Holy Family Hospital
Haverhill • Methuen
A STEWARD FAMILY HOSPITAL

Steward

Community Health Needs Assessment 2018

LOCATIONS

70 East Street
Methuen MA 01844

140 Lincoln Avenue
Haverhill MA 01830

Holy Family Hospital

2018 Community Health Needs Assessment

Published February 2019

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Acknowledgements

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Lastly, we thank the team at H&HS Consulting Group LLC., who contributed to the drafting of this report and also conducted a thorough data analysis and literature review which was used to develop these findings and recommendations. Sincere acknowledgements to Paulo Gomes, MSHS, Principal Consultant, Kristy Najarian, MPH, Data Analyst, Jennifer Hohl, MPH, Data Entry, and Ben Ethier, Public Health Research Assistant.

For more information about this report and our process, as well as our community health program, please visit our website https://www.holyfamilyhospital.org/about-us/community-health-outreach or contact Katherine Vozeolas, *BSN RN NCSN*, Director of Mission and Community Partnerships, Holy Family Hospital -Methuen and Haverhill at Katherine.Vozeolas@steward.org.


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Executive Summary

As the cost of health care continues to rise, it is imperative for health care and social service providers to prioritize their community outreach and resources based on community health and social welfare needs. A community health needs assessment is a critical tool for understanding population health issues.

A community health needs assessment:

- Identifies major health issues and social determinants affecting community health and community health services,
- Provides information to community stakeholders for creating strategies to improve community health,
- Provides recommendations on what are the most pressing health issues in the hospital's service territory, and
- Serves as the basis for the hospital's community benefits programming.

Between June 2018 and November 2018, Holy Family Hospital conducted a community health needs assessment within the hospital's service territory. Specifically, the hospital gathered information about its's primary service area, Methuen, Haverhill, Lawrence, Groveland, Andover, and North Andover, and compared data with that of Essex County and the state of Massachusetts. Similarly, and where possible, Salem, NH information was compared with that of Rockingham County and the state of New Hampshire.

This report details the findings from the primary and secondary data sources. Primary data came from three focus groups and from Survey Monkey responses by community stakeholders. Secondary data came from various Massachusetts, New Hampshire, and federal government sources.

A detailed listing of data sources can be found in the V. Methodology section.

Statewide Priorities - Community Benefits Guidelines for Non-Profit Hospitals

The Community Benefits Program should be viewed in the context of coordinated initiatives across state government to build long-term capacity to improve outcomes and reduce disparities around common health priorities.

The Attorney General's Office (AGO) works closely with sister agencies and accordingly, these Guidelines recognize as statewide priorities the same four focus issues identified by the Executive Office of Health and Human Services and DPH in 2017 as significant statewide needs that drive mortality, morbidity, and health care costs. We ask that all hospitals and HMOs closely consider these four focus issues, along with identified local needs, as they conduct their Community Health Needs Assessments and prepare their Implementation Strategies:

- Chronic Disease with a Focus on Cancer, Heart Disease and Diabetes
- Housing Stability/Homelessness
- Mental Illness and Mental Health
- Substance Use Disorders

In addition to these four focus issues, in 2017 DPH adopted six health priorities to guide the Community Health Initiative investments funded by the Determination of Need process. These health priorities underscore the relevance of investing in the social determinants of health, and the AGO encourages hospitals and HMOs to consider these six priorities in their Community Benefits planning:

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

A lengthier description of the six health priorities is available on the DPH website at www.mass.gov/files/documents/2017/01/tr/guidelines-health-priority.pdf.

The theme of health equity is strongly reflected throughout these health priorities. It is well understood that racism – in all of its forms – and institutional bias impact health outcomes, both through their influence on the social determinants of health and also as an independent factor affecting health. The health equity framework below illustrates how racism has an independent influence on all the social determinants of health and that racism in and of itself has a harmful impact on health. The AGO recommends that hospitals and HMOs consider this framework and continue to recognize and address the role that racism and institutional bias play in impacting health outcomes in their communities.

These Guidelines identify the four focus issues and six health priorities to encourage hospitals and HMOs to work in concert on issues of particular concern and to achieve collective improvements in these areas. However, hospitals and HMOs must also assess the needs of their particular service areas and get direct input from their communities about which programs to include in their Implementation Strategies, including programs that may not address these issues. In reviewing the Community Benefits Reports, the AGO will pay special attention to programs that address the focus issues and priorities described above for purposes of public recognition and dissemination of best practices. The AGO may update these issues and priorities over time to continue to align with the health goals identified by sister agencies.

Introduction

Holy Family Hospital is a 320-bed acute-care hospital with two campuses in Methuen and Haverhill. Both locations provide comprehensive inpatient, outpatient and 24/7 emergency services to the greater Merrimack Valley, southern New Hampshire, and the New Hampshire seacoast.

Holy Family Hospital is part of Steward Health Care System LLC,

- Steward Health Care, the largest private, for-profit hospital operator in the United States, is a physician-led health care services organization committed to providing the highest quality of care in the communities where patients live.
- Headquartered in Dallas, Texas, Steward operates 38 community hospitals in the United States, including 10 in Massachusetts, that regularly receive top awards for quality and safety.
- The company employs approximately 40,000 health care professionals. The Steward network includes more than 25 urgent care centers, 42 preferred skilled nursing facilities, substantial behavioral health services, over 7,300 beds under management, and approximately 1.5 million full risk covered lives through the company's managed care and health insurance services.
- Steward Home Care is a Medicare-certified agency serving patients throughout eastern Massachusetts and southern New Hampshire. Our home care team collaborates with our orthopedic providers to ensure that our patients are well cared for in a safe and comfortable environment.
- The total number of paneled lives within Steward's integrated care network is projected to reach 3 million in 2018, the largest integrated community care organization in New England, which combines over 3,000 physicians, 10 acute care hospitals, managed care, insurance programs, home care, an imaging operation, and a number of other post-acute services, to provide the most cost effective and highest quality of integrated care.

Together, the two campuses offer specialized services in orthopedics, cancer care, wound care, cardiac and vascular care, diabetes management, neurology, behavioral health, weight control, general surgery, maternity, and emergency care.

The primary service area includes Andover, Groveland, Haverhill, Lawrence, Methuen, and North Andover in Massachusetts and Salem New Hampshire. Our secondary service area includes: Amesbury, Georgetown, Newburyport, Merrimac, and Rowley in Massachusetts; and Atkinson, Derry, Hampstead, Kingston, Londonderry, Merrimack, Newton, Pelham, Plaistow, and Windham in New Hampshire

Holy Family Hospital's service area is part of two area community health networks designated by the Mass. Dept of Public Health. They are Community Health Network Area (CHNA) 11, called the Lawrence Mayor's Health Task Force, made up of Andover, Lawrence, Methuen, Middleton, and North Andover; and CHNA 12, known as the Health Partnership, consisting of Amesbury, Boxford, Georgetown, Groveland, Haverhill, Merrimac, Newbury, Newburyport, Rowley, Salisbury, and West Newbury.

We are proud to provide you with local access to award-winning services for specialties including orthopedics, wound care, women's health, wound care, cardiovascular care, and stroke care.

In some cases we collaborate with other organizations:

- Medical oncology and hematology care are provided by Dana-Farber Community Cancer Care.
- Radiation oncology services are provided in collaboration with UMass Memorial Health Care.

- Newborn care in Our Level II Special Care Nursery is staffed 24 hours a day by MassGeneral for Children physicians.
- Emergency stroke care is provided by our specially trained ER staff through telemedicine with Massachusetts General Hospital (MGH) stroke neurologists.

National Quality Approval

Holy Family Hospital:

- Received the **Gold Seal of Approval** from The Joint Commission, an independent, not-for-profit organization, whose certification is recognized nationwide as a symbol of quality, reflecting an organization's commitment to meeting specific performance standards. The Joint Commission's vision is that all patients always experience the safest, highest quality, best-value health care across all settings.
- Earned an **"A" Hospital Safety Grade** for Spring 2018 from the nationally recognized Leapfrog Group, an independent healthcare industry watchdog. Leapfrog's Safety Grade gives health care consumers guidance about the safety of general acute-care hospitals, so they have the information they need when choosing a hospital for care. The Safety Grade represents a hospital's overall capacity to keep patients safe from preventable harm and medical errors.
- Earned the **2018 Leapfrog Group Top General Hospital Award**, highlighting nationally recognized achievements in patient safety and quality. The Leapfrog Top Hospital award is one of the most competitive honors American hospitals can receive. This year Holy Family is one of just 33 nationwide to earn the prestigious Top General Hospital designation, one of two hospitals in the State, and the only hospital in the Merrimack Valley region. This follows the same recognition for our Methuen campus which won this award in 2017. Of the nearly 1,900 hospitals surveyed, Holy Family is one of just 44 nationwide to earn the prestigious Top General Hospital designation, and the only hospital in the Merrimack Valley region.
- **First in Massachusetts to earn Advanced Certification in Hip and Knee Replacement Surgery** from The Joint Commission, the premier health care quality improvement and accrediting body in the nation. This advanced certification demonstrates our commitment to the improvement of patient care and safety for the increasing number of patients undergoing total hip or total knee replacement surgery.
- Nationally Recognized as a Blue Distinction Center® Plus for Excellence in Hip and Knee Replacement Surgery by BlueCross BlueShield of Massachusetts.
- Selected, as part of Steward Health Care, to participate in the Massachusetts Demonstration Project for the new Massachusetts Medicaid Accountable Care Organization (ACO) to help transform the current Medicaid program, known as MassHealth, to an integrated model for the almost 2 million patients who use it. To be in an ACO, providers must show they can coordinate care with community partners across a continuum of care, something Steward Health Care already proved it can do well, as it has been part of the Federal Next Generation Medicare ACO, considered one of the most successful Medicare ACOs in the country. The Next Generation ACO aspires to attain the highest quality standards of care at lower costs to Medicare patients.

This is all part of our commitment to providing high-quality, compassionate care right here in your community where you can focus on your health and your family's health without having to travel far. Most importantly, we strive to treat your family as we would our own.

Community Benefits Mission Statement

Steward Health Care is committed to serving the physical and spiritual needs of our community by delivering the highest quality care with compassion and respect.

Our Mission revolves around the following Values:

- Compassion: Providing care with empathy in such a way that the person experiences acceptance, concern, hopefulness, and sensitivity
- Accountability: Accepting responsibility for continuous performance improvement, embracing change and seeking new opportunities to serve
- Respect: Honoring the dignity of each person
- Excellence: Exceeding expectations through teamwork and innovation
- Stewardship: Managing our financial and human resources responsibly in caring for those entrusted to us

Our Guiding Principles are:

- Holy Family Hospital will strive to be patient-centered, providing ease of access, convenience, and caring to all who seek its services.
- Holy Family Hospital provides the highest quality of care by managing medical outcomes through excellence in clinical programs and centers of excellence. We will exceed expectations of patients and referring physicians.
- Holy Family Hospital will provide leadership in collaboration with its colleagues in Steward Health Care to strengthen clinical and network integration as one health care system.
- Holy Family Hospital, as a major employer, strives to be the best place to work in health care.
- Holy Family Hospital's research programs will affirm their role as an academic resource for Steward Health Care and the community.
- Holy Family Hospital will enhance community health through education and outreach programs.

Community Benefits Statement of Purpose

An integral part of Holy Family Hospital's mission and guiding principles is a robust Community Benefits program for its service area.

Holy Family Hospital's Community Benefits program is focused on identifying and addressing the health and social needs of the communities we serve.

Holy Family Hospital's Community Benefits is guided by the results of a community health needs assessment; has a full-time director, a dedicated budget, an annual plan, three advisory committees (one for each campus plus a hospital leadership team); and is implemented in the hospital's primary service area. Programming is typically offered in collaboration with 'community' partners to 'benefit' residents—particularly the poor, minorities, uninsured or underinsured, and other underserved groups.

Holy Family Hospital's Community Benefits is committed to:

- Improving the overall health status of people in our community;
- Providing accessible, high-quality care and services to all those in our community, regardless of their ability to pay;
- Working in collaboration with staff, providers and community representatives to improve the area's health status;
- Identifying and prioritizing unmet needs and selecting those that can most effectively be addressed with available resources;

- Contributing to the well-being of our community through outreach efforts including, but not limited to, reducing barriers to accessing health care, preventative health education, screenings, and wellness programs;
- Conducting a community health needs assessment every three years to learn about current health issues and opportunities for improving community health; and
- Regularly evaluating our community benefits program.

In accordance with the Massachusetts Attorney General's Community Benefits Guidelines to identify community needs every three years, Holy Family Hospital conducted a community health needs assessment in 2018.

This report is the result of the needs assessment. This document details the health conditions and social determinant factors affecting people living in key cities and towns comprising the hospital's service area, as well as the key issues that need to be addressed to improve community health and education. From 2019 through 2020, Holy Family Hospital Community Benefits plans will be based on this information.

Methods

The 2018 Holy Family Hospital Community Health Needs Assessment (CHNA) was developed in full compliance with the Commonwealth of Massachusetts Office of Attorney General-*The Attorney General's Community Benefits Guidelines for Non-Profit Hospitals* released in February 2018. To conduct this needs assessment, Holy Family Hospital engaged various community organizations and members to ensure that varying perspectives on health and social topics were taken into account. Below is a brief description of the data collection process.

Health Indicators and Demographics – Data Analysis

In order to get a broader view of the health and sociodemographic trends in the Holy Family Hospital (HFH) primary service area, extensive public data was collected from online data sources in partnership with the Massachusetts Department of Public Health (MDPH). Data sources used by the team included, the Massachusetts Department of Labor, the New Hampshire Division of Public Health Services, the New Hampshire Drug Monitoring Initiative, U.S. Census Bureau, Department of Early and Secondary Education (DESE), Uniform Crime Reporting (UCR) Program of the Federal Bureau of Investigation and the Center for Disease Control and Prevention (CDC). Health indicator data, such as mortality, disease prevalence, hospitalizations and admissions to substance abuse programs was provided by the MDPH Office of the Commissioner, and MassCHIP staff.

Key Informant Survey

A Key Informant Survey was developed and distributed electronically to about 350 community stakeholders, including (but not limited to) health and human service agency directors, school administrators, nurses and psychologists, law enforcement, CHNA 11 and CHNA 12 memberships, church leaders, Community Health Advisory committees for the Methuen and Haverhill campuses, and hospital frontline leadership. The survey was available from July through September and was comprised of 15 questions. The survey drew 74 respondents. A copy of the Key informant survey questions can be found in Appendix B.

Focus Groups

Three focus groups were conducted in Methuen and Haverhill. The goal was to collect views and opinions of participants that could be used to inform community health improvement strategies recommended in this report. A combined 44 individuals participated in the three focus groups. A copy of the focus group questions can be found in Appendix C.

Literature Review

A literature review of recent governmental, public policy, and scholarly works was conducted. The public health information was analyzed and a summary report which included common themes and public health trends among high-priority populations in the Holy Family Hospital service area was created to inform this Community Health Needs Assessment.

Findings

Chronic Disease

Groveland and Haverhill maintained a higher than state average incidence rate of mortalities due to chronic diseases in 2015, with Haverhill at the highest level. Cancer-related deaths accounted for the highest mortality rate, followed by heart disease-related deaths, chronic lower respiratory disease-related deaths, and diabetes-related deaths at the lowest percentage.

Obesity

Obesity and overweight rates among youth in Haverhill and Methuen were above or the same as those seen at the state level. Haverhill had the highest level of overweight or obese youth at (40.2%).
In the Key Informant Survey, respondents were asked what they thought were major health concerns in the community. Obesity was one of the issues frequently mentioned by respondents.

Survey results demonstrated that community members agree that there are barriers to being physically active, such as time, cost of recreational activities and access to recreational activities. Barriers to eating healthily included affordability and lack of education about how to prepare healthy meals.
Focus group participants noted the need for increased education within the community regarding nutrition and healthy eating on a budget. Focus group participants also felt that obesity was a major issue within the HFH service area.

Mental health

Mental health intersects with many areas of public health, including addiction, cancer, cardiovascular disease, and HIV/AIDS, therefore requiring common services and resource mobilization effort. Integrated treatment is critical for treating people with co-occurring disorders and can ultimately achieve better health outcomes and reduce costs. Increasing awareness and building capacity in service systems are important in helping identify and treat co-occurring disorders. Treatment planning should be client-centered, addressing clients' goals and using treatment strategies that are acceptable to them (MDPH, 2017).

Data shows that Haverhill had the highest suicide death count within the HFH service area, followed by Lawrence.

With regard to Emergency Department hospitalizations related to mental health disorders, Groveland had the highest rate of hospitalizations, compared with the other cities and towns within the hospital service area. Key Informant Survey participants ranked "Mental Health Issues" as the 2nd most significant issue within the community.

Focus group and survey participants both strongly felt that there is a major need for change in mental health services, including a need to offer more beds to psychiatric patients and better mental health training for medical and first responder staff. Participants felt that patients with mental health issues were not given the level of services they required in order to be truly helped. Although local support systems are available, participants felt like the community was not aware how to access them, and that long wait times and insurance barriers prevent those who need services from getting help.

Substance Abuse Disorder

Based on the available data, within the HFH service area, Lawrence had the highest count of alcohol/substance-related hospitalizations, while Groveland had the lowest. Haverhill had the highest number of alcohol-related deaths within the hospital's service area in 2015, exceeding statewide rate. Substance abuse was rated the most significant community health issue among Key Informant Survey participants. Both survey and focus group participants agreed that there was a severe lack of knowledge on how to obtain resources, and that there needs to be a better system in place for prescribing opioids.

People with mental health disorders are more likely to experience a SUD. Often, people receive treatment for one disorder while the other disorder remains untreated. Undiagnosed, untreated, or undertreated co-occurring disorders can lead to a higher likelihood of experiencing negative outcomes, such as homelessness, incarceration, medical illnesses, suicide, or even early death (SAMHSA, 2016).

Massachusetts offers a variety of treatment approaches to address the needs of individuals with substance use disorders. However, there are important disparities in the outcomes and effectiveness of substance use treatment for different populations. Treatment needs can differ across populations, suggesting that treatment interventions should be individually tailored and incorporate culturally competent and linguistically appropriate practices relevant to specific populations and subpopulation groups (MDPH, 2017).

Access to Care

Key Informant Survey respondents felt that access to health care and lack of preventative care services were major concerns within the HFH community. While the majority of survey participants noted that they had a primary care provider, many felt there were barriers to accessing primary and preventative care within the community such as lack of awareness of local providers, especially multilingual providers, issues with insurance coverage and the convenience of getting an appointment. Transportation was also noted as a major concern, noting that many people in the community may not be aware of available resources to get to appointments. Respondents also felt there needed to be more general health education, and more support groups and programs.

Demographics

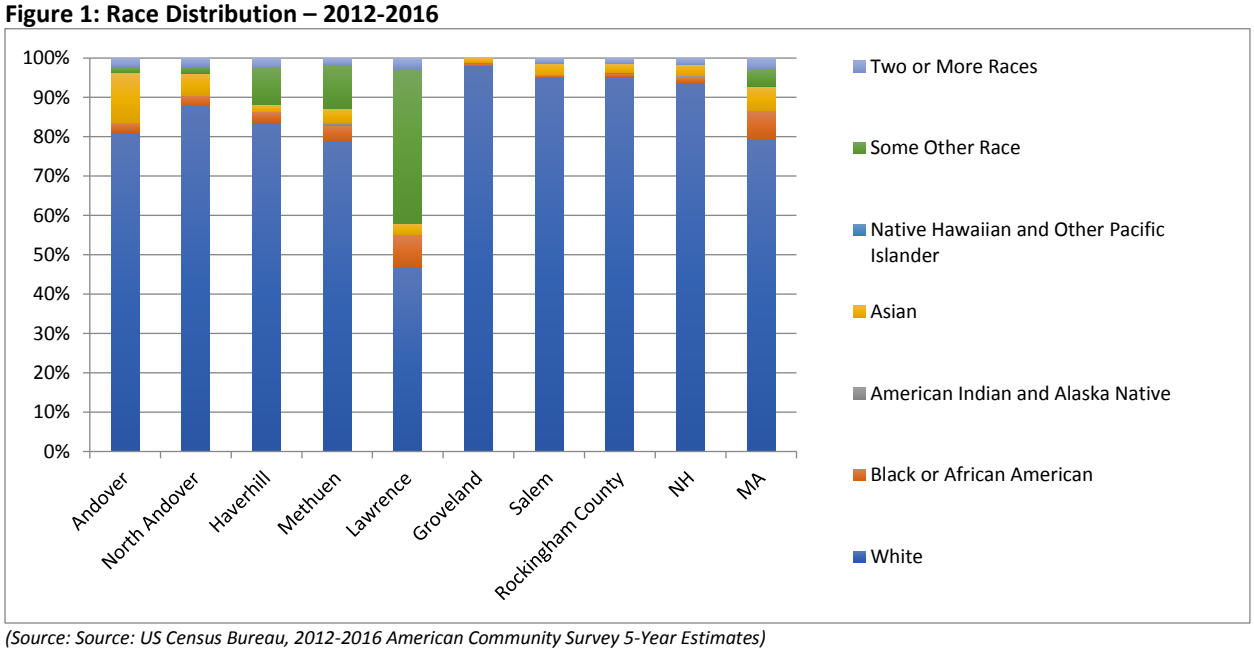
Who we are directly impacts how we interact with our community and society. Our race, gender identity, age, disability status, etc. influence the social environment that we experience. Our social environment impacts many mental and physical health outcomes, including mental health, violence, risk behaviors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

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

Underserved Populations

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

Figure 1: Race Distribution – 2012-2016



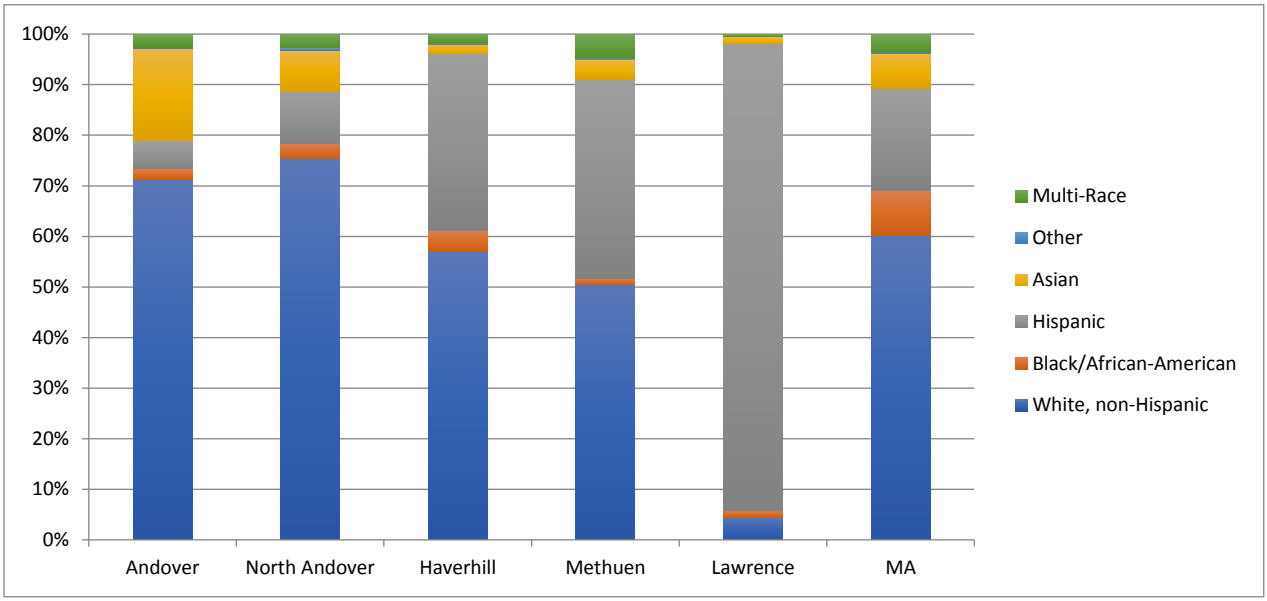
(Source: Source: US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates)

The U.S Census data shows that overall, the state of Massachusetts from 2012 to 2016 was largely constructed of a white population (79.3%). Specifically, MA was (10.9%) Hispanic, (7.3%) Black, (6.1%) Asian, (4.1%) some other race, (3.0%) two or more races, and (0.2%) American Indian or Alaska Native.

