



MOUNT AUBURN HOSPITAL

2018

Community Health Needs Assessment



Produced by John Snow, Inc.



ACKNOWLEDGEMENTS

Mount Auburn Hospital's (MAH) 2018 Community Health Needs Assessment (CHNA) and Community Health Improvement Plan (CHIP) were developed by MAH's Office of Community Health under the direction of MAH's Community Health Program Coordinator, Mary DeCoursey. The CHNA and CHIP were developed through a collaborative process involving both administrative and clinical staff at MAH as well as a diverse CHNA Advisory Group made up of health and social service providers, local public health officials, community health advocates, and other community leaders. The Advisory Committee met periodically throughout the assessment and planning process in order to inform the assessment and planning approach, oversee progress, and provide critical feedback on preliminary and final results. The Advisory Committee's support and involvement was absolutely central to the success of the CHNA and CHIP development process. This effort was also supported by MAH's Patient and Family Advisory Council (PFAC) who was involved throughout the process and provided important input at key junctures.

Since the beginning of the assessment in July 2017, more than 100 individuals participated in interviews, focus groups, community forums, and CHNA review sessions. These participants included representatives from health and social service organizations, public health departments, community based organizations and advocacy groups, as well as businesses leaders, MAH patients, and the community at-large. The information gathered as part of these efforts allowed MAH to engage the community and gain a better understanding of community capacity, strengths, and challenges as well as community health status, barriers to care, service gaps, underlying determinants of health, and overall community need. In addition, nearly 100 community members from MAH's primary service area, completed community health surveys. The information gathered through the survey contributed greatly to assessing need, community health priorities, and developing the Community Health Improvement Plan (CHIP).

MAH would like to thank everyone who was involved in this effort, but particularly the region's service providers, health departments, advocacy groups, and community members who invested their time, effort, and expertise through interviews, surveys, community forums, and listening sessions to ensure the development of a comprehensive, thoughtful, and quality CHNA and CHIP. While it was not possible for this assessment to involve all of the community's stakeholders, care was taken to ensure that a representative sample of key stakeholders was engaged. Those involved showed a real commitment to strengthening the regions health system, particularly for those segments of the population who are most at-risk. This assessment would not have been nearly as successful without the support of those involved.

Special thanks and consideration should go to Mary DeCoursey (Program Coordinator MAH's Office of Community Health) and Mary Johnson, RN, former Director of Community Health at MAH. MAH was supported in this work by John Snow, Inc. (JSI), a public health management consulting and research organization dedicated to improving the health of individuals and communities in the United States and around the world. MAH appreciates the contributions that JSI has made in analyzing data, interviewing stakeholders, and conducting research throughout CHNA and CHIP development process. Special thanks are due to Mr. Alec McKinney and Ms. Madison MacLean for their role in producing the CHNA and CHIP.

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I. ABOUT MOUNT AUBURN HOSPITAL

Mount Auburn Hospital (MAH or the Hospital) is a 217 bed acute-care, Harvard-affiliated community teaching hospital serving the healthcare needs of residents of Cambridge and its surrounding communities throughout this area. The vast majority of its patients are from Arlington, Belmont, Cambridge, Somerville, Watertown, and Waltham. MAH, Incorporated in 1871, was Cambridge's first hospital, and is a not-for-profit, charitable teaching hospital whose primary purpose is to maintain the good health of the residents in its service area by providing high-quality medical services and programs as a means to prevent and cure disease and to relieve suffering. Medical education and clinical research play an important part in the hospital's mission and are considered necessary to maintain high-quality care for patients.

The Hospital offers comprehensive inpatient and outpatient medical, surgical, obstetrical, and psychiatric services as well as specialized care in bariatrics, cardiology, cardiac surgery, orthopedics, neurology, vascular surgery, and oncology. In addition, Mount Auburn also offers a network of satellite primary care practices in several surrounding communities, as well as a range of community-based programs, Care Group Parmenter Homecare and Hospice, outpatient specialty services, and rehabilitation services. Mount Auburn's dual mission is to provide excellent and compassionate health care and to teach students of medicine and the health professions. MAH provides services to residents across the demographic and socio-economic spectrum but with respect to its community benefits efforts focuses its activities on improving the health status of the low income, underserved, and otherwise vulnerable populations including the uninsured, underinsured, or MassHealth populations.

MAH recognizes its role as a tertiary/academic resource in a larger health system and knows that to be successful it needs to collaborate with its community partners and those they serve. This Community Health Needs Assessment (CHNA) and the associated Community Health Implementation Plan (CHIP) were completed in close collaboration with MAH's staff, its health and social service partners, and the community at-large. This assessment, including the process that was applied to develop the CHIP, exemplifies the spirit of collaboration that is such a vital part of MAH's mission.

MAH currently supports dozens of educational, outreach, and community health-strengthening initiatives targeting those living in its service area. In the course of these efforts MAH collaborates with many of the service area's leading healthcare, public health, and social service organizations. MAH has particularly strong relationships with the region's local health departments, local Councils on Aging, Somerville Center for Adult Education and Learning (SCALE), the Community Learning Center, Waltham Family School, Community Health Network Area (CHNA 17), and the Charles River Community Health Center. These and many other community health partners are ideal community benefits partners as they are rooted in their communities.

Mount Auburn Hospital's Community Health Mission Statement

Mount Auburn Hospital is committed to improving the health and wellbeing of community members by collaborating with community partners to reduce barriers to health, increase prevention and /or self-management of chronic disease and increase the early detection of illness.

II. BACKGROUND, PURPOSE AND APPROACH

BACKGROUND AND PURPOSE

Not-for-profit hospitals like MAH play essential roles in our health care system and as a result are afforded a range of benefits, including State and Federal tax-exempt status. With this status come certain fiduciary and public obligations. The primary obligation of tax-exempt hospitals is that they provide charity care to all qualifying individuals. In addition, as a not-for-profit hospital, MAH is required by the Federal Internal Revenue Service (IRS) and encouraged by the Massachusetts Attorney General's Office through voluntary Hospital Community Benefit Guidelines to make good on their commitment to address the health and social needs of the residents in the communities they serve. More specifically, MAH is expected to offer a broad range of preventive and acute care services as well as to implement in cooperation with other community health stakeholders targeted programs that address unmet need and to improve the health and overall well-being of the residents of the communities it serves. Furthermore, per the Commonwealth and Federal guidance, MAH is expected to work in close collaboration with service providers, public health departments, and other community-based organizations as well as the public at-large.

As part of this Federal and Commonwealth guidance, MAH is expected to develop a community health improvement plan (CHIP) every three years, which in turn must be updated and reported on annually. The CHIP must be informed by a comprehensive community health needs assessment (CHNA) that clarifies the unmet health needs of those living in the hospital's primary service area by analyzing available public health data, assessing service capacity, and engaging the community. In the process of clarifying unmet need the CHNA should identify the leading barriers to care, social determinants, and health-related conditions or diseases as well as service or capacity gaps across all health-related service categories.

MAH's charge through this process is to identify specific strategic actions which it can take to address unmet community health needs but also to facilitate cooperation between other public and private sector organizations across all health-related sectors. The CHIP and the associated CHNA should be used as a source of information and guidance to (1) Prioritize and promote certain community need- or service-related issues for investment, (2) clarify issues related to community characteristics, community need, barriers to care, existing service gaps, unmet need, and other health-related factors and (3) guide a comprehensive, collaborative community health improvement plan. As required, the Community Health Needs Assessment and corresponding CHIP have been posted on the MAH website and will be made available in hard copy if requested. Both documents have also been shared with Community Health Network Area 17. Community members and service providers have been encouraged to share their thoughts, concerns or questions throughout the process and will be encouraged to continue to share their thoughts and ideas moving forward.

MAH recognizes the merit and importance of these activities and as such, MAH's efforts over the past year extend beyond meeting Commonwealth expectations or federal regulatory requirements. A robust, comprehensive, and objective assessment of community health need and service capacity, conducted collaboratively with key stakeholders, not only allows MAH to fulfill its public expectations and

requirements but also allows MAH to explore ways to more effectively leverage its community benefits activities and resources in order to continuously improve the health of the community it serves. The CHNA process facilitates community partnerships and fosters broad community engagement.

This report along with the associated CHIP is the culmination of nearly a year of work. It summarizes the findings from MAH's assessment activities and provides the core elements of MAH's CHIP that will guide the plan. MAH's Community Health Department, with the full support of MAH's Board of Trustees and Senior Leadership, looks forward to working with local health departments, CHNA 17, clinical and non-clinical community partners, and with community residents throughout its service area to address the issues that arose from the CHNA and to implement the CHIP.

Included below are further details regarding MAH's approach to the CHNA as well as the characteristics of the MAH's community benefits service area (CBSA). Also included below are detailed descriptions of how the CHNA was conducted and how the CHIP was developed.

ASSESSMENT APPROACH (Including Service Area Description, Methods, & Data Limitations)

Over the past decade, there has been an increased understanding among policy-makers, public officials, and providers of the importance of developing broad system wide plans that guide how public and provider agencies and service providers should work collectively to strengthen regional health systems. To be effective these plans, along with their associated assessments and recommendations, must be:

- **Comprehensive**, involving the full range of health care, social service, and public health providers;
- **Data-driven**, applying quantitative and qualitative data from primary and secondary sources in ways that allow for sound decision making;
- **Collaborative**, engaging all relevant stakeholders - including, public agencies, service providers, and the community at-large – in a transparent, inclusive process;
- **Action-oriented, Measurable, and Justifiable** - providing a clear path or roadmap that guides action in clear, specific, measurable ways and allows for the implementation of short-term and long-term strategies; and
- **Evidence-based**, implementing projects and strategies that are proven, rooted in clinical or service provider experience, and take into consideration the interests and needs of the target population.

The CHNA and the CHIP described in this report were developed with these principles in mind and identify a series of community health priorities that will be used by MAH and community health stakeholders across the region to guide community health improvements over the next 3-years.

Broader Context of the CHIP (Social Determinants, Health Equity, and Health in all Policies)

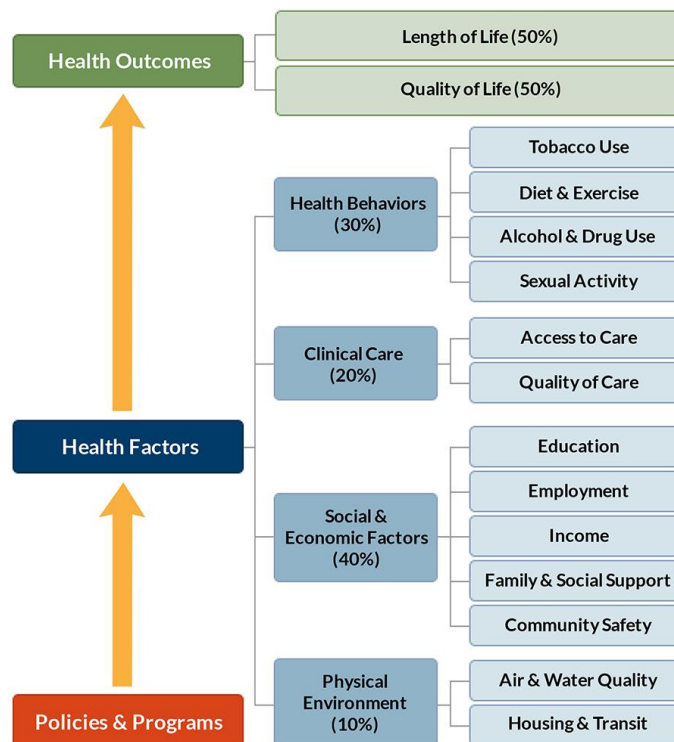
The CHNA and the CHIP provide vital information that will be used by MAH and other stakeholders to help drive the region's community health improvement plan and identify community health strategies that will address community need and show public health value.

Despite MAH's focus on clinical services and the overall health systems traditional emphasis on disease burden, physical health, and health services providers, it is important to note that the overall approach of this assessment and the Commonwealth's and the Federal governments expectations are much broader and more inclusive. For example, the Massachusetts Attorney General's Office, through the Community Benefits Guidelines, have establish a set of priorities, which are intended to be used to focus the community benefit work of hospitals. These priorities include: 1) Support of the Commonwealth's Health Care Reform Agenda, 2) Chronic Disease Management in Disadvantaged Populations, 3) Reducing Health Disparities, 4) and Promoting Wellness of Vulnerable

Populations. Moreover, there is a growing appreciation that social determinants of health have a greater impact on health than health system improvements, related to access and the capacity and quality of actual health care services. In fact, research shows that only 10-20% of one's overall health is attributable to clinical services; the remainder is linked to genetics, behavior, and social and physical environments. In order to have a real and sustained impact on overall well-being and the health disparities that exist in MAH's Community Benefit Service Area (CBSA), MAH and its partners must also address the underlying social determinants, inequities, and injustices that are at the root of the health status issues that exist.

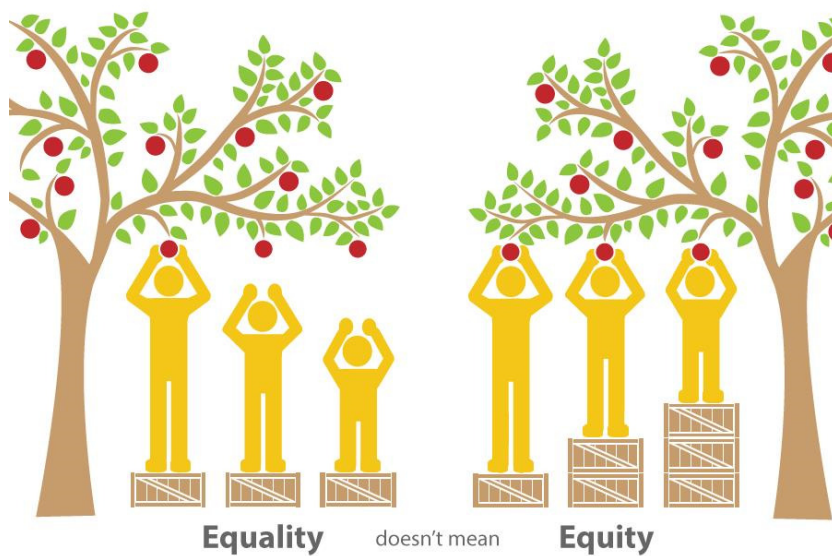
In providing guidance related to the development of the CHIP, MAH was clear that in addition to assessing health service gaps, capacity, utilization, and the distribution of health services that the assessment needed to consider a more extensive array of quantitative and qualitative data related to the underlying social determinants of health. Furthermore, MAH was clear that these issues needed to be considered when identifying community health priorities and developing the strategic action steps that would be at the heart of the CHIP.

Figure 1: COMMUNITY HEALTH IMPROVEMENT FRAMEWORK



MAH was also clear that in order for the CHNA and the CHIP to be aligned with region's broader agenda with respect to promoting health and well-being and addressing health disparities, the CHNA should be conducted and the CHIP developed in the context of Health Equity. Health equity is the attainment of the highest level of health for all people. Achieving health equity requires valuing everyone equally with focused and ongoing societal efforts to address avoidable inequalities, underlying socioeconomic factors, and historical and contemporary injustices. Ultimately, the goal of health equity is the elimination of health and health care disparities.

