Holy Family Hospital

A STEWARD FAMILY HOSPITAL

Steward

Community Health Needs Assessment 2022

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Acknowledgements

This report was made possible through the cooperative support of several individuals and organizations throughout the greater Methuen community.

We thank the teams at H&HS Consulting Group LLC., and Market Street Research, Inc., who contributed to the drafting of this report and also conducted a thorough data analysis and a literature review which was used to develop these findings and recommendations.

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 Deborah Chiaravalloti, Director of Marketing and Community Relations, at Deborah.Chiaravalloti@steward.org.

Executive Summary

This report is a comprehensive analysis of the health outcomes and perspectives in the Holy Family Hospital primary service area, which encompasses Methuen, Haverhill, Lawrence, Groveland, Andover, and North Andover. Data was gathered by analyzing publicly available information, reviewing community feedback gathered through focus groups and key informant interviews, conducting an extensive review of published literature on the health of the population residing in the region and in the Commonwealth of Massachusetts, and surveying local health professionals. This data-driven methodology allowed Holy Family Hospital to investigate the resource requirements of the community in order to better streamline resources and inform community-based initiatives. The information contained herein highlights some of the public health needs identified within the community and may be used to develop targeted community health improvement strategies as well inform the hospital in the development of its subsequent Implementation Strategy and other Community Benefits programming.

The goal is to engage and learn from community members, particularly those most at-risk for experiencing health disparities, as well as organizations who work directly with these populations, and develop recommendations for Community Benefits programming that bring about improved health outcomes in high priority populations. For the purpose of this Community Health Needs Assessment (CHNA), high priority populations may be defined as, members of the community that have been historically marginalized due to racism, poverty and/or have had limited access to health care services, as well as members of the community who are at highest risk for developing the various chronic diseases and behaviors outlined in this report. As noted in the Attorney General's Community Benefits Guidelines for Non-Profit Hospitals, released February 2018, "*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 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"*. Through the development and implementation of evidence-based best practices in Community Benefits programming, Holy Family Hospital seeks to respond to the guidance offered by the Office of the Attorney General and the health equity framework.

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

Maintaining and strengthening community engagement on health promotion, chronic disease prevention, substance abuse prevention and mental illness, among other critical areas for collaboration, is key to the success of population health improvement strategies. From promoting access to affordable health care, creating a stable positive economic environment in the region, ensuring that those most at-risk have access to basic needs for better health outcomes such as stable affordable housing, low-cost nutritional food choices, and a healthy environment, Holy Family Hospital is well positioned to implement community benefits programs that support a healthy and thriving community. The information and recommendations herein are presented as a starting point for discussions and planning within the hospital and with community-based partners to develop truly comprehensive, actionable and measurable Community Benefits programming.

Introduction

Holy Family Hospital is part of Steward Health Care System. Nearly a decade ago, Steward Health Care System emerged as a different kind of health care company designed to usher in a new era of wellness. One that provides our patients better, more proactive care at a sustainable cost, our providers unrivaled coordination of care, and our communities greater prosperity and stability.

As the country's largest physician-led, tax paying, integrated health care system, our doctors can be certain that we share their interests and those of their patients. Together we are on a mission to revolutionize the way health care is delivered - creating healthier lives, thriving communities and a better world.

Steward is among the nation's largest and most successful accountable care organizations (ACO), with more than 5,500 providers and 43,000 health care professionals who care for 12.3 million patients a year through a closely integrated network of hospitals, multispecialty medical groups, urgent care centers, skilled nursing facilities and behavioral health centers.

Based in Dallas, Steward currently operates 39 hospitals across Arizona, Arkansas, Florida, Louisiana, Massachusetts, Ohio, Pennsylvania, Texas and Utah.

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

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.

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 are 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 Mission Statement

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
- 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 2021. 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.

Methods

The 2022 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 considered. Below is a brief description of the data collection process.

Health Indicators and Demographics- Data Analysis

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

Key Informant Interviews

In the Spring of 2021, Holy Family conducted 5 key informant interviews. Key informants consisted of individuals involved in community partner organizations. Key informants were interviewed virtually through zoom. Questions asked of key informants can be found in Appendix A.

Focus Groups

Three focus groups were conducted virtually through Zoom in the Spring of 2021. Questions asked of participants can be found in Appendix B.

Geiger Crisis Center

One group, containing 9 members, was conducted in partnership with the Geiger Crisis Center. Demographics for this group are as follows:

Age		Race		Gender	
21-29	1	White	4	Male	1
30-45	6	African American	1	Female	8
45-65	2	Hispanic/Latinx	3		
		Dominican	1		

Haverhill YMCA

One group, containing 5 members, was conducted in partnership with the Haverhill YMCA. One participant chose not to respond to race/ethnicity. Demographics for this group are as follows:

Age		Race		Gender	
30-59	5	White	3	Male	1
		Hispanic/Latinx	1	Female	4

Methuen Arlington Neighborhoods Inc.

Another group, containing 10 members, was conducted in partnership with Methuen Arlington Neighborhoods Inc. No demographic data was collected for this group.

Health Professionals Survey

A Health Professionals Survey was developed and distributed electronically to all Holy Family Hospital staff, affiliated medical providers, community partner organizations, and area health and human service organizations. In total, 30 individuals submitted responses to this survey. Questions asked of health professionals 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

Mental Health

In the early stages of the COVID-19 pandemic, rates of depression and anxiety drastically increased, with 28.2% of Americans reporting symptoms of depression and 24.4% reporting symptoms for anxiety (NCHS, 2020). Health professionals surveyed indicated mental health was the largest obstacle to healthy living among their consumers and many of those in focus groups listed increased counseling and mental health services as the largest community need.

Substance Use Disorder

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

Obesity

Rates of obesity are rising faster than rates seen for any other chronic illness. While the crude prevalence of obesity in Massachusetts is lower than the national average, Lawrence (37.4%) had especially high proportions of their community who are obese. Focus group members and key informants indicated special concern about obesity rates were on the rise during the pandemic.

Chronic Conditions

In 2017, approximately 49.8% of mortality in Massachusetts was due to cancer, heart disease, lower respiratory disease, and diabetes. Merrimac (65.2%), Groveland (58.9%), and Haverhill (51.6%) showed higher rates of deaths due to chronic conditions than the state level. Cancer and diabetes mortality rates were especially high within Groveland and Haverhill. Health professionals saw diabetes, high blood pressure, and heart health as particularly concerning chronic conditions within their service area.

COVID-19

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

Homelessness

Homelessness is a growing issue in Massachusetts. From 2017 to 2018 the rate of homelessness increased by 14.2% (Jolicouer, 2020). Massachusetts has the highest rate of Hispanic/Latinx homelessness at 107 homeless residents

per 10,000 population. However, Massachusetts currently houses 95% of its homeless population, one of the highest rates of any state. Despite this rate, focus group participants and key informants emphasized housing as a primary concern in their communities, noting that lack of housing can lead to mental health issues such as stress, anxiety, and depression. Housing instability was also noted as amplifying health inequities, causing increased difficulty to find and retain health services.

Access to Care

Addressing access to care is one of the first steps that needs to be taken to address health equity. Although Massachusetts is a leader in healthcare services and access to care, there are still barriers of cost, transportation, childcare, language interpreters, etc. that may impact individuals' ability to access healthcare. In Massachusetts, there are 970 residents for every one primary care physician; in Essex County there are 1.3 primary care physicians per 1,000 residents. When surveyed, health professionals saw the cost of care, lack of access to mental health support, and lack of coordination services as the largest barriers to accessing care.

Demographics

Holy Family's primary service area encompasses cities and towns in Essex and Rockingham Counties, containing Andover, Groveland, Haverhill, Lawrence, Methuen, and North Andover in Massachusetts and Salem New Hampshire. In 2018, Essex County comprised a population of 719,000 people with a median age of 41.1 years old and a median household income of $76,604. The residents of Essex County are predominantly White (Non-Hispanic) (71.0%), followed by Hispanic (20.3%), Asian and Pacific Islanders (3.4%), and Black (Non-Hispanic) (3.0%). Comparatively, in 2018 Rockingham County had a population of 309,000 people, with a median age of 44.8 years old and a median household income of $95,160. The residents of Rockingham County are predominantly White (Non-Hispanic) (92.7%) followed by Hispanic (2.8%) and Asian and Pacific Islanders (1.9%).

Race and Ethnicity

The U.S Census data from 2019 (Table 1) shows that residents of Massachusetts are primarily White (78.1%), followed by Black (7.6%), Asian (6.6%), Other Race (4.2%), Two or More Races (3.3%), American Indian (0.2%), and Native Hawaiian/Pacific Islander (0.0%). Lawrence (52.8%) and Methuen (74.6%) had lower percentages of White (Non-Hispanic) residents than the state.

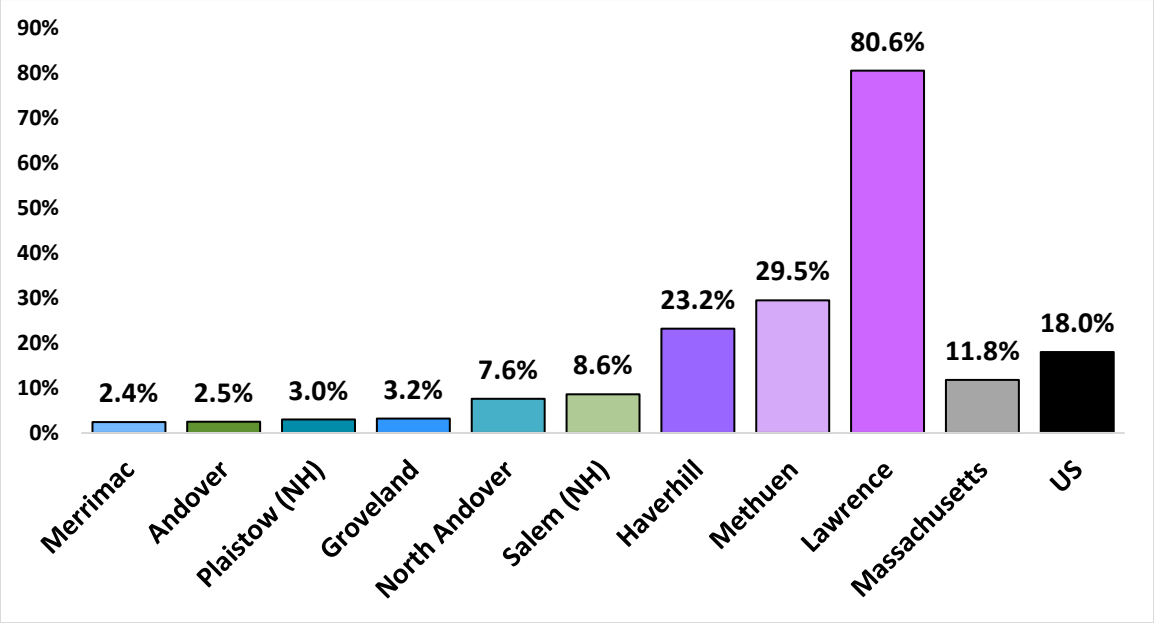
Table 1: Distribution of Race by City/Town - 2019

	White	Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Some Other Race	Two or More Races
Groveland	98.3%	0.0%	0.3%	0.7%	0.0%	0.4%	0.3%
Merrimac	96.7%	0.2%	0.0%	1.0%	0.0%	1.3%	0.7%
North Andover	85.8%	3.6%	0.1%	6.1%	0.0%	2.1%	2.3%
Plaistow (NH)	96.3%	0.4%	0.0%	0.7%	0.0%	0.6%	2.1%
Salem (NH)	91.3%	0.9%	0.0%	3.7%	0.0%	1.5%	2.5%
Andover	87.0%	2.6%	0.1%	7.9%	0.0%	0.1%	2.3%
Haverhill	80.3%	3.6%	0.1%	1.3%	0.0%	10.7%	3.9%
Lawrence	52.8%	5.7%	0.3%	1.7%	0.0%	36.4%	3.1%
Methuen	74.6%	4.3%	0.3%	4.1%	0.0%	12.9%	3.9%
Massachusetts	**78.1%**	**7.6%**	**0.2%**	**6.6%**	**0.0%**	**4.2%**	**3.3%**
US	72.5%	12.7%	0.8%	5.5%	0.2%	4.9%	3.3%

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

Lawrence (80.6%), Methuen (29.5%), and Haverhill (23.2%) all have higher percentages of Hispanic residents than the state (11.8%) and national (18.0%) levels (Figure 1). Lawrence, in particular, has nearly 8 times the Hispanic resident population when compared to the state average.

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



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

Lawrence and Haverhill had more diverse school systems when compared to the state and national populations (Table 2). Both Lawrence (93.9%) and Methuen (42.0%) had higher proportion of Hispanic students in public schools, when compared to the state (21.9%) and national (27.3%) averages. Andover (19.0%) had a higher proportion of Asian students when compared to the state (7.1%) and national (5.4%) levels. Salem, NH (3.8%) had a higher proportion of Native Hawaiian/Pacific Islanders when compared to the state (0.1%) and national (0.4%) levels.

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

	White	Black or African American	Hispanic	Asian	Native American	Native Hawaiian, Pacific Islander	Multi-Race (Non-Hispanic)
Groveland	90.7%	0.6%	5.2%	1.2%	0.0%	0.0%	2.4%
Merrimac	90.7%	0.6%	5.2%	1.2%	0.0%	0.0%	2.4%
North Andover	73.3%	3.2%	12.5%	8.0%	0.2%	0.1%	2.8%
Plaistow (NH)	92.6%	0.8%	4.1%	1.0%	0.3%	1.0%	1.2%
Salem (NH)	81.5%	1.3%	11.1%	3.8%	0.0%	3.8%	2.2%
Andover	67.8%	2.6%	7.0%	19.0%	0.1%	0.1%	3.4%
Haverhill	51.7%	5.0%	39.2%	1.7%	0.2%	0.1%	2.1%
Lawrence	3.4%	1.2%	93.9%	1.1%	0.0%	0.0%	0.3%
Methuen	47.0%	2.3%	42.0%	3.9%	0.1%	0.1%	4.6%
Massachusetts	57.5%	9.3%	21.9%	7.1%	0.2%	0.1%	3.9%
US	46.6%	15.1%	27.3%	5.4%	1.0%	0.4%	4.3%

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

Age

In 2019, Census data indicated that the populations of Merrimac (29.1%), and Plaistow (25.4%), Salem (27.0%) had smaller proportions of the population under the age of 24 than that seen at the state level (30.2%) (Table 3). Lawrence had the largest proportion of the population under the age of 24 at 37.9%. Haverhill (12.7%), Lawrence (10.4%), and Methuen (15.9%) all had lower proportions of the population over the age of 65 when compared to the state level (16.1%).

Table 3: Age Distribution by City/Town - 2019

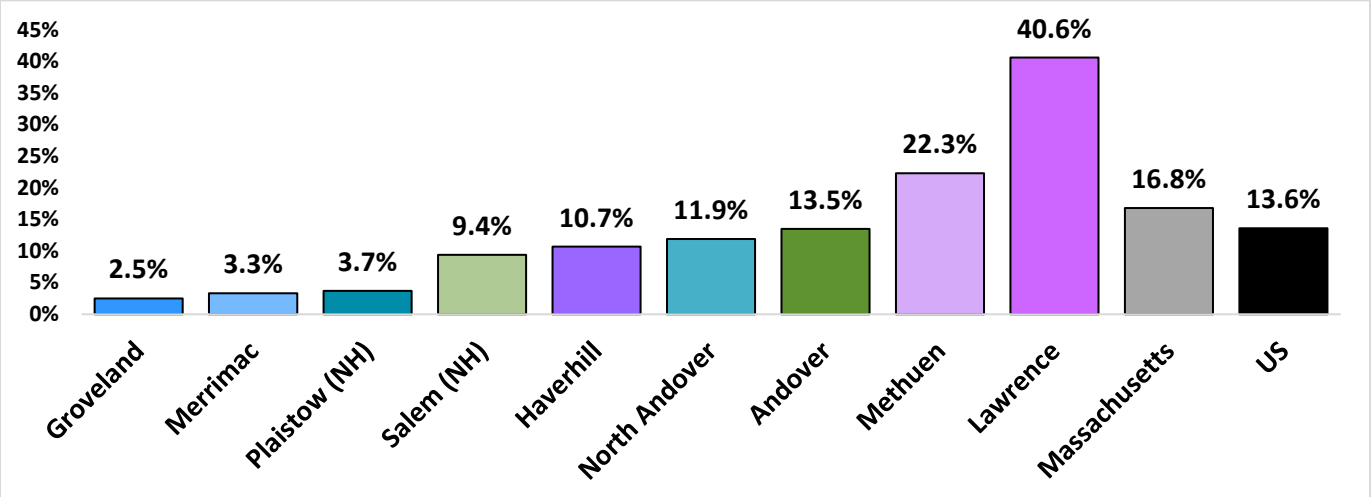
	24 and under	25 to 44	45 to 64	65 and older
Groveland	33%	16.5%	33.1%	18.0%
Merrimac	29.1%	15.2%	36.3%	19.0%
North Andover	34.7%	22.5%	27.1%	16.0%
Plaistow (NH)	25.4%	27.5%	30.6%	16.4%
Salem (NH)	27.0%	24.6%	30.2%	18.8%
Andover	33.9%	17.8%	29.0%	19.4%
Haverhill	31.7%	28.0%	27.5%	12.7%
Lawrence	37.9%	29.0%	22.7%	10.4%
Methuen	31.0%	24.9%	28.1%	15.9%
Massachusetts	30.2%	26.4%	27.3%	16.1%
US	32.0%	26.5%	25.9%	15.6%

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

Citizenship

Lawrence (40.6%) and Methuen (22.3%) had higher percentages of foreign-born populations than the state (16.8%) (Figure 2).

