Emerson Hospital
Community Health Needs Assessment

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Executive Summary

Background

Emerson Hospital is a full-service, regional medical center headquartered in Concord, Massachusetts, with a 179-bed hospital and more than 300 primary care doctors and specialists. Emerson Hospital provides advanced medical services to more than 300,000 people in 25 towns. The Hospital's core mission is to make high-quality health care more accessible to those who live and work in our community. To further this mission, Emerson has health centers in Bedford, Maynard, Westford, Groton, Sudbury, and Concord, as well as urgent care centers in Hudson and Littleton.

The Emerson Hospital 2021 Community Health Needs Assessment (CHNA) focused on the hospital's service area, which is comprised of 21 towns in Massachusetts. The primary service area of the hospital is comprised of 14 communities, Acton, Bedford, Bolton, Boxborough, Carlisle, Concord, Harvard, Hudson, Lincoln, Littleton, Maynard, Stow, Sudbury, and Westford. The secondary service area includes, Ayer, Devens, Groton, Hanscom, Pepperell, Shirley, and Townsend.

Community Health Needs Assessment Methods

The 2021 CHNA incorporated data on important social, economic, and health indicators from various sources. A community survey was administered and completed by a total of 3,589 respondents (3,176 residents and 413 providers) who identified as living or working in the Emerson Hospital services area completed the survey. Four focus groups and 10 key informant interviews were conducted with leaders in the community to explore key issue areas and populations further. In total, over 3,600 individuals were engaged in the 2021 assessment process.

This CHNA applies a broad definition of health and wellness that is rooted in an understanding that where we are born, grow, live, play, work, and age, and the connections between these experiences and contexts shape the health and well-being of individuals and communities.

Findings

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

<u>Demographics</u>

- **Population**: Between 2014 and 20119, the population of the primary service area grew by 8.0% to a total population of 172,990. The largest communities in the service area are Westford (24,342) and Acton (22,791). Over that same period of time, the population of the secondary service area grew by 5.3% to a total population of 50,448.

- **Age Distribution**: The age profiles of Emerson Hospital's primary and secondary service areas differed slightly from the age distribution across the State and in Middlesex County. The primary (32.3%) and secondary (34.2%) service areas had a larger proportion of the population who were 45-64 years of age compared to Massachusetts (27.3%) and Middlesex County (26.7%). The towns of Lincoln (28.4%), Concord (20.6%), Carlisle (19.4%), Hudson (17.9%), and Harvard (17.5%) had the largest proportion of residents 65 years of age or older.

  When Community Survey participants were asked about personal and community health concerns, aging health concerns was a top concern for respondents and/or their family (50.2%)

and for their community (54.8%). Aging health concerns was also cited by 66.2% of provider survey respondents as a common health concern.

- **Racial and Ethnic Diversity**: Interviewees and focus group participants varied in their descriptions of the racial and ethnic makeup of the population, with some towns being described as *"primarily white,"* and *"not having the kind of immigrant households that neighboring towns have,"* while others noted a *"high percentage of Asian population."* Some focus group participants remarked on the lack of diversity in their towns. Compared to Massachusetts and Middlesex County, the primary (78.9%) and secondary (86.0%) service areas had a larger proportion of residents who identified as White in 2015-2019.

Social and Physical Environment

- **Education**: Nearly all of the interviewees mentioned the quality of schools in their community as a strength of the area. It often was mentioned as a reason people move to the community to raise a family. With approximately 7 in 10 residents holding a bachelor's or higher level of education, the primary service area (71.3%) had a much higher proportion of college educated residents than Massachusetts overall (43.7%) and Middlesex County (56.3%). Just under half (47.2%) of residents in the secondary service area held a bachelor's degree or higher, which is slightly above the proportion for the State (43.7%).

- **Employment:** From 2015 to 2019 the unemployment rate declined for Emerson Hospital's priority service areas and for Middlesex County and Massachusetts. During this same period, in the primary service area the unemployment rate was consistently lower than the rate for Massachusetts and the secondary service area. From 2019 to 2020, the unemployment rate increased by 200% in the primary service area and by 181% in the secondary service area. When asked about changes to employment due to the COVID-19 pandemic, 8.9% of community survey respondents reported working *fewer* hours per week and an additional 6.1% reported being laid off or furloughed from their job.

- **Income and Poverty:** Interviewees overwhelmingly described the communities as middle income and well-off, but there was also acknowledgement that this was not universal. In 2015-2019, the median household income in the primary service area ($145,639) was 79% and 42% higher than the median household income in Massachusetts ($81,215) and Middlesex County ($102,603), respectively. When community survey respondents were asked about a change in their financial situation due to the COVID-19 pandemic, nearly 1 in 6 (15.4%) respondents reported that their financial circumstances had gotten worse. In 2015-2019, 4.0% of residents in the primary service area had incomes below the federal poverty level, which was 61% and 46% lower than the poverty rate across the State and for Middlesex County.

- **Housing and Housing Costs:** Interviewees and focus group participants from across communities in the service area discussed the high cost of purchasing or renting homes and limited availability of homes in the area, as well as a lack of affordable units. Housing was the top community-level concern for residents and providers, with about 6 in 10 (59.8%) community respondents and three quarters (76.6%) of providers citing housing concerns among their top

concerns. Notably, approximately 1 in 4 (25.1%) residences in the primary service area were occupied by owners who were not paying a mortgage. Nearly 1 in 5 (19.4%) residences in the primary service area were renter-occupied, and nearly 1 in 4 (24.7%) residences in the secondary service area were renter occupied, which was below average of 37.6% of renter occupied housing units across Massachusetts and in Middlesex County.

- **Transportation:** Transportation was a top concern raised in the survey for the community by residents and providers alike. For individuals, it also rose to the third most common concern for residents over 65 responding to the survey. Approximately one-third of respondents prioritized improving public transportation options to health/medical services in the area (34.1%). Many interviewees remarked on the challenge's individuals face accessing services in the community due to lack of transportation infrastructure. Interviewees shared about individual towns or social service agencies trying to create systems for their communities or populations, but they often reported significant limitations such as geographic perimeters and destinations that limit the usability.

- **Food Access:** Interviewees and focus group participants described food insecurity as a concern in the community that was exacerbated by COVID-19, as food pantries and other emergency food sources saw a dramatic rise in individuals and families looking for resources over the past year. In the secondary service area, approximately 1 in 10 (10.6%) households received food stamps/SNAP benefits, which was just below the proportion for Massachusetts (11.7%), and more than double the proportion of households that received food stamps/SNAP in the primary service area (4.6%). In the community survey availability of supermarkets and affordable healthy food options was a top concern for residents for themselves and the community at large. This was seen as a top concern across age groups.

- **Social Justice and Equity:** Nearly all of the interviewees and a couple of focus groups brought up issues around racism and discrimination they had experienced or witnessed in their communities. When asked about the Top 5 Social Issues with the Largest Impact on the Community in the Community Survey, addressing systemic racism/racial injustice was the number two issue indicated by community members and the number four issue indicated by providers.

- **Health Care Access:** Interviewees often brought up barriers to accessing or receiving appropriate care in general, not tied to a specific health condition. In key informant interviews, service providers noted a shift in patients' insurance, remarking that they *"see fewer people with commercial insurance."* Cost of health care was another concern, *"Definitely cost prohibitive."* In 2015-2019, 3.6% of Hudson residents had no health insurance, which exceeded the average across the State (2.7%) and for Middlesex County (2.5%). Hudson (3.4%) and Lincoln (3.3%) had the highest percent of children (<18 years of age) without health insurance, which exceeded the percent of uninsured children for Massachusetts overall (1.3%) and Middlesex County (1.4%). Counseling or mental health services for adults (12.7%) and affordable medicine (10.9%) were areas in which approximately 1 in 10 respondents to the community survey reported not being satisfied at all.

In the community survey, more than 1 in 10 (14.4%) respondents reported that a member of their household had not received needed medical care due to costs. When asked about the impact of health care systems issues for the community, about 2 out of 3 (68.2%) community respondents cited the cost of care/co-pays as a concern and more than half (56.8%) noted insurance problems as a community issue. About 7 in 10 providers cited cost of care/co-pays (72.2%) or insurance problems (69.8%) as community health care access issues.

Community Health Issues

- **Chronic Disease:** Both providers and community survey respondents were asked to indicate current health issues of concern. The most frequently cited health issues among respondents for the community and for themselves and/or their family were **high blood pressure** (community: 28.9%; themselves: 36.6%) and **overweight/obesity** (community: 27.6%; themselves: 31.1%). In addition to those chronic health conditions, providers also indicated concern about **diabetes** (57.4%), **heart disease/heart attacks** (56.8%), and **cancer** (55.2%).

  Across towns in the Emerson Hospital service area in 2017, the **cancer** mortality rate was highest in Lincoln (389.0 deaths per 100,000 residents), which was 2.1 times higher than the cancer mortality rate across the State (188.8 deaths per 100,000 residents) and 2.3 times higher than the rate for Middlesex County (165.8 deaths per 100,000 residents).

  In 2012-2014, about 4% of residents in Lincoln (4.4%), Bedford (4.2%), and Concord (4.0%) reported **angina or coronary heart disease**, which is slightly above the prevalence across Massachusetts (3.9%) and exceeds the prevalence for Middlesex County (3.2%). Each town in the Emerson Hospital service area had a lower rate of hospitalizations due to cardiovascular disease compared to Massachusetts.

  Across the Emerson Hospital service area, the percent of adults reporting a diagnosis of **diabetes** was below the average for Massachusetts (9.0%). Bedford (8.6%) and Hudson (7.6%) had a higher percent of residents reporting diabetes. In the survey, diabetes did not come up as a top health concern overall but was a top health concern for Black and South Asian respondents.

  A couple interviewees mentioned physical health, specifically **overweight and obesity**, as a health concern in the community. Generally, about 1 in 5 adults in the Emerson Hospital service area reported being obese. Each town in the Emerson Hospital service area had a lower percent of adults reporting obesity than the prevalence for Massachusetts (25.8%) in 2012-2014.

- **COVID-19:** When Community Survey participants were asked about personal and community health concerns, coronavirus/COVID-19 was a top concern identified for respondents and/or their family (41.4%) and for their community (54.7%). Among providers, nearly 9 in 10 (89.0%) cited coronavirus/COVID-19 as a current health issue. Interviewees and focus group participants indicated that many community needs were exacerbated during the pandemic, and COVID-19

brought about a new awareness around the inequities experienced across the community needs identified.

- **Mental Health:** The health concern that came up most often among interviewees and was discussed in all of the focus groups was mental health. There were concerns about mental health across age groups, income levels, and racial/ethnic groups. Interviewees also brought up a number of barriers specific to mental health that they found concerning, including: high costs of mental health care even with health insurance; difficulty navigating the mental health services system with or without health insurance; stigma; lack of mental health providers; long waitlists to see a mental health provider, especially for adolescents and individuals with no insurance or with Medicaid; lack of providers who understand the needs of specific patient groups such as domestic violence survivors, people of color, and LGBTQIA+ residents.

  Adult mental health was one of the top five most frequently cited health issues among community respondents (26.9%). Common health concerns indicated by providers included: adult mental health issues (78.2%), alcohol and drug use among adults (63.4%), and mental health issues among youth (63.1%). About 2 in 5 Community Survey respondents prioritized providing more counseling or mental health services (40.5%) or expanding health/medical services for seniors (40.4%). The majority (73.1%) of providers prioritized providing more counseling or mental health services.

Visions for the Future

When interviewees and focus group participants were asked about their vision for the future of their communities, they prioritized mental health care, accessible and affordable health care, addressing racism in the community, food insecurity, transportation, housing, and creating a community cultural center.

Conclusions

The following are key health issues that emerged as areas of potential concern in the CHNA – supported by secondary data, community survey response, and consistently mentioned in interviews and focus groups: aging health concerns, availability and affordability of housing, chronic health conditions, economic insecurity, mental health, and transportation. An overarching conclusion that cuts across all topic areas is the systemic racism, racial injustices, and discrimination present in the service area.

Introduction

Background

Emerson Hospital is a full-service, regional medical center headquartered in Concord, Massachusetts, with a 179-bed hospital and more than 300 primary care doctors and specialists. Emerson Hospital provides advanced medical services to more than 300,000 people in 25 towns. The Hospital's core mission is to make high-quality health care more accessible to those who live and work in our community. To further this mission, Emerson has health centers in Bedford, Maynard, Westford, Groton, Sudbury, and Concord, as well as urgent care centers in Hudson and Littleton.

Purpose and Scope

This community health needs assessment (CHNA) aims to gain a greater understanding of the issues that community residents face, how those issues are currently being addressed, and where there are gaps and opportunities to address these issues in the future. This report presents findings from the various 2021 assessment processes, which were conducted January-June 2021, and will inform discussions about key community issues in the service area. The CHNA process included:

- Engaging Emerson Hospital's Community Benefits Advisory Committee
- Guiding Emerson Hospital in compiling secondary social, economic and health data for the service area
- Fielding a community health survey for residents and providers of the service area
- Conducting interviews and focus groups with community residents, leaders, and organizations
- Analyzing and presenting findings
- Prioritizing needs to be addressed by community benefit initiatives.

The 2021 CHNA was led by a small planning group comprised of Emerson Hospital staff. This team engaged Health Resources in Action (HRiA), a non-profit public health organization, to conduct the CHNA.

Definition of Community

The Emerson Hospital 2021 CHNA focused on the hospital's service area, which is comprised of 21 towns in Massachusetts. The primary service area of the hospital is comprised of 14 communities, Acton, Bedford, Bolton, Boxborough, Carlisle, Concord, Harvard, Hudson, Lincoln, Littleton, Maynard, Stow, Sudbury, and Westford. The secondary service area includes, Ayer, Devens, Groton, Hanscom, Pepperell, Shirley, and Townsend.

Methods

The following section describes how data for the CHNA were compiled and analyzed, as well as the broader lenses used to guide this process. Specifically, the CHNA defines health in the broadest sense and recognizes that numerous factors at multiple levels impact a community's health. The approaches and frameworks of social determinants of health and health equity that guided the overarching process of the CHNA are discussed in the next section.

Social Determinants of Health

This Community Health Needs Assessment applies a broad definition of health and wellness that is rooted in an understanding that where we are born, grow, live, play, work, and age, and the connections

between these experiences and contexts shape the health and well-being of individuals and communities. Social determinants of health include access to recreation and open space, access to healthy foods, access to medical services, transportation options, affordable and quality housing, economic opportunities, neighborhood cohesion, community safety, environmental quality, and green and sustainable developmental practices. Often, there are numerous levels of influence on the social determinants of health, including individual, family, community, state, society, and policy contexts.

Figure 1. Social Determinants of Health

Health Equity

The influences of race, ethnicity, income, and geography on health patterns are often intertwined. In the United States, social, economic, and political processes ascribe social status based on race and ethnicity, which may influence opportunities for educational and occupational advancement and housing options, two factors that profoundly affect health. Institutional racism, economic inequality, discriminatory policies, and historical oppression of specific groups are a few of the factors that drive health inequities in the U.S.

In the present report, health patterns for the Emerson Hospital CHNA service area are described overall, as well as areas of need for particular population groups. Understanding factors that contribute to health patterns for these populations can facilitate the identification of data-informed and evidence-based strategies to provide all residents with the opportunity to live a healthy life.

Approach and Community Engagement Process

The CHNA aimed to engage agencies, organizations, and community residents through a variety of data collection methods. This approach helps guide the questions and methods, so they are salient to the community, as well as build relationships and partnerships across the service area to support the CHNA and implementation plan. It should be noted that, due to the COVID-19 pandemic, all community engagement for this CHNA occurred virtually engaging the community through multiple methods and providing language access, this CHNA aims to describe community strengths and needs during this unique time.

Throughout the process Emerson Hospital engaged a small planning group from Emerson Hospital (three members), as well as a larger Community Benefits Advisory Committee (21 members; Appendix 1), at multiple points to provide input and feedback on data collection methods, resources, and findings. Emerson Hospital hired Health Resources in Action (HRiA), a non-profit public health organization, as a consultant partner to facilitate the CHNA process, collect and analyze data, and develop the CHNA report.

The small planning group met twice a month, as well as communicated in between meetings through e-mails and phone calls to finalize the list of stakeholders for key informant interviews and focus groups, provide feedback on data collection instruments, and utilize their networks to engage community members in the process. The Community Benefits Advisory Committee met twice during the assessment, first to brainstorm organizations and stakeholders to engage in data collection and then to share input on preliminary findings and prioritize issues identified through the CHNA.

Data Collection Methods

The CHNA utilized a multi-pronged approach for data collection. This allowed for a variety of perspectives to be included in the assessment of health needs in the service area. Both quantitative and qualitative data collection methods were used, including a review of secondary data, a community and provider survey, and focus groups and interviews. The planning group and Community Benefits Advisory Committee were consulted and activated to engage the community in the process.

Secondary Data

Secondary data are data that have already been collected for another purpose. Examining secondary data helps us to understand trends, provide a baseline, and identify differences by sub-groups. It also helps in guiding where primary data collection can dive deeper or fill in gaps.

Emerson Hospital compiled secondary data on social, economic, and health indicators for this CHNA from a variety of sources, including the U.S. Census American Community Survey (ACS), the U.S. Department of Labor Bureau of Labor Statistics, the Federal Bureau of Investigation Uniform Crime Reports, the Emerson Hospital Youth Risk Behavior Survey, and a number of other agencies and organizations. Secondary data were analyzed by the agencies that collected or received the data. It should be noted that when the narrative makes comparisons between towns or with Middlesex County or the state overall, these are lay comparisons and *not* statistically significant differences.

Key Informant Interviews and Focus Groups

The Community Benefits Advisory Committee was engaged to provide guidance on identifying population groups for key informant interviews and focus groups. The planning group identified

individuals and organizations to participate in and recruit participants. Due to the COVID-19 pandemic, all interviews and focus groups were conducted via a video conference platform or by telephone. Each focus group or interview was facilitated by a trained moderator, and detailed notes were taken during conversations.

A total of 10 key informant interviews were completed with 11 individuals in March and April 2021. Interviews were 45-60-minute semi-structured discussions that engaged institutional, organizational, and community leaders and front-line staff across sectors. Discussions explored interviewees' experiences of addressing community needs and priorities for future alignment, coordination, and expansion of services, initiatives, and policies. Interviewees were asked to share their perceptions of needs both prior to and following the start of the COVID-19 pandemic. Sectors represented in these interviews included: local non-profits, including those serving youth and seniors; local diversity, equity and inclusion leaders, and town administrators and services.

Additionally, a total of four focus groups were conducted. Focus groups were 90-minute semi-structured discussions that explored participant's perceptions of the service area and experiences in the community. HRiA facilitated three focus groups, with 19 individuals, each group representing a different population group in the service area: seniors, caretakers, and high school students. Emerson Hospital conducted one focus group with the Patient/Family Advisory Committee.

Analyses

The notes captured during the qualitative data collection were coded and analyzed thematically, where an analyst identified key themes that emerged across multiple groups and interviews. Frequency and intensity of discussion on a specific topic were key indicators used for extracting key themes. While differences are noted where appropriate, analyses emphasized findings common across populations and the service area. Selected quotes – without personal identifying information – are presented in the narrative of this report to further illustrate points within topic areas.

Community and Provider Priorities Survey

In order to gather quantitative data that were not provided by secondary sources as well as to understand public perceptions around health issues, a brief survey was developed and administered to residents and health/social service providers within the service area. The survey was administered online in English, Spanish, and Portuguese. The online survey included a skip pattern where community residents were taken to one section of the survey to answer questions about their perceptions of community health needs and priorities, while health and social service providers were taken to a different section to answer similar questions about their patients, rather than exclusively about themselves.

The planning group reviewed and provided feedback on the survey and disseminated the survey link to their networks and through their organizational list serves. The Community Benefits Advisory Committee also played a key role in disseminating the survey. The survey was administered in English from mid-March through the end of April, the community resident survey was available in Spanish and Portuguese from early April through the end of the month. All responses to the survey were conducted in English. The survey used a convenience sample for gathering information, but intentional efforts were made to disseminate the survey through multiple venues to yield a broad cross-section of respondents from the service area. The CHNA report focuses on findings from the overall resident and overall

provider samples, and also includes some analysis broken down by age and race/ethnicity. A total of 3,589 respondents (3,176 residents and 413 providers) who identified as living or working in the Emerson Hospital services area completed the survey.

Among Community Survey respondents, nearly 2 in 3 respondents were between 50-74 years of age (50-64 years: 33%; 65-74 years: 29.5%), approximately 1 in 5 were 75+ years of age, nearly 1 in 6 were 30-49 years of age (15.2%) (Table 1). The majority of respondents identified as female (65.4%) and White (92.7%). Respondents identifying as East Asian (2.4%; e.g., Japan, China, Taiwan, Korea, Vietnam, Laos, and Cambodia) and those identifying with a racial/ethnic identity classified as "other" (2.4%) represented the largest proportion of non-White respondents. The towns of Concord (13.8%), Acton (13.4%) and Westford (11.0%) had the largest proportion of respondents.

Table 1. Community Member Survey Respondents, by Demographic Characteristics, 2021

Age	%	N = 2166
Under 18 years old	0.0%	1
18-29 years old	1.3%	28
30-49 years old	15.2%	329
50-64 years old	33.0%	714
65-74 years old	29.5%	638
75 years old or older	21.1%	456
Gender	**%**	**N = 2159**
Female	65.4%	1412
Male	34.1%	737
Additional Gender Category	0.4%	9
Transgender Male	0.0%	1
Race/Ethnicity	**%**	**N = 2225**
Black, non-Hispanic	1.1%	23
American Indian/Native American, non-Hispanic	0.4%	8
East Asian, non-Hispanic	2.4%	53
Hispanic/Latino(a)	1.7%	37
Middle Eastern/North African, non-Hispanic	0.6%	13
Other, non-Hispanic	2.4%	52
Pacific Islander, non-Hispanic	0.2%	4
South Asian, non-Hispanic	1.3%	28
White, non-Hispanic	92.7%	2007
Town of Residence	**%**	**N = 3176**
Acton, MA	13.4%	426
Bedford, MA	6.2%	197
Concord, MA	13.8%	439
Littleton, MA	5.8%	184
Maynard, MA	6.0%	190
Sudbury, MA	7.0%	221
Westford, MA	11.0%	348

DATA SOURCE: Emerson Hospital CHNA Community Survey, 2021

NOTE: “Other” responses for Race/Ethnicity included most frequently European, Ashkenazi Jewish, and American. Towns of Residence not presented for towns with <5% of respondents.

Shown in Table 2 is an overview of respondents to the Provider Survey. The majority (79.7%) of respondents were 30-64 years of age (30-49 years: 32.0%; 50-64 years: 47.7%), were not employed by Emerson Hospital (64.5%), and identified as female (83.4%). Approximately 7 in 10 provider respondents were health care providers (70.1%), about 1 in 3 were social service providers (34.5%), and 4.6% were both health care and social service providers. Nearly 9 in 10 provider respondents identified as white (89.3%). Providers identifying with a racial/ethnic identity classified as “other” (4.0%) and East Asian providers (3.6%) constituted the largest non-White group of respondents. Fully 4.0% of provider respondents identified as gay or lesbian (2.2%) or bisexual (1.8%), while approximately 9 in 10 (92.4%) providers identified as straight.

Table 2. Provider Survey Respondents, by Demographic Characteristics, 2021

Age	%	N = 222
18-29 years old	4.5%	10
30-49 years old	32.0%	71
50-64 years old	47.7%	106
65-74 years old	11.3%	25
75 years old or older	4.5%	10
Employed by Emerson Hospital	**%**	**N = 413**
Yes	35.5%	144
No	64.5%	262
Gender	**%**	**N = 223**
Female	83.4%	186
Male	15.2%	34
Additional Gender Category	1.3%	3
Provider Type	**%**	**N = 388**
Both	4.6%	18
Health care provider	65.5%	254
Social service provider	29.9%	116
Race/ethnicity	**%**	**N = 224**
Black, non-Hispanic	1.8%	4
American Indian/Native American, non-Hispanic	0.4%	1
East Asian, non-Hispanic	3.6%	8
Hispanic/Latino(a)	2.2%	5
Middle Eastern/North African, non-Hispanic	0.4%	1
Other, non-Hispanic	4.0%	9
Pacific Islander, non-Hispanic	0.4%	1
South Asian, non-Hispanic	1.3%	3
White, non-Hispanic	89.3%	200

Sexual Orientation	%	N = 224
Bisexual	1.8%	4
Gay or lesbian	2.2%	5
Prefer to self-describe	3.6%	8
Straight/heterosexual	92.4%	207
Town of Employment	**%**	**N = 413**
Acton, MA	6.1%	25
Bedford, MA	10.2%	42
Concord, MA	46.7%	193
Other	11.6%	48

DATA SOURCE: Emerson Hospital CHNA Provider Survey, 2021
NOTE: "Other" responses for Race/Ethnicity included most frequently European and preferring not to answer. "Other" Towns of Employment included most frequently Boston, Framingham, Lexington, and Lowell. Towns of Employment not presented for towns with <5% of respondents

Analyses

Frequencies were calculated for each survey question. Not all respondents answered every question; therefore, denominators in analyses reflect the number of total responses for each question, which varied by question. Additionally, denominators excluded respondents who selected "prefer not to answer/don't know." For questions that allowed for multiple responses (i.e., questions that asked respondents to check all that apply), the denominator was out of the total number of respondents who selected at least one response option for the question. Stratified analyses were conducted for select questions by specific sub-groups.

Data Limitations

As with all data collection efforts, there are several limitations that should be acknowledged. A number of secondary data sources were drawn upon in creating this report and each has its own set of limitations. Overall, it should be noted that different data sources use different ways of measuring similar variables (e.g., different questions to identify race/ethnicity). There may be a time lag for many data sources from the time of data collection to data availability. Some data are not available by specific population groups (e.g., race/ethnicity) or at a more granular geographic level (e.g., town or municipality) due to small sub-sample sizes. In some cases, data from multiple years may have been aggregated to allow for data estimates at a more granular level or among specific groups.

Self-reported data should be interpreted with particular caution. In some instances, respondents may over report or under report behaviors and illnesses based on fear of social stigma or misunderstanding the question being asked. In addition, respondents may be prone to recall bias – that is, they may attempt to answer accurately, but they remember incorrectly. In some surveys, reporting and recall bias may differ according to a risk factor or health outcome of interest. Despite these limitations, most of the self-report data included in this report benefit from large sample sizes and repeated administrations, enabling comparison over time. However, it is important to note that the CHNA survey, which is also self-report data, used a non-random sampling method and therefore the results may not be statistically representative of the larger population.

Similarly, while focus groups and interviews conducted for this study provide valuable insights, results are not statistically representative of a larger population due to non-random recruiting techniques and

small sample size. Lastly, it is important to note that data were collected at one point in time, so findings, while directional and descriptive, should not be interpreted as definitive.