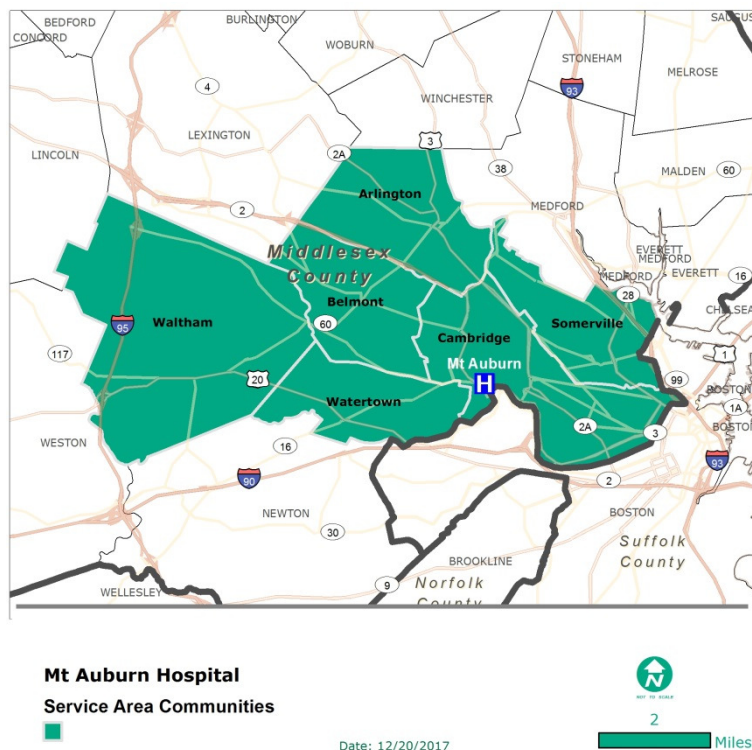
Figure 2: HEALTH EQUITY DIAGRAM



DESCRIPTION OF SERVICE AREA & PRIORITY POPULATION

Mount Auburn Hospital's primary service area includes the quasi-urban cities of Cambridge and Somerville and adjacent towns of Arlington, Belmont, Watertown and Waltham. This service area is

Figure 3: MOUNT AUBURN HOSPITAL PRIMARY SERVICE AREA



based on hospital discharges. While great efforts are made to improve the health status, provide diagnostic screening, and address access barriers of all of the residents of these communities, special attention is given to address the needs of diverse and/or low income, vulnerable segments of these populations living in these communities. As will be discussed in detail below, the assessment found that the majority of the residents living in Mount Auburn's primary service area, relative to the Commonwealth, had few barriers to care and were more likely to be insured, were more affluent, and were more likely to have a personal vehicle. However, census data and qualitative information from interviews and focus groups showed

that these cities/towns have significant proportions of low income, racially and ethnically diverse, foreign born, and/or geographically isolated residents. The challenges that these cohorts face with respect to social determinants of health and access to care are often intense and are at the root of the challenges and poorer health outcomes faced in these communities.

Historically, MAH's support of these cities and towns has been largely funneled through the local health departments or other municipal departments, CHNA 17, community-based organizations, or Charles River Community Health Center (CRCHC). A Community Resource Inventory including a listing of the public and private community agencies that MAH has partnered with in its Community Benefit efforts over the past year is included in Appendix A. A map showing the specific cities and towns that are part of MAH's service area is included above in Figure 3.

ASSESSMENT AND PLANNING METHODS

The first step in the assessment process was the creation of an internal Steering Committee made up of Community Health Department staff, Director of Social Work and senior staff. A broadly represented Community Benefits Advisory was also created, made up of both internal hospital staff and clinicians as well as a diverse group of community stakeholders representing all of the cities/towns in MAH's service area, all service sectors (health, public health, community health), and many professional disciplines. The Steering Committee, led by Mount Auburn's Office of Community Health, was responsible for day-to-day management and tracking the progress of the assessment and planning efforts. The Steering Committee met nearly every two weeks to oversee project activities and provided important input to ensure that the assessment was conducted in a high quality professional manner and that it met the hospital's as well as the Commonwealth and Federal expectations. The Advisory Committee met three times during the course of the assessment. It met at the outset to ensure that the overall approach and methods were appropriate and to provide insights on data sources, key community contacts, and community engagement activities. The Advisory Committee also provided insights and recommendations on the broad scope of health-related issues, which the JSI Assessment Team and the Steering Committee explored. The Advisory Committee met at the mid-point of the project to provide input on how the project was being rolled-out. At this point the Advisory Committee also provided insight on the assessment's preliminary quantitative and qualitative findings with respect to priority populations and the leading social determinants, barriers to care, service gaps, and health-issues. Finally, the Advisory Committee met to provide insight on the full range of quantitative and qualitative data, to identify a set of priority population segments, to identify a series of community health priorities, and to review and provide feedback on MAH's Community Health Improvement Plan. MAH's Patient and Family Advisory Council also played an important role and provided feedback during two presentations at the outset with preliminary results and near the end of the process when the CHNA report and CHIP were in draft form.

With respect to the assessment, the CHNA was conducted through a three-phased process. Phase I involved a rigorous and comprehensive review of existing quantitative data along with a series of interviews with community stakeholders. Phase II involved a more targeted assessment of need and broader community engagement activities that included focus groups with health, social service, and public health service providers and clients, community forums that included the community at-large, as

well as a community health survey that captured information from residents, service providers, and other stakeholders regarding leading health-related priorities. A summary listing of the assessments community engagement activities is included in Figure 5 below. A more detailed description of the Community Engagement Approach along with a description of the methods used to market MAH's Community Forums is included in Appendix B. Phase III involved a series of strategic planning and reporting activities that involved a broad range of internal and external stakeholders. MAH communicated the results of the CHNA and outlined the core elements of its current and revised CHIP during the strategic planning retreat. Following below is a more detailed discussion of these components.

The goal of Phase I and Phase II was to gain an understanding of health-related characteristics of the region's population, including demographic, socio-economic, geographic, health status, care seeking, and access to care characteristics. This involved quantitative and qualitative data analysis, including, to the extent possible, an analysis of changes over time.

Figure 4: COMMUNITY HEALTH NEEDS ASSESSMENT (CHNA) APPROACH & METHODS

Phase 1	Phase 2	Phase 3
<i>Preliminary Assessment</i>	<i>Refined Assessment and Community Engagement</i>	<i>Planning and Reporting</i>
<ul style="list-style-type: none"> • Quantitative data <ul style="list-style-type: none"> • Vital statistics, Cancer registry, Communicable disease registry, etc. • Behavioral Risk Factor Survey System (BRFSS) • American Community Survey (US Census) & other data on Social Determinants of Health • Qualitative data <ul style="list-style-type: none"> • Key informant interviews with internal and external stakeholders 	<ul style="list-style-type: none"> • Quantitative data <ul style="list-style-type: none"> • Hospital inpatient and ED discharges (CHIA) • Resource Inventory • Qualitative data <ul style="list-style-type: none"> • Focus Groups • Community Forums • Community Survey • Analysis <ul style="list-style-type: none"> • Comparative Analysis / Benchmarking 	<ul style="list-style-type: none"> • Planning & Reporting <ul style="list-style-type: none"> • Strategic Planning Retreat • Development of Community Health Needs Assessment (CHNA) Report • Development of Community Health Improvement Plan (CHIP) • Presentation of Draft and Final CHNA Report and CHIP

Quantitative, Community-Specific Health Data Analysis. JSI characterized health status and need at the town level. JSI collected data from a number of sources to ensure a comprehensive understanding of the issues and produced a series of Geographic Information System (GIS) maps which are included in this report. The primary source of secondary data was through the Massachusetts Department of Public Health. Tests of significance were performed, and statistically significant differences between MAH's service area and the Commonwealth overall are noted when applicable. The list of secondary data sources included:

- U.S. Census Bureau, American Community Survey 5-Year Estimates (2009-2013)
- Behavioral Risk Factor Surveillance System (BRFSS), (2013-2014 aggregate)
- CHIA inpatient discharges (2011-2013)
- MA Hospital Inpatient Discharges (2008-2012)
- MA Hospital ED Discharges (2008-2012)
- MA Cancer Registry (2007-2011)
- MA Communicable Disease Program (2011, 2012, 2013)
- Massachusetts Vital Records (2014)
- Massachusetts Bureau of Substance Abuse Services (BSAS) (2013)

Key Informant Interviews with Internal and External Stakeholders. JSI conducted key stakeholder interviews with 25 community leaders and staff members at MAH. A list of key informants is included in Appendix B. These individuals were chosen to amass a representative group of people who had the experience necessary to provide insight on the health of communities in MAH's service area. Interviews were conducted on the phone or in person using a standard interview guide. Interviews focused on identifying major health issues, including possible strategies to address those concerns, and target populations.

Focus Groups and Community Forums. JSI conducted a series of eight community and provider focus groups in MAH's service area to gather critical community input from service providers, community leaders and residents; staff from MAH's Community Health Department conducted an additional two focus groups on their own. These focus groups were organized in collaboration with MAH's existing community health partners to leverage their community connections and to help ensure community participation. In addition, JSI conducted four Community Forums which were open and marketed to the public at-large. These forums took place in Arlington, Cambridge, Waltham, and Somerville. Mount Auburn made every effort to promote these events to the community at large in order to recruit participants. (Appendix B: Community Engagement Approach) During the community forums, JSI discussed findings from quantitative data and posed a range of questions to solicit input on community ideas, perceptions and attitudes, including: 1) What are the leading social determinants of health (e.g., housing, poverty, food access, transportation, etc.), 2) What are the leading health conditions (e.g., diabetes, hypertension, asthma, respiratory disease, etc.), 3) Which segments of the population are most vulnerable (e.g., immigrants, LGBTQ, older adults, etc.), and 4) What strategies would be most effective to improving health status and outcomes in these areas?

As discussed above, the Advisory Committee was also integrally involved in providing input on community need and prioritizing the leading health issues. The Advisory Committee met three times during the course of the assessment to refine the approach, provide input regarding the assessment, and to guide the prioritization and planning phase. Figure 5 provides a summary of these activities. A full listing of the Community Engagement Approach, including a description and a count of how many activities conducted of each type of method is included in Appendix B.

Figure 5: COMMUNITY ENGAGEMENT METHODS

Event	Audience(s)
FOCUS GROUPS	
CHNA 17	CHNA Members
MAH Patient and Family Advisory Council	PFAC Members
MAH Substance Use Stakeholder Task Force	Substance use providers and stakeholders
MAH Elder Service Provider Stakeholder Task Force	Representatives from Councils on Aging, clinical providers, first responders
SCALE	Adult ESL Learners
Waltham Family School	Adult (Female) ESL Learners
Cambridge Learning Center	Adult ESL Learners
Waltham Trailblazers	Youth/Adolescents (High School)
Watertown Council on Aging	Older adults
Matter of Balance Participants	Older Adults
COMMUNITY FORUMS	
Arlington/Belmont Community Forum	Arlington and Belmont Residents
Cambridge Community Forum	Cambridge Residents
Somerville Community Forum	Somerville Residents
Waltham/Watertown Community Forum	Waltham and Watertown Residents
ADVISORY COMMITTEE MEETINGS / RETREAT	
Kick-off Meeting	Mount Auburn Hospital (August 10, 2017)
Advisory Committee Meeting	Mount Auburn Hospital (December 3, 2017)
Advisory Committee Meeting/Retreat	Mount Auburn Hospital's Waltham Site (March 12, 2018)

PRIORITIZING COMMUNITY NEEDS AND REPORTING

The main objectives of Phase III of the assessment were to: 1) review the assessment's major findings, 2) identify MAH's community benefits priority populations and community health priorities, 3) review MAH's existing community benefits activities, and 4) determine if the current range of community benefits activities needed to be augmented or changed to respond to this year's assessment. The Advisory Committee meetings and the Strategic Planning Retreat, along with the interviews, focus groups, community health survey, and community forum allowed the assessment team to gather input from the community, service providers, and other key stakeholders regarding community need and the prioritization of those needs. The key health issues identified by the assessment are discussed below in the assessment's findings sections (Overview of Geographic Community Benefits Service Area and Major Findings by the Leading Areas of Health-Related Need). The community health priorities that were identified are discussed below in the report's final section (Community Benefits Priority Populations and Community Health Priorities).

Advisory Committee Retreat. Once all of the assessment's findings were compiled, The CHNA Advisory Committee participated in a strategic retreat that allowed them to review the full-breadth of quantitative and qualitative findings from Phases I and II, as well as to begin the CHIP development process. More specifically, the Advisory Committee discussed the full range of findings by a range of community health domains (e.g., social determinants and barriers to care, health system issues, behavioral health and

chronic/complex conditions). The Advisory Committee then participated in a polling process that identified the population segments as well as the health-related issues that they believed should be prioritized with respect to MAH's CHIP in order to best address the findings from the assessment. Once the priorities were identified the Advisory Committee then discussed the range of community health/community benefit activities that were currently being implemented as well as the emerging strategic ideas that they believed should be included in MAH's updated CHIP.

Patient and Family Advisory Council Meeting. At this point the assessment's full array of findings was also presented to the MAH Patient and Family Advisory Council (PFAC) to gather their input on the full range of findings related to social determinants and barriers to care, health system issues, behavioral health, chronic/complex conditions, and elder health). After the results were presented and discussed, the PFAC also participated in a prioritization process that gathered their ideas on which of the issues discussed should be the focal point of MAH's CHIP in order to best address the findings from the assessment. As with the Advisory Committee, once the priorities were identified the PFAC then discussed and provided input on the emerging strategies that were likely to be applied and included as part of MAH's CHIP.

Evaluation of Community Benefit Goals and Activities Outlined in the Implementation Plan of 2015. The MAH Steering Committee reviewed the hospitals prior CHNA and CHIP (2015) to identify the impact the CHIP has had on the community since its implementation. Consideration was taken on its impact when writing the current CHNA and its associated CHIP. See Appendix C for an evaluation of MAH's 2015 Community Benefit activities.

Draft and Final Community Health Improvement Plan. Equipped with this information, the JSI Team along with the MAH Steering Committee then developed a draft CHIP. The draft CHIP was then vetted by MAH Senior Staff, and MAH's Patient and Family Advisory Committee (PFAC) before it was finalized by the Steering Committee and approved by the MAH Board of Trustees. .

Draft and Final Community Health Needs Assessment Report. In parallel to the CHIP development process, the JSI Project Team, in close collaboration with the Steering Committee, developed draft and final versions of MAH's CHNA Report, which includes a summary of the: 1) Purpose and background of the CHNA/CHIP process, 2) Key findings from the CHNA, 3) CHNA population segment and community health issue priorities, and 4) Core elements of the CHIP.

As required, the Community Health Needs Assessment and corresponding CHIP have been posted on the MAH website and is available in hard copy if requested. Both documents have also been shared with Community Health Network Area 17. Community members and service providers have been encouraged to share their thoughts, concerns or questions throughout the process and will be encouraged to continue to share their thoughts and ideas moving forward.

Written Comments Received on the 2015 Assessment and Implementation Plan. There has been no feedback to the MAH Community Health Department on the previous CHNA or Implementation Plan since its posting in 2015. There was no feedback on the Massachusetts Attorney General's website which publishes the hospital's community benefit report and provides an opportunity for public comments. MAH encourages feedback and comments to this report and any feedback will be taken into account in order to update or

make changes to its implementation plan or to consider for the next CHNA Report. Community members are encouraged to contact the MAH Community Health Department to illicit feedback.

DATA LIMITATIONS

Assessment activities of this nature nearly always face data limitations with respect to both quantitative and qualitative data collection. With respect to the quantitative data compiled for this project, the most significant limitation is the availability of timely data. Relative to most states and commonwealths throughout the United States, Massachusetts does an exemplary job at making comprehensive data available at the commonwealth-, county- and municipal-level. This data is made available through the Massachusetts Department of Public Health (MDPH). The breadth of demographic, socio-economic, and epidemiologic data that was made available was more than adequate to facilitate an assessment of community health need and support the implementation plan development process. One major challenge was that much of the epidemiologic data that is available, particularly at the sub-county, municipal-, neighborhood-, or zip code-level data was at least three years old. The list of data sources included in this report provides the dates for each of the major data sets provided by the Commonwealth. The data was still valuable and allowed the identification of health needs relative to the Commonwealth and specific communities. However, older datasets may not reflect recent trends in health statistics. The age of the data also hindered trend analysis, as trend analysis required the inclusion of data that may have been up to ten years old, which challenged any current analysis.

