### Cultural Competency

Cultural competency of providers, as well as language access, were also identified as barriers for some community participants to access healthcare. Those working with non-English speaking populations repeatedly noted a lack of bilingual providers, particularly in specialty services such as mental health. As one focus group participant explained, *"language thing is a huge one. So many phone calls to find Spanish providers. You can't even keep a list—turnover is high."* An additional barrier to effective healthcare identified by a couple of interviewees was miscommunication between providers and patients about health conditions and treatments. As one interviewee who works with immigrants explained, *"the doctors explain things in ways that our clients don't understand. They are ashamed to ask if they don't understand. They don't feel comfortable even asking the interpreter."* One result of this, according to this interviewee, is improper use of medication. The lack of understanding about and ability to understand the unique needs of LGBTQ patients was also mentioned as a barrier to accessing care for these patients. For example, one interviewee explained that LGBTQ youth, *"don't receive queer-competent or queer-affirming sex education."*

### Transportation

Transportation is a challenge for some patients in the NWH service area. According to participants, lack of cost-effective and convenient transportation options creates challenges to accessing health and other services in the NWH area, especially for lower income residents. While some options exist, long transit times, spotty service, and cost make it difficult for lower income residents and seniors to access medical care.

## Community Suggestions for Future Programs, Services, and Initiatives

While focus group participants and interviewees praised the range of health and social services available in their communities, they also identified some gaps. Many of these gaps were similar to those identified in the 2015 CHNA report:

### Addressing Behavioral Health

As in the 2015 CHNA, participants highlighted the importance of addressing behavioral health in its service area. Specific recommendations included:

- *Increase behavioral health services*. Focus group participants and interviewees encouraged more behavioral health services including residential programs that can offer longer-term and more intensive care, as well as community-based supports for aftercare. Participants said that more behavioral health providers are needed, especially those who are bilingual and have expertise in working with different cultural communities as well as LGBTQ patients. Increasing the number of providers who accept insurances and MassHealth was seen as one pathway to increasing these services. Those working with seniors suggested a need for mental health providers who could make home visits to seniors who are confined to their homes.
- *Provide training and support for schools, primary care providers, ond institutions working with seniors*. Schools, pediatricians, primary care providers, senior centers and councils on aging were described as playing an increasing role in identifying and supporting people with behavioral health concerns; yet, as participants shared, they lack expertise. The solution, according to participants, was more training as well as professional supports. Participants suggested mental health experts provide training and workshops. As one interviewee stated, *"nursing departments in schools are*

*hungry for training on how to help students manage anxiety."* Participants also expressed that more on-the-ground mental health experts were needed to support school-based therapists and staff in senior centers and councils on aging. Additionally, a couple of participants wanted to see more support for primary care providers and pediatricians, including more training and access to mental health expertise. One interviewee suggested primary care providers receive more education about pain management, including non-pharmacological approaches, and how to manage patient expectations.

- *More education programs.* Focus group participants and interviewees stressed that more education be provided in the community about mental health and addiction to help residents understand these issues and reduce the stigma surrounding them. Participants suggested education about stress management and eating disorders for students. Given the rise in marijuana use and vaping, participants also recommended parent education about the dangers of these substances. One person suggested that brief hardcopy or electronic documents could be created to help parents and others recognize behavioral health concerns, such as, what does an eating disorder look like, what does school phobia look like.
- *Create media campaigns.* Given the stigma and lack of understanding surrounding behavioral health, several participants suggested a more wide-spread effort around education using PSAs; they also suggested that such an effort was needed for e-cigarettes and marijuana.
- *Implement systems approaches.* Several participants suggested that more systemic approaches to addressing behavioral health in the community would be helpful and recommended working with schools to develop policies around substance use. Partnerships with and support for smaller, grassroots organizations working in behavioral health, like Waltham Overcoming Addition, were also encouraged. One participant suggested the development of a tracking system for those seeking substance use services to ensure people receive the services they need.

Prevention Programming and Education

Participants noted that health is connected to prevention and behavior change. As in the 2015 CHNA, participants observed that although good education programs exist in the community, more work in this area is required:

- *Expand health fairs and screenings.* Participants suggested the hospital continue to support and perhaps expand the health fairs and health-related events it conducts in the community. Organizations like faith institutions, schools, and community based agencies like Healthy Waltham and Middlesex Human Services Agency were all mentioned as partners.
- *Provide education about healthy lifestyles*: Participants encouraged more community-based education related to nutrition education and exercise, including diabetes. Several participants mentioned the importance of reaching children as well as their parents. A few participants suggested programs specifically targeted to lower income people who face barriers to healthy eating, including training around eating healthy on a budget and cooking classes. Attendance at educational events was recognized as a challenge and participants recommended small participation incentives and meals be provided to enhance interest. One interviewee suggested engaging primary care physicians in promoting the programs to patients, explaining that *"people are more likely to give consideration if they hear it from their doctor."* Another participant suggested that similar to other hospitals, NWH work with primary care providers and pediatricians to implement a healthy food *"prescription program."*
- *Conduct broader outreach in communities.* Engaging with community institutions was seen as critical for effective prevention programming to reach those who need it most. Schools, faith institutions, the YMCA, and Boys and Girls Clubs were all mentioned as potential partners for the hospital. As

one interviewee emphasized, *"you have to go to where they are, where they're comfortable."* Bi-lingual programs were described as essential for reaching non-English speakers. As one interviewee stated, *"students and families react different when programs are available in their native language. It's one thing to have an interpreter, but something gets lost in translation."*

- *Create a resource list.* Participants spoke about increasing awareness of services among residents. As one focus group participant stated, *"many people know about the services from word to mouth; they should find a way to ensure that everyone is aware of what is available."* Participants suggested creating a list of resources.