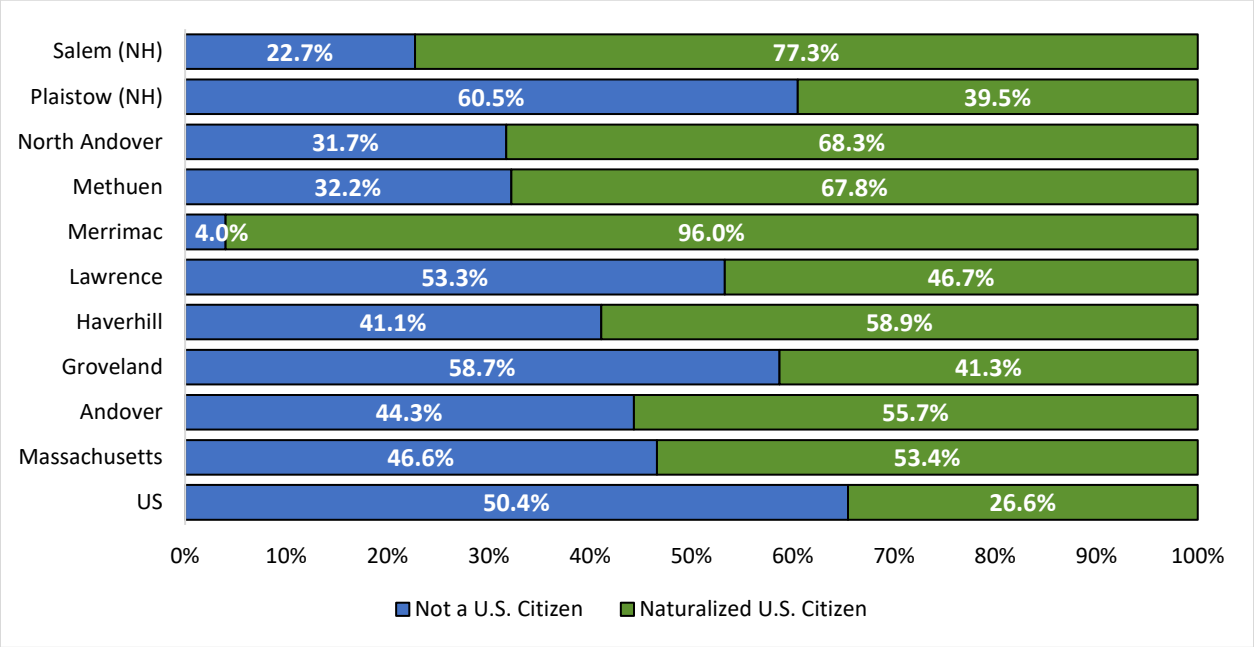
Figure 2: Foreign-Born Population by City/Town – 2019



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

The citizenship status of foreign-born residents varies (Figure 3). Plaistow (60.5%), Groveland (58.7%), and Lawrence (53.3%), have a higher percentage rate for 'Not a U.S. Citizen' the state (46.6%).

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



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

Lawrence (94.3%), Haverhill (67.7%), and Methuen (66.2%) all have higher percentages of foreign-born populations from Latin American than the state (37.0%) and national (50.6%) levels (Table 4). All cities/towns in the services area had higher percentages of European-born citizens than the state or national level, with the exception of Haverhill (14.1%), Methuen (6.4%), and Lawrence (1.1%).

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

	Latin America	Europe	Asia	Africa	Oceania	Canada
Groveland	19.2%	56.3%	24.6%	0.0%	0.0%	0.0%
Merrimac	26.7%	51.1%	17.3%	0.0%	0.0%	4.9%
North Andover	26.7%	22.1%	42.1%	4.4%	0.0%	4.6%
Plaistow (NH)	27.8%	42.7%	19.2%	0.0%	0.0%	10.3%
Salem (NH)	29.3%	21.1%	41.1%	2.2%	0.5%	5.8%
Andover	15.6%	30.0%	46.8%	3.5%	0.0%	4.0%
Haverhill	67.7%	14.1%	11.3%	4.1%	0.0%	2.8%
Lawrence	94.3%	1.1%	3.2%	1.1%	0.0%	0.3%
Methuen	66.2%	6.4%	21.1%	4.5%	0.1%	1.6%
Massachusetts	37.0%	20.4%	30.5%	9.1%	0.4%	2.6%
US	50.6%	10.8%	31.0%	5.1%	0.6%	1.9%

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

Language

In 2019, Lawrence had the highest percentage (78.2%) of residents who spoke a language other than English of all service area cities/towns (Table 5). This percentage was higher than the state (23.8%) or national (21.6%) levels. Methuen (36.1%) also had high proportions of residents who spoke a language other than English. Lawrence (38.4%) had the highest rate of residents who spoke English less than very well.

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

	Speaks Only English	Speaks Language Other than English	Speaks English "less than very well"
Groveland	96.7%	3.3%	0.8%
Merrimac	95.7%	4.3%	0.8%
North Andover	84.9%	15.1%	4.5%
Plaistow (NH)	96.1%	3.9%	1.1%
Salem (NH)	88.1%	11.9%	4.3%
Andover	83.5%	16.5%	4.5%
Haverhill	78.1%	21.9%	6.5%
Lawrence	21.8%	78.2%	38.4%
Methuen	63.9%	36.1%	12.2%
Massachusetts	76.2%	23.8%	9.2%
US	78.4%	21.6%	8.4%

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

Lawrence (74.5%), Methuen (27.0%), and Haverhill (17.2%) all have higher percentages of Spanish-speaking resident than the state (9.1%) and national (13.4%) level (Table 6).

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

	Spanish	Other Indo-European Languages	Asian Pacific Islander Languages	Other languages
Groveland	1.0%	2.0%	0.3%	0.0%
Merrimac	0.9%	2.9%	0.5%	0.0%
North Andover	4.2%	6.7%	3.1%	1.1%
Plaistow (NH)	0.9%	2.0%	1.0%	0.0%
Salem (NH)	5.3%	2.4%	2.6%	1.6%
Andover	2.5%	8.8%	4.9%	0.4%
Haverhill	17.2%	3.3%	0.9%	0.5%
Lawrence	74.5%	1.7%	1.4%	0.7%
Methuen	27.0%	3.7%	2.8%	2.4%
Massachusetts	9.1%	9.0%	4.3%	1.4%
US	13.4%	3.7%	3.5%	1.1%

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

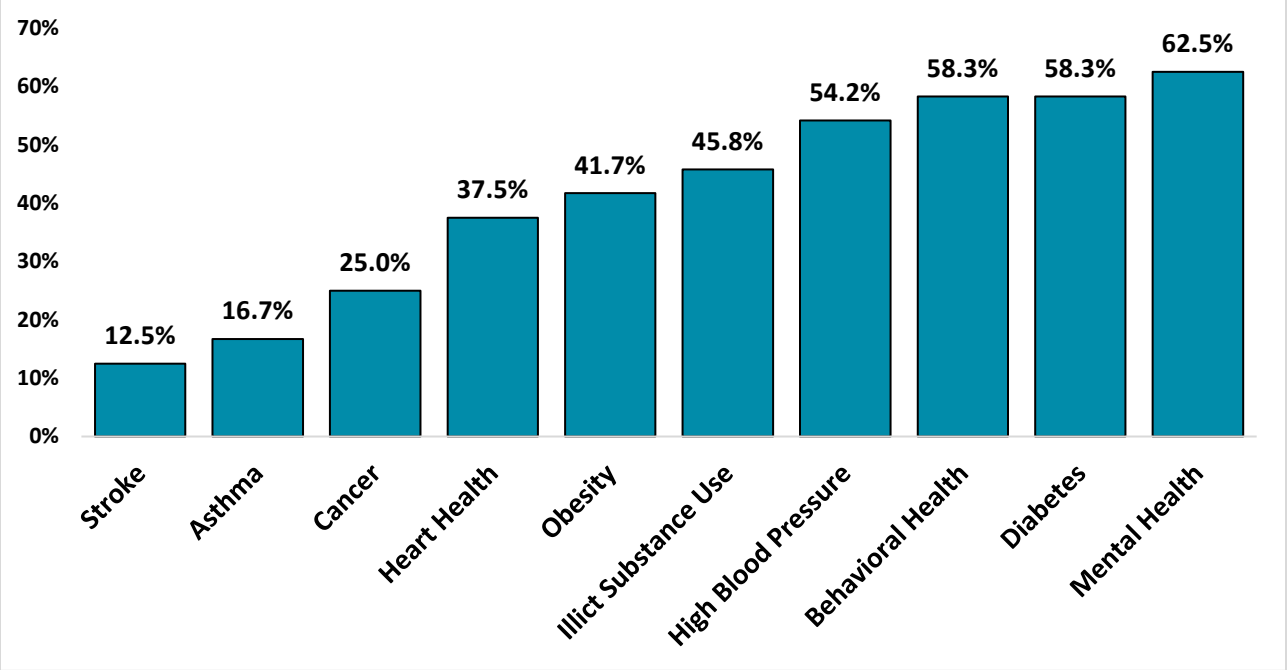
Prioritization of Community Health Needs

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

Health Professionals Survey

When asked what they perceived to be the greatest health issues impacting the community they serve, most health professionals selected issues pertaining to mental health (62.5%), diabetes (58.3%), and behavioral health (58.3%) (Figure 4). Issues related to high blood pressure (54.2%) and illicit substance use (45.8%) were also moderately endorsed, followed by chronic conditions related to obesity (41.7%) and heart health (37.5%).

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

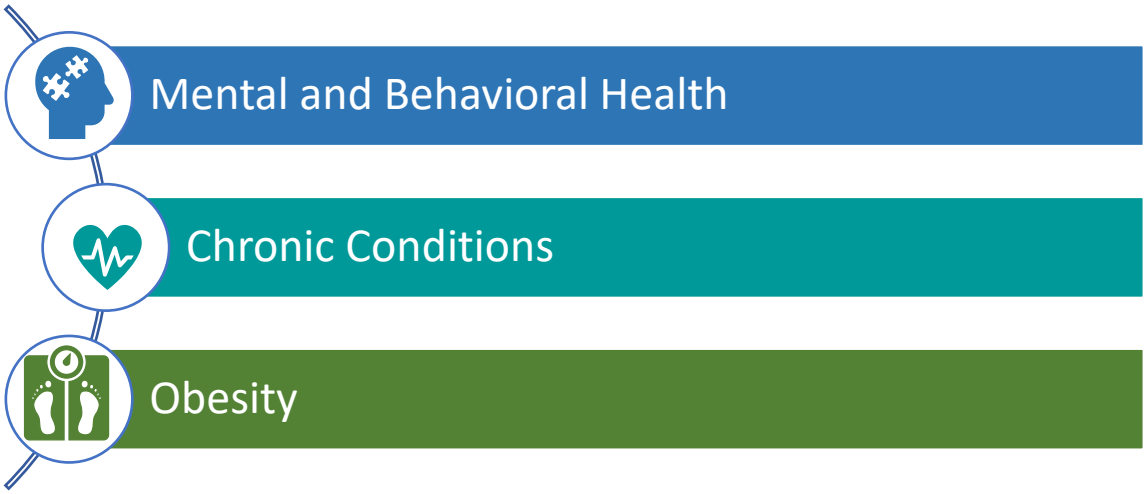


Interviews and Focus Groups

When asked to give the top three health and wellness issues within the community, the most common responses from key informants were diabetes, COVID safety, and mental health. Obesity, asthma, and substance use were also discussed as issues within the community. Focus group participants echoed these concerns, reporting diabetes, asthma, and substance use as relevant issues affecting the community.

Rankings

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



Profiles of Prioritized Community Health Needs

Mental Health

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

Health Professionals Survey

Among participants in the health professional survey, 62.5% listed mental health as a major area of concern, while 58.3% said the same for behavioral health. Health professionals also ranked lack of mental health support as among the largest obstacles to healthy living among their constituents.

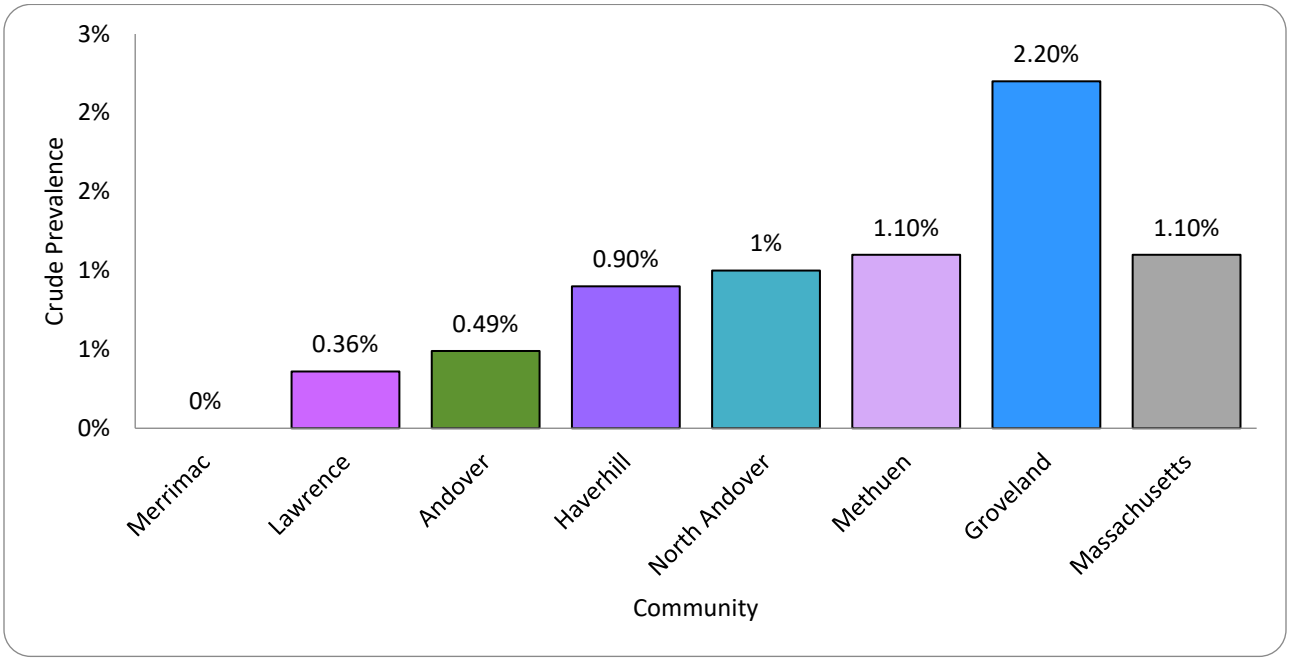
Interviews and Focus groups

Mental health is a major concern as it can lead to isolation, fear, and anxiety, especially among the youth and the elderly. Key informants mentioned that poor mental health is a significant problem facing the community. One key informant explained that anxiety and depression are very common and there is a stigma of mental health in the community. Informants discussed the need for more outpatient mental health services and a stronger referral process. Focus group members echoed similar themes, noting that there are not enough beds available for those in need of mental health care. Focus group members also discussed the need for a broader spectrum of mental health care, to include services ranging from everyday maintenance to extremely severe scenarios.