Findings

Population Characteristics

Focus group participants and interviewees often remarked on the uniqueness of and wide variation between the towns in the service area. Interviewees described the community as suburban, with thriving business communities but also with a lot of open space, including parks and nature trails and farming still existing in the area. One focus group participant shared, *"It's rural enough that you can enjoy it but close enough to the city, mountains, and ocean."* The proximity of the area to Boston and commuting options to the Boston/Cambridge region such as commuter rail and highway access were often mentioned as benefits of the area.

Interviewees that worked across towns in the region emphasized just how different each town is, with each having a slightly different demographic and feel to it. A few interviewees and focus group participants from different towns discussed the green, open space in the area as a positive. A few focus group participants even noted the increased usage of these resources by community members during the pandemic, *"we are so lucky to have countless, beautiful areas for people to walk and enjoy being outside."*

Overall interviewees described limited changes in the community over time, and a number of them remarked that it has, *"not changed a lot, but I mean that in a good way."* From the youth perspective, they found their town to be *"small and close knit."* While some youth described the town as welcoming to new people, others found it *"hard for newcomers to make friends."*

Population Overview

As presented in Table 3, the Emerson service area includes towns ranging from a high of approximately 19,000 to 24,000 residents (i.e. Westford, Acton, Hudson, and Concord), mid-sized towns of approximately 10,000 to 14,000 residents (e.g., Bedford, Littleton, Pepperell, and Groton), and smaller towns with populations ranging from 2,000 residents to 8,000 residents (e.g., Devens, Hanscom, Lincoln, Harvard, Townsend). The towns of Littleton (12.9%), Boxborough (11.3%), and Westford (10.9%) experienced the greatest increase in population from 2010-2014 to 2015-2019, while the population increase was smallest in the towns of Devens (3.7%) and Acton (4.0%).

Table 3. Total Population 2015-2019 and Population Change from 2010-2014 to 2015-2019, by Town

Town	2015-2019	Change from 2010-2014 to 2015-2019
Primary Service Area		
Westford	24,342	10.9%
Acton	22,791	4.0%
Hudson	19,887	4.3%
Sudbury	19,122	8.3%
Concord	19,121	8.2%
Bedford	14,070	5.6%
Maynard	10,754	6.4%
Littleton	10,071	12.9%
Stow	7,133	8.2%
Boxborough	5,561	11.3%
Bolton	5,299	8.2%
Carlisle	5,224	7.7%
Lincoln	4,884	-
Harvard	4,731	-
Secondary Service Area		
Pepperell	12,105	5.3%
Groton	11,313	6.3%
Ayer	7,699	3.7%
Townsend	7,670	-
Shirley	7,633	5.9%
Hanscom	2,059	-
Devens	1,969	-

DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2010-2019

According to American Community Survey estimates, Emerson Hospital's primary service area (population of 172,990 in 2015-2019) experienced an 8.0% increase in population from 2010-2014 to 2015-2019 (Table 4). This rate of growth for the primary service area was at least double that for the State (2.9%), and Middlesex County (4.0%). With a 5.3% increase in population from 2010-2014 to 2015-2019, Emerson Hospital's secondary service area (population of 50,448 in 2015-2019) also experienced a higher rate of growth than the State and Middlesex County from 2010-2014 to 2015-2019.

Table 4. Percent Population Change from 2010-2014 to 2015-2019, by Massachusetts, Middlesex County, and Service Areas, 2010-2019

	2015-2019	Change from 2010-2014 to 2015-2019
Massachusetts	6,850,553	2.9%
Middlesex	1,600,842	4.0%
Primary Service Area	172,990	8.0%
Secondary Service Area	50,448	5.3%

NOTE: Population Change from 2010-2014 to 2015-2019 for Primary and Secondary Service Area inclusive of towns with data available for both time periods.

DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2010-2019

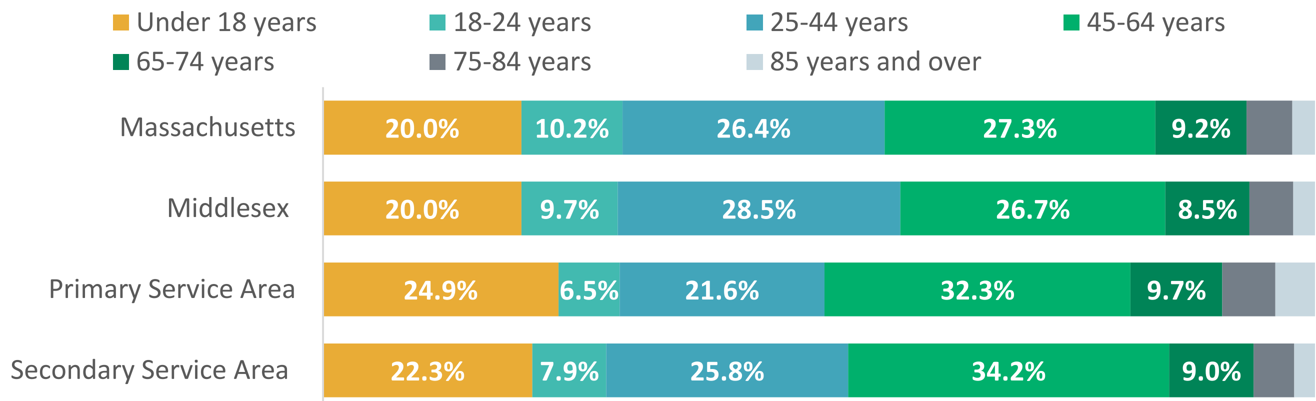
Age

Interviewees noted that the large senior citizen population continues to grow in the area, as it is a great place to live and people do not want to move out, but this also limits the available housing for new, often younger families to move into the area. This was noted by a couple interviewees as *"declining enrollment in the schools."*

Older adults participating in focus groups found resources offered through the Council on Aging and Senior Centers in their communities to be of great value. One participant shared, *"The Council of Aging center is a huge hurrah of being in Concord."*

As shown in Figure 2, the age profiles of Emerson Hospital's primary and secondary service areas differed slightly from the age distribution across the State and in Middlesex County. The primary (32.3%) and secondary (34.2%) service areas had a larger proportion of the population who were 45-64 years of age compared to Massachusetts (27.3%) and Middlesex County (26.7%). Based on American Community Survey estimates, in the primary service area approximately 1 in 4 (24.9%) residents were <18 years of age, compared to approximately 1 in 5 residents <18 years of age across the State (20.0%), in Middlesex County (20.0%), and in the secondary service area (22.3%). A smaller share of residents in the primary (6.5%) and secondary (7.9%) service area were 18-24 years of age, compared to Massachusetts (10.2%) and Middlesex County (9.7%).

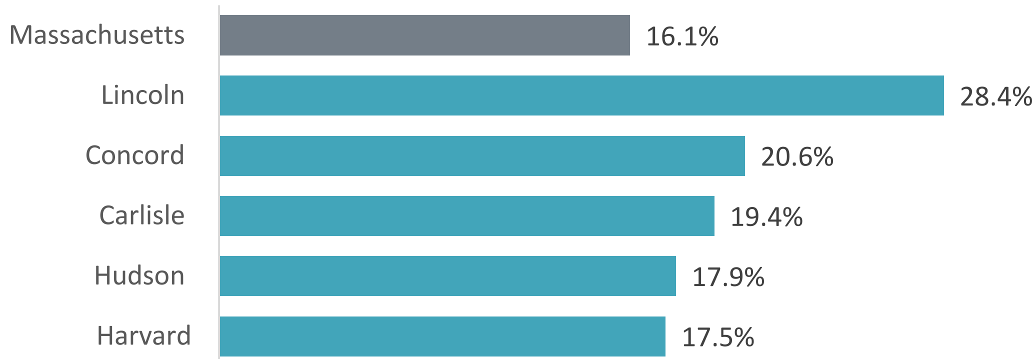
Figure 2. Age Distribution, by Massachusetts, Middlesex County, and Service Areas, 2015-2019



DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2015-2019
NOTE: Values less than 6% not shown

The towns of Lincoln (28.4%), Concord (20.6%), Carlisle (19.4%), Hudson (17.9%), and Harvard (17.5%) had the largest proportion of residents 65 years of age or older, representing two of the service area's largest towns and three of the service area's smallest towns (Figure 3).

Figure 3. Total Population Age 65+, by Massachusetts and Towns with Greatest Population of Older Adults, 2015-2019

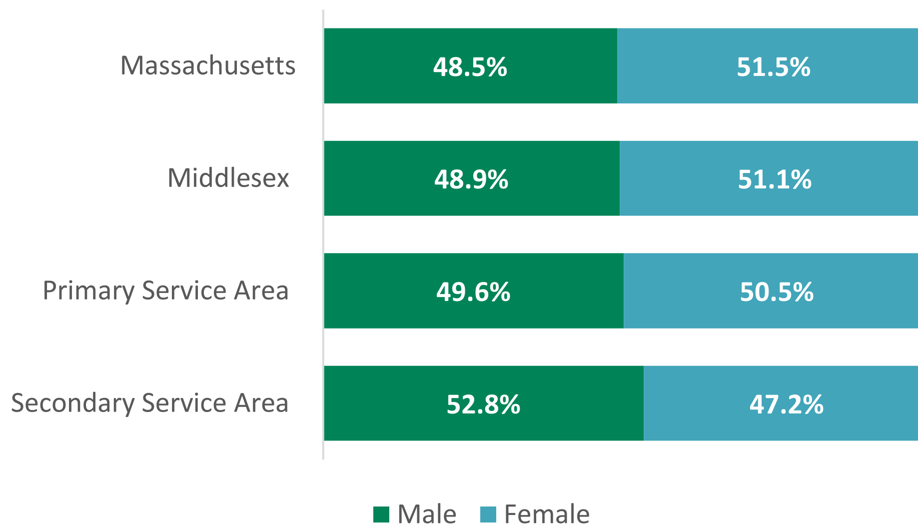


DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2015-2019

Gender

As indicated in Figure 4, in the secondary service area more than half (52.8%) of residents identified as male, whereas approximately 49% of residents across the state (48.5%), in Middlesex County (48.9%), and in the primary service area (49.6%) identified as male.

Figure 4. Gender, by Massachusetts, Middlesex County, and Service Areas, 2015-2019



DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2015-2019

Racial, Ethnic, and Language Diversity

Racial and Ethnic Composition

There was variation in how interviewees described the racial and ethnic makeup of the population, with some towns being described as *"primarily white,"* and *"not having the kind of immigrant households that neighboring towns have,"* while others noted a *"high percentage of Asian population."* Some focus group participants remarked on the lack of diversity in their towns. Participants that had lived in the

community for a long time remarked that, *“people of color have always been a minority here.”* Another focus group participant characterized the area as *“very wonder bread.”* Those that described their communities as *“not having a diverse population”* saw it as an area of concern.

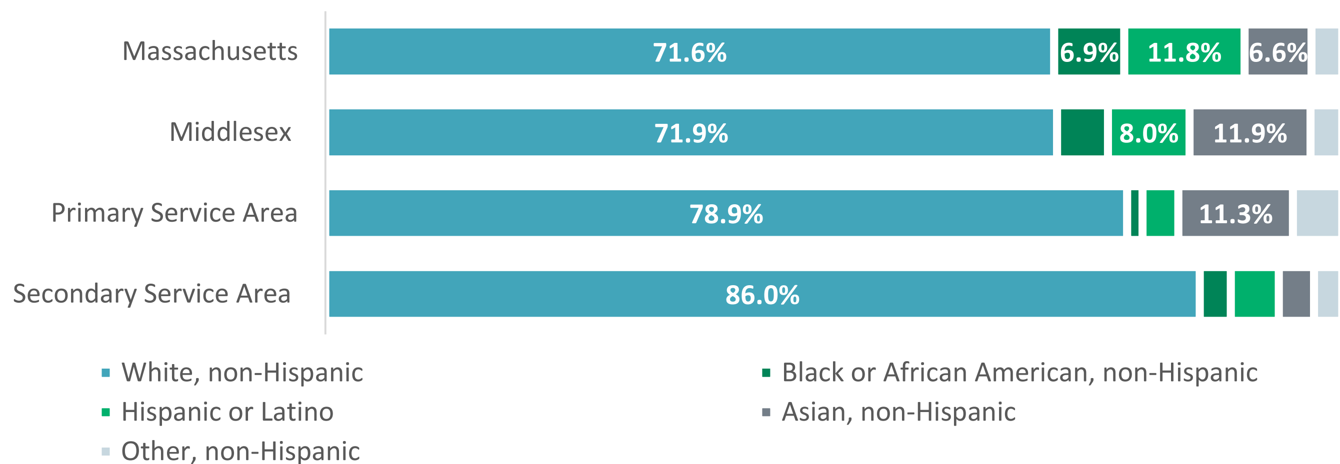
“It is not diverse at all.” – Interviewee

“It is more diverse than people think on the surface.” – Interviewee

While the communities were still described as primarily white, a number of interviewees, especially those that had been in the community for a number of years, noted that there have been more people of color moving to the area. One interviewee noted, *“there has been a shift in people actually moving here who are people of color.”*

Compared to Massachusetts and Middlesex County, the primary (78.9%) and secondary (86.0%) service areas had a larger proportion of residents who identified as White in 2015-2019 (Figure 5). In the primary service area, more than 1 in 10 residents identified as Asian (11.3%). The second largest non-White population was residents who identified as Hispanic or Latino, representing 4.8% of residents in the primary service area. In the secondary service area, approximately 1 in 10 residents identified as non-White.

Figure 5. Race/Ethnicity, by Massachusetts, Middlesex County, and Service Areas, 2015-2019

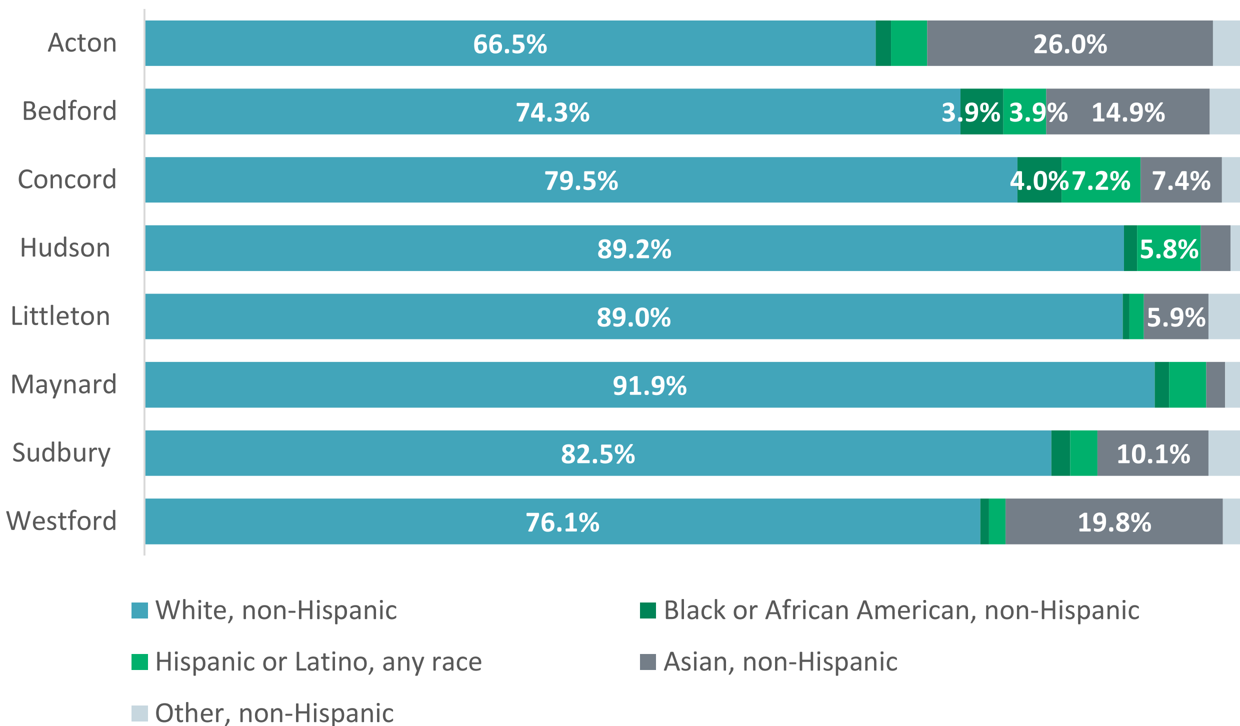


DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2015-2019
NOTE: Other includes American Indian and Alaska Native, non-Hispanic; Native Hawaiian and Other Pacific Islander, non-Hispanic; Other race, non-Hispanic; and Two or more races, non-Hispanic. Values less than or equal to 5% not shown.

Presented in Figure 6 is the racial/ethnic distribution of the population in the largest service area towns. The towns of Acton (26.0%) and Westford (19.8%) had the largest proportion of residents who identified

as Asian. The towns of Bedford (14.9%), Sudbury (10.1%), and Concord (7.4%) also had a sizable Asian population. Concord (7.2%), Lincoln (6.3%), and Hudson (5.8%) each had the largest population of residents who identified as Hispanic or Latino. The population of residents who identified as Black or African American was largest in Concord (4.0%) and Bedford (3.9%). With approximately 9 in 10 residents identifying as White, the towns of Maynard (91.9%) and Hudson (89.2%) had the largest White population.

Figure 6. Race/Ethnicity, by Most Populated Service Area Towns, 2015-2019

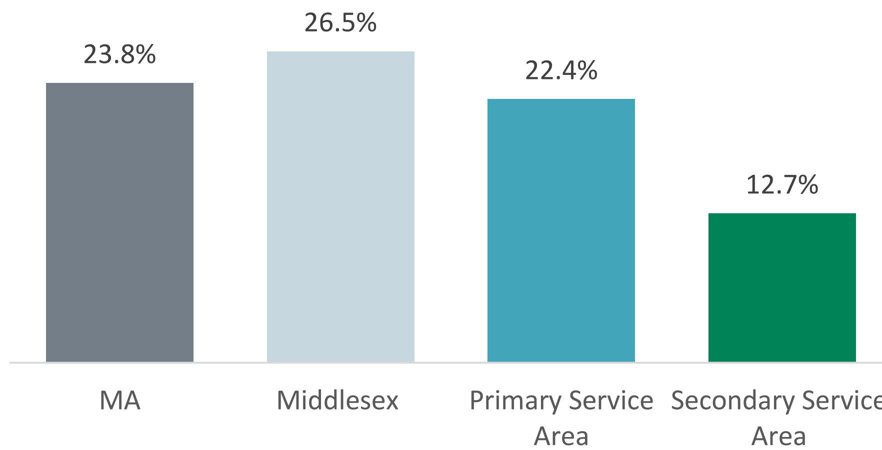


DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2015-2019
NOTE: Other includes American Indian and Alaska Native, non-Hispanic; Native Hawaiian and Other Pacific Islander, non-Hispanic; Other race, non-Hispanic; and Two or more races, non-Hispanic. Values less than 3.9% not shown.

Language Diversity

In 2015-2019, approximately 2 in 10 residents in the primary service area (22.4%) spoke a language other than English at home, which was similar to patterns across the State (23.8%; Figure 7). In contrast, 1 in 10 residents in the secondary service area (12.7%) spoke a language other than English at home according to American Community Survey estimates.

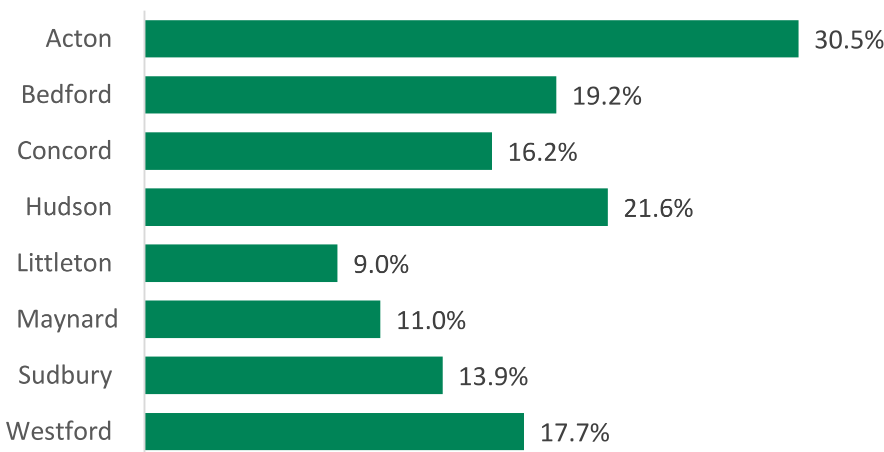
Figure 7. Percent of Population Who Speak a Language Other Than English at Home, by Massachusetts, Middlesex County, and Service Areas, 2015-2019



DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2015-2019

For the largest towns in the primary service area, language use patterns varied widely (Figure 8). The towns of Acton (30.5%) and Hudson (21.6%) had the largest share of residents who spoke a non-English language at home, with approximately 3 in 10 residents and 1 in 5 residents having reported speaking a language other than English at home, respectively. The towns of Littleton (9.0%) and Maynard (11.0%) had the lowest proportion, with about 1 in 10 residents having reported speaking a language other than English at home.

Figure 8. Percent of Population Who Speak a Language Other Than English at Home, by Most Populated Towns in Primary Service Area, 2015-2019



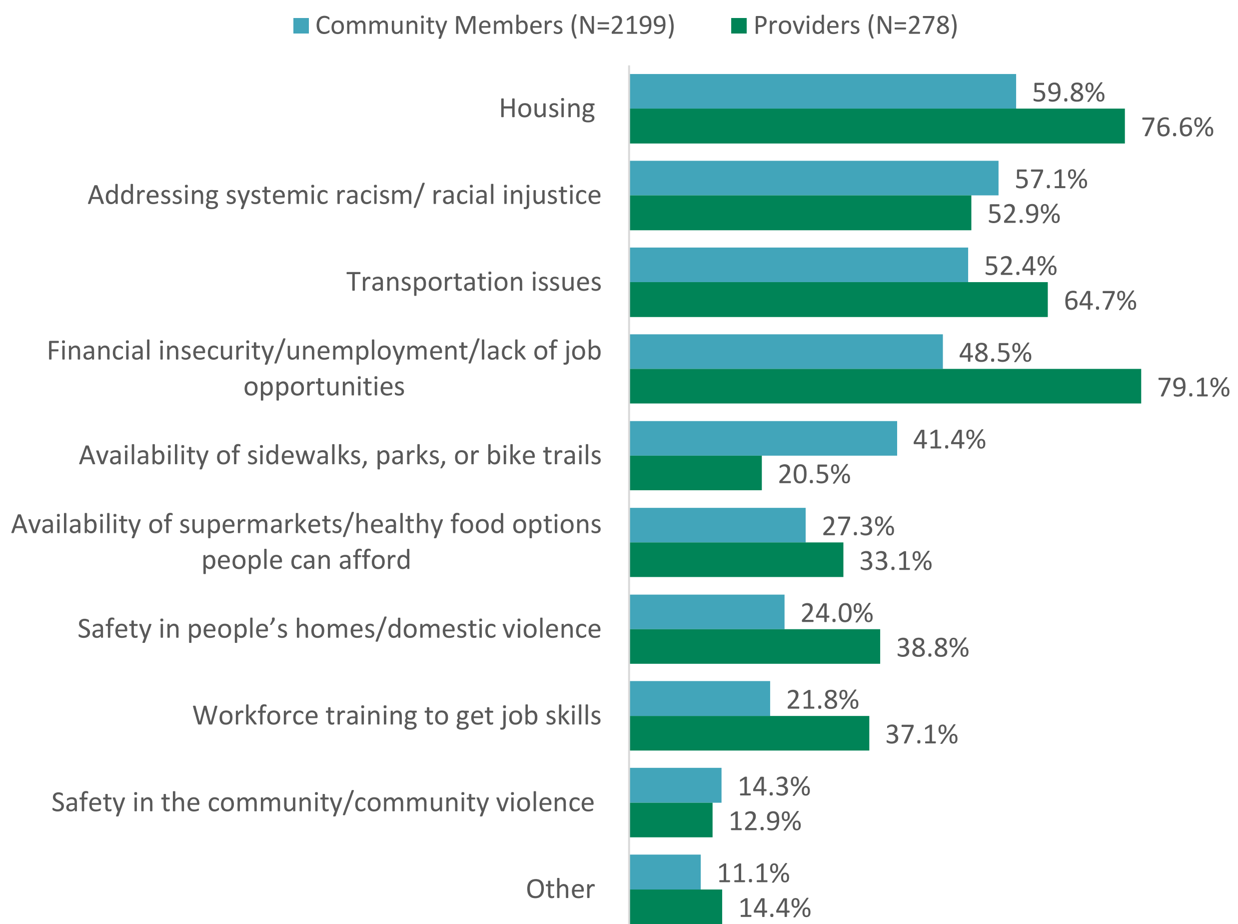
DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2015-2019

Social Determinants of Health

Community Perceptions and Concerns

When asked about social issues of concern, financial insecurity and unemployment was the most frequently cited concern amongst both residents (48.5%) and providers (79.1%) (Figure 9). Among residents, other concerns that were frequently endorsed included housing (59.8%), racial injustice (57.1%), and transportation (52.4%). For provider respondents, other top concerns included housing concerns (76.6%), transportation barriers to accessing needed resources (63.7%), racial injustice (52.9%), and workforce training (37.1%).

Figure 9. **Top 5 Social Issues with the Largest Impact on the Community, Reported by Community Members and Providers, 2021**



DATA SOURCE: Emerson Hospital CHNA Community and Provider Survey, 2021
NOTE: "Other" responses for providers included most frequently stress, isolation, and other mental health concerns. For community members, "Other" responses included most frequently, mental health concerns, climate/environmental concerns, political unrest/division, and COVID concerns (vaccination rollout, not being able to gather, schools being closed).

Community survey respondents were then asked to rank the top 5 social issues affecting them and their family and also affecting their community. Of note, approximately 9 in 10 community survey respondents identified as White. Perceptions of discrimination on the basis of race, ethnicity, language, or country of origin for residents of color may not be fully captured through the community survey (Figure 10). At the both the individual/family and community levels, four concerns rose to the top: availability of sidewalks, parks, or bike trails; addressing systemic racism and racial injustice; financial insecurity, unemployment, and/or lack of job opportunities; and transportation issues. Affordable availability of supermarkets and healthy food options was the fifth-highest concern for respondents and their families. Housing concerns – including finding affordable housing, fear of eviction, overcrowding of housing units, and housing quality – was the top community-level concern ranked by respondents, with about 6 in 10 respondents citing this concern.