Engagement with Schools

Given the variety of health issues affecting students and families, schools were considered critical partners in providing support. Participants' suggestions for engaging with schools included:

- *Physician presence in schools*. Given the busy lifestyles of families and the barriers some face to accessing primary care, focus group participants suggested physicians periodically come to schools to do checkups and give vaccines. As one focus group participant explained, *"school nursing and health has become much bigger than it was years before – for some kids it may be the only medical profession they're seeing – in the school because they're not going for annual checkups."*
- *Professional development*. Participants suggested the hospital could offer school staff-specific education about pressing health concerns such as substance use, mental health, and sexual health. One participant suggested professional development be offered at the hospital, at the end of the school day, and include a tour of the hospital.
- *Workshops for students and families*. Participants recommended more school-based education, and suggested enhancing health classes but also offering educational workshops and trainings to students, parents, and school staff on topics such as nutrition, fitness and wellness, behavioral health, and healthy relationships. Holding student-focused physical and mental health fairs at schools was also suggested. A couple of participants proposed parenting education, particularly for immigrant parents, some of whom face challenges understanding and parenting their more Americanized children.
- *Support for students with complex medical needs*. Participants stated that more support was needed to help students with complex health issues, including staff coverage and connections to other supports. As one participant explained, *"as we get these children, we have to fight tooth and nail to get professional coverage for these students. Going through multiple agencies because...we need to have resources (i.e., manpower) to cover [staff], especially when the point person is sick."*

Services for Seniors

Seniors and those working with seniors identified several gaps in services for this population:

- *Additional services for seniors*. Participants recommended more senior services such as adult day care and home-based supports including home healthcare, cleaning, and grocery services. Technological-based approaches, such as telemedicine to deliver therapy and other appointments were seen as promising approach to support seniors that would benefit from expansion. Better engagement of seniors from minority populations in these services was also suggested.
- *Assistance with end-of-life planning*. While not uniquely a senior issue, more education and support around end-of-life planning, including healthcare proxies, power of attorney and advanced directives was suggested by a couple of interviewees.
- *Education about mental health*. Participants reported that stigma about mental health is strong among elders and suggested more senior-focused education to address this barrier. Senior centers

were seen as critical partners in delivering programming and education to older residents; however, participants also encouraged developing strategies to reach home-bound seniors.

Health Care Navigation Support

As in the previous CHNA, support for patients to navigate the health system was identified as a gap:

- *Enhanced connection to community-based services*. Participants recommended more care coordinators to enhance patients' connection to community services such as home care, housing, and social services after hospitalization. Helping people understand how to take care of themselves after a hospital stay, including how to effectively take medications, was considered important. Participants saw care coordinators as an important strategy to reduce repeat visits to the ER and hospital readmissions.
- *Healthcare navigation support*. Helping people with more complex health issues, such as cancer, was also suggested. Older people—who are more likely to have these health conditions and less likely to have a strong system of informal supports—were seen as particularly vulnerable. Again, care coordinators were viewed as a critical strategy to address this gap.

Cancer

Participants provided several suggestions related to cancer prevention and those with a cancer diagnosis, including:

- *Increase access to and awareness of screening*. Participants recommended increasing awareness campaigns and education around cancer screening. As one interviewee stated, *"cancer screening could be more active and informative across the board with different ages."* More prostate screening programs for men of color was suggested by one participant and mobile mammograms by another participant. Engagement with community institutions, including faith organizations and those serving specific cultural groups, was seen as essential to reaching residents.
- *Enhance support for those with cancer*. Enhancing supports for those with cancer was also mentioned by participants. They suggested patient navigators or care coordinators would help patients in navigating treatment options, especially those who have no family supports. Another participant suggested increasing resources to help cancer patients with basic needs including meal preparation, grocery shopping, transportation, and childcare.

Workforce Development

Some participants also suggested that NWH could play a role in improving workforce options for residents, especially as it relates to healthcare. Specific ideas included:

- *Hold a job fair*. Participants of one focus group suggested the hospital hold a job fair in the community to provide information about openings at NWH and perhaps other organizations.
- *Career education and support for students.* Several participants suggested the hospital could do more to promote health careers among the service area's students. As one interviewee stated, *"our students want to enter the nursing field."* A couple of participants suggested the hospital provide summer jobs and internships; one participants recommended mentorships or co-op arrangements.

Other Suggestions

A couple of other health gaps were mentioned, although with less frequency than those discussed previously:

- *Domestic Violence Services*. A couple of participants stated providers—including primary care physicians, ER staff, and obstetricians/gynecologists—would benefit from more education about domestic violence and trauma and the most effective ways to engage patients in conversations about these issues and identify abuse. As one focus group participant stated, *"if the physicians aren't trauma-informed, then that's an issue. The doctor needs to ask the right questions."*
- *Transpartatian*. Several participants recommended more community-level work on transportation, as they did in previous CHNA. Providing more transportation supports, especially for seniors, was mentioned by a couple of participants. One participant suggested the hospital re-institute the bus it once offered. Another mentioned the hospital could develop strategies to connect residents to transportation through services like Uber, including education about how to use the apps. Tackling transportation at the local level was also suggested.

# KEY THEMES AND CONCLUSIONS

The 2018 CHNA included a review and synthesis of secondary social, economic, and health outcome data and an analysis of discussions with community residents and leaders across the NWH service area. This report builds upon the 2015 CHNA by examining social, economic, and health patterns and community concerns and considers persistent and emerging health concerns since the 2015 CHNA, with a focus on cancer outcomes and care. Several key themes emerged from this review:

**Community Strengths**

In focus groups and interviews, residents praised the vitality of their communities and saw diversity as a substantial asset. The high quality of the area's school system was described as an important strength in the region. Participants appreciated the spirit of collaboration and variety and extensiveness of services in their communities, including healthcare, public health, and programming for children, youth, and lower income residents. Overall, participants reported that there are good healthcare facilities in the NWH service area.

**Identified Areas of Need**

Housing

Lack of affordable housing in the area was a theme across focus groups and interviews. Residents spoke about rising rent in the service area, attributed in part to demand for housing from wealthier people who are moving to the area. Participants expressed concern about increasing housing costs for the residential stability of residents of Waltham, lower income residents in the region, and seniors.

Transportation

Limited transportation options and high transportation costs were also a challenge, particularly for those without private vehicles, such as lower income residents and seniors. Even where public transportation exists, there are several barriers to using it, including wait times, cost, language barriers, and lack of knowledge of transportation services.

Mental Health

Mental health was the community health concern mentioned most frequently in interviews and focus groups, with children and youth, seniors, and immigrant groups perceived as disproportionately affected. Participants cited high rates of anxiety and depression and often mentioned issues related to trauma, especially among recent immigrant communities. Relative to the other cities/towns in the NWH service area, a larger percent of Waltham students reported self-harm, suicidal ideation, and suicide attempts. Participants noted that increasingly, those suffering from mental health concerns also engage in substance misuse. They also shared concerns about lack of access to mental health services.