Prevalence

While not an expansive measure of mental health, suicide rates can be an indication of poor mental health (Figure 5). Rates of suicidality are highest in Groveland (2.20%), at double the state level (1.1%).

Figure 5: Suicide Mortality 2019



Source: Massachusetts Deaths 2019, Massachusetts Department of Public Health

Chronic Conditions

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

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

Health Professionals Survey

Chronic diseases represent a great area of concern among Holy Family's health professionals. When asked what they perceive as major health concerns among their constituents (other than

COVID-19), diabetes (58.3%), high blood pressure (54.2%), heart health (37.5%), asthma (16.7%), cancer (25.0%), and stroke (12.5%) emerged as major areas of concern.

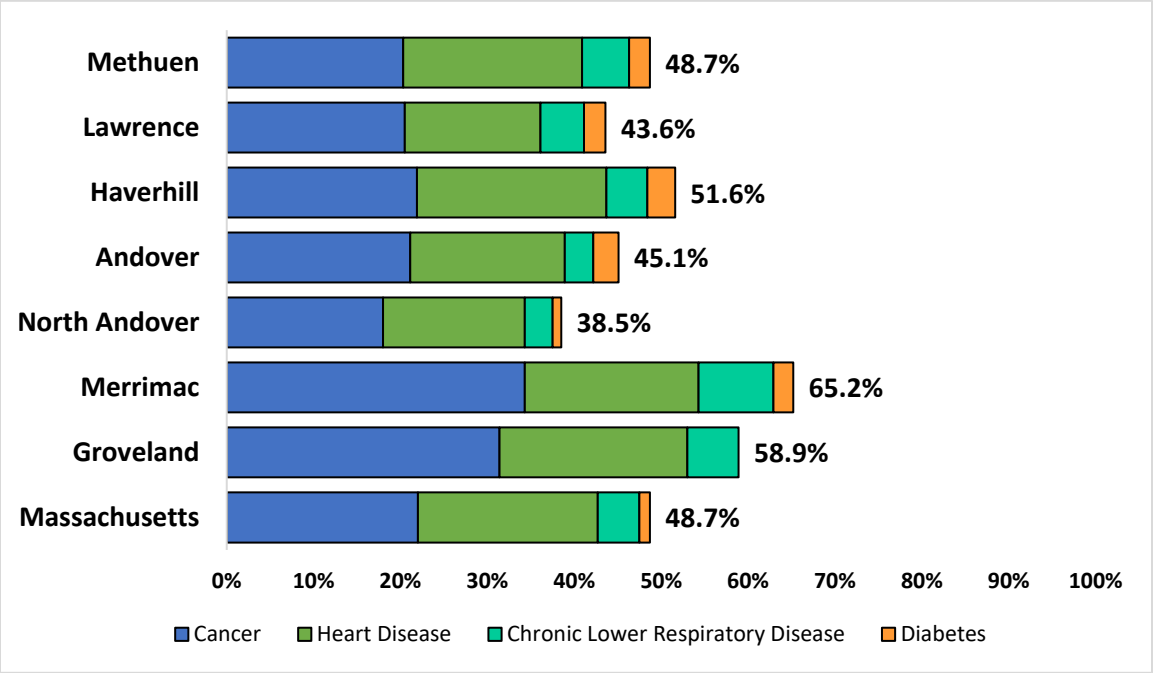
Interviews and Focus Groups

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

Prevalence

In 2017, approximately 50.0% of mortality in Massachusetts was due to cancer, heart disease, lower respiratory disease, and diabetes (Figure 6). While North Andover (38.2%), Andover (44.6%), Lawrence (43.6%), and Methuen (47.1%) had lower mortality rates due to these chronic conditions than the state of Massachusetts, Merrimac (65.2%), and Groveland (58.9%), Haverhill (51.6%) showed higher rates.

Figure 6: Chronic Disease Mortality 2017 (percentage of all causes)



Source: Massachusetts Deaths 2017, Massachusetts Department of Public Health

Cancer

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

In Essex County the rate of new cancer diagnoses in 2017 was 449.3 per 100,000. Trends in data indicate that the cases in Essex County have been stable. Rockingham County has seen 477.6 per 100,000 of new cancer incidence rates and data trends suggest that cases have been stable (National Cancer Institute, 2017). In order to equip Massachusetts in combating incidence and mortality rates, it is vital that health officials recognize which cancers may be on the rise. Obtaining this vital information can help the research community prioritize efforts and mobilize outreach to the vulnerable populations at hand.

Health Professionals Survey

25.0% of respondents identified cancer as a pressing health concern within the community.

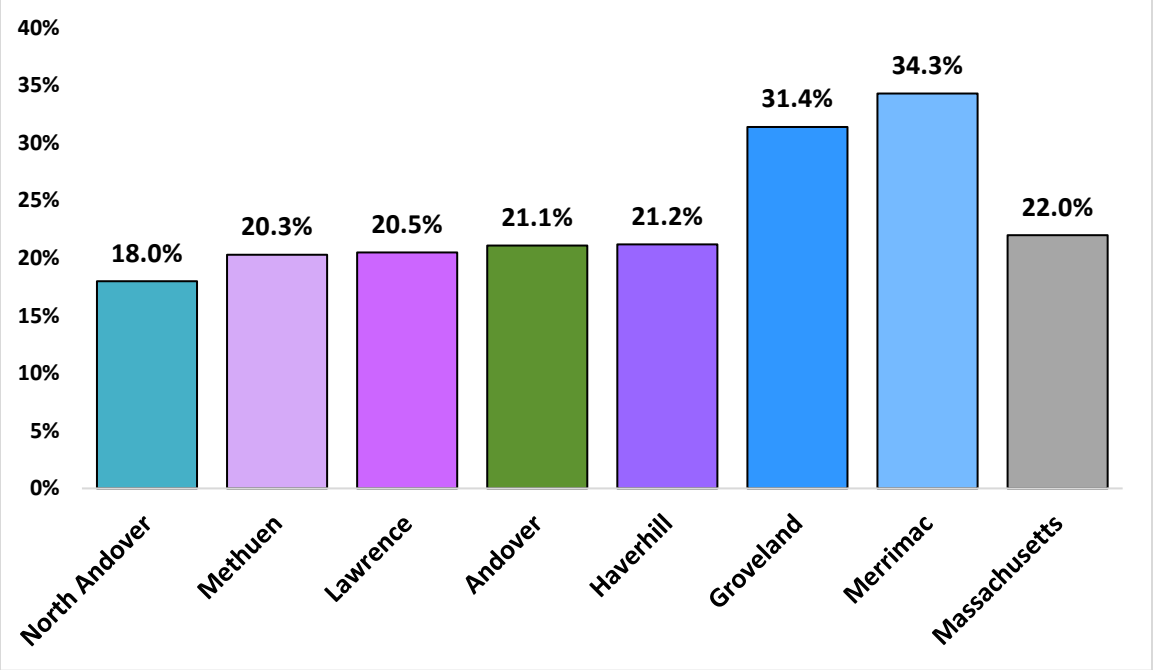
Interviews and Focus Groups

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

Prevalence

In 2017, Groveland (31.4%) and Merrimac (34.3%) had higher rates of cancer mortality than the state (22.0%) (Figure 7). All other cities/towns in the service area reported lower rates of cancer mortality, with Andover (18.0%) reporting the lowest percentage of cancer-related deaths.

Figure 7: Total Cancer Mortality (percentage of all mortality causes) -- 2017



Source: Massachusetts Deaths 2017, Massachusetts Department of Public Health

Of the reported deaths due to certain types of cancer, lung cancer appeared to have the highest level of mortalities in every town/service area, followed by colorectal (Table 7).

Table 7: Total Cancer deaths by Diagnosis (observed and expected case counts)

	Breast	Lung	Cervix	Colorectal	Melanoma	Oral
Groveland	0	5	0	0	2	0
Merrimac	0	5	0	0	0	0
North Andover	5	13	0	1	0	0
Andover	2	5	0	2	1	0
Haverhill	5	26	2	5	0	1
Lawrence	4	15	0	4	1	0
Methuen	5	24	0	5	0	2

Source: MDPH

Cardiovascular disease

Cardiovascular disease is a broad term used to refer to congestive heart failure, myocardial infarction, and stroke. After cancer, heart disease is the leading cause of death in Massachusetts. Cardiovascular diseases are the most common causes of death in men, women, and most racial and ethnic groups in the United States. It's estimated that 655,000 Americans die annually from cardiovascular disease, approximately one in every four deaths (CDC, 2021). Research also suggests that heart disease will become an even more pressing concern in the coming years because of COVID-19. This is due to the impact that the virus has on the cardiovascular system and lifestyle behaviors during and following the pandemic (AHA, 2021). In Massachusetts, mortality rates from cardiovascular disease are low compared to other states. Massachusetts had the third-lowest rate of death from cardiovascular disease at just 127.2 deaths per 100,000 residents (CDC Wonder, 2021). The national trend of higher rates of cardiovascular disease among Black (Non-Hispanic) individuals compared to White (Non-Hispanic) individuals was also observed in Massachusetts. However, the difference in mortality rate between these two races in Massachusetts is not significant.

Health Professionals Survey

37.5% of health professionals cited heart health, and another 54.2% cited high blood pressure as major health concerns within their communities.

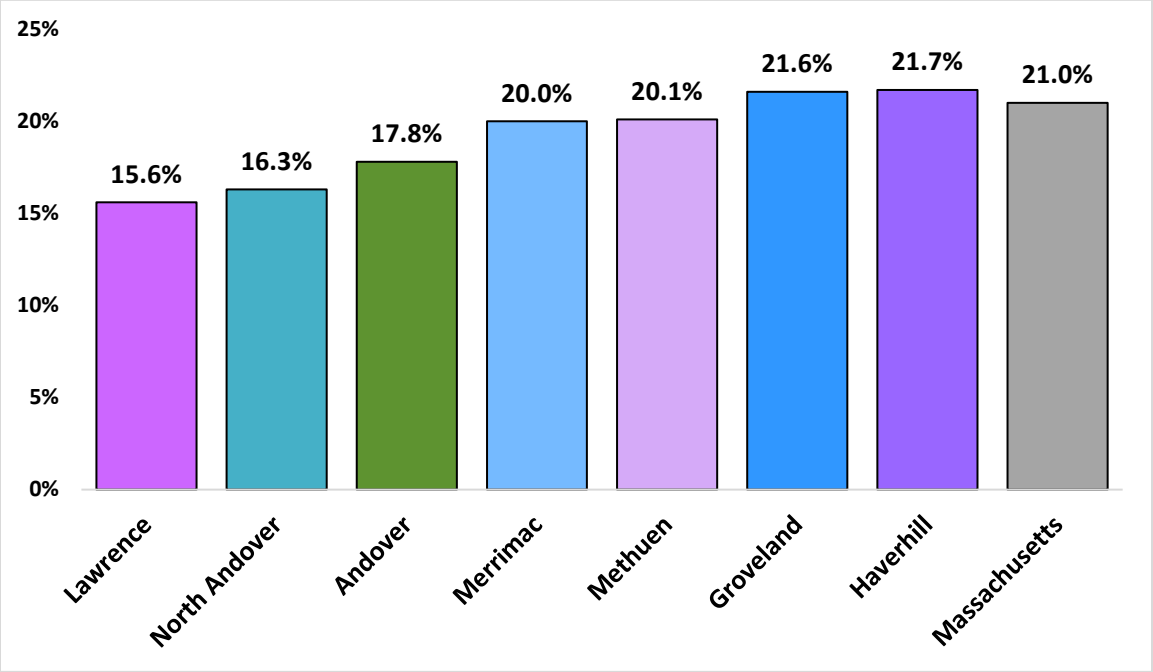
Interviews and Focus Groups

While heart and cardiovascular health was not a prominent topic of discussion, focus group and key informants did discuss the need for improved public spaces for exercise and fitness in the community.

Prevalence

Methuen (20.1%), Groveland (21.6%), and Haverhill (21.7%) all reported higher proportions of heart disease-related deaths when compared to the state (21.0%) (Figure 8).

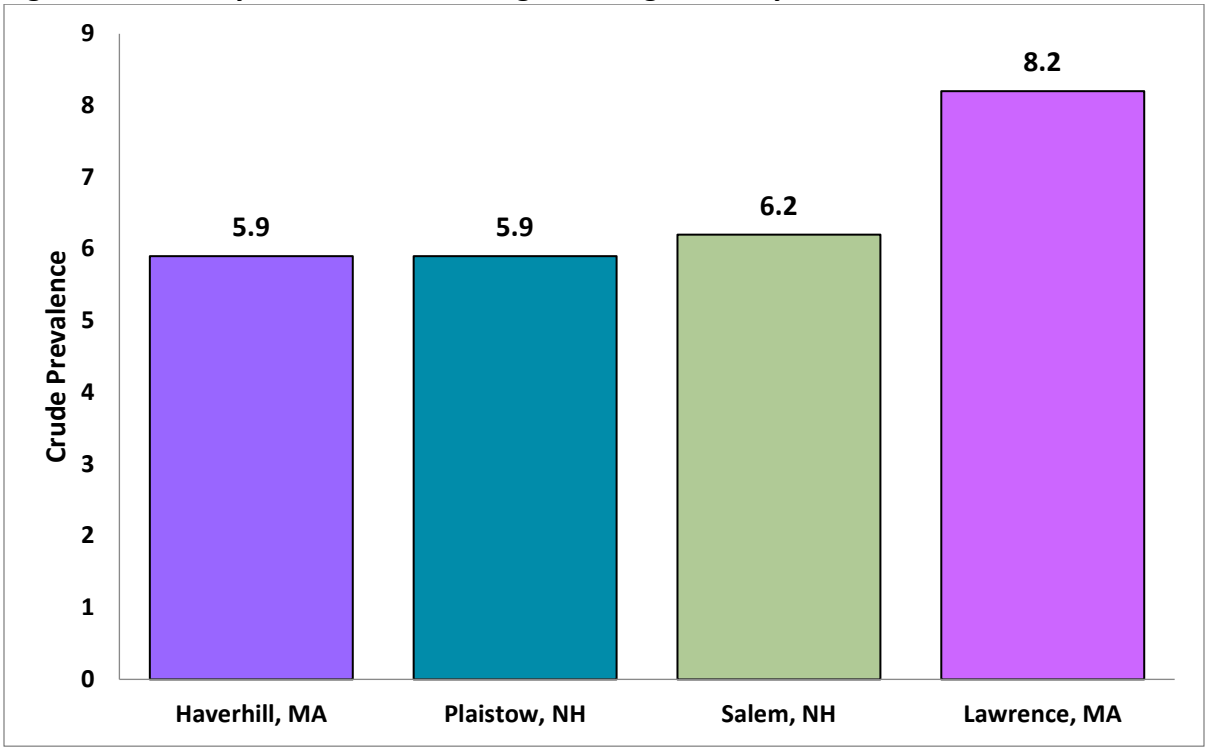
Figure 8: Proportions of Heart Disease Related Mortality to All Causes



Source: MDPH

Lawrence (8.2) reported the highest prevalence of coronary heart disease among cities/towns in the service area with available data (Figure 9).

Figure 9: Coronary heart disease among adults aged >=18 years



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

Respiratory Disease

Chronic lower respiratory diseases are diseases of the airways and other structures of the lung and include asthma, chronic obstructive pulmonary disease (COPD), emphysema, and bronchitis. Risk factors for such diseases can include environmental exposures such as tobacco smoke, air pollution, dust, fumes, and mold (MDPH, 2017). Because of this, those in less healthy environments are at a greater risk for prevalence and severity of asthma symptoms. Looking at asthma-related Emergency Department (ED) visits, Lawrence had a high rate of asthma-related ED visits, 149.8 visits per 10,000 people, followed by Haverhill (73.9 visits per 10,000) – both of which were above the statewide rate (66.5 visits per 10,000). Lawrence and Haverhill had the highest percent of students with asthma, 16.6% and 15.5% respectively (Lawrence General Hospital, 2019).