Figure 10. Top 5 Social Issues with the Largest Impact on the Individual and the Community, Reported by Community Members 2021

Community Members	
You/Your Family (N= 1,988)	Your Community (N= 2,199)
Availability of sidewalks, parks, or bike trails	Housing (such as finding affordable housing, fear of eviction, overcrowding, housing quality)
Addressing systemic racism/racial injustice	Addressing systemic racism/racial injustice
Financial insecurity/unemployment/lack of job opportunities	Transportation issues
Transportation issues	Financial insecurity/unemployment/lack of job opportunities
Availability of supermarkets/healthy food options people can afford	Availability of sidewalks, parks, or bike trails

DATA SOURCE: Emerson Hospital CHNA Community Survey, 2021

Presented in Figure 11 is a ranking of the top 5 reported social issues affecting respondents' family and community, comparing concerns endorsed by survey respondents <65 years of age and respondents 65+ years of age. Across age cohort's respondents identified mostly the same social issues; the availability of sidewalks, parks, or bike trails; addressing systemic racism and racial injustice; financial insecurity, unemployment, and lack of job opportunities; housing; and the availability and affordability of food. For respondents 65 years of age and older, more than 1 in 3 (37.3%) endorsed transportation issues as a concern, which was the third most frequently indicated concern for this age group. The issue of transportation access was also brought up in focus groups with senior citizens as an issue that impacted themselves and their peer's ability to access resources and services and could contribute to feelings of isolation.

Figure 11. Top 5 Social Issues with the Largest Impact on the Individual, by Under 65 Years Old and 65+ (N=1,618), 2021

Under 65 Years Old	Above 65 Years Old
Availability of sidewalks, parks, or bike trails (53.9%)	Availability of sidewalks, parks, or bike trails (43.4%)
Addressing systemic racism/racial injustice (46.9%)	Addressing systemic racism/racial injustice (41.2%)
Financial insecurity/unemployment/lack of job opportunities (46.4%)	Transportation issues (37.3%)
Housing (such as finding affordable housing, fear of eviction, overcrowding, housing quality) (29.8%)	Housing (such as finding affordable housing, fear of eviction, overcrowding, housing quality) (25.7%)
Availability of supermarkets/healthy food options people can afford (29.3%)	Financial insecurity/ unemployment/ lack of job opportunities (25.2%); Availability of supermarkets/healthy food options people can afford (25.2%)

DATA SOURCE: Emerson Hospital CHNA Community Survey, 2021

Education

"I think the biggest thing that pulls people in is the schools."

\- Interviewee

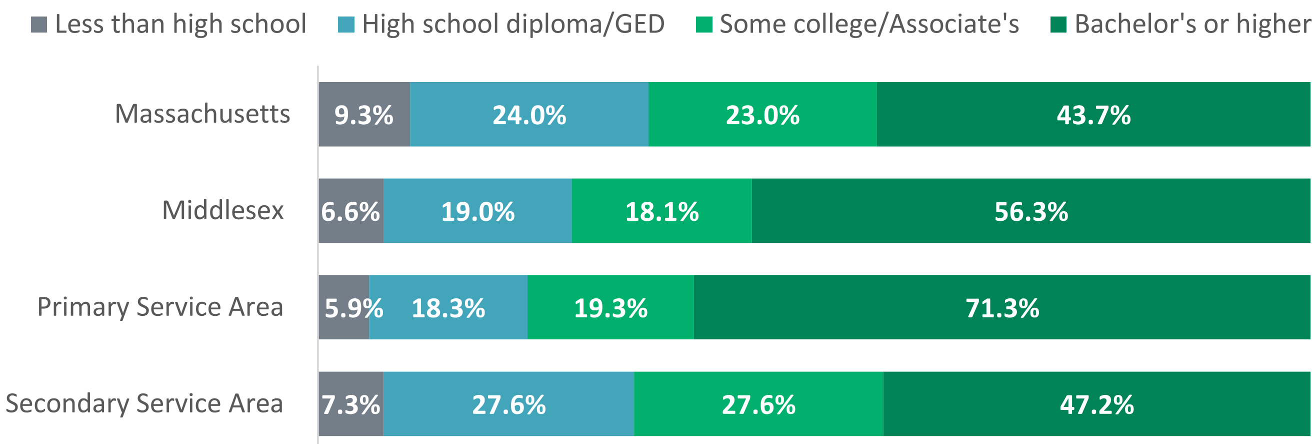
Nearly all of the interviewees mentioned the quality of schools in their community as a strength of the area. It often was mentioned as a reason people move to the community to raise a family. Some focus group participants also described that the *"public schools are great."* There was also a feeling from many interviewees that residents place a high value on education.

According to interviewees and focus group participants, the strong school systems also provide a pathway to close community ties. One interviewee emphasized that for people that don't find a circle of friends in the community it can be a challenging place, and that, *"it is easier when you have kids in school because that fosters some similarity."* A couple interviewees also discussed the strength of the religious communities in the area, and that they offer another avenue to tight knit social circles and community. Interviewees also commonly recognized the community as highly educated.

With approximately 7 in 10 residents holding a bachelor's or higher level of education, the primary service area (71.3%) had a much higher proportion of college educated residents than Massachusetts overall (43.7%) and Middlesex County (56.3%; Figure 12). Just under half (47.2%) of residents in the

secondary service area held a bachelor's degree or higher, which is slightly above the proportion for the State (43.7%).

Figure 12. **Educational Attainment, by Massachusetts, Middlesex County, and Service Areas, 2015-2019**



DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2015-2019

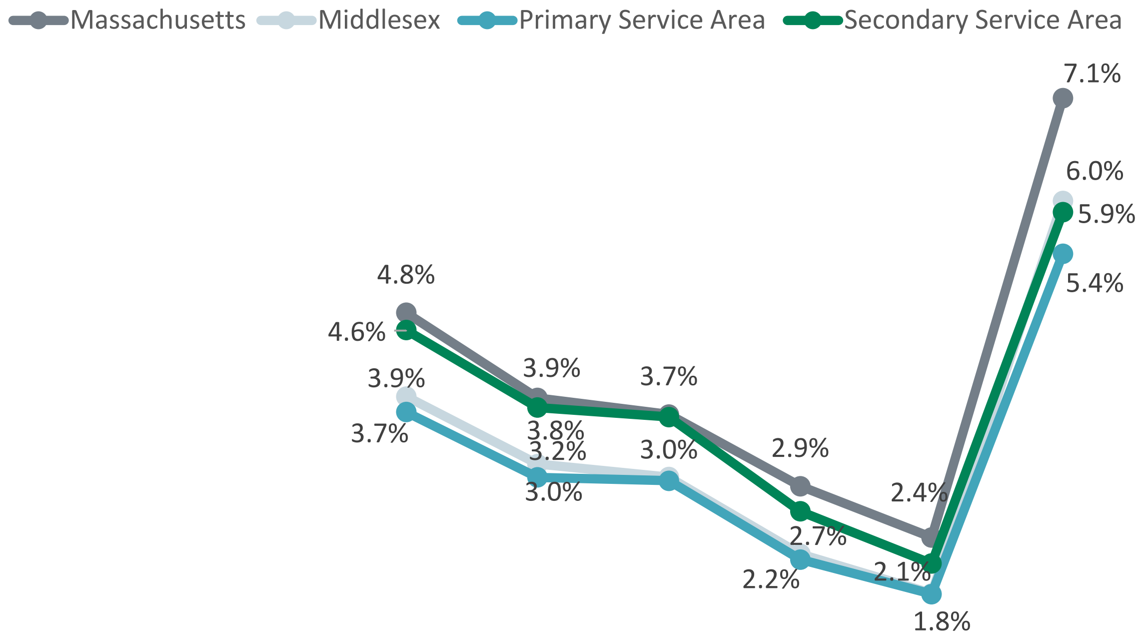
Employment

Some interviewees noted varied socioeconomic status across the towns in the service area. In some towns, interviewees observed that the service sectors in their towns *"can't afford to live here,"* and that the concept of *"workforce housing"* was just beginning to be explored.

As shown in **Figure** 13, from 2015 to 2019 the unemployment rate declined for Emerson Hospital's priority service areas and for Middlesex County and Massachusetts. During this same period, in the primary service area the unemployment rate was consistently lower than the rate for Massachusetts and the secondary service area. From 2019 to 2020, the unemployment rate increased for both priority service areas, similar to patterns for Massachusetts and Middlesex County. From 2019 to 2020, the unemployment rate increased by 200% in the primary service area and by 181% in the secondary service area, which was below the 233% increase in unemployment experienced across Middlesex County during this same period. By comparison, the unemployment rate increased 196% across Massachusetts from 2019 to 2020. Notably, in 2020 the unemployment rate in the primary (5.4%) and secondary (5.9%) service areas was more favorable than the rate across the State (7.1%).

When asked about changes to employment due to the COVID-19 pandemic, 8.9% of community survey respondents reported working *fewer* hours per week and an additional 6.1% reported being laid off or furloughed from their job (**Table** 5). Thus, 15% of respondents experienced a change in their work status due to the pandemic that may have adversely affected household earnings. Approximately 8% of respondents reported working *more* hours each week, whereas approximately 3 in 10 respondents reported working the same number of hours on a weekly basis (31.2%). Approximately 4 in 10 respondents reported not working prior to the pandemic (45.8%). As about half (50.6%) of community survey respondents were 65+ years of age, it is possible that some reports of not working before the pandemic reflect retirement.

Figure 13. **Overall Unemployment by Year and Massachusetts, Middlesex County, and Service Areas, 2015-2020**



	2015	2016	2017	2018	2019	2020
Massachusetts	4.8%	3.9%	3.7%	2.9%	2.4%	7.1%
Middlesex	3.9%	3.2%	3.0%	2.2%	1.8%	6.0%
Primary Service Area	3.7%	3.0%	3.0%	2.2%	1.8%	5.4%
Secondary Service Area	4.6%	3.8%	3.7%	2.7%	2.1%	5.9%

DATA SOURCE: Bureau of Labor Statistics, Local Area Unemployment Statistics, 2015-2020

Table 5. **COVID-19 Impact on Employment among Community Members (N = 2,124), 2021**

COVID-19 Impact on Employment	%	N
No, I was not employed prior to the pandemic	45.8%	972
No, I am working the same number of hours per week	31.2%	663
Yes, I am working fewer hours per week	8.9%	189
Yes, I am working more hours per week	8.1%	171
Yes, I was laid off or furloughed from my job	6.1%	129

DATA SOURCE: Emerson Hospital CHNA Community Survey, 2021

Income

“I do see people who are making difficult choices between housing, utilities and food – and I have to assume their health is further down the list.”

– Interviewee

Interviewees overwhelmingly described the communities as middle income and well-off, but there was also acknowledgement that this was not universal. A few interviewees noted that the population is *“largely middle class, but not universally so.”* This to some interviewees was not recognized by the wealthy residents, *“the folks who make up the wealthy sector aren’t cognizant of those that don’t have as many resources.”* Interviewees felt that community members were *“more aware now that there are people without in their community.”* In addition, interviewees mentioned how COVID-19 impacted individuals’ financial security, *“the pandemic has made the economic inequities even greater – those without struggled even more.”*

“Right now, people are struggling.”

– Focus Group Participant

For individuals that are low-income in the area interviewees brought up challenges to living in affluent communities, *“it is really hard for people who live in these communities because they are so aware of what others have and they don’t.”* Specifically for children, interviewees noted that the difference in socioeconomic status *“can be really isolating.”*

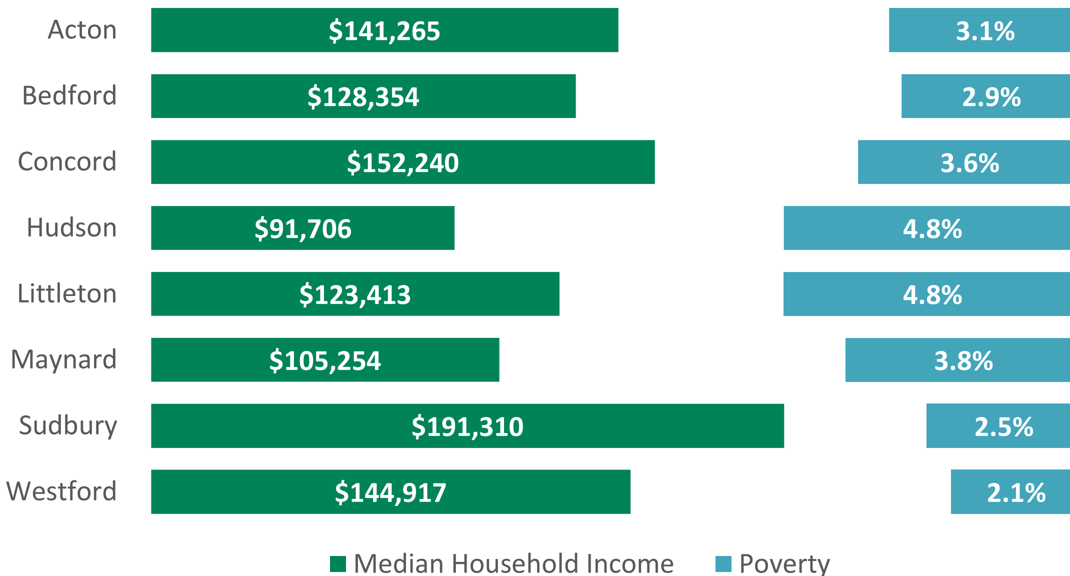
In 2015-2019, the median household income in the primary service area ($145,639) was 79% and 42% higher than the median household income in Massachusetts ($81,215) and Middlesex County ($102,603), respectively (Figure 14). In the secondary service area, the median household income of $104,935 more closely approximated that for Middlesex County, and was 28% below the median household income for the primary service area and 29% above the median household income for Massachusetts.

Figure 14. **Median Household Income, by Massachusetts, Middlesex County, and Service Areas, 2015-2019**

DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2015-2019

As presented in Figure 15, among the most populated towns in the primary service area, the towns of Hudson (4.8%) and Littleton (4.8%) had the highest proportion of residents with incomes below poverty, followed by Maynard (3.8%) and Concord (3.6%) in 2015-2019. Sudbury had the highest median household income ($191,310), which is 109% higher than the median household income in Hudson ($91,706).

Figure 15. **Median Household Income and Percent Individuals Below Poverty Level, by Most Populated Towns in Primary Service Area, 2015-2019**



DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2015-2019

When community survey respondents were asked about a change in their financial situation due to the COVID-19 pandemic, nearly 1 in 6 (15.4%) respondents reported that their financial circumstances had gotten worse (**Table** 6). By contrast, 13.3% of respondents characterized their financial situation as improved during the pandemic, and approximately 7 in 10 respondents (71.3%) noted that their financial circumstances stayed the same.

Table 6. **Change in Financial Situation since COVID-19 (N = 2,153), 2021**

	%	N
Has stayed the same	71.3	1,536
Gotten worse	15.4	331
Has improved	13.3	286

DATA SOURCE: Emerson CHNA Community Survey, 2021

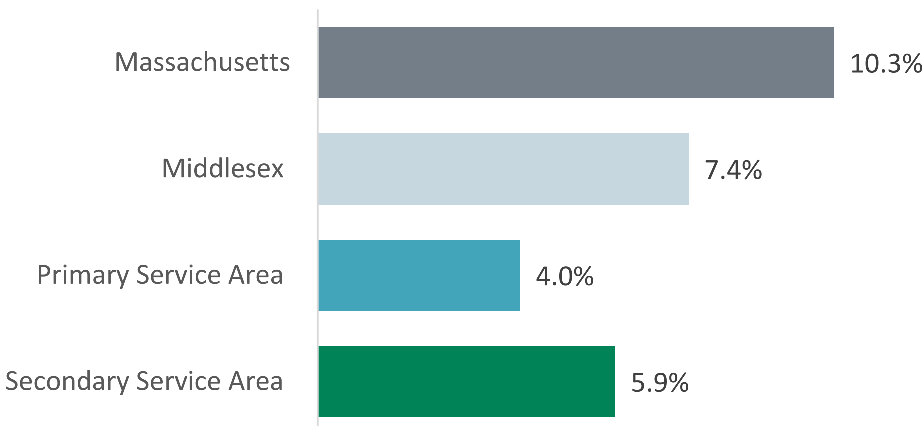
Poverty

In general focus group participants found there to be a lot of services in the area, but one participant noted that, "the services are great, but they are not so great for people who are low-income." Social service providers we spoke to discussed coordination and collaboration that happens across their organization and other providers and institutions in the area, including with health care providers, police departments and the school system. They often remarked that the area had the resources available for them to make referrals to connect patients or clients, but that getting to know the network of services can take time.

When asked about resources for lower income residents, an interviewee mentioned a model in Acton/Boxborough where they have hired caseworkers for the community rather than relying on a variety of nonprofits or social service organizations to fill in the gaps. This was seen by an interviewee as *"recognition that people live here who are not wealthy and need assistance."*

In 2015-2019, 4.0% of residents in the primary service area had incomes below the federal poverty level, which was 61% and 46% lower than the poverty rate across the State (10.3%) and for Middlesex County (7.4%), respectively (Figure 16). Similarly, 5.9% of residents in the secondary service area had incomes below the poverty level, which was 43% and 20% lower than the poverty rate across Massachusetts and Middlesex County, respectively, but 48% higher than the poverty rate for the primary service area.

Figure 16. **Percent Individuals Below Poverty Level, by Massachusetts, Middlesex County, and Service Areas, 2015-2019**



DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2015-2019

Housing and Housing Costs

Some interviewees named the housing in the area as a strength, sharing that the high home prices were still considered more affordable than Boston. Another interviewee noted that the area provides *"good neighborhoods to raise children."*

Additionally, interviewees and focus group participants from across communities in the service area discussed the high cost of purchasing or renting homes and limited availability of homes in the area, as well as a lack of affordable units. The high housing costs were associated with it being a difficult place for young people, immigrant communities and low-income families to move, and the high tax rate was

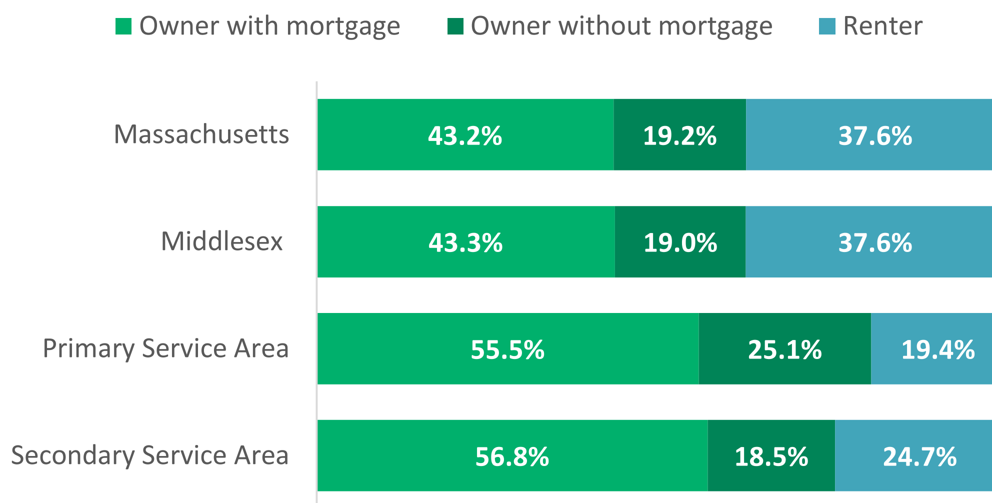
also challenging for families to stay in the community after their children graduated and for older adults on a fixed income or looking to downsize but stay in the area.

The state of affordable housing in the area was described by an interviewee as, *"even affordable units are not enough to go around,"* and *"there is not anything for low-income families."* A few interviewees shared about the difficulty towns face in building new affordable housing in the community, noting that the sentiment of *"not in my backyard"* is definitely present.

One interviewee brought up the issue of homelessness in the area, raising the question of *"how do you support them [homeless people] with the services they need?"* Another interviewee linked housing quality with health: *"People living in poor housing leads to bad health outcomes."*

Approximately 4 in 5 residences in the primary (80.6%) service area and 3 in 4 residences in the secondary service area (75.3%) were owner-occupied in 2015-2019 (Figure 17). Notably, approximately 1 in 4 (25.1%) residences in the primary service area were occupied by owners who were not paying a mortgage. Nearly 1 in 5 (19.4%) residences in the primary service area were renter-occupied, and nearly 1 in 4 (24.7%) residences in the secondary service area were renter occupied, which was below average of 37.6% of renter occupied housing units across Massachusetts and in Middlesex County.

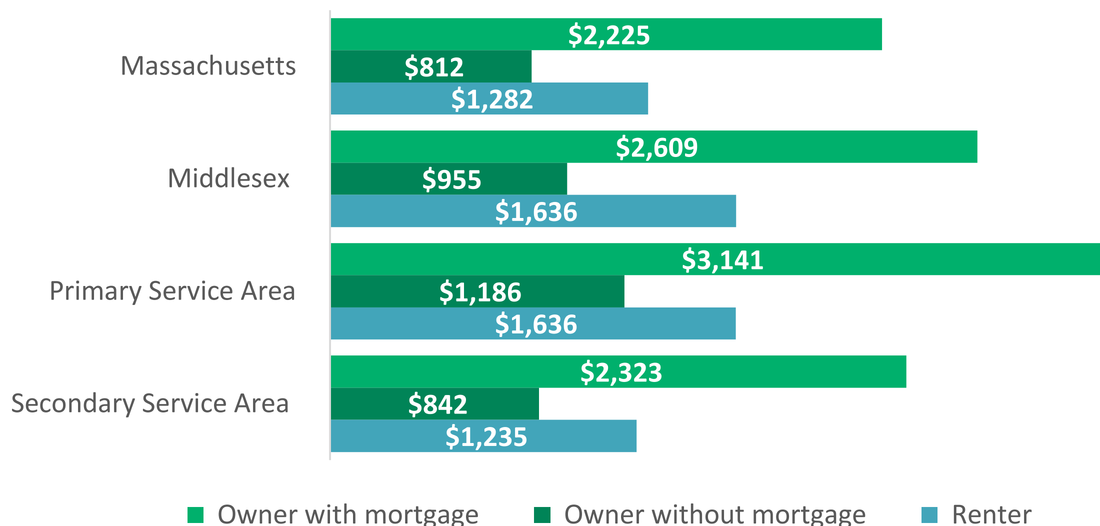
Figure 17. **Housing Occupancy, by Massachusetts, Middlesex County, and Service Areas, 2015-2019**



DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2015-2019

Emerson Hospital's primary service area recorded the highest monthly median housing costs for owners with a mortgage ($3,141), owners without a mortgage ($1,186), and renters ($1,636), when compared to patterns for the secondary service area, Middlesex County, and Massachusetts (Figure 18). Monthly median housing costs in the secondary service area more closely reflected monthly median housing costs across Massachusetts for homeowners paying a mortgage ($2,323) and homeowners without a mortgage ($842), and renters ($1,235).

Figure 18. **Monthly Median Housing Costs for Owners and Renters, by Massachusetts, Middlesex County, and Service Areas, 2015-2019**



DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2015-2019

Transportation

Some interviewees also discussed the easy access to different transportation options such as the highway and the commuter rail as a draw to the area. One interviewee specifically mentioned that the easy transportation options made jobs in the Boston and Cambridge area easy to access.

Additionally, many interviewees remarked on the challenge's individuals face accessing services in the community due to lack of transportation infrastructure, *"If you don't have your own means of transport – it is a challenge."* Interviewees shared about individual towns or social service agencies trying to create systems for their communities or populations, but they often reported significant limitations such as geographic perimeters and destinations that limit the usability. Transportation struggles were brought up across a number of other social issues including access to employment, housing, food, and medical appointments.

Transportation was also a top concern raised in the survey for the community by residents and providers alike. For individuals, it also rose to the third most common concern for residents over 65 responding to the survey.

While a number of interviewees shared the commuter rail as a strength of the community, others remarked that it can be challenging for individuals to reach the commuter rail stations if they do not have a car or do not live within walking distance. The commuter rail was also described as *"expensive, it is not economical."*

Food Access

Interviewees and focus group participants described food insecurity as a concern in the community that was exacerbated by COVID-19, as food pantries and other emergency food sources saw a dramatic rise in individuals and families looking for resources over the past year. Interviewees were able to name a

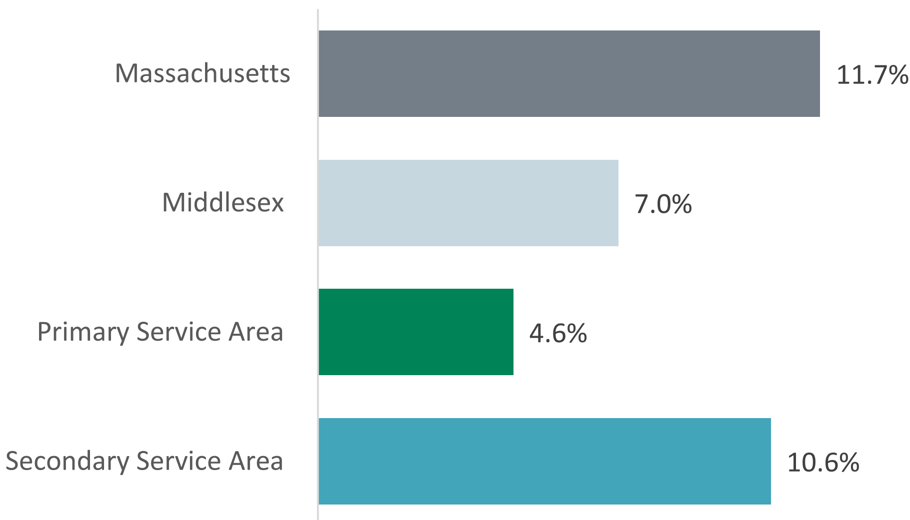
number of resources available throughout the service area but noted, *"the need has just increased over the past year," and "it is never enough."*

Focus group participants also brought up the role of schools in connecting children to food and described how especially during the pandemic the food distributed from the schools *"lacks healthy options"* and the *"portion sizes are too small for high schoolers."* A couple interviewees also noted the need for more nutrition education, *"the need for good food and how to prepare it is really important."*

In the community survey availability of supermarkets and affordable healthy food options was a top concern for residents for themselves and the community at large. This was seen as a top concern across age groups.

In the secondary service area, approximately 1 in 10 (10.6%) households received food stamps/SNAP benefits, which was just below the proportion for Massachusetts (11.7%), and more than double the proportion of households that received food stamps/SNAP in the primary service area (4.6%) (Figure 19). According to American Community Survey and SNAP Administrative Records from 2017-2019[1] it is estimated that only 53.0% of eligible individuals in Middlesex County accessed SNAP benefits, this is compared to 65% of eligible individuals in Massachusetts.