Only Lawrence, at (47%), had a white population below the MA state percentage. Additionally, Andover had an Asian population of (12.7%), roughly double the MA average. Haverhill (9.4%), Methuen (10.9%), and Lawrence (39.3%) all reported "some other race" above the state average of (4.1%). Last, the populations of Haverhill (18.5%), Methuen (25.1%) and Lawrence (77.1%) identified as Hispanic, well above the MA average of (10.9%).

During the same period of time, Salem NH and the State of New Hampshire had a predominately white population, with (94%) and (93.6%) white populations respectively. Salem NH had a higher than state average Hispanic population at (5.9%), this value was also higher than North Andover, Andover and Groveland MA. Salem NH had a higher percentage of a white population than the other primary service area cities/towns except Groveland MA.

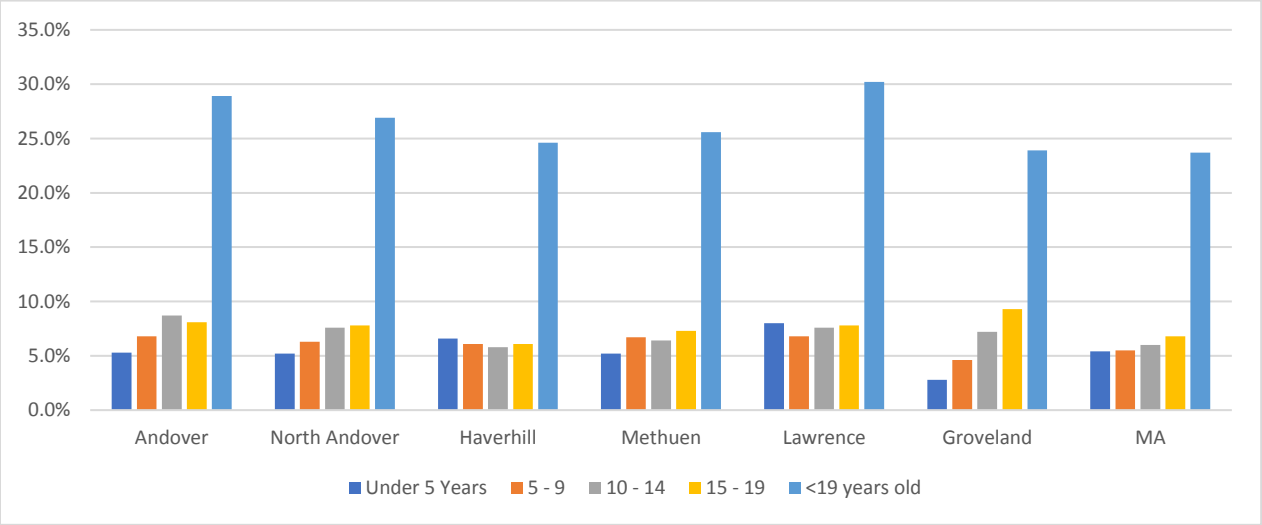
Figure 2: Race Distribution in Public School Population - 2017



(Source: MA Dept. of Elementary and Secondary Education, 2018, Enrollment by Race/Gender Report) Note: At the time of data collection, data was unavailable for Groveland and Salem.

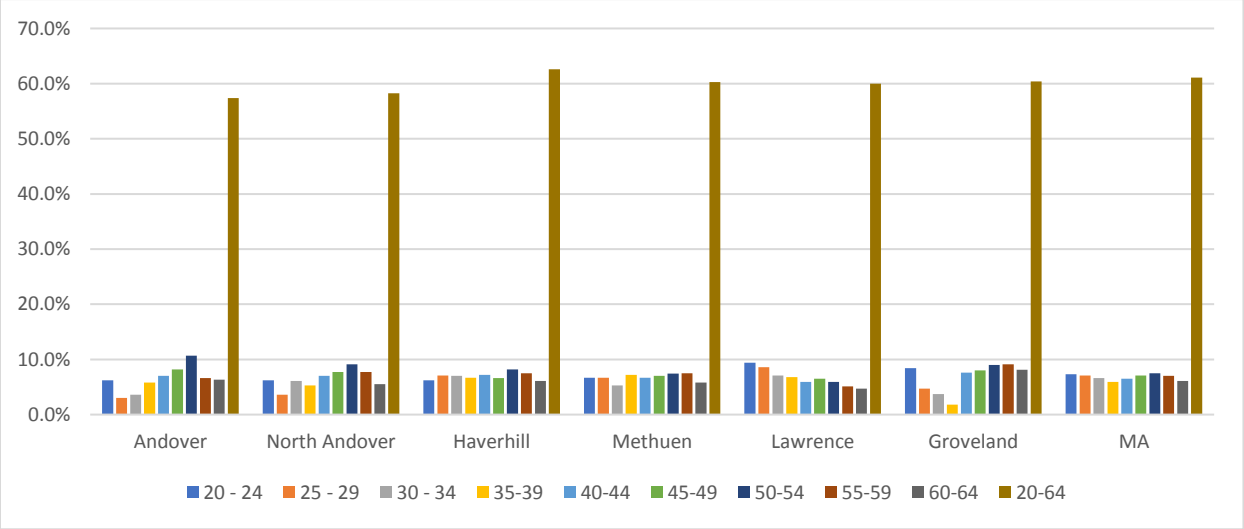
According to the Dept. of Elementary and Secondary Education (2018), the Andover (71.3%) and North Andover (75.4%) public school districts were largely White, non-Hispanic. Additionally, Haverhill (35.0%), Methuen (39.4%) and Lawrence (92.2%) displayed the highest percentages of Hispanic population among the target school districts, well above the MA state average of (20.0%). Last, Andover displayed a large Asian public-school population of (18.3%).

Figure 3: Age Distribution (<19 Years Old) – 2012-2016



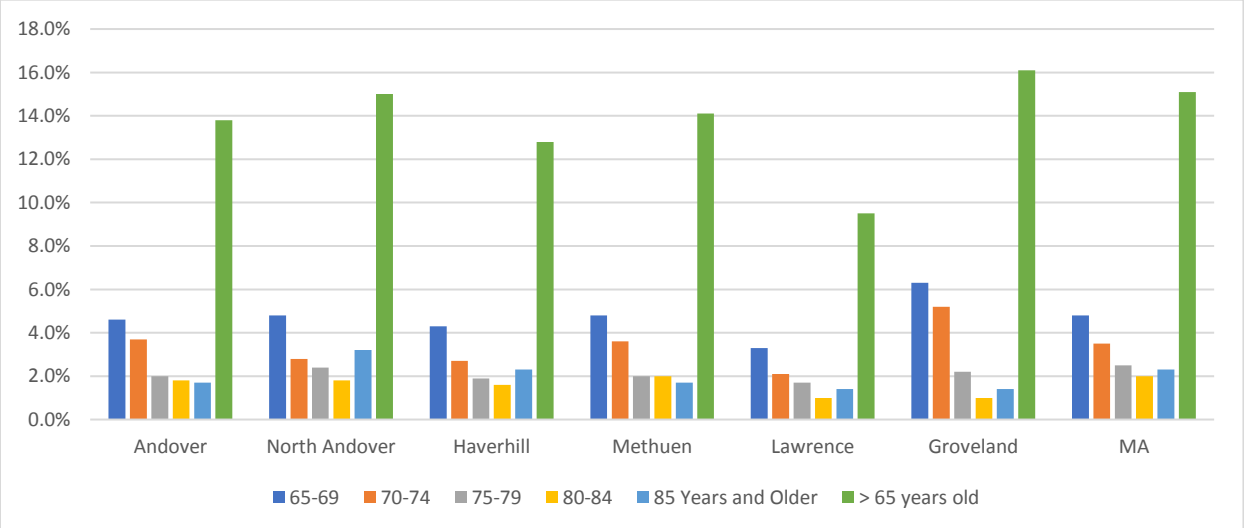
(Source: Source: US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates) Note, at the time of data collection data was unavailable for Salem

Figure 4: Age Distribution (20-64 Years Old) – 2012-2016



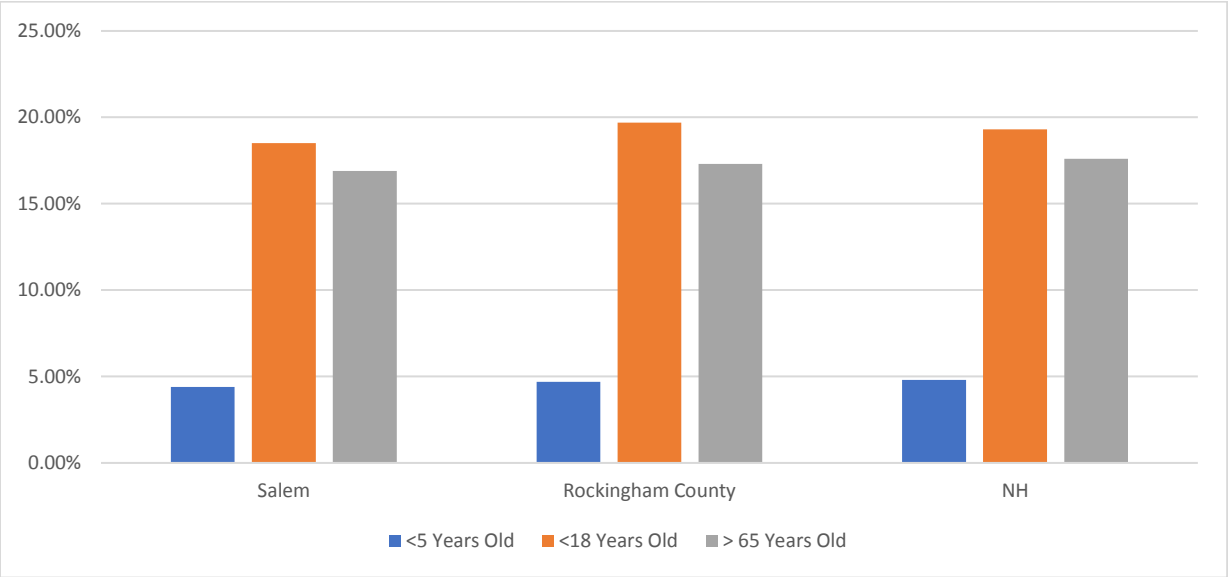
(Source: Source: US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates) Note, at the time of data collection data was unavailable for Salem

Figure 5: Age Distribution (>65 Years Old) – 2012-2016



(Source: Source: US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates) Note, at the time of data collection data was unavailable for Salem

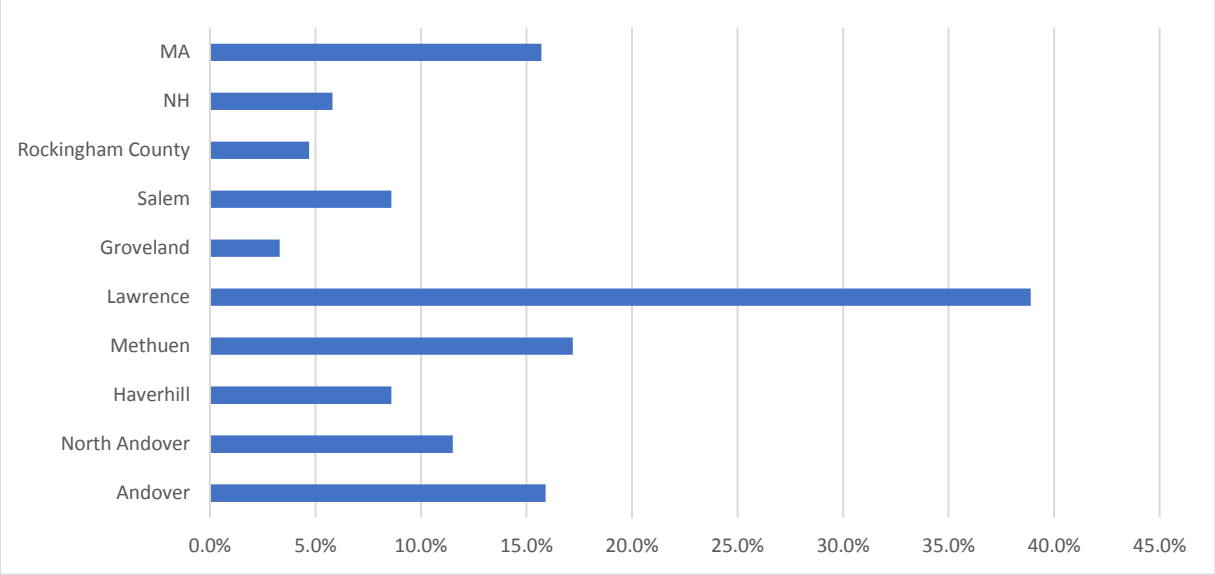
Figure 6: Age Distribution (Salem) – 2012-2016



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

Looking at specific towns and cities; Groveland had the smallest population under 5 years old at (2.8%), and Lawrence had the largest population under 5 years old at (8.0%), with the MA state average at (5.4%). Andover had a small population of adults ages 25-34 at (6.6%) and Lawrence had the largest percentage of the population ages 25-34 at (15.7%), with a MA state average of (13.7%). Lawrence had the lowest percentage of adults 75+ at (4.1%) and North Andover has the highest percentage at (7.4%), with a MA state average of (6.8%). Salem NH had a similar age distribution to Rockingham County and the state of NH. Salem's age distribution was similar to that of Andover, North Andover, and Methuen MA.

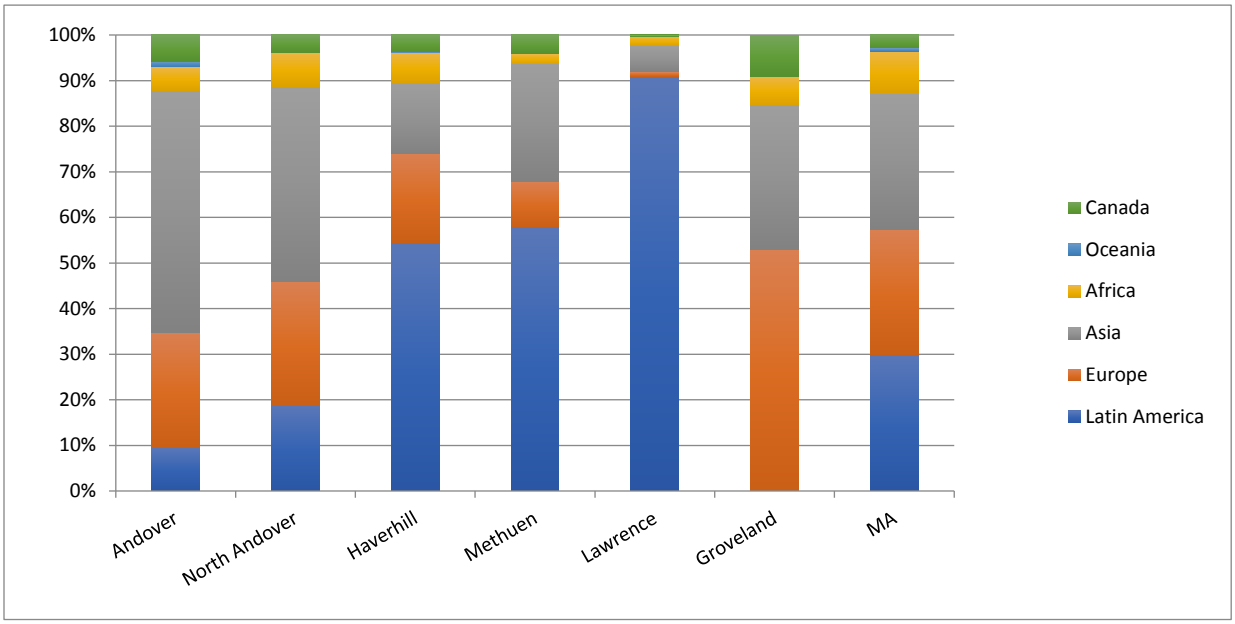
Figure 7: Foreign-Born Population



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

Half of the cities and towns in the HFH service area reported higher percentages of foreign-born populations than MA (15.7%), Andover at (15.9%), Methuen at (17.2%), and Lawrence at 38.9%. Salem had a higher percentage of foreign-born residents than the State (NH) or County at (8.6%), similar to Haverhill MA, and less than the other primary communities except for Groveland.

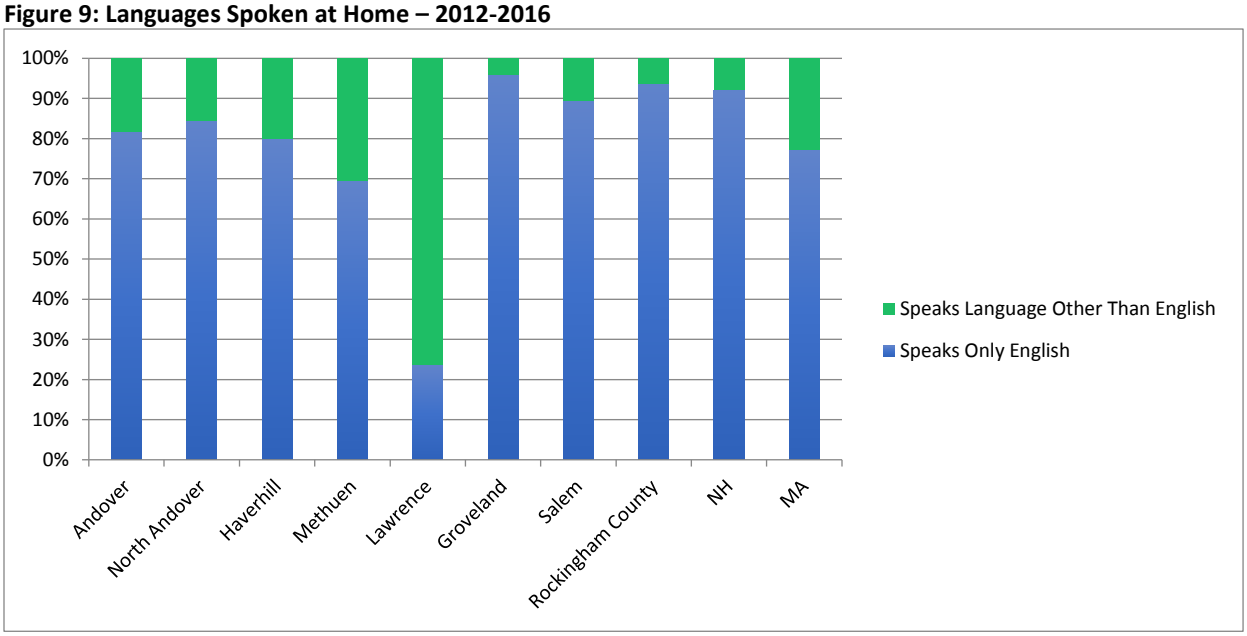
Figure 8: Country of Origin – Foreign-Born Population – 2012-2016



(Source: US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates) Note at the time of data collection data was unavailable for Salem

Understanding the Region of Origin of the foreign-born populations helps when examining ethnic and linguistic distribution. The figure shows the varying distribution of the population by region. Latin America appeared to have a strong dominance as a region of origin with a high percentage the foreign-born population across many cities and towns. Lawrence at (90.9%), Methuen at (57.9%), and Haverhill at (54.4%) exhibit the highest percentage of foreign-born population originating in Latin America. Asia also appears to have a strong origin dominance, with Andover at (53.0%), North Andover at (42.8%), and Groveland at (31.7%). Last, Groveland has a high amount of European foreign-born residents at (52.9%).

Figure 9: Languages Spoken at Home – 2012-2016



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

Four of the six cities and towns were above the state average of (77.3%) English-only speakers; (69.4%) of Methuen residents spoke English-only and (30.6%) spoke a language other than English, including (21.4%) speaking Spanish; (23.6%) of Lawrence spoke English only and (6.4%) spoke a language other than English, including (70.8%) speaking Spanish. Therefore, it is important to understand both Methuen and Lawrence had high percentages of Spanish speakers; with (11.5%) of Methuen residents and (37.7%) of Lawrence residents speaking English less than very well. Salem NH had a higher percentage of individuals speaking

a language other than English at home (10.7%) than Rockingham County and the State of New Hampshire; but less than all primary towns in service area except Groveland MA.

When asked *"What do you believe are the best features about the community?"* survey respondents indicated that the diversity and sense of community and family within the HFH service area was a positive aspect of the community. One stakeholder stated that "we consider the community's diverse population and numerous committed organizations as its best feature." One wrote "it is a strong, diverse community with hard-working people who are committed to building a safe, welcoming place. Health and education are among the list of priorities." Another indicated "the local pride in the community and the desire to create a better community in which to raise families." Focus group participants in both the Haverhill and Methuen groups also brought up how positive the diversity and community in their towns was.

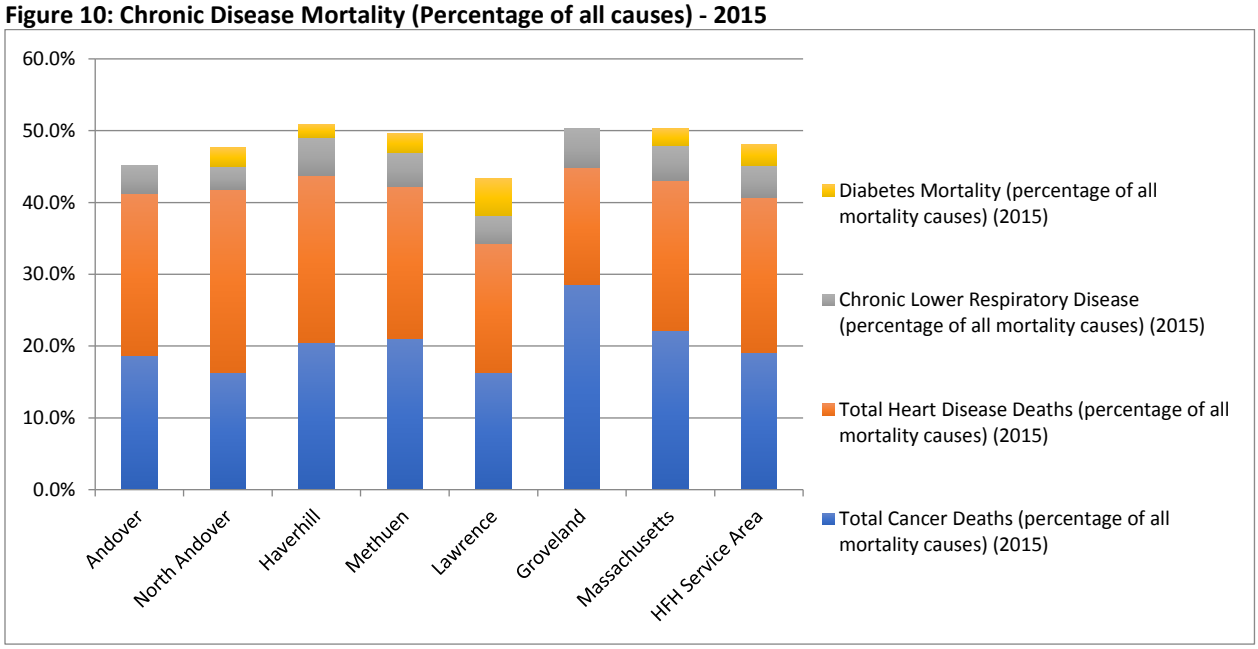
Chronic Disease

Prevention and treatment of chronic disease is a public health concern. Risks factors such as nutrition, the lack of physical activity, and tobacco use and exposure directly impact cancer, diabetes, chronic lower respiratory disease, and cardiovascular disease rates. These chronic conditions together contribute to (56%) of all mortality in Massachusetts and over (53%) of all health care expenses ($30.9 billion a year). Although the three leading risk factors are modifiable, the inequality of financial resources and the history of policies rooted in structural racism have resulted in environments that restrict individuals and family's access to healthy foods, safe spaces for physical activity, walkable communities, quality education, housing, employment, and health care services (MDPH, 2014).