Substance Use

Substance use, particularly opioids, was also reported to be a substantial challenge for the community. Substance abuse admissions were highest for residents of Waltham and Natick. The prevalence of heroin-related treatment has increased in each of the NWH communities since the last assessment. Newton, Waltham, and Needham had the highest percent of patients admitted due to heroin as their primary substance of use. Participants working with youth reported that vaping has substantially increased among students in recent years. Since the 2015 CHNA, current alcohol use among middle

school youth declined, as did lifetime cigarette use. Substance use patterns among youth varied across the assessment communities: alcohol use was more prevalent in Weston; electronic cigarette use was highest in Waltham; and prescription drug misuse was more common in Weston and Wellesley.

Access to Care

Residents reported challenges in meeting the social, economic, and health care needs of all residents in the NWH service area, especially immigrants, low-income residents, and seniors. A few participants reported that obtaining health insurance was still a challenge for some residents, particularly those in immigrant communities. With the exception of Newton, all cities/towns in the NWH service area experienced a growth in the immigrant population since the 2015 CHNA. Participants reported that navigating healthcare and continuity of care after hospitalization can be challenging, particularly for residents with chronic illness or multiple providers. Cultural competency of providers, as well as language access, were also identified as barriers for some community participants to access healthcare. Those working with non-English speaking populations repeatedly noted a lack of bilingual providers, particularly in specialty services such as mental health.

**Other Topics of Interest**

Cancer

There was a sense among participants that cancer – particularly breast cancer – was prevalent and inevitable. In the NWH service area, cancer incidence was highest for breast cancer and prostate cancer. Among the assessment communities, Waltham had the highest cancer mortality rate due to all cancers. Since the 2015 CHNA, the cancer mortality rate noticeably decreased in Wellesley, Newton, and Waltham, while it increased in Needham. Cancer care in the area, including at NWH, was perceived to be good, although participants noted that patients often have difficulty understanding and navigating cancer care options; navigating the cancer care system was reported to be more difficult for lower income residents and seniors.

## PRIORITY HEALTH NEEDS OF THE COMMUNITY

In July 2018, members of the NWH Community Benefits Committee reviewed the five identified areas of need (housing, transportation, mental health, substance use, access to care) in the community health needs assessment and their impact on the most vulnerable populations identified (seniors, immigrants, and low-income residents). Committee members were instructed to consider the following criteria for ranking these needs:

- Achievable
- Available Resources
- Community Need
- Community Readiness/Capacity
- Marketable to Community
- Measurable
- Political Will
- Alignment with Hospital/Community Initiatives

Members of the committee picked their top three out of the five identified needs using an online voting system. Paying attention to vulnerable populations of seniors, immigrants, and low-income residents, the committee determined to prioritize the following needs:

- Mental Health
- Substance Use
- Access to Care

# APPENDIX A: Review of Initiatives

**Newton-Wellesley Hospital 2018 Review of Initiatives**

Because of the key findings from the 2014 CHNA, Newton-Wellesley Hospital identified five priority areas, each of which aligned with an identified community health need, that included: mental health, elder care, Waltham in general, access to care/transportation, and substance abuse. Since the 2014 Needs Assessment, Newton-Wellesley Hospital has provided a variety of services and programming to address the identified key needs and issues.

| Activities, Services and Programs listed in 2016 Implementation Strategy | Comment on Activity, Service and/or Program (e.g., collaborations, partnerships, successes, etc.) | Number of Individuals Served, Number of Classes Offered, etc. | | |
|---|---|---|---|---|
| | | FY15 | FY16 | FY17 |
| **Priority Area: Mental Health** | | | | |
| Develop relationships between hospitals and schools | The hospital is focused on addressing the mental health needs of the families in our community through collaboration with area high schools with emphasis on managing mental health problems and prevention initiatives. | Began to lay foundation for a structured partnership with all 7 area schools in Newton, Natick, Needham, Weston, Waltham and Wellesley. | The Resilience Project was formally created – a school and community based initiative to promote the mental health and well-being of adolescents.<br><br>Met with 7 high schools 2-3x each to develop a school-specific program to address mental health.<br><br>Provided a NWH "school team" comprised of a social worker and child psychiatrist for on-going consultation and support. | Met with 7 high schools 2-3x each to develop a school-specific program to address mental health.<br><br>Provided a dedicated team of clinicians for on-going consultation and support.<br><br>Have become the dedicated resource for school staff in the community.<br><br>Launched the NWH Resilience Council comprised of clinical staff (7) and community members (21). |
| Professional development for school faculty and staff | | Held a mental health summit with 10-15 attendees (principals, school health reps, guidance staff and at least one superintendent) from the six school districts in our PSA. | 100 school staff from 7 area high schools attended first annual ¾ day mental health summit.<br>Key note speaker: Alec Miller, PsyD. on DBT; school professional panel and breakout groups.<br>CEU's given. | 100 school staff from 7 area high schools attended second annual mental health summit.<br>Key note speaker: Jean Rhodes, PhD, on Mentorship; community panel; breakout sessions. CEU's given. |

| Activities, Services and Programs listed in 2016 Implementation Strategy | Comment on Activity, Service and/or Program (e.g., collaborations, partnerships, successes, etc.) | Number of Individuals Served, Number of Classes Offered, etc. | | |
|---|---|---|---|---|
| | | FY15 | FY16 | FY17 |
| | | | | Tailored professional consultation according to high school need - challenging students (Natick High School); to Special Education team (Needham High School); Dialectical Behavior Therapy (DBT) training (Waltham); Substance Use (Newton); parental education (Wellesley).<br><br>Professional Development talks for school faculty and staff: Substance Use, and the Developing Brain, School refusal, and Managing the Aftermath of a Crisis in the School. |
| Educational sessions for students and parents | | Participated in 3 school-sponsored lectures and forums open to parents, students and the community. | Participated in 4 school-sponsored lectures and forums open to parents, students and the community.<br><br>NWH Child & Adolescent staff serve on student, parent and community committees and Boards to provide clinical expertise on policy and program development (i.e., City of Newton PATH, Middlesex Partnership for Youth). | Participated in 6 school-sponsored lectures and forums open to parents, students and the community.<br><br>NWH Child & Adolescent staff serve on student, parent and community committees and Boards to provide clinical expertise on policy and program development, i.e., City of Newton PATH, Middlesex Partnership for Youth.<br><br>Launched the Parent Program. Provides parents with education, support and practical strategies with sessions topics |