Figure 19. **Percent Households Receiving Food Stamps/SNAP, by Massachusetts, Middlesex County, and Service Areas, 2015-2019**

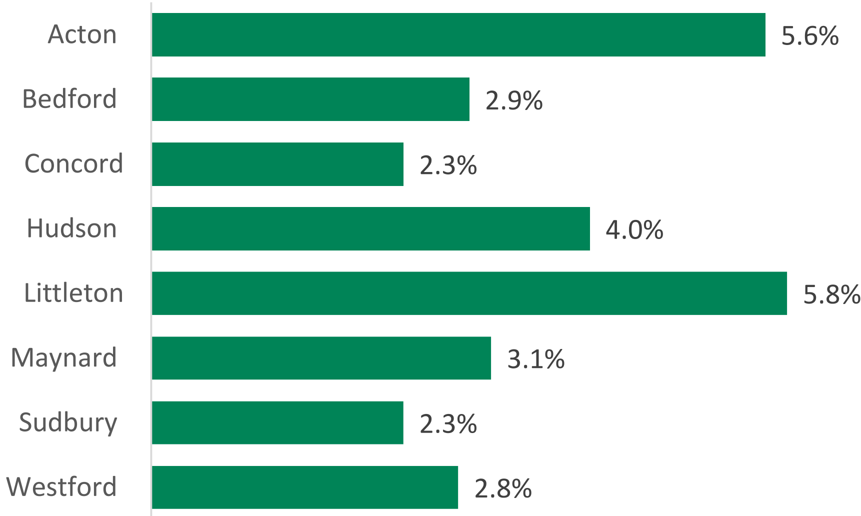


DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2015-2019

Among the largest towns in the primary service area, the towns of Littleton (5.8%) and Acton (5.6%) had the highest proportion of households receiving food stamps/SNAP, amounting to approximately 1 in 20 residents receiving food stamps/SNAP (**Figure** 20). The towns of Concord (2.3%) and Sudbury (2.3%) had the lowest percent of households receiving food stamps/SNAP in 2015-2019.

[1] Supplemental Nutrition Assistance Program (SNAP) Eligibility and Access. https://www.census.gov/library/visualizations/interactive/snap-eligibility-access.html

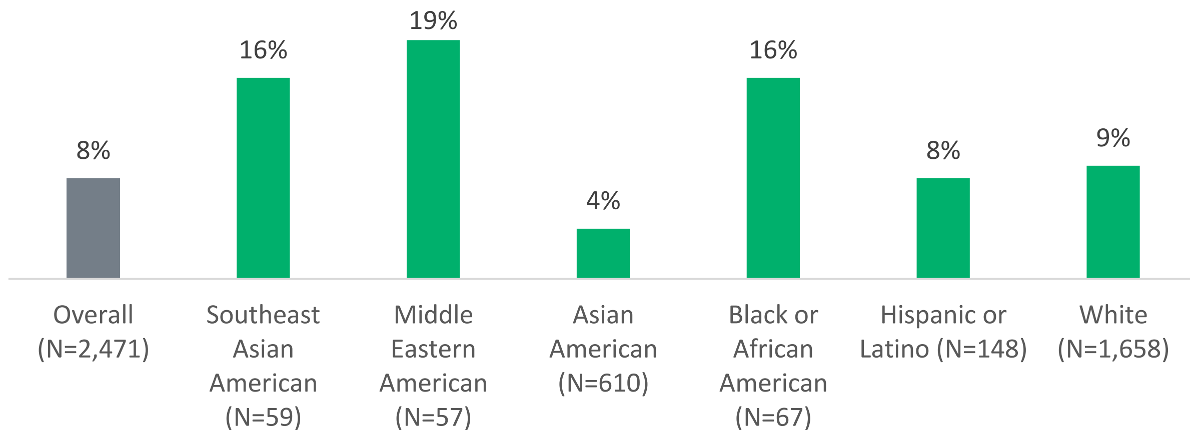
Figure 20. **Percent Households Receiving Food Stamps/SNAP, by Most Populated Towns in Primary Service Area, 2015-2019**



DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2015-2019

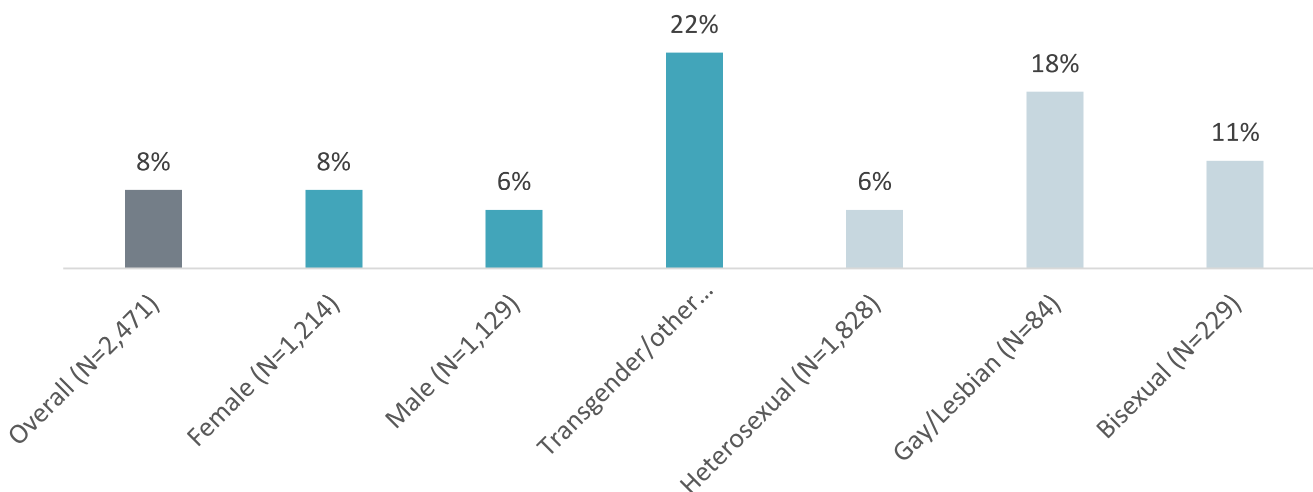
For youth (6th graders, 8th graders, and high school students) 8% reported going without at least one meal in the past 30 days because there wasn't enough food (Figure 21 and Figure 22). This ranged across race/ethnicity from a low of 4% of youth who identify as Asian American, to high of almost 1 in 5 (19%) Middle Eastern American youth. Similar disparities were seen across gender identity and sexual orientation, with almost one quarter (22%) of transgender or other youth going without a meal in the last 3 days and 18% of gay/lesbian youth.

Figure 21. Percent of Youth Went Without 1+ Meal in the Past 30 Days Because there Wasn't Enough Food, by Race/Ethnicity, 2021



DATA SOURCE: Emerson Hospital Youth Risk Behavior Survey, 2021

Figure 22. Percent of Youth Went Without 1+ Meal in the Past 30 Days Because there Wasn't Enough Food, by Gender Identity and Sexual Orientation, 2021



DATA SOURCE: Emerson Hospital Youth Risk Behavior Survey, 2021

Violence and Crime

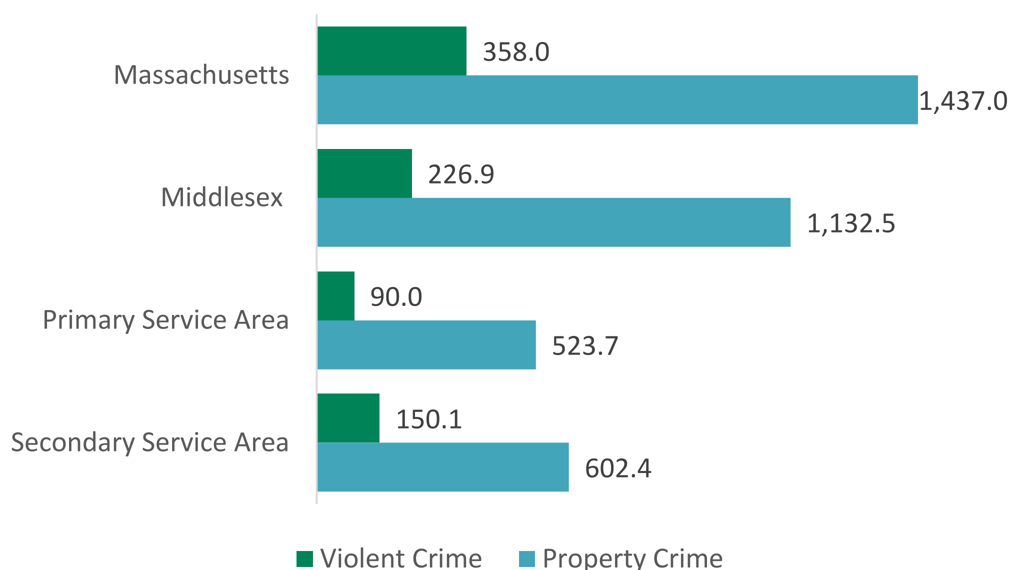
A couple interviewees discussed the issue of domestic violence in the community, concerned about the amount of domestic violence occurring and the lack of awareness. The isolation and additional stress of COVID-19 worried interviewees that there was an increase of domestic violence during the pandemic and that it was harder to obtain resources or leave during the pandemic.

A couple of interviewees also discussed incidences of sexual harassment and assault among adolescents. Interviewees voiced concerns that young people did not always have trusted individuals to reach out to around these issues, some did not want to involve their parents, and often individuals experienced victim blaming. Interviewees noted that for these reasons, sexual harassment and assault was often underreported in the community and difficult to know the prevalence.

As shown in Figure 23, in 2017 the violent crime rate in the primary service area (90.0 crimes per 100,000 residents) was nearly 4 times lower than the violent crime rate for Massachusetts (358.0 crimes per 100,000 residents). Similarly, the violent crime rate in the secondary service area (150.1 crimes per 100,000 residents) was 2.4 times lower than that for Massachusetts.

The property crime rate in the primary (523.7 crimes per 100,000 residents) and secondary (602.4 crimes per 100,000 residents) service areas were lower than the property crime rate for Middlesex County (1,132.5 crimes per 100,000 residents) and Massachusetts (1,437.0 crimes per 100,000 residents). Of note, the property crime rates in the primary and secondary service areas were 2.7 and 2.4 times lower, respectively, than that for Massachusetts overall.

Figure 23. **Violent and Property Crime Rates per 100,000 Population, by Massachusetts, Middlesex County, and Service Areas, 2017**



DATA SOURCE: Federal Bureau of Investigation, Criminal Justice Information Services Division, 2017 Crime in the United States, Offenses Known to Law Enforcement, 2017 (Table 8)

Social Justice and Equity

"These are very white towns … and it makes them [POC] uncomfortable walking around."

- Interviewee

Nearly all of the interviewees and a couple of focus groups brought up issues around racism and discrimination they had experienced or witnessed in their communities.

Individuals and focus group participants reported instances of racial slurs and swastikas being used and directed at people of color and the Jewish population in the community. There were a number of examples discussed about racism and anti-Semitism in the schools, and interviewees pointed to the lack of diversity amongst teachers at the schools as a reason for concern, *"when you have teachers who don't have your shared experience, there can be a gap there."* There was acknowledgement from interviewees that this was something the school district is working on, but not without resistance from some in the community. For one interviewee they saw this as related to the lack of affordable housing in the area, *"it is a challenge [to recruit diverse teachers], housing is expensive, and they can't afford a place to live."*

Interviewees mentioned a number of discussions around race that have occurred in their communities in the last couple of years that, *"brought out the worst in people and it is just bubbling under the surface now."* While one focus group participant shared that they found, *"the pandemic had made people more reflective of systemic inequalities like the Black Lives Matter movement."*

Some interviewees noted the link between social justice issues and health. One interviewee observed, *"It is hard not to think that there isn't a link between all this polarization – and not see value in diverse perspectives is playing out in our physical health."* Another shared, *"Health disparities are huge – how can we treat people differently? That will help everyone."*

The 298 Community Survey participants who reported experiences of discrimination were asked why they were discriminated against (Table 7). Discrimination on the basis of age (47.8%) and gender (43.7%) were the most frequently cited social identities against which respondents reported experiences of discrimination. Nearly 1 in 3 respondents reported discrimination based on race (32.4%) and nearly 3 in 10 respondents indicated that they experienced discrimination based on their ethnicity, ancestry, or country of origin (29.7%). Discrimination based on physical appearance was reported by approximately 1 in 5 (20.5%) respondents. About 1 in 10 (10.6%) respondents reported discrimination on the basis of their sexual orientation.

Table 7. Community Experiences of Discrimination (N=298), by Category of Main Reasons, 2021

Basis of Discrimination	% of Those That Reported Experiences of Discrimination	N
Your age	47.8%	140
Your gender	43.7%	128
Your race	32.4%	95
Your ethnicity, ancestry, or country of origin	29.7%	87
Some aspect of your physical appearance (e.g., height, weight, disability, etc.)	20.5%	60
Your sexual orientation	10.6%	31
Your religion	8.5%	25
Your language	7.5%	22
Your education or income level	6.1%	18
Prefer not to answer/Don't know	4.8%	14

NOTE: For this question, respondents could select multiple responses, therefore values may not sum to 100%.
DATA SOURCE: Emerson Hospital CHNA Community Survey, 2021

Providers were asked about the social identities that were the basis of patients' experiences of discrimination (**Table** 8), 237 of the provider respondents perceive that patients experience discrimination. The leading basis of discrimination cited by providers was the patient's race (76.1%); followed by the patient's ethnicity, ancestry, or country of origin (68.8%); and language (58.5%). Approximately half (52.3%) of providers perceived a patient's education or income level was a reason for patients' experiences of discrimination.

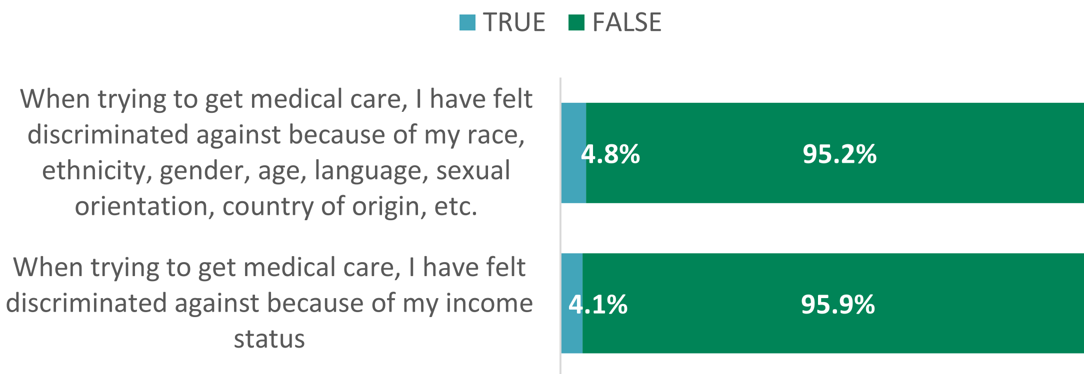
Table 8. **Provider Perceptions of Patient Experiences of Discrimination (N=237), by Category of Perceived Main Reasons, 2021**

Basis of Discrimination	% of Those That Reported Perceived Experiences of Discrimination	N
Their race	76.1%	134
Their ethnicity, ancestry, or country of origin	68.8%	121
Their language	58.5%	103
Their education or income level	52.3%	92
Some aspect of their physical appearance (e.g., height, weight, disability, etc.)	51.7%	91
Their sexual orientation	47.7%	84
Their gender	39.2%	69
Their age	34.7%	61
Their religion	25.0%	44
Prefer not to answer/Don't know	8.0%	14

NOTE: For this question, respondents could select multiple responses, therefore values may not sum to 100%.
DATA SOURCE: Emerson Hospital CHNA Provider Survey, 2021

When asked about discrimination when getting medical care, 4.8% of Community Survey respondents reported discrimination linked with race, ethnicity, gender, age, language, sexual orientation, or country of origin and 4.1% reported income-related discrimination (Figure 24).

Figure 24. **Community Member Perspectives on Community or Personal Health Access Experiences (N=2,280), 2021**



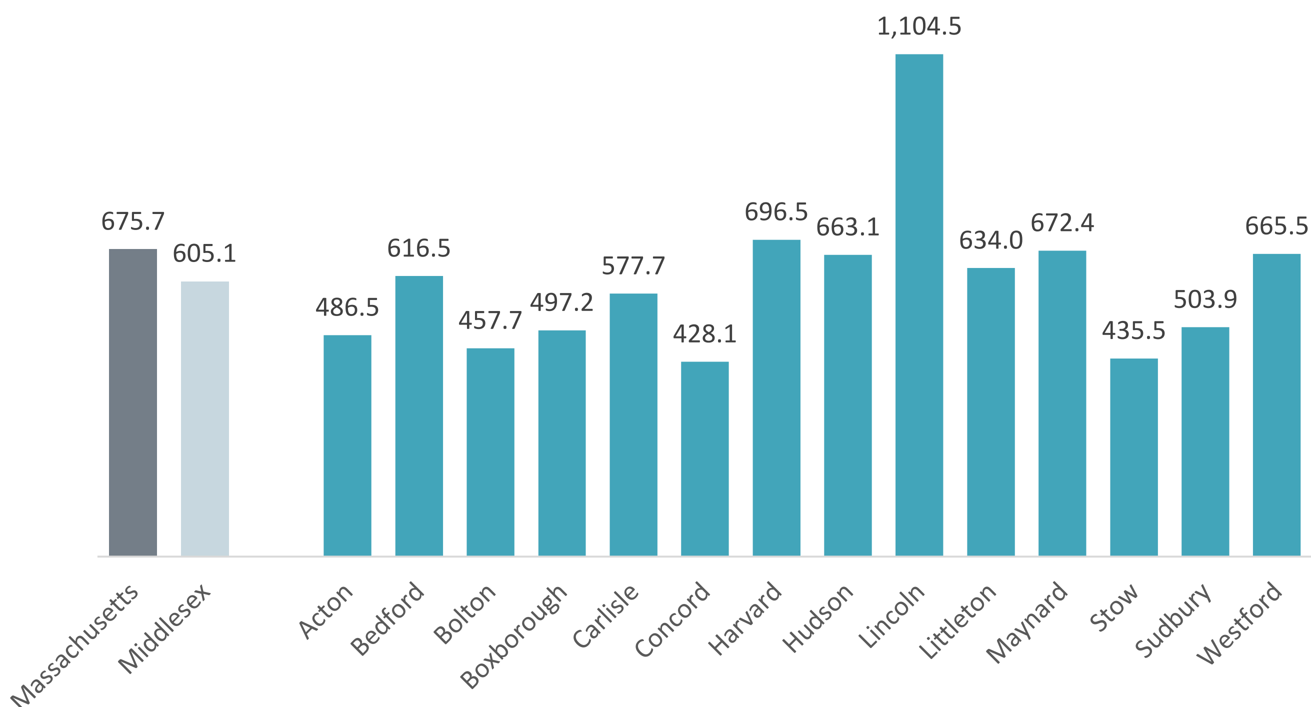
DATA SOURCE: Emerson Hospital CHNA Community Survey, 2021

Physical Health

Mortality

In 2017, the overall mortality rate in Emerson Hospital's service area was generally below the overall mortality rate for Massachusetts (676 deaths per 100,000 residents; Figure 25). With 1,105 deaths per 100,000 residents, the overall mortality rate in Lincoln was 1.6 times higher than that for Massachusetts and 1.8 times higher than that for Middlesex County (605 deaths per 100,000 residents). This higher mortality rate in Lincoln is likely due to the older population in the town, this is supported by the lower premature mortality rate in Lincoln (Figure 24). The mortality rate for Harvard (697 per 100,000 residents) also exceeded that for Massachusetts and Middlesex County. For the towns of Maynard (672 deaths per 100,000 residents), Westford (666 deaths per 100,000 residents), and Hudson (663 deaths per 100,000 residents), the overall mortality rate was similar to the statewide overall mortality rate. The overall mortality rate was lowest in the towns of Concord (428 deaths per 100,000 residents), Stow (436 deaths per 100,000 residents), and Bolton (458 deaths per 100,000 residents).

Figure 25. **Overall Mortality Rate per 100,000, by Massachusetts, Middlesex County, and Primary Service Areas, 2017**

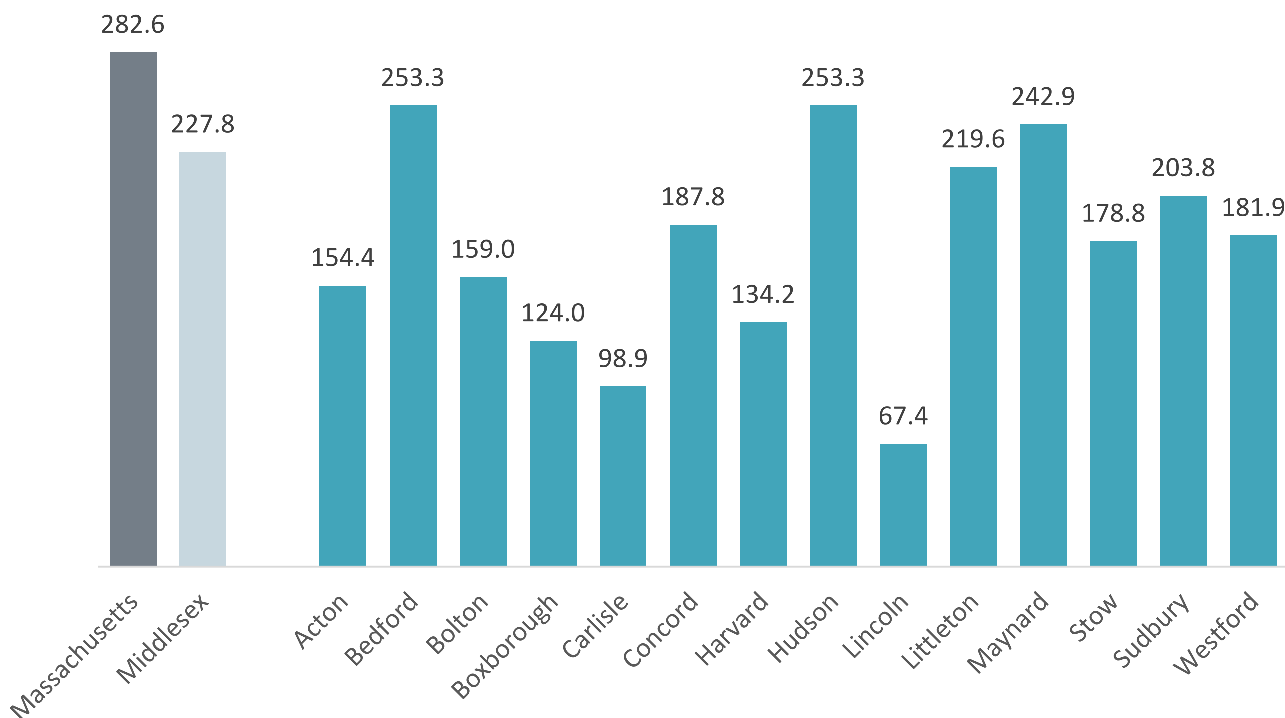


DATA SOURCE: MA DPH Registry of Vital Records and Statistics Death Report, 2017

The premature mortality rate, which refers to any deaths before 75 years of age, is displayed in Figure 26. Notably, the premature mortality rate for each of the Emerson Hospital priority service area towns was below the statewide premature mortality rate (282.6 deaths per 100,000 residents) in 2017. The towns of Bedford (253.3 deaths per 100,000 residents), Hudson (253.3 deaths per 100,000 residents), and Maynard (242.9 deaths per 100,000 residents) had premature mortality rates that exceeded that for

Middlesex County (227.8 deaths per 100,000 residents) in 2017. The premature mortality rate was lowest in Lincoln (67.4 deaths per 100,000 residents), Carlisle (98.9 deaths per 100,000 residents), Boxborough (124.0 deaths per 100,000 residents), and Harvard (134.2 deaths per 100,000 residents).

Figure 26. **Premature Mortality (Deaths before Age 75) Rate per 100,000, by Massachusetts, Middlesex County, and Primary Service Areas, 2017**



DATA SOURCE: MA DPH Registry of Vital Records and Statistics Death Report, 2017

Community Perceptions and Concerns

Interviewees described changes they had observed or experienced in the community due to the COVID-19 pandemic as multi-faceted problems, not just housing or mental health, but now *"a lot more complicated cases," "not just mental health struggles, but also housing, money, food, etc."*

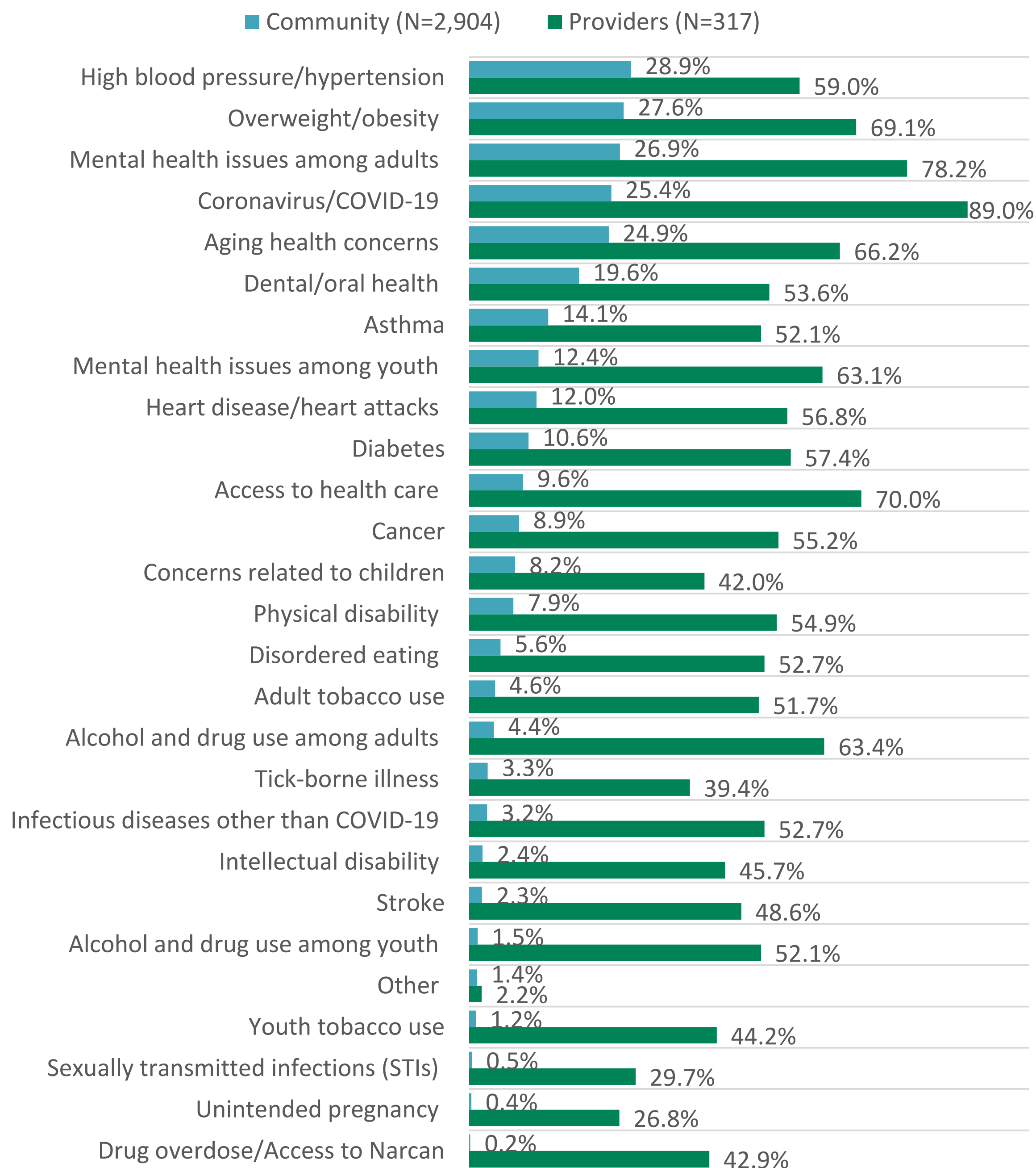
The changes from COVID-19 brought about a new awareness, *"The pandemic and the social events of 2020 really brought home the need for improved awareness, fair housing, greater diversity in population, social justice – [we are] beginning to explore it, but we aren't as far along as we would like to be."*

Both providers and community survey respondents were asked to indicate current health issues of concern (Figure 27). The most frequently cited health issues among community respondents were high blood pressure (28.9%), overweight/obesity (27.6%), adult mental health (26.9%), coronavirus/COVID-19 (25.4%), and aging health concerns (24.9%).