The health implications of this are evident in the fact that Black and Hispanic residents of Massachusetts are consistently and disproportionately impacted by the high prevalence of all chronic diseases, as well as the related deaths and high acute care service utilization. Healthy people cannot exist in unhealthy environments. Because of this, MDPH frames its chronic disease prevention and wellness efforts around addressing the social determinants of health and focusing on policies that ensure that all individuals have the ability to make healthy choices (MDPH, 2017).

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

Figure 10: Chronic Disease Mortality (Percentage of all causes) - 2015



(Source: Massachusetts Department of Public Health, 2015) Note: at the time of data collection, diabetes mortality data was unavailable for Andover, and Groveland. Chronic disease mortality data was unavailable for Salem and the state of New Hampshire.

In 2015, (50.3%) of total mortality in Massachusetts was due to chronic diseases including, cancer, heart disease, chronic lower respiratory disease, and diabetes. The HFH service area as a whole had a slightly lower percentage of total mortality due to chronic disease than the state as a whole. Only Haverhill

exceeded that state percentage with (50.8%) of total mortality being due to chronic disease. The lowest mortality due to chronic disease was seen in Lawrence where only (43.3%) of total mortality was due to chronic disease.

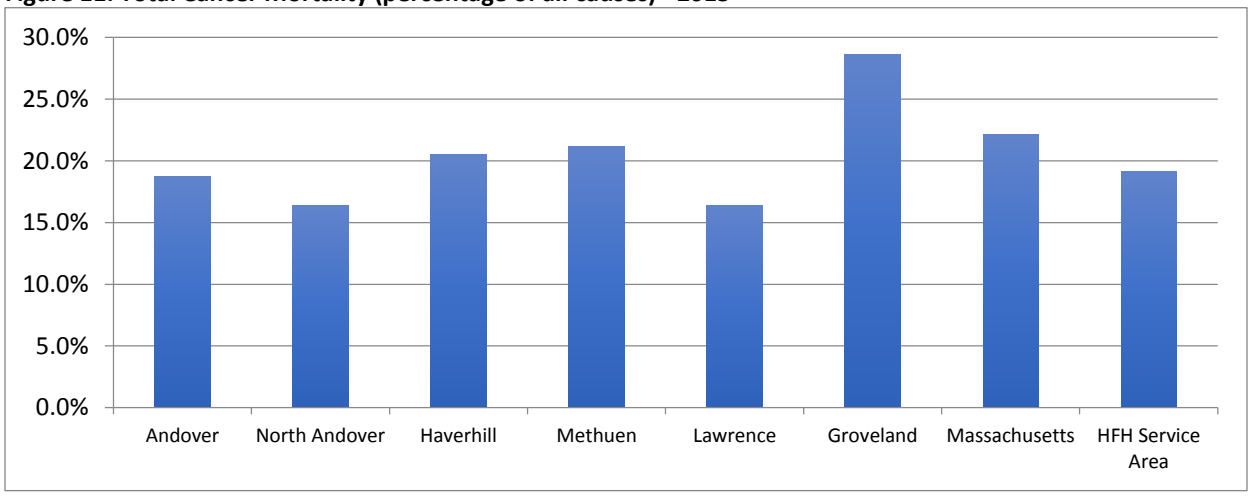
Cancer

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

Black non-Hispanic men and White non-Hispanic women had the highest incidence rate of all cancer types during this period. Across the Commonwealth, breast cancer among women and prostate cancer among men is most common. Lung cancer, colon cancer, and melanoma are also among the leading types of cancer among both women and men. Together, these five cancers account for more than half of all cancer cases across the Commonwealth (MDPH, 2017).

Several socioeconomic factors contribute to the prevalence of cancer and/or late-stage cancer diagnoses. Obesity, tobacco use, and tobacco exposure are leading risk factors for many cancers including colorectal and breast cancer. Additionally, lack of access to healthy foods, limited physical activity, and lack of access to smoking cessation services are also risk factors. Gaps in health care coverage represent a barrier to covering the costs of diagnostic testing. For examples, individuals with high deductibles, low premiums, or high co-pays must pay for diagnostic tests to confirm a cancer diagnosis, contributing to delays in diagnosis (MDPH, 2017).

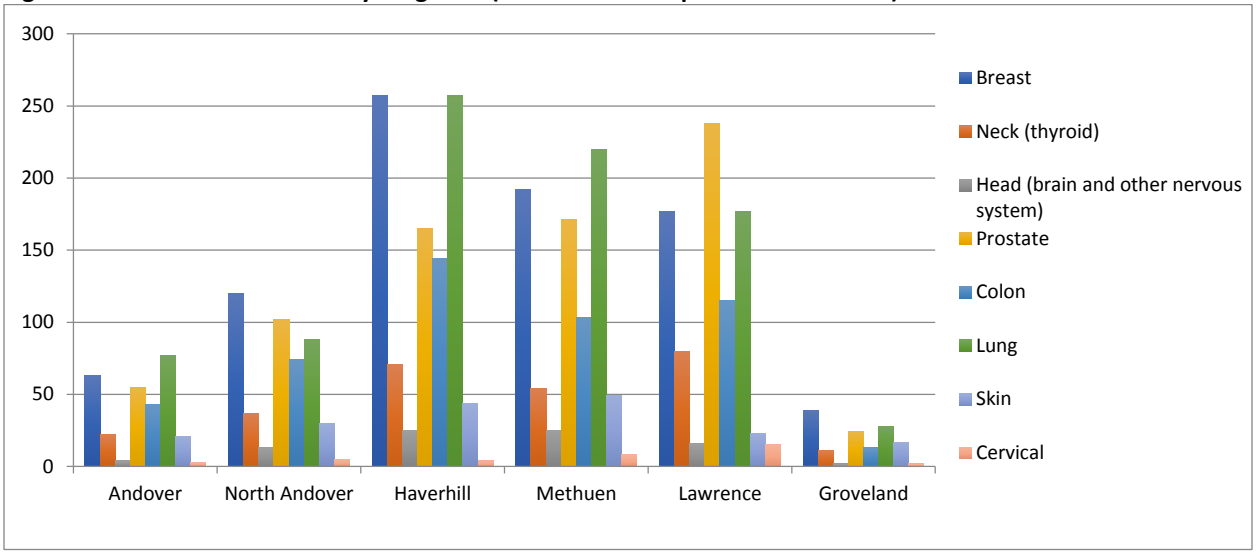
Figure 11: Total Cancer Mortality (percentage of all causes) - 2015



(Source: Massachusetts Department of Public Health, 2015) Note: at the time of data collection chronic disease mortality data was unavailable for Salem and the state of New Hampshire.

In 2015, (22.1%) of total mortality in Massachusetts was due to cancer. The HFH service area experienced a lower percentage of all mortality due to cancer at (19.1%). Groveland had the highest percentage of mortality due to cancer at (28.6%), exceeding both the service area and state level. No other service area city/town exceeded the state percentage. The lowest percentages were observed in North Andover and Lawrence at (16.4%) each.

Figure 12: Total Cancer Counts by Diagnosis (observed and expected case counts) - 2009-2013



(Source: Massachusetts Department of Public Health, 2015) Note: at the time of data collection chronic disease mortality data was unavailable for Salem and the state of New Hampshire.

In 2015, breast, lung, and prostate cancers were the most diagnosed forms of cancer in each service area city/town. Haverhill experienced the highest counts of both lung and breast cancer with 257 cases of each. Cervical cancer and cancers of the head were the least diagnosed forms of cancer in each service area city/town.

Heart Disease

Cardiovascular disease is a broad term that encompasses a number of adverse health outcomes, including congestive heart failure, myocardial infarction, and stroke. In Massachusetts, cardiovascular disease is the second leading cause of death after cancer. Hypertension is a critical risk factor for adverse cardiovascular and cerebrovascular outcomes including stroke, heart attacks, and congestive heart failure. In 2014, hypertension contributed to $19 million in total hospitalization costs in Massachusetts. Studies have shown that hypertension disproportionately impacts people of color. These disparities are grounded in social and economic inequities such as access to health care and poverty (MDPH, 2017).

In 2015, (29.6%) of Massachusetts adults said they had been diagnosed with hypertension, similar to previous years. A larger percentage of Black non-Hispanic adults were diagnosed with hypertension (39.4%) compared to White non-Hispanic adults (30.7%). Racial/ethnic disparities in hypertension are likely an important contributing factor to hospitalizations for congestive heart failure, myocardial infarction, and stroke (MDPH, 2017).

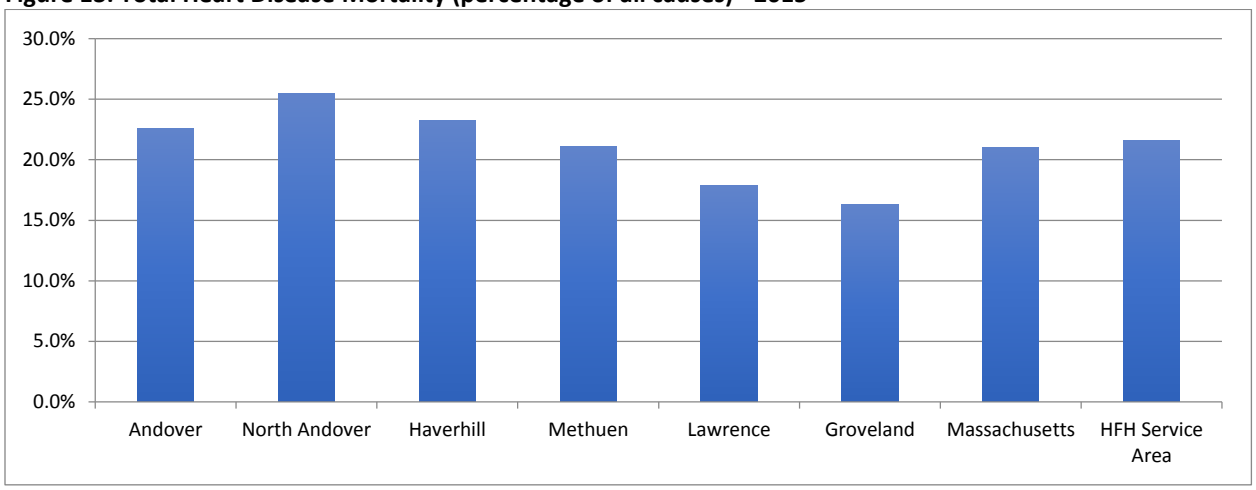
The rate of myocardial infarction-related hospitalizations declined (9.5%) from 2010 (169.9 per 100,000 population) to 2014 (153.7 per 100,000 population). In 2014, the myocardial infarction hospitalization rate for Hispanic residents in Massachusetts (182.5 per 100,000 population) and Black non-Hispanic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

Strokes were responsible for $613 million in total hospitalization costs in Massachusetts in 2014 (Center for Health Information and Analysis, 2014). These hospitalization costs do not include other economic costs of stroke, such as lost productivity or outpatient health care expenditures, nor loss of life, reduced quality of life, and increased disability (MDPH, 2017).

Racial/ethnic disparities continue to exist in stroke-related hospitalizations. In 2014, Black non-Hispanic residents (368.1 per 100,000 population) experienced stroke-related hospitalization at a rate that was

nearly twice as high as that for White non-Hispanic residents (201.5 per 100,000 population). Similarly, Hispanic residents (264.9 per 100,000 population) had a stroke hospitalization rate that was 1.3 times that for White non-Hispanic residents (201.5 per 100,000 population) (MDPH, 2017).

Figure 13: Total Heart Disease Mortality (percentage of all causes) - 2015



(Source: Massachusetts Department of Public Health, 2015) Note: at the time of data collection chronic disease mortality data was unavailable for Salem and the state of New Hampshire.

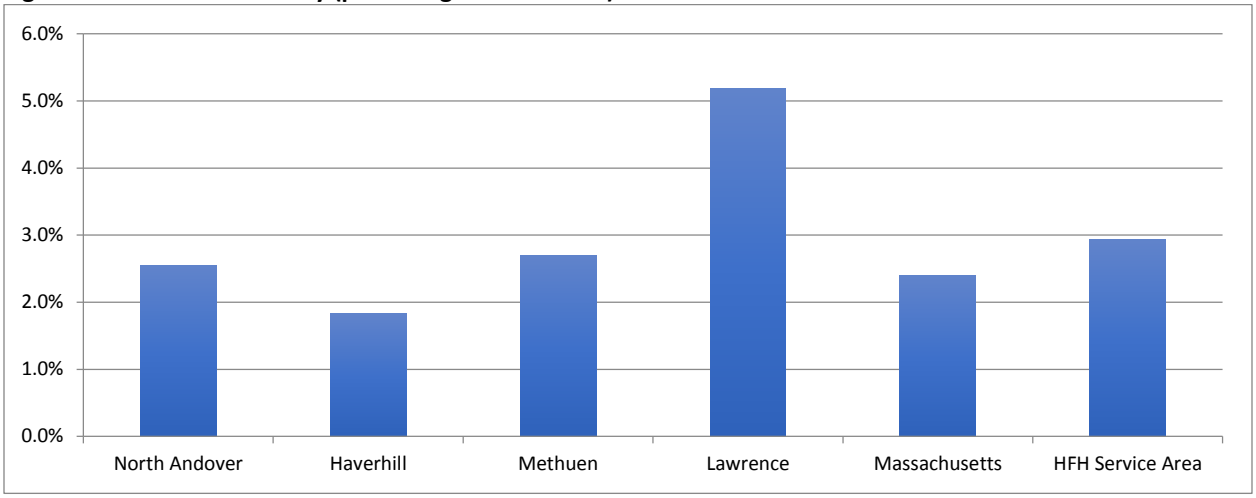
In 2015, (21%) of total mortality in Massachusetts was due to heart disease. The HFH service area exhibited a slightly higher percentage at (21.6%). The highest percentage of total mortality due to heart disease within the HFH service area was seen in North Andover at (25.5%), followed by Haverhill at (23.2%). The lowest percentage of total mortality due to heart disease was seen in Groveland at (16.3%).

Diabetes

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

Socioeconomic disparities exist in diabetes prevalence. In Massachusetts, adults with an annual household income of less than $25,000 (15.6%) have three times the prevalence of diabetes as compared to those with an annual household income of more than $75,000. The prevalence of diabetes also decreases as educational attainment increases. A total of (14.5%) of adults without a high school degree were diagnosed with diabetes compared to (5%) of adults with four or more years of post-high school education. Diabetes prevalence and mortality in Massachusetts also differs by race/ethnicity. In 2015, a greater proportion of Black non-Hispanic (12.3%) and Hispanic (11.7%) adults reported being diagnosed with diabetes compared to White non-Hispanic adults (8.7%). In 2014, Black non-Hispanic residents were more than 2.1 times more likely to die from diabetes than White non-Hispanic residents (29.5 versus 13.8 per 100,000 population) (MDPH, 2017).

Figure 14: Diabetes Mortality (percentage of all causes) - 2015



(Source: Massachusetts Department of Public Health, 2015) Note: at the time of data collection chronic disease mortality data was unavailable for Salem and the state of New Hampshire and diabetes mortality data was unavailable for Andover and Groveland.

In 2015, (2.4%) of all mortality in Massachusetts was due to diabetes. The HFH service area had a higher percentage of total mortality due to diabetes than the state level at (2.9%). Lawrence had the highest percentage at (5.2%), followed by Methuen at (2.7%). The lowest percentage of mortality due to diabetes was seen in Haverhill at (1.8%).

Respiratory Disease

Chronic lower respiratory diseases are diseases of the airways and other structures of the lung. Chronic lower respiratory diseases include asthma, chronic obstructive pulmonary disease (COPD), emphysema, and bronchitis. In 2014, chronic lower respiratory disease was the third leading cause of death in the United States and the fourth leading cause of death in Massachusetts. Among adults aged 65 to 84, chronic lower respiratory disease is the third leading cause of death, after cancer and cardiovascular disease (MDPH, 2017).

Risk factors for chronic lower respiratory disease include, but are not limited to, exposure to tobacco smoke, air pollution, occupational chemicals, and dust. The development and management of chronic lower respiratory disease is strongly linked with the social determinants of health, such as housing, tobacco exposure, and workplace exposures such as chemicals, smoke, dust, fumes or mold (MDPH, 2017).

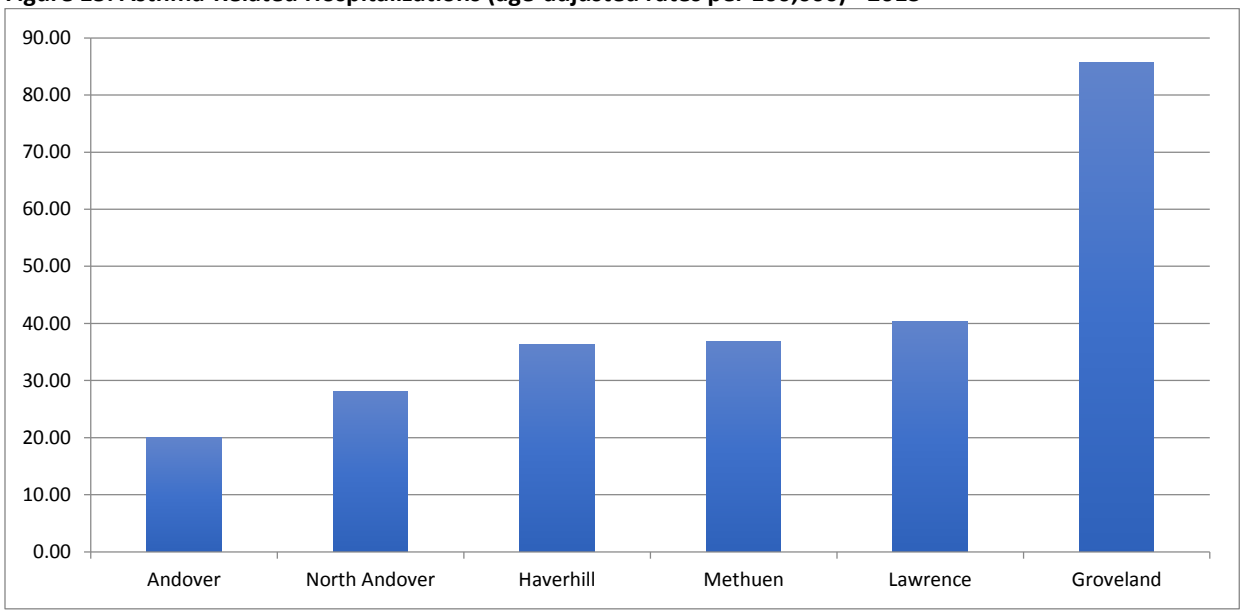
Asthma

Asthma is a chronic inflammation of the airways that affects people of all ages and is a significant public health problem both in Massachusetts and the United States. Asthma is exacerbated when airways become constricted with swelling and excessive mucus production, making it difficult to breathe. Symptoms of asthma include wheezing, coughing, and chest tightness. Sometimes asthma symptoms become so severe that they result in an asthma attack that requires immediate medical treatment. Asthma attacks can be triggered by certain environmental factors such as air pollution, mold, pet dander or saliva, pests such as rodents and cockroaches, and dust mites in the environment. Asthma affects individuals differently, resulting in differing severity, presentation of symptoms and responsiveness to treatment. Asthma is among the top seven conditions that contribute to high costs and emergency room expenditures in the Commonwealth. On average, asthma patients in Massachusetts incur $58,600 in medical expenditures per person annually (MDPH, 2017).

Although the percentage of adults who have ever been told that they have asthma does not differ significantly by race/ethnicity, stark racial/ethnic disparities in emergency department visits and hospitalizations strongly suggest the role that the social determinants of health play in asthma outcomes. Trends/Disparities The percentage of adults reporting that they have ever been told by a health provider that they have asthma (lifetime asthma) as well as the percentage reporting that they still have asthma (current asthma) were consistently higher in Massachusetts than in the US as a whole from 2000 through 2013. In 2015, the overall prevalence was (10.2%) (MDPH, 2017).

Following national patterns, lifetime and current asthma prevalence in Massachusetts increased significantly from 2000 through 2010 (28.6% and 22.4% increase, respectively). While both lifetime and current asthma prevalence also appear to be increasing in more recent years, additional years of data are needed to estimate the magnitude of this increase. Current asthma prevalence among Massachusetts adults differs based on demographic and socioeconomic factors and by geographic location. Statistically significant disparities exist by gender, age, education, income, disability status, and weight (MDPH, 2017).

Figure 15: Asthma-Related Hospitalizations (age-adjusted rates per 100,000) - 2013



(Source: Massachusetts Department of Public Health 2013) Note, at the time of data collection data was unavailable for Salem, NH, and MA

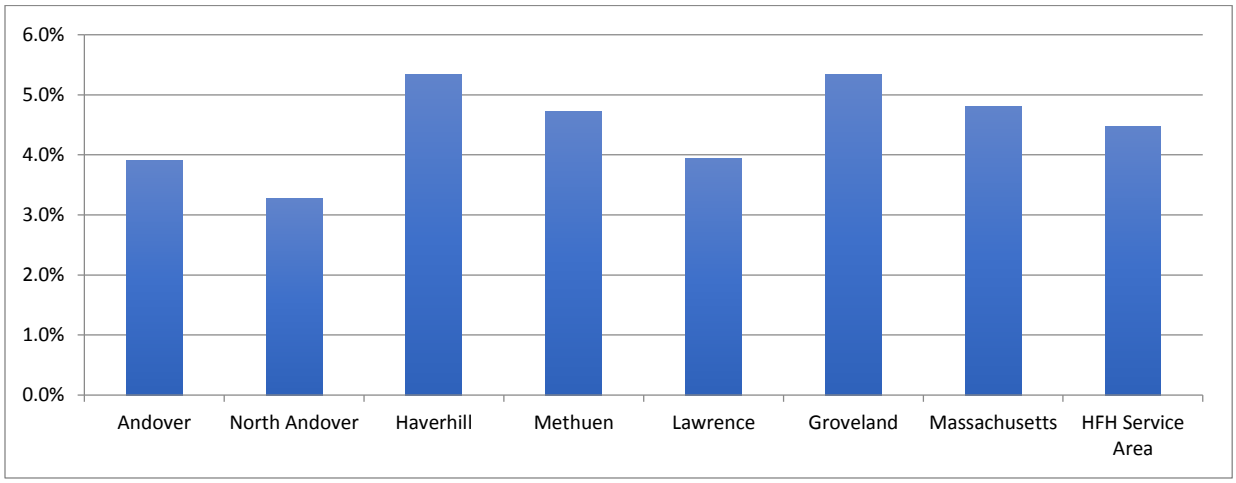
In 2013, Groveland had a significantly higher rate of asthma-related hospitalizations than any other service area city/town at (85.70 per 100,000 population). The next highest rate was observed in Lawrence at (40.39 per 100,000 population). Andover had the lowest rate at just (19.99 per 100,000 population).