| Activities, Services and Programs listed in 2016 Implementation Strategy | Comment on Activity, Service and/or Program (e.g., collaborations, partnerships, successes, etc.) | Number of Individuals Served, Number of Classes Offered, etc. | | |
|---|---|---|---|---|
| | | FY15 | FY16 | FY17 |
| | | | | that include Social Media, Talking About Drugs and Alcohol, Raising a Resilient Child, and others. Parents Program launched with one 10-week session (20 parents). A second session of 20 parents planned for 2018. |
| Expanded access to Child/Adolescent Triage Program in NWH | The National Institute of Mental Health reports that 1 in 5 children or adolescents experience a mental health problem before the age of 18, yet only 1 in 5 of these children or adolescents receives the treatment they need. | Expanded access.<br><br>Hired an additional social worker.<br><br>Clinic and ED visit volume increased by 22%. | Direct school referral to Clinic.<br><br>Hired an additional psychiatrist.<br><br>Clinic and ED visit volume increased by 19%. | Clinic and ED visit volume increased by 31%.<br><br>Expansion of clinical volume three-fold since 2011.<br><br>Direct school referral to Clinic.<br><br>Hired a child and adolescent psychologist. |
| Mental wellness education programs to parents in low-income housing units | | | With CAN-DO, involved in an initiative to provide educational programming on nutrition to low income residents through the Bridge to Self-Sufficiency Program. Outcomes for 2016 were educational healthy eating program planning and grant submission. | |
| **Priority Area: Elder Care** | | | | |
| Educational programming for seniors | | Senior supper held at NWH for over 100 community seniors. Provided socialization, nutrition, health education. | Senior supper held at NWH for over 100 community seniors. Provided socialization, nutrition, health education.<br><br>Provided one Mindfulness workshop at local senior center. | In FY 2017, 150 seniors attended an annual senior supper that has been taking place for over 20 years. The event fostered socialization, nutrition and wellness. |

| Activities, Services and Programs listed in 2016 Implementation Strategy | Comment on Activity, Service and/or Program (e.g., collaborations, partnerships, successes, etc.) | Number of Individuals Served, Number of Classes Offered, etc. | | |
|---|---|---|---|---|
| | | FY15 | FY16 | FY17 |
| | | Provided educational information at senior health fairs.<br><br>Provided hospital staff as presenters at lectures, forums and on panels on topics such as safe driving, medication management, sleep, nutrition, etc.<br><br>Provided free blood pressure, flu clinics, and other screenings. Everything took place in senior centers, assisted living facilities, and other community venues. | Conducted by Behavioral health staff in the NWH Integrated Care Management Program.<br><br>Supported the newly created, Waltham Connections, multi-agency organization through programing and financial supports.<br><br>On 9 occasions provided educational information at senior health fairs.<br><br>Provided hospital staff as presenters at lectures, forums and on panels on topics such as safe driving, medication management, sleep, nutrition, etc.<br><br>Provided free blood pressure, flu clinics and other screenings. Everything took place in senior centers, assisted living facilities, and other community venues. | Provided two Mindfulness workshops at local senior centers. Conducted by Behavioral health staff in the NWH Integrated Care Management Program.<br><br>Supported the newly created, Waltham Connections, multi-agency organization through programming and financial support.<br><br>Collaborated with Newton Senior Services on plans under the PLAAN initiative under the World Health Organization, Age Friendly Cities initiatives. Conducted two focus groups with 20 clinical leaders participating.<br><br>On 14 occasions provided educational information at senior health fairs.<br><br>Provided hospital staff as presenters at lectures, forums and on panels.<br><br>Provided free blood pressure, flu clinics, and other screenings. Everything took place in senior centers, assisted living facilities, and other community venues. |

| Activities, Services and Programs listed in 2016 Implementation Strategy | Comment on Activity, Service and/or Program (e.g., collaborations, partnerships, successes, etc.) | Number of Individuals Served, Number of Classes Offered, etc. | | |
|---|---|---|---|---|
| | | FY15 | FY16 | FY17 |
| Educational programming for caregivers | | | | Provided a forum for education on advance care planning for community members. Program was geared to attendees from the perspective of organizational leaders and as caregivers themselves. |
| Education about elder abuse | The DV/SA Program provides free, voluntary, and confidential services to patients and employees who are experiencing domestic violence, family violence and sexual assault. Survivors were served through support groups, counseling and safety planning, and several hundred consults to providers. Professionals provided education and training on all areas of abuse to include elder abuse. | The program provided thousands of hours of additional time were devoted to community education, training, policy development, & collaboration with community organizations. | NWH Program Manager for Domestic and Sexual Abuse conducted a presentation on Elder Abuse for 16 community Department of Public health officials and community agency representatives. | Provided education and consultation to several thousand health care providers and multidisciplinary professionals on topics ranging from partner abuse to elder trauma to ACES to polyvictimization.<br><br>Conducted a needs assessment, hired an elder-specific advocate, started an elder-specific helpline, and expanded to include 7 additional area police departments in addition to Minuteman Senior Services. |
| "A Matter of Balance" – intervention to reverse or prevent loss of function and disablement through coping skills, fall risk reduction, and decreasing activity restrictions. | The intervention, A Matter of Balance, mitigates the negative effects of fear of falling has among elders. The program focuses on coping skills, fall risk reduction and decreasing activity restrictions. The purpose of the program is to reverse or prevent loss of function and disablement commonly associated with fear of falling among older persons. | 65 participants | 80 participants | 64 participants |

| Activities, Services and Programs listed in 2016 Implementation Strategy | Comment on Activity, Service and/or Program (e.g., collaborations, partnerships, successes, etc.) | Number of Individuals Served, Number of Classes Offered, etc. | | |
|---|---|---|---|---|
| | | FY15 | FY16 | FY17 |
| *Abuse in Later Life* partnership | Create a collaborative response to the growing DV/SA issue of abuse in later life. | The program also contributed substantively to state-wide efforts to ensure better collaborations between healthcare providers and violence & abuse specialists. | Began a multiyear partnership with REACH, Springwell Elder Protective Services, the Waltham PD, & the Middlesex Co DA's Office to respond to the issue of abuse later in life. | The multi-disciplinary Abuse in Later Life partnership conducted a needs assessment, hired an elder-specific advocate, started an elder-specific helpline, and expanded to include 7 additional area police departments in addition to Minuteman Senior Services. |
| Newton at Home | Provision of post-discharge services to frail elderly at risk for re-hospitalization. The project enables seniors to remain safely and independently in their own home by providing a broad array of programs and services, e.g. shopping, medication delivery, transportation to medical providers, friendly volunteer visitors, etc. | 9 patients discharged from the acute setting were enrolled in the program. | 8 patients discharged from the acute setting were enrolled in the program. | 8 patients discharged from the acute setting were enrolled in the program. |
| **Priority Area: Waltham** | | | | |
| Create Waltham Wellness Collaborative | In the NWH service area of Waltham, the obesity rate is higher than all other communities NWH serves. In addition, Waltham youth have higher obesity percentage rates than youth statewide. NWH has created a partnership with Healthy Waltham to address this issue in populations throughout the city, with focus on the healthy living of youth and seniors. | Collaborated and financially funded the creation of a Wellness Collaborative with Healthy Waltham. Focus on improve health and wellness, greater awareness to Waltham's obesity issue, especially in youth. | Expanded the Collaborative to partner with Waltham Partnership for Youth and specifically the Waltham Youth and Community Coalition.<br><br>Supported the Fit in Five Wellness Challenge open to all Waltham residents to focus on eating right and exercising more for five weeks in the spring. Provided 5 educational/motivational blog | Supported the Walking Waltham initiative to engage the entire community and get more people walking—from ages 2-96. Promote physical activity, and help combat obesity and stress. Initiative promotes walking in Waltham's natural spaces and on city streets.<br><br>Conducted in-school programming around healthy eating and promoting healthy |