Health Professionals Survey

16.7% of health care professionals cited asthma as a major health concern of their community.

Interviews and Focus Groups

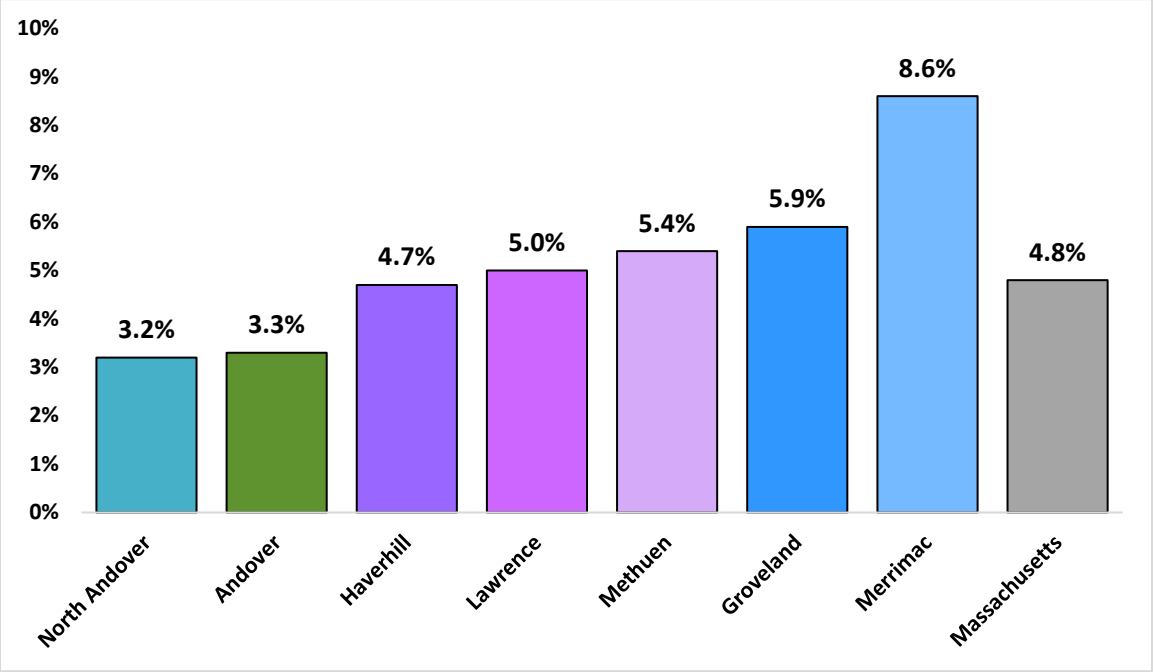
Key informants and focus group members discussed asthma as a prevalent issue within the service area. Focus group members suggested that the amount of autobody shops in the area

contribute to poor air quality. One key informant suggested asthma was particularly prevalent among lower income populations, but rates have lowered. Another key informant discussed the poor environmental factors, especially mold in homes, that exacerbate asthma.

Prevalence

All cities/towns in the service area of Holy Family Hospital aside from North Andover (3.2%) and Andover (3.3%) have higher mortality rates due to lower respiratory infection than the state level (4.8%) (Figure 10). This is especially high among Merrimac (8.6%).

Figure 10: Total chronic lower respiratory mortality (percentage of all mortality causes)-2017



Source: Massachusetts Deaths 2017, Massachusetts Department of Public Health

Diabetes

Diabetes is growing at an epidemic rate in the United States. It is estimated that 10.5% of the US population has diabetes, and 13.0% of all US adults (CDC, 2020). According to recent data from the CDC, around 8.4% of Massachusetts residents had diabetes in 2019, 2.4% less than the national rate (UHF, 2019). In Massachusetts, Black non-Hispanics (13.1%) and Hispanics (10.6%) had higher rates of diabetes compared to White non-Hispanics (7.8%), and similar trends were seen at the national level. Studies show that the onset of type 2 diabetes can be largely prevented through weight loss as well as increasing physical activity and improving dietary choices. Socioeconomic disparities exist in diabetes prevalence. In Massachusetts, adults with an annual household income of less than $25,000 (16.2%) have more than two times the prevalence of diabetes as compared to those with an annual household income of more than $75,000 (5.8%) (UHF, 2019). The prevalence of diabetes also decreases as educational attainment increases. A total of 17.9% of adults without a high school degree were diagnosed

with diabetes compared to 5.6% of adults with four or more years of post-high school education.

Health Professionals Survey

58.3% of participants in the health professional survey listed diabetes as a major area of concern.

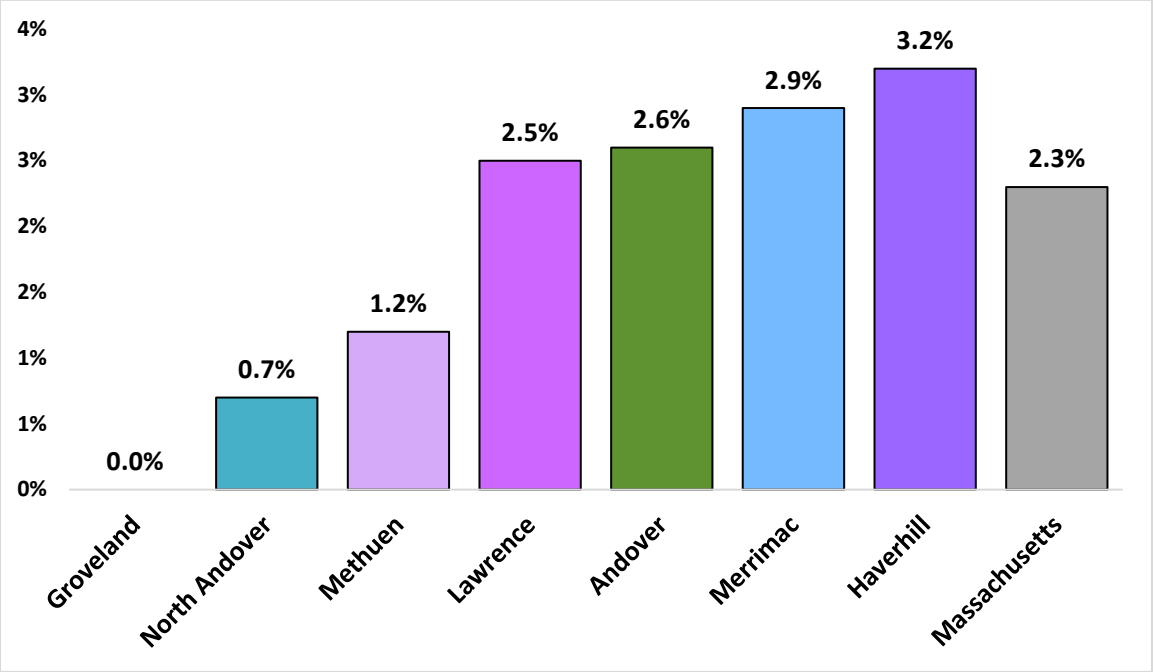
Interviews and Focus Groups

Diabetes was discussed as a significant health concern within the services area. Lack of community education and limited access to healthy and nutritious food were listed as potential factors that exacerbate this issue.

Prevalence

All cities/towns in the service area of Holy Family Hospital aside from Groveland (0.0%), North Andover (0.7%), and Methuen (1.2%) have mortality rates due to diabetes above the level for the State of Massachusetts (2.3%) (Figure 11).

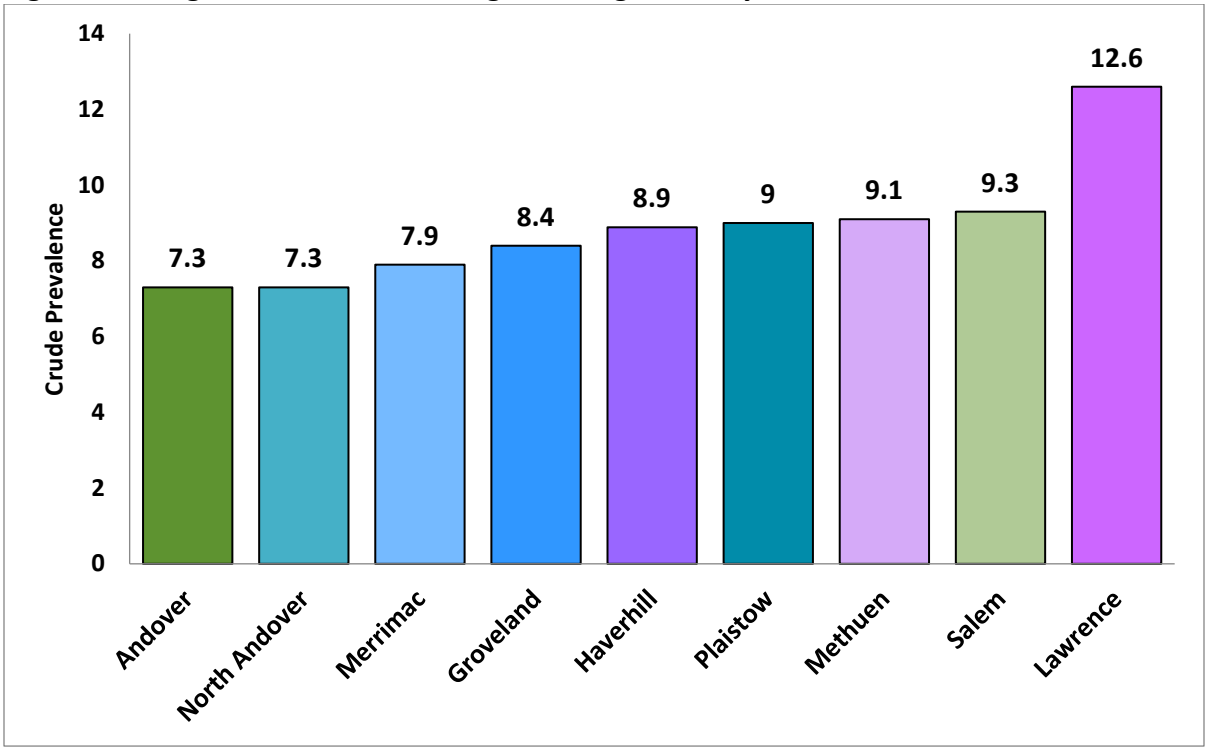
Figure 11: Total diabetes mortality (percentage of all mortality causes)-2017



Source: Massachusetts Deaths 2017, Massachusetts Department of Public Health

Lawrence (12.6) reported the highest crude prevalence of diabetes diagnoses among adults. Andover (7.3) and North Andover (7.3) reported the lowest prevalence of diabetes diagnosed adults in the service area (Figure 12).

Figure 12: Diagnosed diabetes among adults aged >=18 years



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

Obesity

Obesity is considered a key risk factor for many other chronic illnesses, including cardiovascular disease, diabetes mellitus, and certain cancers. Rates of obesity are rising faster than rates seen for any other chronic illness. In 2019, the Massachusetts rate for adults with obesity was 25%, nearly 7% less than the rate seen nationally (UHF, 2019). Independent of all other demographic factors, lower socio-economic status is strongly correlated with higher rates of obesity. In Essex County, the obesity rate was 25% in 2020. And, while 21% of all adults in Essex County were predicted to be physically inactive, access to exercise opportunities were reported to be 96% as of 2020. In 2019, Rockingham County had an obesity rate of 27%, with physical inactivity estimated to be 19% and opportunities to exercise at 88% (County Health Rankins, 2020). In relation to other counties in Massachusetts, Essex placed 8th in having the highest obesity rate, while Rockingham placed 9th out of New Hampshire's 10 counties (Lawrence General Hospital, 2019).

Health Professionals Survey

Among participants in the health professional survey, 41.7% listed obesity as a major area of concern.

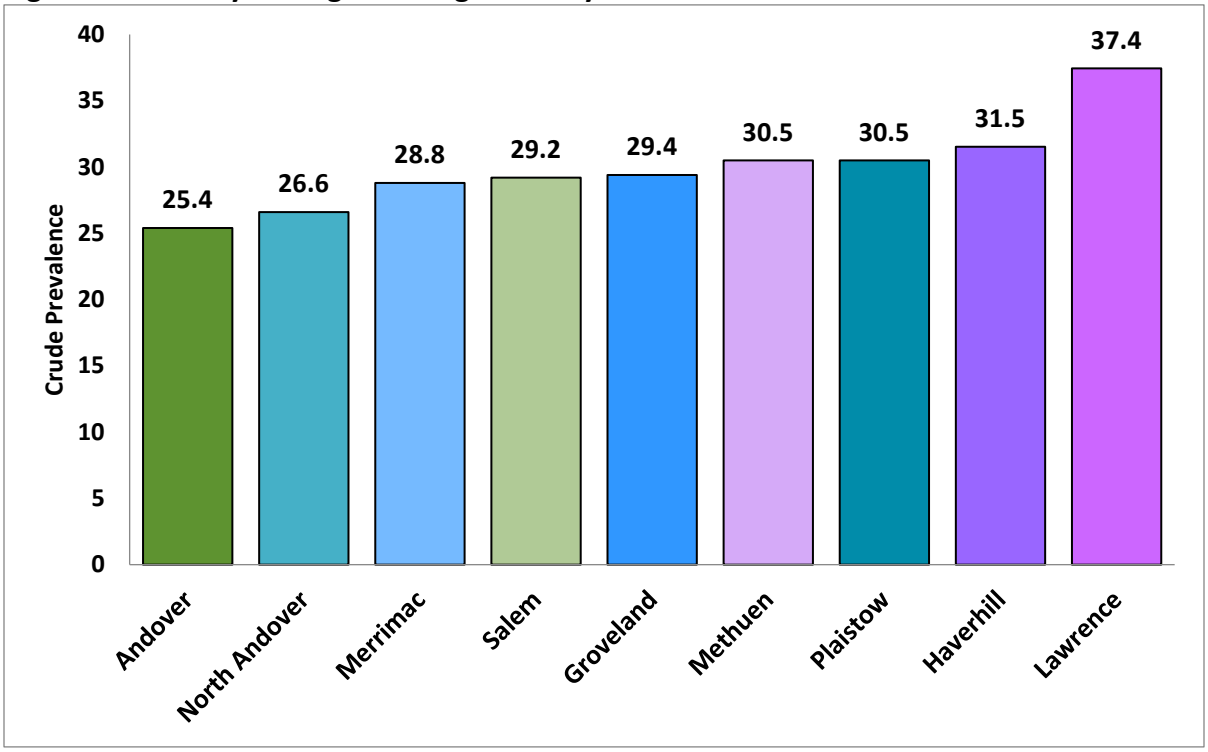
Interviews and Focus groups

Focus group and key informants discussed obesity as a top health concern within the community. Members identified social and environmental challenges that may exacerbate the rate of obesity within the service area, including the lack of access to nutritional food, difficulty engaging older residents in fitness and wellness activities, and social isolation.

Prevalence

Lawrence (37.4) had the highest prevalence of obesity among adults in the service area. Andover (25.4) and North Andover (26.6) reported the lowest prevalence of obesity (Figure 13).