Among providers, nearly 9 in 10 (89.0%) cited coronavirus/COVID-19 as a current health issue. Other common health concerns indicated by providers included: adult mental health issues (78.2%), access to

health care (70.0%), overweight/obesity (69.1%), aging-related health concerns (66.2%), alcohol and drug use among adults (63.4%), and mental health issues among youth (63.1%).

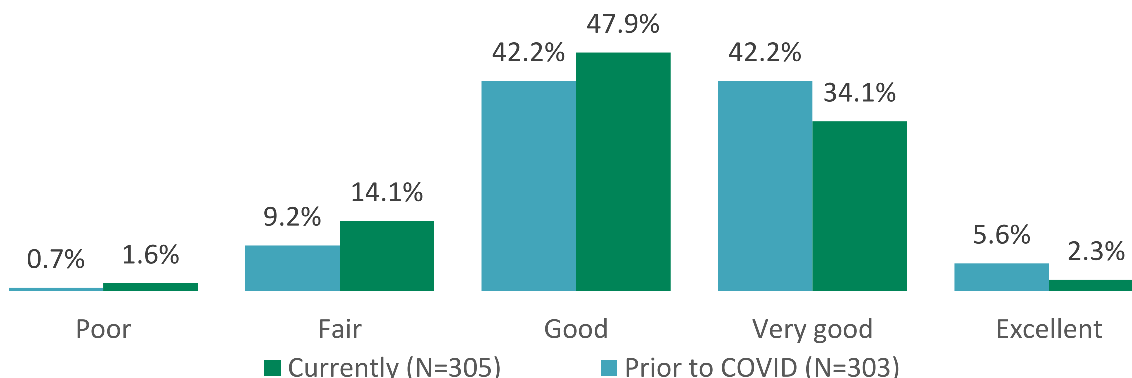
Figure 27. **Health Issues Currently Impacting the Community, Reported by Community Members and Providers, 2021**



DATA SOURCE: Emerson Hospital CHNA Community Survey, 2021
NOTE: “Other” responses for providers included most frequently mental health concerns and COVID-19-realted concerns. For community members, “other” responses included most frequently auto-immune disorders, COVID-related concerns, and other specific health conditions.

Providers were asked to characterize the overall health of the community before the COVID-19 pandemic and at the time of the survey (2021; Figure 28). In total, nearly half (47.8%) of providers rated the health of the community as very good (42.2%) or excellent (5.6%) prior to the pandemic, whereas a total of approximately 1 in 3 (36.4%) providers classified the current health of the community as very good (34.1%) or excellent (2.3%).

Figure 28. **Provider Perception of Overall Health of the Community, by Time Period, 2021**



DATA SOURCE: Emerson Hospital CHNA Community Survey, 2021

When Community Survey participants were asked about personal and community health concerns, aging health concerns and coronavirus/COVID-19 were the top concerns identified for respondents and/or their family and for their community (Figure 29). Additionally, respondents cited high blood pressure/hypertension (36.6%), overweight/obesity (31.1%), or mental health issues among adults (29.5%) as leading concerns for themselves and/or their family. Access to health care (44.8%), mental health issues among adults (38.6%), and mental health issues among youth (36.9%) were other leading health concerns for the community.

Figure 29. Top 5 Personal and Community Health Concerns, Reported by Community Members (N=2,321), 2021

You/Your Family	Your Community
Aging health concerns (50.2%)	Aging health concerns (54.8%)
Coronavirus/ COVID-19 (41.4%)	Coronavirus/ COVID-20 (54.7%)
High blood pressure/ hypertension (36.6%)	Access to health care (44.8%)
Overweight/obesity (31.1%)	Mental health issues among adults (38.6%)
Mental health issues among adults (29.5%)	Mental health issues among youth (36.9%)

DATA SOURCE: Emerson Hospital CHNA Community Survey, 2021

Presented in Figure 30 are the leading personal health issues identified by Community Survey respondents, based on age. Approximately 2 in 5 respondents <65 years of age cited coronavirus/COVID-19 (43.5%) and mental health issues among adults (42.8%) as the top personal health issues. Aging health concerns (36.3%), overweight/obesity (33.5%), and high blood pressure/hypertension (27.8%) were also leading personal health concerns for persons <65 years of age.

Among respondents 65+ years of age, the leading health concern was aging, which was cited by nearly 2 in 3 (65.6%) respondents. Approximately 2 in 5 respondents 65 years of age and older indicated high blood pressure/hypertension (45.0%) and coronavirus/COVID-19 (40.0%) as concerns. Cancer (28.8%) and overweight/obesity (27.9%) were also leading health concerns among respondents 65+ years of age.

Figure 30. **Top 5 Personal Health Issues, by Under 65 Years Old and 65+ (N=2,027), 2021**

Under 65 Years Old	Above 65 Years Old
Coronavirus/COVID-19 (43.5%)	Aging health concerns (65.6%)
Mental health issues among adults (42.8%)	High blood pressure/hypertension (45.0%)
Aging health concerns (36.3%)	Coronavirus/COVID-19 (40.0%)
Overweight/obesity (33.5%)	Cancer (28.8%)
High blood pressure/hypertension (27.8%)	Overweight/obesity (27.9%)

DATA SOURCE: Emerson Hospital CHNA Community Survey, 2021

Among community respondents who identified with a race/ethnicity other than White, there were some unique health issues from these populations. It should be noted that the number of responses to the survey was much lower from non-white individuals. Uniquely, among Black and East Asian respondents' access to health care came up a top issue, diabetes was top concern for Black and South Asian respondents, dental/oral health for Black respondents, and asthma for South Asian respondents.

Figure 31. Top 5 Personal Health Issues, by Race/Ethnicity, 2021

Black, non-Hispanic (n=16)	East Asian, non-Hispanic (n=44)	Hispanic/ Latino (n=31)	South Asian, non-Hispanic (n=21)
Access to health care (42.9%)	High blood pressure/ hypertension (60.8%)	Coronavirus/ COVID-19 (47.1%)	Coronavirus/ COVID-19 (54.2%)
Coronavirus/ COVID-19 (33.3%)	Aging health concerns (58.8%)	High blood pressure/ hypertension (35.3%)	High blood pressure/ hypertension (37.5%)
Dental/oral health (33.3%)	Coronavirus/ COVID-19 (49.0%)	Mental health issues among adults (35.3%)	Overweight/obesity (29.2%)
Diabetes (33.3%)	Cancer (31.4%)	Mental health issues among youth (32.4%)	Diabetes (29.2%)
Cancer (28.6%)	Access to health care (29.4%)	Overweight/obesi ty (29.4%)	Asthma (25.0%)

DATA SOURCE: Emerson Hospital CHNA Community Survey, 2021

Access to Care

Interviewees often brought up barriers to accessing or receiving appropriate care in general, not tied to a specific health condition. In key informant interviews, service providers noted a shift in patients' insurance, remarking that they *"see fewer people with commercial insurance."* Cost of health care was another concern, *"Definitely cost prohibitive."*

Some noted that language barriers are an important challenge to health care access. One interviewee explained, *"There is such little translation or accommodation to the non-white, non English-speaking populations."* While interviewees shared that access to services in someone's native language is not readily available, they do see translators and options provided through technology available at some places, but *"some people don't feel comfortable asking for translation or might not know they can ask for it."*

The need for providers to be trained and aware of how to interact and support people of different cultures was seen as a need to ensure equitable access across populations. One interview elaborated on the need for providers to be aware of how symptoms might look different on individuals who are Black.

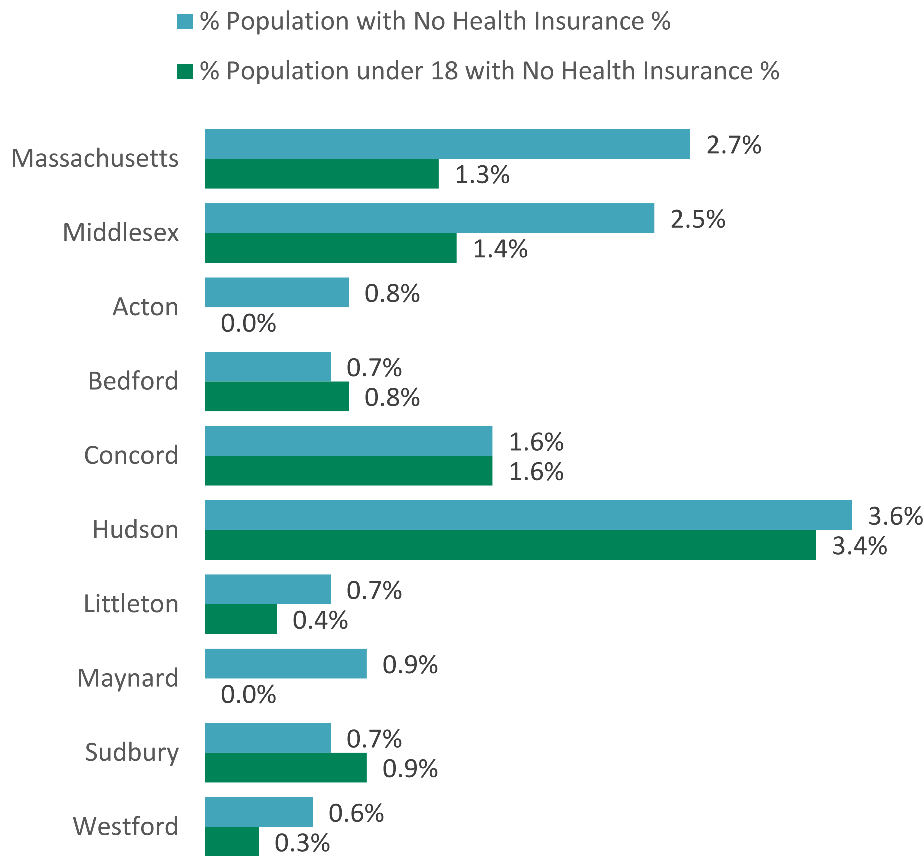
A number of interviewees highlighted the need for a more diverse provider population as well, so that patients could access care from individuals that share linguistic, racial, ethnic, sexual orientation with them. Some noted that getting to the medical services in the community can be a challenge, *"with transportation issues it can be hard to get there."* Transportation barriers were mentioned specifically as more of an issue for older adults, having trouble finding rides to appointments.

In 2015-2019, 3.6% of Hudson residents had no health insurance, which exceeded the average across the State (2.7%) and for Middlesex County (2.5%; Figure 32). With the exception of Boxborough (2.7%),

the other towns across the Emerson Hospital service area had a lower percentage of residents without health insurance compared to Massachusetts overall and Middlesex County.

Hudson (3.4%) and Lincoln (3.3%) had the highest percent of children (<18 years of age) without health insurance, which exceeded the percent of uninsured children for Massachusetts overall (1.3%) and Middlesex County (1.4%). In Boxborough (1.9%), Concord (1.6%) and Bolton (1.6%) the percent of uninsured children was slightly higher than the average for the State and Middlesex County.

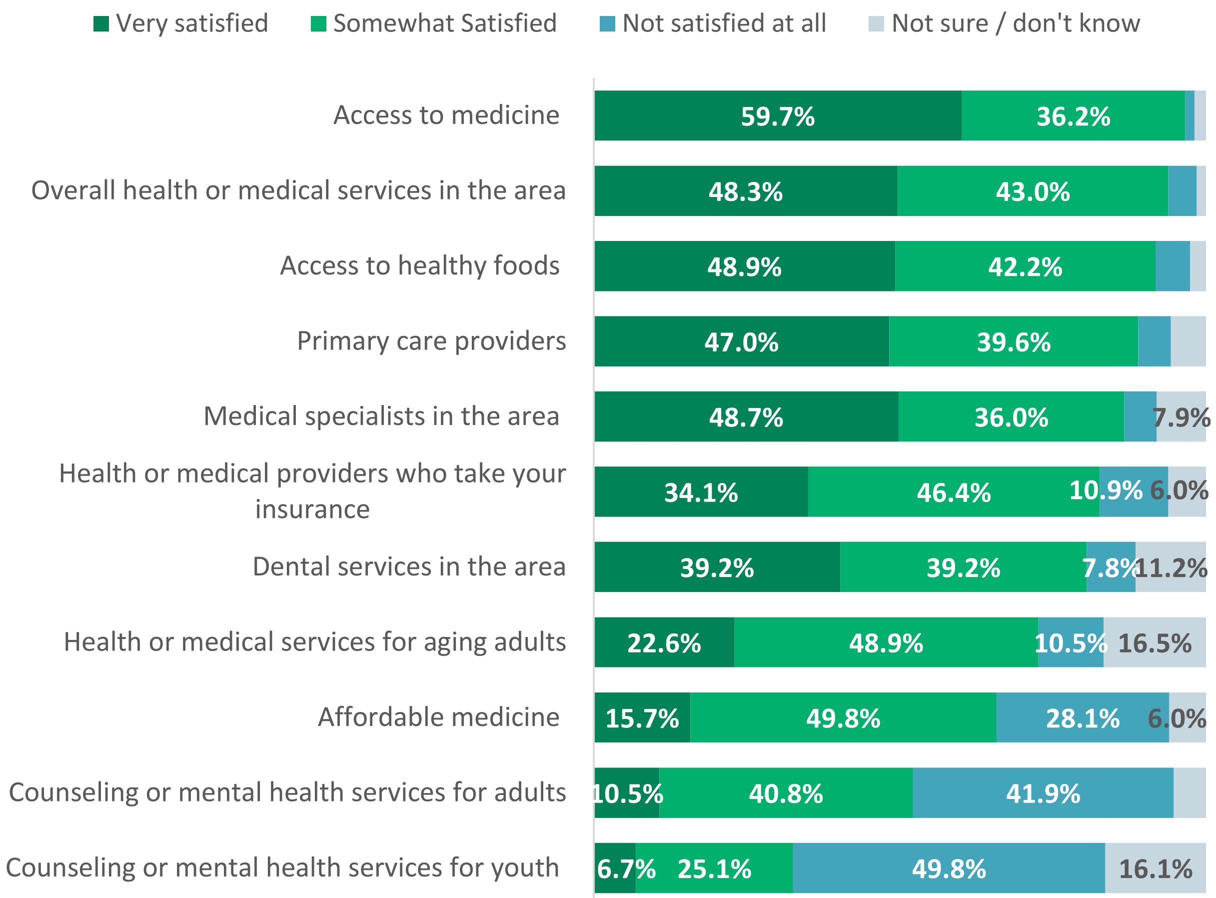
Figure 32. **Percent of Population and Population under 18 with No Health Insurance, by Massachusetts, Middlesex County, and Primary Service Areas, 2019**



DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2019 Table DP03

When asked about satisfaction with community health and social services, Community Survey respondents reported greatest satisfaction with access to medicine (84.7%), access to healthy foods (77.4%), dental services in the area (67.0%), health or medical providers who accept their insurance (64.1%), and primary care providers (62.6%; **Figure** 33). Counseling or mental health services for adults (12.7%) and affordable medicine (10.9%) were areas in which approximately 1 in 10 respondents reported not being satisfied at all.

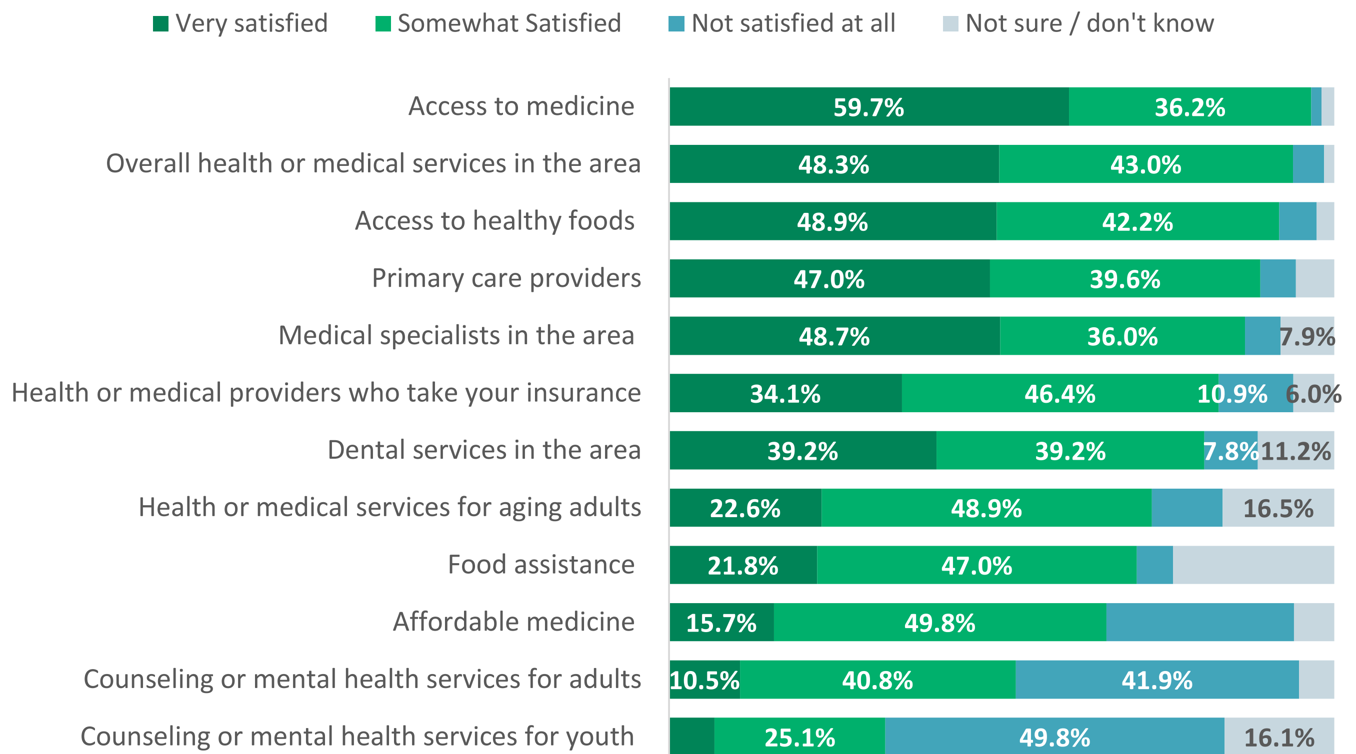
Figure 33. **Satisfaction of Community Members with the Availability of Community Health & Social Services (N=2,382), 2021**



DATA SOURCE: Emerson Hospital CHNA Community Survey, 2021
NOTE: Values less than 6.0% and response options with greater than a 20% response not sure/don't know not shown

Shown in Figure 34 is providers' satisfaction with community health and social services. About 3 in 5 (59.7%) providers reported high satisfaction with access to medicine, and nearly half reported high satisfaction with access to healthy foods (48.9%), medical specialists in the area (48.7%), overall health or medical services in the area (48.3%), and primary care providers (47.0%). Approximately 2 in 5 (41.9%) providers reported lack of satisfaction in counseling or mental health services for adults and about 1 in 4 (28.1%) providers reported dissatisfaction with affordable medicine. About 1 in 10 providers reported dissatisfaction with health or medical providers who accept insurance (10.9%) and health or medical services for aging adults (10.5%)

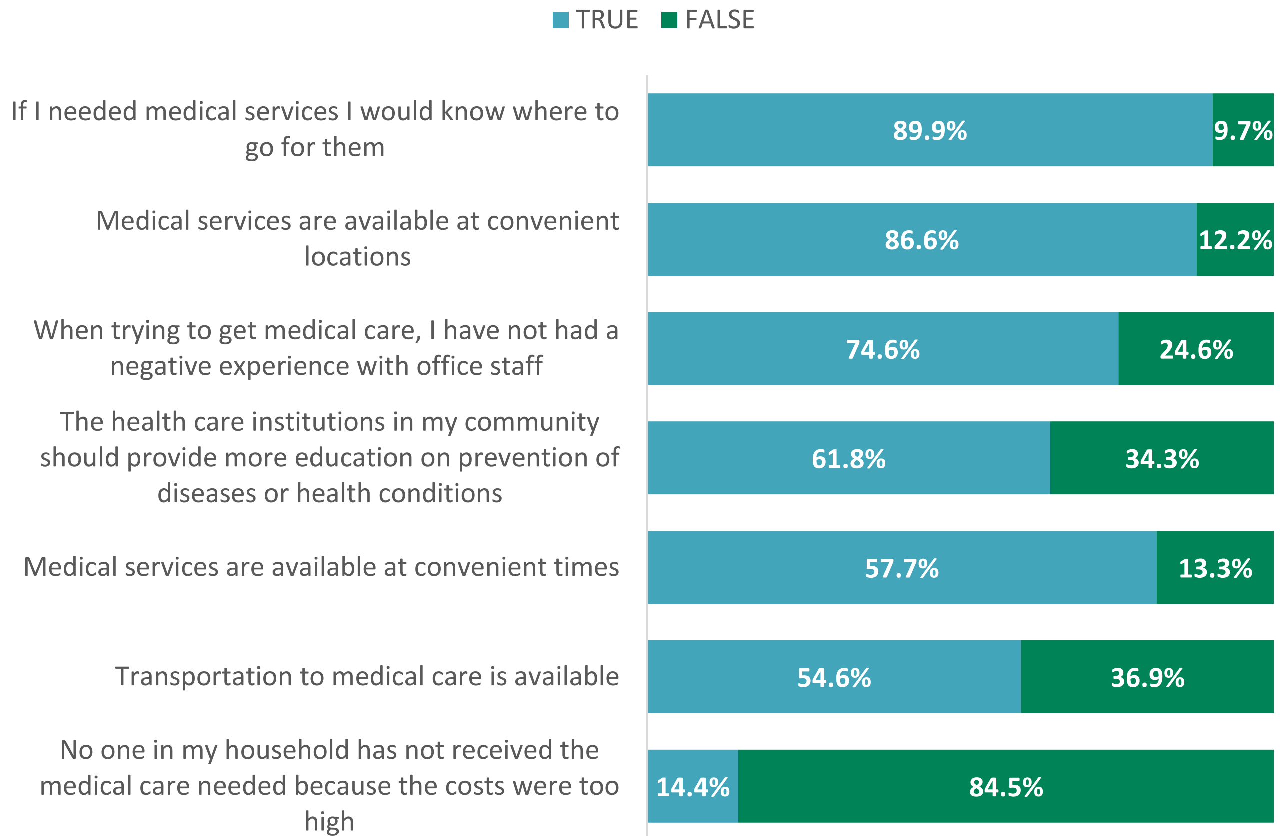
Figure 34. **Satisfaction of Providers with the Availability of Community Health & Social Services (N=267), 2021**



DATA SOURCE: Emerson Hospital CHNA Provider Survey, 2021
NOTE: Values less than 6.0% not shown

When asked about experiences accessing community health services, nearly 9 in 10 respondents reported that they knew where to go for needed medical services (89.9%) or that medical services were available at convenient locations (86.6%; Figure 35). More than 1 in 10 (14.4%) respondents reported that a member of their household had not received needed medical care due to costs and approximately 1 out of 4 (24.6%) respondents said they had a negative experience with office staff when seeking medical care.