| Activities, Services and Programs listed in 2016 Implementation Strategy | Comment on Activity, Service and/or Program (e.g., collaborations, partnerships, successes, etc.) | Number of Individuals Served, Number of Classes Offered, etc. | | |
|---|---|---|---|---|
| | | FY15 | FY16 | FY17 |
| | | | entries on health eating and activity.<br><br>Conducted in-school programming around healthy eating and promoting healthy choices for youth in Waltham. | choices for youth in Waltham through participation at the Waltham High School Health Fair (1000 students attended).<br><br>Actively participate in Waltham Connections for Healthy Aging. A model created for incorporating age-friendly aspects into the policies and practices of Waltham organizations to improve lives of local seniors. Goals are to include seniors who typically face economic, ethnic or other barriers; as well as to provide mechanisms for social interaction and engagement.<br><br>Supported Healthy Waltham to participate in the School Health Advisory Committee. Focused on the development of a new school wellness policy. |
| Screening mammograms for women | | | Explored possibility of providing mammograms to homeless women living in a hotel shelter. Challenged remained of access to PCP for follow up care. Determined not to be feasible at this time. | |
| School physicals for underprivileged youth | Provide medical care to children and adolescents who do not have access to a private physician so as not to delay entry into school as well as | 11 children were provided immunizations. | 27 children were provided immunizations. | 27 children were provided immunizations. |

| Activities, Services and Programs listed in 2016 Implementation Strategy | Comment on Activity, Service and/or Program (e.g., collaborations, partnerships, successes, etc.) | Number of Individuals Served, Number of Classes Offered, etc. | | |
|---|---|---|---|---|
| | | FY15 | FY16 | FY17 |
| | provide continued pediatric care. | Care included provided avenues for being followed by a primary pediatric clinician.<br><br>Uninsured were assisted with the application phase of Mass Health. | Care included provided avenues for being followed by a primary pediatric clinician.<br><br>Uninsured were assisted with the application phase of Mass Health. | Care included provided avenues for being followed by a primary pediatric clinician.<br><br>Uninsured were assisted with the application phase of Mass Health. |
| Mental wellness seminars for parents | | | Offered 4 lectures and opportunities discussion for parents through the Resilience Project. | Pediatricians provided on-site health sessions at Waltham High School to 4 parents of at-risk youth. Topics covered included nutrition, healthy eating, fitness, handling stress. Session materials were also made available in Spanish.<br><br>Provided support to Waltham Partnership for Youth for the education of 20 bilingual youth to complete an interpreter training for conducting community education programs in Spanish to community members, including parents, on subjects such as mental health and substance use. |
| Healthcare related seminars for the homeless | | Began discussion with Community Day Center in Waltham as to health needs for consumers. | Attended monthly meetings of the Waltham Homeless Assistance Coalition. Clinical representation included emergency department, care management, and integrated care management (behavioral health). | Provided CPR certification class for residents of homeless hotel in Waltham. 11 residents attended. Family friendly meal was held after the program.<br><br>Attended monthly meetings of the Waltham Homeless Assistance Coalition. Clinical representation included |

| Activities, Services and Programs listed in 2016 Implementation Strategy | Comment on Activity, Service and/or Program (e.g., collaborations, partnerships, successes, etc.) | Number of Individuals Served, Number of Classes Offered, etc. | | |
|---|---|---|---|---|
| | | FY15 | FY16 | FY17 |
| | | | | hospitalist service and integrated care management (behavioral health).<br><br>Began efforts towards internal staff education on care for vulnerable populations, i.e., homeless individuals. Internal activities and resources have been directed towards this effort. Two provider education forums held. |
| Taxi vouchers to homeless shelters | NWH also supports various community agencies with additional transportation support to facilitate client access to needed healthcare. | | Established taxi voucher accounts for 2 community homeless organizations to facilitate on-going access to healthcare services. | Established taxi voucher accounts for 2 community homeless organizations to facilitate on-going access to healthcare services. |
| **Priority Area: Access to Care/Transportation** | | | | |
| Access for health appointments | To assist with access issues, NWH provides medical transportation through Springwell, the area agency on aging.<br>Support through a taxi voucher system. | 360 round-trip rides to NWH were provided by Springwell. The majority, 276 rides, were Waltham residents.<br><br>Taxi voucher accounts were created for one community low income housing agency, and contributions were given to already established senior agency transport services. | 287 round-trip rides to NWH were provided by Springwell. Most the Springwell transportation, 219 rides (76%), was Waltham residents.<br><br>Taxi voucher accounts were created for one community low income housing agency, and contributions were given to already established senior agency transport services. | 220 round-trip rides to NWH were provided by Springwell. Most the Springwell transportation, 178 rides (81%), were Waltham residents.<br><br>Taxi voucher accounts were created for one community low income housing agency, and contributions were given to already established senior agency transport services. |
| Provide data set to all communities | | | Convened the Departments of Public Health in all six of NWH communities to meet 3 times in the year to discuss relevant and related topics for the | Convened the Departments of Public Health in all six of NWH communities to meet Quarterly on relevant and related topics for the community and NWH. |