With respect to qualitative data, information was gathered through stakeholder interviews, focus groups, the community survey, and community forums, which engaged and gathered important information from service providers, community leaders/advocates, and community residents. These interviews, focus groups, surveys and forums provided invaluable insights on major health-related issues, barriers to care, service gaps, and at-risk target populations. However, given the relatively small sample size of the community forums and the nature of the questioning the results are not necessarily generalizable to the larger population. While every effort was made to promote the community forums to the community at-large and to identify a representative sample of community members, participation was limited.

III. KEY FINDINGS: COMMUNITY CHARACTERISTICS AND SOCIAL DETERMINANTS OF HEALTH

The assessment captured quantitative and qualitative data related to demographics, social determinants of health, morbidity and mortality, and access to health-related resources. This data provided valuable information that characterized the population and provided insights into barriers to care, leading determinants of health, and health inequities. Qualitative information gathered through stakeholder interviews, focus groups, community forums and the community health survey was critical to assessing health status, clarifying health-related disparities and determinants of health, identifying community health priorities, and identifying health system strengths and weaknesses.

Population characteristics such as age, gender identity, race, ethnicity, sexual orientation, and language were examined to characterize community composition, needs, and health status. Social, economic and environmental factors that impact health status and health equity, like income, education, housing, and mobility, were also examined. Finally, epidemiologic and morbidity/mortality related data was used to characterize disease burden and health inequities, identify target populations and health-related priorities, and to target strategic responses.

Findings from the assessment's qualitative methods, including interviews, focus groups, community forums, and the community health survey, were also critical to identifying community need and establishing community health priorities. These findings were particularly important to characterizing the needs of the region's hard-to-reach, often more vulnerable, smaller population segments, whose needs are often obscured when reviewing the quantitative data.

The range of sub sections below outline key findings related to community characteristics and the social determinants of health. For additional information, please see the Mount Auburn Hospital Community Health Needs Assessment Databook, included in Appendix D.

COMMUNITY CHARACTERISTICS

Age and Gender

Age and gender are fundamental factors to consider when assessing individual and community health status, as women, men, and people in different age categories face different health concerns and have various levels of connection to health resources. For some chronic and complex conditions, gender is a risk factor (e.g. breast cancer is 100 times more common among women than men), as is age (age-related diseases include heart disease, cancer, and stroke.) Men tend to have a shorter life expectancy and more chronic illnesses than women, and older individuals typically have more physical and mental health vulnerabilities and are more likely to rely on immediate community resources for support compared to young people.^{1, 2} In Mount Auburn's service area, gender breakdowns in each of the municipalities mirror

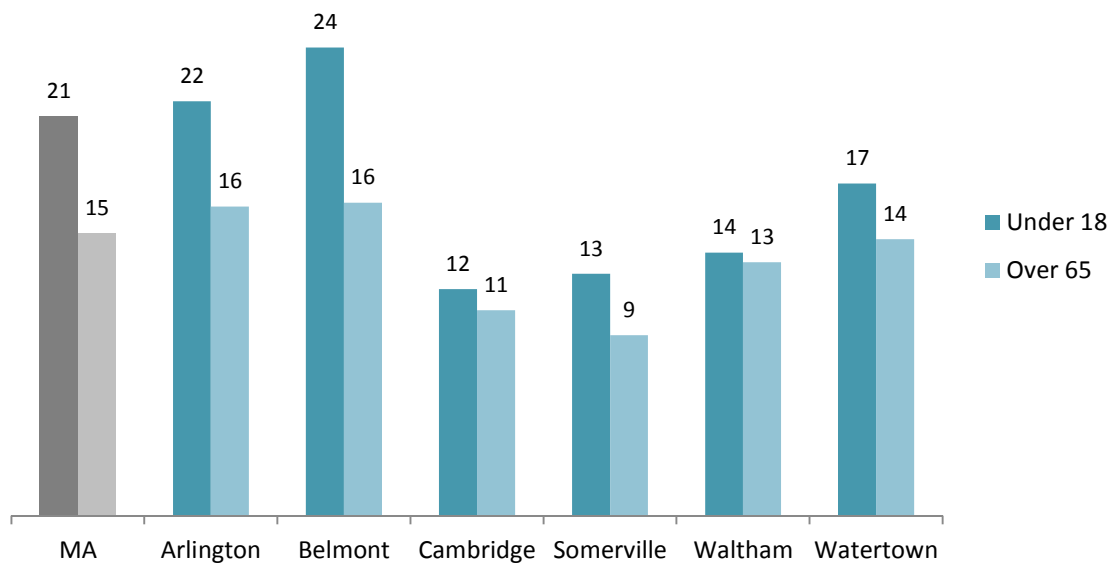
1 Lyons L. Age, religiosity, and rural America. Gallup Web site. March 11, 2013. <http://www.gallup.com/poll/7960/age-religiosity-rural-america.aspx>.

2 Harvard Men's Health Watch. Mars vs. Venus: The gender gap in health. Harvard Health Publications Web site. January 2010. http://www.health.harvard.edu/newsletter_article/mars-vs-venus-the-gender-gap-in-health.

that of the Commonwealth. However, among municipalities in the primary service area, there is variation in demographic make-up.

- In looking at the percentage of the population under 18, Belmont has a significantly higher percentage (24%), while Cambridge (12%), Somerville (13%), Waltham (14%), and Watertown (17%) have a significantly lower percentage compared to the Commonwealth overall (21%).³
- Compared to the Commonwealth (15%) overall, Arlington (16%) and Belmont (16%) have a significantly higher percentage over the age of 65.³

Figure 6: PERCENT OF POPULATION UNDER 18/OVER 65, 2011-2015



Source: US Census Bureau, American Community Survey 2011-2015 5-Year Estimates

Race/Ethnicity, Language, and Culture

There is an extensive body of research that illustrates the health disparities that exist for racial/ethnic minorities, foreign-born populations, and individuals with limited English language proficiency (LEP).⁴ According to the Centers for Disease Control and Prevention (CDC), non-Hispanic blacks have a higher rate of premature death, a higher infant mortality rate, and higher preventable hospitalization rates than non-Hispanic whites.⁵ These disparities illustrate the unfair, disproportionate, and often avoidable inequities that exist within communities and reinforce why it is important to understand the demographic makeup of a community to identify population segments that are more likely to experience adverse health outcomes. One of the leading findings from our qualitative sources of information was the impact of racism and discrimination on many segments of our population. This was thought to be true particularly for many of the service area's racial/ethnic minority segments such as

³ US Census Bureau, 2011-2015 ACS 5-Year Estimates

⁴ Alexander K. Family Background, Disadvantaged Urban Youth and the Transition to Adulthood. New York, NY: Russel Sage Foundation; 2014

⁵ CDC Health Disparities and Inequalities Report – U.S.2013. Centers for Disease Control and Prevention Web site. <https://www.cdc.gov/minorityhealth/chdireport.html> Published 2013.

African Americans/Blacks, Hispanics/Latinos, and other recent immigrant populations but discrimination was said to have a major impact on other segments as well as including Muslims and LGBTQ segments.

Looking at Mount Auburn's service area:

- Compared to the Commonwealth (7%), the percentage of Black or African American residents is significantly high in Cambridge (11%).³
- Compared to the Commonwealth (6%), the percentage of Asian residents is significantly high in all municipalities, with the exception of Watertown.³
- The percentage of residents identifying as Hispanic/Latino (of any race) is significantly high in Waltham (13%) compared to the Commonwealth overall (7%).³

Figure 7: RACE/ETHNICITY (%) AND FOREIGN BORN (%), 2011-2015

	MA	Arlington	Belmont	Cambridge	Somerville	Waltham	Watertown
White alone	79.6	84.2	82.9	76.7	75.5	75.3	84.8
Black or African American alone	7.1	2.2	1.8	10.6	7.6	6	3
Asian alone	6.0	9.5	12.6	15	10.1	11.1	7.3
Native Hawaiian and Other Pacific Islander	0	0	0	0.1	0	0	0
American Indian and Alaska Native	0.2	0.3	0	0.2	0.1	0.1	0.2
Some Other Race	4.2	0.8	0.8	2.2	3.3	4.3	2.6
Two or More Races	2.9	3	1.8	4.3	3.3	3.1	2.3
Hispanic or Latino of Any Race	10.6	3.4	5.3	8	9.8	13.3	11.5
Foreign Born	15.5	17.9	21.5	27.1	24.7	26.2	23.1

Source: US Census Bureau, American Community Survey 2011-2015 5-Year Estimates

NOTE: Figures highlighted in red indicate that the figure is significantly higher than the Commonwealth, while figures highlighted in blue are significantly lower than the Commonwealth. Figures that are not highlighted are not statistically significant from the Commonwealth.

Research suggests that language barriers contribute to poor health communication and disparities in health care use and outcomes.⁶ Individuals with LEP may have lower levels of medical comprehension, which lead to higher rates of complications attributable to limited understanding about treatments and side effects, lack of informed consent, and poor comprehension of follow-up care plans.^{7,8}

According to quantitative data:

- In Somerville (12%) and Waltham (12%), a significantly greater percentage of residents speak a language other than English in the home and speak English "less than very well" compared to the Commonwealth overall (9%).³

6 Jacobs EA, Karavolos K, Rathouz PJ, Ferris TG, Powell LH. Limited English proficiency and breast and cervical cancer screening in a multiethnic population. *Am J Public Health.* 2005; 95(8): 1410-1416. Doi: 10.2105/AJPH.2004.041418

7 Wilson E, Chen AH, Gumbach K, Wang F, Fernandez A. Effects of limited English proficiency and physician language on health care compression. *J Gen Intern Med.* 2005; 20(9): 800-806. Doi: 10.1111/i.1525-1497.2005.0174.x

8 Coren JS, Filipetto FA, Weiss LB. Eliminating barriers for patients with limited English proficiency. *J. Am. Osteopath. Assoc.* 2009; 109(12): 634-640.

- In all municipalities in the service area, with the exception of Arlington, a significantly higher percentage of residents speak other Indo-European languages (including Germanic, Scandinavian, Romance, Slavic, Celtic, Indic, Baltic, and Iranian languages) at home compared to the Commonwealth overall.³
- In Somerville, 6% of the population speaks Portuguese or Portuguese Creole, with 3% of this population having limited English proficiency.³
- In Belmont, 6% of the population speaks Chinese (unspecified), with 3% of this population having limited English proficiency.³

Figure 8: POPULATION OVER 5 – LANGUAGE SPOKEN AT HOME (%), 2011-2015

	MA	Arlington	Belmont	Cambridge	Somerville	Waltham	Watertown
Speak another language at home and speak English less than “very well”	8.9	5.9	8.4	7.8	11.8	11.7	10.5
Speak Spanish at home	8.4	2.2	5	6.5	7.4	10.5	8.6
Speak other Indo-European languages at home	8.8	9.5	13.3	13.3	16.8	12.5	14.3
Speak Asian/Pacific Islander languages at home	4.0	5.7	9.2	8.7	4.5	7.2	4.5

Source: US Census Bureau, American Community Survey 2011-2015 5-Year Estimates

NOTE: Figures highlighted in red indicate that the figure is significantly higher than the Commonwealth, while figures highlighted in blue are significantly lower than the Commonwealth. Figures that are not highlighted are not statistically significant from the Commonwealth.

Foreign born residents, especially immigrants or refugees and even more specifically those who are not permanent residents or who are not specifically authorized to be in the United States, face enormous barriers. These segments struggle to access services due sometimes to lack of health insurance, limited understanding of the local culture, lack of trust, or lack of understanding of the health care system. Finally, those who speak or read a language other than English or who do not speak or read English well struggle to access services. These segments struggle because they cannot easily learn about or navigate the health care system or communicate with staff or clinicians at their service sites.

These issues were discussed as major barriers in all of the interviews and focus groups that were conducted for this assessment. These issues were particular said to be problematic in Cambridge, Somerville, Waltham, and Watertown where there are substantial portions of racial/ethnic minorities, immigrants, and non-English speakers. The most frequent comments related to this segment were related to challenges for immigrants who were not acculturated, had limited ability to communicate in English, often struggled with low income status, did not trust their service providers, and simply struggled to navigate the health care system. A small number of interviewees said that race was not a major factor in accessing appropriate services, while others disagreed.

Broader issues of immigration status and culture were major themes in interviews or community forums,

and many interviewees identified immigrant populations as a cohort that require specialized health care services and resources; Central and South Americans, Haitians, Chinese (Mandarin), Russians, Armenians, and those from Arabic speaking countries were referenced specifically. Immigrants are less likely to visit doctor's offices and emergency rooms than low-income native residents.⁹ According to the Centers for Disease Control and Prevention (CDC), immigrants are less likely than the general population to receive breast, cervical, and colorectal cancer screenings due to limited access to care and cultural barriers.¹⁰ Prejudice and discrimination, mistrust, and cultural differences deter many immigrants and refugees from seeking health services, and it is common for immigrants and refugees to self-isolate due to trauma and stress.¹¹

According to quantitative data:

- The percentage of the population that is foreign born is significantly high in all municipalities compared to the Commonwealth (15.5%). Rates were highest in Cambridge (27%), Waltham (26%), and Somerville (25%).³

Sexual Orientation and LGBTQ+

Lesbian, gay, bisexual, transgender, and queer/questioning (LGBTQ) individuals face a number of health disparities linked to discrimination and stigma, though the severity of these disparities is often difficult to quantify since questions around gender identity and sexual orientation are left off of most population-based surveys. Though there are no LGBTQ-specific diseases, members of this community are more likely to experience barriers in accessing and maintaining care than heterosexuals and cis-gendered individuals¹². For some segments of the LGBTQ population, sexually transmitted infections, like HIV, are a major concern. LGBTQ individuals are more likely to experience behavioral health issues, such as depression and substance abuse, which may be tied to high rates of stress.¹³

The Williams Institute, a think tank within the UCLA School of Law, has conducted a number of research studies on sexual orientation, gender identity law, and public policy.¹⁴ According to the Institute:

- In Massachusetts, 5% of the population identifies as LGBT (48% male and 52% female). The average age of LGBT individuals in Massachusetts is 40. Within this population, 26% are raising children.¹³
- In Massachusetts, 74% of LGBT individuals identify as white, 9% as Hispanic, 6% as African American, 3% as Asian/Pacific Islander, 1% as American Indian/Alaska Native, and 7% as other race.¹³

9 Ku L, Jewers M. Health care for immigrant families: Current policies and issues. Migration Policy Institute Web site. <http://www.migrationpolicy.org/research/health-care-immigrant-families-current-policies-and-issues>. Published 2013.