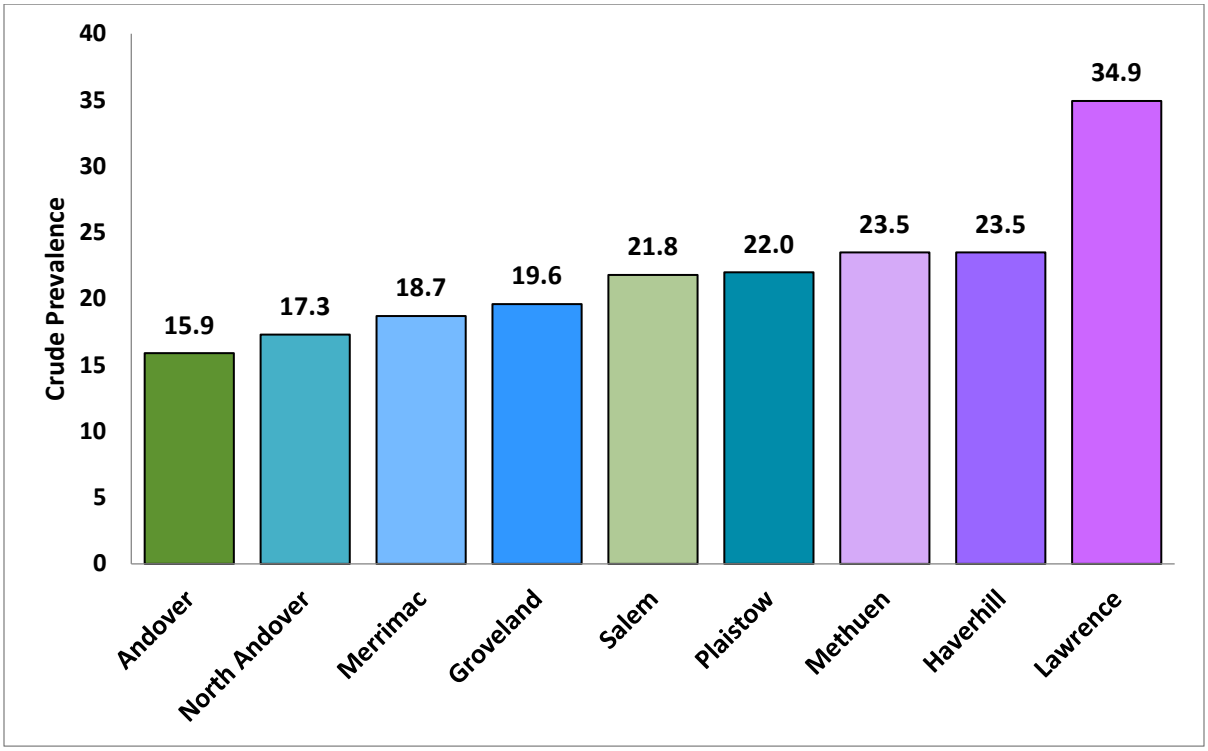
Figure 13: Obesity among adults aged >=18 years



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

Among the towns/cities in the services area, Lawrence reports the highest rate of no leisure-time physical activity (34.9). Andover (15.9) and North Andover (17.4) report the lowest prevalence of no leisure-time physical activity (Figure 14).

Figure 14: No leisure-time physical activity among adults aged >=18 years (2018) Crude Prevalence



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

Profiles of Additional Community Health Needs

Substance Use Disorder

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

Health Professionals Survey

Among participants in the health professional survey, 45.8% listed illicit substance use as a major area of concern.

Interviews and Focus groups

Key informants and focus group participants, alike, mentioned substance use as one of the major health and wellness issues within their community. Of particular emphasis was the concern of substance use among homeless individuals, who may have more difficulty accessing resources and housing. One focus group member discussed the interconnection between substance use disorder and the criminal justice system, noting individuals struggling with substance use disorder may be "cycling" through only short-term solutions.

Alcohol

The most widely misused substance in the United States is alcohol. Alcohol is considered to be the third leading cause of preventable death nationally (United Health Foundation, 2019). Each year in the US, 95,000 deaths are attributed to alcohol-related causes. In 2019, the percentage of Massachusetts adults that reported binge drinking in the last 30 days was 21.3%, slightly higher than the national percentage of 18.6%. Alcohol misuse is most prevalent in younger age groups both nationally and at the state level. The most recent national data shows that about 5% of adolescents age 12 and over and 10% of adults age 18-25 have misused alcohol in the past year (SAMHSA, 2019). According to the Massachusetts Youth Health Survey, in 2017 56.2% of high school students reported ever using alcohol, while 31.4% reported using alcohol in the past 30 days (MDPH, 2018). These values represent a 5% and 3% decrease from 2015, respectively. However, the number of BSAS clients who identified as veterans increased 12.1% from Fiscal Year 2011 (5,095 clients) to Fiscal Year 2016 (5,713 clients). In Fiscal Year 2016, 4% of the BSAS treatment population identified as veterans, and alcohol was the primary drug reported by the BSAS veteran population (48%) (MDPH, 2017). Historically, rates in Massachusetts have been higher than those seen at the national level, although 2018 data is not yet available for the state. It is important to note the rates have been declining for all age groups since 2002 (SAMHSA, 2019).

Health Professionals Survey

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

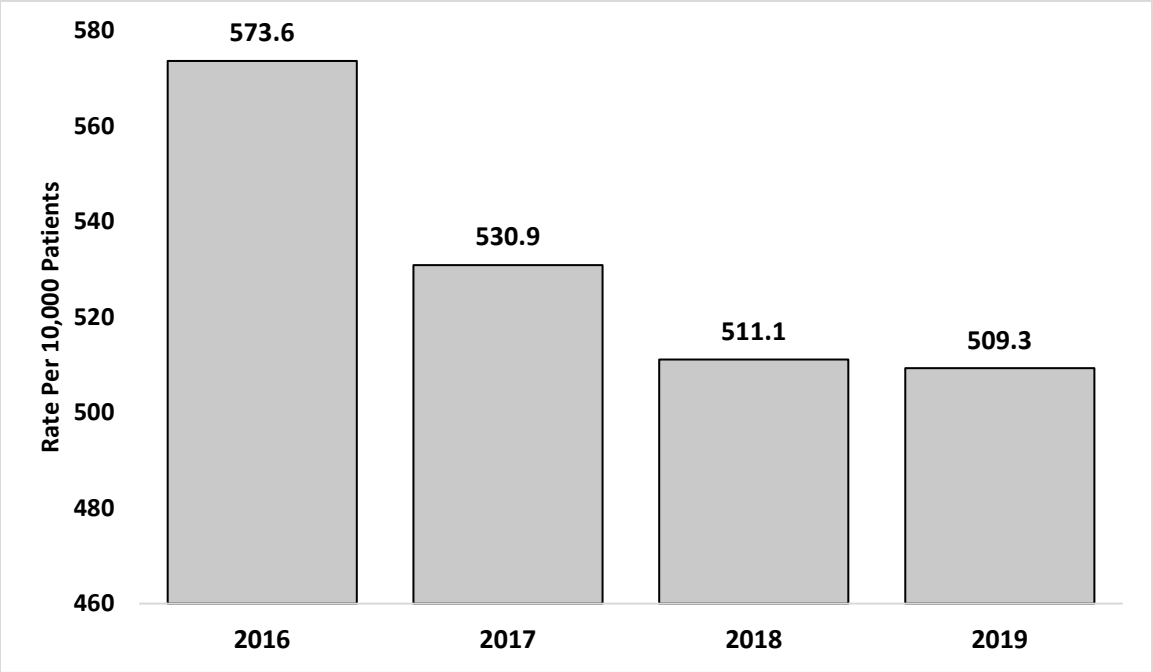
Interviews and Focus groups

Key informants and focus group participants did not note alcohol as a pressing concern within the community.

Prevalence

Hospitalization rates for alcohol-related disorders, while remaining relatively stable, have decreased since 2016 (Figure 15).

Figure 15: Alcohol-Related Disorders: Hospitalization



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

Opioids

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

The rate of opioid-related deaths per 100,000 population for residents of the service area ranged from a low of 5.7 opioid-related deaths per 100,000 population in Andover to a high of

46.5 opioid-related deaths per 100,000 population in Lawrence. This range covers the statewide rate of 28.6 opioid-related deaths per 100,000 population with three of the communities falling below that rate and the other five exceeding the rate of the state. Lawrence saw an increase of the number of opioid-related deaths from 2017 to 2018 and Haverhill saw a lower number of opioid-related deaths from 2017 to 2018 (Lawrence General Hospital).

Health Professionals Survey

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

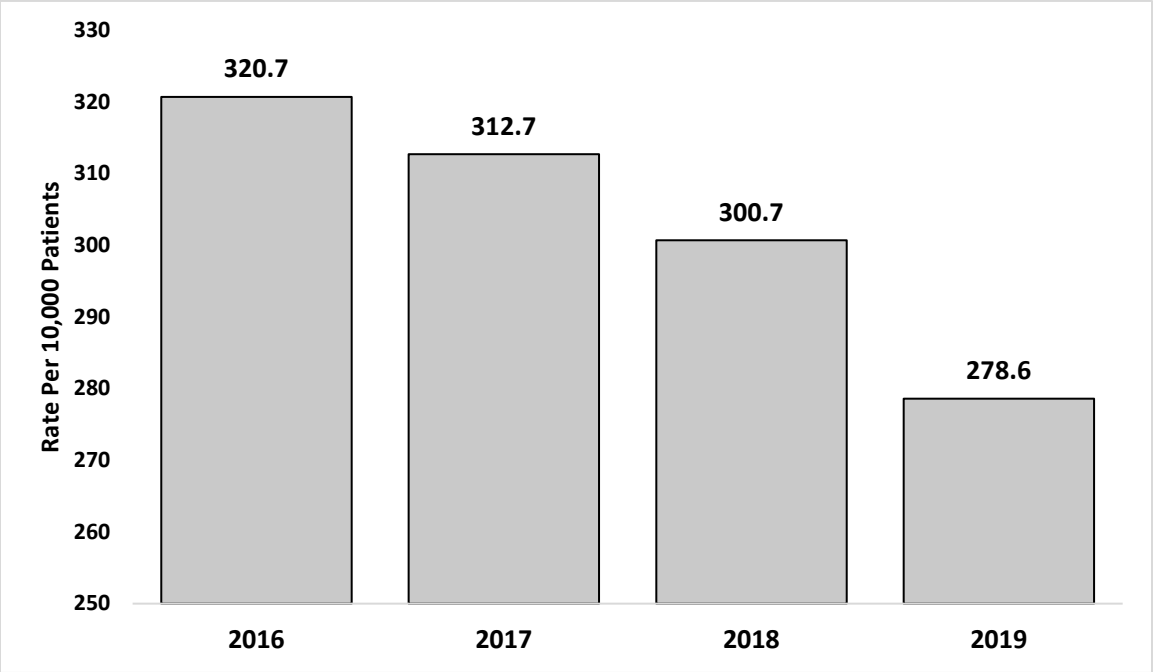
Interviews and Focus groups

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

Prevalence

Since 2016, rates of opioid-related poisonings have steadily decreased in Massachusetts (Figure 16).

Figure 16: Opioid-Related Poisonings in Massachusetts



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

Haverhill, Lawrence, and Methuen have seen much higher rates of opioid-related deaths when compared to the other towns/cities in the service area (Table 10).

Table 10: Opioid-Related deaths (of all mortality causes) – Crude Prevalence

	2017	2018	2019
Groveland	1	0	2
Merrimac	1	1	2
North Andover	4	1	5
Andover	2	2	0
Haverhill	28	25	22
Lawrence	40	50	54
Methuen	20	18	15
Massachusetts	2,051	2,033	2,020

Source: Massachusetts Deaths 2017, Massachusetts Department of Public Health

Smoking

Smoking, like other risky behaviors, is strongly influenced by one's social environment (MDPH, 2017). However, smoking is one of the leading preventable causes of a host of chronic illnesses (C.NCCDPHP, 2021).

Health Professionals Survey

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

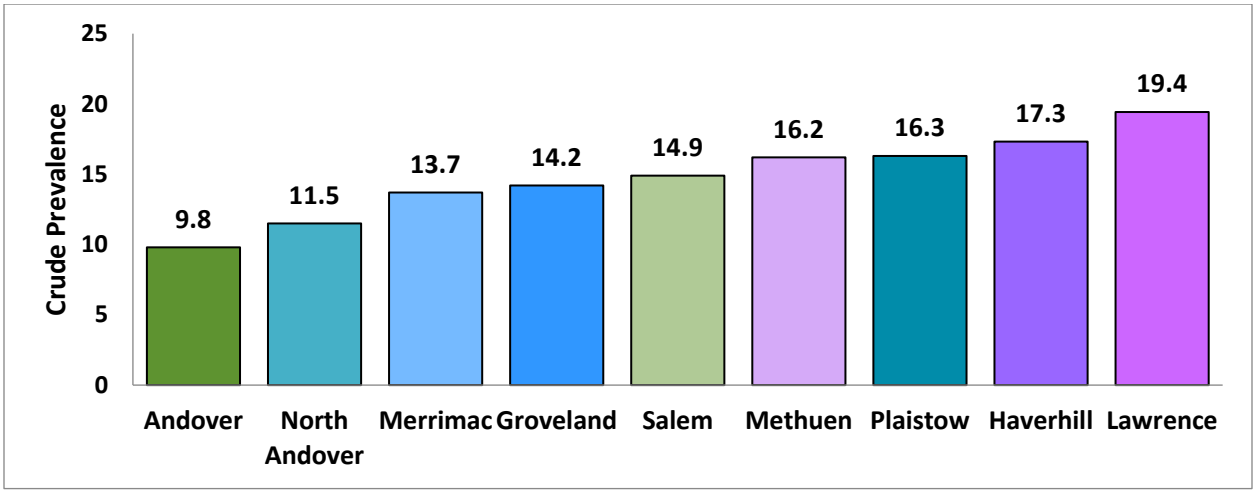
Interviews and Focus groups

Smoking was not a topic of discussion among key informants or focus group members.

Prevalence

Andover (9.8) had the lowest reported prevalence of smoking among adults (Figure 17). Lawrence (19.4) reported the highest prevalence of smoking.

Figure 17: Current smoking among adults aged >=18 years



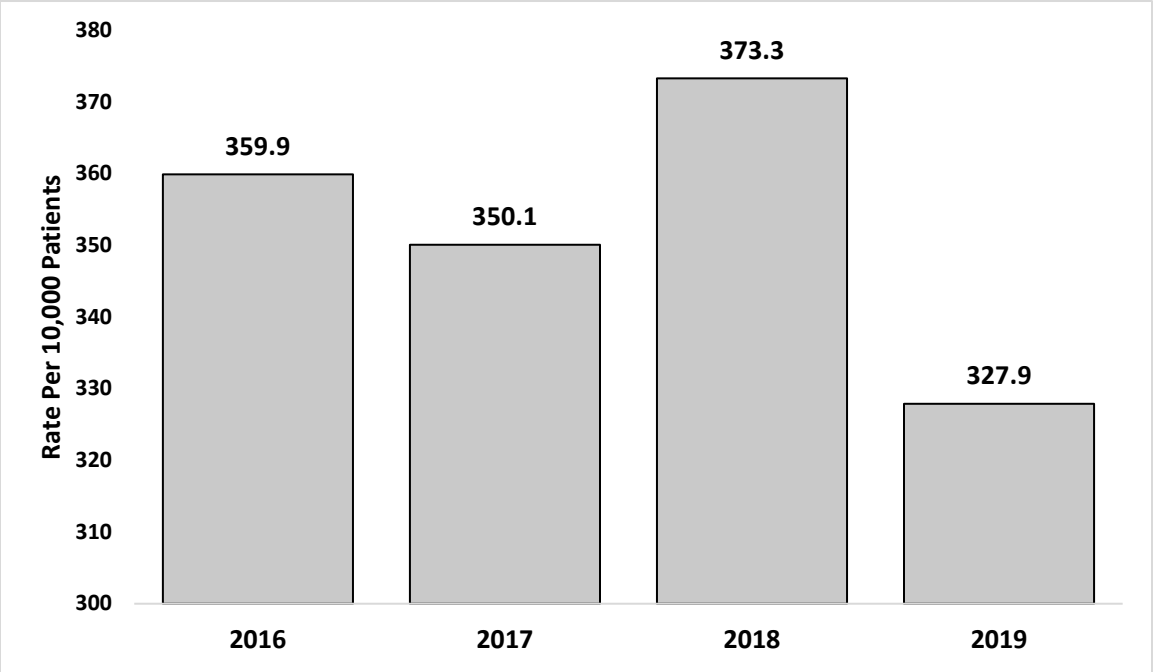
Source: Behavioral Risk Factor Surveillance System (BRFSS) - (2018)

Other Drug-related Poisonings

Prevalence

Other drug-related poisonings have fluctuated since 2016, peaking in 2018 at a rate of 373.3 per 10,000 patients (Figure 18).