| Activities, Services and Programs listed in 2016 Implementation Strategy | Comment on Activity, Service and/or Program (e.g., collaborations, partnerships, successes, etc.) | Number of Individuals Served, Number of Classes Offered, etc. | | |
|---|---|---|---|---|
| | | FY15 | FY16 | FY17 |
| | | | community and NWH. Topics included substance use, opioid management, care coordination in the community, emergency care, etc.<br>15-20 attendees at each meeting.<br><br>NWH Emergency Department data provided on a quarterly basis in the areas of top five diagnosis, overdose, and behavioral health. | Topics included, patient confidentiality, Flu, Substance use, Worrisome Living Conditions, and others.<br>4 meetings held. Approx. 20 attendees at each meeting.<br><br>NWH Emergency Department data provided on a quarterly basis in the areas of top five diagnosis, overdose, and behavioral health. |
| **Priority Area: Substance Abuse** | | | | |
| Provide Narcan | Access and use of Narcan is an effective option of treating drug overdose. The use of this resource in the community is a need for various agencies.<br>NWH is able to provide Narcan and training to our community partners to support their efforts of dealing with the opioid crisis.<br>Naloxone kits are also made available to those who present at the hospital with an opioid overdose. | | Provided 283 doses of Narcan to local community partners – police and fire, public health, schools, higher education institutions, and shelters.<br><br>NWH dispensed 37 naloxone kits to patients in the Emergency Department with diagnosis of opioid overdose. | Provided 365 doses of Narcan to local community partners – police and fire, public health, schools, higher education institutions, and shelters.<br><br>NWH dispensed 57 naloxone kits to patients in the Emergency Department with diagnosis of opioid overdose. |
| Provide Narcan training | | | With distribution of Narcan, training was provided by NWH ED physicians. | With distribution of Narcan, training was provided by NWH ED physicians.<br><br>NWH clinical staff provided a pharmacist training program to area pharmacists. 57 attendees. Collaborated with Norfolk |

| Activities, Services and Programs listed in 2016 Implementation Strategy | Comment on Activity, Service and/or Program (e.g., collaborations, partnerships, successes, etc.) | Number of Individuals Served, Number of Classes Offered, etc. | | |
|---|---|---|---|---|
| | | FY15 | FY16 | FY17 |
| | | | | County 7. Supported by the public health depts. of Wellesley, Needham, Dedham, Canton, Milton, Westwood, and Norwood |
| High school-based on-site event | | Numerous clinicians provided education to 15 school programs with audiences of youth, parents and educators.<br><br>Provide resources and on-site location for high school student exposure for career exploration in healthcare through shadow, tour and on-going student volunteer opportunities. Participated with one student for 6 weeks in the Newton Mayor Internship Program.<br><br>Provided an extensive student vocational based work-place skill development program though volunteer services. (89 *vocational* student volunteers; 15 school-based vocational partnerships) | Numerous clinicians provided education to 20 school programs with audiences of youth, parents and educators.<br><br>Provide resources and on-site location for high school student exposure for career exploration in healthcare through shadow, tour and on-going student volunteer opportunities. Participated with two students for 6 weeks in the Newton Mayor Internship Program.<br><br>Provided an extensive student vocational based work-place skill development program through volunteer services. (100 *vocational* student volunteers; 20 vocational partnerships) | Numerous clinicians provided education to 20 school programs with audiences of youth, parents and educators.<br><br>Provide resources and on-site location for high school student exposure for career exploration in healthcare through shadow, tour and on-going student volunteer opportunities. NWH Simulation Center was also made available for local High school classes. Participated with two students for 6 weeks in the Newton Mayor Internship Program.<br><br>Provided an extensive student vocational based work-place skill development program through volunteer services. (115 *vocational* student volunteers; 27 vocational partnerships) |
| Online alcohol education program for 9th grade students and parents | | | Financially supported the use of the AlcoholEdu curriculum for parents and 9th grade students in the Needham High School. Approx. 400 students. | |

| Activities, Services and Programs listed in 2016 Implementation Strategy | Comment on Activity, Service and/or Program (e.g., collaborations, partnerships, successes, etc.) | Number of Individuals Served, Number of Classes Offered, etc. | | |
|---|---|---|---|---|
| | | FY15 | FY16 | FY17 |
| Wellness classes designed to address tobacco use | | Hospital's wellness center offered, at no cost, attendees 3 distinct classes on tobacco cessation (12 attendees) led by an experienced clinician. | Hospital's wellness center offered, at no cost, attendees classes on tobacco cessation (8 attendees) led by an experienced clinician. | Hospital's wellness center offered, at no cost, attendees classes on tobacco cessation (8 attendees) led by an experienced clinician. |

## APPENDIX B: List of Community Benefits Committee Members

| Last Name, First Name | Role and Organization | Service Area |
|---|---|---|
| Anthony, Bob | President, Adolescent Wellness, Inc; NWH Overseer | Wellesley |
| Brede, Debra | NWH Board of Trustees; NWH Overseer | Wellesley |
| Cohen, Shep | Chair, Board of Health | Wellesley |
| Collier, Duke | Chair, NWH Board of Trustees | NWH |
| Crowley, Rev. Brandon Thomas | Senior Pastor, The Myrtle Baptist Church | West Newton |
| DiMaggio, Maria | Communications & Development Director, Healthy Waltham | Waltham |
| Dowcett, Kaytie | Executive Director, Waltham Partnership for Youth | Waltham |
| Flynn, Gregory | Honorable Justice, Waltham District Court | Waltham |
| Fuss, Rosemary | NWH Overseer | Wellesley |
| Gerard, Kim | Program Manager, Community Outreach, NWH Community Benefits Department | NWH |
| Hannah, Margaret | Executive Director, Freedman Center for Child and Family Development | Newton |
| Hattis, Paul | Senior Associate Director, MPH Program; Associate Professor, Dept of Public Health & Community Medicine, Tufts University Medical School | Newton |
| Hoshino, Ruth | Director of School Health Services | Newton |
| Jaff, Michael | President, NWH | NWH/Newton |
| Kay, Linda | NWH Overseer | Newton |
| Kelly, Chris | NWH Board of Trustees; NWH Charitable Foundation Board | Wellesley |
| Koppel, Adam | NWH Board of Trustees; NWH Overseer | Wellesley |
| Lefman, Cheryl | Community Health Coordinator, Wellesley Health Dept. | Wellesley |
| Lele, Lauren | Director, Community Benefits & Volunteer Services | NWH |
| Looney, John | Vice President of Marketing, Communications and Public Affairs | NWH |
| Mack, Heather | Vice President, NWH Development Office | NWH |
| Marriott, Julie | Co-Chair, Community Benefits Committee; NWH Charitable Foundation Board; NWH Board of Trustees; NWH Overseer | Wellesley |
| McCaffrey, Patricia | Director of Nursing, Waltham Public Schools | Waltham |
| McDonald, Tim | Director, Health & Human Svcs | Needham |
| McNeil, Josephine | Executive Director, CAN-DO | Newton |
| Miller, Erin | Coordinator, Domestic Violence/Sexual Assault Program | NWH |
| Moloney, Ellen | Chief Operating Officer, NWH | NWH |