Chronic Obstructive Pulmonary Disorder

Chronic Obstructive Pulmonary Disease (COPD) refers to a group of diseases that cause airflow blockage and breathing-related problems. COPD includes emphysema, chronic bronchitis, and in some cases asthma. In the US, exposure to tobacco smoke is a key risk factor for COPD. Exposure to air pollutants in the home and workplace, genetic factors, and respiratory infections are also risk factors (MDPH, 2017).

In 2015, the prevalence of COPD among Massachusetts adults was (5.7%). Those with prevalence exceeding the state average include women (6.2%); adults older than 75 years of age (14.2%); white non-Hispanic adults (6.3%); adults with less than a high school (11.5%); persons with lower household incomes (e.g., household income less than $25,000 (11.5%), and persons with a disability (14.5%). COPD is consistently among the top ten reasons for hospital admission in Massachusetts and the rate of potentially preventable hospitalizations due to COPD in Massachusetts exceeds the national average (MDPH, 2017).

Figure 16: Chronic Lower Respiratory Disease Mortality (percentage of all causes) - 2015



(Source: Massachusetts Department of Public Health, 2015) Note: at the time of data collection chronic disease mortality data was unavailable for Salem and the state of New Hampshire.

In 2015, (4.8%) of total mortality in Massachusetts was due to chronic lower respiratory disease. The HFH service area exhibited a slightly lower percentage at (4.5%). Groveland and Haverhill each exceeded the state percentage at (5.3%) each. The lowest percentage of mortality due to chronic lower respiratory disease was seen in North Andover at (3.3%).

When asked about the most concerning health issues in the HFH community, (41%) of survey respondents selected diabetes as a top concern; heart disease, cancer, and chronic respiratory disease were not a top five concern of survey respondents. When asked *"In your view, what are the top three areas of health concern within the community?"* participants in the Haverhill focus group did not mention these chronic diseases, participants in the Methuen focus group mentioned concerns about asthma and hypertension, but no other chronic diseases.

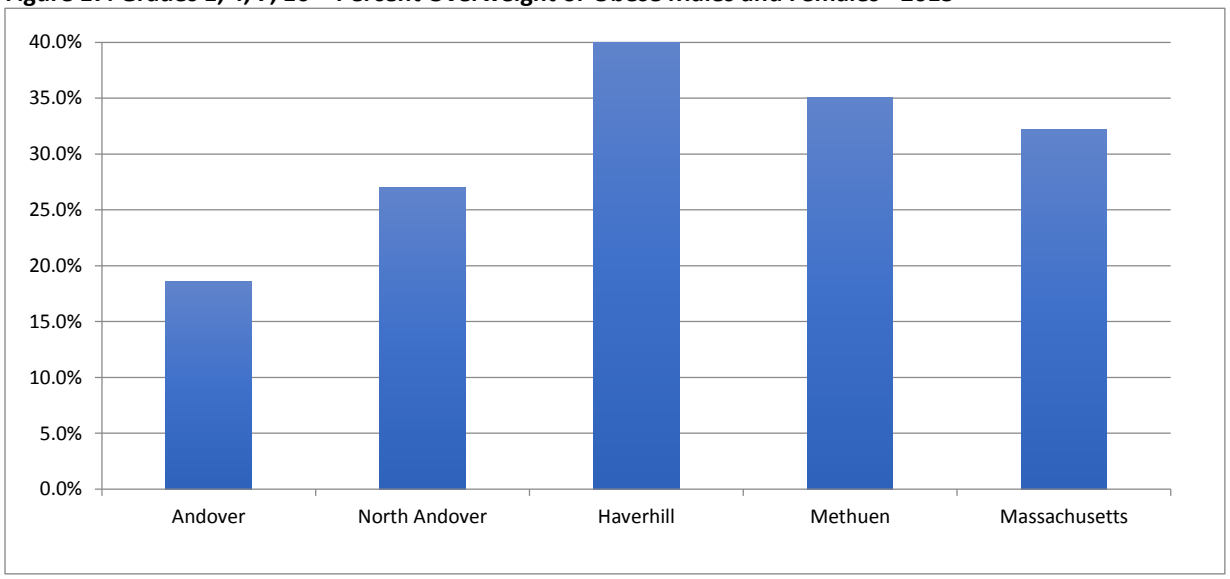
Obesity

Obesity is both a chronic disease and a risk factor for other chronic conditions. Overweight or obese people are more likely to have type 2 diabetes, cardiovascular disease, gall bladder disease, and musculoskeletal disorders. In addition, overweight and obesity are associated with asthma, some forms of cancer, and many other health problems that interfere with daily living and reduce the quality of life. Engaging in physical activity and maintaining a healthy diet have been proven to lower the incidence of obesity, however structural barriers to accessing healthy foods and beverages and opportunities to be physically active disproportionately affect people of color in the Commonwealth. As a result, not all Massachusetts residents have the same opportunities to prevent obesity (MDPH, 2017).

In 2015, nearly (60%) of Massachusetts adults met the criteria for being overweight or obese and (24.3%) were obese. Overweight is defined as having a body mass index (BMI) of 25.0 to 29.9 kg/m^2. Obesity is defined as a BMI greater than or equal to 30.0kg/m^2. Both conditions are linked to poor nutrition and inadequate physical activity. There has been a shift in the leading cause of death over the past 50 years from acute conditions to chronic diseases. Given the tie between obesity and so many other chronic diseases, the need to address obesity is a public health imperative to control morbidity and mortality as well as ballooning health care costs in an aging population (MDPH, 2017).

Massachusetts is ranked as the fifth worst US state on the prevalence of obesity among children enrolled in the Women, Infant, and Children (WIC) program who are two to four years old. A child being overweight is defined as a body mass index (BMI) at or above the 85th percentile for age. Childhood obesity is defined as BMI at or above the 95th percentile of expected for age. As in adults, child obesity is linked to poor nutrition and inadequate physical activity; and inequities persist across socioeconomic status and race/ethnicity. BMI screening reports conducted by school districts indicate that the prevalence of overweight and obesity decreased 2.1 percentage points from 2009 (34.3%) to 2015 (31.3%). However, this reduction in overweight and obesity was not shared evenly across all school districts. Between 2009 and 2014, school districts with median household incomes greater than $37,000 experienced significant improvements. However, the prevalence of overweight and obesity for the poorest school districts (less than $37,000 median household income) did not change and remained the highest across the state with approximately (40%) of students being overweight or obese (MDPH, 2017).

Figure 17: Grades 1, 4, 7, 10 – Percent Overweight or Obese Males and Females - 2015



(Source: Massachusetts Department of Public Health, 2015) Note, at the time of data collection data was unavailable for Lawrence, Groveland, Salem, and NH

In 2015, (32.2%) of Massachusetts youth were classified as overweight or obese. Both Haverhill and Methuen exceeded this percentage with (40.2%) and (35.1%) respectively. Andover had the lowest percentage of overweight or obese youths at (18.6%).

When asked what the most concerning health issues were in the HFH community, (57%) of survey respondents indicated that obesity was a top concern. Participants in the Methuen focus group also were concerned with obesity, exercise, and nutrition. Participants believed that lack of knowledge in these areas was a major factor for why individuals did not exercise or eat healthily.

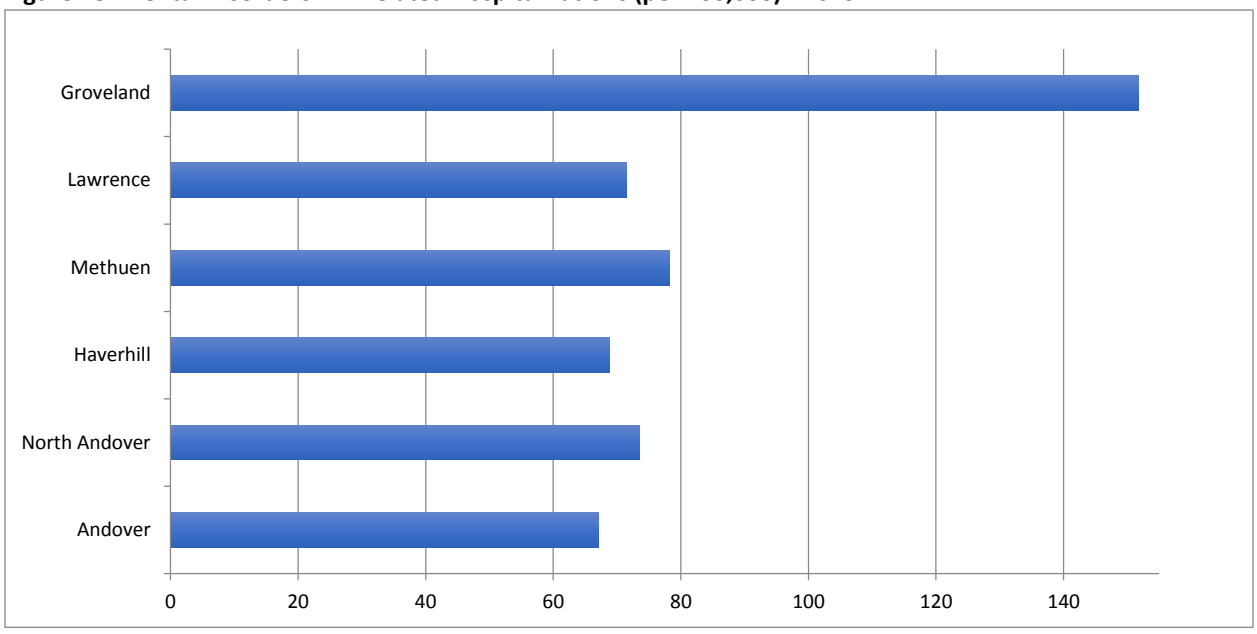
Mental Health

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

The coexistence of both a mental disorder and a substance use disorder (SUD) is known as co-occurring disorders. People with mental health disorders are more likely to experience a SUD. Often, people receive treatment for one disorder while the other disorder remains untreated. Undiagnosed, untreated, or undertreated co-occurring disorders can lead to a higher likelihood of experiencing negative outcomes, such as homelessness, incarceration, medical illnesses, suicide, or even early death (SAMHSA, 2016).

Mental health intersects with many areas of public health, including addiction, cancer, cardiovascular disease, and HIV/AIDS, therefore requiring common services and resource mobilization effort. Integrated treatment is critical for treating people with co-occurring disorders and can ultimately achieve better health outcomes and reduce costs. Increasing awareness and building capacity in service systems are important in helping identify and treat co-occurring disorders. Treatment planning should be client-centered, addressing clients' goals and using treatment strategies that are acceptable to them (MDPH, 2017).

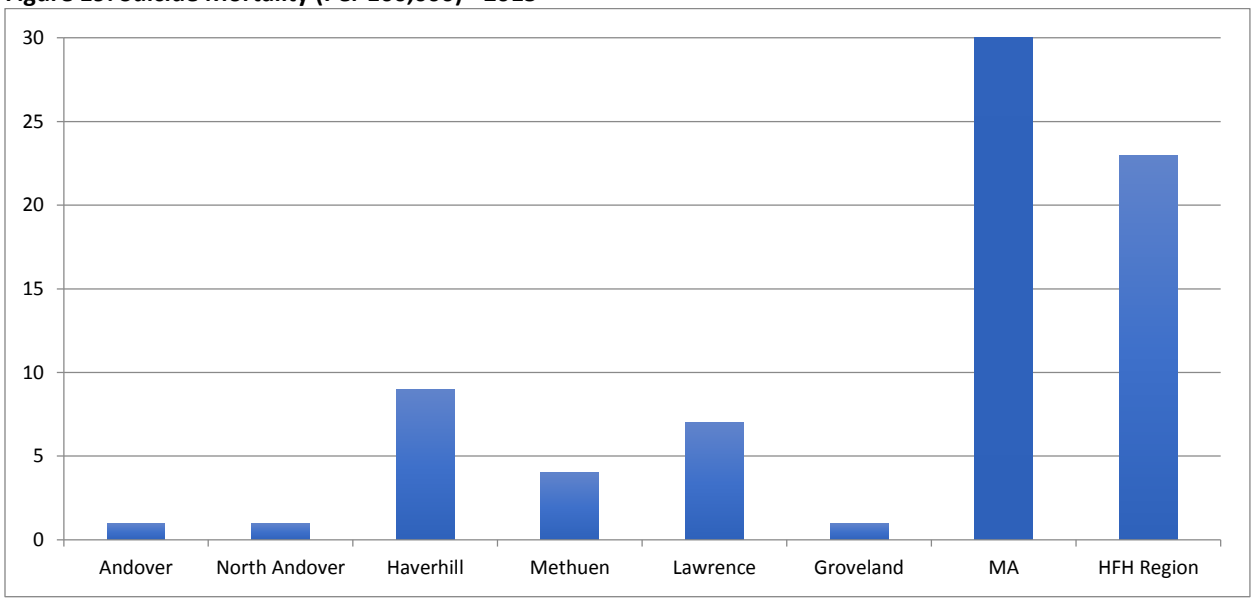
Figure 18: Mental Disorders: All Related Hospitalizations (per 100,000) - 2013



(Source: Massachusetts Department of Public Health 2015) Note, at the time of data collection data was unavailable for Salem

In 2013, the highest rate of mental health-related hospitalizations within the HFH service area was observed in Groveland where the rate was (151.71 per 100,000). No other service area city/town exceeded a rate of (80 per 100,000). The lowest rate was seen in Haverhill at (68.83 per 100,000).

Figure 19: Suicide Mortality (Per 100,000) - 2015



(Source: Massachusetts Department of Public Health 2017) Note, at the time of data collection data was unavailable for Salem

In 2015 there were 647 suicide deaths in Massachusetts, 23 of these occurred within the HFH service area. The highest count of suicide deaths was seen in Haverhill at 9, followed by Lawrence at 7. Andover, North Andover, and Groveland each reported only one suicide death in 2015.

Mental health was selected as a top five health concern by (76%) of survey respondents. Survey respondents also cited the need for better mental health screenings, mental health education, and increased access to in-patient and out-patient care. Focus group participants in the Methuen group were also concerned with mental health and brought up the need for expanded mental health services.

Substance Use Disorder

In 2014, there were 2,200 overdoses from alcohol, 17,465 overdoses from illicit drugs, and 25,760 overdoses from prescription drugs in the US. This number increased in 2015, as total overdose deaths totaled 52,404, including 33,091 (63.1%) that involved an opioid (CDC, 2016). Among those under the age of 45, Massachusetts ranked highest among all states for rate of opioid-related emergency department visits and second highest for the rate of opioid-related inpatient stays. The CDC reported that Massachusetts had the nation's second highest rate of fentanyl seizures among all states in 2014 (MDPH, 2017).

The National Survey on Drug Use and Health (NSDUH) in 2015 estimated 27.1 million people in the US aged 12 and older had used illicit drugs in the past month. Of these, a majority (22.2 million) reported using marijuana and 3.8 million misused prescription opioids (SAMSHA, 2015). According to 2013-2014 NSDUH estimates, the prevalence of past month binge drinking, past month illicit drug use and past month marijuana use among Massachusetts residents age 12 and older exceeded the national averages (binge drinking: (24.2% vs. 22.9%); illicit drug use: (13.2% vs 9.8%(and marijuana use: (11.8% vs 8%) (MDPH, 2017). During the same survey period, an estimated 20.8 million, approximately 1 in 10 people needed substance use treatment (i.e., treatment for problems related to the use of alcohol or illicit drugs). Of this population, (10.8%) received treatment (SAMSHA, 2016).

Rates of substance use and misuse vary by demographics and geographic factors. Variations across population groups are shaped by several factors, including biological, genetic, psychological, familial, religious, cultural, and historical circumstances. Massachusetts offers a variety of treatment approaches to address the needs of individuals with substance use disorders. However, there are important disparities in the outcomes and effectiveness of substance use treatment for different populations. Treatment interventions should be individually tailored and incorporate culturally competent and linguistically appropriate practices relevant to specific populations and subpopulation groups (MDPH, 2017).

Alcohol

Alcohol is also the most prevalent substance used in the past month by Massachusetts residents 18 to 25 years of age. In 2013-2014, (70.2%) of Massachusetts young adults reported using alcohol in the past month and (43.9%) reported binge drinking in the past month, exceeding national averages for alcohol use among this population (past month alcohol use: 59.6%; past month binge drinking: 37.8%) (MDPH, 2017).

Despite the legal drinking age of 21, alcohol is the primary substance used by youth. According to NSDUH (2013-2014), there has been a decrease in past month alcohol use and binge drinking in the US among individuals 12 to 17 years of age. In 2015, (61%) of Massachusetts high school students reported using alcohol in their lifetime: (34%) reported past month use; (18%) reported binge drinking in the past month (MDESE & MDPH, 2015).

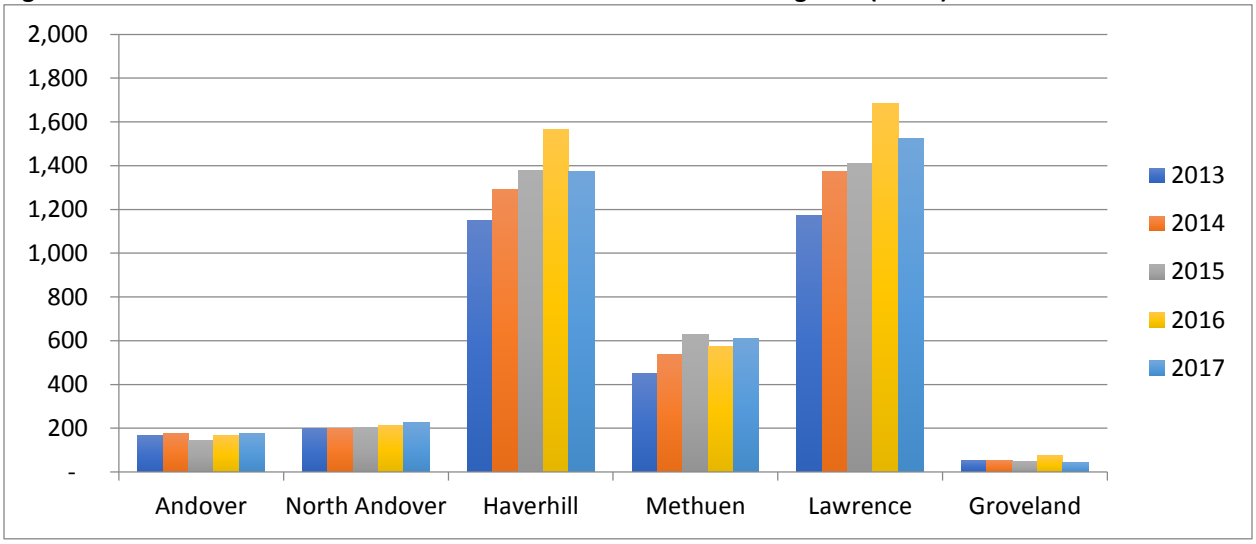
The proportion of BSAS clients who identified as veterans increased (12.1%) from Fiscal Year 2011 (5,095 clients) to the Fiscal Year 2016 (5,713 clients). In Fiscal Year 2016, (4%) of the BSAS treatment population identified as veterans. Also, in the Fiscal Year 2016, alcohol was the primary drug reported among the BSAS veteran population (48%) (MDPH, 2017).

Marijuana

According to the National Survey on Drug Use and Health (NSDUH) in 2015, an estimated 27.1 million people in the US aged 12 and older used illicit drugs in the past month. Of these, a majority (22.2 million) reported using marijuana and 3.8 million misused prescription opioids (SAMSHA, 2015). During the same survey period, an estimated 20.8 million, approximately 1 in 10 people needed substance use treatment (i.e., treatment for problems related to the use of alcohol or illicit drugs). Of this population, (10.8%) received treatment (SAMSHA, 2015).

In the Fiscal Year 2016, among BSAS treatment program enrollments, (59.9%) of those 13 to 17 years of age reported marijuana as their primary drug, and (16.2%) reported opioid as their primary drug of choice. Of enrollees that were 18 to 25 years of age, (68.3%) reported opioids as their primary drug (MDPH, 2017).

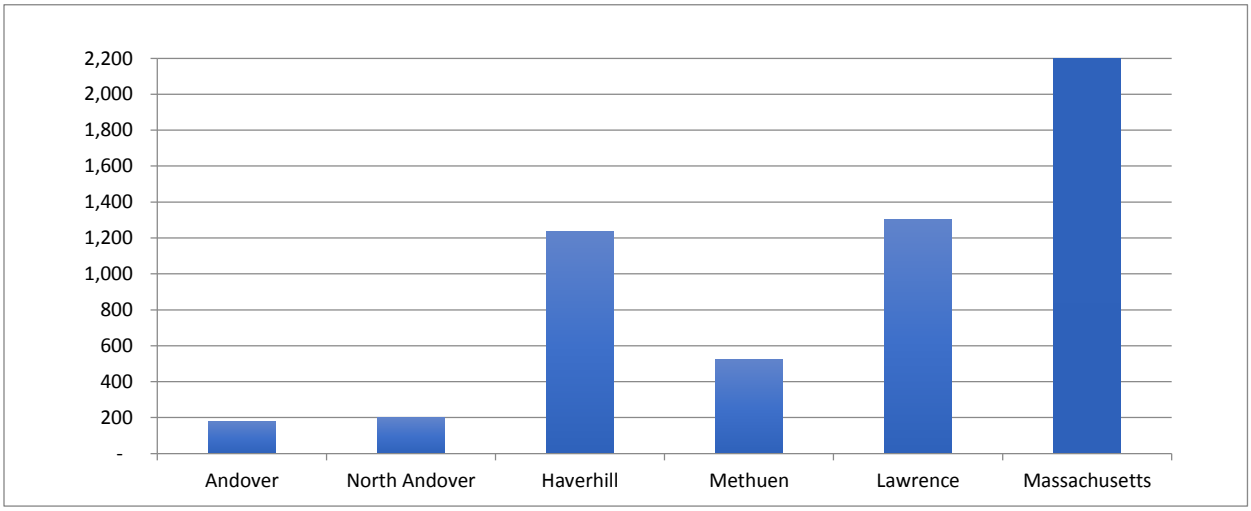
Figure 20: Admissions to DPH-Funded Substance and Alcohol Abuse Programs (count) - 2017



(Source: Massachusetts Department of Public Health, Bureau of Substance Abuse Services 2017) Note, at the time of data collection data was unavailable for Salem.

From 2013 to 2017, Lawrence had the highest number of admissions to DPH funded substance and alcohol abuse programs each year. The greatest number of admissions was seen in Lawrence in 2016 at 1,684. The lowest number of admissions each year was seen in Groveland where annual admissions did not exceed 100 during this period of time.

Figure 21: Alcohol/Substance-Related Admissions to BSAS Contracted/ Licensed Programs (Count) - FY 2014



(Source: Massachusetts Department of Public Health, Bureau of Substance Abuse Services 2015) Note, at the time of data collection data was unavailable for Salem.