Figure 18: Other Drug-related Poisonings: Hospitalizations



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

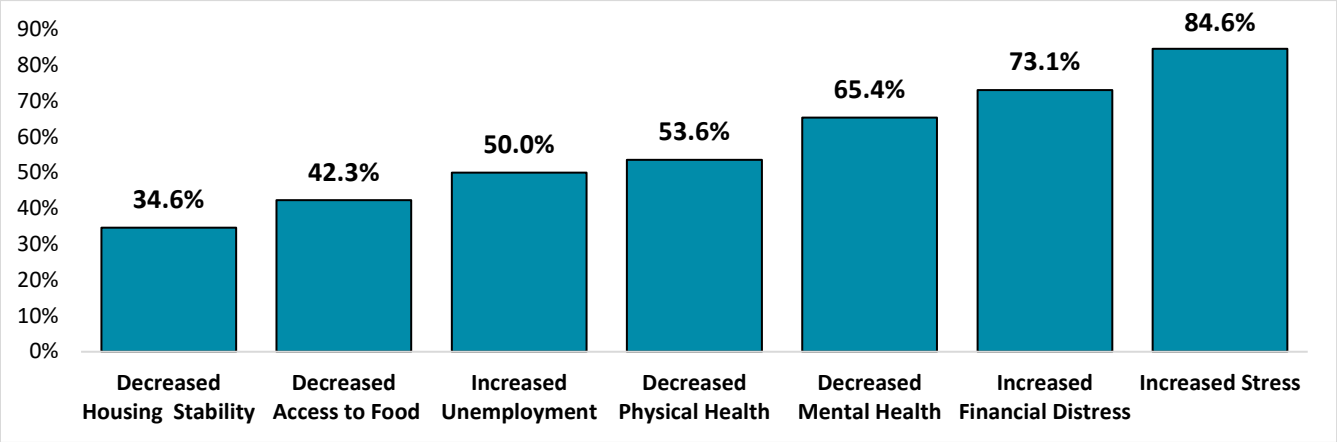
COVID-19

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

Health Professionals Survey

When asked what impact the COVID-19 pandemic had on their consumers, most health professionals within Holy Family Hospital's service area noted the stress brought on by the pandemic with increased stress (84.6%), increased financial stress (74.1%), decreased mental health (65.4%), decreased physical health (53.9%), and increased unemployment (50.0%). Health professionals also mentioned the lack of childcare, social isolation, and misinformation as other COVID-related impacts (Figure 19).

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



Interviews and Focus groups

The major impact of COVID-19 discussed by key informants and focus group members related to vaccine hesitancy, health safety, and social isolation. The elderly were seen as particularly vulnerable to COVID-19, and one key informant emphasized the importance of ensuring their safety by providing them access to healthcare. Others noted that families are struggling more since COVID-19 because of job loss or other economic impacts. One key informant discussed the difficulty in accessing the COVID-19 vaccine, but also recognized that there were many people in the community who did not want to get vaccinated. In focus groups, members discussed the loss of community after COVID, and the need to rebuild and bring people together. The impact on mental health was also a major concern, especially for younger adults who may experience feelings of isolation and loneliness. Overall, key informants and focus group members praised the resources made available through COVID.

Social Determinants of Health

Education

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

In Essex County 10.7% of adults over the age of 25 do not have a high school diploma, and 5.2% of adults in Rockingham County do not have a high school diploma. In relation to the other counties in Massachusetts, Essex placed 4th in terms of having the percentage of individuals age 25+ without a high school diploma while Rockingham placed last amongst the 10th counties in New Hampshire (CDC).

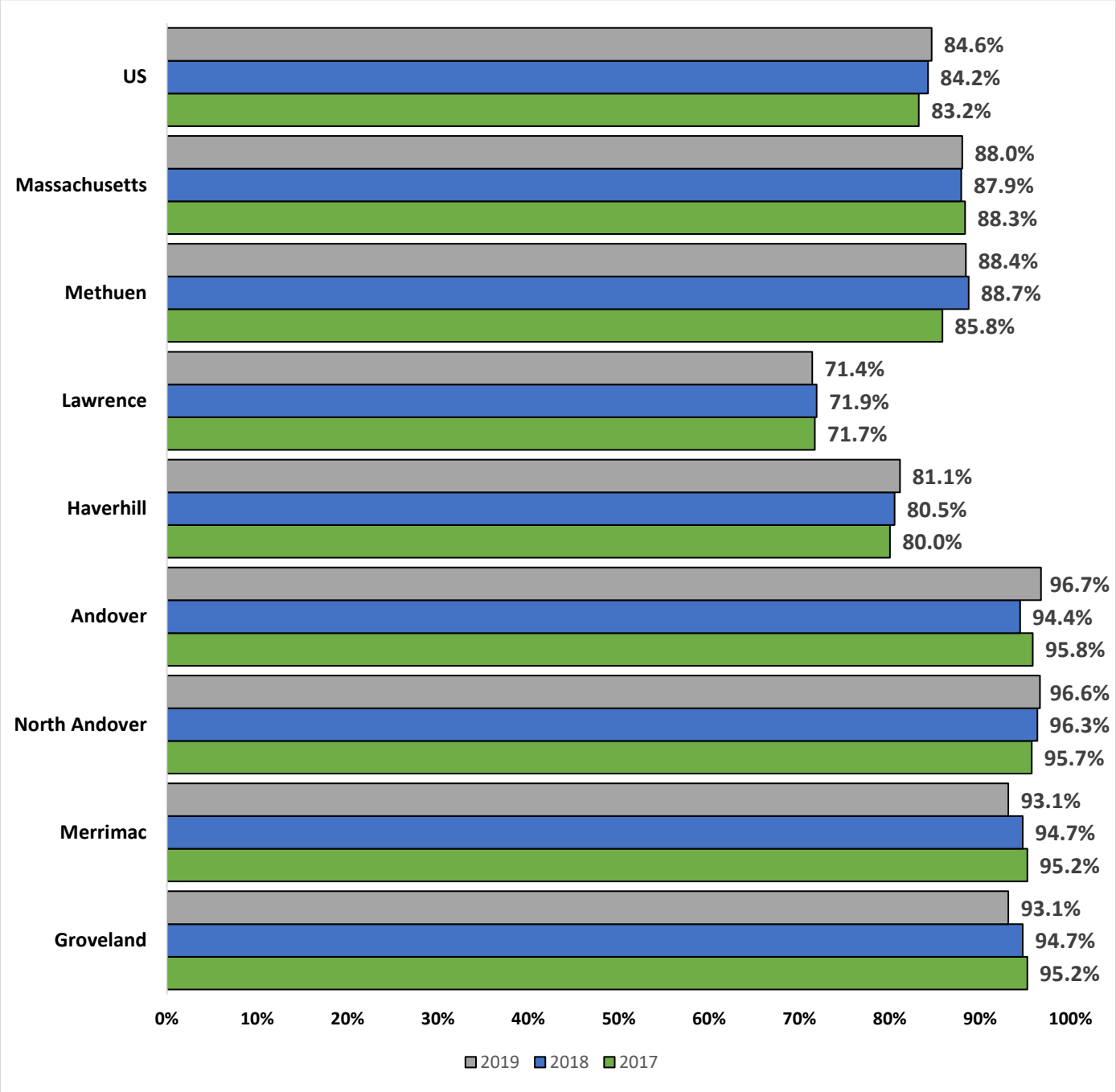
Interviews and Focus groups

In focus groups, Lawrence schools were perceived to be of lower quality although participants mentioned that resources to the high school have increased, and a new superintendent is in place. The challenge for Lawrence parents, according to participants, is knowing how to advocate for themselves and their children. In contrast, parents in Andover were described as over-engaged, "helicopter" parents, behavior that one focus group participant stated, "hinders their youths' development of skills in the face of adversity." Students in the Andover school district were described as highly achieving but also highly stressed. Focus group participants noted that teenagers needed a stronger sense of connection and involvement, especially in the aftermath of the pandemic.

Prevalence

High school graduation rates have improved or remained fairly constant in all service areas over time (Figure 20). However, high school graduation rates have exceeded the state and national averages in Groveland, Merrimac, North Andover, and Andover. In Lawrence, high school graduation rates fell below state and national averages.

Figure 20: High School Graduation Rates 2017 to 2019 by City/Town



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

In 2019, the proportion of those with high school education or less in Lawrence (64.5%) and Methuen (41.9%), was larger than both the state (33.3%) and national (39.0%) levels (Table 11). North Andover (25.2%) and Andover (27.1%) reported higher proportions of residents with

graduate or professional degrees when compared to the state (19.6%) and national (12.4%) levels.

Table 11: Highest Educational Attainment (age 25 years and over) by City/Town

	Less than 9th Grade	9th to 12th Grade, No Diploma	High School Graduation or Equivalency	Some College, No Degree	Associate's Degree	Bachelor's Degree	Graduate/ Professional Degree
Groveland	0.6%	2.7%	20.9%	18.7%	8.3%	30.1%	18.7%
Merrimac	1.5%	4.2%	23.2%	19.4%	7.9%	28.9%	14.8%
North Andover	1.7%	2.4%	15.5%	12.1%	8.6%	24.5%	25.2%
Plaistow (NH)	0.4%	2.3%	37.5%	20.7%	14.2%	17.0%	7.9%
Salem (NH)	2.6%	4.4%	30.0%	17.9%	8.9%	22.3%	13.9%
Andover	1.0%	2.4%	10.2%	9.2%	7.2%	32.9%	37.1%
Haverhill	3.6%	5.6%	30.7%	20.1%	10.2%	20.2%	9.5%
Lawrence	19.3%	13.6%	31.6%	19.9%	4.7%	7.4%	3.5%
Methuen	6.5%	5.2%	30.2%	19.7%	10.2%	17.5%	10.7%
Massachusetts	4.4%	4.9%	24.0%	15.4%	7.6%	24.1%	19.6%
US	5.1%	6.9%	27.0%	20.4%	8.5%	19.8%	12.4%

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

Employment

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

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

The CDC reports that Essex County is in the low range for unemployment rates (3.4%) while Rockingham falls in the low range (2.8%). In relation to the other 14 counties, Essex placed 6th, while Rockingham

placed 10th amongst the 10 New Hampshire counties indicating that it had least amount of people living in poverty in 2018. As of 2019 the unemployment rate in Essex County was 4.9% and 3.2% in Rockingham.

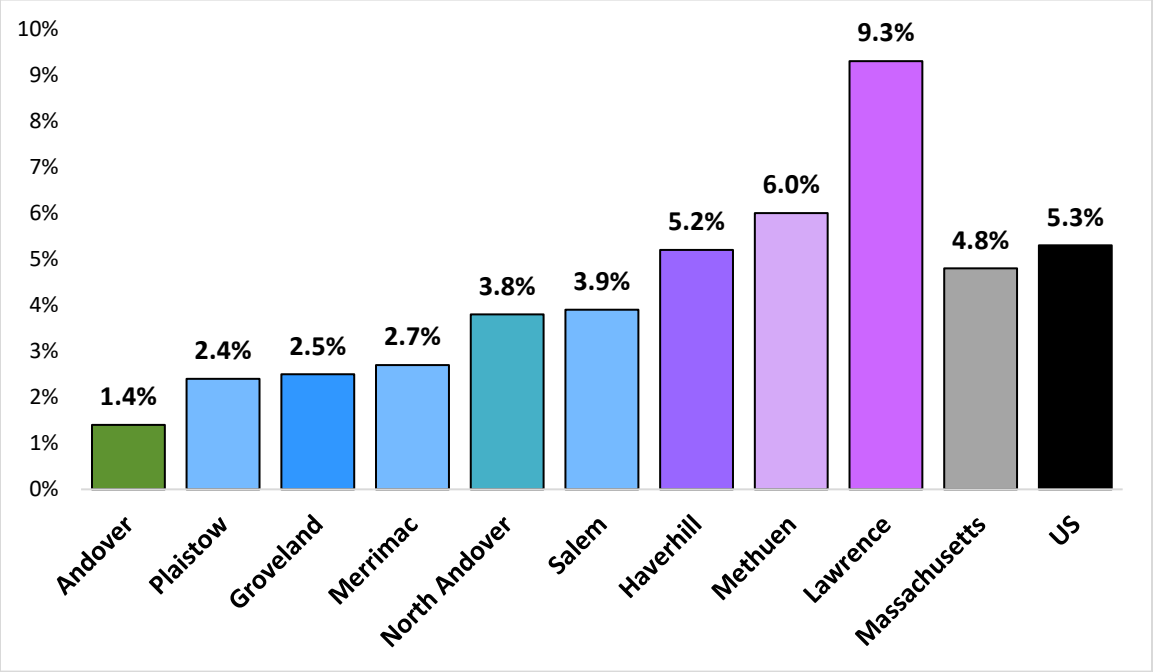
Interviews and Focus groups

Key informant and focus group members noted employment as a major obstacle to good health in the community. Focus group members discussed the strain on some families who have lost a job or struggled financially during COVID. Key informants noted that tat job fairs were missing from the community, and that job fairs could provide more opportunities for higher paying and stable jobs.

Prevalence

In 2019, the state unemployment rate was 4.8%. Lawrence (9.3%) had an unemployment rate nearly double the state (Figure 21). Methuen (6.0%) and Haverhill (5.2%) also had higher unemployment rates than the state.

Figure 21: 2019 Unemployment Rate



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

Poverty

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

to income inequality. In 2020 Massachusetts had an income inequality ratio of 18.2 out of 20, the 47th poorest ratio of all states. Stark racial disparities exist in poverty rates across Massachusetts. In 2020 nearly one-third of all Native American Massachusetts residents had incomes below the poverty line. This was followed by approximately one in five (19.6%) Hispanic residents and 17.6% of Black non-Hispanic residents (Talk Poverty, 2020). These rates stand in dramatic contrast to less than one in 10 (6.5%) White non-Hispanic and one in ten (10.6%) Asian non-Hispanic residents with incomes below the federal poverty level.

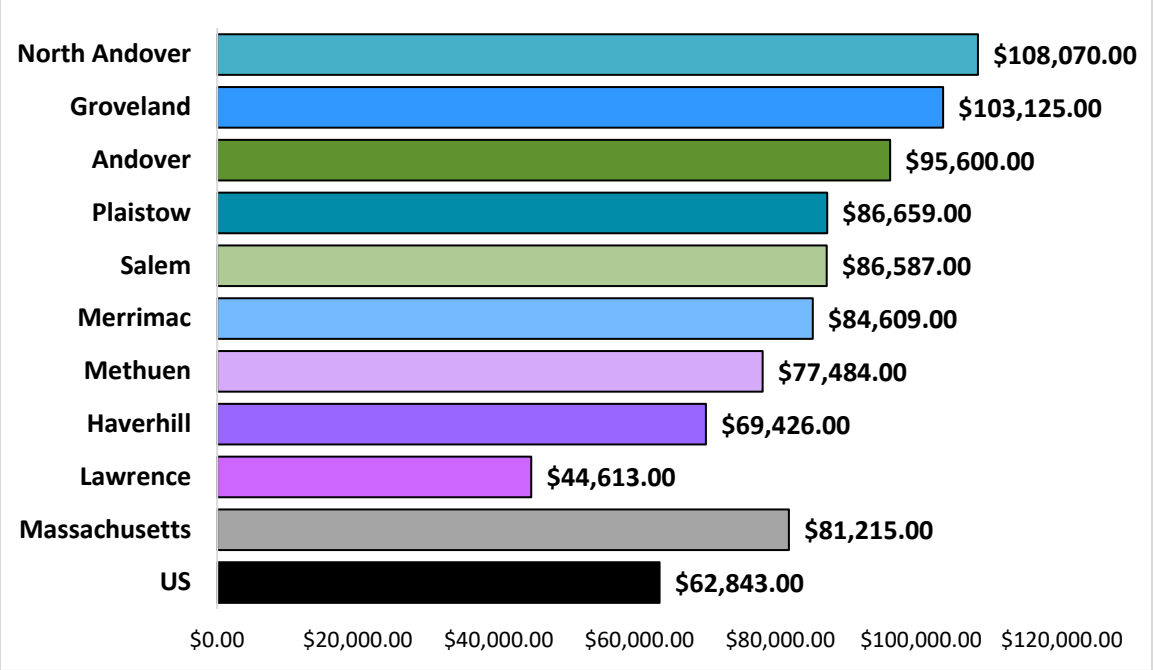
Interviews and Focus groups

Key informants discussed the extremely poor as having the worst health outcomes because they lack access to resources and information. Of note were homeless individuals who are likely to struggle the most with health.

Prevalence

Three service area communities, Methuen, Haverhill, and Lawrence had lower median household incomes than the Massachusetts average of about $81,000 per year (Figure 22). Two communities, North Andover and Groveland had median household incomes of more than $1,000,000 which is about 25% higher than the state average.