| Last Name, First Name | Role and Organization | Service Area |
|---|---|---|
| O'Dea, Brian | Director, Public Affairs & Marketing | NWH |
| Phull, Tavinder | Director, Community Health Reporting and Compliance | Partners HealthCare |
| Sanders, Ronnie | Executive Director for Community Health | Partners HealthCare |
| Steer, Anne | NWH Charitable Foundation Board; NWH Overseer | Weston |
| Sullivan, Steve | NWH Board of Trustees; NWH Charitable Foundation Board; NWH Overseer | Wellesley |
| Swick, Susan | Chief, Division of Child & Adolescent Psychiatry | NWH |
| Tully, Stacey | Executive Director, Healthy Waltham | Waltham |
| Wallace, Jhana | Executive Director, CHNA 18 | West Suburban Area |
| Walsh, Linda | Asst Commissioner, Newton Health Department | Newton |
| White, Jim | Director, Public Health, Town of Natick | Natick |
| White, Jo | Director of Healthcare Partnerships, Springwell, Inc. | Waltham |
| Youngblood, Deborah | Commissioner, Health & Human Services | Newton |
| Zuppe, John | Director, Public Health, City of Waltham | Waltham |

# APPENDIX C: Focus Group Participant Demographics

| | n | % |
|---|---|---|
| **Focus Group Language** | | |
| *English* | 34 | 77.3% |
| *Haitian-Creole* | 10 | 22.7% |
| **City/Town of Residence** | | |
| *Natick* | 3 | 6.8% |
| *Needham* | 2 | 4.5% |
| *Newton* | 15 | 34.1% |
| *Waltham* | 16 | 36.4% |
| *Wellesley* | 1 | 2.3% |
| *Weston* | 1 | 2.3% |
| *Other** | 6 | 13.6% |
| **Gender** | | |
| *Female* | 38 | 86.4% |
| *Male* | 6 | 13.6% |
| *Other* | 0 | 0.0% |
| **Age** | | |
| *Under 18 years old* | 0 | 0.0% |
| *18-24 years old* | 2 | 4.5% |
| *25-34 years old* | 4 | 9.1% |
| *35-44 years old* | 4 | 9.1% |
| *45-54 years old* | 10 | 22.7% |
| *55-64 years old* | 12 | 27.3% |
| *65 years old and over* | 12 | 27.3% |
| **Race/Ethnicity** | | |
| *White, non-Hispanic* | 15 | 34.1% |
| *Black or African American, non-Hispanic* | 20 | 45.5% |
| *Hispanic/Latino, any roce* | 7 | 15.9% |
| *Asian or Pacific Islander* | 0 | 0.0% |
| *Other* | 1 | 2.3% |
| *More than two roces* | 1 | 2.3% |
| **Highest Level of Education** | | |
| *In high school ar less than high school diploma* | 7 | 15.9% |
| *High school diploma or equivalent (e.g., GED)* | 4 | 9.1% |
| *Some college, junior college, or vocational school* | 11 | 25.0% |
| *College graduate or more* | 22 | 50.0% |

* Other includes Boston, Carlisle, Framingham, Salem (NH), West Roxbury, and Woburn

## APPENDIX D: List of Stakeholder Organizations

| Organization | Sector/Population/Topic |
|---|---|
| Waltham High School | Immigrant/vulnerable populations, youth and education |
| Metro-Boston Project Outreach | Substance use |
| Out MetroWest | LGBTQ |
| Waltham Partnership for Youth | Youth development |
| NWH Substance Use Services | Substance use |
| Riverside Community Care | Mental and behavioral health |
| Healthy Waltham | Health |
| Springwell, Inc. | Senior/elder services, Transportation |
| Council on Aging Directors, | Senior/elder services |
| Myrtle Baptist Church | Faith-based community, African American population, Seniors |
| School Nurse Leaders | Education, children's health |
| Charles River Community Health | Community health center patients, Haitian-Creole speaking population |
| REACH | Domestic violence, Latino community |
| Waltham Housing Authority, Chesterbrook Gardens Learning Center | Public housing |

# Attachment/Exhibit

# B

NEWTON-WELLESLEY HOSPITAL

# Newton-Wellesley Hospital
# Community Health Implementation Plan (CHIP)
# November 2018

| **Priority 1: Mental Health** |
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| **Objective:** Increase access and use of mental health services, alleviate the fragmentation of services, and address issues of stigma associated with mental health care. |

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| **Strategies** | **a. Youth Mental Health**<br>• Under the school-based Resilience Project, conduct site visits to all area high schools that include a psychiatrist and social worker clinical team. Expand The Resilience Project to private schools and middle schools.<br>• Provide professional development for school faculty and staff. Conduct educational sessions for student and parents in various community venues. Expand support outlets for parents and teens as well as community knowledge of mental health through workshops and group sessions.<br>• Address the prevalence of mental health concerns among young adults in the college setting. Convene NWH Health In Higher Education Forums quarterly to bring together hospital and college leadership to collaborate and create processes and work proactively to address campus and hospital concerns.<br>• Collaborate with Waltham Partnership For Youth to address the high percentage of Waltham students reporting self-harm, suicide ideation, and suicide attempts. Promote employment, education, and community involvement with support of the Youth Interpreters Program.<br><br>**b. Elder Mental Health**<br>• Collaborate with community partners, i.e., Healthy Connections (Waltham), Newton Senior Services, and Jewish Community Housing for the Elderly, to create and conduct programs that address issues of social isolation and frailty. Programs to include Tai Chi, mindfulness, Matter of Balance, and Senior Suppers.<br>• Provide a resource for vulnerable patients to receive custodial care (housekeeping, laundry, grocery shopping, and prescription pick up) upon discharge from the hospital for a safe transition to home. Review data for program effectiveness.<br>• Create an Elder Care Council that focuses on the needs of elders in the NWH community. Participation to include clinical experts, community experts, and interested patients and family members.<br>• Focus on needs of the caregiver in the arena of elder mental health. |