10 Cancer Screening. Centers for Disease Control and Prevention Web site. Updated June 21, 2016. <https://www.cdc.gov/immigrantrefugeehealth/guidelines/domestic/general/discussion/cancer-screening.html>

11 Lake Snell Perry Mermin/Decision Research. Living in America: Challenges facing new immigrants and refugees. Sponsored by the Robert Wood Johnson Foundation. Published January 2006. <http://www.rwjf.org/content/dam/farm/reports/reports/2006/rwjf3807>

12 Cis-gendered refers to a person whose sense of personal identity and gender corresponds with their birth sex.

13 Ard KL, Makodon HJ. Improving the health care of lesbian, gay, bisexual and transgender people: Understanding and eliminating health disparities. The Fenway Institute. <https://www.lgbthealtheducation.org/publication/improving-the-health-care-of-lesbian-gay-bisexual-and-transgender-lgbt-people-understanding-and-eliminating-health-disparities/>. Published 2012

14 LGBT Data & Demographics. The Williams Institute Web site. <https://williamsinstitute.law.ucla.edu/visualization/lgbt-stats/?topic=LGBT&area=25#economic>

- Looking at socioeconomic factors, 51% of LGBT individuals in Massachusetts have a college education compared to 47% of non-LGBT individuals; 8% of LGBT individuals in Massachusetts are unemployed, compared to 7% of non-LGBT individuals in Massachusetts, and 27% of LGBT individuals have an income below \$24,000 compared to 19% of non-LGBT individuals.¹³
- In Massachusetts, 95% of both LGBT and non-LGBT individuals have health insurance.¹³

SOCIAL DETERMINANTS OF HEALTH AND BARRIERS TO CARE

The quantitative and qualitative data show clear geographic and demographic differences related to the leading social determinants of health (e.g. socioeconomic status, housing, and transportation). These issues influence and define quality of life for many segments of Mount Auburn's service area. A dominant theme from key informant interviews and focus groups was the tremendous impact that underlying social determinants, particularly housing, poverty/income, access to healthy foods, and transportation, have on low-income and vulnerable segments of the population.

Socioeconomic Status

Socio-economic status, as measured by income, employment status, and education, has long been recognized as a critical determinant of health. Research shows that communities with lower socio-economic status bear a higher disease burden and have lower life expectancy.¹⁵ Low income populations, as defined as those living at below 200% of the federal poverty level (FPL), are less likely to be insured, less likely to have a usual source of primary care for urgent, routine, and preventive services (including cancer screenings), more likely to delay health care services, and more likely to use emergency department for both emergent and non-emergent care.¹⁴ Moreover, children born to low income families are, as they move into adulthood, are less likely to be formally educated, less likely to have job security, and less likely to rise and move up to higher socio-economic levels, thus perpetuating the barrier.¹⁶

As discussed above, while residents in the service area are more likely to be in middle- and upper-income brackets compared to residents of Middlesex County and the Commonwealth overall, there are still substantial segments of the population across all of the service area's communities that are in low income brackets, are on fixed-incomes, or who are considered "house poor", who struggle to pay for safe housing, transportation, health care services, food, utilities, and other essential items. This issue was brought up as a major factor and barrier to care in nearly every key informant interview and focus group. This issue was often cited as the underlying issue with respect to some of the other social determinants such as transportation, education, appropriate child-care, and housing.

Specifically, poverty or low income status, as well as lack of gainful, reliable employment was cited as a barrier as it was linked to a range of underlying factors such lack of health insurance, inability to pay health care co-pays, inability to pay for needed medications, inability to pay for childcare service so that individuals/family members can access health care services, and inability to pay for transportation. Income is also closely linked to housing, which is consistently identified as one of the leading social determinants of

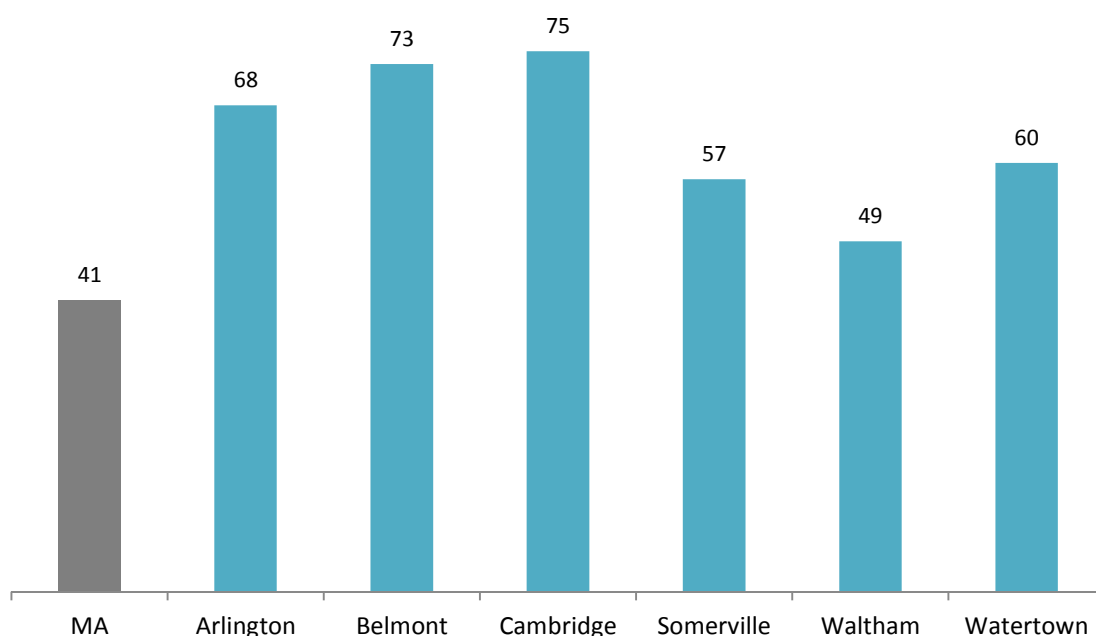
15 Chetty R, Stepner M, Abraham S, et al. The association between income and life expectancy in the United States, 2011-2014. JAMA. 2016; 315(16): 1750-1766. Doi: 10.1001/ jama.2016.4226

16 Alexander K. Family Background, Disadvantaged Urban Youth and the Transition to Adulthood. New York, NY: Russel Sage Foundation; 2014.

health in most recent health assessments and this one is no exception. Inability to find safe, affordable housing and/or inability to remain in one's community due to rising housing cost was identified as an issue by nearly everyone involved in this assessment.

Education. Higher education is associated with improved health outcomes and social development at the individual and community level.¹⁷ Compared to individuals with more education, people with lower educational attainment are more likely to experience a number of health issues, including obesity, substance misuse, and injury.¹⁸ The health benefits of higher education typically include better access to resources, healthier and more stable housing, and better engagement with providers. Proximate factors associated with low education that affect health outcomes include the ability to navigate the health care system, educational disparities in personal health behaviors, and exposure to chronic stress.¹⁹ It is important to note that while education affects health, poor health status may also be a barrier to education.

Figure 9: POPULATION WITH BACHELORS DEGREES OR HIGHER (%), 2011-2015



Source: US Census Bureau, American Community Survey 2011-2015 5-Year Estimates

Despite the overall service area population being highly educated compared to the Commonwealth, there is slight variation among municipalities:

- Somerville (89%) and Waltham (90%) are the only two municipalities that do not have a significantly higher percentage of residents with a high school degree or higher compared to the

17 Zimmerman EB, Woolf SH, Haley A. Population health: Behavioral and social science insights – Understanding the relationship between education and health. Agency for Healthcare Research and Quality Website. Agency for Healthcare Research and Quality, <https://www.ahrq.gov/professionals/education/curriculum-tools/population-health/zimmerman.html>. Published September 2015.

18 Health disparities. Centers for Disease Control and Prevention Web Site. Published September 1, 2015. <https://www.cdc.gov/healthyyouth/disparities/>.

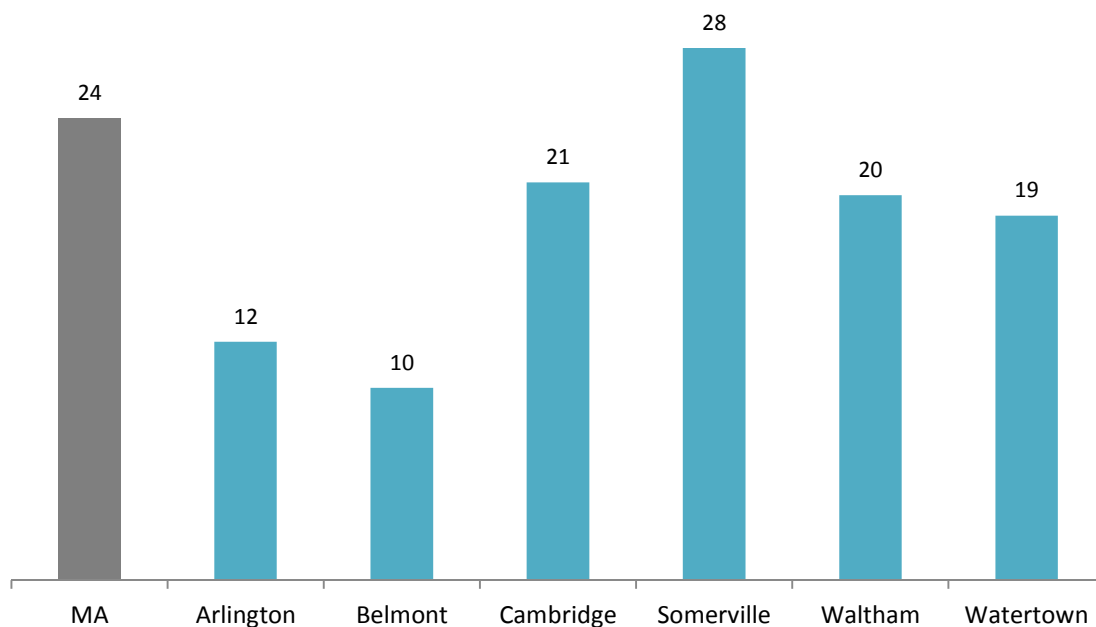
19 Zimmerman EB, Woolf SH, Haley A. Understanding the relationship between education and health: A review of the evidence and an examination of community perspectives. Agency for Healthcare Research and Quality Web site. Published 2014.

Commonwealth (90%).³

Employment, Income, and Poverty. All towns in the service area have a high median income compared to the Commonwealth, and the civilian labor force unemployment is about the same, or significantly lower (Arlington, Cambridge, and Somerville). However, we know from qualitative findings that there are small but significant pockets within the service area that live in poverty, are unemployed, and struggle to afford food and other household items.

- The percentage of residents that live below the federal poverty line is significantly high in Cambridge (14%) and Somerville (15%) compared to the Commonwealth (12%).³
- Compared to the Commonwealth (24%), a significantly high percentage of residents live below 200% of the federal poverty line in Somerville (28%).³
- In Somerville, the percentage of families (10%), those under 18 (23%), and those over 65 (14%) living below the federal poverty line was significantly high compared to the Commonwealth (8%, 15%, and 9%, respectively).³

Figure 10: POPULATION LIVING BELOW 200% OF THE FEDERAL POVERTY LEVEL (%), 2011-2015



Source: US Census Bureau, American Community Survey 2011-2015 5-Year Estimates

Housing and Homelessness

Lack of affordable housing, compounded by limited increase in wages and high cost of living, has made housing a critical concern for people living in Mount Auburn's service area, especially for those that are most vulnerable. When individuals are forced to spend more on housing and shelter, they have less to spend on other necessities, such as food, prescriptions, and medical care.²⁰ Key informants identified

²⁰ Rivers W. Going, going, gone: DC's vanishing affordable housing. DC Fiscal Policy Institute Web site. <http://www.dcfpi.org/going-going-gone-dcs-vanishing-affordable-housing>. Published March 2015.

gentrification, or the transition from a neighborhood from low value to high value, as a reason for displacement of older and low-income residents in some communities, namely Cambridge, Somerville, and Arlington. Research has shown that older adults, women and children, and racial/ethnic minorities often suffer disproportionate health consequences as a result of gentrification as it limits access to affordable housing, transportation, quality schools, and social networks.

- In Somerville, substantial numbers of people are “house-poor,” with housing costs that exceed 30% of income (40% of residents compared to 34.5% of residents in the Commonwealth overall.)³
- Cambridge, Somerville, and Waltham are the only municipalities in the service area with overnight homeless shelters, and have substantial numbers of people that are homeless or unstably housed.

Related to a lack of affordable housing is lack of safe and/or high quality housing. A large body of evidence suggests that poor housing is associated with a range of health conditions, including asthma and other respiratory conditions, exposure to environmental toxins, injury, and the spread of communicable diseases.²¹ These health issues are more common among low-income segments of the population who struggle to find safe and healthy housing.

Transportation

Lack of transportation was a theme from the assessment’s key informant interviews and focus groups. Lack of transportation was cited not only for having a significant impact on access to health care services, but also as a determinant of whether an individual or family had the ability to access the basic resources that allowed them to live productive and fulfilling lives; access to affordable and reliable transportation widens opportunity and is essential to addressing poverty, unemployment, and goals such as access to work, school, healthy foods, recreational facilities and a myriad of other community resources, including health care services. Many focus group participants and interviewees identified transportation issues for those living in Mount Auburn’s service area. While there was variation in the nature of the issue depending on where you lived and your circumstances, transportation was identified as an issue by people throughout the service area. Even those living in Cambridge and Somerville, who have access to a strong public transit system expressed that transportation can be a major barrier to accessing care; the primary issue being the expense of public transportation, followed by lack of timely, reliable, flexible, or convenient services. In the more suburban towns in Mount Auburn’s service area, residents are much more likely to have access to personal vehicles but there are still large numbers of people in these communities, especially older adults and low income segments of the population, that face transportation barriers. In this case, most often people cited the lack of affordable, convenient, and flexible public transportation, particularly for those who don’t have a personal car, cannot drive themselves, and don’t always have strong support systems.

Food Access

Issues related to food insecurity, food scarcity, hunger, and the prevalence and impact of obesity are at the heart of the public health discourse in urban and rural communities across the United States. While

21 Hughes HK, Matsui EC, Tschudy MM, Pollack CE, Keet CA. Pediatric asthma health disparities: Race, hardship, housing, and asthma in a national survey. *Acad Pediatr.* 2017; 17(2): 127-134.

there is very limited data on food access, lack of access to healthy foods was a common theme in interviews, focus groups, and community forums, particularly for low-income individuals and families. Despite these comments, a number of interviewees referenced the numerous and well-organized food programs and farmers markets offered by community partners throughout the service area; however, it seems, at least anecdotally, that these resources do not address the full breadth of the region's food access issues. In the context of addressing chronic and complex conditions, the Advisory Committee for this effort identified addressing food access and proper nutrition as the leading priority.

- With the exception of Somerville, the percentage of residents in all municipalities receiving Food Stamp/SNAP benefits in the past 12 months was significantly lower than the commonwealth overall (12.5%).³

Health Literacy and Cultural Competency

Health literacy is the degree to which individuals have the capacity to obtain, process, and understand basic health information needed to make appropriate health decisions.²² Low health literacy can have a major impact on one's health, as patients can have difficulty locating providers, following doctors' instructions, understanding medication directions, managing chronic conditions, among other issues. Health literacy is more prevalent among older adults, individuals of low socioeconomic status, and minority populations.⁵⁷ During community forums and interviews, the need for improved health literacy arose as a key priority; informants identified low health literacy as a key driver of inappropriate hospital utilization.

- Nationally, Hispanic/Latino individuals have lower health literacy compared to other races; in 2003, 41% of Hispanics had below basic health literacy, compared to 25% of American Indians/ Alaskan Natives, 24% of blacks, 13% of Asian/Pacific Islanders, 9% of multiracial individuals, and 9% of whites,
- Nationally, in 2003, 29% of individuals older than age 65 had health literacy levels that were below basic, whereas no more than 13% of people younger than 65 had below basic health literacy,
- In Cambridge, Somerville, and Waltham, large proportions of the population speak a second language at home. For example, as stated above, in both Somerville and Waltham 12% of residents speak a language other than English in the home and speak English "less than very well", which is lower than the percentage of residents in the Commonwealth overall (9%).³ When English is not the primary language, the health care system may be particularly difficult to navigate.

During community forums and interviews the need for improved health literacy arose as a key priority; informants identified low health literacy as a key driver of inappropriate hospital utilization.