Figure 35. **Community Members' Health Access Personal or Community Experiences (N=2,280), 2021**



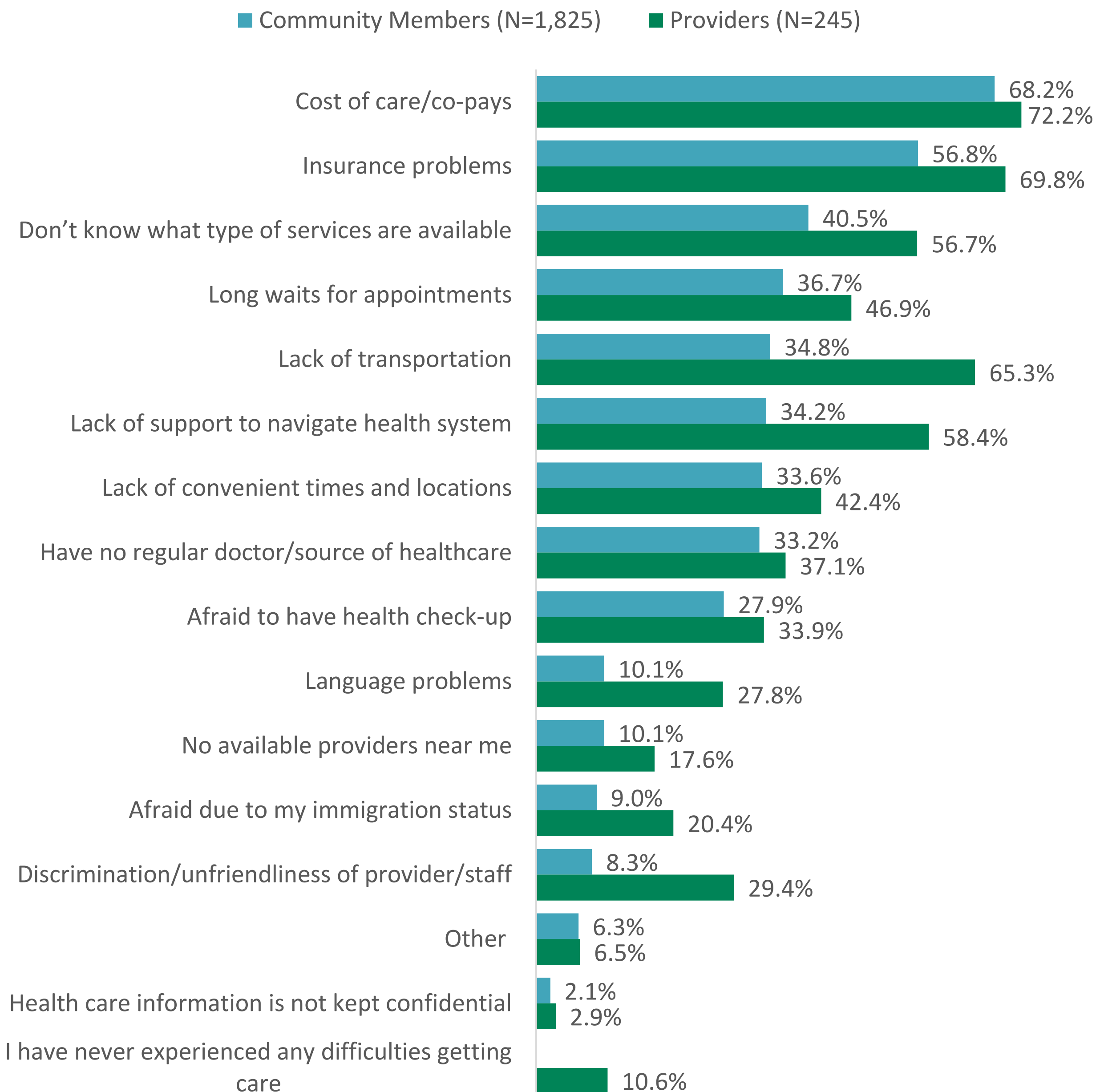
DATA SOURCE: Emerson Hospital CHNA Community Survey, 2021

With respect to accessing health care, 30.5% of respondents reported being personally affected by long waits for appointments, and about 1 in 6 reported concerns about the personal impact of the cost of care/co-pays (17.0%) or insurance problems (16.9%) (**Figure** 36).

When asked about the impact of health care systems issues for the community, about 2 out of 3 (68.2%) community respondents cited the cost of care/co-pays as a concern and more than half (56.8%) noted insurance problems as a community issue. Uncertainty about the type of services available (40.5%), long wait times for appointments (36.7%), and lack of support navigating the health system (34.2%) were also community-level health care access concerns cited by respondents.

Provider's perceptions of community health care access issues are also presented in **Figure** 36. About 7 in 10 providers cited cost of care/co-pays (72.2%) or insurance problems (69.8%) as community health care access issues. More than half of providers perceived lack of transportation (65.3%), lack of support to navigate the health system (58.4%), and uncertainty about the type of services available (56.7%) as health care access issues.

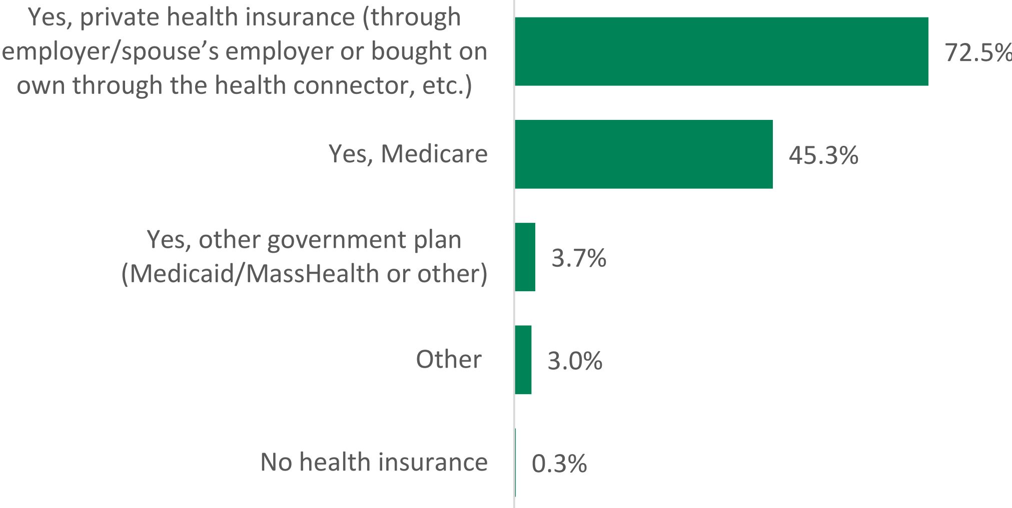
Figure 36. **Issues That Made It More Difficult to Get Needed Health Care for Individuals or Patients/Clients, Reported by Community Members and Providers, 2021**



DATA SOURCE: Emerson Hospital CHNA Community Survey, 2021
NOTE: "Other" responses for providers included most frequently inequities between groups in the community, lack of resources, and lack of quality mental health professionals. For community members, "other" responses included most frequently issues with referrals/specialists, lack of psychiatric/mental health professionals, issues related to COVID-19, communication challenges, lack of dental care/coverage.

The majority (72.5%) of Community Survey respondents reported having private health insurance, while about 2 in 5 (45.3%) respondents indicated that they had Medicare, 3.7% noted that they had health insurance through another government program, and <1% reported not having health insurance (Figure 37).

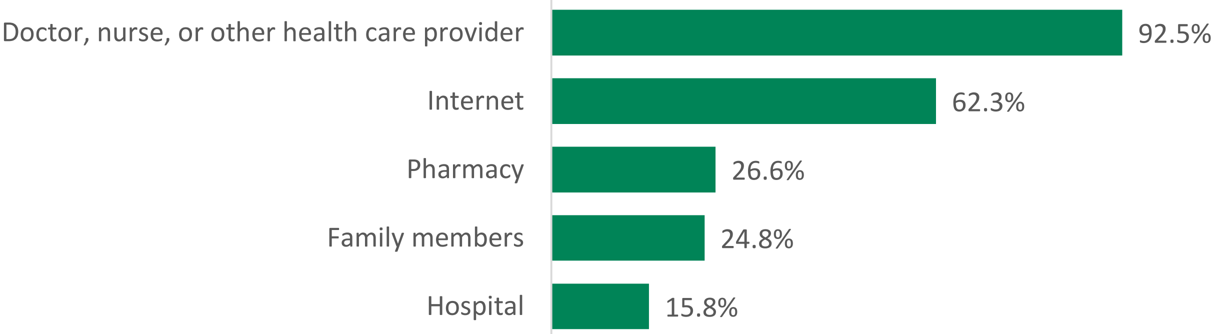
Figure 37. **Community Members' Insurance Coverage (N=2,259), by Type, 2021**



NOTE: In this question, respondents could select multiple responses, %s may not total to 100%. "Other" responses included supplemental plans (Medicare Advantage, Blue Cross Blue Shield, TRICARE, etc.) COBRA.
DATA SOURCE: Emerson Hospital CHNA Community Survey, 2021

About 9 in 10 (92.5%) respondents cited a doctor, nurse, or other health care provider as a source of health information (Figure 38). The internet was the second leading source of health information, with approximately 3 in 5 (62.3%) respondents having reported using the internet to get health information. About 1 in 4 respondents reported receiving health information from the pharmacy (26.6%) or family members (24.8%).

Figure 38. **Top Sources of Health Information Utilized by Community Members (N=2,182), 2021**



DATA SOURCE: Emerson Hospital CHNA Community Survey, 2021

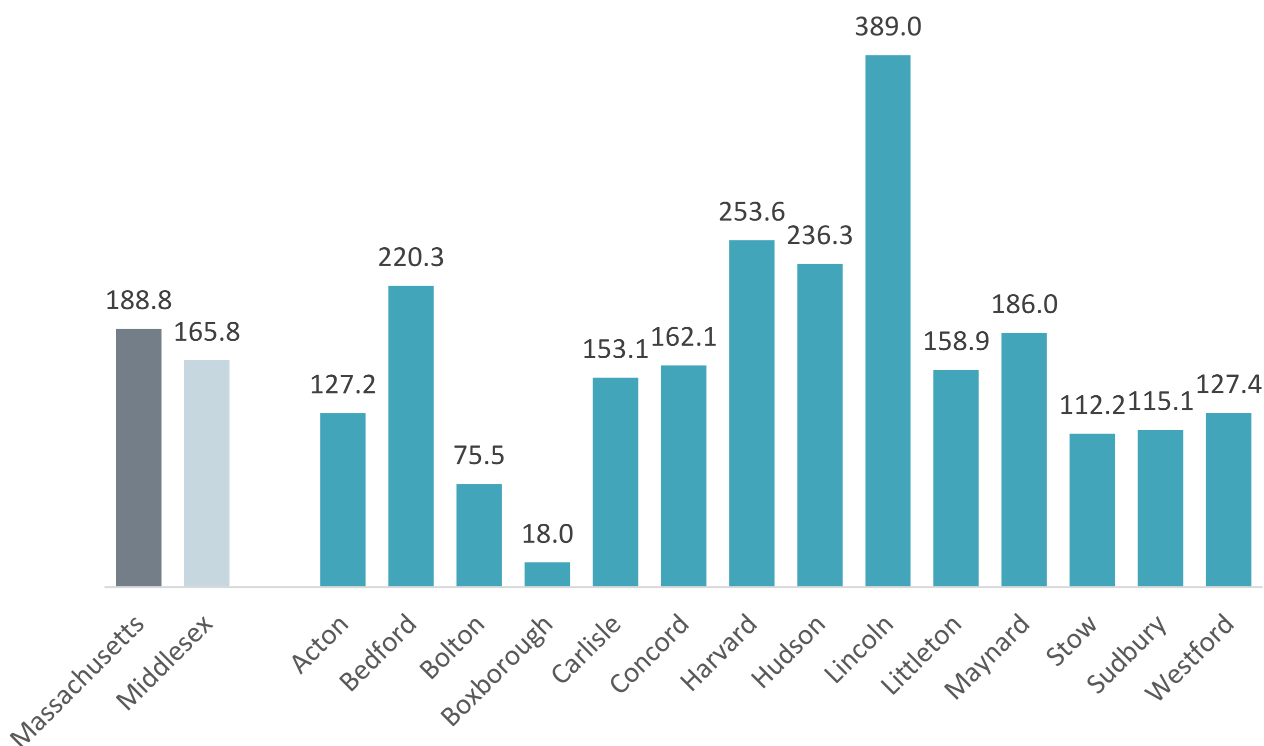
Chronic Disease

Cancer

One interviewee shared concern about the rate of cancer in the area and the need for more prevention and access to early screening. To assist in prevention and access to early screening they noted the importance of education and awareness for providers and patients so that early signs are caught. They also recommended ensuring that screening services are not cost prohibitive. The interviewee pondered the environmental conditions that might be contributing to their observed high rates of cancer, specifically questioning a potentially high rate of radon in the community.

Across towns in the Emerson Hospital service area in 2017, the cancer mortality rate was highest in Lincoln (389.0 deaths per 100,000 residents), which was 2.1 times higher than the cancer mortality rate across the State (188.8 deaths per 100,000 residents) and 2.3 times higher than the rate for Middlesex County (165.8 deaths per 100,000 residents; **Figure** 39). The cancer mortality rate in the towns of Harvard (253.6 deaths per 100,000 residents), Hudson (236.3 deaths per 100,000 residents), Bedford (220.3 deaths per 100,000 residents) exceeded the cancer mortality rate for Massachusetts and for Middlesex County. The cancer mortality rate was lowest in Boxborough (18.0 deaths per 100,000 residents).

Figure 39. **Cancer Mortality Rate per 100,000 Residents, by Massachusetts, Middlesex County, and Primary Service Areas, 2017**

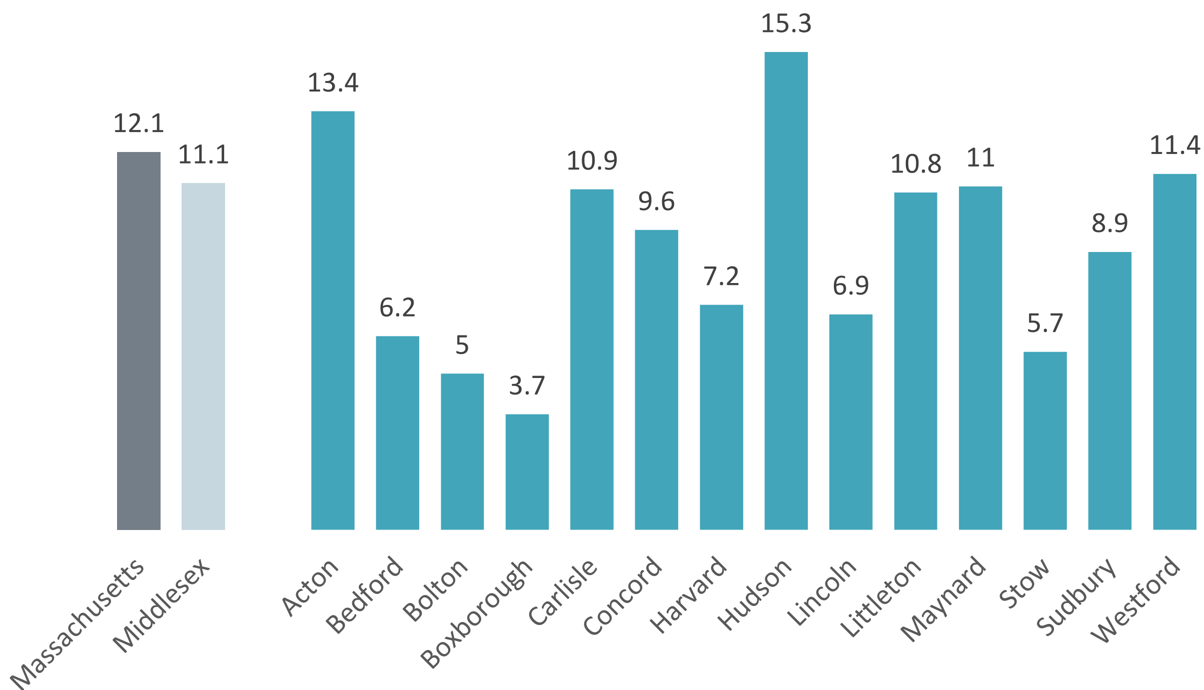


DATA SOURCE: 2017 as reported by MASS.gov 2017 Death Report, rates calculated using 2015-2019 Census 5-year Survey

In 2016-2017, the prevalence of pediatric asthma was highest in Hudson (15.3 cases per 100 students), followed by Acton (13.4 cases per 100 students); the pediatric asthma prevalence in both towns exceeded the prevalence for Massachusetts (12.1 cases per 100 students) and Middlesex County (11.1 cases per 100 students; **Figure** 40). The prevalence of asthma cases was lowest in Boxborough (3.7 cases per 100 students), followed by Bolton (5.0 cases per 100 students) and Stow (5.7 cases per 100 students).

Asthma

Figure 40. **Pediatric Asthma Prevalence per 100,000 among K-8th Grade Students, by Massachusetts, Middlesex County, and Primary Service Areas, 2016-2017**

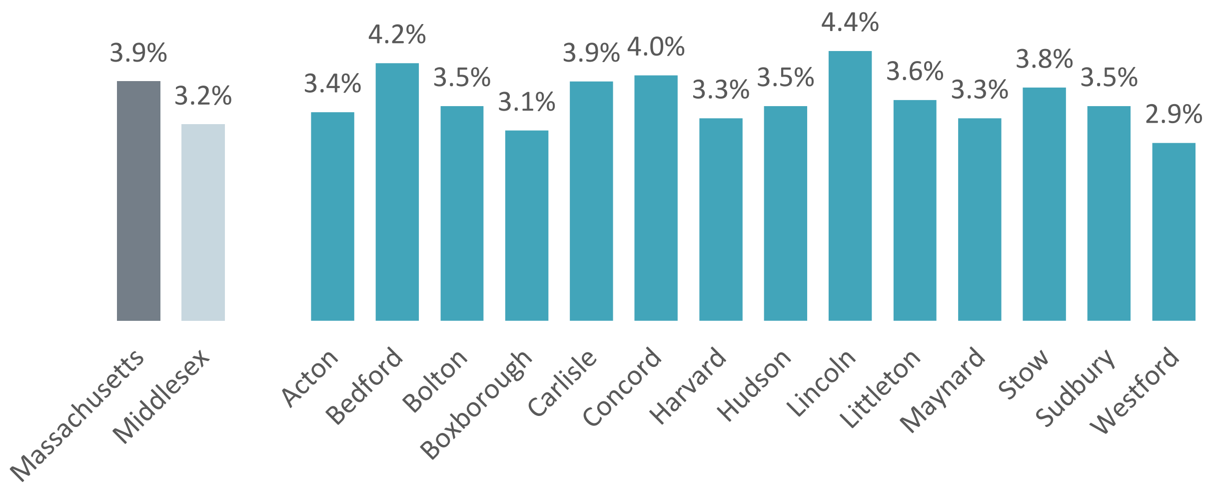


DATA SOURCE: Massachusetts Department of Public Health, Bureau of Environmental Health (PHIT), 2016-2017

Cardiovascular Disease

In 2012-2014, about 4% of residents in Lincoln (4.4%), Bedford (4.2%), and Concord (4.0%) reported angina or coronary heart disease, which is slightly above the prevalence across Massachusetts (3.9%) and exceeds the prevalence for Middlesex County (3.2%;**Figure** 41). The service area towns of Westford (2.9%) and Boxborough (3.1%) had the lowest percent of adults reporting angina or coronary heart disease.

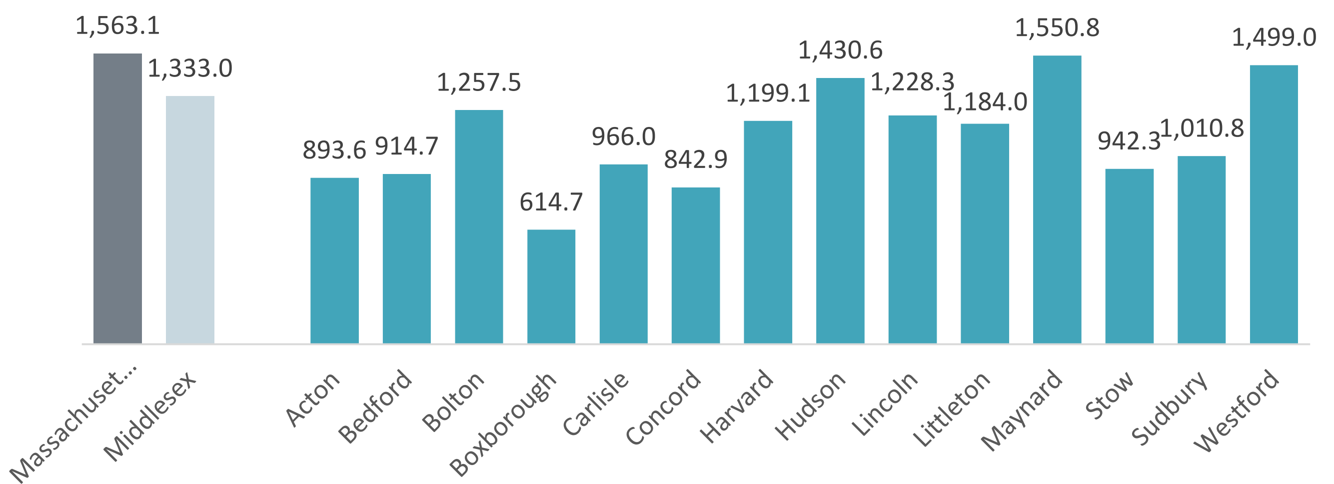
Figure 41. % **of Adults Reporting Angina or Coronary Health Disease, by Massachusetts, Middlesex County, and Primary Service Areas, 2012-2014**



DATA SOURCE: Massachusetts Department of Public Health, Bureau of Environmental Health (PHIT) 2012-2014

Each town in the Emerson Hospital service area had a lower rate of hospitalizations due to cardiovascular disease compared to Massachusetts (1,563.1 hospitalizations per 100,000 residents). The towns of Maynard (1,550.8 hospitalizations per 100,000 residents), Westford (1,499.0 hospitalizations per 100,000 residents), and Hudson (1,430.6 hospitalizations per 100,000 residents) had cardiovascular-disease related hospitalizations that exceeded the rate for Middlesex County (1,333.0 cases per 100,000 residents; **Figure** 42).

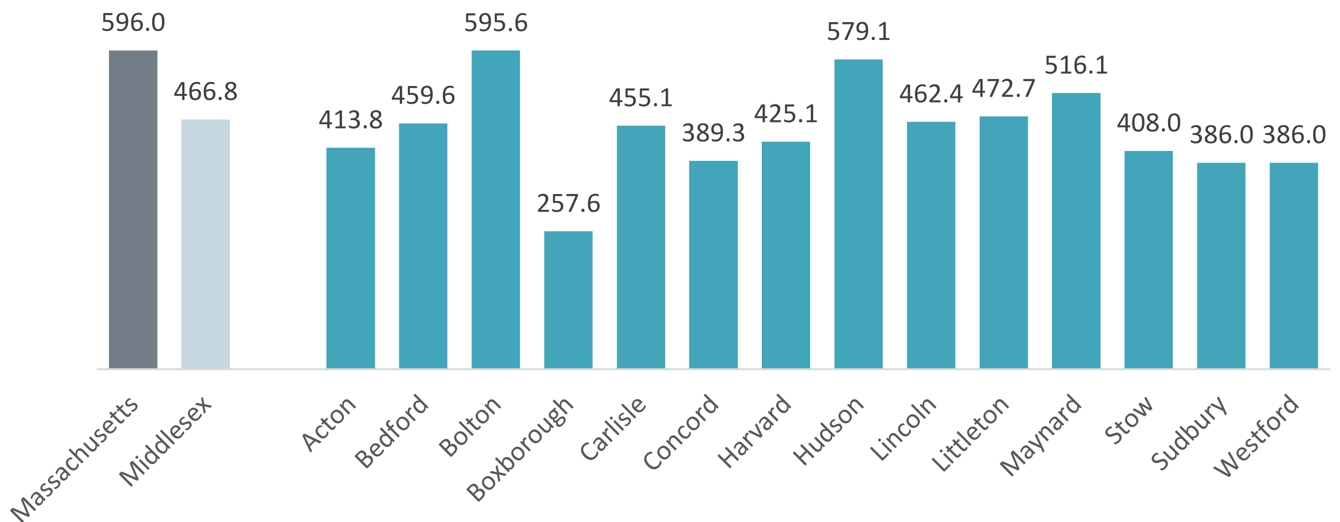
Figure 42. **Hospitalization visits for Major Cardiovascular Disease per 100,000, by Massachusetts, Middlesex County, and Primary Service Areas, 2014**



DATA SOURCE: Massachusetts Department of Public Health, Bureau of Environmental Health (PHIT),2014, Age-Adjusted Rate

The rate of emergency department (ED) visits for residents of Bolton (595.6 ED visits per 100,000 residents) in 2014 was similar to the rate across Massachusetts (596.0 ED visits per 100,000 residents; **Figure** 43). The towns of Hudson (579.1 ED visits per 100,000 residents), Maynard (516.1 ED visits per 100,000 residents), and Littleton (472.7 ED visits per 100,000 residents) also had a higher rate of ED visits due to cardiovascular disease compared to the rate for Middlesex County (466.8 ED visits per 100,000 residents).

Figure 43. **ED Visits for Major Cardiovascular Disease per 100,000, by Massachusetts, Middlesex County, and Primary Service Areas, 2014**

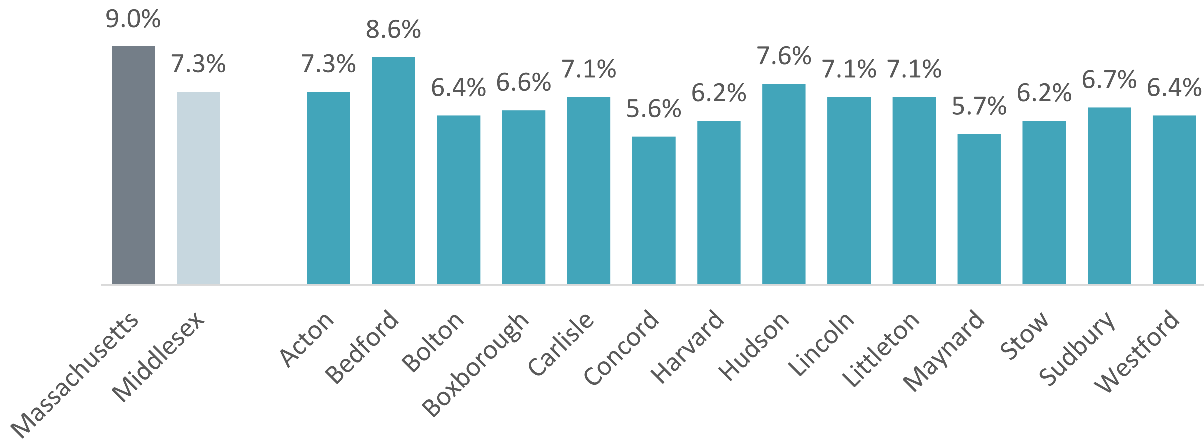


DATA SOURCE: Massachusetts Department of Public Health, Bureau of Environmental Health (PHIT),2014, Age-Adjusted Rate

Diabetes

Across the Emerson Hospital service area, the percent of adults reporting a diagnosis of diabetes was below the average for Massachusetts (9.0%). Bedford (8.6%) and Hudson (7.6%) had a higher percent of residents reporting diabetes than the average across Middlesex County (7.3%). Concord (5.6%) and Maynard (5.7%) had the lowest percent of adults reporting a diabetes diagnosis (**Figure** 44). In the survey, diabetes did not come up as a top health concern overall but was a top health concern for Black and South Asian respondents.