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| | ○ Create support programs for caregivers.<br>▪ Conduct a Caregiver Self-care program in collaboration with community Council on Aging.<br>▪ Pilot Caregiver mobile app in Waltham.<br>▪ Offer Savvy Caregiver Training (The Healthy Living Center of Excellence) to NWH community caregivers.<br><br>**c. Maternal Mental Health**<br>• Implement a clinical tool to identify concerns related to maternal mental health.<br>• Establish social work staffing and launch communication resources to support maternal mental health.<br><br>**d. Immigrant Mental Health**<br>• Implement cultural considerations when addressing mental health among immigrant populations, in Waltham, in particular. |

| **Priority 2: Substance Use** |
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| **Objective:** Increase access and treatment of substance use disorders, work with providers on the care of substance use patients, educate and collaborate with the community on substance use disorder prevention and treatment. |

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| **Strategies** | **a.** Expand access to and the resource of the Substance Use Service. Expand participation in support programs through SUS social work and recovery coach.<br>**b.** Educate clinicians on how to best care for patients with substance use disorders and implement safe pain management.<br>**c.** Address the issue of stigma associated with substance use through collaborating with community partners on resource nights (MetroBoston Project Outreach) and other outreach efforts (Newton Health and Human Services - Newton PATH).<br>**d.** Provide education and advocacy in collaboration with the District Attorney's Office through the Charles River Opioid Task Force.<br>e. Provide prevention mechanisms to address substance use.<br>• MedSafe receptacle at NWH.<br>• Supplement care for emergency treatment of overdoses through the distribution of Narcan and training to first responders and community partners.<br>**f.** Grow outreach efforts to address the growing concern in NWH communities around Juuling/Vaping and electronic cigarette use. Create education materials and open forums to expose community health implications. |

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| | g. Address the prevalence of substance use among college age students. Convene NWH Health In Higher Education Forums quarterly to bring together hospital and college leadership to collaborate and create processes that proactively address campus and hospital concerns.<br>h. Work with Massachusetts Health and Hospital Association in the development and promotion of a Community Referral Resources database for use in continuing care for SUD patients. |

| Priority 3: Access To Care |
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| **Objective:** Address challenges residents face throughout the NWH service area in accessing and navigating health care needs and services. |

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| **Strategies** | a. Provide immunizations and primary care to school aged children to facilitate timely entry into school. Expand service to other NWH communities.<br>b. Investigate operationalizing Palliative Care services in outpatient settings.<br>c. Convene Departments of Public Health on a quarterly basis to communicate challenges, share best practices, review services, and strategize solutions on access and care in the hospital and the community.<br>d. Provide provider access to Medicaid and non-insured patients through the Carefinder service<br>e. Expand hospital use of Circulation/Lyft Non-Emergent transport service to enable patients to come to and leave the hospital with greater ease.<br>f. Convene NWH Health In Higher Education Forums quarterly to bring together hospital and college leadership to strategize on access to care of college age patients/students.<br>g. Explore/expand development of "off hours" clinics in areas where patients do not have daytime flexibility for medical visits/treatments. |

| Priority 4: Social Determinants of Health (SDOH): (Built Environment, Social Environment, Housing, Violence and Trauma, Education, Employment) |
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| **Objective:** To develop programmatic solutions to address SDOH factors in the overall health of NWH communities |

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| **Strategies** | **a. Built Environment**<br>• Promote enhanced food access and healthy eating.<br>o Wellness Collaboration with Healthy Waltham to facilitate access to healthy food (mobile food pantry), creating a culture of wellness and healthy living among all populations (across cultures) and age groups (seniors and youth), and policy development<br>o Support the Summer Eats program in Waltham. |

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| | **b. Social Environment**<br>• Support Waltham Partnership for Youth Transportation study and determine opportunities for actionable outcomes. In collaboration with WPY, and other community partners, determine ways the study findings can be transferred to other populations and services.<br>**c. Housing**<br>• Explore opportunities to engage with housing facilities for educational programming and clinical services.<br>• Provide health programming and support to homeless shelters.<br>• Address the hospital's adequacy in delivering culturally competent care to vulnerable patient populations.<br>**d. Violence and Trauma**<br>• Continue to enhance and expand the NWH domestic and sexual violence program.<br>• Continue the program's work in the areas of counseling, consultation, advocacy, education, and partnerships.<br>• Oversight and participation in the National SANE Telenursing Center at NWH.<br>• Continue expansion of efforts to infuse trauma informed care among healthcare providers.<br>• Address concerns of abuse in vulnerable populations – elders, LGBTQ, immigrant.<br>• Expand services to include a bi-lingual social worker in the Waltham community to address issues of violence.<br>• Convene NWH Health In Higher Education Forums quarterly to bring together hospital and college leadership to address the prevalence of sexual violence within the college age population.<br>• Create a hospital council focused on domestic and sexual violence.<br><br>**e. Employment and Education**<br>• Participate in Waltham Partnership For Youth and Newton Health and Human Services Internship programs. Expand participation to additional high school students.<br>• Provide healthcare career exposure to student and adult populations through fairs, internships, and career-focused opportunities.<br>• Explore the potential for the creation of a NWH Workforce Development Council.<br>• Provide work-skill based opportunities for individuals (student and adult) through the NWH vocational volunteer program. |

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| **Priority 5: Chronic Disease Management and Prevention** |
| **Objective:** Provide programs, education and preventive care to address prevalent on-going health concerns in NWH communities. |

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| **Strategies** | a. Conduct community- based outreach with screenings, clinics, and educational forums.<br>b. Provide programs related to mobility function and fear of falling among seniors.<br>c. Provide home care services to vulnerable populations to promote home safety and safe care through partnerships with Neighbors Who Care (Waltham) and Newton At Home (Newton).<br>d. Cardiovascular: Offer support programming to patients and caregivers to address issues associated with cardiac care.<br>e. Cancer Care: provide greater awareness of cancer through education and screening options to at-risk populations with high incidences of cancer. Focus on populations and/or cancers of high risk Waltham. |

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| **Priority 6: Other Community Needs Identified** |
| **Objective:** Collaborate with community partners to react to and improve identified health concerns. |

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|---|---|
| **Strategies** | a. Be an active participant in community Emergency Preparedness through leadership for convening exercises, creating emergency plans and being a resource for partners.<br>**b.** Develop partnerships and collaborations to address community health needs.<br>**c.** Explore effective ways to train and educate providers in health equity when providing care to vulnerable populations. |