22 Health literacy. Health Resources and Services Administration Web site. <https://www.hrsa.gov/publichealth/healthliteracy/>

IV. KEY FINDINGS: HEALTH STATUS ISSUES

At the core of the assessment process is an understanding of access-to-care issues, the leading causes of morbidity and mortality, and the extent to which population segments and communities participate in certain risky behaviors. This information is critical to assessing health status, clarifying health-related disparities, and identifying health priorities. This assessment captures a wide range of quantitative data from federal and municipal data sources. Qualitative information gathered from key informant interview, focus groups, community forums, and survey of community members, informed this section by providing perceptions on the confounding and contributing factors of illness, health priorities, barriers to care, service gaps, and possible strategic responses to the issues identified. Furthermore, this data augmented the quantitative data and allowed for the identification of demographic and socioeconomic population segments most at-risk. Traditionally, barriers to care often disproportionately impact minority groups and result in disparities in health outcomes.²³

The following are key findings related to health insurance coverage, health risk factors, mortality, chronic disease, cancer, infectious disease, behavioral health (mental health and substance use), elder health, and maternal and child health.

RISK FACTORS

Insurance Status (No insurance/Under-insured)

Access to health insurance that helps to pay for needed preventive, acute, and disease management services, as well as access to comprehensive, timely accessible primary care has shown to have a profound effect on one's ability to prevent disease and disability, increase life expectancy, and perhaps most importantly, increase quality of life.²⁴ Nationally, disparities in access and health outcomes exist for many population segments, including those in low income brackets, immigrant populations (especially new arrivals without permanent resident status), racial/ethnic diverse segments, and LGBT populations, just to name a few. Due to a range of mostly social factors, these groups are less likely to have a usual source of primary care, less likely to have a routine check-up, and less likely to be screened for illnesses, such as breast cancer, prostate cancer, or colon cancer. Data also suggests that those that face disparities are more likely to use hospital emergency departments and inpatient services for care that could be avoided or prevented altogether with more accessible primary care services.²⁵

While Massachusetts has had the lowest rates of uninsured in the nation for years, reported at 2.8% in September 2016 based on US Census Bureau estimates, considerable numbers of people still struggle due to lack of health insurance or health insurance with inadequate coverage. This was cited as a leading barrier by nearly all of the clinical and support staff that participated in the assessment. There are still large numbers of

23 Phillips K, Mayer M, Aday L. Barriers to care among racial/ethnic groups under managed care. *Health Aff.* 2000; 19(4): 65-75

24 Healthy People 2020. Access to Health Services. <https://www.healthypeople.gov/2020/leading-health-indicators/2020-lhi-topics/Access-to-Health-Services> Accessed 6/2/16

25 Institute of Medicine. Coverage Matters: Insurance and Health Care.

<http://iom.edu/~media/Files/Report%20Files/2003/Coverage-Matters-Insurance-and-Health-Care/Uninsurance8pagerFinal.pdf>
Accessed 6/2/16

people in the service area who are uninsured or under-insured with limited benefits. Charles River Health Center, for example, is a federally qualified health center (FQHC) with sites in Allston and Waltham that serves large number of low income, underserved residents from Mount Auburn's service area. In 2016, approximately 42% of Charles River's patients were uninsured, which was the highest rate among all of Massachusetts' FQHCs.

An important aspect of the CHNA is characterizing the extent to which population segments and communities participate in activities that are considered "high-risk." It is well understood that certain health risk factors, such as obesity, tobacco use, lack of physical exercise, and poor nutrition have effects on the burden of cancer, physical chronic conditions, and behavioral health.

Across indicators, Mount Auburn's service area fares similarly or better than the Commonwealth. The rates of current smokers, exposure to environmental tobacco smoke, and overweight/obesity are all significantly lower than the Commonwealth, and people reported significantly more leisure time and physical activity.

Nutrition, Physical Activity, and Overweight/Obesity

Good nutrition, physical activity, and a healthy body weight are essential parts of a person's overall health and well-being. Together, these can help decrease a person's risk of developing serious health conditions, such as high blood pressure, high cholesterol, diabetes, heart disease, stroke, and cancer. Physical inactivity and poor nutrition are the leading risk factors associated with obesity. Adequate nutrition helps prevent disease and is essential for the healthy growth and development of children and adolescents. Physical inactivity is a risk factor for many chronic conditions, while being active is linked to good emotional health. A healthful diet, regular physical activity, and achieving and maintaining a healthy weight also are paramount to managing health conditions so they do not worsen over time.²⁶

- Across all municipalities in Mount Auburn's service area, the rate of hospitalizations due to obesity was significantly lower compared to the Commonwealth overall.²⁷
- In looking at obesity rates among public school children in Grades 1, 4, 7, and 10, rates were higher than the Commonwealth (31.3) in Somerville (41.4), Waltham (38.4), and Watertown (33.4).²⁸

Tobacco Use

Tobacco use is the single most preventable cause of death and disease in the United States. Each year, approximately 450,000 Americans die from tobacco-related illnesses. For every person who dies from tobacco use, 30 more people suffer with at least one serious tobacco-related illness, such as chronic airway obstruction, heart disease, stroke, or cancer.²⁹ Today, nearly all adults who regularly smoke started before the age of 26, making adolescents and young adults a key demographic in reducing smoking-related disease and death in the future.³⁰ Nationally, rates of cigarette smoking for youth and adults have slowed or leveled

26 Healthy People 2020. Nutrition, Physical Activity and Obesity. <https://www.healthypeople.gov/2020/leading-health-indicators/2020-lhi-topics/Nutrition-Physical-Activity-and-Obesity> Accessed 6/1/16

27 MA Hospital Inpatient Discharges (UHDDS), 2008-2012, (accessed through MassCHIP)

28 Body Mass Index Screenings of Massachusetts Public Schools, 2014

29 Healthy People 2020: Tobacco Use. <http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=41#five>

30 U.S. Department of Health and Human Services. Preventing Tobacco Use Among Youth and Young Adults: Fact Sheet. [Online] [Cited: December 30, 2013.] <http://www.surgeongeneral.gov/library/reports/preventing-youth-tobacco-use/factsheet.html>.

off in the last decade. In fact, in some areas, like Boston, the rates of youth smoking have declined substantially. Just the same, given the magnitude of the risks and implications related to tobacco use and smoking, it cannot be ignored.

- Compared to the Commonwealth overall (15.8%), the percentage of current smokers was significantly lower in the service area overall (10.9%). The percentage of former smokers was also lower, though not significantly (28.3% compared to 26.2%, respectively).³¹
- Compared to the Commonwealth overall (37.5%), the percentage of residents exposed to environmental tobacco smoke was significantly lower in the service area overall (31.8%).³⁰

Figure 11: TOBACCO RELATED RISK FACTORS (%), 2007-2009*

	Massachusetts	Community Health Network Area (CHNA) 17
Current Smoker (Currently smokes some days or everyday)	15.8	10.9
Former Smoker (More than 100 cigarettes in lifetime, but no longer smoke)	28.3	26.2
Exposed to environmental tobacco smoke at their home, work, or other places	37.5	31.8

Source: Massachusetts Department of Public Health, Health Survey Program

* The most recent data aggregated at the CHNA level is 2007-2009; this includes all towns in the primary service area with the exception of Waltham.

NOTE: Figures highlighted in red indicate that the figure is significantly higher than the Commonwealth, while figures highlighted in blue are significantly lower than the Commonwealth. Figures that are not highlighted are not statistically significant from the Commonwealth.

CHRONIC AND COMPLEX MEDICAL CONDITIONS

Throughout the United States, chronic and complex conditions such as heart disease, stroke, cancer, respiratory diseases, and diabetes are responsible for approximately 7 out of 10 deaths each year; treating people with chronic conditions accounts for 80% of our nation's health care costs.³² Half of all American adults have at least one chronic condition, and almost 1 in 3 have multiple chronic conditions.⁷⁷ Perhaps most significantly, despite their high prevalence and dramatic impact, chronic disease are largely preventable, which underscores the need to focus on health risk factors, primary care engagement, and evidence-based disease management. There was broad awareness of these pervasive health issues amongst interviewees and focus group/forum participants.

Cardiovascular and Cerebrovascular Disease

While the rates of hospitalizations and deaths due to hypertension, major cardiovascular disease, heart disease, coronary heart disease, heart failure, and cerebrovascular disease (stroke) were generally lower,

31 Source: Behavioral Risk Factor Surveillance System 2007-2009* (MDPH)

32 Chronic disease prevention and health promotion. Centers for Disease Control and Prevention Web site. <https://www.cdc.gov/chronicdisease/>. Updated November 14, 2016

sometimes significantly, among towns in the service area compared to the Commonwealth overall, there were a number of exceptions, particularly when looking at ED discharges.

- The rates of hypertension ED discharges were significantly high in Cambridge (168.29 per 100,000) and Somerville (177.55 per 100,000) compared to the Commonwealth overall (121.49 per 100,000).³³
- The rates of major cardiovascular disease and heart disease ED discharges were significantly high in Waltham (565.77 per 100,000 and 339.91 per 100,000, respectively) compared to the Commonwealth overall (402.11 per 100,000 and 214.98 per 100,000, respectively).³²
- The rates of heart failure and heart failure-related hospitalizations were significantly high in Somerville (317.91 per 100,000 and 1375.95 per 100,000, respectively) compared to the Commonwealth overall (273.09 per 100,000 and 1191.58 per 100,000, respectively).

Diabetes and Asthma

As with cardiovascular and cardiovascular conditions, the rate of hospitalizations, ED discharges, and mortality due to diabetes and asthma was significantly lower in nearly all municipalities compared to the Commonwealth overall. However,

- The rate of diabetes-related hospitalizations was significantly high in Somerville (2051.4 per 100,000) compared to the Commonwealth overall (1845.55 per 100,000).

Cancer

Looking across Mount Auburn's service area, the summary incidence rate (SIR)³⁴ was significantly high in only two municipalities for two types of cancer: for liver cancer among females in Somerville, and stomach cancer among females in Watertown. The summary SIR was significantly low in several towns, for several cancer types (see Figure 12 below).

Figure 12: SUMMARY CANCER INCIDENCE RATE (SIR) HIGHER/LOWER THAN EXPECTED, 2009-2013**

	ARLINGTON	BELMONT	CAMBRIDGE	SOMERVILLE	WALTHAM	WATERTOWN
SIR Higher Than Expected	None	None	None	Liver (Females)	None	Stomach (Females)
SIR Lower Than Expected	None	All Sites/Types (Male) Lung/Bronchus (Male) Oral Cavity/Pharynx (Male)	All Sites/Types (Male & Female) Lung & Bronchus (Male and Female) Kidney/Renal Pelvis (Female) Colon/Rectum (Female) Breast (Female) Bladder (Male and Female)	All Sites/Types (Female) Testis (Male) Breast (Female) Melanoma (Female)	Prostate (Male) Melanoma (Female)	None

Source: Massachusetts Cancer Registry, 2009-2013

33 MA Hospital Emergency Visit Discharges, (accessed through MassCHIP)

34 A standardized incidence ratio is an indirect method of adjustment for age and sex that describes in numerical terms how a city/town's cancer experience in a given time period compares with that of the state as a whole. For more information, please see pages 2-7 of [Massachusetts' Cancer Incidence Report](#).

Of the six towns in Mount Auburn Hospital's service area, all-cancer hospitalization rates were significantly lower than the Commonwealth in Cambridge. Table 6 includes hospitalization rates for all cancers, and the four leading cancer sites.³⁵ Rates of hospitalization due to lung cancer were significantly lower than the Commonwealth in Arlington and Belmont, and hospitalizations due to breast cancer were significantly lower in Somerville.

Figure 13: AGE-ADJUSTED HOSPITALIZATION RATES - CANCER TYPES (PER 100,000), 2008-2012

	MA	ARLINGTON	BELMONT	CAMBRIDGE	SOMERVILLE	WALTHAM	WATERTOWN
All Cancer	371.30	353.59	305.49	327.80	382.30	372.43	388.97
Lung	47.86	33.20	29.51	41.63	54.19	53.07	52.38
Breast	39.08	46.17	33.28	33.53	26.40	38.92	32.24
Colorectal	38.41	35.59	30.54	33.44	34.97	36.38	43.73
Prostate	47.15	59.32	60.69	51.13	43.39	36.42	47.15

Source: Massachusetts Department of Public Health (Hospitalizations), 2008-2012

NOTE: Figures highlighted in red indicate that the figure is significantly higher than the Commonwealth, while figures highlighted in blue are significantly lower than the Commonwealth. Figures that are not highlighted are not statistically significant from the Commonwealth.

The rate of ED Discharge related to all cancers and lung cancer were significantly higher in Waltham compared to Massachusetts. Rates of ED Discharge related to all cancers were significantly lower in Arlington, Cambridge, and Somerville compared to the Commonwealth.

Figure 14: AGE-ADJUSTED EMERGENCY DEPARTMENT DISCHARGES - CANCER (PER 100,000), 2008-2012

	MA	ARLINGTON	BELMONT	CAMBRIDGE	SOMERVILLE	WALTHAM	WATERTOWN
All Cancer	15.58	6.58	15.01	7.31	10.69	36.83	15.75
Lung	2.66	NA	0.00	NA	0.00	10.45	NA
Breast	1.93	NA	0.00	NA	NA	NA	NA
Colorectal	0.83	NA	0.00	0.00	NA	NA	NA
Prostate	1.18	NA	NA	NA	NA	NA	0.00

Source: Massachusetts Department of Public Health (ED Discharges), 2008-2012

NOTE: Figures highlighted in red indicate that the figure is significantly higher than the Commonwealth, while figures highlighted in blue are significantly lower than the Commonwealth. Figures that are not highlighted are not statistically significant from the Commonwealth.

Of the six towns in Mount Auburn Hospital's service area, the all cancer mortality rate is significantly high in Somerville (194.2) compared to the Commonwealth. Looking at the four leading cancer sites, service area mortality rates were significantly lower than the Commonwealth in several municipalities. The colorectal cancer mortality rate was significantly high in Arlington (29.8) compared to the Commonwealth overall (12.6).

³⁵ American Cancer Society, *Cancer Facts and Figures 2017*, <https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2017/cancer-facts-and-figures-2017.pdf>

Figure 15: AGE-ADJUSTED MORTALITY RATES - CANCER (PER 100,000), 2014

	MA	ARLINGTON	BELMONT	CAMBRIDGE	SOMERVILLE	WALTHAM	WATERTOWN
All Cancer	155.6	150.6	117.7	137.9	194.2	176.8	137.7
Lung	47.86	33.20	29.51	41.63	54.19	53.07	52.38
Breast	10.2	--1	0.0	--1	15.	10.2	10.2
Colorectal	12.6	29.8	--1	7.7	10.1	8.5	--1
Prostate	7.4	--1	15.0	6.1	--1	9.1	--1

Source: Massachusetts Department of Vital Statistics, 2014, *Massachusetts Department of Vital Statistics 2008-2012

NOTE: Figures highlighted in red indicate that the figure is significantly higher than the Commonwealth, while figures highlighted in blue are significantly lower than the Commonwealth. Figures that are not highlighted are not statistically significant from the Commonwealth.

According to Behavioral Risk Factor Surveillance Survey data on cancer screening for colorectal and breast cancer, the screening rates in MAH's service area mirror that of the Commonwealth. However, qualitative findings suggest that there are major barriers to access and disparities in screening rates for certain racial/ethnic and enculturated segments of the population.

Figure 16: CANCER SCREENING RATES (PERCENTAGE OF SURVEY RESPONDENTS), 2007-2009*

	Massachusetts	Community Health Network Area (CHNA) 17
Adults 50+ with Colonoscopy or Sigmoidoscopy in past 5 years	63.5	62.0
Women 40+ with Mammogram in past 2 years	84.5	84.4

Source: Massachusetts Department of Public Health, Health Survey Program (BRFSS)

*Most recent data aggregated at the CHNA level is 2007-2009; this includes all towns in the primary service area with the exception of Waltham.