Figure 44. **Adults Reporting Diabetes, by Massachusetts, Middlesex County, and Primary Service Areas, 2012-2014**



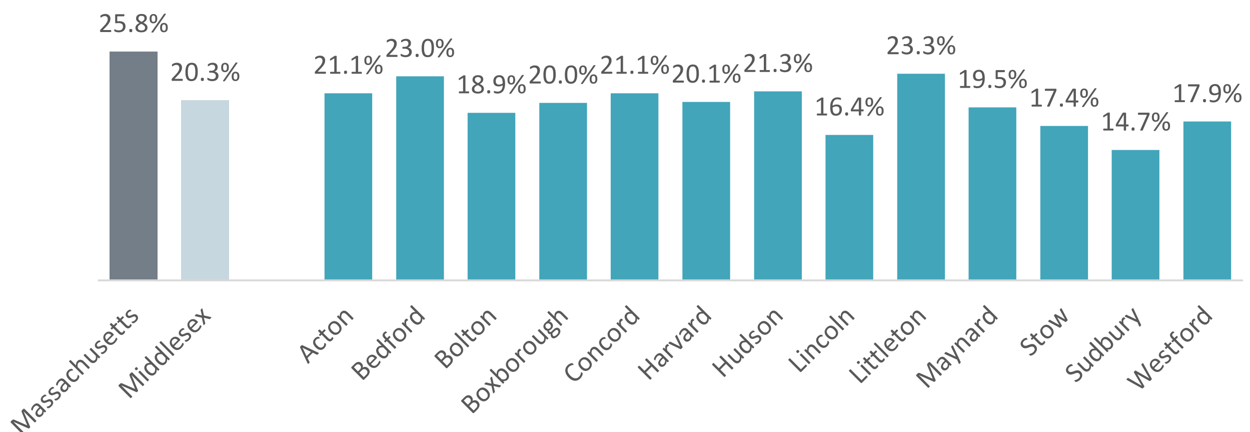
DATA SOURCE: Massachusetts Department of Public Health, Bureau of Environmental Health (PHIT) 2012-2014

Overweight and Obesity

A couple interviewees mentioned physical health, specifically overweight and obesity, as a health concern in the community. One interviewee worried about people staying active and the cost prohibitive costs of gyms.

Generally, about 1 in 5 adults in the Emerson Hospital service area reported being obese (Figure 45). Each town in the Emerson Hospital service area had a lower percent of adults reporting obesity than the prevalence for Massachusetts (25.8%) in 2012-2014. The towns of Littleton (23.3%), Bedford (23.0%), Hudson (21.3%), Acton (21.1%), and Concord (21.1%) had the highest percent of adults reporting obesity, which exceeded the prevalence for Middlesex County (20.3%). The towns of Sudbury (14.7%) and Lincoln (16.4%) had the lowest proportion of adults who reported being obese.

Figure 45. Percent of Adults Self-Reported Obese, by Massachusetts, Middlesex County, and Primary Service Areas, 2012-2014



NOTE: Data for Carlisle was unavailable and is not presented.
DATA SOURCE: Massachusetts Department of Public Health, Bureau of Environmental Health (PHIT) 2012-2014

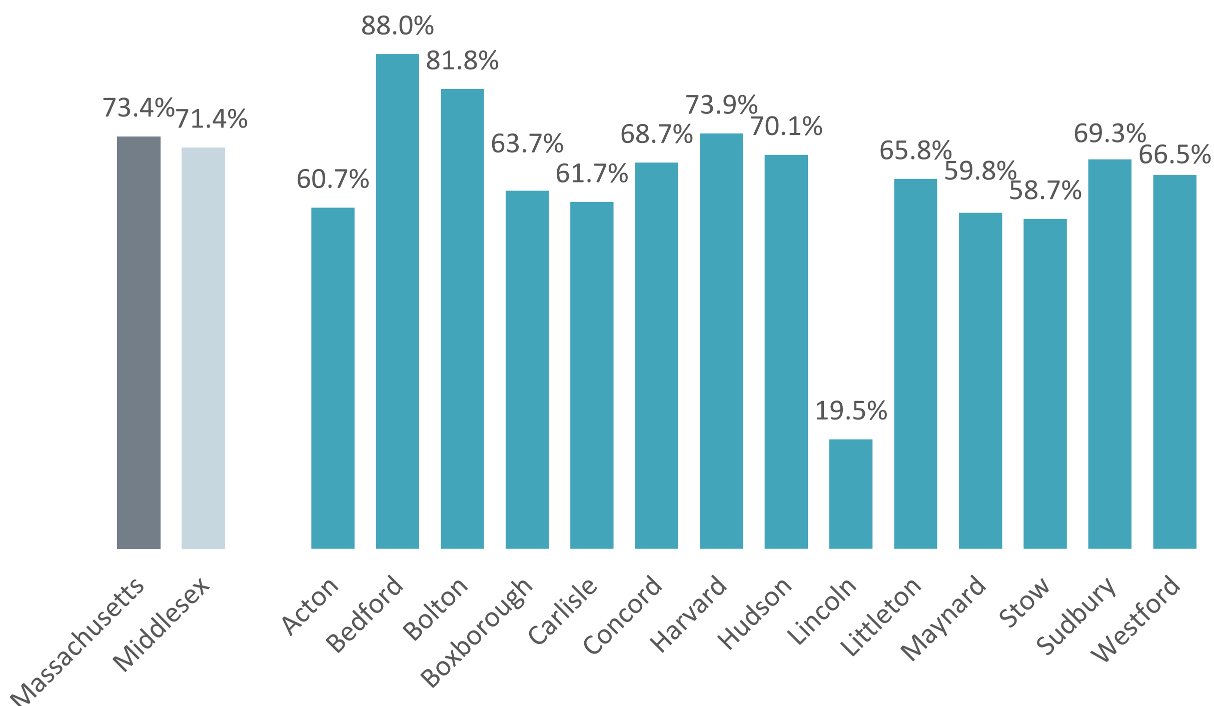
Environmental Health

A couple interviewees brought up environmental concerns, from chemicals still present due past dumping, *"we are drinking from the well water, but the contaminants are a concern,"* to balancing climate change with equitable development, *"want to get to net zero construction, but all of this increases costs and can be an additional barrier for entry into the community."*

Lead

In 2013-2017, early childhood screening for lead poisoning was highest in the service area towns of Bedford (88.0%) and Bolton (81.8%), with over 4 in 5 children 9-47 months of age having received screening for lead poisoning (**Figure** 46). This prevalence was higher than the screening levels across Massachusetts (73.4%) and for Middlesex County (71.4%). Screening for early childhood lead poisoning was lowest in Lincoln, where approximately 1 in 5 (19.5%) children 9-47 months of age were screened for lead poisoning. With about 3 in 5 young children receiving lead poisoning screening, the service area towns of Stow (58.7%), Maynard (59.8%), Acton (60.7%), and Carlisle (61.7%) also had a low prevalence of early childhood lead poisoning screening.

Figure 46. **Children 9-47 Months Screened for Lead Poisoning, by Massachusetts, Middlesex County, and Primary Service Areas, 2013-2017**



DATA SOURCE: Massachusetts Department of Public Health, 5-year average, 2013-2017

Maternal, Infant and Child Health

Low Birth Weight

In 2017 the percent of low-birth-weight births was highest in the service area towns of Westford (9.5%) and Maynard (9.3%), which exceeded the prevalence of low birth weight for Massachusetts (7.4%) and Middlesex County (7.0%; **Table** 9). The percent of low-birth-weight births in Acton (7.1%) and Sudbury (7.2%) more closely reflected patterns for the State and Middlesex County. Littleton (5.8%) and Hudson (5.9%) had the lowest prevalence of low-birth-weight births.

Preterm

The prevalence of preterm birth was highest in Sudbury (11.6%) and Hudson (9.3%), exceeding the percent of preterm births for Massachusetts overall (8.9%) and Middlesex County (8.6%). The towns of Maynard (8.5%) and Westford (8.9%) had a prevalence of preterm birth that more closely approximated patterns for Massachusetts and Middlesex County. The percent of preterm births was lowest in the towns of Bedford (4.4%), Concord (7.2%), and Acton (7.6%).

Table 9. **Low Birth Weights and Preterm Births, by Massachusetts, Middlesex County, and Primary Service Areas, 2017**

	Low Birth Weights		Preterm Births	
	n	%	n	%
Massachusetts	5261	7.4%	6272	8.9%
Middlesex	1178	7.0%	1432	8.6%
Acton	13	7.1%	14	7.6%
Bedford	-	-	-	-
Concord	-	-	-	-
Hudson	12	5.9%	19	9.3%
Littleton	-	-	-	-
Maynard	11	9.3%	10	8.5%
Sudbury	10	7.2%	16	11.6%
Westford	16	9.5%	15	8.9%

NOTE: Values where n<10 not presented.
DATA SOURCE: Massachusetts Department of Public Health, Report on Massachusetts Births, 2017

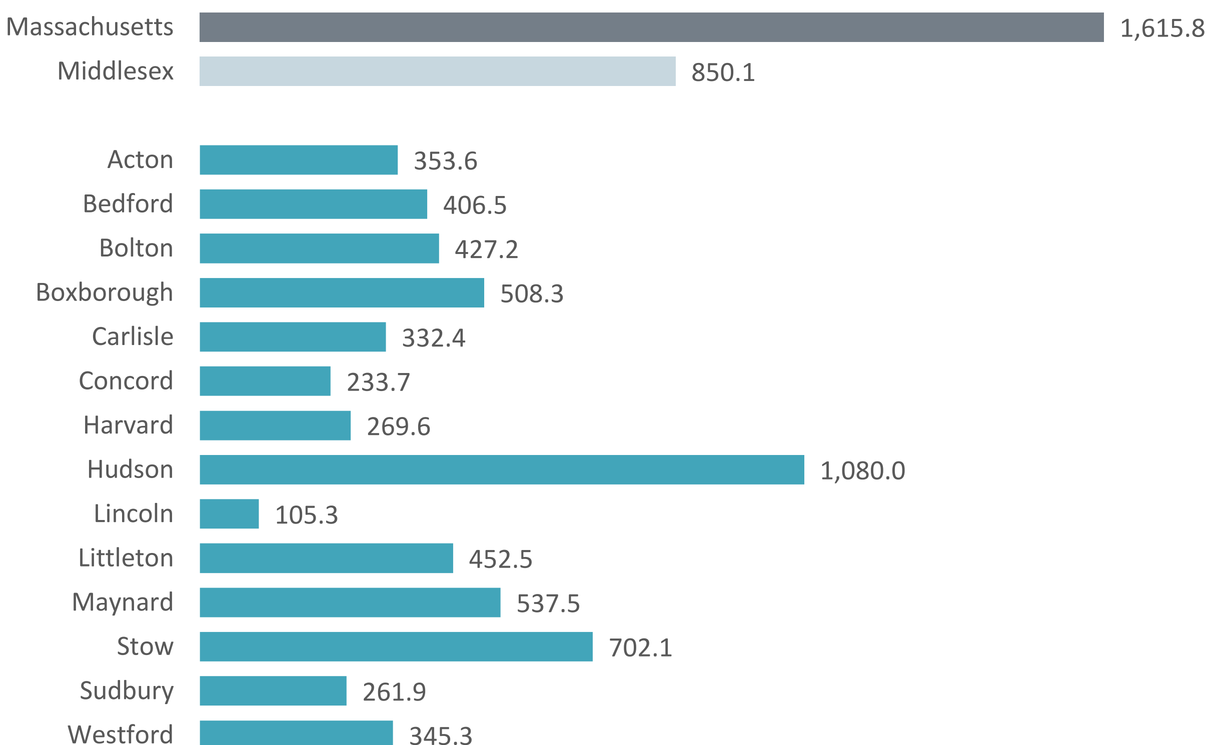
Substance Use

About half of the interviewees discussed substance use issues in the community, in both the youth and adult populations. There was a feeling amongst interviewees that substance use issues may have worsened over the course of the pandemic, particularly for young people. One interviewee shared, *"being home and not having structured environment has given them [young people] more time to experiment and dabble in drugs."*

Focus group participants also discussed substance use among youth and shared that *"substance use like vaping and drinking were becoming more common during the pandemic."* There was also a feeling that, *"youth face stigma getting help and talking to parents"* about substance use.

In 2016-2017, the rate of enrollment in substance addiction services was highest for residents of Hudson (1,080 enrollments per 100,000 residents), which was below the average across the State (1,615.8 enrollments per 100,000 residents) and was 1.3 times higher than the average across Middlesex County (850.1 enrollments per 100,000 residents; Figure 47). Enrollment in substance addiction services was also high in Stow (702.1 enrollments per 100,000 residents), Maynard (537.5 enrollments per 100,000 residents) and Boxborough (508.3 enrollments per 100,000 residents).

Figure 47. **Bureau of Substance Addiction Services Enrollment per 100,000, by Massachusetts, Middlesex County, and Primary Service Areas, 2016-2017**



DATA SOURCE: Massachusetts Department of Public Health, Population Health Information Tool, 2016-2017

Mental Health

"I think mental health is a big one – a lot of kids suffer from mental health, could be because of lived experience (discrimination, racism, anti-Semitism) and also when you are low income, and you live in a rich neighborhood that can cause discrimination and the curriculum is very rigorous and that can sometimes be a problem."

– Interviewee

The health concern that came up most often among interviewees and was discussed in all of the focus groups was mental health. There were concerns about mental health across age groups, income levels, and racial/ethnic groups.

The unique mental health experiences and experiences in receiving care that young people face was discussed across interviewees as well. A number of interviewees and focus group participants highlighted the connection between high anxiety levels, mental health struggles and the culture of the school systems in the area. There was a sentiment that if a student was performing well in school, they *"were not that depressed."* One interviewee highlighted that while stress in individuals' lives might have been present prior to the pandemic, this *"is not the kind of stress they are used to."*

Accessing support for mental health also changed with the pandemic, especially for young people who were used to receiving support and counseling through school. With another interviewee highlighted that for young people their parents are often gatekeepers to seeking medical care, and that they hear *"my parents won't let me,"* or *"I am on my parent's health insurance, and they don't think I need it"* as reasons students or young adults don't always seek out help.

While there was agreement that mental health concerns were present all along, a number of interviewees and focus group participants brought up how COVID-19 has exacerbated mental health concerns for individuals – a number of reasons were raised: increased economic insecurity, social isolation, struggles with online school for kids and caretakers, limited space, and service and health care workers needing to go into the office.

Focus group participants discussed the increased access to mental health services that telehealth may offer, but for some participants they felt it *"shouldn't completely replace [mental health services] because the treatment quality isn't as high with telehealth,"* and the technology requirements on patients might be difficult for some to access, afford, or navigate. One focus group participant shared about the challenge of telehealth appointments: *"it's harder to be honest with my therapist. I feel like I am being watched."*

"One thing we noticed since the pandemic, more pronounced anxiety levels – adults and kids – a lot more isolation and depression."

- Interviewee

Interviewees also brought up a number of barriers specific to mental health that they found concerning, including: high costs of mental health care even with health insurance; difficulty navigating the mental health services system with or without health insurance; stigma; lack of mental health providers; long waitlists to see a mental health provider, especially for adolescents and individuals with no insurance or with Medicaid; lack of providers who understand the needs of specific patient groups such as domestic violence survivors, people of color, and LGBTQIA+ residents.

"People can't just go to urgent care and get therapy; people have trouble finding services."

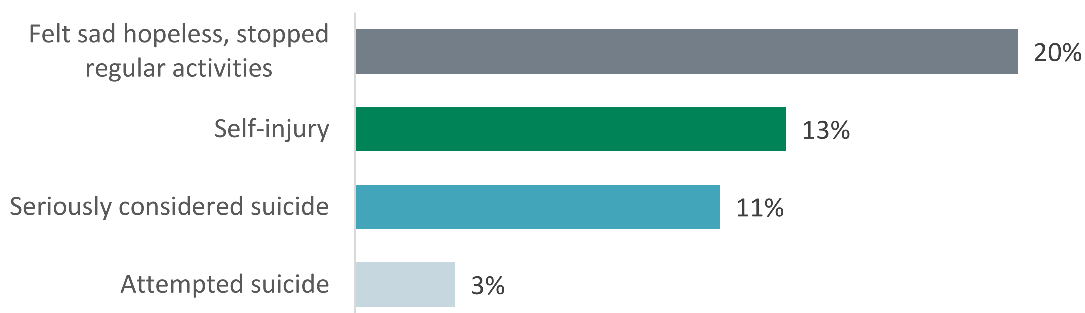
- Interviewee

Youth

Emerson Hospital collaborates with local public-school districts to conduct the Youth Risk Behavior Survey (YRBS) with students in 6th grade, 8th grade, and high school. Findings from the 2020 YRBS include responses from 6,866 students in March 2020, from eight school districts (Acton-Boxborough Regional School District, Carlisle Public Schools, Concord Public Schools, Groton-Dunstable Regional School District, Harvard Public Schools, Littleton Public Schools, Maynard Public Schools, and Nashoba Regional School District[2]).

When surveyed in 2020, 1 in 5 youth respondents reported feeling sad, hopeless, or stopped regular activities (Figure 48). More than 1 in 10 youth reported self-injury (13%) or had seriously considered suicide (11%); and 3% of youth attempted suicide.

Figure 48. Percent of Youth with Experiences of Depression, Self-Injury, Suicide, 2020 (N=6,866)

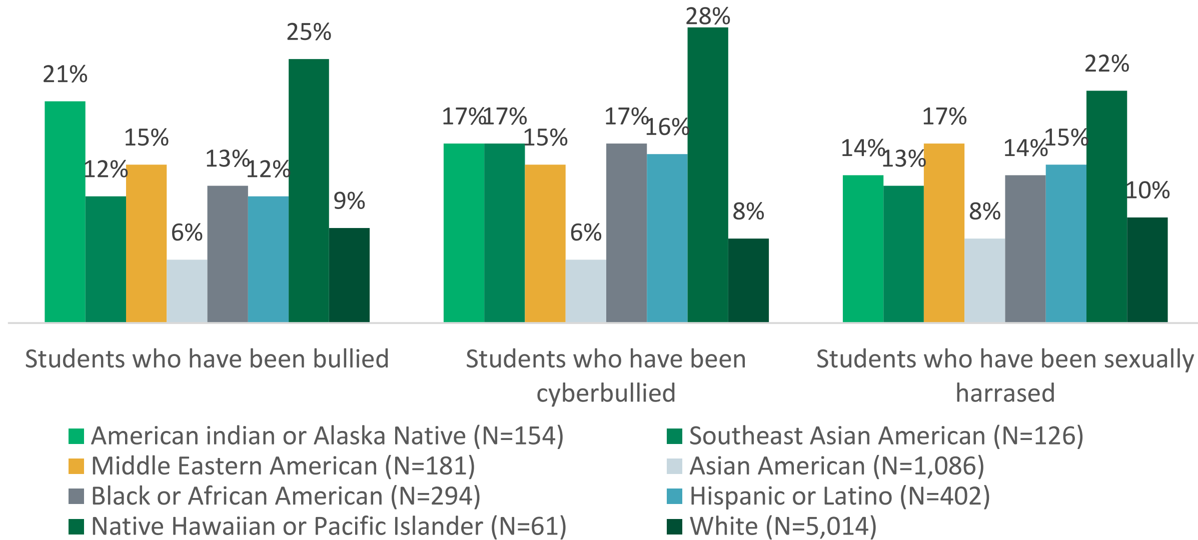


DATA SOURCE: Emerson Hospital Youth Risk Behavior Survey, 2020

Youth also reported experiences of bullying, cyber-bullying, and sexual harassment, the percent of youth reporting these experiences varied across racial and ethnic groups. Asian American and White youth reported the lowest experiences of bullying (6% and 9% respectively); cyber-bullying (6% and 8%); and sexual harassment (8% and 10%). Youth who identified as Native Hawaiian or Pacific Islander reported the highest percent of experiencing bullying (25%); cyber-bullying (28%); and sexual harassment (22%).

[2] The communities in these school districts do not include all towns in the Emerson Hospital service area and do include additional towns.

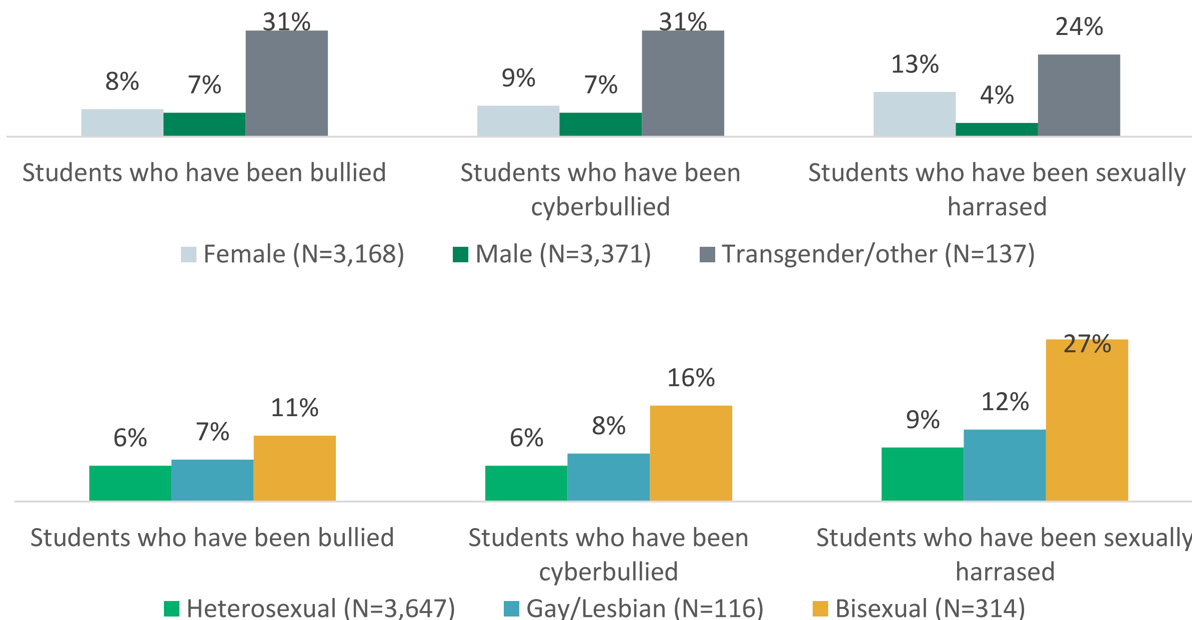
Figure 49. Percent of Youth with Experiences of Bullying, Cyber-Bullying, and Sexual Harassment, by Race/Ethnicity, 2020



DATA SOURCE: Emerson Hospital Youth Risk Behavior Survey, 2020

There was also a wide range in experiences of bullying, cyber-bullying, and sexual harassment across gender identities and sexual orientation (Figure 50). With almost 1 in 3 youth who identify as transgender or other experiencing bullying (31%) or cyber-bullying (31%) and 1 in 4 experiencig sexual harassment (24%).

Figure 50. Percent of Youth with Experiences of Bullying, Cyber-Bullying, and Sexual Harassment, by Gender Identity and Sexual Orientation, 2020

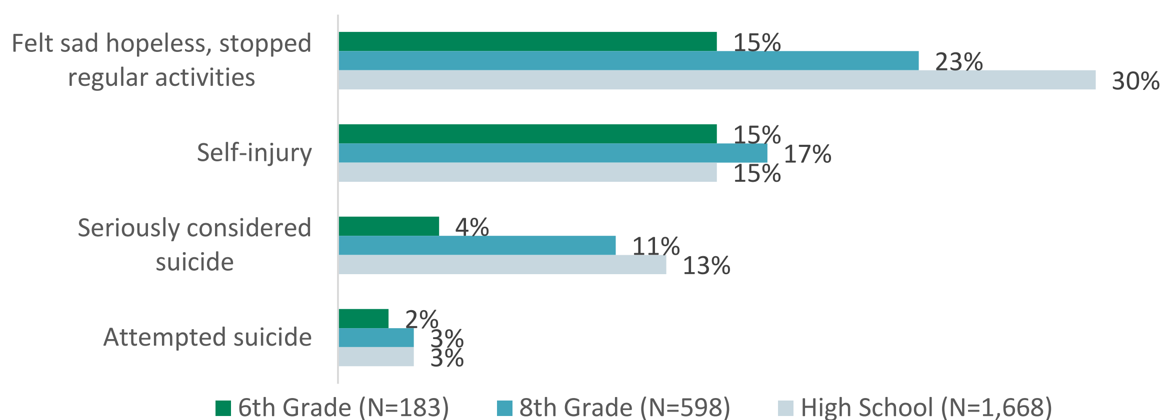


DATA SOURCE: Emerson Hospital Youth Risk Behavior Survey, 2020

To better understand the impacts of the pandemic Emerson Hospital collaborated with three school districts (Acton-Boxborough Regional School District, Groton-Dunstable Regional School District, and Maynard Public Schools) to conduct a follow-up survey of 6th graders, 8th graders, and high school students in March 2021. This survey included similar topics as the 2020 YRBS, and also included additional questions about students' perspectives on how the pandemic has affected them.

The percent of youth reporting feeling sad, hopeless, or stopping regular activities during the 2021 survey increased with age, 15% of 6th graders; almost 1 in 4 8th graders (23%); and nearly 1 in 3 high schoolers (30%; Figure 51). The percent of youth who self-injured had a smaller range (15-17%) and attempted suicide (2-3%), but for those that seriously considered suicide there was a range from 4% in 6th grade up to 13% in high school youth.

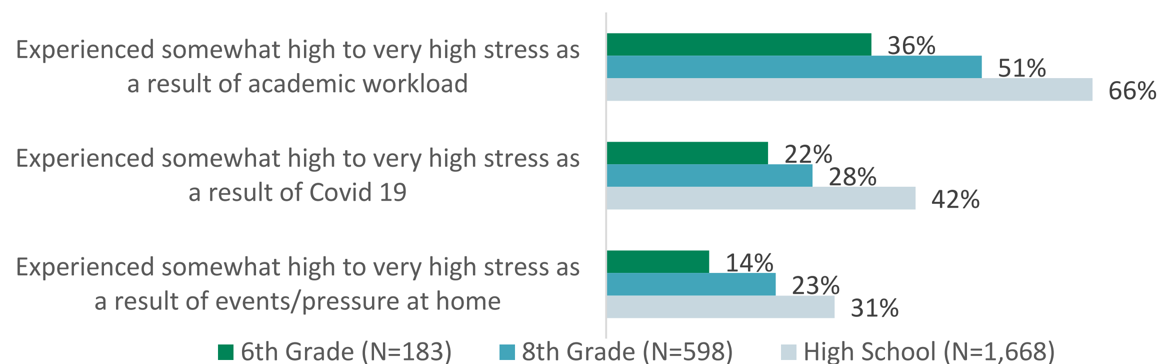
Figure 51. Percent of Youth with Experiences of Depression, Self-Injury, Suicide, by Grade Level, 2021



DATA SOURCE: Emerson Hospital Youth Risk Behavior Survey, 2021

Youth were also asked about their experiences with stress. Two thirds of high schoolers (66%), half of 8th grader (51%), and one third of 6th graders (36%) experienced somewhat or very high stress as a result of academic workload. Similar ranges across age groups occurred in youth experiencing somewhat or very high stress as a result of Covid 19 (High School 42%; 6th grade 22%); and as a result of events/pressure at home (High School 31%; 6th grade 14%).