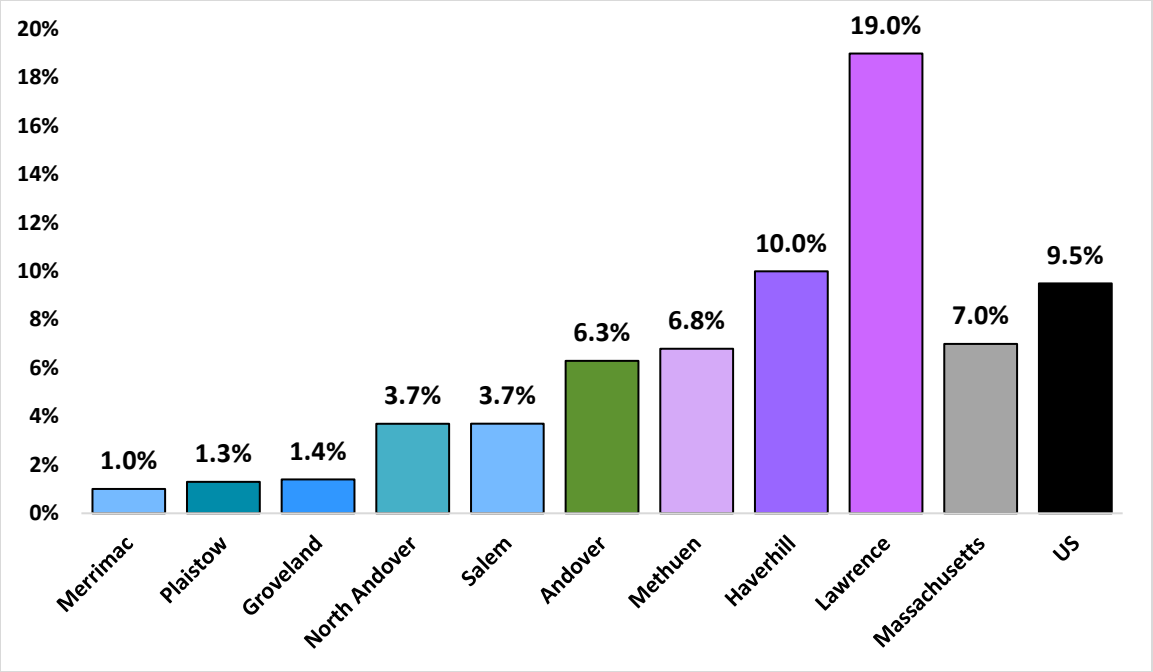
Figure 22: Median Household Income by City/Town -2019



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

The proportion of families below the poverty level varied substantially (Figure 23). Merrimac, Groveland, and Plaistow had less than 2% of families living below the poverty level. Only two communities, Haverhill (10.0%) and Lawrence (19.0%) had rates higher than the state (7%) or national level (9.5%). Lawrence was substantially higher at approximately 2.5 times the state average.

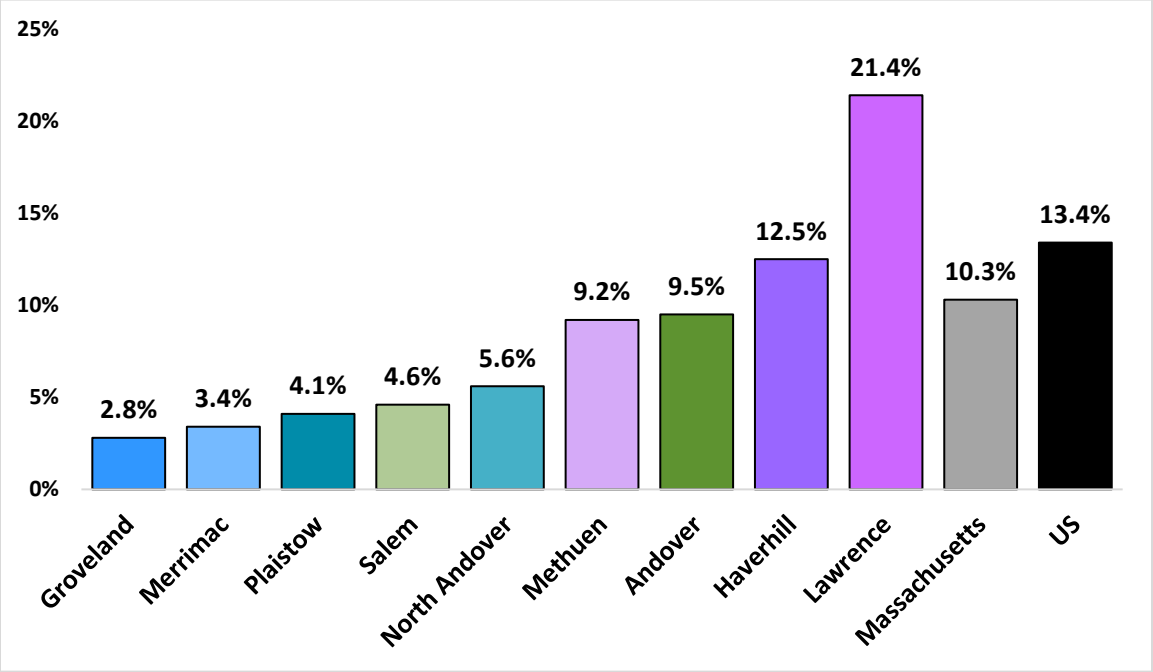
Figure 23: Families Below Poverty Level (percentage) by City/Town 2019



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

Individual poverty rates followed a trend similar to that seen when examining families below poverty level (Figure 24). Communities such as Groveland (2.8%) or Merrimac (3.4%) had rates that were a fraction of the state average (10.3%) while Lawrence (21.4%) and Haverhill (12.5%) exceeded this rate.

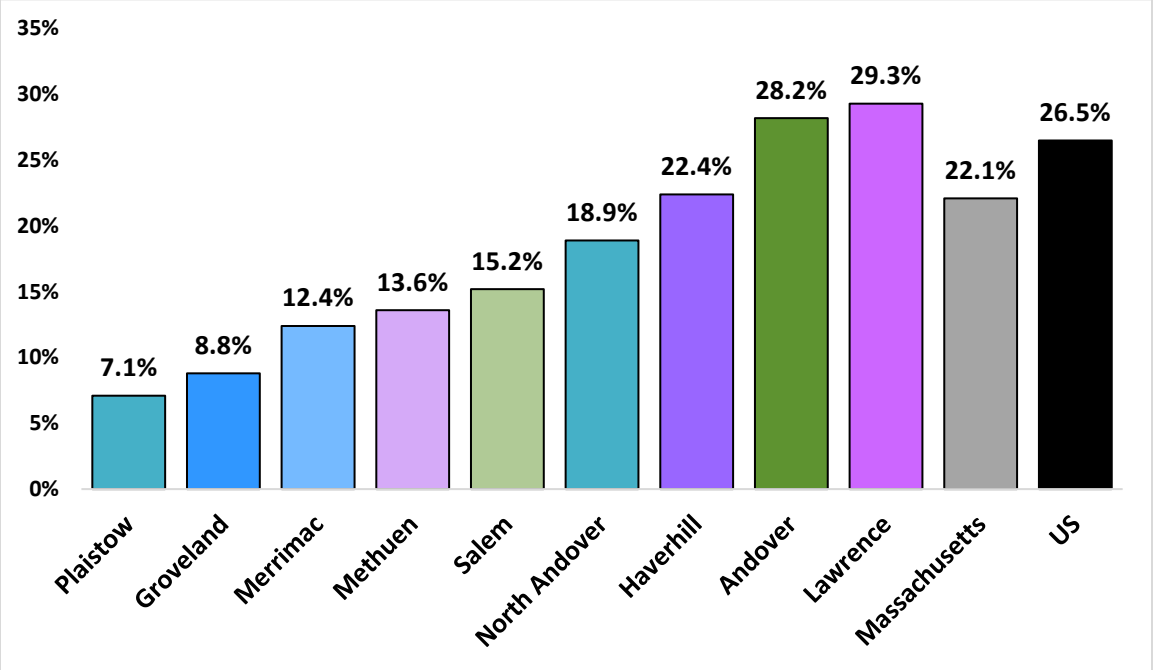
Figure 24: Individuals below Poverty Level (percentage) - 2019



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

Over a quarter of female heads of household in Andover (28.2%) and Lawrence (29.3%) are living in poverty; this is above the state average of 22.1% (Figure 25).

Figure 25: Female Heads of Household Below the Poverty Line (percentage) - 2019



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

Food Insecurity

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

Interviews and Focus groups

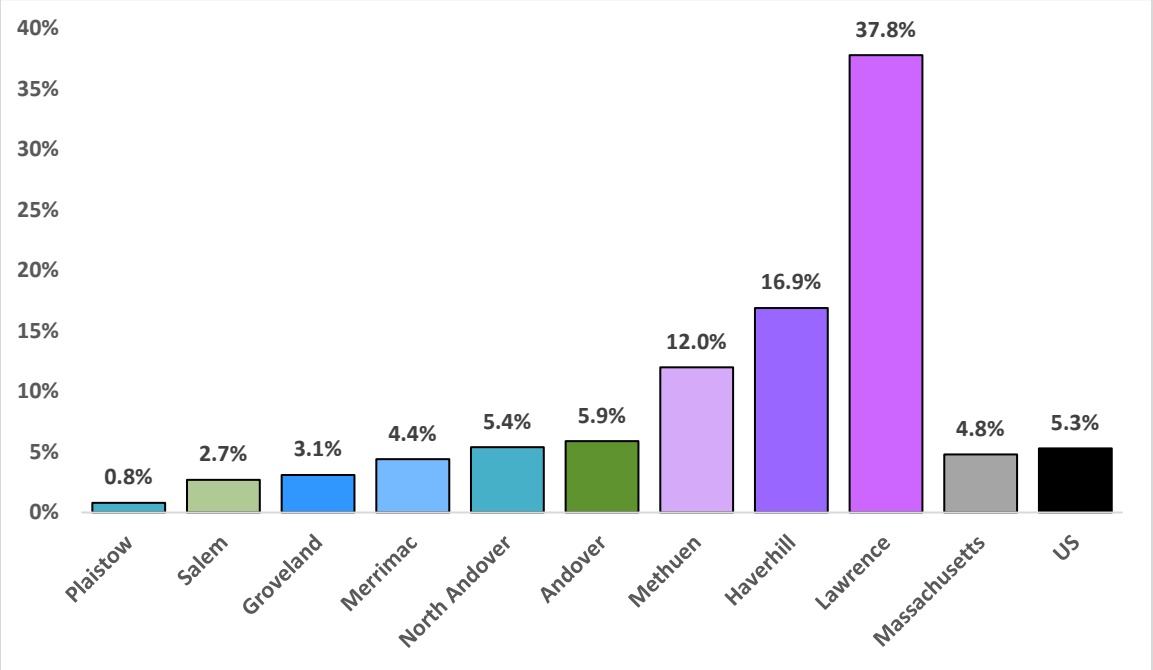
Focus group members noted access to healthy foods was a key health concern in the community. Food was noted to be very expensive, and many are unable to afford it. Those without reliable transportation are also unable to access grocery stores, and may have to rely on convenience stores, paying a premium for food. Key informants discussed a lack of

nutritional food available in the service area, speaking specifically of a prevalence of food deserts and food swamps, which have led to a rise in obesity in the area. One key informant noted that the food pantry tends to provide shelf stable food, meaning that community members do not have access to fresh or nutritious food. Convenience is also a limitation as many may opt to get fast food or order pizza rather than make meals at home. As one focus group participant remarked, "how can people live healthy when McDonald's can feed a whole family for $15?". There is a lack of education on healthy eating.

Prevalence

In 2019, 4.8% of all households in Massachusetts participated in SNAP (Figure 26). Over a third of households in Lawrence (37.8%) participated in SNAP; this is nearly 9 times the state average. North Andover (5.4%), Andover (5.9%), Methuen (12.0%), and Haverhill (16.9%) also reported higher percentages of households participating in SNAP than the state or national (5.3%) levels.

Figure 26: Households Participating in SNAP



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

Housing and Transportation

Housing costs

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

Prevalence

Over the three-year period between 2017 and 2019, housing prices have risen in all service area communities (Table 12). The cost of owning a home in Massachusetts is substantially more expensive than the national level, with median prices being over $150,000 more than the national median price.

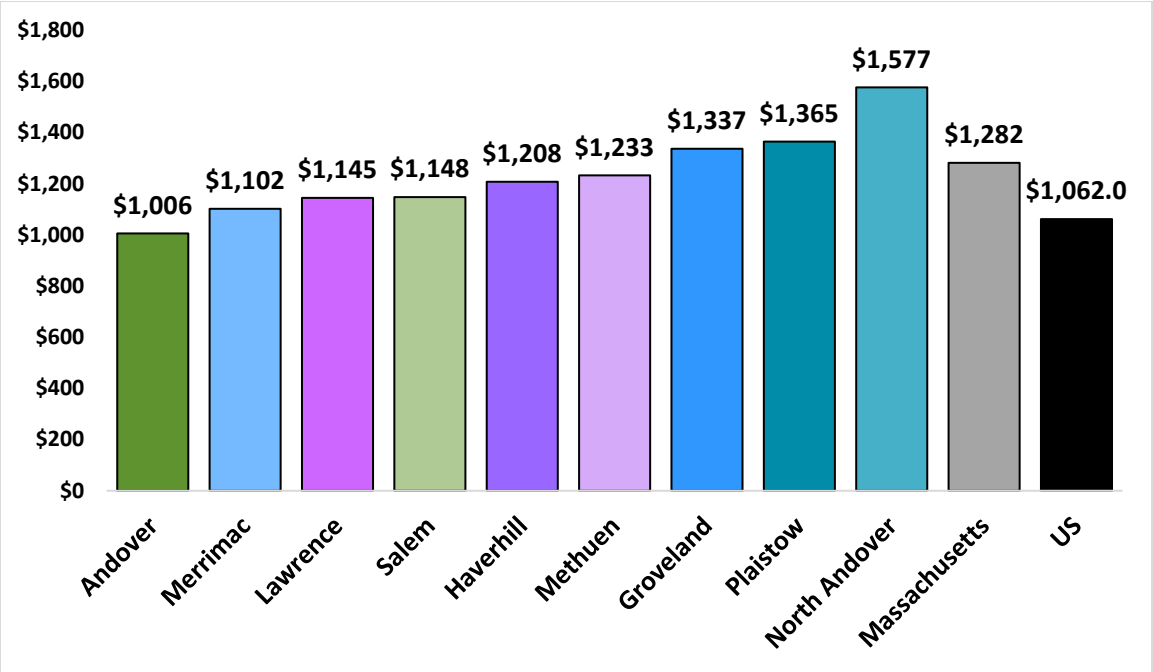
Table 12: Median Housing Price (Owner Occupied Units)

	2017	2018	2019
Groveland	$381,100	$390,700	$406,700
Merrimac	$335,300	$340,300	$362,600
North Andover	$457,800	$484,500	$505,400
Plaistow (NH)	$264,500	$273,800	$295,200
Salem (NH)	$301,100	$310,200	$325,600
Andover	$603,700	$608,400	$620,500
Haverhill	$273,300	$285,300	$300,600
Lawrence	$238,200	$255,800	$271,100
Methuen	$305,000	$340,300	$333,200
Massachusetts	$352,600	$366,800	$381,600
US	$193,500	$204,900	$217,500

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

Like housing, the median gross rent is also higher in the state of Massachusetts compared to the national level (Figure 26). North Andover ($1,577) and Plaistow ($1,365) have especially expensive levels of rent. With the exception of Groveland ($1,337), all other towns/cities in the service area have lower median rent than the state.

Figure 26: Median Gross Rent



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

Homelessness

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

Interviews and Focus groups

Key informants emphasized housing as a primary concern in their communities, noting the lack of resources available to homeless individuals and those living in poverty. It can be especially challenging for homeless individuals to access regular and predictable healthcare, yet homeless individuals may be more likely to experience mental illness. Focus group participants discussed the rate of substance abuse among homeless individuals, and the need for more resources and programs to help people live better, healthier lives.