BEHAVIORAL HEALTH

Mental illness and substance use have a profound impact on the health of people living throughout the United States. According to the Substance Abuse and Mental Health Services Administration (SAMHSA), an estimated 44 million adults (18%) in the United States have experienced some form of mental illness, and over 20 million adults (8.4%) had a substance use disorder in the past year.³⁶ Depression, anxiety and alcohol abuse are directly associated with chronic disease, and a high proportion of those living with these issues also have a chronic medical condition.³⁷

According to numerous interviewees, many residents throughout all of the cities/towns in the service area face challenges and stigma that may greatly affect their ability to access health services or be treated in the same way as other segments of the population. The segments of the population most often cited in this regard, according to interviewees and focus group participants, were those in the service area with mental health issues or substance use disorders. These segments were said to face enormous barriers and did not have adequate support networks or advocates who made sure that they received the care they needed,

36 Mental health and substance use disorders. Substance Abuse and Mental Health Services Administration Web site. <https://www.samhsa.gov/disorders>. Updated March 8, 2016.

37 Chronic illness & mental health. National Institute of Mental Health Web site. <https://www.nimh.nih.gov/health/publications/chronic-illness-mental-health/index.shtml>. Accessed 2016.

including health education, screening, and navigation services. In this regard, there is a great need to provide tailored and targeted services to ensure adequate access to care and case management.

It should be noted that Community Health Network Area 17, which covers the same service area as MAH's health assessment (Arlington, Belmont, Cambridge, Somerville, Waltham and Watertown) conducted a recent study that explored the experiences of American-Born Blacks in their service with respect to mental health and health equity. The assessment showed overwhelmingly the barriers and other challenges that American-Born Blacks face with respect to mental health including stigma, access to culturally appropriate mental health services, unequal treatment, and high rates of illness often linked directly to these barriers and to racism and discrimination. The results of this assessment were incorporated into and greatly informed MAH's assessment.

Mental Health

There was a clear sentiment among key informants and focus group/community forum participants that mental health affects all segments of the population, from children and youth, to young and middle-aged adults, to elders. There was also a clear sentiment that mental health has a disproportionately higher impact on racial/ethnic minority, immigrants, and low income populations as these segments are more likely to be impacted by stress and/or the trauma associated with racism and discrimination. With respect to youth, interviewees and meeting participants discussed the stress that youth face related to school and social issues (including social media). These stresses may lead to depression, low self-esteem, and isolation, as well as substance use and risky behaviors. A number of stakeholders also discussed issues for students with developmental delays, which have a major impact on a small, but very high need, group of children and families. On the opposite end of the age spectrum, stakeholders and meeting participants cited depression and social isolation as critical issues for older adults. These issues are often exacerbated by lack of family/caregiver support, lack of mobility and sociability, and physical health conditions. With respect to racial/ethnic minorities and immigrants, interviewees and focus groups participants spoke of the stress that they and their other community members faced with respect to racism, discrimination, which contributed to their mental illness. High rates of trauma and and/or a history of oppression were considered significant contributors to poor mental health status as well as their access to mental health services (education, screening, treatment, and recovery support). Regardless of age or race/ethnicity, interviewees cited gaps in linguistically appropriate mental health services, specifically outpatient treatment and treatment for those with serious mental illness, as one of the leading, if not the leading health issue with respect to mental health.

Figure 17 below shows a number of behavioral health related indicators for the service area.

Figure 17: MENTAL HEALTH DISORDERS, 2007-2009*

	MA	ARLINGTON	BELMONT	CAMBRIDGE	SOMERVILLE	WALTHAM	WATERTOWN
Hospitalizations (2008-2012)	837.9	695.6	452.4	1029.6	1050.7	1023.2	713.8
Related hospitalizations (2008-2012)	3839.5	2817.4	2208.5	3435.5	3686.9	3517.5	2995.6
ED Discharges (2008-2012)	2091.9	2016.6	1281.3	2790.7	2423.1	2103	1487.9
Deaths (2014)	59.9	52.1	52.1	56.1	57.8	62.5	66.3
Suicide Deaths (2014)	8.5	0	0	7	--1	--1	--1

Source: Massachusetts Department of Public Health (Hospitalizations), 2008-2012; Massachusetts Department of Public Health (ED Discharges), 2008-2012; Massachusetts Department of Vital Statistics, 2014

NOTE: Figures highlighted in red indicate that the figure is significantly higher than the Commonwealth, while figures highlighted in blue are significantly lower than the Commonwealth. Figures that are not highlighted are not statistically significant from the Commonwealth.

Substance Use

The connection between mental health and substance use is well known; people who suffer from mental health disorders often self-medicate with drugs and/or alcohol, and it is critical that, for those with dual diagnoses, both issues are treated in tandem to achieve full recovery.³⁸ While mental health was the health issue cited as most critical by key informants and meeting participants, substance use was a very close second.

Opioid and prescription drug abuse is at the forefront of our national and regional dialogue, and this was certainly mentioned by individuals over the course of this assessment; individuals struggling with these issues often have very serious and acute needs that must be addressed quickly and comprehensively. However, it is important to note that alcohol, marijuana, and tobacco use, though certainly not as high-profile, were also identified as significant issues for large swaths of the population in the service area. Below are several data points comparing substance-use related morbidity, mortality, and substance use treatment among municipalities in MAH's service area:

Figure 18: DATA FOR PEOPLE SERVED IN BUREAU OF SUBSTANCE ABUSE SERVICES CONTRACTED/LICENSED FACILITIES, 2014

	MA	ARLINGTON	BELMONT	CAMBRIDGE	SOMERVILLE	WALTHAM	WATERTOWN
Total number of people served	85,823	255	<100	683	756	502	210
Homeless (%)	17.6	7.9	12.3	28.7	17.5	17.2	10.6
Unemployed (%)	76.3	76	55.4	77.1	68.7	65.1	59.7
Had prior mental health treatment (%)	43.9	44.2	59.1	49.8	45.2	42.3	45.5

Source: Massachusetts Bureau of Substance Abuse Services, 2014

38 <https://rehabafterwork.pyramidhealthcarepa.com/recognizing-the-relationship-between-mental-health-and-substance-abuse/>

Figure 19: ALCOHOL/OPIOID STATISTICS, AGE-ADJUSTED RATES PER 100,000, 2008-2012

	MA	ARLINGTON	BELMONT	CAMBRIDGE	SOMERVILLE	WALTHAM	WATERTOWN
Alcohol related hospitalizations	337.6	249.8	157.7	379.7	383.2	368.2	300.6
Alcohol related ED discharges	858.8	631.3	482.8	1666.8	1203.6	911.5	501.1
Opioid hospitalizations	315.6	165.5	91.9	236.1	270.3	188	206.9
Opioid ED discharges	259.6	199.5	108.3	158.9	241	198.3	142.2
Fatal opioid overdoses (2014)	16.3	10.5	--1	9	13.9	13	--1

Source: Massachusetts Department of Public Health (Hospitalizations), 2008-2012; Massachusetts Department of Public Health (ED Discharges), 2008-2012; Massachusetts Department of Vital Statistics, 2014

NOTE: Figures highlighted in red indicate that the figure is significantly higher than the Commonwealth, while figures highlighted in blue are significantly lower than the Commonwealth. Figures that are not highlighted are not statistically significant from the Commonwealth.

MATERNAL AND CHILD HEALTH

Maternal and child issues are of critical importance to the overall health and well-being of a geographic region and are at the core of what it means to have a healthy, vibrant community. Statistics indicate that low birth weight, prematurity, and lack of adequate prenatal care are some of the factors associated with the critical indicators of maternal and child health, such as infant mortality. Maternal and child health was not discussed as an area of major concern amongst interviewees or forum participants, and the quantitative data suggests that several municipalities had infant mortality rates significantly lower compared to the Commonwealth overall (Figure 20).

Figure 20: MATERNAL AND CHILD HEALTH, 2008-2012

	MA	ARLINGTON	BELMONT	CAMBRIDGE	SOMERVILLE	WALTHAM	WATERTOWN
Infant mortality, 2014 (rate per 1000)	4.5	--1	--1	4.8	--1	--1	--1
Low birth weight (<5.5 lbs.), 2014 (%)	7.5	8.2	5.4	7.2	7.6	6.7	4.7
Adequate prenatal care*, 2015 (%)	81.8	92.7		85.9	87	83	
Resident births to mothers 15-19 (#), 2015	2032	1-4		1-4	12	1-4	

Source: Massachusetts Department of Vital Statistics, 2014

NOTE: Figures highlighted in red indicate that the figure is significantly higher than the Commonwealth, while figures highlighted in blue are significantly lower than the Commonwealth. Figures that are not highlighted are not statistically significant from the Commonwealth.

INFECTIOUS DISEASE

Infectious diseases remain a major cause of illness, disability, and even death. Sexually transmitted diseases, diseases transmitted through intravenous drug use, influenza, and pneumonia are among the infectious diseases that have an impact on the population. Figure 21 compares municipalities in the service area to the Commonwealth across a number of infectious disease indicators:

Figure 21: INFECTIOUS DISEASE INDICATORS

	MA	ARLINGTON	BELMONT	CAMBRIDGE	SOMERVILLE	WALTHAM	WATERTOWN
Chlamydia cases (lab confirmed), 2016	26448	50	38	50	359	180	78
Gonorrhea cases (lab confirmed), 2016	4617	149	8	149	102	32	18
Syphilis cases (probable and confirmed), 2016	1033	30	<5	30	32	9	7
Hepatitis C cases (confirmed and probable), 2015	8986	75	11	75	54	51	33
Lyme Disease Cases (confirmed and probable), 2015	4352	26	10	26	5	7	10
Pneumonia/Influenza hospitalizations, 2008-2012	322.2	269.48	228.86	276.32	351.59	267.37	276.09
HIV/AIDS Hospitalizations, 2008-2012	12.4	NA	NA	17.75	10.01	9.45	NA

Source: MDPH Bureau of Infectious Disease and Laboratory Sciences, Office of Integrated Surveillance and Informatics Services; Massachusetts Department of Public Health (Hospitalizations), 2008-2012

NOTE: Figures highlighted in red indicate that the figure is significantly higher than the Commonwealth, while figures highlighted in blue are significantly lower than the Commonwealth. Figures that are not highlighted are not statistically significant from the Commonwealth.

V. COMMUNITY RESOURCE INVENTORY AND GAP ANALYSIS

OVERVIEW AND DESCRIPTION OF INVENTORY

Greater Boston has one of the strongest and most comprehensive healthcare systems in the world. This system is expansive and spans the full healthcare continuum, including outreach and screening, primary care, medical specialty care, behavioral health (mental health and substance use), hospital services (inpatient and emergency services), and post-acute services (home/community services, nursing home, and rehabilitation services). In addition, there is a strong, comprehensive public health, social service, and community health service continuum throughout MAH's service area. There are no absolute gaps in services across the continuum, even for low income, racial/ethnic minority, and other diverse populations that often struggle with access to health care services. It is critical to note though that this does not mean that everyone in MAH's service area receives the highest quality services when they want it and where they want it. In fact, despite the overall success of the Commonwealth's health reform efforts, data captured for this assessment shows that substantial segments of the population face significant barriers to care and struggle to access services due to lack of insurance, cost, transportation, cultural/linguistic barriers, and shortages of providers willing to serve Medicaid insured or low income, uninsured patients. Per the assessment, the population segments most at-risk are:

Figure 22: PRIORITY POPULATIONS MOST AT-RISK



Appendix A of this report is a resource inventory, organized by city/town and organization/service type, which lists many of the leading agencies and organizations in MAH's service area that provide services across the health care continuum. This is not meant to be a fully inclusive list but rather a listing of the leading and most well-known organizations/agencies identified by Mount Auburn Hospital's Staff, the Advisory Committee for this assessment, MAH's local health department partners, and other stakeholders in the community. In addition to compiling resources through these individuals and partner organizations, the assessment compiled resources from the 2-1-1 system as well as through internet searches. The inventory in Appendix A is organized in four major categories.

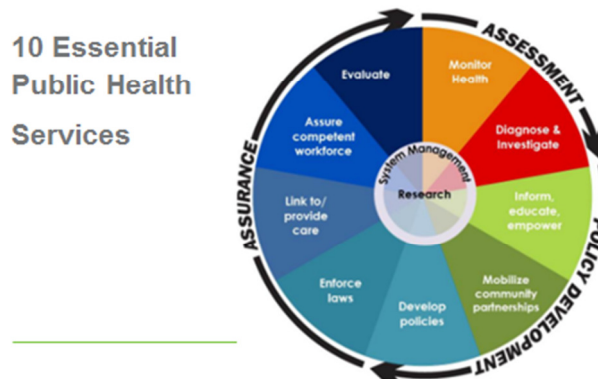
Multi-Sector Collaboratives. There is a growing appreciation and understanding of the important role that multi-sector collaboratives play in addressing complex social problems, including community health improvement. With this in mind, this segment of the inventory lists both the more broadly focused community coalitions as well as the more narrowly focused coalitions that exist in the service area. These organizations convene service providers within and across the health, public health, social service, and community health realms and work collectively to strengthen the health system. More specifically, in addition to working together to implement community initiatives, these collaboratives work to convene their

membership on a regular basis, promote capacity building, and evaluate their activities, as well as facilitate collaboration, partnership, and information sharing.

Public Sector Agencies. This segment of the inventory includes all of the public sector departments and agencies operated by the local cities and towns that are in MAH's service area. These departments operate a broad range of health-related programs that are essential to addressing community health need, particularly for the region's most at-risk population segments. More specifically, this category includes the local public health, human service, public school, police/fire, and senior/elder services departments that collectively are responsible for providing the

ten (10) essential services (listed in the adjacent figure), which are deemed by the federal Centers for Disease Control and Prevention (CDC) as being critical to maintaining a strong health system and ensuring a communities health, productivity, and overall well-being

Figure 23: PUBLIC HEALTH CONTINUUM



Social Determinants of Health. The next segment of the inventory includes the broad range of community-based social and community health organizations that provide the services that facilitate health and felt to determine one's ability to live a healthy, productive life. This category includes housing, transportation, food, education/training, and other services. The organizations that provide these services serve the population as a whole but tend to

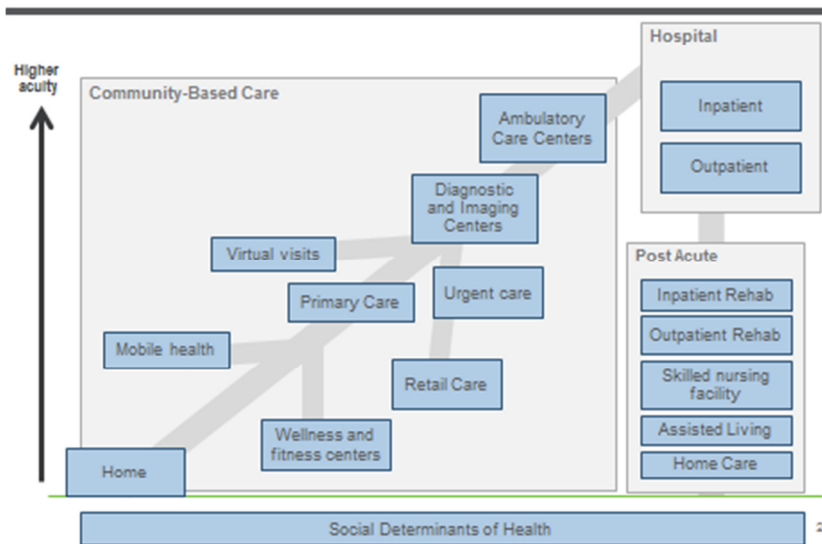
focus their efforts especially on those who struggle to maintain these critical social supports. The figure above provides a listing of the full breadth of social and community health services that are thought to be at the foundation of a community's health and overall well-being.