Figure 52. Percent of Youth with Experiences of Stress, by Grade Level, 2021 (N=2,471)



DATA SOURCE: Emerson Hospital Youth Risk Behavior Survey, 2021

Adults

The service area towns of Boxborough (11.3%) and Bedford (11.1%) had the highest percent of adults reporting 15+ poor mental health days in the past month, which was similar to the average across Massachusetts (11.1%) and was above the prevalence for Middlesex County (9.6%) in 2012-2014 (**Table** 10). Additionally, approximately 1 in 10 adults in Maynard (10.6%) and Hudson (10.1%) reported 15+ poor mental health days. The towns of Sudbury (7.6%), Bolton (8.7%), Acton (8.7%), and Carlisle (8.9%) had the lowest percent of adults reporting 15+ days of poor mental health.

Table 10. **Adults Reporting 15+ Days of Poor Mental Health, by Massachusetts, Middlesex County, and Primary Service Areas, 2012-2014**

	% Adults Reporting 15+ days of Poor Mental Health
Massachusetts	11.1%
Middlesex	9.6%
Acton	8.7%
Bedford	11.1%
Bolton	8.7%
Boxborough	11.3%
Carlisle	8.9%
Concord	9.2%
Harvard	9.3%
Hudson	10.1%
Lincoln	9.5%
Littleton	9.3%
Maynard	10.6%
Stow	9.5%
Sudbury	7.6%
Westford	9.0%

DATA SOURCE: Massachusetts Department of Public Health, Population Health Information Tool (PHIT), 2012-2014

Older Adults

Generally, about 13% of adults 60+ years of age across the Emerson Hospital service area towns reported fair or poor health, which was lower than patterns across the State (18.0%) and Middlesex County (15.8%). Sudbury (16.5%) had the highest percent of adults 60+ years of age who reported fair or poor health (**Table** 11).

The percent of adults 65+ years of age in the Emerson Hospital service area towns who reported having depression ranged from a high of about 3 in 10 residents in Bedford (32.2%), Hudson (32.1%), Sudbury (30.8%), Maynard (30.6%), Concord (30.6%), and Littleton (30.5%) to a low of approximately 2 in 10 in Boxborough (22.1%).

Table 11. Older Adults with Fair/Poor Health Status and Depression, by Massachusetts, Middlesex County, and Primary Service Area, 2018

	% 60+ with self-reported fair or poor health status	% 65+ with depression
Massachusetts	18.0%	31.5%
Middlesex	15.8%	29.9%
Acton	13.5%	28.6%
Bedford	13.5%	32.2%
Bolton	11.7%	27.0%
Boxborough	13.5%	22.1%
Carlisle	13.5%	25.8%
Concord	13.5%	30.6%
Harvard	13.5%	26.3%
Hudson	13.5%	32.1%
Lincoln	13.5%	29.2%
Littleton	13.6%	30.5%
Maynard	13.5%	30.6%
Stow	13.5%	24.4%
Sudbury	16.5%	30.8%
Westford	13.6%	27.1%

DATA SOURCE: Tufts Health Plan, Massachusetts Healthy Aging Data Report, 2018

Visions for the Future

When interviewees and focus group participants were asked about their vision for the future of their communities, they prioritized mental health care, accessible and affordable health care, addressing racism in the community, food insecurity, transportation, housing, and creating a community cultural center.

Interviewees noted the importance of ensuring that there is effective mental health care accessible for youth and understanding how to better meet people where they are to engage in and receive services. Expanding services for a diverse population was also a priority: *"There is not enough culturally sensitive or diverse services for people. It is very dominated by a Caucasian population and services are focused on that as well."*

Discussions of accessible and affordable health care included larger policy issues around how and who pays for medical care, but also more local issues regarding the transportation infrastructure for individuals to get to medical care in the area. Interviewees also shared a vision of providers accepting a broader range of health insurance plans.

Interviewees shared several recommendations for addressing racism in the community. Acknowledging that racism exists and is an issue in the community was seen as a first step. As one interviewee shared, *"If we don't acknowledge it, we can't fix it."* Another noted the importance of working to educate and help all to understand the impacts of racism and discrimination, *"if you don't experience discrimination people don't always acknowledge its impacts."* Other recommendations included increasing the diversity of service providers in the community (e.g., educators, doctors), improving awareness of intersectionality, and *"Continu[ing] to grow and be a place where young families and people of color want to come. That has to be intentional, it doesn't just happen."*

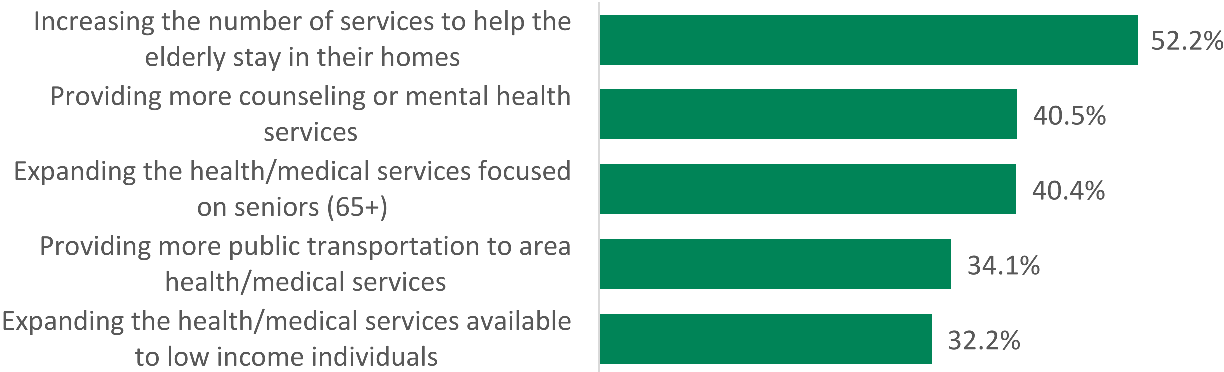
Recommendations for reducing food insecurity included ensuring that leftover food does not go to waste (e.g., leftover hospital cafeteria food), but instead gets to shelters or food pantries; continuing innovative programs from the COVID-19 response, for example delivering food and meals to people in need; and continuing and expanding community gardens in communities.

Visions for improved transportation included building a public transportation system between all of the communities so that resources available in one town and not another are accessible to all and improving infrastructure for active transportation such as building sidewalks and connecting rail trails.

Other recommendations included providing a wider range of housing options, including more public housing and affordable housing, and developing a place for people to come together, a place to receive and learn about services available, have new experiences, and meet new people. To realize this vision, interviewees recommended partnering and collaborating with community-based institutions and forming and supporting anti-racism groups as part of efforts to address racism and discrimination.

The leading priority area identified by Community Survey respondents was increasing the number of services to support elderly residents to stay in their homes, which was cited by over half (52.2%) of respondents (Figure 53). About 2 in 5 respondents prioritized providing more counseling or mental health services (40.5%) or expanding health/medical services for seniors (40.4%). Approximately one-third of respondents prioritized improving public transportation options to health/medical services in the area (34.1%) and expanding health/medical services available to low-income residents (32.2%).

Figure 53. **Top 5 Priority Areas that Community Members Think Should Be Addressed in the Community (N=1,990), 2021**



DATA SOURCE: Emerson Hospital CHNA Community Survey, 2021

Presented in Figure 54 are the top 5 priority areas reported by Community Survey respondents by age group. Over half (54.2%) of respondents <65 years of age prioritized providing more counseling or mental health services, making this the leading priority area for this age group. About 2 in 5 (39.6%) respondents <65 years of age prioritized increasing the number of services to help elderly residents to stay in their homes. Other leading priority areas endorsed by about 3 in 10 respondents <65 years of age include: offering more programs or services focused on obesity/weight control (32.8%), expanding health/medical services for low-income residents (31.4%), and offering more programs or services focused on preventing chronic diseases (29.8%).

Among respondents 65+ years of age, approximately 2 in 3 (65.1%) prioritized increasing the number of services to support elderly residents to be able to stay in their home, making this the top priority area for older adults. About half (52.9%) of respondents 65+ years of age prioritized expanding health/medical services for seniors and 2 in 5 (40.5%) prioritized expanding health/medical services for low-income residents. Over 3 in 10 respondents 65+ years of age cited more programs/services focused on obesity/weight control (33.3%) and mental health issues among youth (31.3%) as leading areas of focus.

Figure 54. **Top 5 Priority Areas that Community Members Think Should Be Addressed in the Community, by Under 65 and 65+ (N=1,963), 2021**

Under 65	65+
Providing more counseling or mental health services (54.2%)	Increasing the number of services to help the elderly stay in their homes (65.1%)
Increasing the number of services to help the elderly stay in their homes (39.6%)	Expanding the health/medical services focused on seniors (65+) (52.9%)
Offering more programs or services focusing on obesity/weight control (32.8%)	Expanding the health/medical services available to low-income individuals (40.5%)
Expanding the health/medical services available to low-income individuals (31.4%)	Offering more programs or services focusing on obesity/weight control (33.3%)
Offering more programs or services focusing on prevention of chronic diseases like heart disease or diabetes (29.8%)	Mental health issues among youth (31.3%)

DATA SOURCE: Emerson Hospital CHNA Community Survey, 2021

Priority areas to be addressed in the future varied by race/ethnicity. Providing anti-bias training to health care and social service providers to create more inclusive environments (52.4%) was the top

priority among African American or Black respondents (**Figure** 55). Additional priorities cited by African American or Black respondents included: providing more counseling or mental health services (38.1%), providing more culturally appropriate health services (38.1%), providing more public transportation to area health/medical services (38.1%), and expanding health/medical services to low-income residents (33.3%).

Among American Indian/Native American respondents, the majority prioritized expanding health/medical services available to low-income individuals (71.4%). More than half identified increasing the number of services to help elderly residents stay in their homes (57.1%) and providing more public transportation to area health/medical services (57.1%) as priorities. Other priority areas for American Indian/Native American respondents included providing anti-bias training to health care and social service providers (42.9%) and providing more counseling or mental health services (42.9%).

For East Asian respondents, increasing the number of services to help elderly residents stay in their homes (47.1%), expanding health/medical services focused on seniors (45.1%), and providing more counseling or mental health services (45.1%) were leading priority areas. Additionally, almost 2 in 5 East Asian respondents cited as priorities expanding health/medical services available to low-income individuals (39.2%) and offering programs or services focusing on the prevention of chronic diseases (39.2%).

Priority areas for Hispanic/Latino(a) respondents included providing more counseling or mental health services (50.0%) and increasing the number of services to help elderly residents to stay in their homes (44.4%). Other priority areas identified by more than 3 in 10 Hispanic/Latino(a) residents included: providing anti-bias training to health care and social service providers (36.1%), expanding health/medical services available to low-income individuals (33.3%), expanding health/medical services focused on seniors (33.3%), offering more programs or services focusing on the prevention of chronic diseases (33.3%), and providing more public transportation to area health/medical services (33.3%).

The majority of Middle East and North African (MENA) respondents prioritized increasing the number of services to help elderly residents to stay in their homes (69.2%). More than half of Middle East and North African respondents indicated offering more programs or services that are focused on prevention of chronic diseases (53.8%) as a priority. Other priority areas identified by Middle East and North African respondents included: providing anti-bias training to health care and social service providers (46.2%), providing more public transportation to area health/medical services (46.2%), and providing more counseling or mental health services (38.5%).

For respondents classified as an “other” racial/ethnic group, approximately half prioritized increasing the number of services to help elderly residents stay in their homes (50.0%) and expanding the health/medical services focused on seniors (47.8%). Approximately 3 in 10 respondents classified as an “other” racial/ethnic group cited as priorities: offering more programs or services focusing on obesity/weight control (34.8%) and providing more counseling or mental health services (30.4%).

Among Pacific Islander respondents, the majority prioritized expanding medical specialists in the area (75.0%), increasing the health/medical services that are close by and easy to travel to (75.0%), providing more public transportation to area health/medical services (75.0%), and offering more programs or services focusing on the prevention of chronic diseases (75.0%).

Approximately half of South Asian respondents cited offering more programs or services focusing on obesity/weight control (56.0%) as a priority. Approximately 3 in 10 South Asian respondents listed as priorities providing more programs or services focused on healthy food choices (36.0%), providing more programs or services focused on physical activity (36.0%), offering more programs focused on the prevention of chronic diseases (32.0%), providing anti-bias training to health care and social service providers (32.0%), and providing more counseling or mental health services (32.0%).

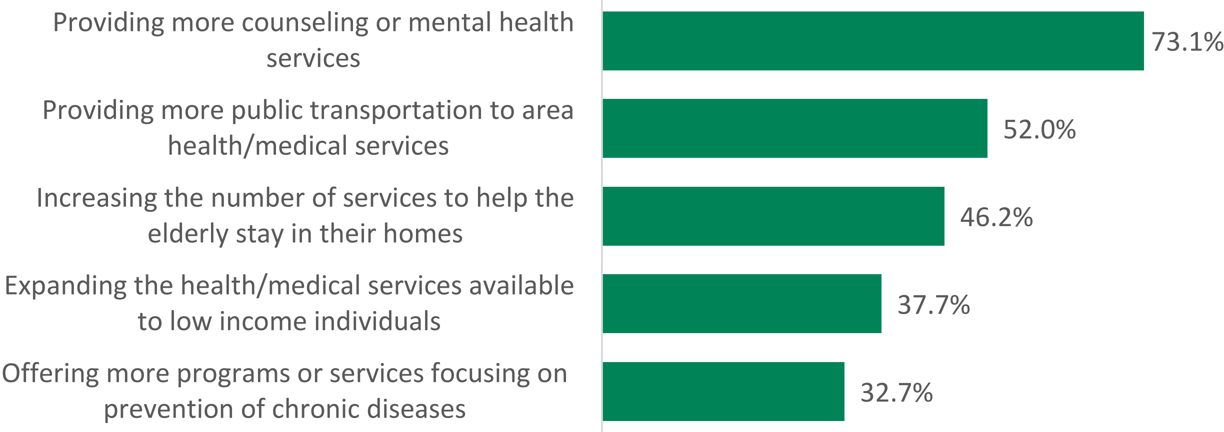
Figure 55. **Top 5 Priority Areas that Community Members Think Should Be Addressed in the Community, by Race/Ethnicity, 2021**

Black, non-Hispanic (n=21)	East Asian, non-Hispanic (n=51)	Hispanic/ Latino (n=36)	South Asian, non-Hispanic (n=25)
Providing anti-bias training to health care and social service providers (52.4%)	Increasing the number of services to help the elderly stay in their homes (47.1%)	Providing more counseling or mental health services (50.0%)	Offering more programs or services focusing on obesity/weight control (56.0%)
Providing more counseling or mental health services (38.1%)	Providing more counseling or mental health services (45.1%)	Increasing the number of services to help the elderly stay in their homes (44.4%)	Offering more programs or services focusing on physical activity (36.0%)
Providing more public transportation to area health/medical services (38.1%)	Expanding the health/medical services focused on seniors (65+) (45.1%)	Providing anti-bias training to health care and social service providers (36.1%)	Offering more programs or services focusing on healthy food choices (36.0%)
Providing more culturally appropriate health services (38.1%)	Expanding the health/medical services available to low-income individuals (39.2%)	Expanding the health/medical services focused on seniors (65+) (33.3%)	Providing more counseling or mental health services (32.0%)
Expanding the health/medical services available to low-income individuals (33.3%)	Offering more programs or services focusing on prevention of chronic diseases like heart disease or diabetes (39.2%)	Expanding the health/medical services available to low-income individuals (33.3%)	Providing anti-bias training to health care and social service providers (32.0%)

DATA SOURCE: Emerson Hospital CHNA Community Survey, 2021

Priority areas identified by providers are shown in Figure 56. The majority (73.1%) of providers prioritized providing more counseling or mental health services. About half of providers prioritized ensuring more public transportation to area health/medical services (52.0%) and increasing the number of services available to support elderly residents in remaining in their homes (46.2%). More than 3 in 10 providers cited expanding health/medical services to low-income residents (37.7%) and offering more programs or services for chronic disease prevention (32.7%).

Figure 56. **Top 5 Priority Areas that Providers Think Should Be Addressed in Their Patients/Clients' Community (N=223), 2021**



DATA SOURCE: Emerson Hospital CHNA Community Survey, 2021

Conclusions

Secondary data, a community resident and provider survey, interviews, and focus groups were used to inform this report and provide an overview health of the Emerson Hospital service area. Overall, this report provides a summary of the health conditions and behaviors affecting the service area residents and the current perceived strengths and challenges. It should be noted again that the data collection for this report happened in the midst of COVID-19 and the health, social, and economic conditions individuals and communities were facing were influx.

The key health issues that emerged as areas of potential concern in the CHNA were mentioned in the community resident and provider survey, interviews and focus groups, and supported by secondary data.

Aging health concerns – Interviewees noted that the large senior citizen population continues to grow in the area, and the American Community Survey also showed a number of towns in the service area with a greater proportion of the population over 65 than the state (MA: 16.1%; Lincoln 28.4%; Concord 20.6%; Carlise 19.4%; Hudson 17.9%; and Harvard 17.5%). When Community Survey participants were asked about personal and community health concerns, aging health concerns was a top concern for respondents and/or their family (50.2%) and for their community (54.8%). Aging health concerns was also cited by 66.2% of provider survey respondents as a common health concern.

Availability and affordability of housing, specifically around low-income individuals, and households – Interviewees and focus group participants from across communities in the service area discussed the high cost of purchasing or renting homes and limited availability of homes in the area, as well as a lack of affordable units. The high housing costs were associated with it being a difficult place for young people, immigrant communities and low-income families to move, and the high tax rate was also challenging for families to stay in the community after their children graduated and for older adults on a fixed income or looking to downsize but stay in the area. In the Community Survey, housing was the top community-level concern for residents (59.8%) and providers (76.6%).

Notably, approximately 1 in 4 (25.1%) residences in the primary service area were occupied by owners who were not paying a mortgage. Nearly 1 in 5 (19.4%) residences in the primary service area were renter-occupied, and nearly 1 in 4 (24.7%) residences in the secondary service area were renter occupied, which was below average of 37.6% of renter occupied housing units across Massachusetts and in Middlesex County.

Chronic health conditions – Both providers and community survey respondents were asked to indicate current health issues of concern. The most frequently cited health issues among respondents for the community and for themselves and/or their family were **high blood pressure** (community: 28.9%; themselves: 36.6%) and **overweight/obesity** (community: 27.6%; themselves: 31.1%). In addition to those chronic health conditions, providers also indicated concern about **diabetes** (57.4%), **heart disease/heart attacks** (56.8%), and **cancer** (55.2%).

Across towns in the Emerson Hospital service area in 2017, the **cancer** mortality rate was highest in Lincoln (389.0 deaths per 100,000 residents), which was 2.1 times higher than the cancer mortality rate across the State (188.8 deaths per 100,000 residents) and 2.3 times higher than the rate for Middlesex County (165.8 deaths per 100,000 residents).

In 2012-2014, about 4% of residents in Lincoln (4.4%), Bedford (4.2%), and Concord (4.0%) reported **angina or coronary heart disease**, which is slightly above the prevalence across Massachusetts (3.9%) and exceeds the prevalence for Middlesex County (3.2%). Each town in the Emerson Hospital service area had a lower rate of hospitalizations due to cardiovascular disease compared to Massachusetts.

Across the Emerson Hospital service area, the percent of adults reporting a diagnosis of **diabetes** was below the average for Massachusetts (9.0%). Bedford (8.6%) and Hudson (7.6%) had a higher percent of residents reporting diabetes. In the survey, diabetes did not come up as a top health concern overall but was a top health concern for Black and South Asian respondents.

A couple interviewees mentioned physical health, specifically **overweight and obesity**, as a health concern in the community. Generally, about 1 in 5 adults in the Emerson Hospital service area reported being obese. Each town in the Emerson Hospital service area had a lower percent of adults reporting obesity than the prevalence for Massachusetts (25.8%) in 2012-2014.

COVID-19 – When Community Survey participants were asked about personal and community health concerns, coronavirus/COVID-19 was a top concern identified for respondents and/or their family (41.4%) and for their community (54.7%). Among providers, nearly 9 in 10 (89.0%) cited coronavirus/COVID-19 as a current health issue. Interviewees and focus group participants indicated

that many community needs were exacerbated during the pandemic, and COVID-19 brought about a new awareness around the inequities experienced across the community needs identified.

Economic insecurity, including around food insecurity and the cost of health care/medications – Interviewees overwhelmingly described the communities as middle income and well-off, but there was also acknowledgement that this was not universal. In 2015-2019, the median household income in the primary service area ($145,639) and secondary service area ($104,935) were both higher than the median household income in Massachusetts ($81,215) and Middlesex County ($102,603). In 2015-2019, 4.0% of residents in the primary service area and 5.9% in the secondary service area had incomes below the federal poverty level, lower than the poverty rate across the State (10.3%) and for Middlesex County (7.4%).

From 2019 to 2020, the unemployment rate increased by 200% in the primary service area and by 181% in the secondary service area, which was above the 196% increase across Massachusetts. When community survey respondents were asked about a change in their financial situation due to the COVID-19 pandemic, nearly 1 in 6 (15.4%) respondents reported that their financial circumstances had gotten worse

Interviewees and focus group participants described food insecurity described as a concern in the community that was exacerbated by COVID-19, as food pantries and other emergency food sources saw a dramatic rise in individuals and families looking for resources over the past year. In the community survey, availability of supermarkets and affordable healthy food options was a top concern for residents for themselves and the community at large. This was seen as a top concern across age groups. In the secondary service area, approximately 1 in 10 (10.6%) households received food stamps/SNAP benefits, which was just below the proportion for Massachusetts (11.7%), and more than double the proportion of households that received food stamps/SNAP in the primary service area (4.6%).

In the community survey, more than 1 in 10 (14.4%) respondents reported that a member of their household had not received needed medical care due to costs. When asked about the impact of health care systems issues for the community, about 2 out of 3 (68.2%) community respondents cited the cost of care/co-pays as a concern and more than half (56.8%) noted insurance problems as a community issue. About 7 in 10 providers cited cost of care/co-pays (72.2%) or insurance problems (69.8%) as community health care access issues.

Mental health – The health concern that came up most often among interviewees and was discussed in all of the focus groups was mental health. There were concerns about mental health across age groups, income levels, and racial/ethnic groups. Interviewees also brought up a number of barriers specific to mental health that they found concerning, including: high costs of mental health care even with health insurance; difficulty navigating the mental health services system with or without health insurance; stigma; lack of mental health providers; long waitlists to see a mental health provider, especially for adolescents and individuals with no insurance or with Medicaid; lack of providers who understand the needs of specific patient groups such as domestic violence survivors, people of color, and LGBTQIA+ residents.

Adult mental health was one of the top five most frequently cited health issues among community respondents (26.9%). Common health concerns indicated by providers included: adult mental health issues (78.2%), alcohol and drug use among adults (63.4%), and mental health issues among youth

(63.1%). About 2 in 5 Community Survey respondents prioritized providing more counseling or mental health services (40.5%) or expanding health/medical services for seniors (40.4%). The majority (73.1%) of providers prioritized providing more counseling or mental health services.

Transportation options
Transportation was a top concern raised in the survey for the community by residents and providers alike. For individuals, it also rose to the third most common concern for residents over 65 responding to the survey. Approximately one-third of respondents prioritized improving public transportation options to health/medical services in the area (34.1%). Many interviewees remarked on the challenge's individuals face accessing services in the community due to lack of transportation infrastructure. Interviewees shared about individual towns or social service agencies trying to create systems for their communities or populations, but they often reported significant limitations such as geographic perimeters and destinations that limit the usability.

An overarching conclusion that cuts across all topic areas is the **systemic racism, racial injustices, and discrimination** present in the service area. When asked about the Top 5 Social Issues with the Largest Impact on the Community in the Community Survey, addressing systemic racism/racial injustice was the number 2 (57.1%) issue indicated by community members and the number 4 (52.9%) issue indicated by providers.

The 298 Community Survey participants who reported experiences of discrimination were asked why they were discriminated against. Discrimination on the basis of age (47.8%) and gender (43.7%) were the most frequently cited social identities against which respondents reported experiences of discrimination. Nearly 1 in 3 respondents reported discrimination based on race (32.4%) and nearly 3 in 10 respondents indicated that they experienced discrimination based on their ethnicity, ancestry, or country of origin (29.7%). Discrimination based on physical appearance was reported by approximately 1 in 5 (20.5%) respondents. About 1 in 10 (10.6%) respondents reported discrimination on the basis of their sexual orientation.

Priority Health Needs of the Community

In June 2021, members of the Community Benefits Advisory Committee reviewed the needs identified by the CHNA, including the magnitude and severity of these issues and their impact on the most vulnerable populations. This process determined that the following needs identified in the CHNA are to be addressed by Emerson Hospital in collaboration with community partners and will be included in the implementation strategy:

- Aging health concerns
- Economic insecurity, including around food insecurity and the cost of health care/medications
- Mental health
- Transportation options

Emerson Hospital also recognizes the role and impact that race, systemic racism, and discrimination has on these needs and intends to incorporate that into their implementation strategy.

Appendices

Appendix 1: Emerson Hospital Community Benefits Advisory Committee (CBAC)

Name	Title	Representation	Town
Lauren Barretta	COA Asst. Director	Social Services-Older Adults	Concord
Dawn Bentley	Assistant Superintendent for Diversity, Equity, and Inclusion	Education	Acton/Boxborough
Jill Block	Corporator	Community member	Concord
Amy Caggiano	Auxiliary Liaison Officer and Run~Walk Coordinator	Emerson staff	Carlisle/Concord
Adam Duchesneau	Director of Planning and Town Development	Transportation/municipal staff	Sudbury
Christine Gallery	Senior VP Planning and Chief Strategy Officer	Emerson staff	Emerson
Roseann Giordano	Board Member	Board member	Acton
Tami Gouveia	MA State Representative 14th District	Elected Official	Acton
Sandra Hinds	Adjunct Professor, Quinsigamond Community College	Community member	Acton
Rick Lefferts	Chair, Maynard Affordable Housing Trust	Housing	Maynard
Kelsey Magnuson	Community Benefits	Emerson staff	Concord
Jack McKeen	Corporator	Community member	Maynard
Susan Rask	Public Health Director	Town Public Health	Concord
Liz Rust	Director-Regional Housing Services Office	Housing	Concord
Bill Ryan	Board Member	Board member	Maynard
Cheryl Serpe	Bank Manager	Business Community-private sector	Westford
James Street, MD	Board Member	Board member	Concord
Jill Stansky	Board Member	Board member	Sudbury
Teresa Symula	Corporator	Community member	Harvard
Deb Van Walsum	Auxiliary	Community member	Carlisle
Pat Worsley	Emerson PHO-Community Health Worker	Emerson staff	Emerson