In the 2014 fiscal year, there were 107,358 alcohol or substance-related admissions to BSAS contracted/licensed programs in Massachusetts. The total count within the HFH service area was unavailable. Of the service area cities/towns with available data, Lawrence had the highest count at 1,305. The lowest count was seen in Andover at 179.

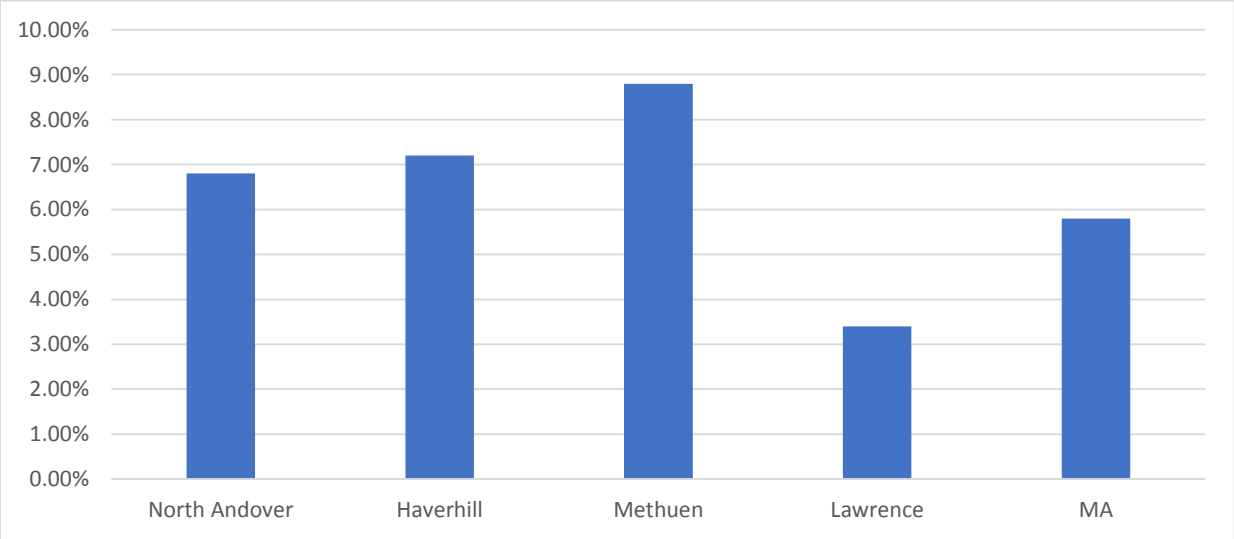
Opioids

In Massachusetts, there has been a dramatic increase in opioid-related deaths. The number of opioid-related deaths in 2016 represents a (17%) increase over 2015 and a (450%) increase since 2000. Almost every community in Massachusetts is affected by the opioid epidemic. A key strategy for understanding the opioid epidemic is to improve the timely analysis and dissemination of data on opioid overdoses (MDPH, 2017).

Increasingly, there is evidence suggesting that fentanyl is fueling the current opioid epidemic. A Massachusetts-CDC collaborative epidemiologic investigation identified that the proportion of opioid overdose deaths in the state involving fentanyl, a synthetic, short-acting opioid with 50-100 times the potency of morphine, increased from (32% to 74%) from 2013 to 2016 (MDPH, 2017).

Intervention is an important component in the continuum of services to address substance use disorder (SUD) in a community. Secondary prevention targets individuals who have low levels of alcohol and/or drug use and would benefit from prevention and safety messages. Tertiary prevention targets individuals who exhibit a greater degree of SUD and experience problems associated with their alcohol or drug use. These individuals would benefit from prevention and harm reduction messages, as well as referrals to treatment. Individuals may experience a range of alcohol and drug use from no use to addiction. Depending on usage level, individuals may benefit from different levels of service. A person-centered approach includes prevention, safety and harm reduction messages tailored to what the individual is ready to receive (MDPH, 2017).

Figure 22: All Other Opioid-Related Admissions, BSAS Contracted/Licensed Programs - FY 2014

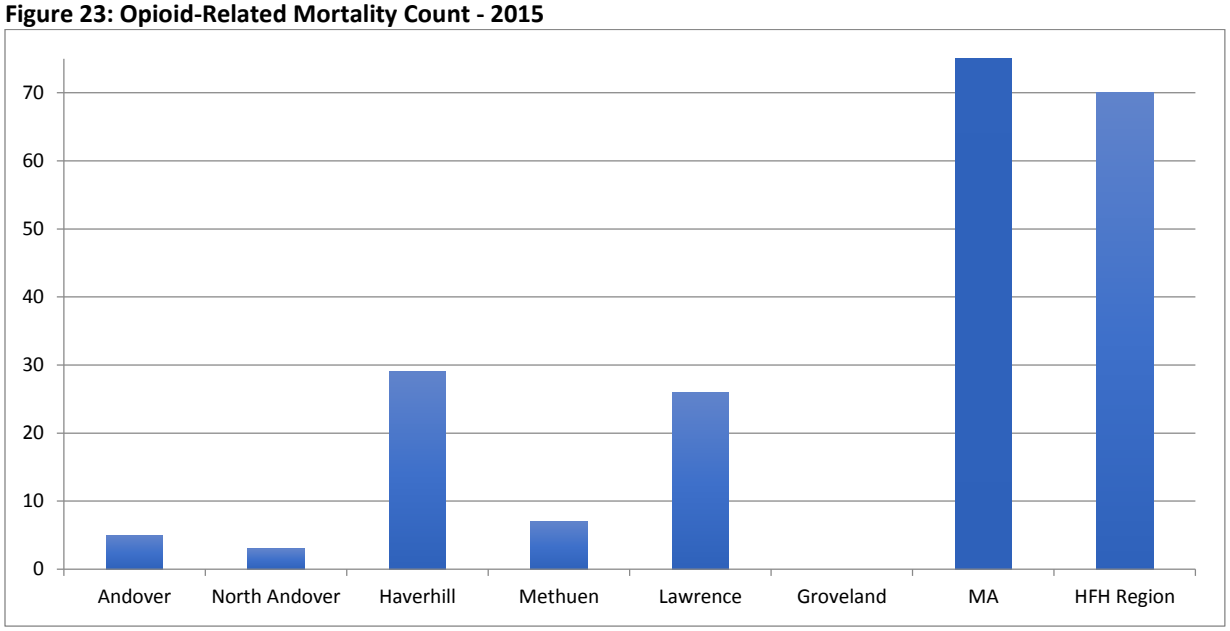


(Source: Massachusetts Department of Public Health 2015) Note, at the time of data collection data was unavailable for Andover, Groveland, and Salem

In the fiscal year 2014, (5.8%) of admissions to BSAS contracted/licensed programs in Massachusetts were related to “all other opioids”. The highest percentage of admissions related to the same cause was seen

in Methuen where the percentage was (8.8%). The lowest percentage of admission to BSAS programs for this cause was seen in Lawrence where (3.4%) of admissions were related to all other opioids.

Figure 23: Opioid-Related Mortality Count - 2015



(Source: Massachusetts Department of Public Health 2015) Note, at the time of data collection data was unavailable for Salem

In 2015, there were 1,637 opioid-related deaths in Massachusetts, 70 of these deaths occurred in the HFH service area. The highest number of opioid-related deaths occurred in Haverhill with 29, followed by Lawrence with 26. Groveland reported 0 deaths due to opioids in 2015. The second lowest count was seen in North Andover where 3 opioid-related deaths occurred in 2015.

Intervention is an important component of a continuum of services to address substance use disorder. Individuals who have low levels of alcohol and/or drug use and would benefit from prevention and safety messages. Individuals who exhibit a greater degree of SUD and experience problems associated with their alcohol or drug use and would benefit from prevention and harm reduction messages as well as referrals to treatment. Individuals may experience a range of alcohol and drug use from no use to addiction and can benefit from different levels of service depending on what they are ready to receive at any given time. A person-centered approach includes prevention, safety and harm reduction messages tailored to what the individual is ready to receive (MDPH, 2017).

Drug use and addiction was the number one health concern of survey respondents. When asked to select the five greatest health concerns in the HFH community, (89%) of survey respondents selected this issue. When asked *"What concerns you the most about your community or living here?"* drug (specifically opioid) abuse and overdoses were a common theme among respondents. Focus group participants from both the Haverhill and Methuen focus groups were concerned with opioid abuse, overdoses and diseases transferred via a needle.

Housing Stability

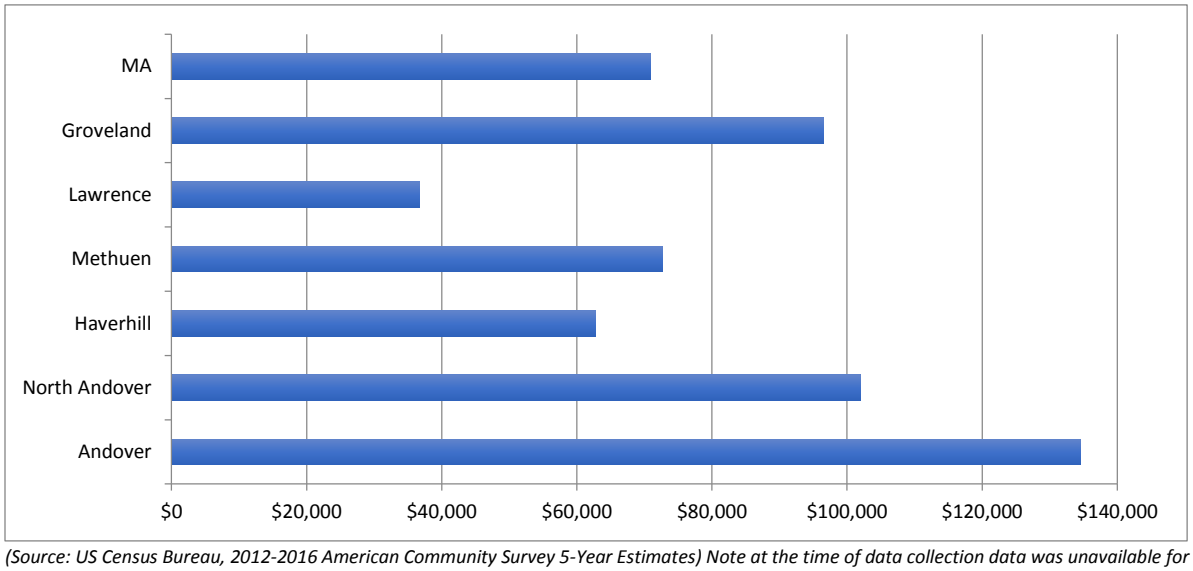
Massachusetts is currently dealing with a severe housing crisis due in large part to a low rate of housing production which has not kept pace with population growth and needs. Increasing rents have outpaced wages, and the lingering effects of the foreclosure crisis still have an impact. As a result,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

The Massachusetts population is growing older, and our world-class educational institutions and thriving technology companies continue to attract young professionals at a high rate. The state is ill-prepared to meet the housing needs of this rapidly changing demographic. Baby Boomers (those born between 1946 and 1964) made up (50%) of the state's labor force in 2010. In the coming decades, 1.4 million boomers are expected to retire or move away by 2030, this will reduce the size of the skilled workforce significantly. Thus, housing production is an economic imperative for the Commonwealth (MA Legislature, 2016).

There is a high demand for homes in Massachusetts' historically working-class communities. As more middle-income and working-class households move to these lower cost communities in hopes of finding more affordable housing. This demand is driving up prices. Home prices are still more affordable the further one moves away from the urban core (The Boston Foundation, 2017).

Average monthly rents have not fallen further despite the increase in housing construction. This is likely because a disproportionate amount of the new rental units are priced at luxury levels and are not attainable by the majority of Massachusetts' population. The prices of these units have declined enough to bring the overall average rent down without much affecting median rent or rents in the lower end of the price spectrum. Hence, even as average rents have fallen, the proportion of renters who are housing cost–burdened continued to rise in 2017 (The Boston Foundation, 2017).

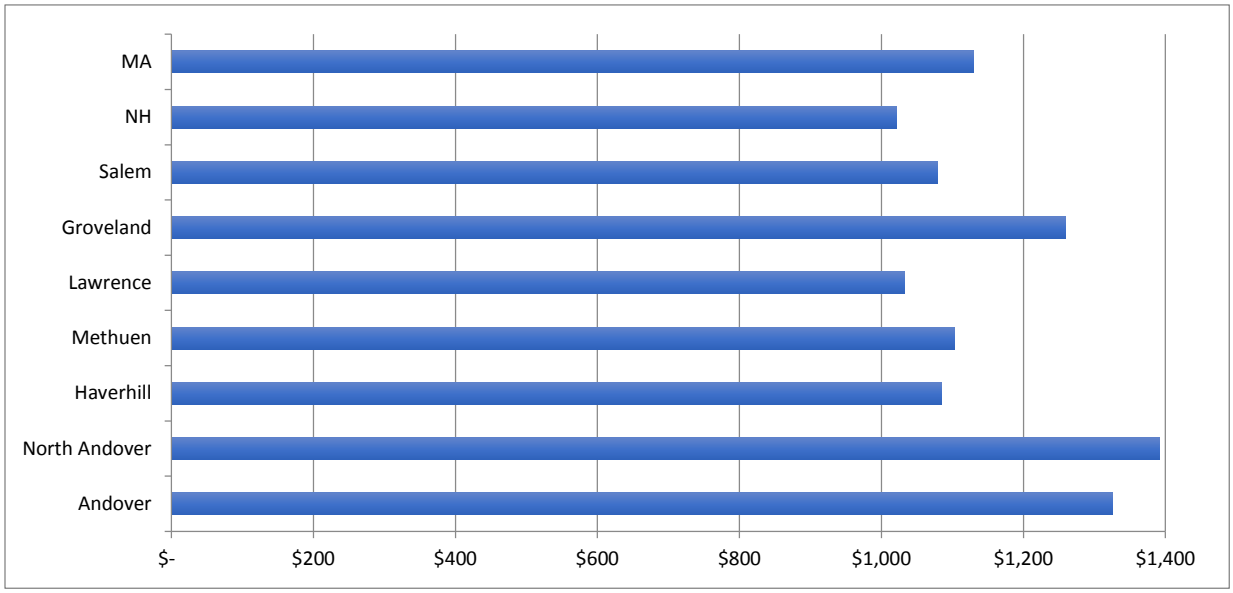
Figure 24: Median Household Income - 2012-2016



(Source: US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates) Note at the time of data collection data was unavailable for Salem

From 2012 to 2016, the median household income in Massachusetts was $70,954, four out of six HFH service area cities/towns exceeded this level. The highest median household income was seen in Andover at $134,627, followed by North Andover at $102,008. Lawrence had the lowest median household income at $36,754, followed by Haverhill at $62,751.

Figure 25: Gross Monthly Rent - 2012-2016



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

Gross monthly rent was slightly higher in Massachusetts than it is in New Hampshire, $1,129 vs $1,021. The highest gross monthly rent within the HFH service area was seen in North Andover at $1,329, followed by Andover at $1,325. The lowest gross monthly rent was seen in Lawrence at $1,033, followed by Salem at $1,079.

Homelessness

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

As of August 31, 2018, there were 3,636 families with children and pregnant individuals in Massachusetts' Emergency Assistance (EA) shelter program. 36 of these families with children were being sheltered in motels. (The number rose to 37 families in motels as of November 2, 2018.) This number does not count families who are sharing living spaces, living in unsafe conditions, or sleeping in their cars. During state FY 2018, 8,145 families completed applications for assistance, of these families 4,895 families were assisted with emergency shelter and/or HomeBASE diversion assistance. 3,250 families were denied assistance (40% denial rate, as reported by DHCD). Citizens' Housing and Planning Association (CHAPA) estimates a shortage of 158,769 affordable rental homes for extremely low-income households in Massachusetts as of November 2017.

A report by the *National Low-Income Housing Coalition* details how low wages and high rents lock renters out in Massachusetts and all across the country. For 2017, the Massachusetts statewide housing wage is $27.39/hour, meaning that a worker would have to earn that amount per hour in order to afford the fair market rent for a 2-bedroom apartment ($1,424/month), without having to pay more than (30%) of their

income toward rent. The housing wage is based on a worker working 40 hours/week, 52 weeks/year. For 2016, it was $25.91 and for 2015, it was $24.64/hour. Massachusetts ranked as the 6th least affordable state in the country when looking at the 50 states and Washington, D.C. (MCH, 2018).

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

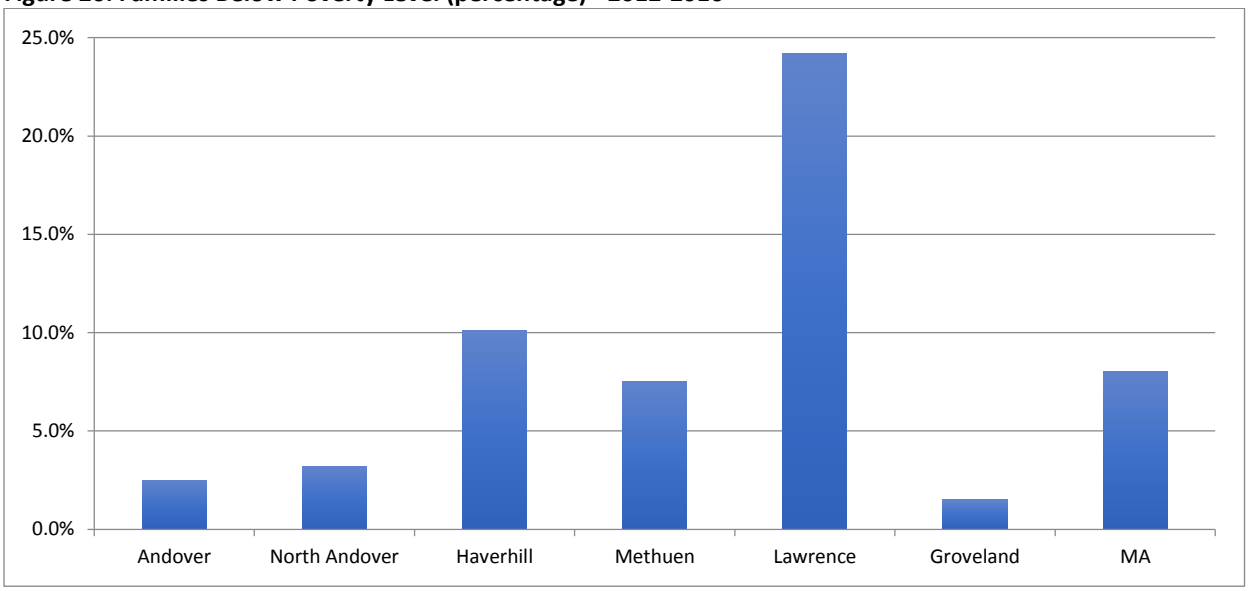
Poverty

Income, poverty, and unemployment are each profoundly linked with health (Braveman, Cubbin, Egerter, Williams, & Pamuk, 2010). Income influences where people choose to live, the ability to purchase healthy foods, the opportunity to participate in physical and leisure activities, and to access health care and screening services. Having a job and job-related income provide individuals the opportunities to make healthy choices, engage in healthy behaviors, access necessary health care services, and enjoy a long life (MDPH, 2017). Unemployment is also associated with poor health, including increased stress, hypertension, heart disease, stroke, arthritis, substance use, and depression; and the unemployed population experiences higher mortality rates than the employed (Henkel D. , 2011) (Robert Wood Johnson Foundation, 2013).

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

Stark racial disparities exist in poverty rates across Massachusetts. From 2011-2015, approximately one in three (29.3%) Hispanic residents and one in five Black non-Hispanic (22%), American Indian or Alaska Native (22.9%), or Native Hawaiian or other Pacific Islander (22.4%) residents recorded incomes below the federal poverty level. These patterns stand in dramatic contrast to less than one in 10 (7.8%) White non-Hispanic and one in seven (14.6%) Asian non-Hispanic residents with incomes below the federal poverty level. Some people's housing costs exceed (30%) of their income, leaving less money to cover other necessities (MDPH, 2017).

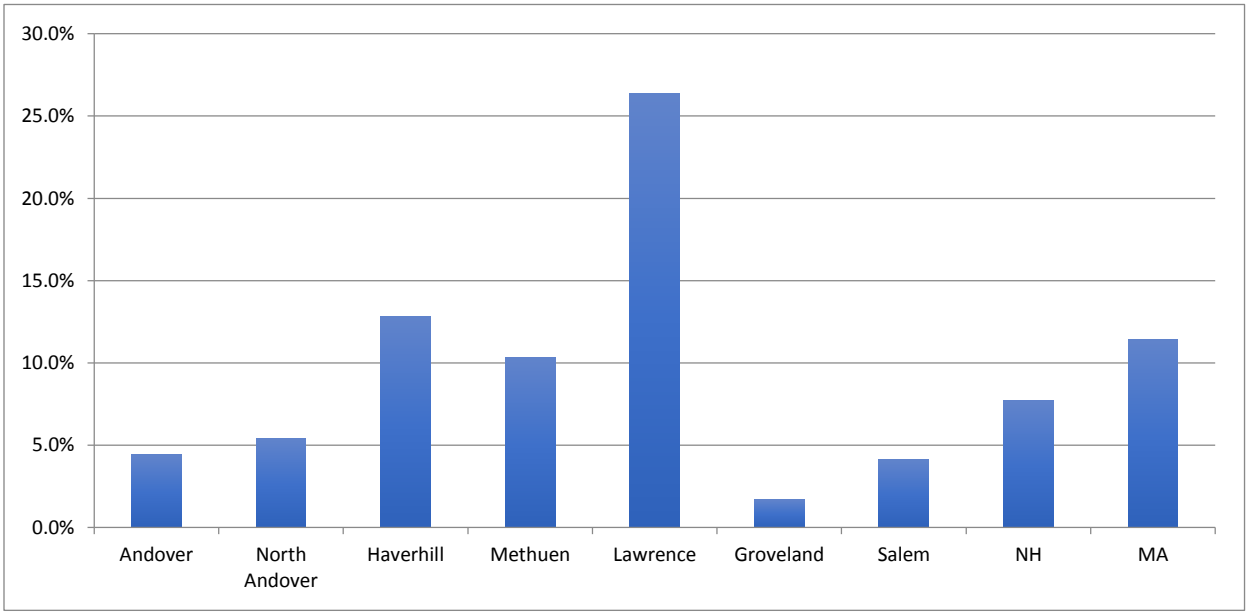
Figure 26: Families Below Poverty Level (percentage) - 2012-2016



(Source: US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates) Note at the time of data collection data was unavailable for Salem.

From 2012 to 2016, (8%) of families in Massachusetts were below poverty level. Both Lawrence and Haverhill exceeded this percentage. Lawrence had the highest percentage of families living below poverty level at (24.2%), Haverhill had a percentage of (10.1%). The lowest percentage of families below poverty level was seen in Groveland where just (1.5%) of families were living below poverty level. This was followed by Andover where (2.5%) of families were below poverty level.