Figure 24: SOCIAL SERVICE COMMUNITY HEALTH CONTINUUM

Economic Stability	Neighborhood and Physical Environment	Education	Food	Community and Social Context	Health Care System
Employment	Housing	Literacy	Hunger	Social integration	Health coverage
Income	Transportation	Language	Access to healthy options	Support systems	Provider availability
Expenses	Safety	Early childhood education		Community engagement	Provider linguistic and cultural competency
Debt	Parks	Vocational training		Discrimination	Quality of care
Medical bills	Playgrounds	Higher education			
Support	Walkability				
Health Outcomes Mortality, Morbidity, Life Expectancy, Health Care Expenditures, Health Status, Functional Limitations					

Health Care Continuum. The last segment of the resource inventory includes the wide breadth of more clinically-focused health care service organizations that provide health education, screening, and prevention

Figure 25: HEALTH CARE CONTINUUM



services but perhaps most prominently the medical, behavioral, and oral health clinical services that assist individuals to prevent, manage, or recover from acute illness. This segment includes services that are provided across a range of settings from home and community-based settings, to outpatient practice-site settings, to hospital and post-acute settings.

SERVICE GAPS & SHORTAGES

Limited access to primary care, medical specialty, oral health, and behavioral health services for low income, Medicaid insured, uninsured, and other vulnerable populations facing health care disparities and barriers to care. In 2016, only 2.5% of Massachusetts residents were uninsured, the lowest rate of any state or commonwealth in the nation. In addition, as stated above, one could argue that the Greater Boston area has one of the strongest health care systems in the world. Despite these factors, there are still substantial numbers of low income, Medicaid insured, uninsured, and otherwise vulnerable individuals who face health disparities and are not engaged in appropriate preventive, acute, and chronic disease management services in the areas of medical, behavioral, and oral health services. Efforts need to be made to expand access and reduce the barriers to care for these vulnerable population segments. The most significant barrier in this regard is related to a shortage of providers and practice sites that serve Medicaid insured and uninsured residents. This is particularly true in the areas of behavioral health and oral health services. Nearly everyone that was interviewed for the assessment commented on the lack of access to providers willing and able to serve Medicaid insured or uninsured residents of the service area.

Barriers to access and disparities in health outcomes continue to challenge many population segments, including racial/ethnic minorities, immigrants, non-English speakers, older adults, and lesbian, gay, bi-sexual, transgender, queer (LGBTQ+) populations. Based on information gathered primarily from the interviews, focus groups, and community forums, the assessment identified a number of vulnerable populations that face barriers to care and disparities in access. These segments struggle to access culturally and linguistically sensitive care, are often discriminated against due to their cultural, ethnic, or racial background, and face other barriers to access that can impact their ability to live a healthy life and lead to

disparities in health outcomes. These segments that and often clear discrimination/racism More specifically, infants/mothers/fathers, frail older adults, and LGBTQ+ populations face disparities in access and outcome and are particularly at-risk. If these disparities are going to be addressed then care needs to be taken to tailor identification/screening and preventive services as well as acute and chronic disease management services for these special populations.

RESOURCE INVENTORY

Due to the size and format of the inventory, this information has been included in a stand-alone appendix. Please refer to Appendix A.

VI. COMMUNITY HEALTH PRIORITIES & PRIORITY POPULATIONS

Once all of the assessment's findings were compiled, The CHNA Steering Committee and the Advisory Committee participated in a strategic retreat that allowed them to review the full-breadth of quantitative and qualitative findings from Phases I and II, as well as to begin the CHIP development process. More specifically, the Steering and Advisory Committees discussed the full range of findings by community health domain (i.e., social determinants, health systems challenges, mental health, substance use, chronic/complex conditions, and elder health) and then participated in a process that identified the population segments as well as the health-related issues that they believed should be prioritized with respect to MAH's CHIP. Once the priorities were identified the Advisory Committee then discussed the range of community health/community benefit activities that were currently being implemented as well as the emerging strategic ideas that they believed should be included in MAH's updated CHIP to respond to the prioritized community health issues.

Following is a summary discussion of the priority populations and community health issues that were prioritized by the Steering Committee with input for the Advisory Committee and other stakeholders at MAH and in the Community. Also included below are the goals, objectives, and core strategies that are included in MAH's CHIP. Please refer to MAH's full CHIP for further details.

PRIORITY POPULATIONS

MAH, along with its other health, public health, social service, and community health partners, is committed to improving the health status and well-being of all residents living throughout its service area. Certainly all geographic, demographic, and socioeconomic segments of the population face challenges of some kind that can hinder their access to care and regardless of age, race/ethnicity, income, family history, or health-related characteristics, no-one can completely avoid being impacted by health issues or risk factors, or perhaps more fundamentally escape the impacts of aging. MAH's CHIP includes activities that will support residents throughout its service area and from all segments of the population. However, based on the assessment's quantitative and qualitative findings, including discussions with a broad range of community participants, there was broad agreement that MAH's CHIP should prioritize certain demographic and socio-economic segments of the population that have complex needs or face especially significant barriers to care, service gaps, or adverse social determinants of health that can put them at greater risk. More specifically, the assessment identified low-income populations including the uninsured and underinsured African Americans and other racial/ethnic minority populations, immigrants, non-English speakers, LGBTQ, and older adults as priority populations that deserve /special attention.

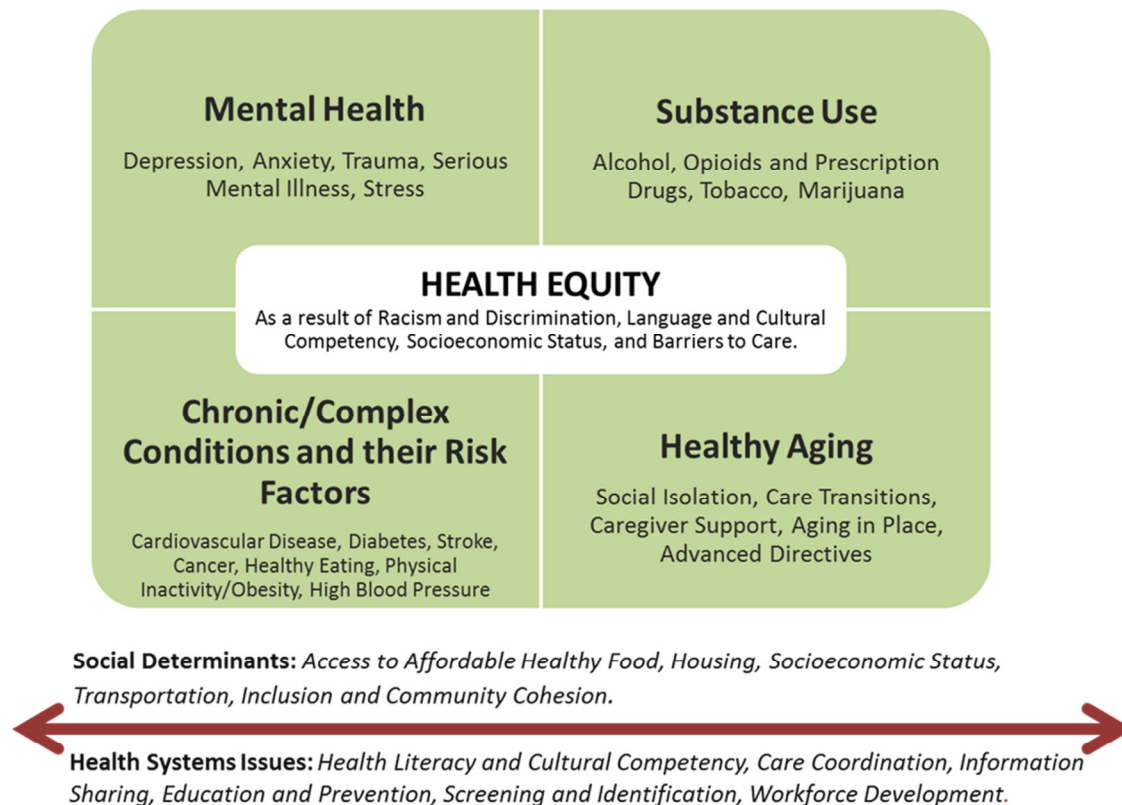
Figure 26: PRIORITY POPULATIONS



COMMUNITY HEALTH PRIORITIES

MAH's CHNA approach and process provided ample opportunity to vet the quantitative and qualitative data compiled during the assessment. Based on this process, the Steering Committee with the support of MAH's staff, CHNA Advisory Committee, MAH's PFAC, and other stakeholders has framed the community health needs into four priority strategic domains, which together encompass the broad range of health issues facing residents living in MAH's Service Area. These four broad strategic domains are: 1) Mental Health, 2) Substance Use, 3) Chronic/Complex Conditions and Risk Factors, and 4) Healthy Aging.

Figure 27: COMMUNITY HEALTH PRIORITIES



In addition, the assessment and the Steering Committee identified two cross-cutting issues that underlie the leading health priorities and that they believe needed to be addressed to improve overall health status and reduce existing disparities. These two cross-cutting issues are: 1) the Leading social Determinants of Health (e.g., housings, poverty, transportation, food access, etc.) and Health System Issues (e.g., health literacy, care coordination, information sharing, workforce issues, etc.).

At the Strategic Retreat, automated polling was conducted to identify at a broad level, which of the cross-cutting and topical areas should be prioritized. The following are the overall polling results.

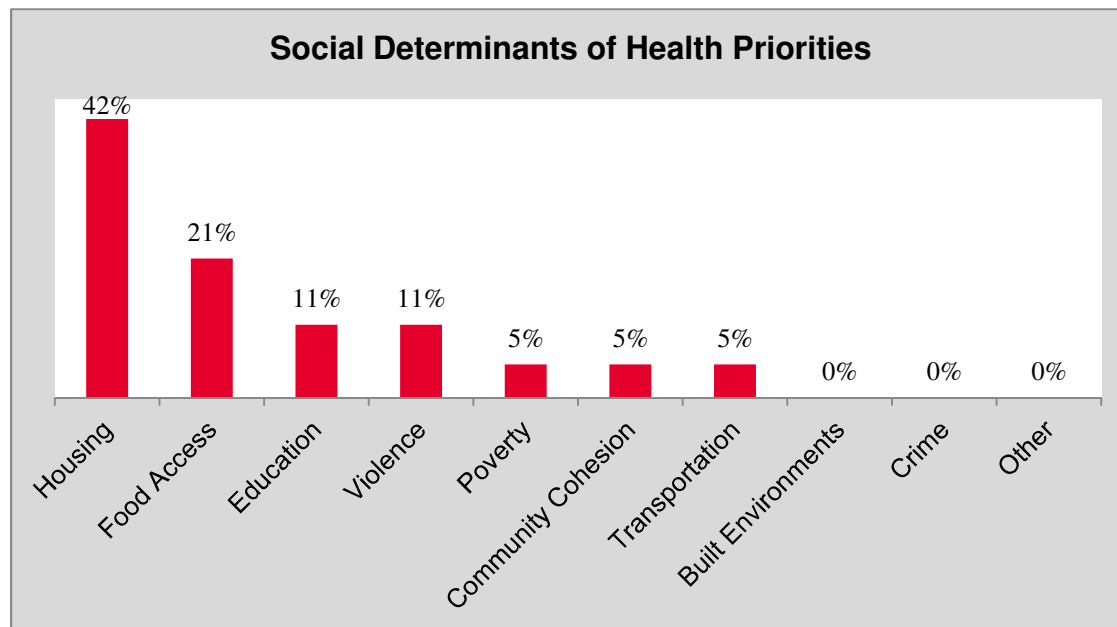
Overall the Advisory Committee believed that among the topic area strategic domains (i.e., behavioral health, elder health, chronic complex conditions, and health equity overall), behavioral health, including mental health and substance use) should be prioritized with nearly 50% of participants selecting this issue as the number one priority. Healthy equity was identified as the second leading priority with 29% of participants

selecting this issue. Chronic/complex conditions and their risk factors was selected as the third highest priorities with 14% of the vote and elder health was selected as the 4th leading priority,

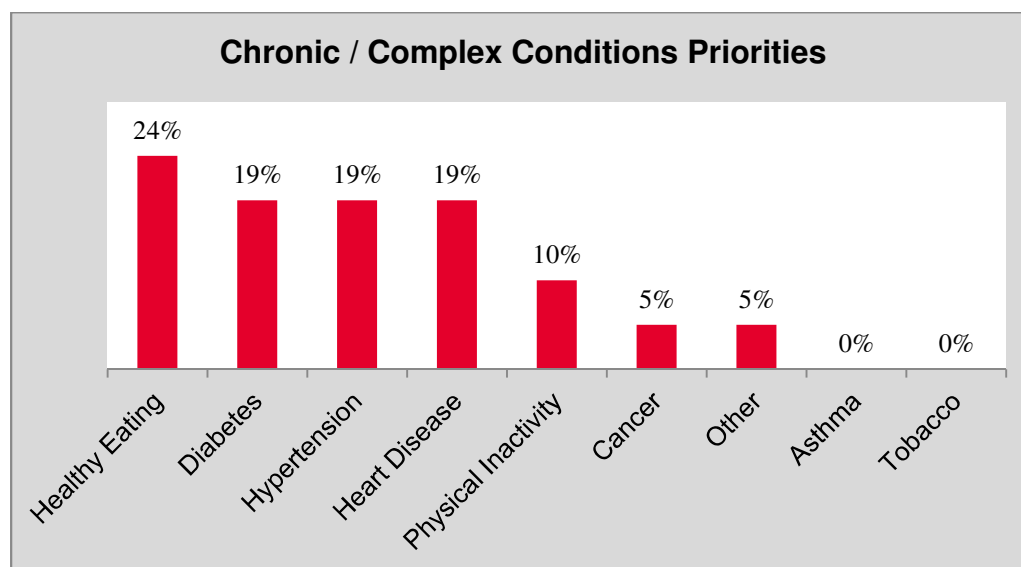
MAH's CHIP process took the prioritization process even further and identified a more detailed set of priorities within each strategic domain, which has further guided and will continue to guide MAH and its partners in the development and implementation of MAH's CHIP. Following is a summary of the polling results from the strategic retreat by domain, which provides a good understanding of which sub-issues within these major domains, the Steering and Advisory Committees thought should be prioritized.