Transportation

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

Interviews and Focus groups

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

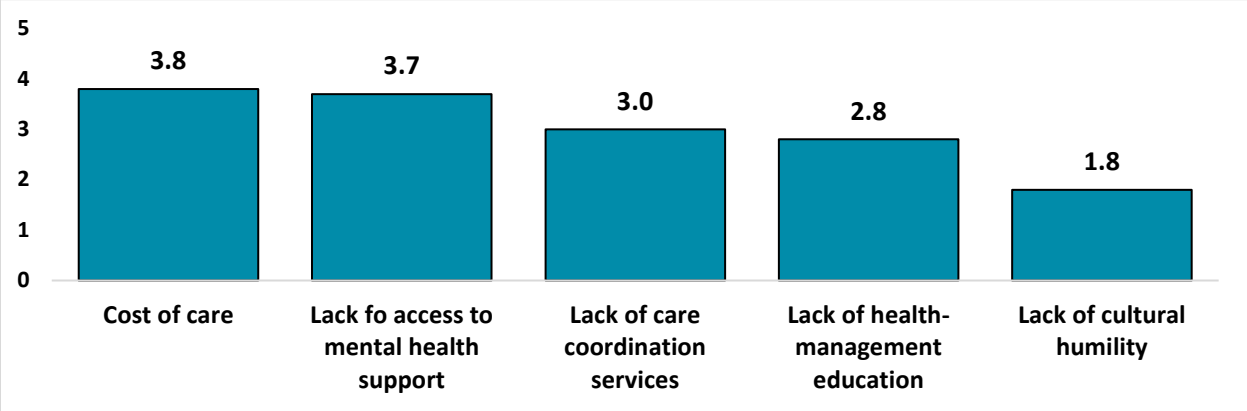
Access to Care

Access to healthcare is one of the most important issues facing high-risk communities and vulnerable populations. Addressing access to care is one of the first steps that need to be taken to address health equity. Inequity and inequality in the United States healthcare system have been widespread since its inception. Due to current societal issues including the COVID-19 pandemic, these broad inequities have been largely exposed while also highlighting how granular and targeted certain equity issues can be. Patients from underserved minority populations find it a challenge to access quality health care. Although Massachusetts is a leader in healthcare services and access to care, there are still barriers of cost, transportation, childcare, language interpreters, etc. that may impact individuals' ability to access healthcare. Towns/cities in Holy Family's service area are designated as medically underserved areas, meaning these areas have a harder time integrating behavioral health services, recruiting and retaining staff, tackling social determinants of health, and managing public health crisis.

Health Professionals Survey

When asked to rank the largest obstacles to healthy living among their consumers, health professionals saw cost of care, lack of access to mental health support, and lack of coordination services as the largest barriers (Figure 28). This indicates a great need to address mental health services, as it is also a large and prevalent need in the community.

Figure 28: Health Professionals Perceived Obstacles to Healthy Living among Consumers



Insurance Coverage

Cost was the main reason for not receiving healthcare coverage. In 2016, 45% of uninsured adults did not have access to adequate healthcare due to its cost. While the Affordable Care Act (ACA) has provided millions of Americans with affordable health care services, there are still 27.6 million more without coverage nationwide. This issue is not nearly as widespread in Massachusetts which has one of the highest health insurance coverage rates in the nation at about 97% (Robert Wood Johnson Foundation, 2020).

Interviews and Focus groups

Focus group participants saw insurance as a major barrier to healthy living. One participant noted that patients are forced to take out loans or get credit cards for sub-par medical and dental services. This participant felt these services were predatory and did not have the community's best interests at heart.

Culturally Competent Care

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

Interviews and Focus groups

Key informants discussed the need for healthcare services to reach Latino/Hispanic families but showcasing a stronger understanding of their family dynamics and culture. Focus group members similarly discussed the need for healthcare providers to understand the culture of the people they are serving because this may shape the patient's communication and health literacy. For example, Latino/Hispanic patients have a language barrier that make access to care more difficult. Hispanic populations are especially isolated in primarily White areas like Haverhill.

Recommendations

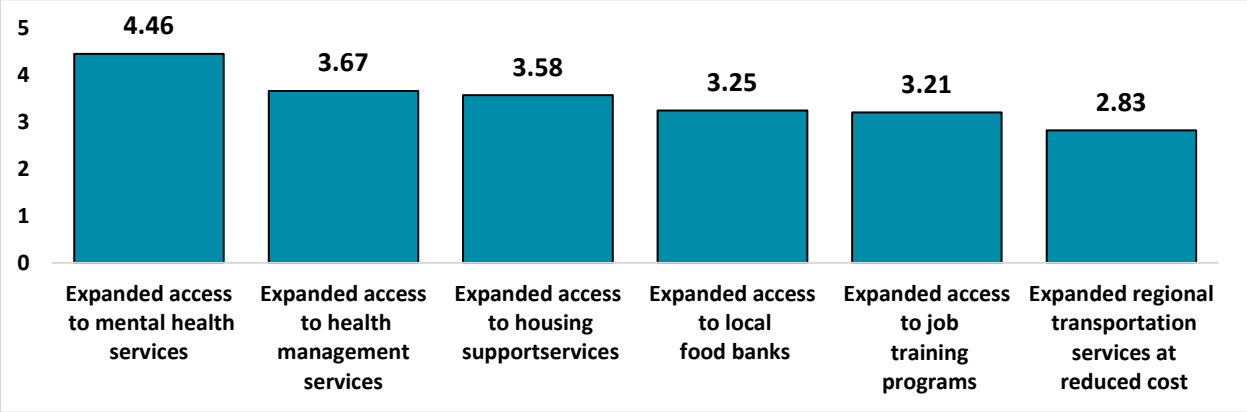
Many of the risk factors that lead to poor health in the communities are modifiable, as such many cases of chronic illnesses are considered preventable. Prevention requires a comprehensive approach that not only treats the symptoms but also addresses the underlying lifestyle behaviors behind so many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

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

Health Professional Perspectives

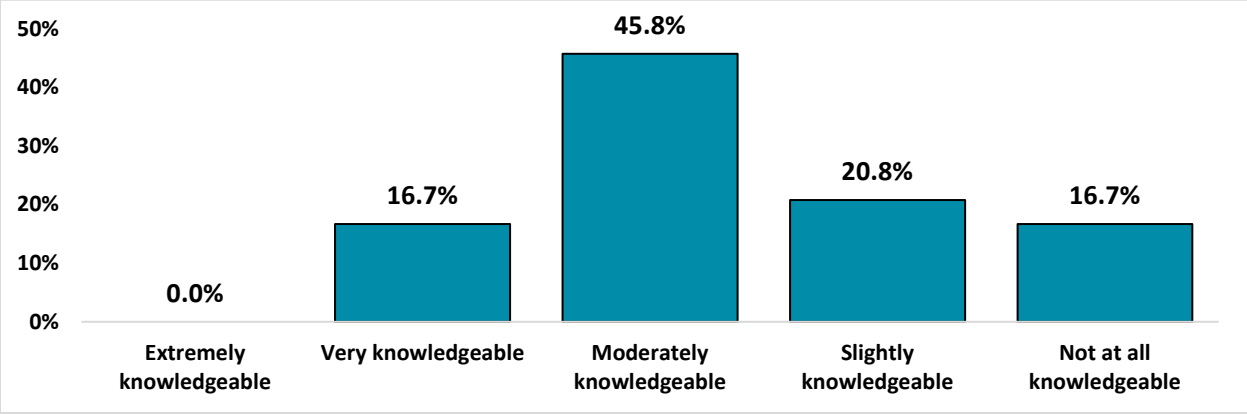
When asked what they believed would most benefit consumers, the three largest areas of need according to health professionals within Holy Family's service area were expanded access to mental health, health management services, and housing (Figure 29). As mental health and health management are large areas of concern within the community, it follows programs addressing these needs are also seen as most necessary in the community. As such, many health professionals see a need in the community for Holy Family to be involved in expanding care in these areas.

Figure 29: Health Support Services Believed by Health Professions to Most Benefit Consumers



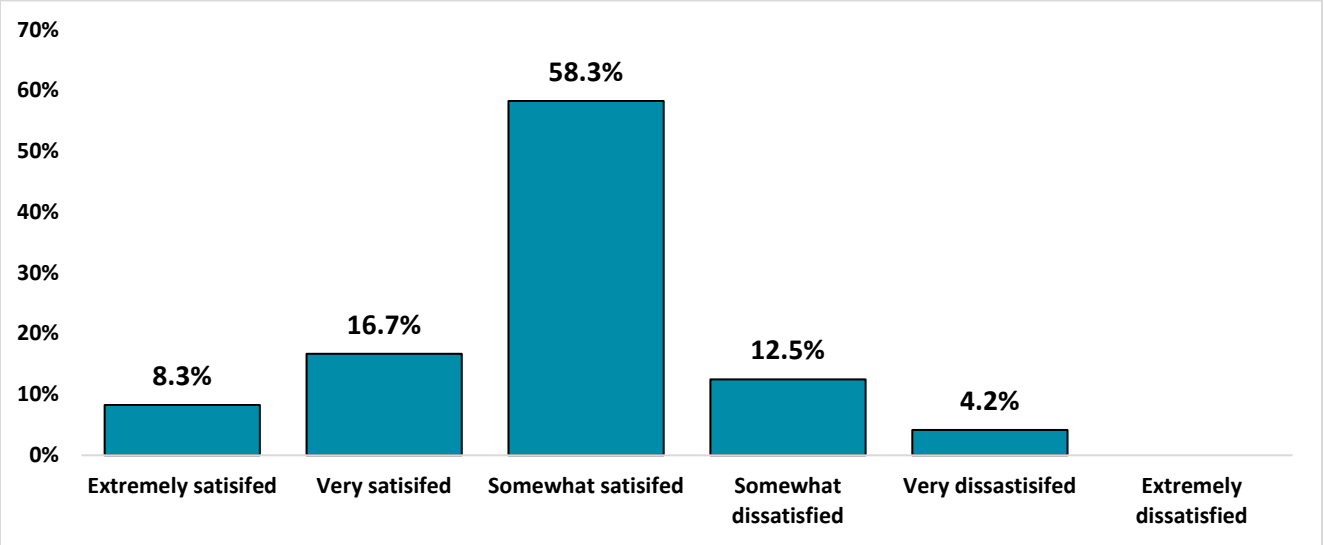
Of the health professionals surveyed, none felt they were extremely knowledgeable, and less than 1 in 5 (16.7%) felt as if they were very knowledgeable of the community health services Holy Family provides their community (Figure 30). Some health professionals suggested Holy Family engage in more collaborative efforts with non-profits and the city of Lawrence.

Figure 30: Health Professional's Knowledge of the Services Holy Family Provides their Community



Community health professionals also indicate moderate levels of satisfaction with Holy Family's role in addressing community health, with the majority indicating they are somewhat satisfied (58.3%) (Figure 31). One health professional commented that Holy Family "has done a wonderful job with pivoting to meet the needs of the greater community through the availability of COVID testing and vaccination program."

Figure 31: Health Professionals Satisfaction with how Holy Family Hospital is Addressing Community Health



Mental Health

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

Community wide recommendations

- Use social media, virtual chat rooms, and livestreams to reach out to individuals, especially younger individuals since they are very active online.
- Facilitate dialogues and discussions on mental health to reduce stigma and improve support.
- Create community events that create an incentive to get involved, such as challenge to walk or cook healthy.
- Expand access to mental health support through providing multiple avenues to engage with mental health professionals, especially in Lawrence.
- Provide more therapy options in schools for kids.
- Host community events to tackle social determinants of health that may lead to poor mental health, including housing support, transportation support, desegregation initiatives, and cross-cultural care.

Health system recommendations

- Support community organizations that are addressing mental health needs through materials, curriculum, and speakers.
- Provide greater access to mental health services to those who are experiencing distress from the pandemic.
- Host events in the community to bring mental health awareness to the community.
- Meet residents where they are, including home visit programs for residents uncomfortable going to the hospital.
- Develop a referral network between the hospital and outpatient care to streamline access to mental health services while also ensuring that patient needs are met holistically.

Substance Use Disorder

People with mental health disorders are more likely to experience a substance use disorder, as the two are cooccurring disorders. 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, 2020).

Community wide recommendations

- Create more treatment facilities for substance misuse in the area.
- Partner with local schools to create curriculum and programs centering around substance use prevention.
- Partner with housing services and community centers to create programs aimed at addressing substance use and encouraging healthy coping mechanisms.

Health system recommendations

- Expand pain management services, enabling residents to address pain without turning to addictive substances.
- Make it easier to access addiction services by decreasing wait times and providing multiple avenues of interaction.
- Collaborate with local schools, community centers, housing units, and clinics to provide resources to stay abreast of evolving needs.

Obesity

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

Community wide recommendations

- Support events to get families involved in exercise-based activities.
- Hold exercise classes and activities when safe to gather.
- Increase opportunities for healthy living in the community, such as bike paths and sidewalks.
- Increase public knowledge of parks and green spaces available.
- Supplement access to affordable, healthy food for those experiencing poverty or joblessness due to COVID-19.
- Support food security initiatives, such as Fair Foods, to provide produce to the community.
- Provide better options for food and groceries within the Taunton and Brockton communities.

Health system recommendations

- Increase hospital involvement in the community through talks, seminars, and wellness activities.
- Sponsor talks to the community about the importance of staying active and healthy.
- Collaborate with food security initiatives to help residents access healthy foods.

Chronic Conditions

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

Community wide recommendations

- Offer community classes on chronic conditions, to expand public awareness of signs and symptoms.
- Provide pain management services for those whose chronic conditions cause daily pain.

Health system recommendations

- Provide more diagnostic services for early detection of chronic conditions.
- Offer clinics within service area communities to address chronic needs, such as diabetes foot checks.
- Offer more patient education programs on disease management.

COVID-19

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

In the midst of the pandemic, health professionals have been largely satisfied with Holy Family's efforts to educate the community about COVID-19, with 87.5% of health professionals indicating being moderately satisfied or higher. However, despite these positive ratings, health professionals also indicated the pandemic had a negative impact on their mental health. When asked to rate the impact of COVID on their mental health, 45.8% of health professionals indicated it had moderately negative impact, or worse. One health professional commented that there was "a lot of misinformation regarding COVID-19 and the vaccine."

Community wide recommendations

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

Health system recommendations

- Offer mobile clinics in the community that offer COVID testing and vaccines.
- Partner with community organizations to increase access to mental health services online.
- Partner with community organizations to ensure united messaging is sent to the community.
- Partner with community organizations that provide pandemic assistance to vulnerable populations.

Homelessness

Massachusetts is currently dealing with two independent sets of housing crises, the first is due in large part to a low rate of housing production which has not kept pace with population growth and needs, leading to rising prices that have outpaced wages. As a result, there is a shortage of suitable and affordable accommodations for most young workers, growing families, and the increasing senior population.

Community wide recommendations

- Provide affordable housing options and temporary housing.
- Offer access to basic hygiene needs such as laundry, showers, and bathrooms.
- Provide resources that protect homeless individuals from extreme heat or cold.

- Provide resources for homeless individuals to cook meals.
- Provide mental health counseling for homeless individuals.

Health system recommendations

- Offer mobile clinics to homeless communities.
- Encourage homeless individuals to sign up for insurance, such as Mass Health.
- Offer programs and services to homeless organizations to get them more comfortable with Holy Family.

Access and Involvement

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

Community wide recommendations

- Increase partnerships between community organizations to create or enhance the referral network.
- Disseminate information in the community using different platforms, languages, and reading levels.
- Offer access to tools needed for telehealth appointments.
- Increase community events focused on health education.

Health system recommendations

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

Other Suggestions

Community wide recommendations

- Offer community-wide initiatives to address educational disparities.
- Create events to encourage cleaning and improving the city.
- Create community gardens.
- Offer events and services in multiple languages.

- Publicize events through community centers like the Library and the YMCA.

Health system recommendations

- Expand to more homecare services
- Provide more community education and outreach - help build connection between social determinants of health and poor health outcomes.
- Partner with community leadership boards, such as the school board, to have a greater understanding of community needs and ways the hospital can help.

Limitations

Data collected for analysis were derived from publicly accessible, governmental sources. Some data sources lacked information on certain towns. Data gathered for this report is the most recently available at the time of data was gathered 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.

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

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

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

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Appendices

Appendix A: Key Informant Interview Questions

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

Appendix B: Focus Group Questions

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

Appendix C: Health Professionals Survey

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

Appendix D: Note on Data Accuracy

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