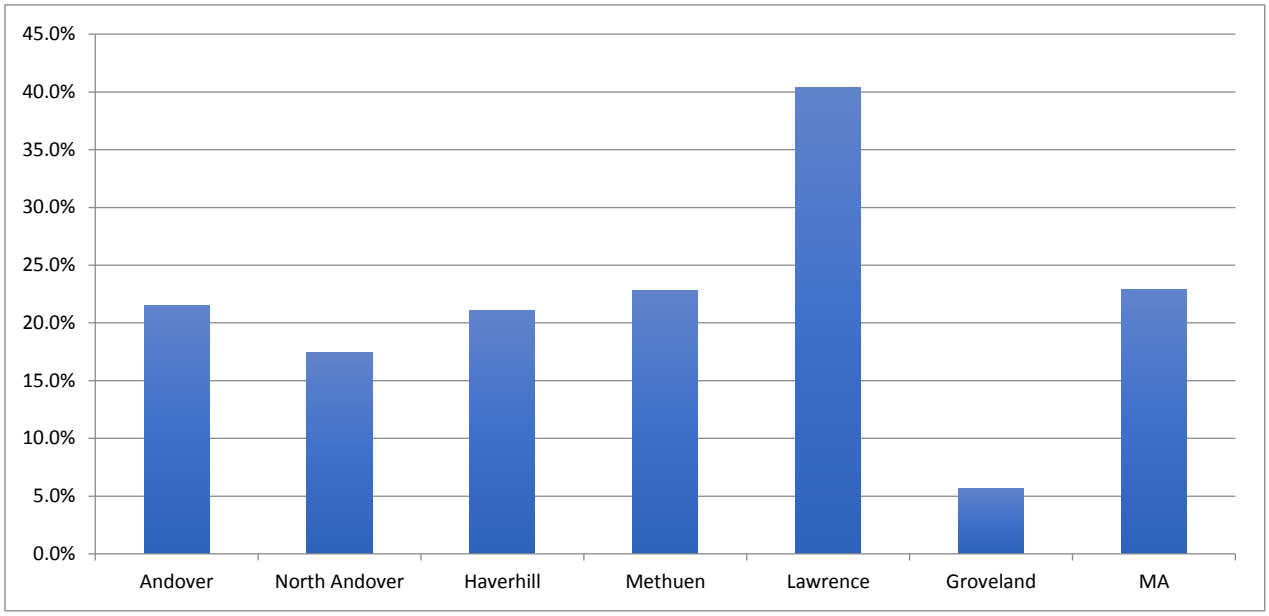
Figure 27: Individuals below Poverty Level (percentage) - 2012-2016



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

From 2012 to 2016, a higher percentage of Massachusetts residents lived in poverty (11.4%) than New Hampshire residents (7.7%). The City of Lawrence had more than twice the percentage of individuals below poverty level than Haverhill (26.4% vs. 12.8%) and approximately 5 times greater a percentage than Andover, North Andover, and Salem NH. Groveland had only (1.7%) of the residents living in poverty.

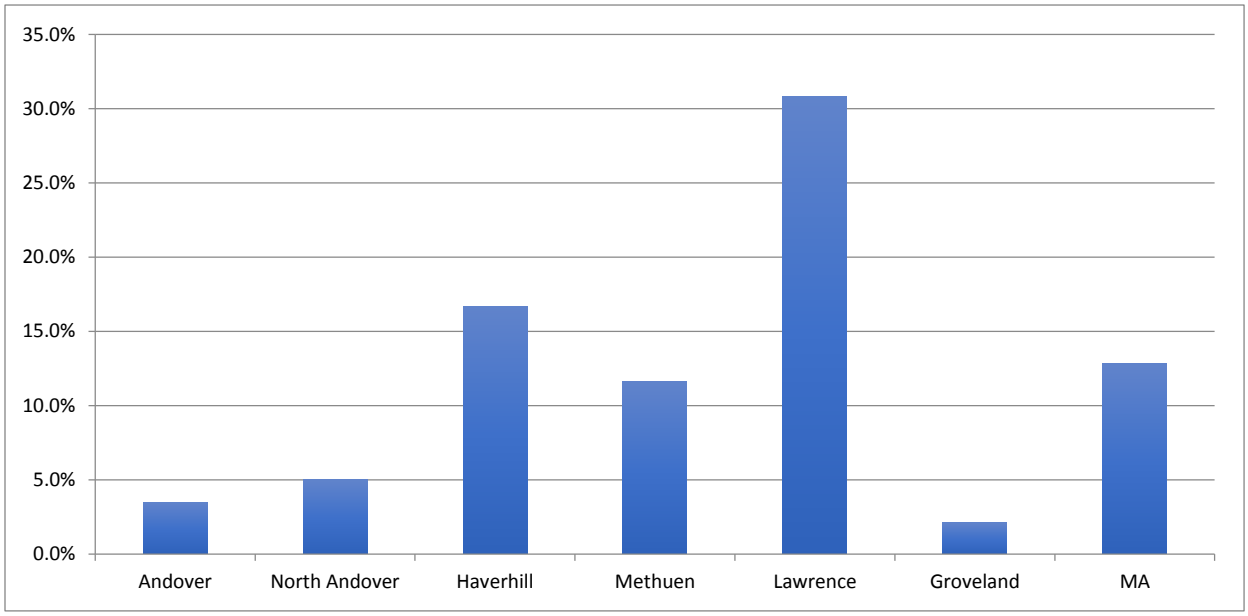
Figure 28: Unrelated Individuals 15+ Below Poverty Level (percentage) - 2012-2016



(Source: US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates) Note at the time of data collection data was unavailable for Salem

From 2012 to 2016, (22.9%) of unrelated individuals over the age of 15 living in Massachusetts were below poverty level. Only Lawrence exceeded the state level at (40.4%). No other service area city/town exceeded (25%). The lowest percentage was observed in Groveland where just (5.7%) of unrelated individuals over the age of 15 were living below poverty level.

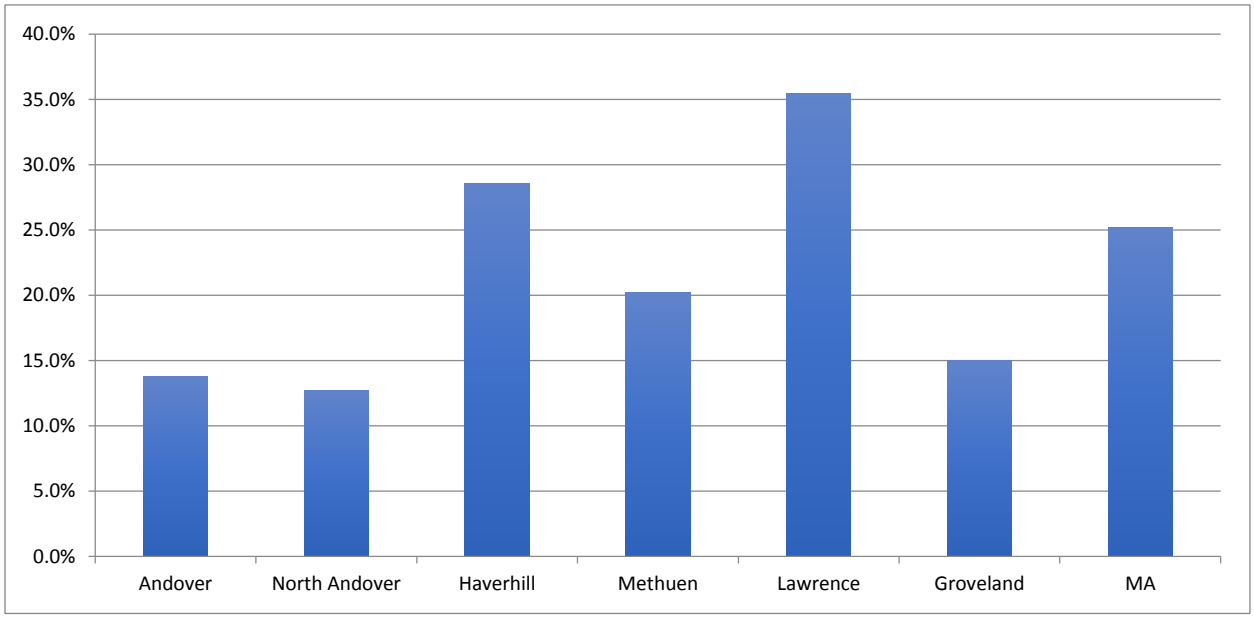
Figure 29: Families with Unrelated Children Under 18: Below Poverty Level (percentage) - 2012-2016



(Source: US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates) Note at the time of data collection data was unavailable for Salem

From 2012 to 2016, (12.8%) of families with unrelated children under the age of 18 living in Massachusetts were below poverty level. Lawrence and Haverhill exceed this percentage with (30.8%) and (16.7%) of these families living below poverty level. The lowest percentage was observed in Groveland at (2.1%), followed by Andover at (3.5%).

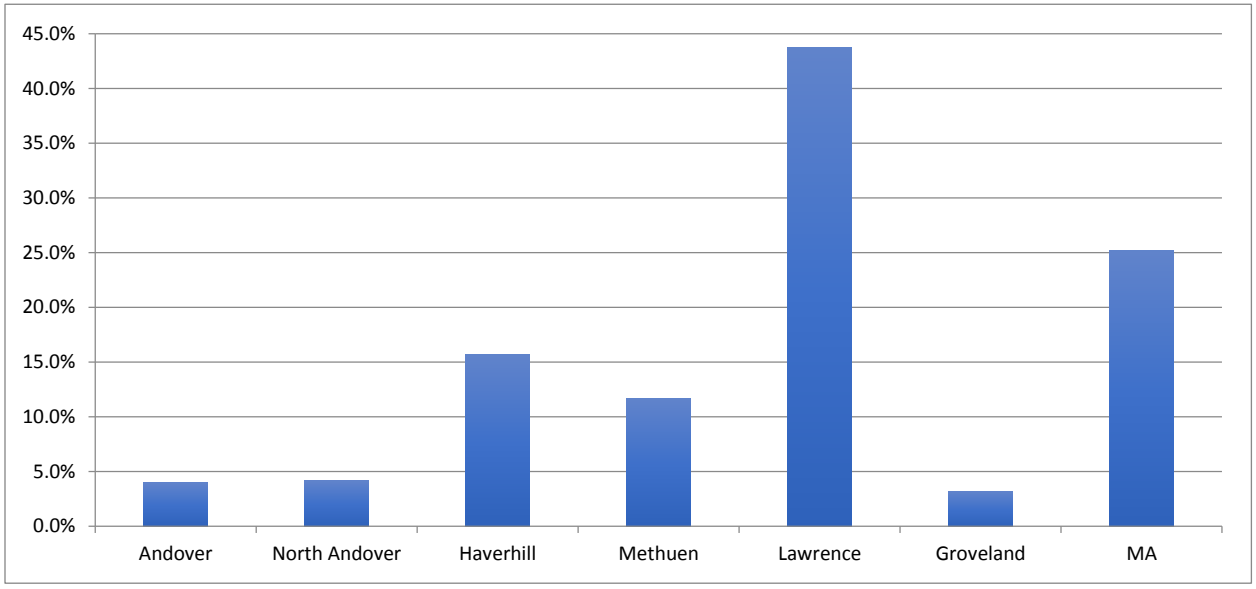
Figure 30: Female HOH below Poverty Level (percentage) - 2012-2016



(Source: US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates) Note at the time of data collection data was unavailable for Salem

From 2012 to 2016, (25.2%) of female HOH households were below poverty level. Lawrence and Haverhill exceeded this percentage at (35.5%) and (28.6%) respectively. The lowest percentage of female HOH households below poverty level was observed in North Andover (12.7%), followed by Andover (13.8%).

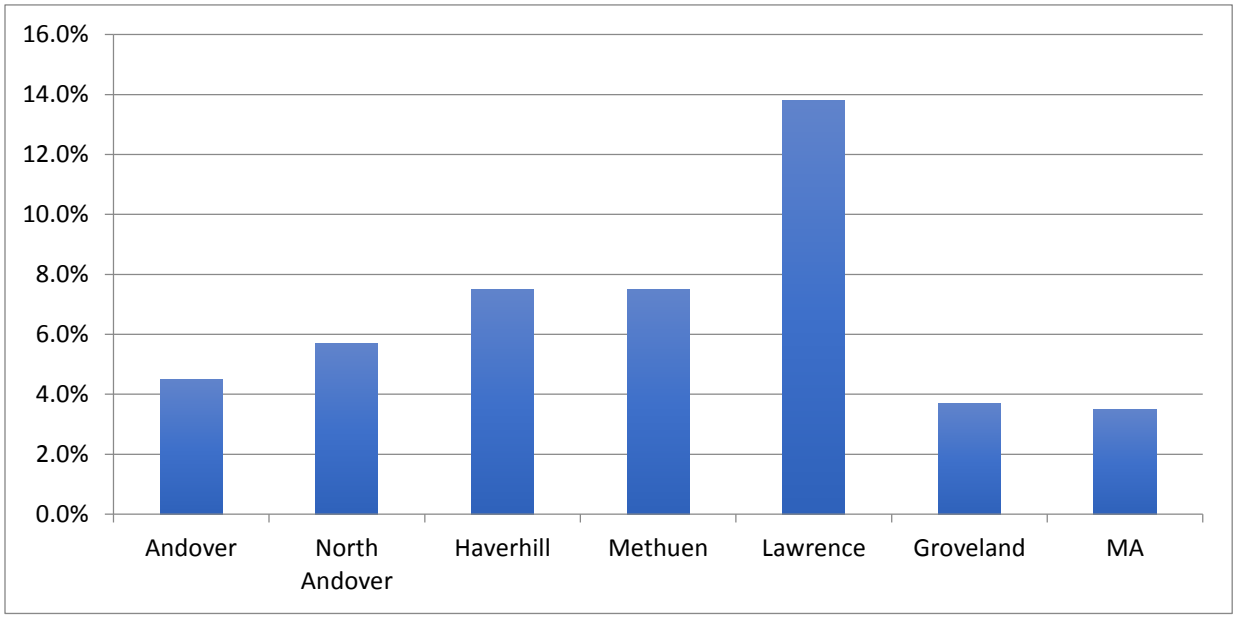
Figure 31: Households Participating in SNAP (percentage) - 2012-2016



(Source: US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates) Note at the time of data collection data was unavailable for Salem

From 2012 to 2016, 2(5.2%) of Massachusetts households participated in SNAP. Within the HFH service area, only Lawrence exceeded this percentage with (43.7%). No other service area city/town exceeded (20%). The lowest percentage of households participating in SNAP was seen in Groveland at (3.2%), followed by Andover at (4%).

Figure 32: Age 16+ Unemployment (percentage) - 2012-2016



(Source: US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates) Note at the time of data collection data was unavailable for Salem

From 2012 to 2016, (3.5%) of individuals over the age of 16 living in Massachusetts, were unemployed. Every service area city/town exceeded this percentage. Lawrence had the highest percentage of unemployed individuals at (13.8%). Haverhill and Methuen followed with (7.5%) each. The lowest percentage of unemployed individuals over the age of 16 was seen in Groveland, where the percentage was (3.7%).

When asked "*what concerns you most about your community or living there?"* survey respondents brought up the rising cost of living in the cities/towns that make up the HFH service area. Respondents stated that there was a lack of affordable housing in the area. Focus group participants in the Methuen group brought up similar concerns but focus group participants in the Haverhill group did not bring up this issue. Focus group participants in both the Haverhill and Methuen groups brought up the variety of services available to low-income individuals and the homeless. These programs primarily addressed access to food and transportation.

Access to Care

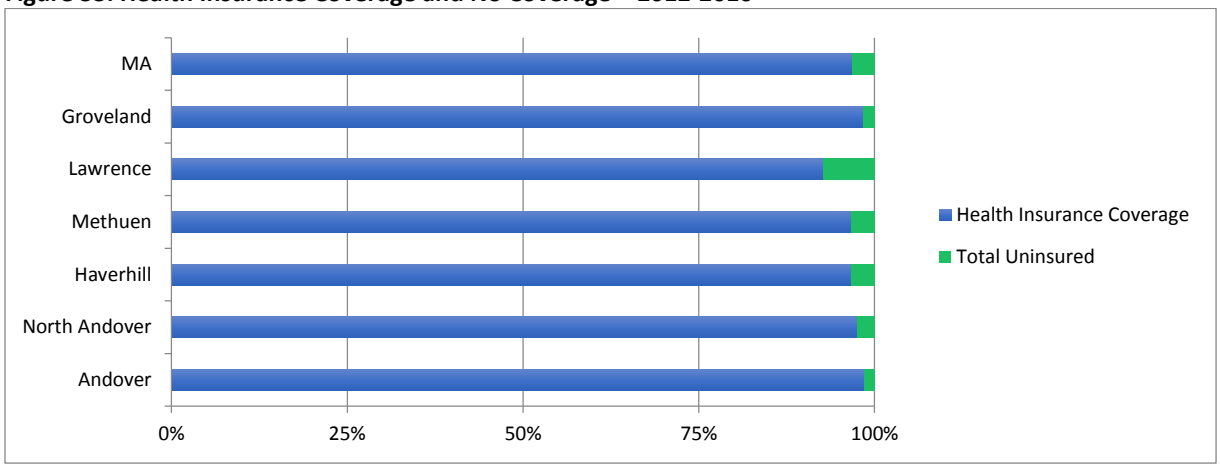
Massachusetts has long been recognized as a national leader in providing health care for its citizens. The focus includes continuously improving capacity and capabilities to allow Massachusetts public health and health care systems to prevent, protect against, quickly respond to, and recover from a variety of emergencies. People who cannot access health care are more likely to have poor overall health and chronic conditions. Accessing services such as preventive care, primary care, dental and mental health care, and emergency care without delay is necessary to a person's overall health. (MDPH, 2017)

The overall trends in health care in Massachusetts are among the most positive in the nation:

- Massachusetts has the fewest uninsured residents in the nation. Only four percent were uninsured due to legislation enacted in 2006 to provide improved access to health care coverage in the Commonwealth.
- Only (7.5%) of Massachusetts adults say they do not have a "usual place" of medical care compared to a national rate of (17.3%).
- Additionally, Massachusetts ranks first in the number of primary care physicians per 100,000 residents.

Although metrics like health insurance and the availability of providers and facilities are important for assessing access to care, it is vital to consider barriers to health care that disproportionately affect vulnerable populations. These barriers, for some residents of the Commonwealth, may lead to unmet health care needs, delays in receiving care, financial burden, and preventable hospitalizations. Assessing and improving the quality of health systems is important for improving population health. A key Commonwealth goal is a health system that provides quality care that is safe, effective, timely, equitable, and patient-centered. This means working to reduce and prevent adverse events and ensuring timely and accessible evidence-based care for all in the right place and at the right amount. (MDPH, 2017)

Figure 33: Health Insurance Coverage and No Coverage – 2012-2016



(Source: US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates) Note at the time of data collection data was unavailable for Salem

According to the U.S. Census (2012-2016) (96.8%) of Massachusetts residents' hold health insurance coverage, and (3.2%) do not. Looking at the service area, Lawrence has the highest percentage of residences with no health insurance at (7.3%). Lawrence also holds the highest percentage of public insurance enrolled residents at (64.8%), well above the Massachusetts state average of (35.0%).

Focus group participants in the Methuen group mentioned that improved access to insurance information and assistance in the enrollment process would be beneficial to the HFH community. Key informant

survey respondents (45%-69%) stated that the cost of health insurance or lack of health insurance was the greatest barrier faced in regard to accessing care.

Recommendations

HFH is well positioned to partner with other community-based organizations and coalitions to address the following key strategic priorities to improve health outcomes and wellness in the region:

1. **Chronic Diseases**
    a. Cancer
    b. Heart Disease
    c. Respiratory Disease
    d. Diabetes

2. **Obesity**

3. **Mental Health**

4. **Substance Use Disorders**

5. **Access to Care**

In recognition of the need for further investments in the social determinants of health, as noted in *The Attorney General's Community Benefits Guidelines for Non-Profit Hospitals* released February 2018, HFH will also consider these six priorities in Community Benefits planning:

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

HFH will continue to foster collaborative partnerships with other community-based organizations whose services align with the aforementioned priorities and focus issues. Particular consideration will be given to how strategies impact the lives of the underserved populations identified within the HFH service area. HFH recognizes the effectiveness of working together towards the common goal of improving health outcomes among all community members, particularly for underserved populations. Where it is deemed appropriate, HFH will coordinate with regional public health organizations to ensure our success in addressing community health issues.

Chronic Diseases

Cancer

Several socioeconomic factors contribute to the prevalence of cancer and/or late-stage cancer diagnoses. Obesity, tobacco use, and tobacco exposure are leading risk factors for many cancers including colorectal and breast cancer. Additionally, lack of access to healthy foods, limited physical activity, and lack of access to smoking cessation services are also risk factors. Gaps in health care coverage represent a barrier to covering the costs of diagnostic testing. For examples, individuals with high deductibles, low premiums, or high co-pays must pay for diagnostic tests to confirm a cancer diagnosis, contributing to delays in diagnosis (MDPH, 2017).

The HFH service area as a whole, with the exception of Lawrence, maintains a lower than state average rate of cancer-related deaths. With regard to types of cancer-based on a total number of diagnoses, lung cancer, and breast cancer were the most prevalent types of cancer in the hospital's service area, followed by prostate and colon cancer respectively.

Community-Wide Recommendations

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

Health System Recommendations

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

Cardiovascular Disease

In 2015, (29.6%) of Massachusetts adults said they had been diagnosed with hypertension, similar to previous years. A larger percentage of Black non-Hispanic adults were diagnosed with hypertension (39.4%) compared to White non-Hispanic adults (30.7%). Racial/ethnic disparities in hypertension are likely an important contributing factor to hospitalizations for congestive heart failure, myocardial infarction, and stroke. Racial/ethnic disparities continue to exist in stroke-related hospitalizations. In 2014, Black non-Hispanic residents (368.1 per 100,000 population) experienced stroke-related hospitalization at a rate that was nearly twice as high as that for White non-Hispanic residents (201.5 per 100,000 population). Similarly, Hispanic residents (264.9 per 100,000 population) had a stroke hospitalization rate that was 1.3 times that for White non-Hispanic residents (201.5 per 100,000 population) (MDPH, 2017).

As of 2015, the HFH service area maintains a slightly higher than state average incidence rate of heart disease-related mortality. Andover maintained the highest percentage, followed by Haverhill and Andover.

Community-Wide Recommendations

- Pursue partnerships with the American Heart Association and/or other cardiovascular disease education and prevention organizations in the community to advance disease prevention and management.
- Partner with civic and/or faith-based community organizations to reach high priority populations and provide appropriate screenings and prevention education.
- Sponsor sports teams, health fairs and events promoting physical activity within the community.

Health System Recommendations

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

Respiratory Disease

Chronic lower respiratory diseases are diseases of the airways and other structures of the lung. Chronic lower respiratory diseases include asthma, chronic obstructive pulmonary disease (COPD), emphysema, and bronchitis. In 2014, chronic lower respiratory disease was the third leading cause of death in the United States and the fourth leading cause of death in Massachusetts. Among adults aged 65 to 84, chronic lower respiratory disease is the third leading cause of death, after cancer and cardiovascular disease. (MDPH, 2017)

The HFH service area exhibited a slightly lower percentage of total mortality due to chronic lower respiratory disease than the state level. Groveland and Haverhill each exceeded the state percentage for mortality due to chronic respiratory diseases.

Community-Wide Recommendations

- Pursue partnerships with the American Lung Association and/or other lung and respiratory disease education and prevention organizations in the community to advance disease prevention and management.
- Partner with civic and/or faith-based community organizations to reach high priority populations and provide appropriate screenings and prevention education.
- Create smoke-free environments within the community and within work environments and offer smoking cessation resources to employees and members of organizations.

Health System Recommendations

- Offer smoking cessation programs within the community.
- Educate the community about lung cancer screening services available at the hospital and eligibility criteria.
- Participate in community-wide campaigns such as National Smoke-Out Day.
- Provide educational programs within the community related to the effects of smoking and management or diseases such as COPD.