Figure 28: COMMUNITY HEALTH POLLING RESULTS

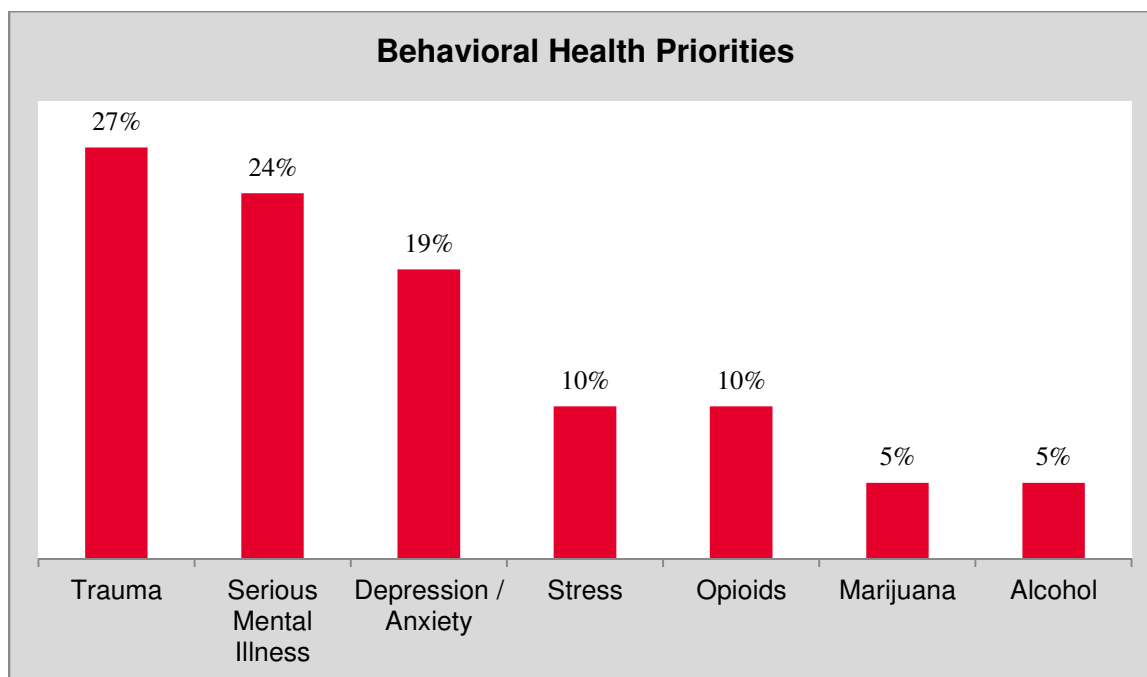
Social Determinants and Barriers to Care



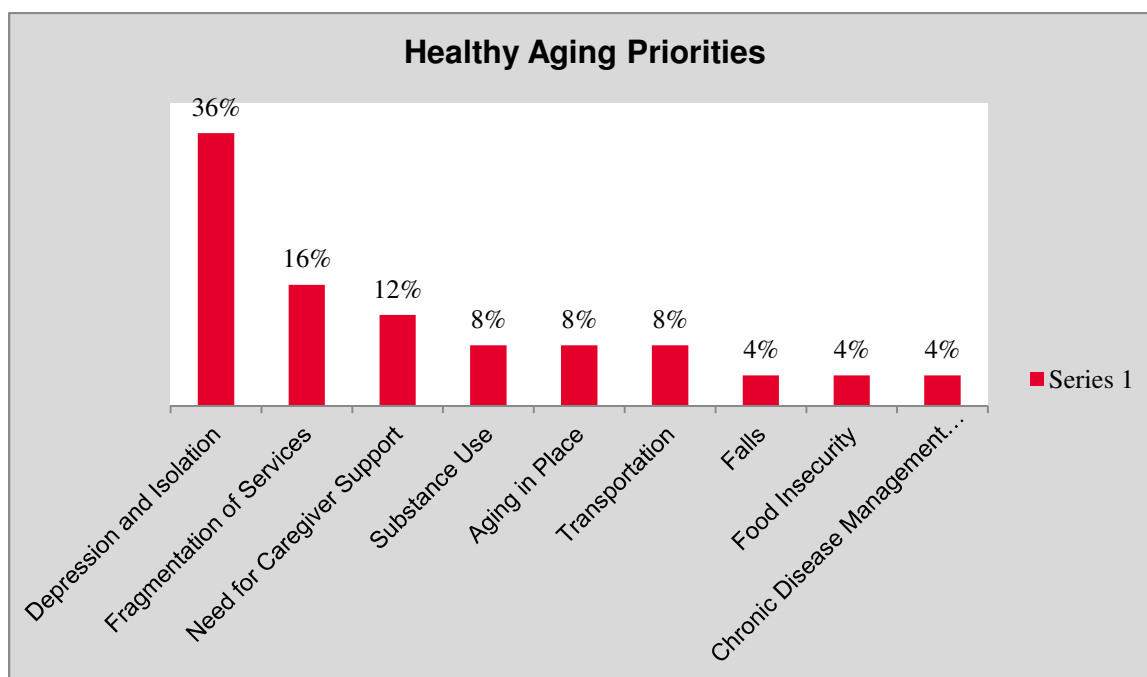
Chronic/Complex Diseases at their Risk Factors



Behavioral Health (Mental Health and Substance Use)



Healthy Aging



MAH'S COMMUNITY HEALTH IMPLEMENTATION PLAN

MAH already has a robust community health implementation plan that has been working to address all of the identified issues. However, this CHNA has provided new guidance and invaluable insight on the characteristics of the population, risky behaviors, and disease burden (quantitative data), as well as the community attitudes and perceptions (qualitative data) that have informed and allowed MAH to refine its CHIP. The following are the core elements of MAH's updated Community Health Improvement Plan (CHIP).

The plans outlined below, per the discussion above, are designed to address the underlying social determinants of health / barriers to care, promote health equity. They are also designed to address the topical community health priorities, including activities geared to health education and wellness (primary prevention), identification, screening, and referral (secondary prevention), and disease management and treatment (tertiary prevention (e.g., self-management support, harm reduction, treatment of acute illness, and recovery). The following are brief summaries of each of the major strategic domains that have been identified, including a discussion of the priority community health sub-issues that have been prioritized within each of the domains.

MAH has designated appropriate resources to Community Benefits. The hospital and its leadership is committed to Community Benefit budget planning which ensures the funds and resources available to carry out its community benefit mission and to implement activities to address the needs identified by their Community Health Needs Assessment. Recognizing that community benefit planning is ongoing and will change with continued community input, the MAH community benefit plan will evolve. Circumstances may change with new opportunities, requests from the community, community and public health emergencies, and other issues may arise, which may require a change in the CHIP or the strategies documented within it. Senior management and the Board of Trustees are committed to assessing information and updating the plan as needed.

PRIORITY AREA 1: MENTAL HEALTH

There is a deep and growing appreciation for the impact that mental health is having on individuals, families and communities. Like substance use mental health impacts all segments of the population across MAH's service area and across all demographic segments. From a review of the quantitative and qualitative information, depression, anxiety, and stress as well as those with bipolar disorder and other serious mental illnesses are the leading issues in this domain. Attention deficit hyperactivity disorder, autism, and other undefined behavioral issues in children also were highlighted quite often in our interviews, focus groups, and forums. Racism and discrimination has also been shown to play a substantial role with respect to mental illness and access to preventive, treatment, and recovery services. Once again, the prevalence, incidence, and service utilization rates (inpatient hospitalization, emergency department visits, and public program utilization) are higher in a number of cities/towns in MAH's service area when compared to the Commonwealth. Large proportions of the population are substantially impacted by mild to moderate mental health issues such as mild/moderate depression, anxiety, acute stress, and coping with grief and loss, while smaller segments struggle acutely with severe mental illnesses like severe bipolar condition, schizophrenia, and dementia. Just as in the case of substance use, despite significant advances in awareness and understanding, there is still a great deal of stigma related to these conditions, which can greatly limit the level of empathy and reduce people's ability to get the support they need. Trauma is also a major factor with respect to mental health. Many of those who have experience trauma suffer acutely from formally

diagnosed post-traumatic stress disorder (PTSD), while others either have milder, less substantial impacts, or have undiagnosed PTSD. Isolation and depression in older adult segments was brought up in nearly every discussion that touched on elder health. Finally, like in the case of substance use, there is a dramatic gap in capacity when it comes to mental health services, particularly for those who are low income, Medicaid insured, uninsured, or underinsured. Even for those who are insured and have comprehensive benefits, it can be challenging to find mental health professionals willing to take insurance, so care can be extremely costly, presenting a barrier for all except those who are very affluent.

The following goals were established by the MAH Steering Committee to respond to the CHNA and the strategic planning process. Please refer to the CHIP for more details.

Figure 29: PRIORITY AREA 1: MENTAL HEALTH ISSUES

Priority Area 1: Mental Health Issues

Goal 1: Decrease Stigma associated with Mental Health

Goal 2: Increase Access to Mental Health Education, Screening/Referral, Navigation and Other Supportive Services

PRIORITY AREA 2: SUBSTANCE USE / MISUSE

As it is throughout the Commonwealth and the nation, the burden of substance use/misuse on MAH's service area is substantial. Substance use impacts all segments of the population by geography and across all age, race/ethnicity, and income groups. No segment is left untouched, although different substances are of lesser or greater concern among some segments. From a review of the quantitative and qualitative information, alcohol, opioids, and marijuana are the leading issues in this domain. Prevalence, incidence, and service utilization rates (inpatient hospitalization, emergency department visits, and public program utilization) are higher in a number of cities/towns in MAH's service area when compared to the Commonwealth. Large proportions of the population are substantially impacted by mild to moderate use/misuse, while smaller segments struggle acutely with severe use/misuse. Community health interventions vary greatly depending on whether you are targeting those with mild to moderate issues or severe and the strategic planning process thought both groups needed to be addressed. Despite increased community awareness and sensitivity about the underlying issues and origins of substance use and addiction, there is still a great deal of stigma related to these conditions and there is a general lack of appreciation for the fact that these issues are often rooted in genetics, physiology, and one's environment, rather than any inherent, controllable character flaw. There is also a deep appreciation and a growing understanding for the role that trauma plays for many of those with substance use/misuse issues, with many people using illicit or controlled substances to self-medicate and cope with loss, violence, abuse, discrimination, and other unresolved traumatic events.

The following goals were established by the MAH Steering Committee to respond to the CHNA and the strategic planning process. Please refer to the CHIP for more details.

Figure 30: PRIORITY AREA 2: SUBSTANCE USE ISSUES

Priority Area 2: Substance Use Issues

Goal 1: Decrease stigma associated with Substance Use/Misuse

Goal 2: Increase Access to Substance Use Education, Screening, Referral, Navigation Support, Treatment, & Recovery Services

PRIORITY AREA 3: CHRONIC / COMPLEX CONDITIONS & THEIR RISK FACTORS

Overall, substance use and mental health were perceived by those who participated in the assessment as the leading community health issues facing MAH's service area. Nonetheless, one cannot ignore the fact that heart disease, stroke and cancer are by far the leading causes of death in the nation, the Commonwealth, and MAH's service area. Roughly 7 in 10 deaths can be attributed to these three conditions. If you include respiratory disease (e.g., asthma, Congestive heart failure, and COPD) and diabetes, which are in the top 10 leading causes across all geographies than one can account for the vast majority of causes of death. All of these conditions are generally considered to be chronic and complex and can strike early in one's life, quite often ending in premature death. In this category, heart disease, diabetes, and hypertension were thought to be of the highest priority, although cancer was also discussed frequently in the focus groups and forums. There are also a number of cities and towns in the service area who have higher rates of certain types of cancer than Commonwealth overall. HIV/AIDS, other sexually transmitted diseases and Hepatitis C were also mentioned in numerous frequently in the assessment's interviews and focus groups and are should certainly be included in the chronic/complex condition domain. It is also important to note that the risk and protective factors for nearly all chronic/complex conditions are nearly all the same, including tobacco use, lack of physical activity, poor nutrition, obesity, and alcohol use.

Although treating these illnesses requires a range of clinical interventions, there is a great deal of overlap with respect to the potential community interventions. Population-level responses to chronic and complex conditions all require community based education, screening, self-management support, timely access to treatment, and seamless coordination of follow-up services.

MAH, in collaboration with public health officials, community based organizations and other clinical providers is already fully engaged on these issues and MAH has a broad range of existing programs that work to address prevention, service coordination, improve follow-up care, and ensure that those with chronic and complex conditions are engaged in the services they need. However, these efforts need to be enhanced and refined based on data from this assessment. Moving forward, it is critical that these issues be addressed and perfected so that MAH, other clinical providers, and the broad range of key community based organizations can work collaboratively to address community need.

The following goals were established by the MAH Steering Committee to respond to the CHNA and the strategic planning process. Please refer to the CHIP for more details.

Figure 31: PRIORITY AREA 3: CHRONIC/COMPLEX CONDITIONS AND THEIR RISK FACTORS ISSUES

Priority Area 3: Chronic/Complex Conditions and their Risk Factors

Goal 1: Increase Access to Health Education, Screening and Chronic Disease Management

Goal 2: Reduce the prevalence of Tobacco Use

PRIORITY AREA 4: HEALTHY AGING

In the United States, in the Commonwealth and in Essex MAH's service area, older adults are among the fastest-growing age groups. The first baby boomers (adults born between 1946 and 1964) turned 65 in 2011, and over the next 20 years these baby boomers will gradually enter the older adult cohort. Older adults are much more likely to develop chronic illnesses and related disabilities such as heart disease, hypertension and diabetes as well as congestive heart failure, depression, anxiety, Alzheimer's disease, Parkinson's disease and dementia. They also may lose the ability to live independently at home.

According to qualitative information gathered through interviews and community forums, elder health is one of the highest priorities for the MAH service area. Chronic disease, depression, isolation and fragmentation of services were identified as some of the leading issues facing the area's older adult population.

The following goals were established by the MAH Steering Committee to respond to the CHNA and the strategic planning process. Please refer to the CHIP for more details.

Figure 32: PRIORITY AREA 4: HEALTHY AGING ISSUES

Priority Area 4: Healthy Aging

Goal 1: Promote Healthy Aging and Independent Living

Goal 2: Reduce Falls Among Older Adults

CROSS-CUTTING AREA 1: SOCIAL DETERMINANTS OF HEALTH ISSUES

Quantitative and qualitative data showed clear geographic and demographic disparities related to the leading social determinants of health (e.g., economic stability, housing, education, and community/social context). These issues influence and define quality of life for many segments of the population in MAH's service area. A dominant theme from key informant interviews and community forums was the tremendous impact that the underlying social determinants, particularly housing, poverty, transportation and food access, have on residents in the service area.

The following is a brief discussion of the major domains; they are listed in order of concern or priority based on the frequency in which these issues arose during interviews and in the community forums.

Figure 33: CROSS-CUTTING AREA 1: SOCIAL DETERMINANTS OF HEALTH ISSUES

Cross-Cutting Area 1: Social Determinants of Health Issues

Goal 1: Promote Health Equity and Reduce Disparities for those Facing Racism and Discrimination

Goal 2: Promote Equitable Care and Support for those with Limited English proficiency

Goal 3: Promote Health Equity for LGBTQ Populations

Goal 4: Develop Partnerships with local Housing Authority programs.

Goal 5: Support Workforce Development

Goal 6: Promote Transportation Equity

Goal 7: Promote Healthy Eating

CROSS-CUTTING AREA 2: HEALTH SYSTEM ISSUES

The Greater Boston Area, including MAH's primary service area, has one of the strongest and most comprehensive healthcare systems in the world. This system is expansive and spans the full healthcare continuum, including outreach and screening services, primary care medical and medical specialty care services. There are no absolute gaps in services across the continuum, even for low income and racially/ethnically diverse populations that often struggle with access to health care services. This does not mean, however, that everyone in MAH's service area receives the highest quality services when they want it and where they want it. In fact, despite the overall success of the Commonwealth's health reform efforts, data captured for this assessment shows that segments of the population, particularly low income and racially/ethnically diverse populations, face significant barriers to care and struggle to access services due to lack of insurance, cost, transportation, cultural/linguistic barriers, and shortages of providers willing to serve Medicaid insured or low income, uninsured patients.

Among the service areas safety net primary care clinics, the uninsured rates range up to nearly 40%. Charles River Community Health Center, one of MAH's leading community health / community benefits partners serves the largest proportion of uninsured patients of any health center in the Commonwealth.

The following goals were established by the MAH Steering Committee to respond to the CHNA and the strategic planning process. Please refer to the CHIP for more details.

Figure 34: CROSS-CUTTING AREA 2: HEALTH SYSTEM ISSUES

Cross-Cutting Issue Area 2: Health System Strengthening

Goal 1: Increase Access to Health Insurance and Other Public Assistance Programs

Goal 2: Promote Resilience and Emergency Preparedness

Goal 3: Promote Cross-Sector Collaboration and Partnership