Diabetes

Socioeconomic disparities exist in diabetes prevalence. In Massachusetts, adults with an annual household income of less than $25,000 (15.6%) have three times the prevalence of diabetes as compared to those with an annual household income of more than $75,000. The prevalence of diabetes also decreases as educational attainment increases. A total of (14.5%) of adults without a high school degree were diagnosed with diabetes compared to (5%) of adults with four or more years of post-high school education. Diabetes prevalence and mortality in Massachusetts also differs by race/ethnicity. In 2015, a greater proportion of Black non-Hispanic (12.3%) and Hispanic (11.7%) adults reported being diagnosed with diabetes compared to White non-Hispanic adults (8.7%). In 2014, Black non-Hispanic residents were more than 2.1 times more likely to die from diabetes than White non-Hispanic residents (29.5 versus 13.8 per 100,000 population) (MDPH, 2017).

Within the hospital's service area, both Lawrence and Methuen reported mortality due to diabetes above the state average.

Community-Wide Recommendations

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

Health System Recommendations

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

Obesity

Obesity is both a chronic disease and a risk factor for other chronic conditions. Overweight or obese people are more likely to have type 2 diabetes, cardiovascular disease, gall bladder disease, and musculoskeletal disorders. In addition, overweight and obesity are associated with asthma, some forms of cancer, and many other health problems that interfere with daily living and reduce the quality of life. Engaging in physical activity and maintaining a healthy diet have been proven to lower the incidence of obesity, however structural barriers to accessing healthy foods and beverages and opportunities to be physically active disproportionately affect people of color in the Commonwealth. As a result, not all Massachusetts residents have the same opportunities to prevent obesity (MDPH, 2017).

Within the HFH service area, both Haverhill and Methuen exceeded the state percentage of overweight/obese youths.

Community-Wide Recommendations

- Sponsor and promote participation in community events such as runs and walks to generate greater physical activity.
- Develop walking programs/clubs within workplaces to promote physical activity within the workplace.
- Work with school systems, housing authorities to develop nutrition and healthy eating programs.

Health System Recommendations

- Sponsor and promote community programs such as runs and walks.
- Provide nutrition and healthy eating education programs at the hospital and within the community.

Mental Health

Mental health intersects with many areas of public health, including addiction, cancer, cardiovascular disease, and HIV/AIDS, therefore requiring common services and resource mobilization effort. Integrated treatment is critical for treating people with co-occurring disorders and can ultimately achieve better health outcomes and reduce costs. Increasing awareness and building capacity in service systems are important in helping identify and treat co-occurring disorders. Treatment planning should be client-centered, addressing clients' goals and using treatment strategies that are acceptable to them (MDPH, 2017).

Community-Wide Recommendations

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

Health System Recommendations

- Collaborate with health and human service organizations to develop a comprehensive care plan that would be accessible to providers at all points of care.
- Implement strategic partnerships with community organizations that are able to provide services to community members, particularly high priority populations.
- Engage community-based service providers to learn of and promote services that may be available to community members in need of services.
- Implement strategic partnerships with community organizations that are able to provide services to community members, particularly high priority populations.
- Offer training programs to staff in the Emergency Department and throughout the hospital, providing education on screening patients for mental illnesses and promoting suicide prevention.

Substance Use

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

Community-Wide Recommendations

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

Health System Recommendations

- Provide support resources for patients for whom illness can cause significant stress and anxiety.
- Promote evidence-based best practices in substance use disorder treatment across the continuum of care.
- Engage community-based service providers to learn of and promote services that may be available to community members in need of services.
- Participate in prescription monitoring programs across the hospital and among prescribing providers.

Access to Care

Massachusetts has long been recognized as a national leader in providing health care for its citizens. The focus includes continuously improving capacity and capabilities to allow Massachusetts public health and health care systems to prevent, protect against, quickly respond to, and recover from a variety of emergencies. People who cannot access health care are more likely to have poor overall health and chronic conditions. Accessing services such as preventive care, primary care, dental and mental health care, and emergency care without delay is necessary to a person's overall health. (MDPH, 2017)

Looking at the HFH service area, Lawrence has the highest percentage of residents with no health insurance. Lawrence also holds the highest percentage of public insurance, well above the state average of (35.0%).

Community-Wide Recommendations

- Collaborate on a community-wide resource directory to ensure residents have access to and are aware of all available resources and programs.
- Advocate for, support and help to fund initiatives that would improve and expand transportation services within the community.
- Promote and encourage participation in health fairs and other health and wellness programs offered within the community.

Health System Recommendations

- Focus on recruiting multilingual providers to best meet the needs of the diverse community we serve.
- Implement programs to connect patients who do not have an established primary care provider with a provider while they are in the hospital.
- Enroll residents in health insurance programs via community health advocate and financial counselor programs.

Underserved Populations

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

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

Community-Wide Recommendations

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

Health System Recommendations

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

Limitations

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

In previous versions of this CHNA, data had been collected through the use of the Massachusetts Community Health Information Profile (MassCHIP). However, at the time of data collection, this resource was unavailable to researchers. Researchers instead relied on datasets provided by the Accreditation Coordinator/Director MassCHIP, Office of the Commissioner, Massachusetts Department of Public Health and guidance provided by the same in order to collect data used to compile this CHNA.

Although the community focus group provide valuable information, serving as important tools for data collection and community engagement, there are some limitations to consider. Focus group data is qualitative in nature and reflect only the views and opinions of a small sample. Focus groups are limited to the views and opinions of the participants and are not all-inclusive of the various perspectives of the larger populations; they do not constitute complete data for the communities in which focus groups were held. It would have been advantageous to have conducted focus groups in more communities so as to engage a larger segment of the population within the hospital service area, as this may have garnered more diversified data unique to other communities.

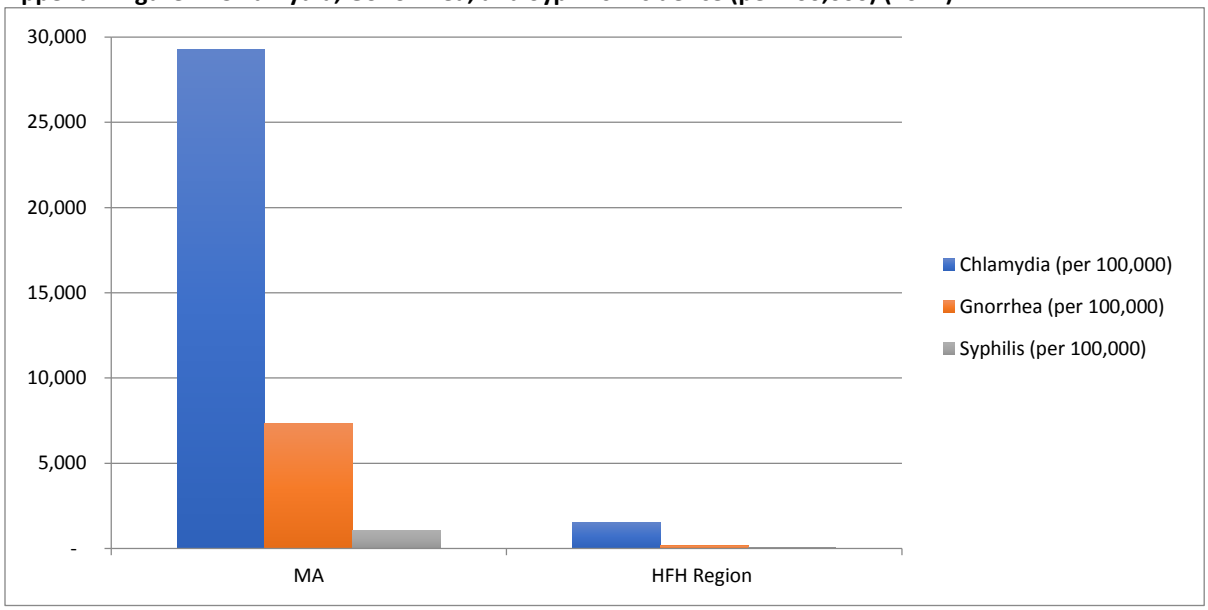
Though the intent of this project was to capture the views and opinions of all or most health and human service providers within the HFH service area, there were also limitations to the survey distribution. Some may have been excluded due to a lack of access to computer-based technology. The survey yielded 74 responses from individuals in a variety of professions.

Appendix A. Supplemental Health Indicators and Demographic Data

Health Indicators

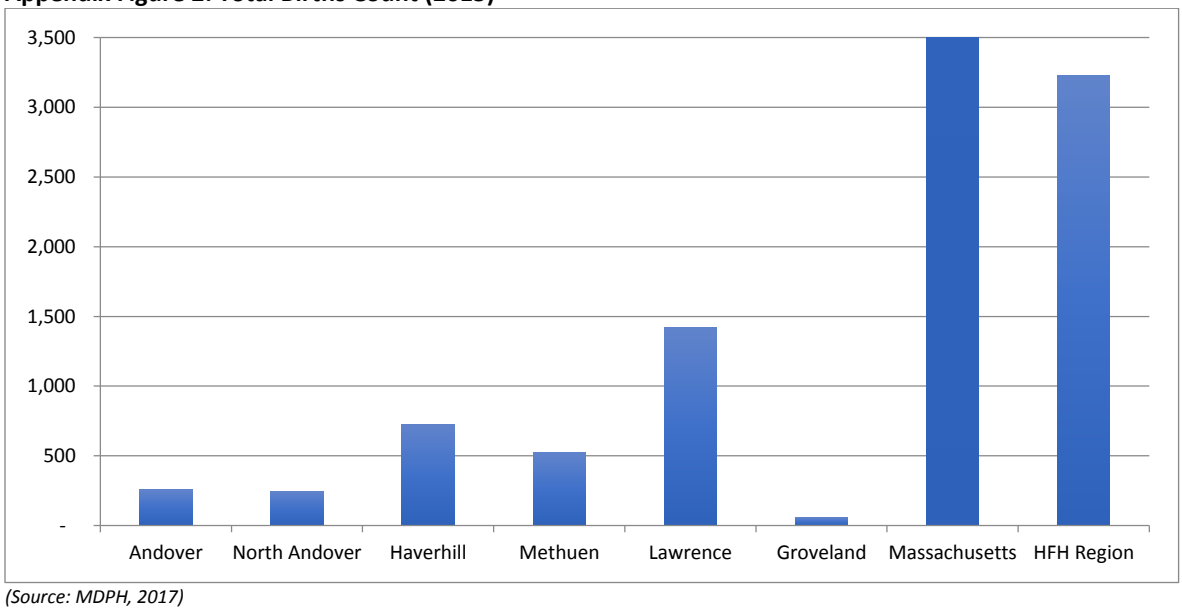
Reproductive and Sexual Health

Appendix Figure 1: Chlamydia, Gonorrhea, and Syphilis Incidence (per 100,000) (2017)



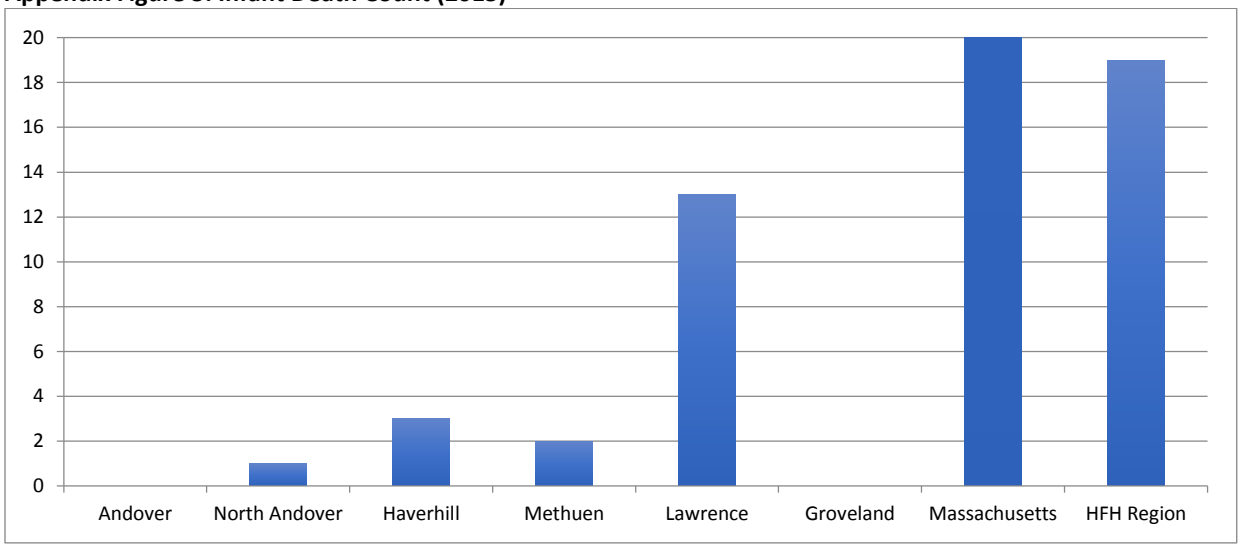
(Source: MDPH Bureau of Infection Disease)

Appendix Figure 2: Total Births Count (2015)



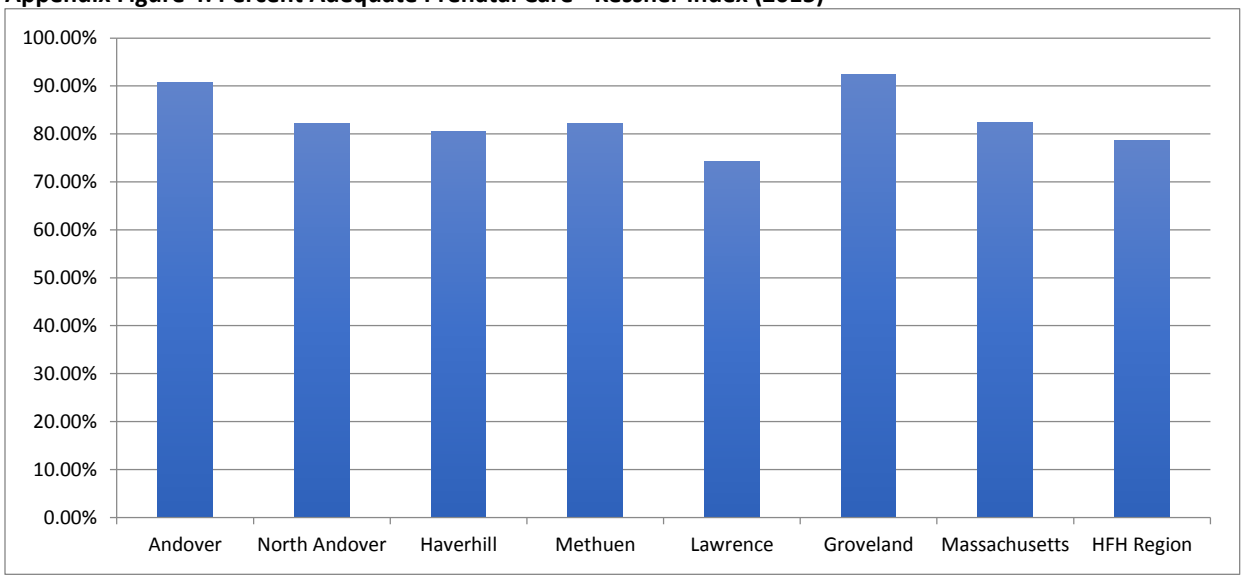
(Source: MDPH, 2017)

Appendix Figure 3: Infant Death Count (2015)



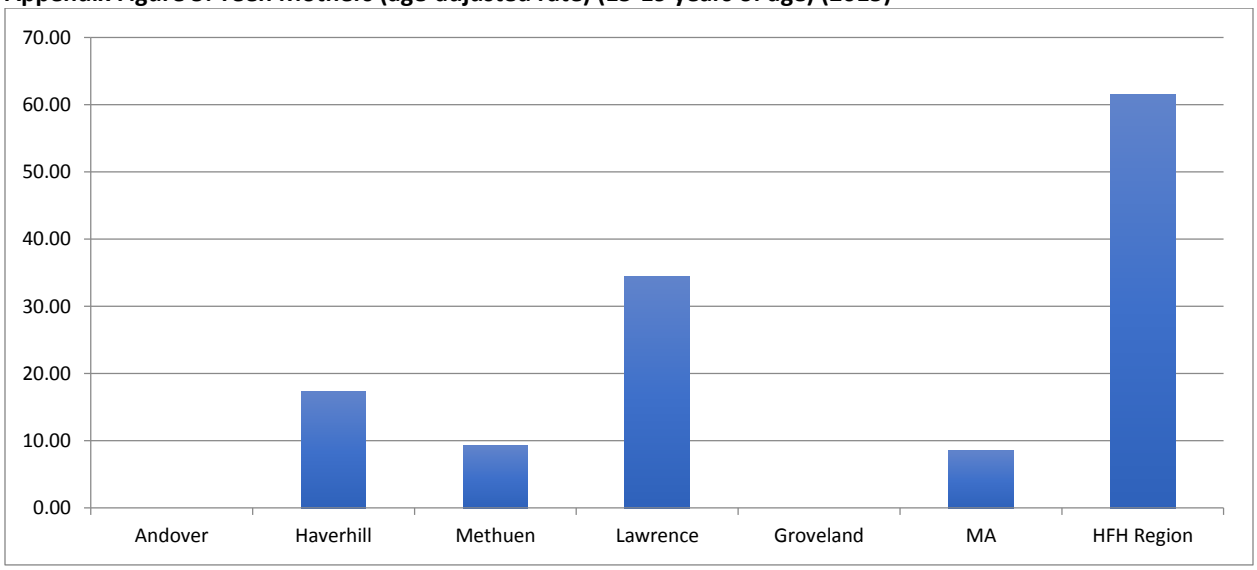
(Source: MDPH, 2017)

Appendix Figure 4: Percent Adequate Prenatal Care - Kessner Index (2015)



(Source: MDPH, 2017)

Appendix Figure 5: Teen Mothers (age-adjusted rate) (15-19 years of age) (2015)

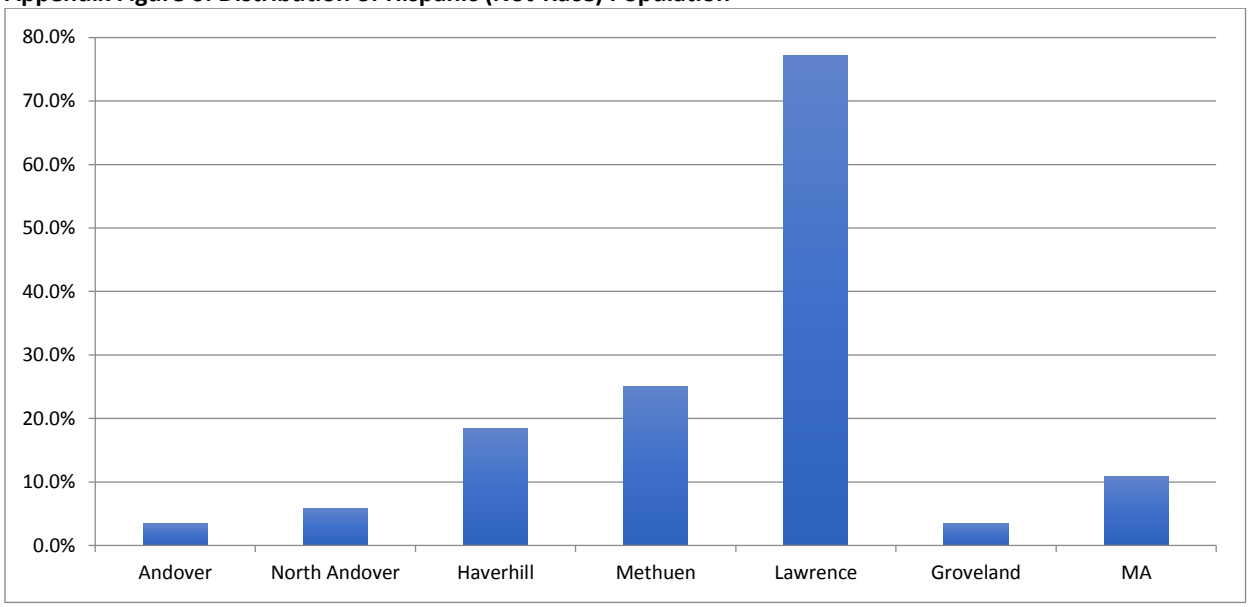


(Source: MDPH, 2017)

Demographic Data

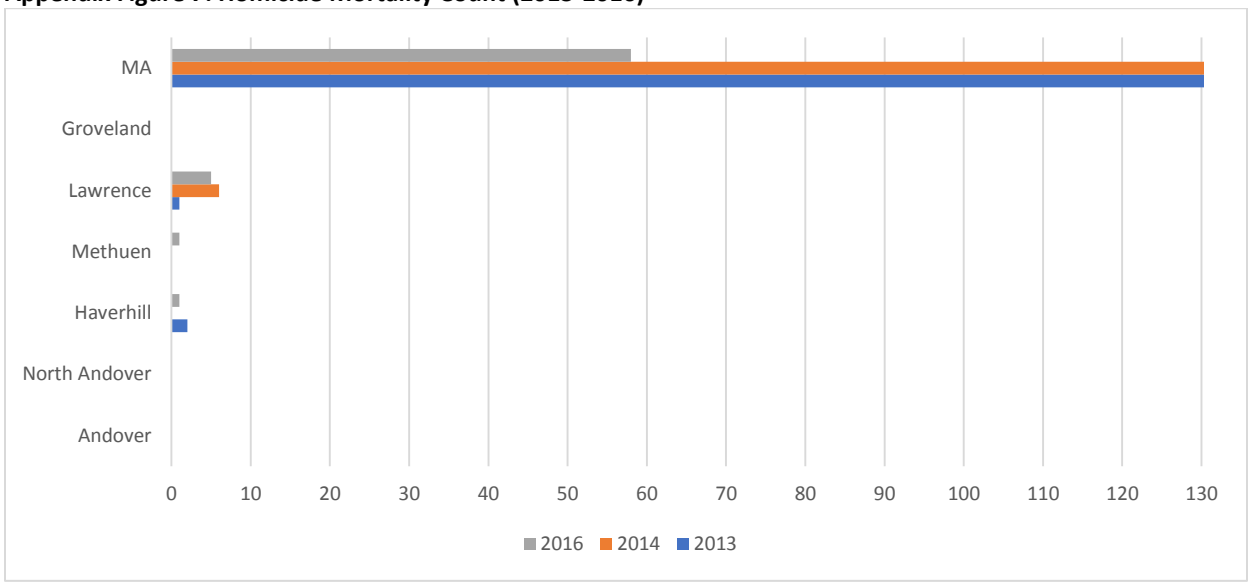
Social

Appendix Figure 6: Distribution of Hispanic (Not-Race) Population



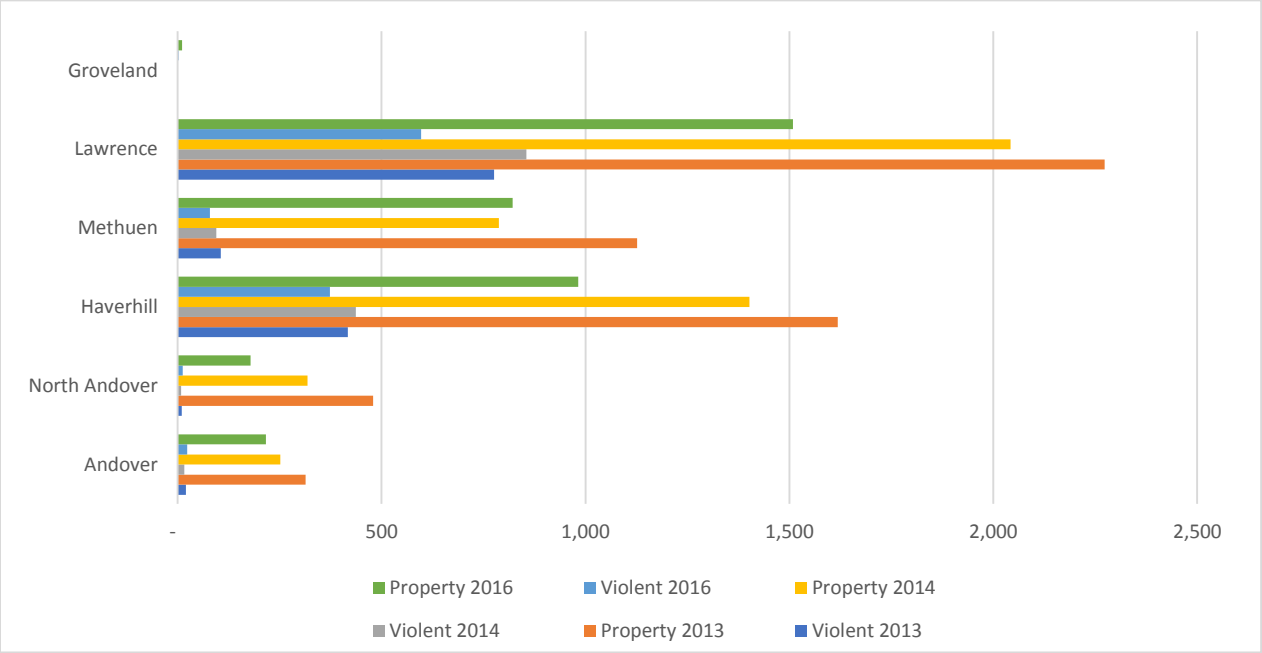
(Source: US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates)

Appendix Figure 7: Homicide Mortality Count (2013-2016)



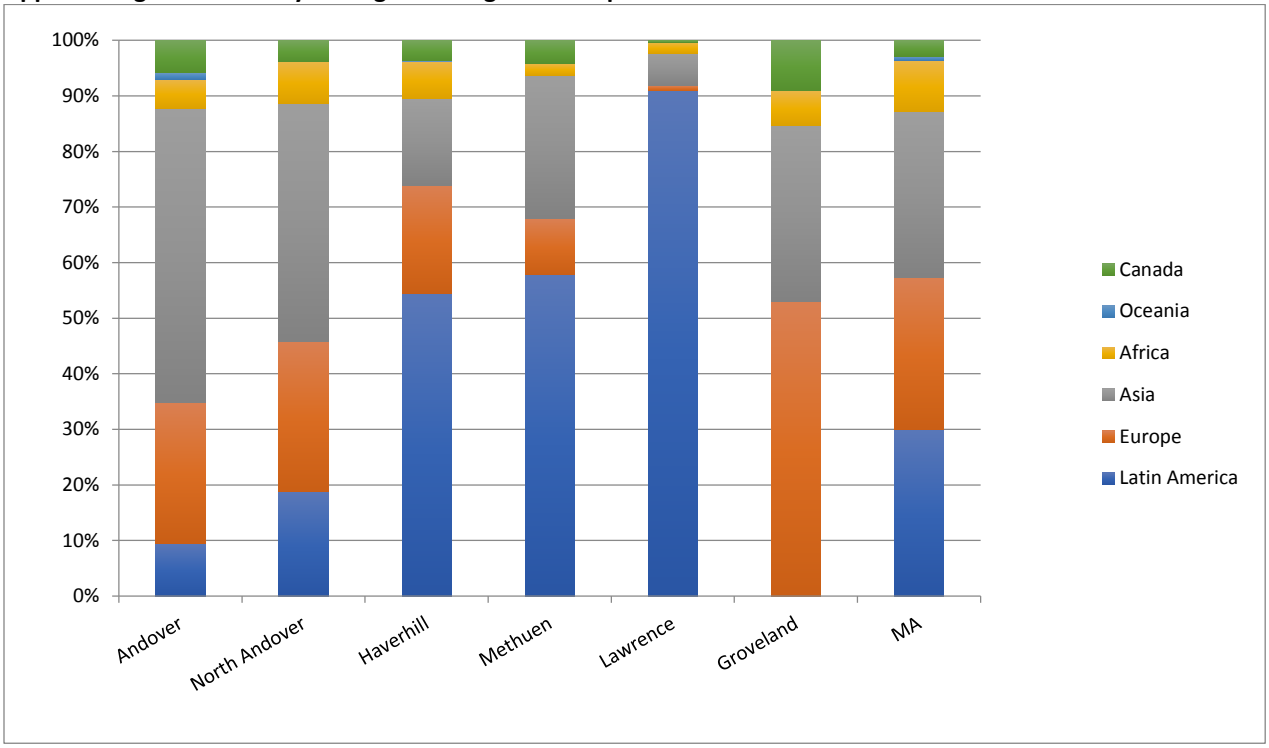
(Source: US Department of Justice -FBI)

Appendix Figure 8: Crime Rate Count (2013, 2014, 2016)



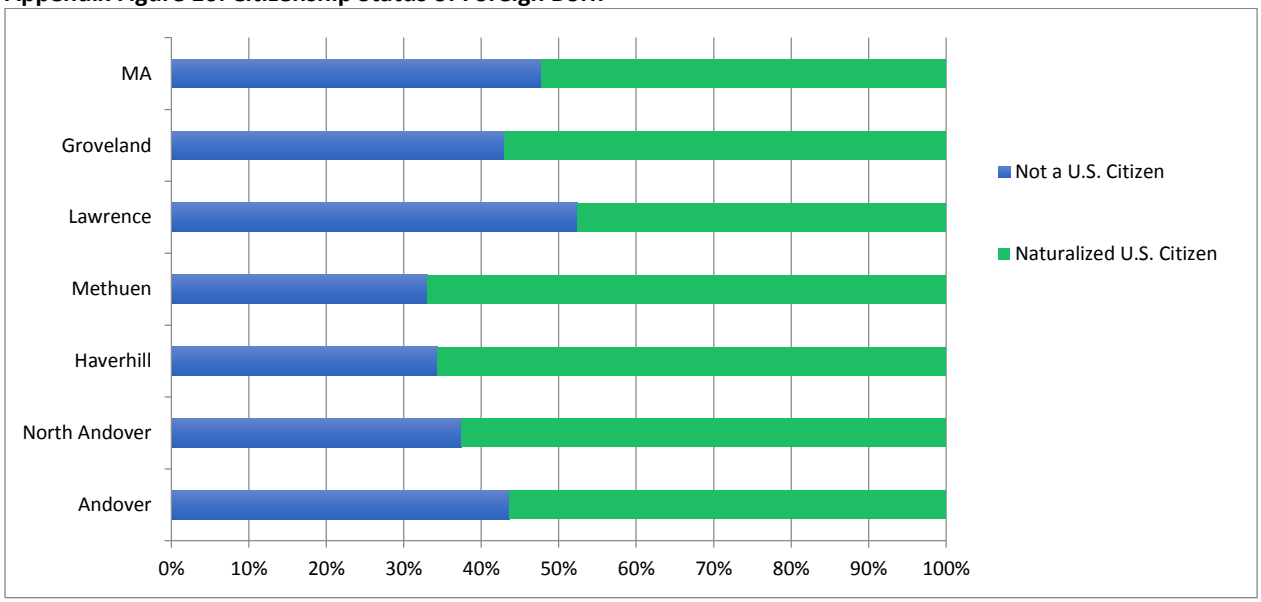
(Source: US Department of Justice -FBI)

Appendix Figure 9: Country of Origin - Foreign-Born Population



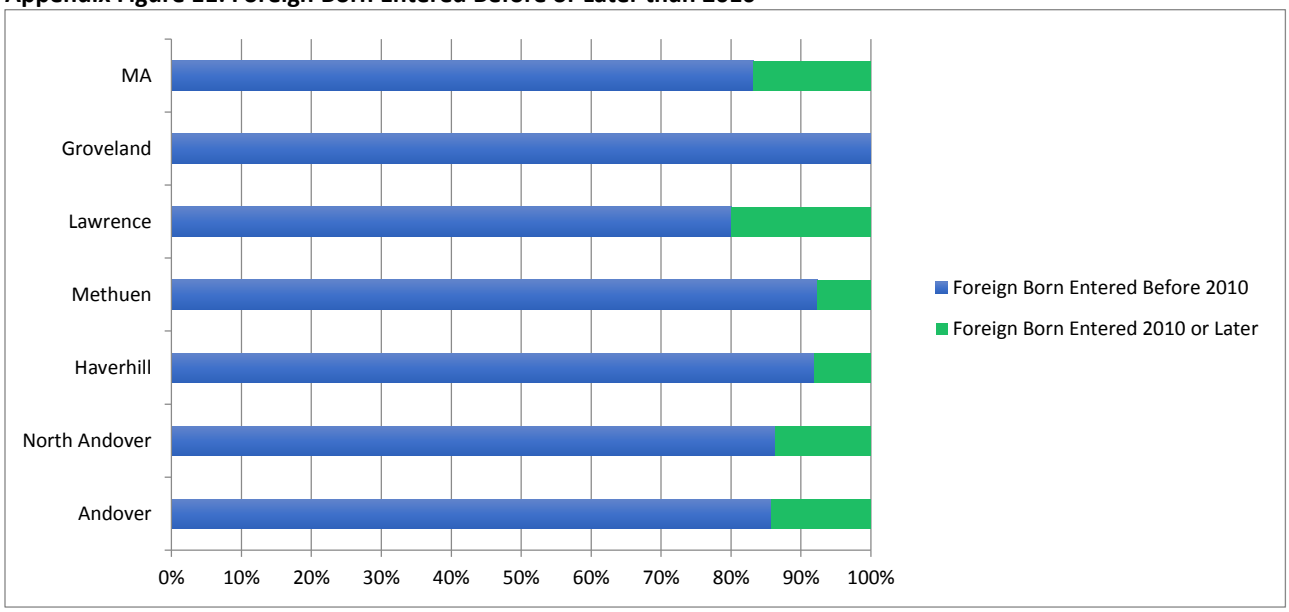
(Source: US Census Bureau, 2012-2016 American Community Survey 5-Year Estimates)

Appendix Figure 10: Citizenship Status of Foreign Born



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

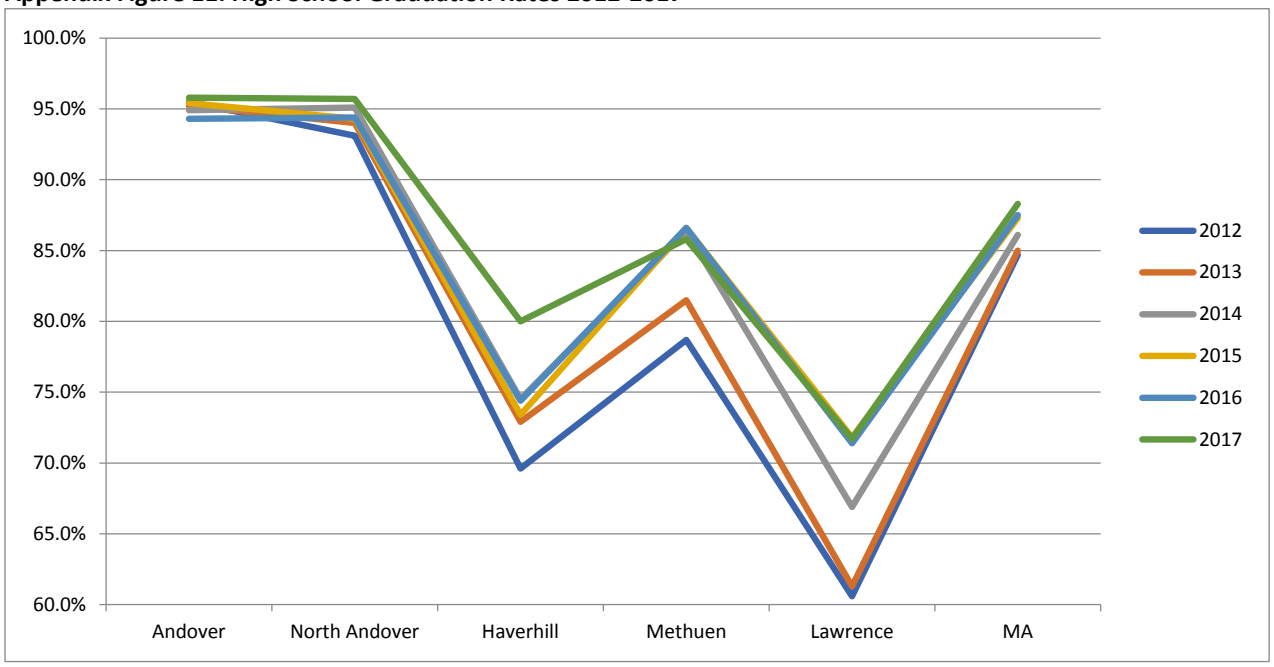
Appendix Figure 11: Foreign Born Entered Before or Later than 2010



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

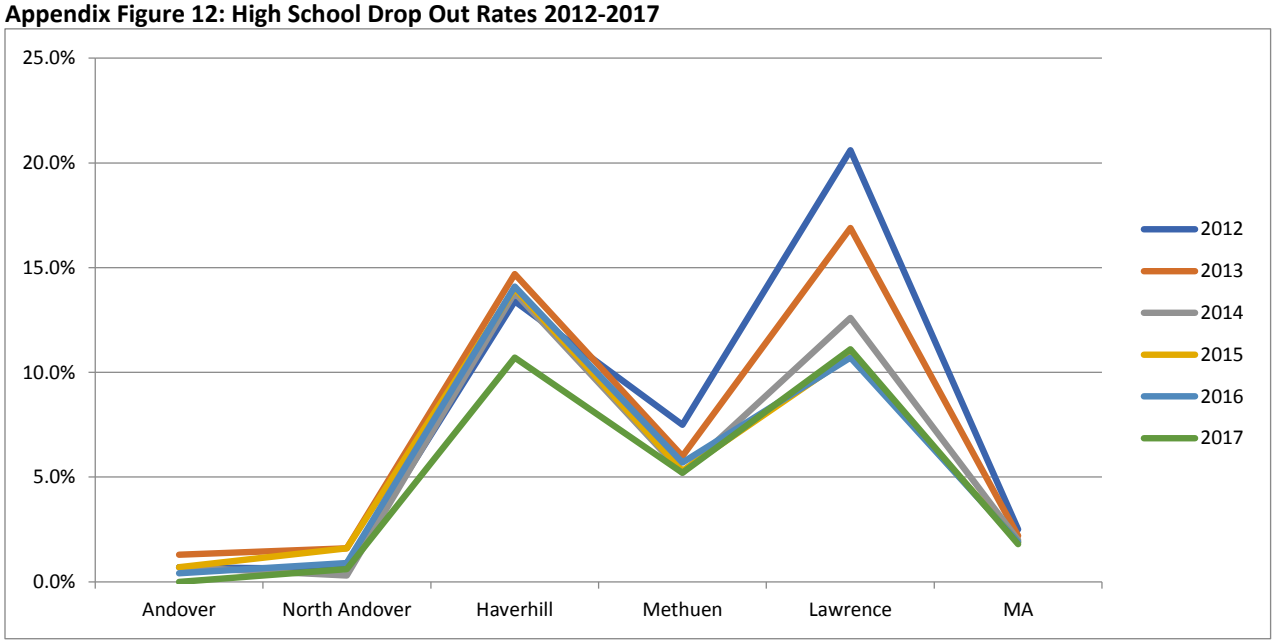
Education

Appendix Figure 11: High School Graduation Rates 2012-2017



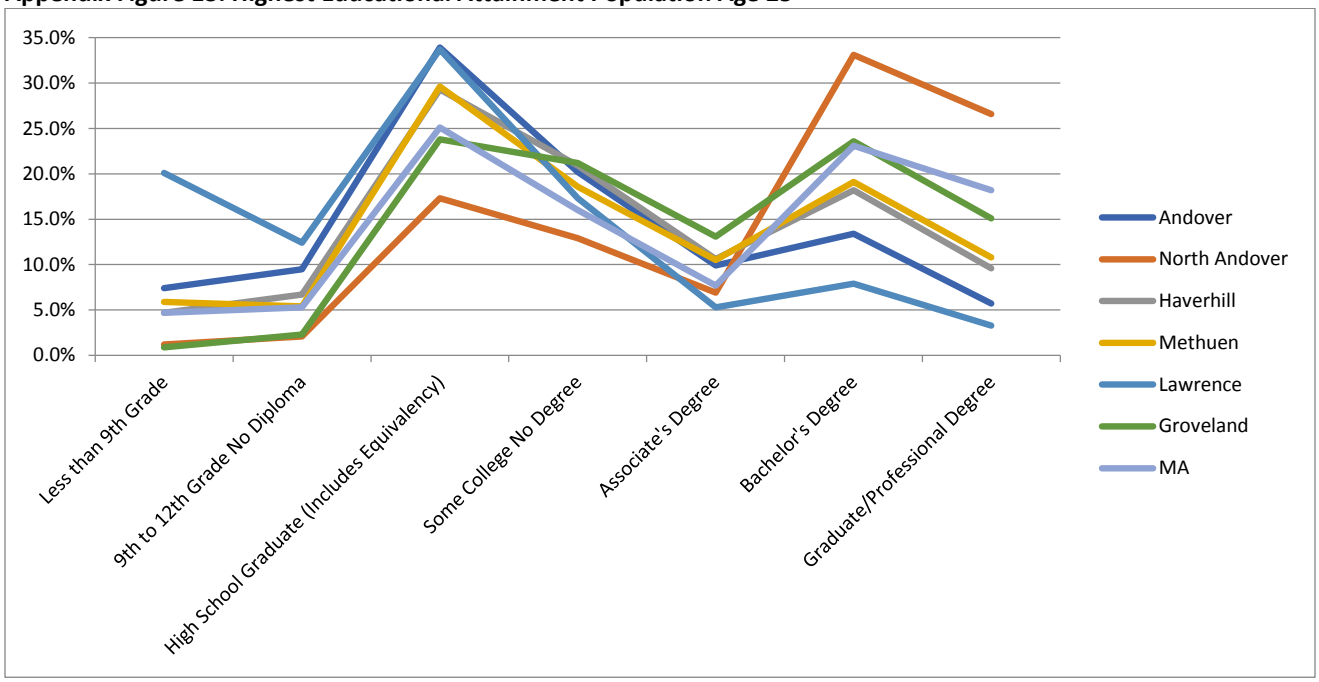
(Source: MA Dept. of Elementary and Secondary Education, 2018, Enrollment by Race/Gender Report- DISTRICT)

Appendix Figure 12: High School Drop Out Rates 2012-2017



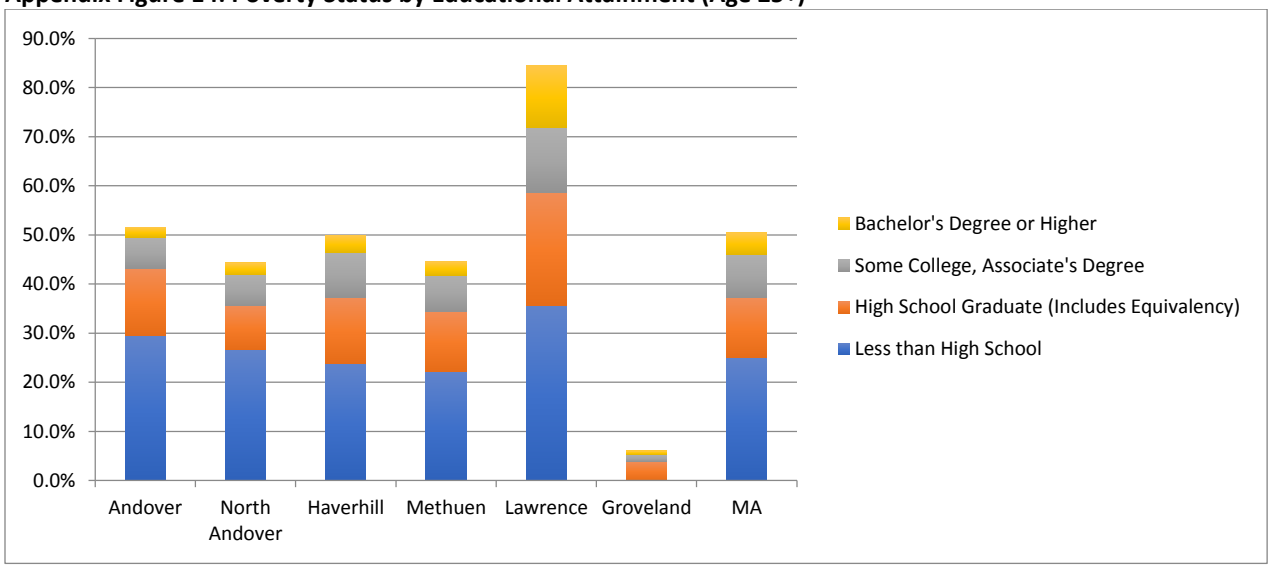
(Source: MA Dept. of Elementary and Secondary Education, 2018, Enrollment by Race/Gender Report- DISTRICT)

Appendix Figure 13: Highest Educational Attainment Population Age 25+



Economics

Appendix Figure 14: Poverty Status by Educational Attainment (Age 25+)



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

Appendix B. Key Informant Survey

*Community Health Needs Assessment- Key Informant Survey**

1. Describe the organization for which you work?
2. What kind services does your organization primarily provide?
3. What do you believe are the best features about the community?
4. What concerns you the most about the community or living here?
5. Where do you believe most people get their health information?
6. What do you think are the top 5 health issues in the community?
7. Where do you believe people go most often for immediate medical services?
8. What do you believe prevents people from accessing care?
9. What do you or other people you know do to stay healthy?
10. What are the top three populations that you identify as underserved or under-represented within the community?
11. What three improvements/services should be made for a healthier community?
12. In what ways is Holy Family Hospital-Methuen and Holy Family Hospital-Haverhill serving the community well?
13. What is the number one thing that Holy Family Hospital can do to improve the health and quality of life of this community?
14. How knowledgeable are you of the community health services Holy Family Hospital-Methuen and Haverhill provides to your community?
15. Overall, how satisfied are you with the way Holy Family Hospital-Methuen and Haverhill is addressing community health in your community?

Appendix C. Focus Group Questions

1. Is there a sense of community where you live?
    a. Why or why not?
2. What is healthy about your community?
3. What kinds of health and human services are easily accessible in the community?
4. What kinds of health and human services do you feel are missing and would be beneficial in the community?
5. In your view, what are the top three areas of health concern within the community?
6. What are some strategies that could address these concerns?
7. What populations would you identify as underserved within the community?
8. What do you feel are the biggest obstacles to health access for your community?
9. Is behavioral health a major issue within your community?
10. Are chronic diseases a major issue in your community? (Chronic disease are health issues that people live with every day like diabetes, hypertension, obesity)
    a. What is the impact in your community?
11. What services do you perceive as being most needed within the community?
12. In what ways is Holy Family Hospital serving the community well?
13. In what ways could Holy Family Hospital serve the community better?
14. What is the number one thing that the Holy Family Hospital can do to improve the health and quality of life of the community?

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